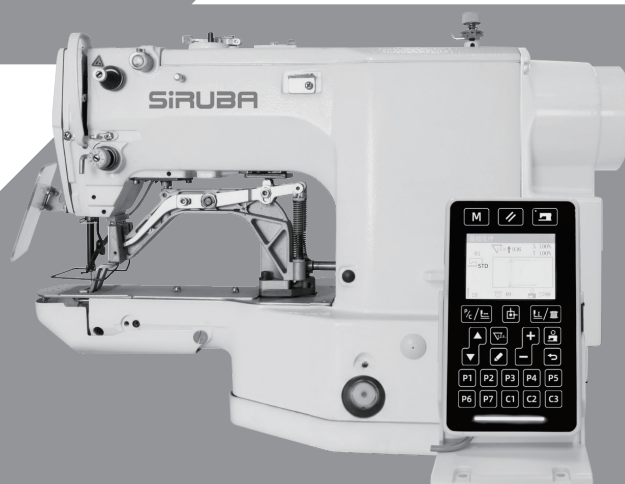


SIRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

■ BT430E/438E/530E



套结钉扣机（按键彩屏）

前 言

欢迎您使用本公司的特种起重机控制系统。请您仔细阅读本操作手册，以确保正确的操作。使用特种起重机，请按照本手册内注明的方式进行操作，否则，如违规操作所造成损失本公司不承担责任。此外，请将本用户手册妥善保管存在安全地点，以便随时查阅。若发生故障须由本公司指定的技术人员或专业人员进行维修。

安全注意事项

1. 安全操作的标志及含义

本使用说明书及产品所使用的安全标志是为了让您正确安全的使用产品，防止您及其他人受到伤害。标志的图案和含义如下：

	危险	如果忽视此标记而进行错误的操作，会导致人员的重伤或死亡。
	注意	如果忽视此标记而进行错误的操作，会导致人员的受伤和设备的损坏。
		该符号表示“应注意事项”三角中的图案表示必须要注意的内容。(例如左边的图案表示：“当心受伤”)
		该符号表示“禁止”
		该符号表示“必须”圆圈中的图案表示必须要做的内容。(例如左边的图案表示“必须接地”)

2. 安全注意事项

 危险	
	打开控制箱时，先关闭电源开关并将电源插头从插座上拔下后，等待至少 5 分钟后，再打开控制箱盖。触摸带有高电压的区域会造成人员受伤。
 注意	
使用环境	
	应避免在强电气干扰源（如高频焊机）的附近使用本缝切机。强电气干扰源可能会影响缝切机的正常操作。
	电源电压的波动应该在额定电压的±10%以内的环境下使用。电压大幅度的波动会影响缝切机的正常操作，需配备稳压器。
	环境温度应在 0℃-45℃的范围内使用。低温或高温会影响缝切机的正常。
	相对湿度应在 35%-85%的范围内，并且设备内不会形成结露的环境下使用。干燥、潮湿或结露的环境会影响缝切机的正常操作。
	压缩空气的供气量应大于缝切机所要求的总耗气量。压缩空气的供气量不足会导致缝切机的动作不正常。
	万一发生雷电暴风雨时，关闭电源开关，并将电源插头从插座上拔下。雷电可能会影响缝切机的正常操作。
安装	
	请让受过培训的技术人员来安装缝切机。
	安装完成前，请不要连接电源。如果误按启动开关，缝切机动作会导致受伤。
	缝切机头倒下或竖起时，请用双手操作。不要用力压缝切机。 缝切机头倒下或竖起时，请用双手操作。不要用力压缝切机。

	必须接地。接触地线不牢固，是造成触电或误动作的原因。
	所有电缆应固定在高活动部件至少 25mm 以外处。另外，不要过度弯曲或用卡钉固定得过紧。会引起火灾或触电的危险。
	请在机头上安装安全罩壳。
使用	
	本缝纫机仅限于接受过安全操作培训的人员使用。
	本缝纫机不能用于做缝纫外的任何用途。
	使用缝纫机时必须戴上保护眼镜。如果不戴保护眼镜，断针时机针折断部分可能会弹入眼睛造成伤害。
	发生下列情况时，请立即切断电源。否则误按下启动开关时，会导致受伤。 1. 机针穿线时 2. 更换机针时 3. 缝纫机不使用或人离开缝纫机时
	缝纫过程中，不要触摸任何运动部件或将物件靠在运动部件上，因为这会导致人员受伤或缝纫机损坏。
	如果缝纫机操作中发生误动作，或听到异常的噪声或闻到异常的气味，应立即切断电源。然后请与购买商店或受过培训的技术人员联系。
	如果缝纫机出现故障，请与购买商店或受过培训的技术人员联系。
维护和检查	
	只有经过训练的技术人员才能进行缝纫机的维修、保养和检查。
	与电气有关的维修、保养和检查请及时与电控厂家的专业人员进行联系。
	发生下列情况时，请关闭电源并拔下电源插头。否则误按启动开关时，会导致受伤。 1. 检查、调整和维修 2. 更换弯针、切刀等易损零部件
	在检查、调整和修理任何使用气动设备之前，请先断开气源，并等压力表指针下降到“0”为止。
	在必须换上电源开关和气源开关进行调整时，务必十分小心遵守所有的安全注意事项。
	未经授权而对缝纫机进行改装而引起的缝纫机损坏不在保修范围内。

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1 概要说明

1.1 技术参数表

No.	机 型 项 目	430E/438E
1	用途	套结、钉扣
2	触制范围	X (左右) 方向 40mm×Y (前后) 方向 30mm
3	最高触制速度	套结模式: 3200rpm 钉扣模式: 2700rpm
4	缝迹长度	0.1mm - 10.0mm (0.1mm 单位)
5	送布	同接送布 (脉冲马达 2 轴驱动方式)
6	针杆行程	41.2mm
7	机针	DP×5#14 (DP×5#11 (F,M), (DP×17#21 厚料))
8	抬压脚方式	脉冲马达
9	压脚上升量	标准 14mm, 最大 17mm (反转抬针时)
10	标准花样数	100 个
11	接线方式	脉冲马达抬压脚联动
12	断线装置	标准: 通常 0
13	面线张力	电子夹线器
14	旋梭	半旋转标准旋梭
15	加油方式	旋转部: 微量加油
16	机油	缝纫机油
17	润滑油	缝纫机用润滑油
18	数据记忆	FlashMemory
19	放大缩小功能	X 方向、Y 方向各自独立缩放 20%-200% (1%单位)
20	放大缩小方式	缝迹长度增减方式
21	触制速度限制	400-3200rpm (100rpm 单位)
22	花样选择功能	花样号码指定方式 (1-200)
23	底线记数	上转/下转方式 (0 - 999999)
24	机械马达	550w 小型 AC 伺服马达 (直接驱动方式)
25	外形尺寸	208mm×105mm×64mm
26	控制箱重量	约为 1.4kg
27	额定功率	770w
28	使用温度范围	0℃-45℃
29	使用湿度范围	35%-85% (无结露)
30	电源电压	AC220V±10%; 50/60Hz

最高触制速度需在额定触制条件降低速度使用

产品执行标准: QCTD0004—2016《工业缝纫机计算机控制系统》

1.2 应用机型

电子套袖（加圈）钉扣机。

1.3 输入方式

采用按键输入方式。

1.4 显示方式

采用彩色液晶屏显示方式。

1.5 面板布局

操作面板整体为长方形，分为两部分，显示部分为彩色液晶屏，操作部分为24个按键。参考操作说明控制面板图。

1.6 标准化

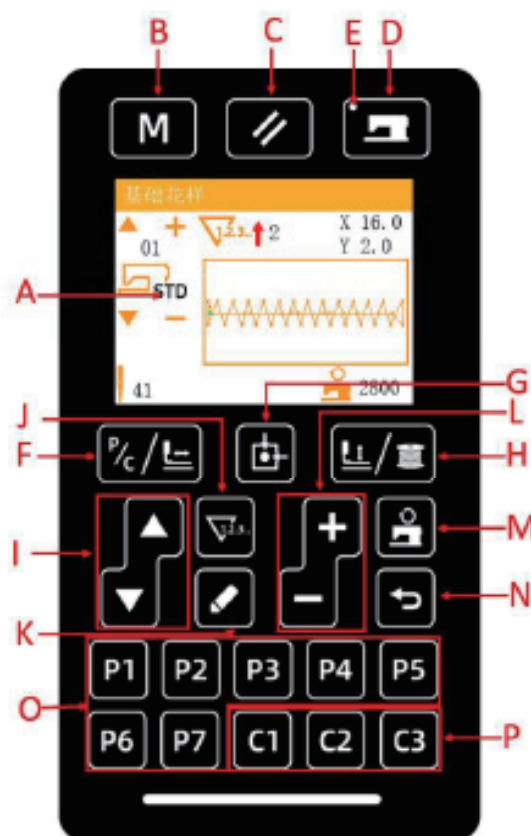
功能按键采用业界公认的图形标识，图形是国际化语言，各国用户都可以识别。

1.7 操作方式

功能键包括准备键、复位键、模式键、穿线/绕线键、选择键、加/减键、编辑键、返回键以及特殊功能键等。具体操作方法请参考第2节“操作说明”。

2 操作及调试

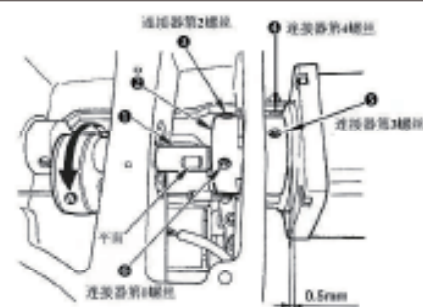
2.1 控制面板图示及说明



序号	功能	描述
A	液晶显示屏	显示图案编号、形状等各种数据。
B	模式键	设置参数或存储花样的开关键。
C	复位键	解除异常、将设定值返回到初期值时使用。
D	准备键	控制面板的设定编程状态和缝纫机实际动作的缝纫状态的变换键。
E	缝纫准备 LED	缝纫模式时点亮。
F	PC 花样切换/单步缝纫	在 LED 灯灭的状态下，进入 P/C 花样列表，在 LED 灯亮的状态下，压脚放下，XY 步进找原点。
G	压脚找原点键	在 LED 灯灭的状态下，压脚放下，XY 步进找原点。
H	压脚卷线键	提升、下降压脚。上升时，把针杆移动到原点；下降时，把卷线机构（或扫描机头）移动到右侧。在卷线时使用。
I	项目选择键	切换选择不同图案类型、菜单项或参数。
J	计数器键	在缝纫模式选择（未准备）状态下，按下后可以直接进入计数器设置模式。
K	编辑键	显示编辑画面、选择项目、或者显示详细画面。
L	数据变更键	修改图案编号或参数值，在试缝模式中单针移动送布。
M	花样转速设置键	在缝纫模式选择（未准备）状态下，按下后可以直接进入花样参数的转速设置模式。
N	返回键	返回前一个画面。
O	P 花样设置键	设置 P 花样并将其存储，存储后的 P 花样通过按此键就可立即进行缝纫。
P	C 花样设置键	设置 C 花样并将其存储，存储后的 C 花样通过此条件就可立即进行缝纫。

2.2 主轴马达的安装

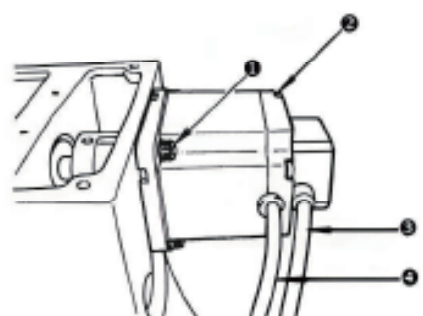
主轴马达通过连接器 连接到缝纫机的上轴 上，马达连接器由4个螺栓分别固定到缝纫机上轴及马达主轴上。首先，将连接器第1螺栓 垂直于缝纫机上轴平面拧紧，然后拧紧连接器第2螺栓；连接器第3螺栓 垂直于马达主轴平面拧紧，然后拧紧连接器第4螺栓，这样完成了主轴马达与缝纫机上轴的连接。安装图示如图：



主轴马达的外部线束朝向（从缝纫机后部向前部看去，电机线束朝向观察者的左手边），安装位置如图所示：

为主轴马达安装固定螺栓，共有4个； 为主轴马达后壳固定螺栓，共4个；

为主轴马达编码器信号线； 为主轴马达电源线。



2.3 系统检测模式（调试模式）

通过启动该模式，可进行保养检查操作。

1) 在缝纫灯熄灭的状态下，按住模式键 **M** 持续3秒，面板蜂鸣器会鸣响一声，然后按项目选择键 **▲** **▼** 选中“11系统检测”，再按编辑键 **✎** 可以进入测试模式。

菜单

SEL: ▲ ▼

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

2) 按项目选择键 **▲** **▼** 可以变更功能测试项目，按编辑键 **✎** 进入测试项目，每个序号代表的功能如下表所示：

功能测试项目	功能	内容
01 系统输入检测	输入信号检验	以灯亮指示开关、传感器输入的状态。
02 XY 原点校正	XY 马达/原点传感器检验	显示 X/Y 马达寸动操作，原点检索操作以及 X/Y 原点传感器的状态
03 老化模式	连续运转	在设定连续运转条件后，移向连续运转模式。
04 主轴检测	主马达旋转数检验	设定旋转数，机器启动、显示实测旋转数。
05 剪线检测	检测当前剪线位置是否正常	主轴转动一圈剪线动作
08 系统输出检测	输出信号检验	驱动输出电磁铁/气阀动作。

09 面板检测	检测 LED 与 LED	检测面板显示屏和 LED 灯是否正常。
10 主轴零点	校正主轴零点位置	主轴角度、主轴原点角度
12 按键检测	检测按键是否损坏	全部按键的检测
13 平面坐标检测	查看当前 XY 位置的绝对坐标	显示 XY 的绝对坐标

3) 各功能测试如果按返回键  或模式键  的话，就会终止测试，返回到 2) 的状态；但是，如果使用过老化模式 1 次的话，就不能解除了，只有关闭电源才能结束。

2.3.1 系统输入检测

- 1) 能够检验操作控制电路、限位开关、各种传感器等的输入状态。
在选中“01系统输入检测”时，按编辑键  进入。
- 2) 在该模式中，按项目选择键   切换输入检测项目，而检测信号的状态在屏幕右侧显示。

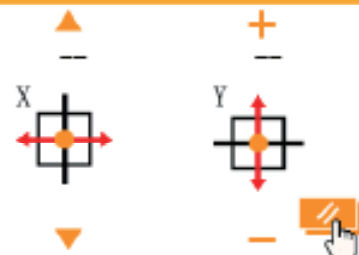
系统输入检测 SEL: ▲ ▼

03 X原点传感器 OFF
04 Y原点传感器 OFF
05 外压脚原点传感器 OFF

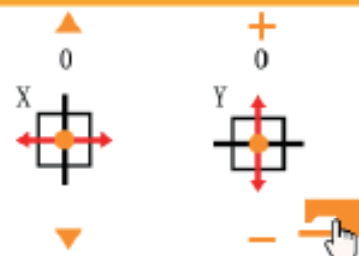
2.3.2 XY 原点校正

- 1) XY电机单步运行测试如果在开机后从未接过准备键  进入准备状态，而是直接按模式键  进入系统菜单的系统测试模式，则进入该“02XY原点校正”模式后可以直接按项目选择键   和数据变更键   分别对XY电机进行单步移动。如果在开机后按准备键  进入过准备状态，则每次进入该“02XY原点校正”模式后必须先按一次复位键  执行XY原点校正后才能单步移动电机，而此时表示的是XY电机原点校正功能。
在移动XY电机的过程中，如果原点传感器信号发生异常显示的图标会改变为反色显示。

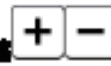
XY原点检测 SEL: ▲ ▼

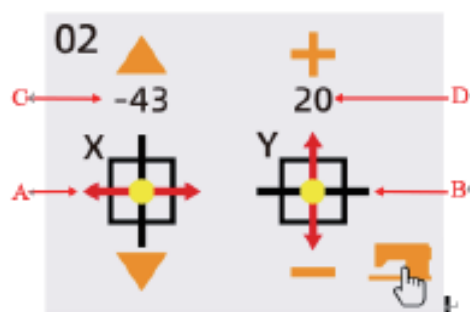


XY原点检测 SEL: ▲ ▼



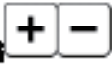
2) XY电机原点校正

先按一次复位键执行XY原点检索，屏幕上会显示出X电机的原点传感器状态A和当前校正值C，以及Y电机的原点传感器状态B和当前校正值D。按项目选择键和数据变更键分别对XY电机进行单步移动，同时校正值也会随之改变，观察压脚正中与机针针孔位置重合后，按准备键保存校正值并返回。如果修改后但不想保存校正值，需要按返回键或模式键放弃保存并返回。



2.1.3 老化模式

在选中“03 老化模式”时，按编辑键进入连续运转模式。在设定了连续运转条件后，启动连续运转模式；如果要解除连续运转模式请关闭电源。

1) 间隔时间的设定在显示“(01) 老化间隔”时，按数据变更键，设定两次运转的间隔时间。从0至9900ms可以100ms为单位进行设定。（默认值2000ms）

老化模式	SEL:▲▼
▶ 老化间隔	20
老化方式	整机
老化开关	ON



2) 缝制结束有无原点检索的设定。

按编辑键进入按项目选择键切换到显示“(02) 原点检索”，设定缝制结束时有无原点检索。
OFF: 无效（默认值）
ON: 有效（每次缝制结束后进行原点检索）

设定完成后，按准备键保存设置，并进入普通缝制模式主界面。

3) 连续操作

在普通花样缝制模式下，用户可以设定花样号码、X、Y缩放率、最高转速等条件然后开始缝制。缝制结束之后，如果在第2步操作中设定有原点检索的话，则开始进行X/Y压脚、切线/拆线的各个马达的原点检索；

在经过设定的时间间隔后再次自动开始进行缝制；如果要中止连续缝制，请在缝制停止时，按准备键停止。要中止连续缝制，请在缝制停止时，关闭电源。

2.3.4 主轴检测

设定机器的转速，在设定的转速下仅驱动机器的主马达，显示实测的转速。

1) 准备 在选中“04主轴检测”时，按编辑键进入该模式，各个电机自动执行原点检索，屏幕上会显示出主轴电机的“目标转速”、“实际转速”和“主轴角度”。	主轴检测 <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">目标转速</td> <td style="text-align: right;">400</td> </tr> <tr> <td>实际转速</td> <td style="text-align: right;">0</td> </tr> <tr> <td>主轴角度</td> <td style="text-align: right;">0p</td> </tr> </table> 	目标转速	400	实际转速	0	主轴角度	0p
目标转速	400						
实际转速	0						
主轴角度	0p						

2) 操作

按数据变更键，可以变更设定主轴的目标转速，然后按准备键，机器以设定的转速开始运转。如需再次变更设定转速，可以在运转过程中继续使用数据变更键设定转速值，然后按准备键，机器以新设定的转速运转。如需停止运转，按复位键。如需退出该模式，请在机器停止运转的情况下，按返回键或模式键。

2.3.5 剪线检测

显示切线马达的操作，原点检索操作以及切线传感器的状态。

1) 剪线检测 类似【02.3.2XY原点校正】模式中的操作，在上电后没有进入过准备状态的情况下，进入“05剪线检测”模式后，可以直接按编辑键进行剪线检测。	剪线检测 SEL: ▲ ▼  
---	---

2.3.6 系统输出检测

在该模式下，可以通过按项目选择键切换要检测的设备，按编辑键驱动设备动作。

- (01) 换线电磁铁
- (02) 主夹线器电磁铁
- (03) 起针夹线器电磁铁
- (04) 剪线电磁铁
- (05) 气阀 1 动作检测
- (06) 气阀 2 动作检测
- (07) 气阀 3 动作检测
- (08) 气阀 4 动作检测

2.3.7 面板检测

在该模式下，可以通过按编辑键  点亮面板上的所有LED灯，并让LCD液晶屏全屏显示，再次按编辑键

 返回正常显示状态。

2.3.8 主轴零点

显示并查找主轴角度、主轴原点角度。

1) 主轴零点

进入系统检测后选择10主轴零点后，按编辑键 ，此时主轴电机会自动转动一圈，待主轴电机停止后按存储键  保存校正值并返回。

主轴零点

主轴角度 1257p

主轴原点角度 463



2.3.9 按键检测

在该模式下，可以通过按面膜上的按键进行检测，按下按键的同时如果界面上显示该按键，则该按键正常，反之按键损坏。

2.3.10 平面坐标检测

显示并当前机械的XY坐标位置。

1) 平面坐标检测

进入系统检测后选择13平面坐标检测后，可以按选择键  或者数据变更键    移动X轴或者Y轴的位置，可按编辑键  记录该点的坐标。

平面坐标位置



X:0.0

Y:0.0

2.4 基本操作

2.4.1 图案编号的设置

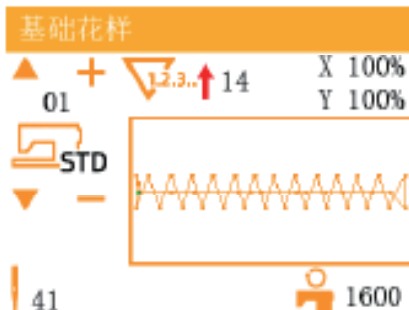
打开电源开关。

在画面的左上方图案 No. 被显示，图案形状、X/Y 放大缩小率。缝

制速度也被显示出来。按了数据变更键   之后，可以变更

图案 No.。按项目选择键   进行花样模式切换：

即，内置花样（包括外部导入花样）、P 型花样和 C 型循环花样。



2.4.2 项目数据的设置

按了编辑键  之后，项目数据输入画面被显示出来。在画面的左侧显示出可以编辑的项目，在画面右侧显示出设定内容。

用项目选择键   选择项目，然后可以用数据变更键   变更设定内容，按  退出后自动保存。

1) X 尺寸的输入

请按项目选择键  ，显示出 C001X 尺寸。

请按数据变更键  ，显示出希望的数值。X、Y 的尺寸输入，用存储器开关 0063 XY 缩放率设定方式输入 % 或者从实际尺寸值进行选择。（默认值：% 输入）

注意：设定超出压板允许倾斜范围时，机针和布压脚会相碰，发生断针，非常危险。



1) Y 尺寸的输入

请按项目选择键  ，显示出 C002Y 尺寸。

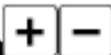
请按数据变更键  ，显示出希望的数值。X、Y 的尺寸输入，用存储器开关 0063 XY 缩放率设定方式输入 % 或者从实际尺寸值进行选择。（默认值：% 输入）

注意：设定超出压板允许倾斜范围时，机针和布压脚会相碰，发生断针，非常危险。



1) 缝制速度的输入

请按项目选择键 ，显示出 C004 缝制速度。

请按数显变更键 ，显示出希望的数值。输入的最大范围是存储器开关 0001 最高缝制速度的数值。还可在缝制模式编辑（未准备）状态下，按花样转速设置键 ，直接显示出 C004 缝制速度。



(4) 设定结束

按准备键 。

压脚移动→上升后准备键 LED 指示灯点亮，成为可以缝制的状态。

注意：按准备键压脚进行回花样起缝点过程中，压脚首先下降后再移动，因此请注意不要夹到手指。

*按准备键  之后，图案 No.、XY 扩大缩小率等设定值被记忆。

*再按次准备键  之后，准备键 LED 指示灯熄灭。可以变更各项目的设定。

*请确认了图案 No. 之后再使用。显示着图案 No. 的状态下按了准备键  之后，会显示 E-306 异常错误。此时，请重新设定图案 No.。

注意：不按准备键  开关，关掉电源后，图案 No.、XY 扩大缩小率、最高转速的设定值均不能被记忆。

2.4.5 图案形状的确认

警告！

1. 选择图案后，请一定确认图案的形状。如果图案远离压脚，缝制途中机针会碰到压脚，弄断机针。

2. 确认图案形状时，请注意如果在针杆下降后的状态下按了+/-键的话，针杆将自动地复位到上位置之后压脚才移动。

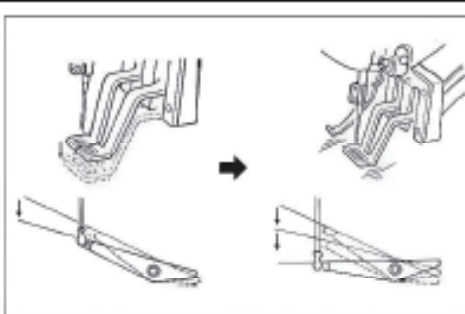
- 1) 按准备键 ，准备键 LED 指示灯点亮。
- 2) 按按 P/C 键 ，显示出「形状确认画面」。



2.4.4 缝制

缝制:

1. 把缝制品放到压脚旁。
2. 踩踏板开关至第一级，压脚下降；松开踏板后，压脚上升。
3. 踩踏板开关至第二级之后开始缝制。
4. 缝制结束后，压脚上升返回到起始缝的位置。



2.4.5 向其他图案的变更

按准备键 ，准备键 LED 指示灯熄灭。用数据变更键设定图案 No.。与【02.4.2 项目数据的设定】同样，可以设定 XY 放大缩小率、速度等。

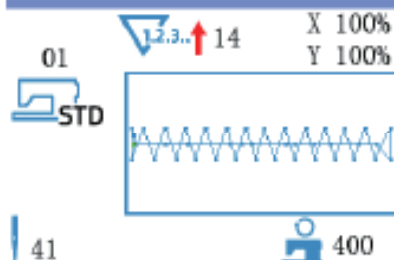
按了准备键之后，准备键 LED 指示灯点亮，变成可以缝制的状态。

选择图案后，请一定确认图案的形状。

万一图案远离压脚，缝制途中机针会碰到压脚，弄断机针。

如要切换到 P 型花样或 C 型花样则需要先进行切换花样模式。

基础花样



2.4.6 缠绕线圈

1) 按准备键 ，准备键 LED 指示灯熄灭。

2) 按压脚升降键 ，选择下降压脚。

3) 按  键，显示缠绕画面。

4) 踩踏板之后，缝制机转动。

穿线界面



5) 再次踩踏板或者按了复位键  之后，缝制机停止。

6) 按了准备键 、返回键  之后，结束缠绕画面。

注意：刚刚打开 (GT) 电源后，号线不动作。选择任意花样，按

 键进行原点检索之后再进行操作。

绕线



2.4.7 压脚高度调节

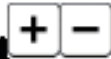
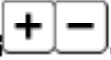
1) 按准备键 ，准备键 LED 指示灯熄灭。 2) 按压脚升降键 ，选择下降压脚。 3) 按  键，显示压脚高度画面。 4) 按数据变更键  压脚高度随数值的变化而变化。 5) 按压脚升降键  退出该界面。 注意：该压脚高度只适用于 STD 花样。	穿线界面  压脚高度 
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2.4.8 缝侧中计数器使用

(5) 计数器值的设置方法

1) 进入计数器设定画面 a. 在准备键 LED 指示灯熄灭的输入模式，按模式键 ，显示出模式画面。 用项目选择键 ，把「12 计数器设定」设定为选择状态。 按编辑键 ，显示计数器画面 A。 计数器画面 A 被显示，成为可以设定。计数器值的设定只能用输入模式进行设定。如果是缝制模式时，请按准备键 ，准备键 LED 指示灯熄灭的状态下。 b. 在准备键 LED 指示灯熄灭的输入模式，按计数器键 ，显示出计数器画面 A。	菜单 SEL:  07 调整亮度 08 查询软件版本 09 软件升级 10 花样导入导出 11 系统检测 12 计数器设定 计数器  10 / 0
---	---

2) 计数器选择和数值变更

按项目选择键 ，反转表示计数器类别的图标 B。按数据变更键 ，从下列计数器类别中选择适当的计数器按项目选择键 ，反转计数器设定值 C。按数据变更键 ，输入设定值（目标值）。

3) 计数器现在值的变更

按项目选择键  ，反转计数器现在值 D。按复位键  之后，可以清除计数器值中的值。另外，用数值变更键   也可以进行数值编辑（当前值）。

4) 计数器类别

Vib.+B01 触制加载计数器

每进行 1 形状的触制之后，现在值数字加 1。现在值和设定计数器。

Vib.+B02 触制减数计数器

每进行 1 形状的触制之后，现在值数字减 1。在值到达 0 之后，显示出减数计数器画面。

Vib.+B03 件数加载计数器

加算计数进行 1 个循环的各个现在值。现在值和设定值相等之后，显示出加载计数器画面。

Vib.+B04 件数减数计数器

减算计数进行 1 个循环的各个现在值。现在值到达 0 之后，显示出减数计数器画面。

Size.+B05 底线加载计数器

每触制 10 针，在现在值的基础上进行加算。现在值和设定值相等之后，显示计数器加载画面。

Size.+B06 底线减数计数器

每触制 10 针，在现在值的基础上进行减算。现在值等于 0 之后，显示计数器加载画面。

Vib.+B07 不使用计数器

5) 计数器加载的解除方法

触制作业中如果到达加载条件之后，则显示出加载画面。按复位键  之后，复位计数器，返回触制模式。开始再记数。

警告提示页面

W-054

计数器到达设定值

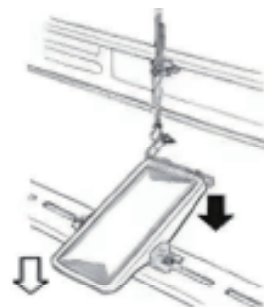


2.4.9 暂停的使用方法

1) 按下准备键后向前 踩脚踏板，压脚下降；

2) 再次向前 踩脚踏板便开始触制；

3) 触制作业中如果需要急停，您可以向后  踩一下脚踏板，机器进入急停，面板显示“E-002”。



3) 面板急停

1) 用存储器开关 0097 把复位键设定为 1 之后, 复位键变成暂停键, 缝制中可以用来停止缝纫机。

2) 用复位键  让缝纫机停止, W-001 被显示出来。按了复位键  之后, 解除异常, 前进后退送布画面被显示出来。

注: 除上述两种操作方式外, 可根据需求设置为外置急停, 并在电控 X45 插座上外接开关。

警告提示页面

W-001

急停



试缝



试缝



3) 解除后的操作有以下 3 种

1. 用开始开关重新开始缝制。

2. 按复位键  进行切换后, 用数据变更键  调整位置, 然后再用开始开关开始缝制。

3. 按复位键  进行切换后, 再次按复位键  复归原点。

4. 按复位键  进行切换后, 再次踩踏板可继续进行缝制。

2.5 设置P花样与C花样

2.5.1 图案键登记与编辑

(1) 往图案键上的登记

设定例：把图案 No. 3、X扩大缩小50%、Y扩大缩小80%、最高速度限制2,000sti/min、张力“50”、图案位置右移1mm、前移-1mm的设定登记到P2。

1) 打开 (ON) 电源，然后按模式键 。(未准备橙色界面) 进入方式设定 (存储器开关设定)。按项目选择键 ，把「04 登记P花样」设定为选择状态。按编辑键 显示图案登记模式。	菜单 SEL: ▲ ▼ 01 系统U参数 02 系统K参数 03 普通花样锁 04 登记P花样 05 复制/删除P花样 06 登记/删除C花样
2) 按编辑键 ，然后请用数据变更键 进行项目数据的编辑。 3) 按项目选择键 ，把标准图案设定为 No. 2 按数据变更键 ，把 P-No. 设定为 2 按了准备键之后，P12 被登记，模式画面被显示出来。按模式键 或者按返回键 。 注：当 P 花样被登记后无法再次被登记，需删除后重新登记。	登记P花样 SEL: ▲ ▼ ▲ + 02 STD → P12 X 20.0 41 Y 3.0 ▼ -
4) 分别进行设定，把 X 尺寸缩小率设定为「50」%，把 Y 尺寸缩小率设定为「80」%，把限制速度设定为「2000」sti/min。 5) 按了编辑键 之后，按项目选择键 ，找到「X 缩放率」，显示为 100%。可以用 1% 单位来设定 X 缩放率。用数据变更键 把数据变更为 50%。 6) 按项目选择键 ，找到「Y 缩放率」，显示为 100%。可以用 1% 单位来设定 Y 缩放率。用数据变更键 把数据变更为 80%。 7) 按项目选择键 ，找到「限制速度」，显示为当前值，可以用 100 单位来设定限制速度。用数据变更键 把	S 参数 ▲ + S004 X 缩放率 50% X ▼ - S 参数 ▲ + S005 Y 缩放率 80% Y ▼ -

数据变更为「2000」rpm/min。

8) 按准各键  之后，设定结束。

9) 按返回键 ，结束图案登记方式。

S参数

▲ +
S006 2000
缝制速度
▼ -


分别进行设定，把X移动量设定为「1」，把Y移动量设定为「-1.0」。

1) 按了编辑键  之后，「X移动量」显示为0.0。可以用0.1mm单位来设定X方向的移动量。用数据变更键  把数据变更为「1」。

2) 按了编辑键  之后，「Y移动量」显示为0.0。可以用0.1mm单位来设定Y方向的移动量。用数据变更键  把数据变更为「-1.0」。

3) 按准各键  之后，设定结束。

4) 按返回键 ，结束图案登记方式。

S参数

▲ +
S007 1
X轴偏移
▼ -


S参数

▲ +
S008 -1
Y轴偏移
▼ -


可以把已经登记的图案 (No. 1~200) 登记到 P1~P99 上。变更扩大缩小率、最高转速顺斜、线张力、缝制位置就可以登记，用图案 No. 的滚动窗口选择同样可以登记图案，可以一次地叫出 P1~P25。

*选择了 P6~P25 时，用下表所示的        键的组合 (同时按) 进行缝制。

P-No.	选择键	P-No.	选择键	P-No.	选择键	P-No.	选择键
P1	P1	P8	P1+P4	P15	P4+P5	P22	P2+P3+P4
P2	P2	P9	P1+P5	P16	P1+P2+P3	P23	P2+P3+P5
P3	P3	P10	P2+P3	P17	P1+P2+P4	P24	P2+P4+P5
P4	P4	P11	P2+P4	P18	P1+P2+P5	P25	P3+P4+P5
P5	P5	P12	P2+P5	P19	P1+P3+P4		
P6	P6	P13	P3+P4	P20	P1+P3+P5		
P7	P7	P14	P3+P5	P21	P1+P4+P5		

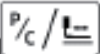
2.5.2 使用组合功能（循环复制）的复制

本缝纫机可以顺次地复制无数的循环复制图案数据。

最多可以输入 99 个图案，复制具有多个不同的图案的复制轴时可以使用。

另外，最多还可以登记 99 个数据。需要时，请拷贝之后使用。

2) 循环轴数据的登记方法

1) 打开 (ON) 电源，然后按 P/C 键 。（未准备橙色界面）进入。按项目选择键 ，把「03 登记/删除 C 花样」设定为选择状态。按编辑键  显示图案登记模式。	菜单 SEL: ▲ ▼ 01 登记 P 花样 02 复制/删除 P 花样 03 登记/编辑 C 花样 04 普通花样锁
2) 按编辑键 ，然后请用项目选择键  进行项目数据的選擇（选择哪一号 C 花样）。 3) 按编辑键  进行编辑，按数据变更键  选择花样序号，编辑当前序号为反色显示（选择花样为已编辑完成的 P 花样），按项目选择键  移动到下一个花样。 4) 当设置完毕后按返回键  后按准备键  保存或者按返回键  退出。 注：当 P 花样被登记为 C 花样后无法被删除，需删除或修改 C 花样进行操作。	登记/编辑 C 花样  01/01 P 花样  01/05 登记/编辑 C 花样 保存  是否保存 退出 

2) 循环数据的编辑方法

1) 设定为输入模式

在准备LED灯熄灭状态下（橙色界面），可以进行连续输入数据操作。

按项目选择键   切换花样模式到循环花样模式。

2) 把循环数据设定为编辑状态

按了编辑键  之后，进入编辑状态，当前选中编辑点的图案No. 变为反色显示。

3) 按项目选择键  ，可选择任意花样。

4) 按数据变更键   进行变更花样修改。

5) 返回键  退出编辑。

P花样



P花样



6) 删除或取消花样数据

按复位键  后，可以删除编辑点的图案数据。按了返回键  之后，取消图案数据的输入，移动到输入模式。

3) 触控操作

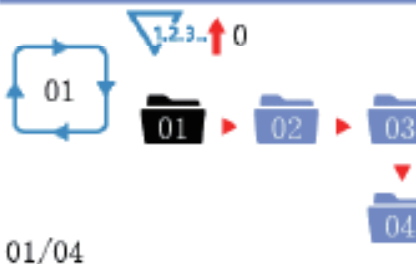
1) 打开（ON）电源。

2) 用项目选择键   选择循环图案然后用数据变更键   选择循环图案No.。

3) 按准备键 ，准备LED指示灯点亮之后，压脚移动，然后上升。

4) 按数据变更键  ，可选择开始编辑的子花样。

C花样



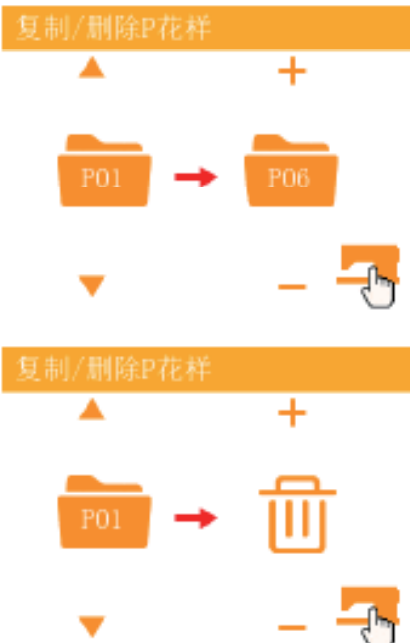
2.6 复制/删除P花样和C花样

可以将已经登记的P花样复制为新的P花样，C花样也可以复制。也可以将已经存在的P花样或C花样删除（但如果只剩下最后一个C花样，这个C花样是不可以删除的）。

2.6.1 复制/删除P花样

- 1) 在燃料灯熄灭的状态下，按模式键 进入系统菜单，按项目选择键 选中“05”复制/删除P花样，再按编辑键 进入该模式。
- 2) 用项目选择键 切换被复制（已经存在）的P花样号，用变更数据键 切换要新复制（尚未存在）的P花样号。确定好后，按准备键 执行保存操作并返回。如果想要放弃修改，按返回键 不保存返回。
- 3) 在使用变更数据键 切换要新复制的P花样 ，如果此时按准备键 ，将会删除已经存在的P花样。

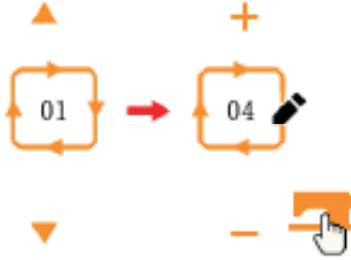
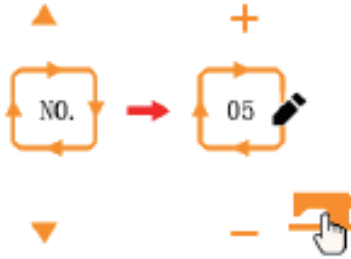
- 菜单 SEL:
- 01 系统U参数
 - 02 系统K参数
 - 03 普通花样锁
 - 04 登记P花样
 - 05 复制/删除P花样
 - 06 登记/删除C花样



2.6.2 复制/删除C花样

- 1) 在系统菜单中，按项目选择键 选中“06 登记/删除C花样”，再按编辑键 进入该模式。
- 2) 类似P花样的复制/删除操作，可以使用变更数据键 切换新的C花样号执行复制操作，选择 表示删除C花样，使用项目选择键 切换为 图标时，表示登记一个新的空C

- 菜单 SEL:
- 01 系统U参数
 - 02 系统K参数
 - 03 普通花样锁
 - 04 登记P花样
 - 05 复制/删除P花样
 - 06 登记/删除C花样

花样。	登记/删除C花样 
登记/删除C花样 	登记/删除C花样 
注：在准备锁LED指示灯熄灭的输入模式下，按P/O快捷键也可进行复制/删除功能选项。	菜单 SEL: ▲ ▼ 01 登记P花样 02 复制/删除P花样 03 登记/编辑C花样 04 普通花样锁

2.7 存储器开关的启动和变更

1) 设定输入模式

在准备缝1ED指示灯熄灭的输入模式下，可以变更存储器开关数据。

2) 进入存储器开关数据编辑画面按了模式键  之后，模式画面（操作人员等级）被显示出来。

按项目选择键  ，选择「01 系统U参数」。按了编辑键  之后，变成存储器开关数据画面。

3) 选择变更的存储器开关数据按项目选择键  ，选择想变更的数据项目。

4) 变更数据

用变更数据键  ，可以增减变更设定值。

5) 保存并退出在执行完数据变更操作后，按返回键  保存修改并退出该模式回到模式画面，再按返回键  回到缝制画面。

菜单	SEL: ▲ ▼
01 系统U参数	
02 系统K参数	
03 普通花样锁	
04 登记P花样	
05 复制/删除P花样	
06 登记/删除C花样	

系统U参数	SEL: ▲ ▼
U 缝制的最高速度	3200
001	
U 第一针的缝制速度	800
010	
U 第二针的缝制速度	1200
011	

2.8 调整背光亮度

1) 设定输入模式

在准备缝1ED指示灯熄灭的输入模式下，可以变更存储器开关数据。

2) 进入存储器开关数据编辑画面按了模式键  之后，模式画面（操作人员等级）被显示出来。

按项目选择键  ，选择「07 调整亮度」。按了编辑键  之后进入调整亮度界面。

3) 按项目选择键   选择改变背光亮度和呼吸灯亮度，用变更数据键  ，可以增减变更设定值，此时面板背光或者呼吸灯亮度会随着数值的变化而变化。

菜单	SEL: ▲ ▼
07 调整亮度	
08 查询软件版本	
09 软件升级	
10 花样导入导出	
11 系统检测	
12 系统K参数	

调整亮度	SEL: ▲ ▼
	10
	5

2.9 用户参数设置表

参数号	功能	调整范围	初值	备注
0001	触制的最高速度(单位:rpm)	400-3500	3200	
0010	第1针的触制速度(单位:rpm)	400-1500	800	
0011	第2针的触制速度(单位:rpm)	400-3500	1500	
0012	第3针的触制速度(单位:rpm)	400-3500	3200	
0013	第4针的触制速度(单位:rpm)	400-3500	3200	
0014	第5针的触制速度(单位:rpm)	400-3500	3200	
0020	断线检测开关	0: 关闭 1: 开启	0	
0028	语音音量	0-6	5	
0032	禁止蜂鸣音响	0: 不响蜂鸣音 1: 操作盘操作音 2: 操作盘操作音和报警提示音	2	
0037	触制结束后压脚状态选择	0: 先回起触点再抬压脚; 1: 回起触点同时抬压脚; 2: 踩踏板手动抬压脚;	1	
0038	禁止抬压脚	0: 允许抬压脚 1: 禁止抬压脚	0	
0039	触制结束后是否检索原点	0: 不检索原点 1: 检索原点	0	
0043	机头LED 照明灯亮度	0-5	5	
0046	设定禁止切线	0: 允许切线 1: 禁止切线	0	
0049	卷线速度设置	800-2000	1800	
0053	XY 缩放率设定方式	0: 按百分比设定 1: 按尺寸设定	0	
0097	暂停后的切线方式	0: 自动切线 1: 手动切线	1	
0135	起线前压脚动作顺序	0: 压脚在起触点待命 1: 压脚在原点待命	0	
0193	禁止计数器修改	0: 允许修改 1: 禁止修改	0	
0200	语言选择	0-3	0	
0245	加粗报警错误清除	按复位键清除	显示机器 累计运转 针数	

3 服务参数设置

服务参数有别于普通参数，一般禁止用户自行更改，这些参数提供给专业技术人员，供其调试时使用。

3.1 服务参数的开启和变更

在准备键LED指示灯熄灭的状态下，长按模式键  持续按住 3~7 秒，听到蜂鸣器响声后，就能对服务参数进行启动与变更。

服务参数的修改与普通参数相同，具体操作方法可参考【2.7 存储器开关的启动和变更】一节。

菜单 SEL: ▲ ▼

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

系统K参数 SEL: ▲ ▼

▶ K 脚踏板类型	
001	1
K 踩踏板时压脚下降	
027 速度	600
K 踩踏板时压脚上升	
028 速度	600

3.2 服务参数列表

参数号	功能	调整范围	初值	备注
K001	脚踏板类型	0: 模拟单踏板 1: 双踏板	0	
K002	中压脚控制方式	0: 无中压脚 1: 气阀中压脚 2: 电机驱动中压脚	0	
K027	踩踏板时压脚下降速度(单位:rpm)	100-900	600	
K028	踩踏板时压脚上升速度(单位:rpm)	100-900	600	
K029	触制结束切换压脚上升速度	100-900	600	
K036	结束前第4针触制速度(单位:rpm)	400-3500	3300	
K037	结束前第3针触制速度(单位:rpm)	400-3500	3300	
K038	结束前第2针触制速度(单位:rpm)	400-3500	3300	
K039	结束前第1针触制速度(单位:rpm)	400-3500	400	
K042	剪线方式	0: 电机控制 1: 电磁铁控制	1	
K046	剪线线头长度调整	0-3	0	
K060	触制图案的平行移动量设定	0: 不保存移动量 1: 保存移动量 2: 禁止设置移动量	0	
K066	+X 方向(右侧)的移动限定范围	0-50mm	20	
K067	-X 方向(左侧)的移动限定范围	0-50mm	20	
K068	+Y 方向(后侧)的移动限定范围	0-40mm	15	
K069	-Y 方向(前侧)的移动限定范围	0-40mm	15	
K076	连打模式	0-1	0	
K081	松线保持时间	-9999-9999	165	
K083	自动送扣保护时间	-9999-9999	0	
K084	起缝松线开关	0: 关闭 1: 打开	0	
K085	松线开始主轴位置补充	-9999-9999	0	
K087	分线开始主轴位置补充	-9999-9999	0	
K088	停车速度检测	-100-300	0	
K089	拔线电磁铁开关	0: 关闭 1: 打开	0	
K090	禁止脚踏报警	0: 关闭 1: 打开	0	
K091	空送速度	1-5	5	
K092	逆转探针	0: 关闭 1: 打开	0	
K093	压脚高度	10-17	14	
K096	拔线速度	-3-3	0	
K098	电磁铁拔线保持时间	0-300	0	

K099	电磁铁释放时间	0-300	0	
K100	步进电机过载检测	0: 打开 1: 关闭	0	
K112	主轴停车补偿	-10-10	0	
K120	加润滑油报警针数	3000-12000	3000	
K122	CC 长度微调	-128-128	0	
K123	CD 长度微调	-128-128	0	
K124	BD 长度微调	-512-512	0	
K125	CC 长度	-9999-9999	2320	
K126	CD 长度	-9999-9999	2080	
K127	BD 长度	-9999-9999	820	
K136	起针夹线器起针动作角度	-100-150	-100	
K137	起针夹线器结束动作角度	-150-150	-150	
K138	小夹线器控制结束是否动作	-2-1	-2	
K146	剪线时小夹线器控制的角度	0-200	160	
K147	剪线时小夹线器的结束角度	0-200	35	
K150	禁止机头翻到开关	0: 允许 1: 禁止	1	
K151	送料同步调节	-30-30	0	
K153	松线电磁铁力度	0-8	3	
K154	剪线电磁铁力度	0-8	3	
K160	反踩踏板或紧急停按钮急停	0: 允许 1: 禁止	1	
K164	外压脚是否安装	0: 安装 1: 未安装	0	
K166	压脚控制方式	0: 电机压脚 1: 气阀打开压脚 2: 气阀关闭抬起	0	
K167	张力的设定	0: 关闭 1: 打开	0	
K168	张力夹线器的控制方式	0: 夹线方式 1: 支线方式	0	
K172	断线检测针数设置	0-10	0	
K175	禁止慢启动	0: 允许 1: 禁止	0	
K180	(X) 电机找原点方式	0: 电机编码器 1: 外部传感正向 2: 外部传感反向	0	
K181	(Y) 电机找原点方式	0: 电机编码器 1: 外部传感正向 2: 外部传感反向	0	
K182	(C) 电机找原点方式	0: 电机编码器 1: 外部传感正向 2: 外部传感反向	0	
K183	(P) 电机找原点方式	0: 电机编码器 1: 外部传感正向 2: 外部传感反向	0	
K191	起缝第 1 针送布角度微调	-30-30	0	
K192	起缝第 2 针送布角度微调	-30-30	0	

K193	起缝第 3 针送布角度微调	-30~30	0	
K194	结束前第 3 针送布角度微调	-30~30	0	
K195	结束前第 2 针送布角度微调	-30~30	0	
K196	结束前第 1 针送布角度微调	-30~30	0	
K201	起缝第 4 针送布角度微调	-30~30	0	
K202	起缝第 5 针送布角度微调	-30~30	0	
K221	幅眼定位销 X 坐标	-600~600, 单位 0.1mm	0	
K222	幅眼定位销 Y 坐标	-600~600, 单位 0.1mm	0	
K227	主轴电机类型设定	0~1	1	
K241	功能选择	2: 430 3: 438 6: 缝网 7: 9060	2	
K253	进入缝制状态准备方法	0: 准备轴 1: 脚踏板	0	

注：以上参数仅供维修人员使用，用户不能轻易改动。

3.3 恢复出厂默认设置

当用户无意中修改了某些出厂时设置好的参数或者电控系统出现故障时，可以尝试使用“恢复出厂默认设置”功能，进行系统恢复。

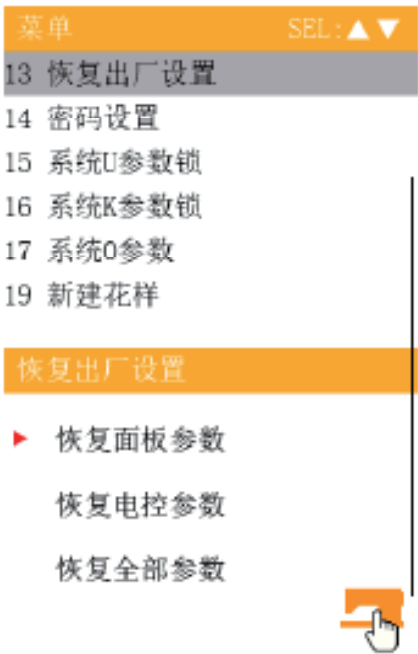
注意：恢复出厂默认设置，用户以前设置的参数将会被重置，使用此功能时，请慎重考虑。如不清楚，应及时联系厂家技术人员，在其指导下进行操作。

具体操作步骤如下：

在控制灯熄灭的状态下，按住模式键  持续3秒，面板蜂鸣器会鸣响一声，然后按  键选中“13 恢复出厂设置”，然后按确定键 ，进入恢复出厂设置菜单，再按项目选择键   选择要恢复的项目，确定后按准备键 ，确认执行恢复操作。

- (1) 恢复面板
- (2) 恢复机头板
- (3) 恢复步进

面板会先提示“操作执行中，请勿关机！”表示正在执行恢复操作，此时不可以关闭电源。当经过一段时间后恢复完成，面板会提示“请关机！”信息，关闭电源再打开电源后，就完成了恢复出厂设置的操作。



注意：在确认恢复操作后，系统进行恢复过程中，面板会提示“操作执行中，请勿关机！”，如果断电，恢复过程将被迫中断，将不能完成恢复出厂默认设置，会导致操作失败。

3.4 软件版本显示

在继电器  灭的状态下，长按模式键  3 秒，此时能听到蜂鸣器响一声，松开模式键 ，然后按  键选中“08 查询软件版本”。再按编辑键  键进入软件版本查看界面。之后按项目选择键  选择需要查看的版本。

软件版本按顺序显示如下：

面板程序版本：版本号-日期

主控程序版本：版本号-日期

子芯片程序版本：版本号-日期

菜单 SEL: ▲ ▼

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

查询软件版本

面板程序版本：
P21190004(24/06/05)_Test
主控程序版本：
M22904302(24/03/08)
子芯片程序版本：
M7902602(24/02/22)

3.5 软件升级

在继电器  灭的状态下，长按模式键  3 秒，此时能听到蜂鸣器响一声，松开模式键 ，然后按  键选中“09 软件升级”。再按编辑键  键进入软件升级界面。之后按项目选择键  选择面板升级或者电控升级。

光标选中面板升级，按编辑键  进入，将光标移动到要升级的文件，按继电器键  进行烧录。

光标选中电控升级，按编辑键  进入，将光标移动到要升级的程序，按编辑键  选中，选中后按继电器键  进行烧录。

注：面板与电控只能分开升级，升级后关机重启！

菜单 SEL: ▲ ▼

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

软件升级

▶ 面板升级

电控升级



面板升级 ▶ 01 P21190000.bin 02 P21190005.bin 03 P21190006.bin 04 P21190007.bin  软件升级 面板升级 ▶ 电控升级 	电控升级 主芯片程序 ■ ▶ 子芯片程序 ■ 选择 确认 警告提示页面 W-042 升级完成, 请重启
--	--

3.6 用户密码设置及系统U/E参数锁定

系统提供了可供用户自行设置的密码管理机制，用户输入设定密码后，可以解锁一些高级功能，如设置系统参数加锁保护，避免因误操作修改了关键参数而导致机器出现异常的情况。

3.6.1 修改用户密码

如果需要使用用户密码，需要先进入密码管理模式修改密码，操作方法为：

在输灯灯熄灭的状态下，长按模式键 M 持续按住3秒，听到蜂鸣器响声后，按项目选择键 ▲ ▼ 选择“14 密码设置”，然后按编辑键 ✎ 进入密码输入界面。 通过按项目选择键 ▲ ▼ 可以向前移动，向前删除输入的密码位，按变更数据键 + - 设置当前选中位的密码字符。允许输入的密码字符范围是“0-9”，“A-Z”。当输入完毕后，按编辑键 ✎ 确认，如果密码输入正确，就会进入新密码输入界面，否则提示错误并返回系统菜单。 注意：出厂默认的密码是都是固定的，有关这方面的详细信息请您与您的机械供应商或代理商联系。 需要输入第一行“新密码”和第二行“确认输入”的密码完全一致时，最后按编辑键 ✎ 确认才会修改成功，否则将提示“输入不	菜单 SEL: ▲ ▼ 13 恢复出厂设置 14 密码设置 15 系统U参数锁 16 系统X参数锁 17 系统0参数 19 新建花样 密码设置 SEL: ▲ ▼ 输入密码
--	--

一致”的错误信息。如果想要放弃修改密码操作而中途退出时，可

以按返回键  或模式键  退出。

注意：在成功修改密码后，请务必牢记密码并避免密码信息泄露！

密码设置

SEL: ▲ ▼

输入新密码

确认密码

■

3.6.2 设置系统U/K参数锁

此功能可以让用户自行对需要保护的参数加锁或解锁，每一个系统U参数和K参数都可以独立设置锁定或解锁状态。这里以系统U参数锁举例说明操作方法，K参数方法与U参数类似。

在系统菜单中按项目选择键   选择“01 系统U参数锁”。

然后按编辑键  进入密码输入界面，输入正确密码并按编辑键 。

确认后即可进入系统U参数锁设置界面。如果密码输入不正确，是不能进入该界面的。

在该界面下，用项目选择键   选择选择要修改锁定/解

锁状态的系统U参数，用变更数据键   修改参数锁定/解锁状态值。如果显示为  表示对参数加锁，如果显示为  表示对参数解锁。被加锁的参数，在对应的参数修改界面中会显示锁定图标，尝试修改参数值时会进入输入密码的界面，只有输入了正确的密码后才可以暂时解开该参数的锁定状态，可以修改参数值。一旦从参数设置模式界面返回后，再次进入参数设置界面，这些被设置为锁定的参数仍就会恢复锁定状态。

菜单

SEL: ▲ ▼

01 系统U参数

02 系统K参数

03 普通花样锁

04 登记P花样

05 复制/删除P花样

06 登记/删除C花样

密码设置

SEL: ▲ ▼

输入密码

■

系统U参数

SEL: ▲ ▼

U	缝制的最高速度	
001		3200
U	第一针的缝制速度	
010		800
U	第二针的缝制速度	
011		1200

当设置完毕参数锁以后，可以按返回键  或模式键  保存并退出。

3.7 新建花样

工艺模板是针对特定缝制机类型开发的特殊花样。通常为一系列固定形式的针迹对象组合，如绕形套结模板就是由一段平针下缝和一段平包针叠加组成。虽然模板中的对象组合相对固定，但用户可以通过参数调整模板的尺寸大小、针迹密度等特性，生成所需要规格的花样。

在系统菜单中按项目选择键   选择“19 新建花样”，然后按编辑键  进入选择生成花样类型界面，根据当前压脚尺寸设置压脚XY范围并按编辑键  确认后可进入设置花样参数界面1。

- (a)：套结缝长度。
- (b)：套结缝宽度。
- (c)：底缝长度，可设置为套接长度的60-80%。
- (d)：底缝针度。
- (e)：曲缝针针。

设置完成后按编辑键  确认进入设置花样参数2。

第一针长度：默认3mm。第一针的长度。

锁针长度：锁针点为位置。

锁针角度：最后一针的方向。

设置完成后按编辑键  确认进入调节花样缝制位置界面，可调节花样XY的位置。

设置完成后按编辑键  确认进入调选择保存花样号位置界面，可选择花样存放位置，默认为下一个花样号。点击编辑键  确认保存，按复位键  退出新建花样界面。

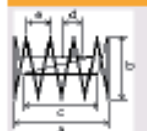
菜单

SEL: ▲ ▼

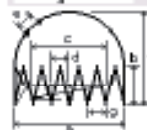
- 13 恢复出厂设置
- 14 密码设置
- 15 系统U参数锁
- 16 系统K参数锁
- 17 系统O参数
- 19 新建花样

选择生成花样类型

SEL: ▲ ▼



套结型



半月型

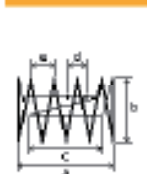
设置基本参数

SEL: ▲ ▼

▶ 压脚范围+X	15.0	mm
压脚范围-X	15.0	mm
压脚范围+Y	5.0	mm
压脚范围-Y	5.0	mm

设置花样参数-1

SEL: ▲ ▼



- ▶ (a) 16.0 mm
- (b) 2.0 mm
- (c) 13.0 mm
- (d) 3.0 mm
- (e) 3.0 mm

设置花样参数-2

SEL: ▲ ▼

- ▶ 01 第一针长度 3.0 mm
- 02 锁针长度 3.0 mm
- 03 锁针角度 0

选择保存花样号

选择保存花样号 101

调节花样缝制位置

X: -6.5mm

Y: 0.0mm



警告提示页面

W-035

执行成功



3.8 踏板调节

此功能可自由调节踏板的行程，以获得更好的越障姿势，通过调节踏板前踏与半前踏的AD值，从而改变踏板的行程。

在系统菜单中按项目选择键   选择“20 踏板调节”，然后按编辑键  进入踏板调节界面，选择前踏AD（电控运行）、半前踏AD（压脚下放）或者后踏AD并按编辑键  确认后可选中当前踏板模式，用脚踏踏板屏至所需角度后按编辑键  保存（踏板角度会在界面上实时显示）。

菜单

SEL: ▲ ▼

- 20 踏板调节
- 21 默认值导入导出
- 22 步进原点校正
- 23 主轴电机原点校正
- 01 系统U参数
- 02 系统K参数

踏板调节

▶ 前踏AD	620
半前踏AD	500
后踏AD	150



踏板调节

▶ 前踏AD	620
半前踏AD	500
后踏AD	150

▶ 39



3.9 步进原点校正

此功能可根据实际安装位置来调节 X 电机、Y 电机、P 电机的原点补偿。

在系统菜单中按项目选择键   选择“22 步进原点校正”，

然后按编辑键  进入踏板调节界面，按项目选择键   选择

选择 X 电机、Y 电机、P 电机，确定后前脚踏板按更改数据键   修改参数，修改后按编辑键  确认并退出。

菜单 SEL:  

20 踏板调节
 21 默认值导入导出
22 步进原点校正
 23 主轴电机原点校正
 01 系统U参数
 02 系统K参数

步进原点校正

 +

X
电机

0 

 -

步进原点校正

 +

Y
电机

0 

 -

步进原点校正

 +

压脚
电机

0 

 -

3.10 主轴电机原点校正

此功能可将实际机械原点作为零点来调节上停针位。

进入系统检测后选择“23 主轴电机原点校正”后，转动手轮将针杆转到最高点后按各轴  保存校正值并返回，此时该角度会设置为零点，该角度增加 53° 则为上定位。	菜单 SEL: ▲ ▼ 20 踏板调节 21 默认值导入导出 22 步进原点校正 23 主轴电机原点校正 01 系统U参数 02 系统K参数 主轴电机原点校正 主轴角度 165d 
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4 钉扣功能

4.1 钉扣功能设定

1) 在缝制灯  灭的状态下，长按模式键  3秒，此时能听到蜂鸣器响一声，松开  键，即开启了服务参数变更：

2) 按项目选择键  键，选择“02 系统K参数”，按编辑键  进入，再按项目选择键  键，选择 E241 号参数：

3) 按变更数据键  键，将参数值变更为“3” 438 选项，然后按缝制键  确认修改。此时按复位键后会回到主界面，机器功能变更为钉扣功能。

注意：机器的钉扣功能需要钉扣所需的专用压脚等辅助外件，有关这方面的详细信息请您与您的机械供应商或代理商联系。

注：更改机型后需要重新设置 XY 原点。

菜单 SEL: ▲ ▼

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

系统K参数 SEL: ▲ ▼

K	主轴电机类型设定	
227		0
K	机型设定	
241		2
K	进入缝制状态准备方法	
253		0

系统K参数 SEL: ▲ ▼

K	机型设定	(3)
241		438



4.2 钉扣标准花样一览表

下面所示的缝扣花样已预先设置好，可以根据表格予以选择使用。（只要能够确认是在压脚、送布板的工作范围内，就可以选择使用任一种缝扣花样。）

请使用符合各种缝扣花样要求的压脚和送布板。缝扣尺寸为 100% 缩放率时的长度。

号码	组孔数	花样	线数	包线数	针数	尺寸 (mm)	
						X	Y
1	2		6	—	12	3.4	0
54 ¹			6	—	12		
2			8	—	14		
55 ¹			8	—	14		
3			10	—	16		
4			12	—	18		
5 ²			16	—	22		
6 ²			20	—	26		
56 ¹			6	—	11	0	3.4
7 ²			6	—	12		
23 ²			10	—	16		
8 ²			12	—	18		
9 ²	3		5-5-5	—	21	2.6	2.4
24 ²			7-7-7	—	27		
25 ²			5-5-5	—	21		
26 ²			7-7-7	—	27		
57 ¹	4		6-6	1	18	3.4	3.4
10			6-6	1	19		
58 ¹			8-8	1	22		
11			8-8	1	23		
12			8-8	3	25		
13			10-10	1	27		
27			12-12	1	31		

- 1 用于小孔纽扣。
- 2 使用程序前，请检查组孔直径不小于 2mm。
- 2 不可使用纽扣上带弹簧。

号码	组孔数	花样	线数	包线数	针数	尺寸(mm)	
						X	Y
14 ⁴	4		6-6	0	24	3.4	3.4
36 ⁵			6-6	0	24		
28 ⁴			8-8	0	28		
37 ⁵			8-8	0	28		
15 ⁴			10-10	0	32		
38 ⁵			10-10	0	32		
29 ⁴			12-12	0	36		
39 ⁵			12-12	0	36		
59 ¹			6-5	1	17		
16			6-5	1	18		
60 ¹			8-7	1	21		
17			8-7	1	22		
30			10-9	1	26		
61 ¹			6-6	1	18		
18			6-6	1	19		
62 ¹			8-8	1	22		
19			8-8	1	23		
63 ¹			10-10	1	26		
31			10-10	1	27		
45			12-12	1	31		
20 ⁴			6-6	0	24		
40 ⁵			6-6	0	24		
32 ⁴			8-8	0	28		
41 ⁵			8-8	0	28		
33 ⁴			10-10	0	32		
42 ⁵			10-10	0	32		

■ 1 用于小孔纽扣。

■ 4 在完成一边缝制后，纽扣夹就上升并进行扫线动作。为了将缝制进行到底，在另一边的缝制开始之前，请继续踩下脚踏开关；或在完成一边缝制后，请再次踩下脚踏开关。

■ 5 在完成一边缝制后，纽扣夹不上升而只进行扫线动作，并继续缝制另边的缝制。

号码	组孔数	花样	线数	包线数	针数	尺寸(mm)	
						X	Y
64 ¹	4		6-6	1	18	3.4	3.4
21 ⁶			6-6	1	19	2.4	
34 ⁶			10-10	1	27		
22 ^{2 0}			6-6	0	24		
43 ^{2 0}			6-6	0	24		
35 ^{2 4}			10-10	0	32		
44 ^{2 0}			10-10	0	32		
46			6-7	1	19	3.4	3.4
47			8-9	1	23		
48			10-11	1	27		
49			12-13	1	31		

※ 1 用于小孔纽扣。

※ 3 不可使用纽扣上浮弹簧。

※ 4 在完成一边缝制后，纽扣夹就上升并进行扫线动作。为了将缝制进行到底，在另一边的缝制开始之前，请继续踩下脚踏开关。或在完成一边缝制后，请再次踩下脚踏开关。

※ 5 在完成一边缝制后，纽扣夹不上升而只进行扫线动作，并继续缝制另一边的缝制。

号码	花样	线数	针数	尺寸(mm)	
				X	Y
50		6	12	3.4	0
51		8	14		
52		10	16		
53		12	18		

5 通过 U 盘升级花样

可支持 VDT/Win 花样的单个导入（追加）：

(01) 导入花样：导入（追加）花样，如果导入的花样号已经存在则进行覆盖；

(02) 导出花样：导出所有外置花样到 USB 存储设备；

(03) 花样清空：清除（格式化）面板外置花样存储区域

5.1 花样升级操作

电控可以使用 U 盘将 VDT/Win 格式的花样输入到系统中，升级后的花样编号为 101~200。也可以将电控中 101~200 号已经存在的花样导出到 U 盘中。

1) 使用花样编辑软件制作格式 VDT/Win 的花样文件，并命名为“XXX.VDT/Win”（注：XXX 必需为 101~200 的花样号码，同时该号码也是升级后的花样号，花样需放置在 U 盘根目录 Pattern 文件夹中）。

2) 在准各键 LED 指示灯熄灭的状态下，按模式键  进入系统菜单，按项目选择键  选中“10 花样导入导出”，按编辑键  进入该模式。

3) 按项目选择键  选中“01 导入花样”并将存入花样的 U 盘插入到面板右侧的 USB 接口上。

注：花样导入导出会将 U 盘中所有花样进行导入导出动作。

注：U 盘需小于 32GB 且格式为 FAT32。



4) 按准各键  后，面板会显示 U 盘文件夹中的所有花样，按编辑键  选择要导入的花样，按准各键  确认操作，此时面板会显示“操作执行中，请勿关机！”，开始执行花样导入操作。

注意：在此步骤操作之前，请确认已经先将 U 盘插入面板 USB 接口，如若未插入 U 盘而执行该步骤操作，则无法进行升级操作，面板会提示“U-050 U 盘未插入或不可用”错误。

5) 当升级光毕后，面板显示“操作成功！”并自动回到导入花样模式界面，表示花样升级完成。

注意：如果电控中已经存在 101~200 号升级的某些花样，也可以通过在 U 盘中存入命名编号与电控中已存在花样不同的花样文件，并按照上述操作进行花样追加；如果 U 盘中存入命名编号与电控中已存在花样相同的花样文件，则进行升级操作后，电控中那些编号相同的花样将被替换。

6) 打开花样锁：花样升级完毕后，在触制界面如果选择花样号时，如果不能选中新升级的U盘花样，可能是因为没有将花样锁打开，101-200号花样出厂默认时是锁定不能选择的，需要进行如下操作：在准备键LED指示灯熄灭的状态下，按模式键  进入系

统菜单，按项目选择键   选中“03 普通花样锁”，再按编辑键  进入该模式。在该模式中，左半部分显示的是普通花样号，可以按项目选择键   在 1-200 之间切换；右半部分显示的是花样状态，显示为“”时花样打开可以编辑，显示为“”时花样锁定不能编辑。可以用数据变更键   修改花样打开或锁定的状态。

菜单 SEL:  

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

普通花样锁 SEL:  



7) 用项目选择键   和数据变更键   将导入的花样打开，按返回键  保存修改回到系统菜单，再按返回键  返回到正常触制模式。

6 附录 1

6.1 主控异常信息一览表

显示	异常名称	原因及解除方法
B-001	系统过压	①电网电压是否高于 AC260V; ②如果是自行发电供电, 请降低发电机功率; ③若仍不能正常工作, 请更换控制箱并通知售后服务。
B-002	系统欠压	①是否输入低电压; ②恢复出厂设置; ③若仍不能正常工作, 请更换控制箱并通知售后服务。
B-003	通讯失败	①关闭系统电源, 检查显示屏的连线是否松动或脱落, 将其恢复正常后重启系统。
K-003_2	MC12 通讯异常	②关闭系统电源, 拆下电控箱只插电源线通电, 是否报警 B03, 如还是报警 B03, 更换控制箱并通知售后服务。
B-005	传感器连接不良	①检查传感器接头是否松动或脱落, 将其恢复正常后重启系统。 ②若仍不能正常工作, 请更换控制箱或传感器并通知售后服务。
B-007	主轴电机堵转	①关闭电源, 检查手轮是否可以顺畅转动 (手转手轮), 如果无法转动请排查机械; ②关闭电源, 检查电机电源接口是否松动, 插好后重启; ③检查上停针位是否正确, 如果不正确请调整上定位位置; ④若仍不能正常工作, 请更换控制箱或主轴电机并通知售后服务。
B-009	开机找定位时, 主轴电机编码器 Z 信号异常	①关闭系统电源, 检查主轴电机编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查电机零点校正设置是否正确: 重新设置电机零点校正; ③编码器码盘是否有油, 如果有请清理干净; ④若仍不能正常工作, 请更换控制箱或主轴电机并通知售后服务。
B-010	电磁铁过流保护	①拆除电磁铁接口, 如报警 E10, 更换控制箱并通知售后服务。 ②如果拆除电磁铁接口后不再报警, 请插回接口。 1) 前脚踏板让能卸机进行夹线和加帽线, 如果报警, 请关闭前加圈和后加圈, 重启电控, 再进行前踏, 如果报警, 请关闭夹线功能重启电控, 再次前踏, 如果不报警, 请更换夹线器。 2) 前脚踏板让能卸机进行夹线和加帽线, 如果报警, 请关闭前加圈和后加圈, 重启电控, 再进行前踏, 如果不报警, 请关闭夹线功能重启电控, 并打开前加圈功能, 再次前踏, 如果报警, 请更换倒轴电磁铁。 3) 前脚踏板让能卸机进行夹线和加帽线, 如果不报警, 请半反踏进行抬压脚, 如果报警请更换压脚电磁铁; 4) 前脚踏板让能卸机进行夹线和加帽线, 半反踏抬压脚, 如果不报警, 请全反踏剪线, 如果报警请更换剪线电磁铁;
B-011	主轴电机编码器 Z 信号异常	①关闭系统电源, 检查主轴电机编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查电机零点校正设置是否正确: 重新设置电机零点校正, 编码器码盘是否有油, 如果有请清理干净; ③若仍不能正常工作, 请更换控制箱或主轴电机并通知售后服务。
B-014	主轴电机编码器 AB 信号异常	①关闭系统电源, 检查主轴电机编码器接口是否松动或脱落, 将其恢复正常后重启系统。

		④检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在糖码器头层中位置）； ⑤检查光栅网盘是不是有油，如果有，请清理干净，复原后重启系统； ⑥若仍不能正常工作，请更换控制箱或主轴电机并通知售后服务。
B-015	主轴电机过电流错误	①请检查电机电源线有没有接触不良； ②请检查电机电源线有没有被压破； ③请更换控制箱或主轴电机并通知售后服务。
B-042	EEPROM 读写故障	①恢复出厂设置后重启； ②若仍不能正常工作，请更换控制箱并通知售后服务。
B-046	看门狗复位	①恢复出厂设置后重启；
E-046_2	MCU2 看门狗复位	②若仍不能正常工作，请更换控制箱并通知售后服务。
E-070_2	MCU2 程序异常，请重新烧录	请切断电源，然后重新打开电源。
B-082	X 轴步进电机过流	①关闭系统电源，观察 X 轴步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查 X 轴步进电机接口是否松动或脱落，将其恢复正常后重启系统。 ②若仍不能正常工作，请更换控制箱或 X 轴步进电机并通知售后服务。
E-082_2	Y 轴步进电机过流	①关闭系统电源，观察 Y 轴步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查 Y 轴步进电机接口是否松动或脱落，将其恢复正常后重启系统。 ②若仍不能正常工作，请更换控制箱或 Y 轴步进电机并通知售后服务。
E-082_3	中压脚踏步进电机过流	①关闭系统电源，观察中压脚踏步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查中压脚踏步进电机接口是否松动或脱落，将其恢复正常后重启系统。 ②若仍不能正常工作，请更换控制箱或中压脚踏步进电机并通知售后服务。
E-082_4	外压脚踏步进电机过流	①关闭系统电源，观察外压脚踏步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查外压脚踏步进电机接口是否松动或脱落，将其恢复正常后重启系统。 ②若仍不能正常工作，请更换控制箱或外压脚踏步进电机并通知售后服务。
B-084	X 轴步进电机编码器 Z 信号异常	①关闭系统电源，观察 X 轴步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查 X 轴步进电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在糖码器头层中位置）； ③检查光栅网盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或 X 轴步进电机并通知售后服务。
E-084_2	Y 轴步进电机编码器 Z 信号异常	①关闭系统电源，观察 Y 轴步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查 Y 轴步进电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在糖码器头层中位置）； ③检查光栅网盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或 Y 轴步进电机并通知售后服务。
E-084_3	中压脚踏步进电机编码器 Z 信号异常	①关闭系统电源，观察中压脚踏步进电机是否卡住。如卡住则先排除机头机械故障。如正常，检查中压脚踏步进电机编码器接口是否松动或脱落，将其恢复正常后重启系统。

		②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或中压异步电机并通知售后服务。
K-084_4	外压异步电机编码器 Z 信号异常	①关闭系统电源，观察外压异步电机是否卡住。如卡住则先清除机头机械故障。如正常，检查外压异步电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或外压异步电机并通知售后服务。
B-085	X 轴异步电机编码器 AB 信号异常	①关闭系统电源，检查 X 轴异步电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或 X 轴异步电机并通知售后服务。
K-085_2	Y 轴异步电机编码器 AB 信号异常	①关闭系统电源，检查 Y 轴异步电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或 Y 轴异步电机并通知售后服务。
K-085_3	中压异步电机编码器 AB 信号异常	①关闭系统电源，检查中压异步电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或中压异步电机并通知售后服务。
K-085_4	外压异步电机编码器 AB 信号异常	①关闭系统电源，检查外压异步电机编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或外压异步电机并通知售后服务。
B-086	X 轴异步电机启动失败	①关闭系统电源，检查 X 轴异步电机电源接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统； ④若仍不能正常工作，请更换控制箱或 X 轴异步电机并通知售后服务。
K-086_2	Y 轴异步电机启动失败	①关闭系统电源，检查 Y 轴异步电机电源接口、编码器接口是否松动或脱落，将其恢复正常后重启系统。 ②检查光栅安装是否正确（光栅螺丝有没有圈紧，光栅是不是在编码器头居中位置）； ③检查光栅码盘是不是有油，如果有，请清理干净，复原后重启系统；

		④若仍不能正常工作, 请更换控制箱或Y轴步进电机并通知售后服务。
K-086_3	中压脚踏进电机启动失败	①关闭系统电源, 检查中压脚踏进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或中压脚踏进电机并通知售后服务。
K-086_4	外压脚踏进电机启动失败	①关闭系统电源, 检查外压脚踏进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或外压脚踏进电机并通知售后服务。
B-087	X轴步进电机堵转	①关闭系统电源, 检查X轴步进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或X轴步进电机并通知售后服务。
K-087_2	Y轴步进电机堵转	①关闭系统电源, 检查Y轴步进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或Y轴步进电机并通知售后服务。
K-087_3	中压脚踏进电机堵转	①关闭系统电源, 检查中压脚踏进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或中压脚踏进电机并通知售后服务。
K-087_4	外压脚踏进电机堵转	①关闭系统电源, 检查外压脚踏进电机电源线接口、编码器接口是否松动或脱落, 将其恢复正常后重启系统。 ②检查光栅安装是否正确(光栅螺丝有没有圈紧, 光栅是不是在编码器头居中位置); ③检查光栅圆盘是不是有油, 如果有, 请清理干净, 复原后重启系统; ④若仍不能正常工作, 请更换控制箱或外压脚踏进电机并通知售后服务。

6.2 面板异常信息一览表

错误代码	异常名称	异常内容	原因及解决方法
W-001	急停	人工操作运行急停	按复位键进入试触，然后前群可继续运行
W-003	翻倒保护	电控翻倒报警	扶正机头，或设置 K150 禁用机头翻倒开关
W-005	风扇堵转	电控散热风扇异常	检查风扇接线或风扇是否损坏
W-006	踏板未回到中央位置	进入触制时踏板不在中间位置	检查进入触制时是否踩踏板
W-007	过热报警	温度传感器报警	检查风扇接线或风扇是否损坏
W-008	断线, 请检查面线	断线, 请检查面线	检查面线是否断线
W-010	U 盘拔出	面板检测不到 U 盘	请插入 U 盘
W-011	文件为空	U 盘内文件为空	请检查 U 盘内文件
W-029	花样被锁	花样已被锁定, 不能进入触制	解锁花样后才能进行触制
W-030	花样为空	C 花样内不含花样, 不能进入触制	编辑 C 花样, 导入 F 花样到 C 花样中
W-031	花样超出范围	花样大小超出压脚范围	更换花样, 更换压脚, 或调节 K56, K57, K58, K59 压脚范围
W-035	执行成功	执行成功	执行成功
W-036	执行失败	执行失败	执行失败
W-037	执行成功, 请关机	执行成功, 请关机	执行成功, 请关机
W-038	执行失败, 请关机	执行失败, 请关机	执行失败, 请关机
W-039	请关机	复位操作完成, 关机重启后生效	操作完成, 关机重启后生效
W-040	踏板 AD 值设置异常	踏板的 AD 动作	重新设置前中所踏的 AD 值
W-041	升级失败	升级电控程序失败	检查面板与电控接线和升级文件内容后重新升级
W-042	升级完成, 请重启	升级完成, 请重启	升级完成, 请重启
W-043	升级文件不存在	面板检测不到 U 盘的升级文件	检查 U 盘的升级文件
W-044	电控与面板机型不一致	面板上电读取机型参数值与电控的机型值不一致	按复位键重设面板保存机型
W-045	电控与面板机型不一致	面板上电读取机型参数值与电控的机型值不一致	按复位键重设面板保存机型
W-046	部分参数超出范围	部分参数超出范围	按复位键恢复默认值
W-047	切换机型	切换机型	按复位键初始化数据
W-048	flash 读写失败		
W-049	电控与面板程序不一致	电控与面板程序不一致	请烧录相对于匹配程序
W-050	U 盘未插入或不可用	面板检测不到 U 盘	请插入 U 盘或者拔出重新插入
W-051	请添加润滑油	请添加润滑油	请添加润滑油
W-052	厂家默认值表不一致	厂家默认值表不一致	请烧录相对于的默认值文件
W-053	没有默认值表	没有默认值表	请烧录相对于的默认值文件

W-054	计数器到达设定值	计数器到达设定值	按复位键清零计数器并退出暂停
W-055	针数太大, 请重新编辑	编辑新花样数据量超出范围	重新编辑花样参数
W-056	存储空间不足	存储空间不足, 不能编辑新花样	格式化导入花样, 释放更多内存后重新编辑
W-057	图形参数异常	编辑新花样的参数内容错误	检查相关图形参数, 重新编辑花样
W-060	P 花样已满	不能新建 P 花样	删除 P 花样后可编辑
W-061	C 花样已满	不能新建 C 花样	删除 C 花样后可编辑
W-062	没有 P 花样	没有 P 花样, 不能复制或删除 P 花样或新建 C 花样	创建 P 花样后可编辑
W-063	该 P 花样被占用	该 P 花样被 C 花样占用, 不能删除	检查 C 花样, 解除 P 花样占用后可删除该 P 花样
W-064	不能删除最后一个 P 花样	不能删除最后一个 P 花样	新建其它 P 花样后, 可删除该 P 花样
W-065	不能删除最后一个 C 花样	不能删除最后一个 C 花样	新建其它 C 花样后, 可删除该 C 花样
W-105	进入 Boot 模式	电控进入 Boot 模式	前盖开机进入 Boot 模式, 用于升级电控程序。
W-106	MCU1 烧录程序出错	主芯片上次烧录程序出错	检查面板与电控接线和升级文件内容后重新升级
W-107	MCU2 烧录程序出错	副芯片上次烧录程序出错	检查面板与电控接线和升级文件内容后重新升级
W-110	MCU2Boot 通信异常	主芯片不能与副芯片底层程序通信	没有烧录底层程序, 请检查电控内部接线或联系厂家
W-112	MCU1 没有 APP 程序	主芯片没有烧录电控程序	没有烧录应用程序, 请重新烧录电控程序
W-113	MCU2 没有 APP 程序	副芯片没有烧录电控程序	没有烧录应用程序, 请重新烧录电控程序
W-114	面板 Boot 程序版本过低	无法用此方法进行升级	请更新程序
W-120	已选择该花样的另一个文件	已选择该花样的另一个文件	请检查文件内容是否正常
W-121	不存在可导出的花样	不存在可导出的花样	请检查文件内容是否正常
W-122	导入该花样将会覆盖原有的花样	导入该花样将会覆盖原有的花样	导入该花样将会覆盖原有的花样
W-123	不存在可删除的花样	不存在可删除的花样	不存在可删除的花样
W-124	有不可识别的 c 代码, 但仍能导入	有不可识别的 c 代码, 但仍能导入	有不可识别的 c 代码, 但仍能导入

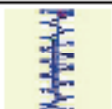
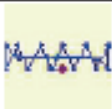
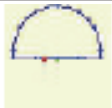
6.3 套结标准花样一览表

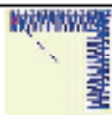
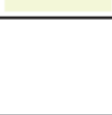
下图所示的缝制花样已预先设置好，可以根据规格予以选择使用。（只要能够确认是在压脚、送布板的工作范围内，就可以选择使用任一种缝制花样）。

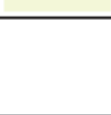
请使用符合各种缝制花样要求的压脚和送布板。缝制尺寸为 100% 缝放率时的长度。

No.	缝制图案	针数	长×宽 (mm)	No.	缝制图案	针数	长×宽 (mm)
1		41	16×2	2		41	20×3
3		34	19.8×3	4		30	16×2
5		28	10×2	6		29	16×3
7		27	8×2	8		20	7×2
9		20	6.9×2	10		20	10×0.3
11		27	10×0.3	12		27	20×0.3
13		34	10×2	14		34	15.9×3
15		41	10×2	16		42	16×3
17		41	24×3	18		55	24×3
19		63	24×3	20		27	7×2
21		34	7×2	22		13	6.9×2
23		34	25×0.3	24		41	25×0.3

25		44	25×0.3
27		34	3×10
29		20	0.3×10
31		27	8×2
33		14	8×2
35		57	12×7
37		56	7×12
39		52	7×10
41		35	3×16
43		67	3×24
45		69	9×25
47		43	0.4×25
49		92	10×10
51		104	30×26
53		59	11×11

26		27	3×10
28		18	0.3×10
30		27	0.3×10
32		21	8×2
34		34	12×7.2
36		56	7×12
38		52	7×10
40		31	3×16
42		43	3×20
44		45	9×15
46		26	0.3×20
48		69	10×10
50		83	16×16
52		59	11×11
54		77	15×15

55		77	15X15
57		115	9X9
59		103	10X10
61		123	10X10
63		34	19.8X3
65		42	16X2
67		29	10X2
69		35	10X2
71		28	7X2
73		28	8X2
75		14	7X2
77		22	8X2
79		35	19.8X3
81		35	15.9X3
83		42	24X3

56		105	9X9
58		126	9X9
60		113	10X10
62		41	20X3
64		29	16X2
66		31	16X2
68		21	7X2
70		41	10X2
72		35	7X2
74		21	7X2
76		28	8X2
78		42	20X3
80		30	16X3
82		43	16X3
84		56	24X3

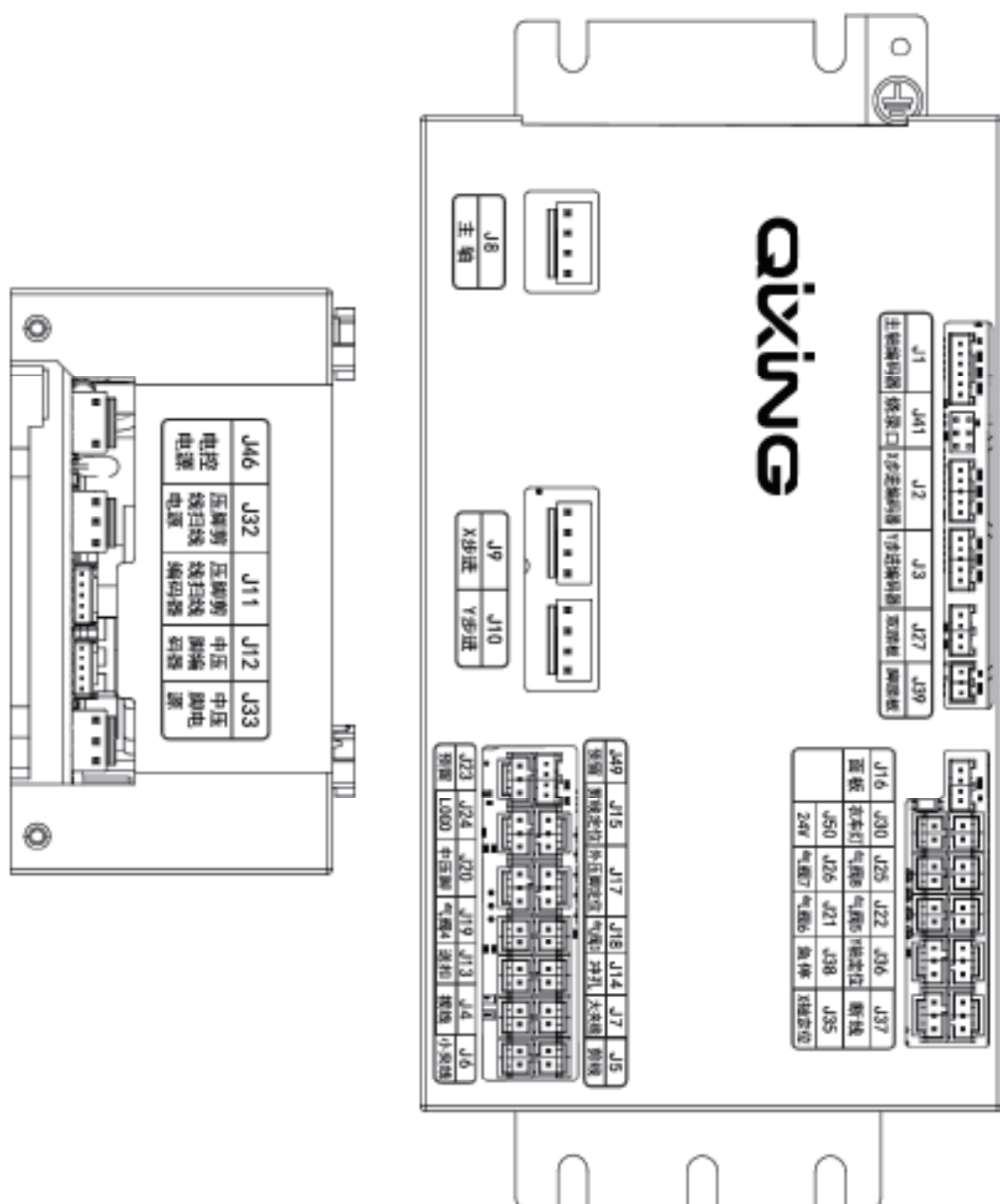
85		64	24×3
87		27	6×2
89		89	24×3
91		44	30×30
93		36	30×30

86		20	6×2
88		34	6×2
90		42	30×30
92		28	30×30
94		35	30×30

*只有部分机型提供这些花样（90 号-94 号）

7 附录 2

7.1 电控箱安装尺寸



Tacking Button Attaching Machine (Button Color Screen)

Preface

Welcome to use the Company's special sewing machine control system. Please read this operation manual carefully to ensure the correct operation and use of special sewing machines. Please operate in the way indicated in this manual, otherwise, the Company will not be responsible for the losses caused by illegal operation. In addition, please keep this user's manual in a safe location for easy access at any time. If a malfunction occurs, it must be repaired by technicians or professionals designated by the Company.

Safety Precautions

1. Signs and meanings of safe operation

This instruction manual and the safety signs used in the product are for you to use the product correctly and safely, and to prevent you and others from being hurt. The pattern and meaning of the logo are as follows:

 Danger	If you ignore this mark and do the wrong operation, it will lead to serious injury or death.
 Attention	If you ignore this mark and do the wrong operation, it will lead to personal injury and equipment damage.
	This symbol represents "precautions to be taken". The patterns in the triangle represent important things to pay attention to. (For example, the pattern on the left indicates: "Beware of Injury")
	This symbol represents "prohibited"
	This symbol represents "must". The pattern in the circle represents what must be done. (For example, the pattern on the left indicates "must be grounded")

2. Safety precautions

 Danger	
	When opening the control box, turn off the power switch and unplug the power plug from the socket, wait at least 5 minutes before opening the control box cover. Touching areas with high voltage can cause injury to personnel.
 Attention	
Operating environment	
	Avoid using this sewing machine near strong electrical interference sources such as high-frequency welding machines. Strong electrical interference sources may affect the normal operation of sewing machines.
	The fluctuation of power supply voltage should be used in an environment within $\pm 10\%$ of the rated voltage. Large voltage fluctuation will affect the normal operation of sewing machine, so a voltage regulator is needed.
	The ambient temperature should be used within the range of 0 °C to 45 °C. Low or high temperatures can affect the normal operation of sewing machines.
	The relative humidity should be in the range of 35%–85%, and the equipment will not form condensation environment. Dry, humid, or condensation environments can affect the correct operation of sewing machines.
	The supply of compressed air should be greater than the total air consumption required by the sewing machine. Insufficient supply of compressed air can cause abnormal operation of the sewing machine.
	In case of lightning storm, turn off the power switch and unplug the power plug from the socket. Lightning may affect the correct operation of sewing machines.
Installing	
	Please have trained technicians install the sewing machine.

	Please do not connect the power supply before installation is complete. If the start switch is pressed by mistake, the sewing machine will be injured.
	When the sewing head falls or stands upright, please operate it with both hands. Do not press the sewing machine hard. When the sewing head falls or stands upright, please operate it with both hands. Do not press the sewing machine hard.
	It must be grounded. The loose connection of the grounding wire is the cause of electric shock or misoperation.
	All cables should be fixed at least 25mm away from moving parts. Also, do not bend excessively or fix too tightly with staples. May pose a risk of fire or electric shock.
	Please install a safety cover on the head.
Sewing	
	This sewing machine is only used by personnel who have been trained in safe operation.
	This sewing machine cannot be used for any purpose other than sewing.
	Protective goggles must be worn when using a sewing machine. If you don't wear protective glasses, the broken part of the needle may bounce into your eyes when you break the machine needle, causing injury.
	When the following situations occur, please immediately cut off the power supply. Otherwise, accidentally pressing the start switch may result in injury. 1. When threading the machine needle 2. When replacing the machine needle 3. When the sewing machine is not in use or when operator leaves the sewing machine
	During sewing, do not touch any moving parts or lean objects against moving parts, as this will cause personal injury or damage to the sewing machine.
	If there is a misoperation during the operation of the sewing machine, or if abnormal noise is heard or abnormal odor is smelled, the power supply should be immediately cut off. Then please contact the purchasing store or trained technicians.
	If the sewing machine is out of order, please contact the purchasing store or trained technicians.
Maintenance and inspection	
	Only trained technicians can carry out repair, maintenance, and inspection of sewing machines.
	For electrical related repairs, maintenance, and inspections, please contact the professional personnel of the electric control manufacturer in a timely manner.
	When the following situations occur, please turn off the power supply and unplug the power plug. Otherwise, accidentally pressing the start switch may result in injury. 1. Check, adjust, and repair 2. Replace vulnerable parts such as bent needles and cutters
	Before checking, adjusting and repairing any pneumatic equipment, please disconnect the air source and wait until the pressure gauge pointer drops to "0".
	When it is necessary to connect the power switch and air source switch for adjustment, be very careful to follow all safety precautions.
	Damage to the sewing machine caused by unauthorized modification of the sewing machine is not covered by the warranty.

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1. Overview

technical parameter table

No.	Model	
	Item	430E/438E
1	Purpose	Tacking and button attaching
2	Sewing range	X (left/right) 40mm × Y (front/back) 30mm
3	Highest sewing speed	Tacking mode: 3200 rpm Button attaching mode: 2700 rpm
4	Stitch length	0.1mm - 10.0mm (0.1mm unit)
5	Feed	Indirect feeding (pulse motor 2-axis drive mode)
6	Needle rod travel	41.2mm
7	Machine needle	DP × 5 # 14 (DP × 5 # 11 (F, M), (DP × 17 # 21 thick material))
8	Presser foot lifting mode	Pulse motor
9	Presser foot ascent	Standard 14mm, maximum 17mm (when lifting the needle in reverse)
10	Number of standard	100
11	Wiping mode	Pulse motor presser foot lifting linkage
12	Thread grabbing device	Standard: Usually 0
13	Needle thread tension	Electronic tension disc
14	Spinning shuttle	Half rotating standard shuttle
15	Refueling mode	Rotating part: Micro refueling
16	Engine oil	Sewing-machine oil
17	Lubricating grease	Lubricating grease for sewing machines
18	Data memory	FlashMemory
19	Zoom in/out function	The X and Y directions are independently scaled by 20%~200% (in 1% units)
20	Zoom in/out mode	Stitch length increase/decrease mode
21	Sewing speed limitation	400~3200 rpm (100 rpm unit)
22	Pattern selection function	Pattern number designation mode (1~200)
23	Bobbin thread count	Up/Down rotation mode (0~999999)
24	Mechanical motor	550W small AC servo motor (direct drive mode)
25	Overall dimensions	208mm×106mm×64mm
26	Control box weight	Approximately 1.4Kg
27	Rated power	770W
28	Temperature range for	0°C~45°C
29	Use humidity range	35%~85% (no condensation)
30	Power supply voltage	AC220V±10%, 50/60Hz

Please reduce the maximum sewing speed according to the sewing conditions

The implementation standard of the product: QCYXDK004—2016 Computer Control System for Industrial Sewing Machines

1.2 Application models

20K Electron Tacking (Bar Tack) Button Attaching Machine.

1.3 Input mode

Using button input mode.

1.4 Display mode

Adopting a color LCD screen display mode.

1.5 Panel layout

The whole operation panel is rectangular and divided into two parts. The display part is a color LCD screen and the operation part is 24 buttons. Refer to the control panel diagram in the Operating Instructions.

1.6 Standardization

The function buttons adopt industry recognized graphic symbols, which are in international language and can be recognized by users from all countries.

1.7 Operating mode

Function buttons include prepare button, reset button, mode button, threading/winding button, selection button, addition and subtraction button, edit button, return button and special function buttons. Please refer to Section 2 "Operating Instructions" for specific operation methods.

2 Operation and Debugging

2.1 Control panel diagram and explanation

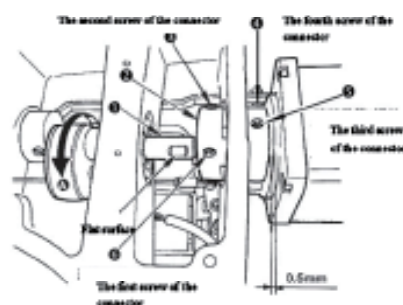


No.	Function	Description
A	LCD	Display various data such as pattern number and shape.
B	Mode button	Set parameters or store opening buttons for patterns.
C	Reset button	Used when resolving exceptions and returning the set value to its initial value.
D	Prepare button	The setting programming status of the control panel and the transition buttons for the sewing state of the actual action of the sewing machine.
B	Sewing preparation LRD	Illuminates during sewing mode.
F	PC pattern switching/single step sewing	When the LRD indicator is off, enter the P/C pattern list. When the LRD indicator is on, lower the presser foot and use XY steps to find the origin.
G	Presser foot find origin button	In the state where the LRD indicator is off, lower the presser foot and step XY to find the origin.
H	Presser foot winding button	Lift and lower the presser foot. When ascending, move the needle rod to the origin; When descending, move the wiping mechanism (or wiper head) to the right. Used during winding.
I	Item selection button	Switch between different pattern types, menu items, or parameters.
J	Counter button	In the sewing mode editing (unprepared) state, pressing it will directly enter the counter setting mode.

K	Edit button	Display editing screen, select items, or show detailed screen.
L	Data change button	Modify the pattern number or parameter value, and feed cloth with a single needle in trial sewing mode.
M	Pattern speed setting button	In the sewing mode editing (unprepared) state, pressing it will directly enter the pattern parameter speed setting mode.
N	Return button	Return to the previous screen.
O	P pattern setting button	Set the P pattern and store it, and the stored P pattern can be immediately sewn by pressing this button.
P	C pattern setting button	Set the C pattern and store it, and the stored C pattern can be immediately sewn through this case.

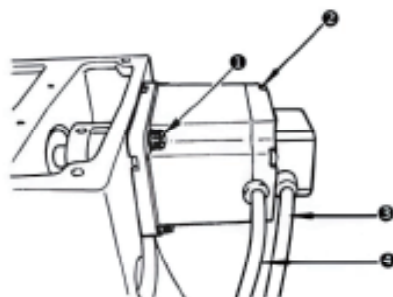
2.2 Installation of arm shaft motor

The arm shaft motor is connected to the upper shaft of the sewing machine through a connector, and the motor connector is fixed to the upper shaft of the sewing machine and the motor arm shaft by four screws. Firstly, tighten the first screw of the connector perpendicular to the axis plane of the sewing machine, and then tighten the second screw of the connector; Tighten the third screw of the connector perpendicular to the motor arm shaft plane, and then tighten the fourth screw of the connector to complete the connection between the arm shaft motor and the upper shaft of the sewing machine. The installation diagram is as follows:



The orientation of the external cable of the arm shaft motor (viewed from the back of the sewing machine to the front, and the motor cable faces the left hand side of the observer) and the installation position, as shown in the figure:

Install four fixing screws for the arm shaft motor; Four screws are used to fix the rear housing of the arm shaft motor; Signal line for arm shaft motor encoder; Provide the power cord for the arm shaft motor.



2.3 System detection mode (debugging mode)

By activating this mode, maintenance and inspection operations can be performed.

1) When the sewing indicator is off, press and hold the mode button  for 3 seconds, and the panel buzzer will sound, then press the item selection button   to select "11 System Detection", and then press the edit button  to enter the debugging mode.	菜单 SEL: ▲ ▼ 07 调整亮度 08 查询软件版本 09 软件升级 10 花样导入导出 11 系统检测 12 计数器设定
--	--

2) Press the item selection button   to change the function test item, and press the edit button  to enter the test item. The functions represented by each serial number are shown in the following table:

Functional testing item	Function	Content
01 System input detection	Input signal inspection	The state of the switch and sensor input is indicated by the light.
02 XY origin correction	XY motor/origin sensor inspection	Display the inching operation of the X/Y motor, the origin search operation and the status of the X/Y origin sensor.
03 Aging mode	Continuous operation	After setting the continuous operation conditions, move to the continuous operation mode.
04 Arm shaft detection	Main motor revolution inspection	Set the number of revolutions, start the machine, and display the measured number of revolutions.
05 Thread trimming detection	Verify if the current trimming position is within the normal range.	Arm shaft completes one rotation to perform the thread trimming operation.
08 System output detection	Output signal inspection	Drive the output electromagnet/air valve to operate.
09 Panel detection	Detect LRD and LCD	Detect whether the panel display screen and LED indicators are functioning properly.
10 Arm shaft zero	Correct the zero position of the arm shaft	Arm shaft angle, arm shaft origin angle
12 Button detection	Detect whether the buttons are damaged	Detection of all buttons
13 Plane coordinate	View the absolute coordinates	Display the absolute coordinates of XY

detection	of the current XY position	
14 Arm shaft motor origin correction	Calibrate the position of the mechanical highest point	Correct the position of the upper stop needle after modification

3) If you press the return button  or the mode button  for each function test, it will terminate the test and return to the state of 2). However, if the aging mode is used once, it cannot be lifted, and it can only be ended by turning off the power supply.

2.3.1 System input detection

1) Can inspect the input status of operation control panel buttons, pedal switches, various sensors, etc. When selecting "01 System Input Detection", press the edit button  to enter.

2) In this mode, press the item selection button   to switch input detection items, and the status of the detection signal is displayed on the right side of the screen.

系统输入检测

SEL: ▲ ▼

03 X原点传感器 OFF

04 Y原点传感器 OFF

05 外压脚原点传感器 OFF

2.3.2 XY origin correction

1) One-step operation test of XY motor If you never press the prepare

button  to enter the preparation state after startup, but directly

press the mode button  to enter the system test mode of the system menu, you can directly press the item selection button

  and the data change button   to move the XY motor in a single step after entering the "02 XY Origin Correction"

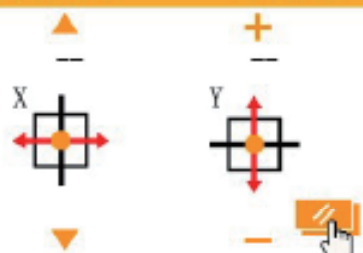
mode. If you press the prepare button  after starting the machine to enter the over-prepared state, you must press the reset

button  once to perform XY origin search after entering the "02 XY Origin Correction" mode every time before you can move the motor in a single step, which means the XY motor origin correction function.

During the process of moving the XY motor, if the origin sensor signal occurs, the icon displayed on the screen will change to a reversed color display.

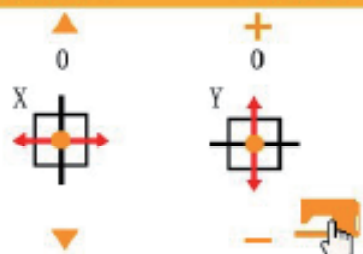
XY原点检测

SEL: ▲ ▼



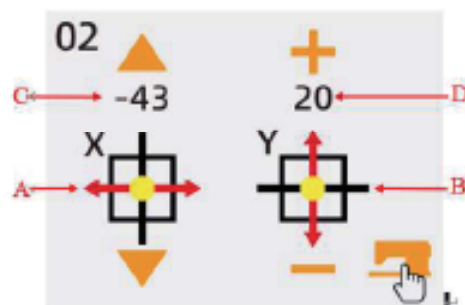
XY原点检测

SEL: ▲ ▼



2) Origin correction of XY motor

Press the reset button  once to perform XY origin search, and the screen will display the origin sensor state A and current correction value C of X motor, and the origin sensor state B and current correction value D of Y motor. Press the item selection button   and the data change button   to move the XY motor in one step respectively, and the correction value will also change accordingly. After observing that the center of the presser foot coincides with the machine needle hole position of the sewing needle, press the prepare button  to save the correction value and return. If the correction value is modified but you do not want to save it, you need to press the return button  or mode button  to discard the save and return.



2.3.3 Aging mode

When selecting "D3 Aging Mode", press the edit button  to enter continuous operation mode. After setting the continuous operation. After setting the continuous operation conditions, start the continuous operation mode; If you want to release the continuous operation mode, please turn off the power supply.

1) Setting of Interval Time When "(01) Aging Interval" is displayed,

press the data change button   to set the interval time between two runs. From 0 to 9900ms, it can be set in units of 100ms. (default value 2,000 ms)

老化模式	SEL:  
▶ 老化间隔	20
老化方式	整机
老化开关	ON



2) Set whether there is an origin search after sewing is completed.

Press the edit button  to enter. Press the item selection button   to switch to the display of "(02) Origin Search", and set whether there is origin search at the end of sewing.

OFF: Invalid (default value)

ON: Valid (perform origin search after each sewing process)

After setting, press the prepare button  to save the settings and enter the main interface of the ordinary sewing mode.

3) Continuous operation

In the ordinary pattern sewing mode, users can set the pattern number, X and Y scaling rate, maximum speed and other conditions and then start sewing. After sewing, if the origin search is set in the second step, the origin search of each motor of X/Y presser foot, thread cutting/thread grasping is started; Automatically start sewing again after

the set time interval; If you want to stop the continuous sewing, please press the prepare button  to stop when the sewing stops. To stop continuous sewing, please turn off the power supply when sewing stops.

2.3.4 Arm shaft detection

Set the speed of the machine, drive only the main motor of the machine at the set speed, and display the measured speed.

1) Prepare When "04 Arm Shaft Detection" is selected, press the edit button  to enter this mode, and each motor will automatically search the origin, and the screen will display the "target speed", "actual speed" and "arm shaft angle" of the arm shaft motor.	主轴检测 <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">目标转速</td> <td style="text-align: right;">400</td> </tr> <tr> <td style="text-align: right;">实际转速</td> <td style="text-align: right;">0</td> </tr> <tr> <td style="text-align: right;">主轴角度</td> <td style="text-align: right;">0p</td> </tr> </table> 	目标转速	400	实际转速	0	主轴角度	0p
目标转速	400						
实际转速	0						
主轴角度	0p						

2) Operation

Press the data change button   to change the target speed of the set arm shaft, and then press the prepare button  to start the machine running at the set speed. If you need to change the set speed again, you can continue to use the data change button   to set the speed value during operation, and then press the prepare button  to run the machine at the newly set speed. To stop the operation, press the reset button . To exit this mode, press the return button  or mode button  while the machine is stopped.

2.3.5 Thread trimming detection

Displays the operation of the thread cutting motor, origin search operation, and the status of the thread cutting sensor.

1) Thread trimming detection Similar to the operation in [02.3.2 XY Origin Correction] mode, if the machine has not entered the Ready State after power-on, you can directly press the edit button  in "05 Thread Trimming Detection" mode to perform thread trimming detection.	剪线检测 SEL: ▲ ▼  
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2.3.6 System output detection

In this mode, the device to be detected can be switched by pressing the item selection button  , and the device action can be driven by pressing the edit button .

- (01) Wiping electromagnet
- (02) Main tension disc electromagnet
- (03) Needle-lifting tension disc electromagnet

- (04) Thread trimming electromagnet
- (05) Air valve 1 action detection
- (06) Air valve 2 action detection
- (07) Air valve 3 action detection
- (08) Air valve 4 action detection

2.3.7 Panel detection

In this mode, all LED indicators on the panel can be lit by pressing the edit button , and the LCD screen can be displayed in full screen. Press the edit button  again to return to the normal display state.

2.3.8 Arm shaft zero

Display and locate the arm shaft angle and the arm shaft origin angle.

1) Arm shaft zero

After entering system diagnostics and selecting item 10 for the arm shaft zero, press the edit button , causing the arm shaft motor to rotate one full revolution. After it stops, press the prepare button



to save the correction value and exit.

主轴零点

主轴角度 1257p

主轴原点角度 463



2.3.9 Button detection

In this mode, it can be detected by pressing the button on the facial mask. When pressing the button, if the screen displays the changed button, the button is normal, and the button is damaged anyway.

2.3.10 Plane coordinate detection

Displays the current XY coordinate position of the machine.

1) Plane coordinate detection

After entering system testing and selecting "13 Plane Coordinate Detection", you may use the selection button   or the data change button   to move the X or Y axes, then press the Edit button  to record the coordinates of that point.

平面坐标位置



X:0.0

Y:0.0

+

-

2.4 Basic operations

2.4.1 Pattern number setting

Turn on the power switch.

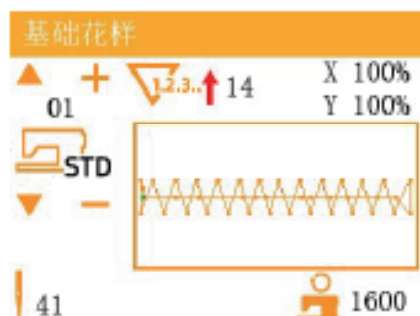
The pattern No. is displayed in the upper left corner of the screen, along with its shape, X/Y zoom in/out rate, and sewing speed. After

pressing the data change button , you can change the

pattern No. Press the item selection button  to switch between pattern modes;

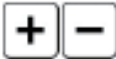
Namely, *built-in patterns (including externally imported patterns),*

F-type patterns, and C-shaped loop patterns.



2.4.2 Setting of item data

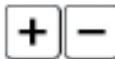
After pressing the edit button , the item data input screen is displayed. Items that can be edited are displayed on the left side of the screen, and settings are displayed on the right side.

Use the item selection button  to select the item, and then use the data change button  to

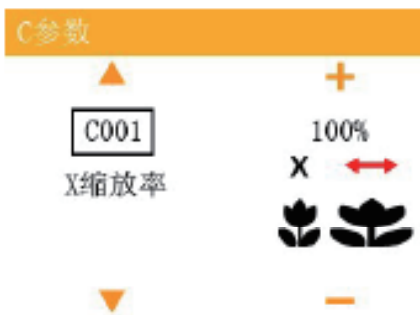
change the settings. Press  to exit and save automatically.

1) Input of X dimension

Please press the item selection button  to display the C001X dimension.

Please press the data change button  to display the desired value. For the dimension input of X and Y, use the memory switch UB63 XY scaling rate setting mode to input % or select from the actual dimension (default value: % input)

Attention: If the setting is beyond the allowable sewing range of the pressure plate, the machine needle and the cloth presser foot will collide and the needle will be broken, which is very dangerous.



1) Input of Y dimension

Please press the item selection button   to display the C002Y dimension.

Please press the data change button   to display the desired value. For the dimension input of X and Y, use the memory switch U063 XY scaling rate setting mode to input % or select from the actual dimension. (default value: % input)

Attention: If the setting is beyond the allowable sewing range of the pressure plate, the machine needle and the cloth presser foot will collide and the needle will be broken, which is very dangerous.



1) Input of sewing speed

Please press the item selection button   to display the C004 sewing speed.

Please press the data change button   to display the desired value. The maximum input range is the value of the highest sewing speed of the memory switch U001. In the sewing mode editing (unprepared) state, press the pattern speed setting button  to directly display the C004 sewing speed.



(4) End of setting

Press the prepare button .

Presser foot moves → Lift and the prepare button LED indicator lights up, becoming ready for sewing.

Attention: Press the prepare button, in the process for presser foot to locate the pattern stitch starting point, the presser foot first descends and then moves, so please be careful not to pinch your fingers.

*After pressing the prepare button , the set values such as pattern No. and XY zoom in/out rate are memorized.

*After pressing the prepare button  again, the prepare button LED indicator will turn off. You can change the settings of each item.

*Please confirm the pattern No. before using. After pressing the prepare button  while displaying pattern No., an M-306 abnormal error will be displayed. At this time, please reset the pattern No..

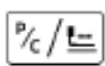
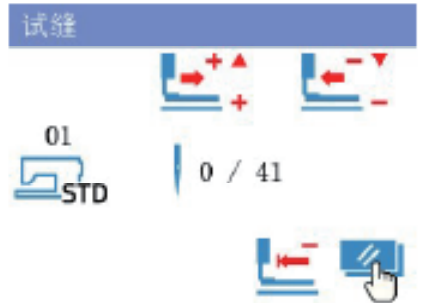
Attention: If you don't press the prepare button  switch and turn off the power supply, the set values of

pattern No., XY zoom in/out rate and maximum speed can't be remembered.

2.4.3 Confirmation of pattern shape

Warning!

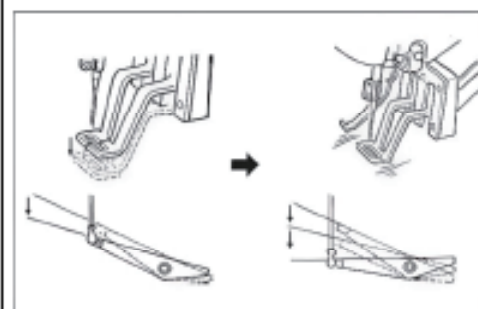
1. After selecting the pattern, please make sure to confirm the shape of the pattern. If the pattern is far away from the presser foot, the machine needle will touch the presser foot during sewing and break the machine needle.
2. When confirming the pattern shape, please note that if the +/- button is pressed after the needle rod descends, the needle rod will automatically return to the upper position before the presser foot moves.

1) Press the prepare button , and the prepare button LED indicator will turn on. 2) Press the P/C button  to display the "Shape Confirmation Screen".	 The screenshot shows a screen titled "试缝" (Test Sewing). It displays a sewing pattern icon labeled "01 STD" and a progress indicator "0 / 41". Navigation arrows (up, down, left, right) are visible, along with a hand icon pointing to a button.
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2.4.4 Sewing

Sewing:

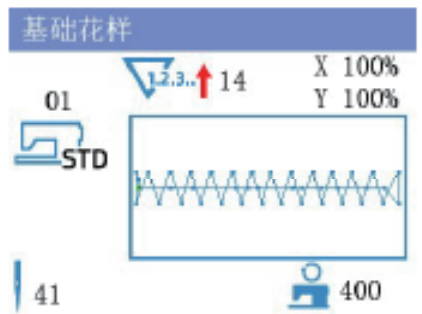
1. Place the sewing on the presser foot.
2. Depress the pedal switch to the first level, the presser foot descends;
Release the pedal, the presser foot ascends.
3. Start sewing after you depress the pedal switch to the second level.
4. After the sewing is completed, the presser foot rises and returns to the sewing start position.



2.4.5 Changes to other patterns

Press the prepare button , and the prepare button LED indicator will turn off. Set the pattern No. using the data change button. Similar to [02.4.2 Item Data Setting], XY zoom in/out rate, speed, etc. can be set.

After pressing the prepare button, the LED indicator of the prepare button indicators up and becomes a sewing state.



The screenshot shows a screen titled "基础花样" (Basic Pattern). It displays a sewing pattern icon labeled "01 STD" and a progress indicator "41". The screen shows a zigzag sewing pattern. Settings for "X 100%" and "Y 100%" are visible, along with a "14" value and a "400" value.

After selecting the pattern, please make sure to confirm the shape of the pattern.

If the pattern is far away from the presser foot, the machine needle will touch the presser foot during sewing and break the machine needle.

If you want to switch to P pattern or C pattern, you need to switch the pattern mode first.

2.4.6 Winding bobbin thread

1) Press the prepare button , and the prepare button LRD indicator will turn off.

2) Press the presser foot winding button  and select lowering the presser foot.

3) Press the  button to display the winding screen.

4) When you depress the pedal, the sewing machine rotates.

5) Depress the pedal again or press the reset button , the sewing machine stops.

6) After pressing the prepare button  and return button , the winding screen ends.

Attention: After just turning on the power supply, the winding

does not move. Select any pattern, and press the  button to search the origin before operating.

穿线界面



绕线



2.4.7 Use of counters in sewing

(5) How to set counter values

1) Enter the counter setting screen

a. In the input mode where the prepare button LED indicator is off,

press the mode button  to display the mode screen.

Use the item selection button   to set the "12 Counter Setting" to the selected state.

Press the edit button  to display the counter screen A.

Counter screen A is displayed and can be set. The setting of counter values can only be done in input mode. If it is in sewing mode, please

press the prepare button  and the LED indicator of the prepare button is off.

b. In the input mode where the prepare button LED indicator is off,

press the counter button  to display the counter screen A.

菜单 SEL:  

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

计数器

缝制加

1.2.3.4

10 / 0

2) Counter selection and value change

Press the item selection button   to reverse the icon B representing the counter category. Press the data

change button   to select the appropriate counter button from the following counter categories. Press the item

selection button  , reverse counter set value C. Press the data change button   and enter the set value (target value).

3) Change in the current value of the counter

Press the item selection button   to reverse the counter's current value D. After pressing the reset button

, the value in the counter can be cleared. In addition, you can also edit the value (current value) by using the data change button  .

4) Counter category

B01 sewing additive counter

After sewing each shape, the current value is incremented by 1. Now in the process of value and setting counters.

B02 sewing reduction counter

After sewing each shape, the current value is reduced by 1. After the value reaches 0, the subtraction counter screen is displayed.

B03 quantity addition counter

Add up the count to obtain the current values of one loop stitch. After the current value is equal to the set value, the addition counter screen will be displayed.

B04 piece count counter

Subtract the count to obtain the current values of one loop stitch. Now, after the value reaches 0, the subtraction counter screen is displayed.

B05 bobbin thread addition counter

For every 10 stitches sewn, add to the current value. After the current value is equal to the set value, the counter increment screen will be displayed.

B06 bobbin thread subtraction counter

Subtract from the current value for every 10 stitches sewn. After the current value is equal to 0, the counter increment screen will be displayed.

B07 does not use a counter

5) How to cancel counter addition

If the condition of adding number is reached during sewing, the adding number screen will be displayed. After pressing the reset button



, reset the counter and return to sewing mode. And start counting again.

警告提示页面

W-054

计数器到达设定值



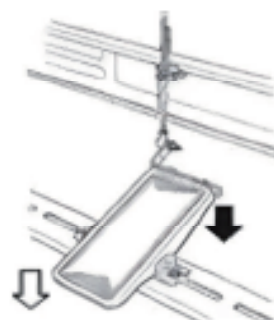
2.4.8 How to use pause

1) Press the prepare button and depress the foot pedal forward, the presser foot descends;

2) Depressing the pedal forward again will start sewing;

3) If it is necessary to make an emergency stop during sewing, you can

depress the pedal backward , and the machine will make an emergency stop. The panel will display "E-002".



3) Panel emergency stop

1) After the reset button is set to 1 with the memory switch U097, the reset button becomes a pause button, which can be used to stop the sewing machine during sewing.

2) Use the reset button  to stop the sewing machine, and W-001 will be displayed. After pressing the reset button , the abnormality is resolved and the forward and backward feed screen is displayed.

Note: In addition to the above two operation modes, it can be set as an external emergency stop according to requirements, and an external switch can be connected to the electric control X45 socket.

警告提示页面

W-001

急停



试缝



试缝

01
STD

5 / 41



3) There are three types of operations after release:

1. Use the start switch to restart sewing.

2. After pressing the reset button  for thread cutting, use the data change button   to adjust the position, and then use the start switch to start sewing.

3. After pressing the reset button  for thread cutting, and then press the reset button  again to return to the original point.

4. After pressing the reset button  for thread cutting, press the pedal again to continue sewing.

2.5 Setting F and C patterns

2.5.1 Pattern button registration and sewing

(1) Register on the pattern button

Setting example: register the settings of pattern No. 3, X zoom in/out by 50%, Y zoom in/out by 80%, maximum speed limitation of 2,000 sti/min, thread tension of "50", pattern position shifting to the right by 1mm and pattern position shifting forward by -1mm in P2.

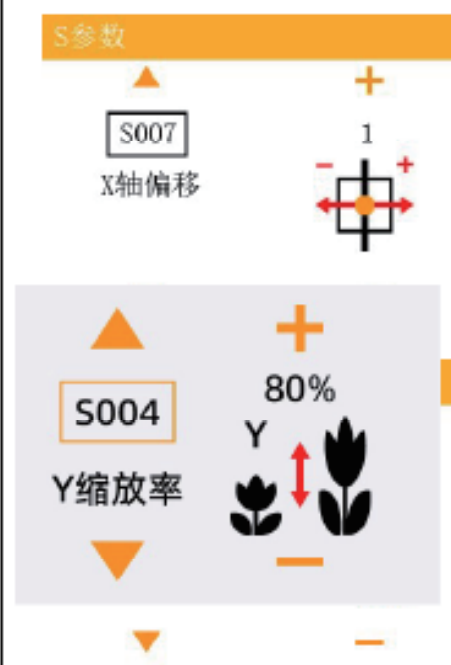
1) Turn on the power supply and press the mode button . (Change interface not prepared) Enter mode setting (memory switch setting). Press the item selection button   to set "04 Registration P Pattern" in the selected state. Press the edit button  to display the pattern registration mode.	菜单 SEL: ▲ ▼ 01 系统U参数 02 系统K参数 03 普通花样锁 04 登记P花样 05 复制/删除P花样 06 登记/删除C花样
2) Press the edit button , and then use the data change button   to edit item data. 3) Press the item selection button   to set the standard pattern to No. 2. Press the data change button   to set the P-No. to 2. After pressing the prepare button, P12 is registered and the mode screen is displayed. Press the mode button  or press the return button . Note: After the P pattern is registered, it cannot be registered again and needs to be deleted and re-registered.	登记P花样 SEL: ▲ ▼ 02 STD → P12 X 20.0 Y 3.0 41 
4) Set them separately. Set the X-dimension reduction rate to "50%", the Y-dimension reduction rate to "80%" and the sewing speed to "2,000" sti/min. 5) After pressing the edit button , press the item selection button  , find "X Scaling Rate", and it will display as 100%. The X scaling rate can be set in units of 1%. Use the data change button   to change the data to 50%.	S参数 S004 X缩放率 50% X  

- 6) Press the item selection button  , find "Y Scaling Rate", and it will display as 100%. The Y scaling rate can be set in units of 1%. Use the data change button   to change the data to 80%.
- 7) Press the item selection button  to find the "Sewing Speed", which is displayed as the current value. You can set the sewing speed with 100 units    . Use the data change button   to change the data to "2,000" rpm/min.
- 8) After pressing the prepare button , the setting ends.
- 9) Press the return button . End the pattern registration mode.



Set them separately, and set the X movement amount to "1" and the Y movement amount to "-1.0".

- 1) After pressing the edit button , the "X Movement Amount" is displayed as 0.0. The movement amount in the X direction can be set in units of 0.1mm. Use the data change button   to change the data to "1".
- 2) After pressing the edit button , the "Y Movement Amount" is displayed as 0.0. The movement amount in the Y direction can be set in units of 0.1mm. Use the data change button   to change the data to "-1.0".
- 3) After pressing the prepare button , the setting ends.
- 4) Press the return button . End the pattern registration mode.



You can register the registered patterns (No. 1~200) on P1~P99. You can register by changing the zoom in/out rate, the maximum speed limitation, the thread tension and the sewing position, and you can also register the pattern by selecting it with the scroll window of pattern No., and you can call P1~P25 at one time.

*When P6~P25 is selected, sew with the combination (press at the same time) of

P1 P2 P3 P4 P5 P6 P7

button shown in the table below.

P-No.	Selection button	P-No.	Selection	P-No.	Selection button	P-No.	Selection button
P1	P1	P8	P1+P4	P15	P4+P5	P22	P2+P3+P4
P2	P2	P9	P1+P5	P16	P1+P2+P3	P23	P2+P3+P5
P3	P3	P10	P2+P3	P17	P1+P2+P4	P24	P2+P4+P5
P4	P4	P11	P2+P4	P18	P1+P2+P5	P25	P3+P4+P5
P5	P5	P12	P2+P5	P19	P1+P3+P4		
P6	P6	P13	P3+P4	P20	P1+P3+P5		
P7	P7	P14	P3+P5	P21	P1+P4+P5		

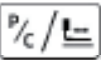
2.5.2 Sewing using combination function (loop stitch)

This sewing machine can sequentially sew multiple loop stitch pattern data.

You can enter up to 99 patterns, which can be used when sewing objects with multiple different patterns.

In addition, up to 99 data can be registered. Please copy and use it when needed.

2) How to register loop stitch data

1) Turn on the power supply and press the P/C button . (Orange interface not prepared) Enter. Press the item selection button   to set "03 Register/Delete C Pattern" to the selected state. Press the edit button  to display the pattern registration mode.	菜单 SEL: ▲ ▼ 01 登记P花样 02 复制/删除P花样 03 登记/编辑C花样 04 普通花样锁
2) Press the edit button , and then use the item selection button   to select item data (which C pattern to choose). 3) Press the edit button , to edit, press the data change button   to select the pattern serial number, edit the current serial number to display in reverse color (the selected pattern is the edited P pattern), and press the item selection button   to move to the next pattern. 4) After setting up, press the return button  and then press the prepare button  to save or press the return button  to exit. Note: When the P pattern is registered as a C pattern, it cannot be deleted, and the C pattern needs to be deleted or modified for operation.	登记/编辑C花样  01/01 P花样  01/05 登记/编辑C花样 保存  是否保存 退出 

2) How to edit loop stitch data

1) Set as input mode

When the prepare button LED indicator is off (orange interface), continuous sewing data operation can be performed. Press the item

selection button   to switch from pattern mode to loop pattern mode.

2) Set the loop stitch data to the editing state,

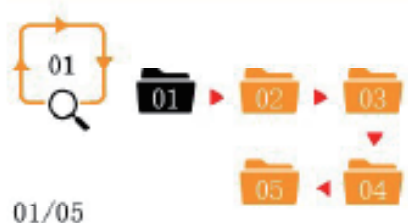
and press the edit button  to enter the editing state, and the pattern No. of the currently selected editing point will be displayed in reverse color.

3) Press the item selection button   to select any pattern.

4) Press the data change button   to modify the change pattern.

5) Return button  to exit editing.

P花样



01/05

P花样



01/04

6) Delete or cancel pattern data

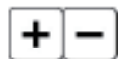
After pressing the reset button , the pattern data of the editing point can be deleted. After pressing the return

button , cancel the insertion of pattern data and move to input mode.

3) Sewing operation

1) Turn on the power supply.

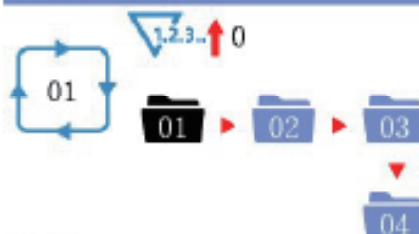
2) Select the cycle pattern with the item selection button  , and then select the cycle pattern No. with the data change button



3) Press the prepare button , the prepare button LED indicator will turn on, the presser foot will move, and then ascend.

4) Press the data change button   to select the sub pattern to start sewing.

C花样



01/04

2.6 Copy/delete P and C patterns

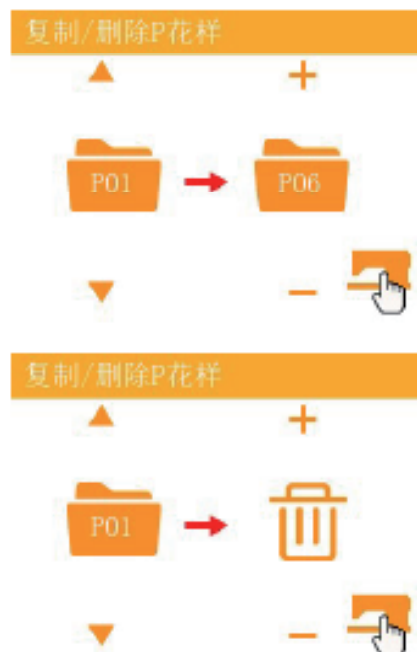
Registered P patterns can be copied as new P patterns, and C patterns can also be copied. You can also delete the existing P pattern or C pattern (but if only the last C pattern is left, this C pattern cannot be deleted).

2.6.1 Copy/delete P pattern

1) When the sewing indicator is off, press the mode button  to enter the system menu, press the item selection button   to select "05" to copy/delete P pattern, and then press the edit button to enter this mode.

2) Use the item selection button   to switch the copied (existing) P pattern number, and use the change data button  to switch the newly copied (existing) P pattern number.  After confirmation, press the prepare button  to perform the save operation and return. If you want to abandon the modification, press the return button  to return without saving.

3) Use the change data button   to switch the newly copied P pattern . If you press the prepare button  at this time, the existing P pattern will be deleted.

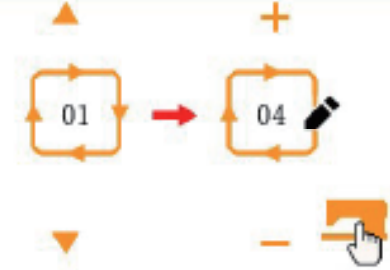
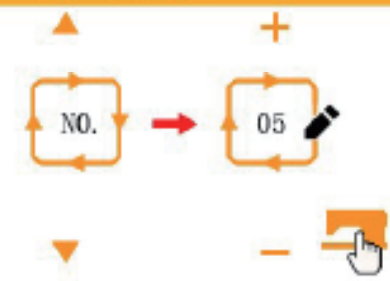
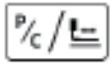


2.6.2 Copy/delete C pattern

1) In the system menu, press the item selection button   to select "06 Register/Delete C Pattern", and then press the edit button  to enter this mode.

2) Similar to the copy/delete operation of the P pattern, you can use the change data button   to switch the new C pattern number to perform the copy operation, select  to delete the C pattern, and



use the item selection button   to switch to the  icon to register a new empty C pattern.	登记/删除C花样 
登记/删除C花样 	登记/删除C花样 
Note: In the input mode where the prepare button LED indicator is off, press the P/C shortcut button  to copy/delete the function options.	菜单 SEL:   01 登记P花样 02 复制/删除P花样 03 登记/编辑C花样 04 普通花样锁

2.7 Startup and change of memory switch

1) Set input mode

In the input mode where the prepare button LED indicator is off, the storage switch data can be changed.

2) After entering the memory switch data editing screen and pressing

the mode button , the mode screen (operator level) is displayed.

Press the item selection button   and select "01 System U Parameters". After pressing the edit button , it turns into the memory switch data screen.

3) Select the memory switch data to be changed, press the item

selection button  , and choose the data item you want to change.

4) Change data

Use the change data button   to increase or decrease the set value.

5) Save and Exit After performing the data change operation, press the

return button  to save the modification and exit this mode to return to the mode screen, and then press the return button  to return to the sewing screen.

菜单		SEL: ▲ ▼
01	系统U参数	
02	系统K参数	
03	普通花样锁	
04	登记P花样	
05	复制/删除P花样	
06	登记/删除C花样	

系统U参数		SEL: ▲ ▼
U 001	缝制的最高速度	3200
U 010	第一针的缝制速度	800
U 011	第二针的缝制速度	1200

2.8 Adjusting backlight brightness

1) Set input mode

In the input mode where the prepare button LED indicator is off, the storage switch data can be changed.

2) After entering the memory switch data editing screen and pressing

the mode button , the mode screen (operator level) is displayed.

菜单		SEL: ▲ ▼
07	调整亮度	
08	查询软件版本	
09	软件升级	
10	花样导入导出	
11	系统检测	
12	系统K参数	

Press the item selection button   and select "U7 Adjust

Brightness". Press the edit button  to enter the brightness adjustment interface.

3) Press the item selection button   and select to change the backlight brightness and breathing light brightness. With the change

data button  , you can increase or decrease the change set value, and the panel backlight or breathing light brightness will change with the change of the value.

调整亮度

SEL:  



10



5

2.9 User parameter setting table

Parameter number	Function	Adjustment scope	Initial value	Remarks
UD01	Highest sewing speed (unit: rpm)	400-3500	3200	
UD10	Sewing speed of the first stitch (unit: rpm)	400-1500	800	
UD11	Sewing speed of the second stitch (unit: rpm)	400-3500	1500	
UD12	Sewing speed of the third stitch (unit: rpm)	400-3500	3200	
UD13	Sewing speed of the fourth stitch (unit: rpm)	400-3500	3200	
UD14	Sewing speed of the fifth stitch (unit: rpm)	400-3500	3200	
UD20	Thread break detection switch	0: Off 1: On	0	
UD28	Voice volume	0-8	5	
UD32	Prohibit buzzer tone	0: No buzzer sound 1: Operation-panel operation tone 2: Operation-panel operation tone and alarm prompt tone	2	
UD37	Selection of presser foot status after sewing is completed	0: First return to the stitch starting point and then lift the presser foot; 1: Lift the presser foot while returning to the stitch starting point; 2: Depress the pedal and manually lift the presser foot;	1	
UD38	Prohibit lifting presser foot	0: Allow lifting presser foot 1: Prohibit lifting presser foot	0	
UD39	Whether to retrieve the origin after sewing?	0: Do not retrieve origin 1: Retrieve origin	0	
UD43	Brightness of head LED lighting lamp	0-5	5	
UD46	Set prohibiting thread cutting	0: Allow thread cutting 1: Prohibit thread cutting	0	
UD49	Winding speed setting	800-2000	1800	
UD63	XY scaling rate setting mode	0: Set by percentage 1: Set by dimension	0	
UD97	Thread cutting mode after pause	0: Automatic thread cutting 1: Manual thread cutting	1	
UD135	Presser foot action sequence before stitch starting	0: Presser foot stands by at the stitch starting point 1: Presser foot stands by at the	0	

		origin		
D193	Prohibit counter modification	D: Allow modification 1: Prohibit modification	0	
D200	Language selection	D-3	0	
D245	Refuel alarm error clear	Press the reset button to clear	Show the total number of stitches the machine has performed	

3 Service parameter settings

Service parameters are different from ordinary parameters, and users are generally forbidden to change them themselves. These parameters are provided to professional technicians for their debugging.

3.1 Enabling and changing service parameters

When the LED indicator of the prepare button is off, press and hold the mode button  for 3~7 seconds. After hearing the buzzer sound, the service parameters can be started and changed.

The modification of service parameters is the same as that of ordinary parameters. Please refer to [2.7 Start and change of memory switch] for specific operation methods.

菜单 SEL: ▲ ▼

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

系统K参数 SEL: ▲ ▼

▶ K	脚踏板类型	
001		1
K	踩踏板时压脚下降	
027	速度	600
K	踩踏板时压脚上升	
028	速度	600

3.2 Service parameter list

Parameter number	Function	Adjustment scope	Initial value	Remarks
KD01	Pedal type	0: Analog single pedal 1: Double pedal	0	
KD02	Middle presser foot control mode	0: No middle presser foot 1: Air valve middle presser foot 2: Motor-driven middle presser foot	0	
KD27	Descent speed of presser foot when you depress the pedal (unit: rpm)	100-900	600	
KD28	Presser foot ascent speed when you depress the pedal (unit: rpm)	100-900	600	
KD29	Thread cutting presser foot ascent speed when sewing ends	100-900	600	
KD36	Sewing speed for the fourth stitch before completion (unit: rpm)	400-3500	3300	
KD37	Sewing speed for the third stitch before completion (unit: rpm)	400-3500	3300	
KD38	Sewing speed for the second stitch before completion (unit: rpm)	400-3500	3300	
KD39	Sewing speed for the first stitch before completion (unit: rpm)	400-3500	400	
KD42	Thread trimming mode	0: Motor control 1: Electromagnet control	1	
KD46	Thread end trimming length adjustment	0-3	0	
KD56	Movement limit range in +X direction (right)	0-50mm	20	
KD57	Movement limit range in -X direction (left)	0-50mm	20	
KD58	Movement limit range in +Y direction (rear)	0-40mm	15	
KD59	Movement limit range in -Y direction (front)	0-40mm	15	
KD76	Continuous sewing mode	0-1	1	
KD81	Thread slack retention time	-9999-9999	50	
KD83	Auto button feed protection time	-9999-9999	0	
KD84	Stitch starting thread slack switch	0: Off 1: On	0	
KD85	Arm shift position supplement at thread slack start	-9999-9999	0	
KD87	Arm shift position supplement at split line start	-9999-9999	0	

K088	Stop speed fine adjustment	-100~300	0	
K089	Wiping electromagnet switch	0: Off 1: On	0	
K090	Prohibit pedal alarm	0: Off 1: On	0	
K091	Idle feed rate	1~5	5	
K092	Reverse take-up lever	0: Off 1: On	0	
K093	Presser foot height	10~17	14	
K096	Wiping speed	-3~3	0	
K098	Electromagnet wiping retention time	0~300	0	
K099	Electromagnet wiping release time	0~300	0	
K112	Arm shift stop compensation	-10~10	0	
K120	Apply lubricant for alarm number of stitches	3000~12000	3000	
K122	QC length fine adjustment	-128~128	0	
K123	GD length fine adjustment	-128~128	0	
K124	BD length fine adjustment	-512~512	0	
K125	QC length	1780~2380	1780	
K126	GD length	1450~2050	1450	
K127	BD length	390~590	390	
K136	Needle-lifting tension disc starting action angle	-100~150	-100	
K137	Needle-lifting tension disc ending action angle	-150~150	-150	
K138	Does the small tension disc operate at the end of sewing?	-2~1	-2	
K146	Control angle of the small tension disc during thread trimming	0~200	160	
K147	Ending angle of the small tension disc during thread trimming	0~200	35	
K150	Prohibit head flipping switch	1: Allow, 0: Prohibit	0	
K151	Feeding synchronization adjustment	-30~30	0	
K153	Electromagnet force for thread slack	0~8	3	
K154	Electromagnet force for thread trimming	0~8	3	
K160	Depress the pedal or press the emergency stop button to halt operation	1: Allow, 0: Prohibit	1	
K164	Whether the external presser foot is installed	0: Installed 1: Not installed	0	
K165	Presser foot control mode	0: Motor presser foot 1: Open air valve for presser foot 2: Close air valve to lift	0	
K167	Tension setting	0: Off 1: On	0	
K168	Tension disc control mode	0: Thread tension mode 1: Branching mode	0	

K172	Number of stitches setting for thread break detection	0-10	0	
K180	(K) Motor find origin method	0: Motor encoder 1: External sensing positive 2: External sensing negative	0	
K181	(Y) Motor find origin method	0: Motor encoder 1: External sensing positive 2: External sensing negative	0	
K182	(C) Motor find origin method	0: Motor encoder 1: External sensing positive 2: External sensing negative	0	
K183	(P) Motor find origin method	0: Motor encoder 1: External sensing positive 2: External sensing negative	0	
K191	Fine adjustment of the first stitch feeding angle at the stitch starting	-30-30	0	
K192	Fine adjustment of the second stitch feeding angle at the stitch starting	-30-30	0	
K193	Fine adjustment of the third stitch feeding angle at the stitch starting	-30-30	0	
K194	Fine adjustment of the third stitch feeding angle before finishing	-30-30	0	
K195	Fine adjustment of the second stitch feeding angle before finishing	-30-30	0	
K196	Fine adjustment of the first stitch feeding angle before finishing	-30-30	0	
K201	Fine adjustment of the fourth stitch feeding angle at the stitch starting	-30-30	0	
K202	Fine adjustment of the fifth stitch feeding angle at the stitch starting	-30-30	0	
K221	Hat eye positioning pin X coordinate	-600-600, unit 0.1mm	0	
K222	Hat eye positioning pin Y coordinate	-600-600, unit 0.1mm	0	
K227	Arm shaft motor type setting	0-1	1	
K241	Function selection	2: 43D 3: 43B 6: Netting 7: 9060	2	
K253	Method for preparing the sewing state	0: Prepare button 1: Pedal	0	

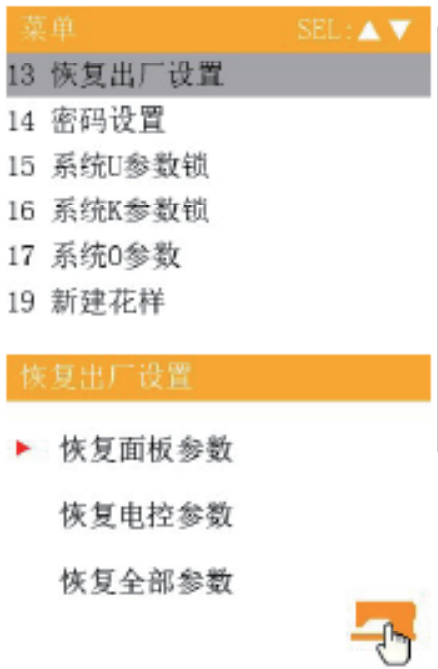
Note: The above parameters are only for use by maintenance personnel and cannot be easily modified by users.

3.3 Restoring factory default settings

When the user inadvertently modifies some parameters set at the factory or the electric control system fails, you can try to use the "Restore Factory Default Settings" function to restore the system.

Attention: If the factory default settings are restored, the data parameters previously set by the user will be overwritten. Please think carefully when using this function. If you are not clear, you should contact the manufacturer's technicians in time and operate under their guidance.

The specific operating steps are as follows:

When the sewing indicator is off, press and hold the mode button  for 3 seconds, and the panel buzzer will sound, then press the  button to select "13 Restore Factory Settings", then press the  album button to enter the menu of Restore Factory Settings, then press the item selection button   to select the item to be restored, and then press the prepare button  after confirmation to confirm the restoration operation. (1) Restore panel (2) Restore the head board (3) Recovery step The panel will first prompt "Please do not turn off while the operation is in progress!" indicating that the recovery operation is in progress and the power supply cannot be turned off at this time. When the recovery is completed after a period of time, the panel will prompt "Please turn off!", after turning off the power supply and then turning on the power supply, the operation of restoring the factory settings is completed.	
--	---

Attention: After confirming the recovery operation, during the recovery process, the panel will prompt "Please do not turn off while the operation is in progress!" If the power is cut off, the restoration process will be interrupted, the factory default settings will not be restored, and the operation will fail.

3.4 Software version display

When the sewing indicator  is off, press and hold the mode button  for 3 seconds. At this time, you can hear a buzzer sound, release the mode button , and then press the  button to select "08 Query Software Version". Press the edit button  again to enter the software version viewing interface. Then press the item selection button   to select the version you want to view.

The software versions are displayed in order as follows:

Panel program version: version number-date

Master control program version: version number-date

Sub-chip program version: version number-date

菜单

SEL: ▲ ▼

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

查询软件版本

面板程序版本:
P21190004(24/06/05)_Test
主控程序版本:
M22904302(24/03/08)
子芯片程序版本:
M7902602(24/02/22)

3.5 Software Upgrade

When the sewing indicator  is off, press and hold the mode button  for 3 seconds. At this time, you can hear a buzzer sound, release the mode button , and then press the  button to select "09 Software Upgrade". Press the edit button  again to access the software upgrade menu. Then press the item selection button   to choose between panel upgrade or electric control upgrade. Highlight the panel upgrade option with the cursor, press the edit button  to confirm entry, move the cursor to the upgrade file, then press the sewing button  to upload.

菜单

SEL: ▲ ▼

- 07 调整亮度
- 08 查询软件版本
- 09 软件升级
- 10 花样导入导出
- 11 系统检测
- 12 计数器设定

软件升级

▶ 面板升级

电控升级





3.6 User password setting and system U/K parameter locking

The system provides a password management mechanism that can be set by users themselves. After users enter the set password, they can unlock some advanced functions, such as setting system parameters and locking protection, so as to avoid the abnormal situation of the machine caused by misoperation and modification of button parameters.

3.6.1 Changing user passwords

If you need to use a user password, you need to first enter password management mode to change the password. The operation method is:

When the sewing indicator is off, press and hold the mode button

 for 3 seconds. After hearing the buzzer sound, press the item selection button   to select "14 Password Setting", and then press the edit button  to enter the password input interface.

Press the item selection button   to move backward and delete the entered password bit forward, and press the change data button   to set the password character of the currently selected bit. The allowed password character range is "0-9" and "A-Z". When the input is finished, press the edit button  to confirm. If the password is entered correctly, it will enter the new password input interface; otherwise, it will prompt an error and return to the system menu.

Attention: The factory default passwords are all fixed. Please contact your machinery supplier or agent for details.

When the passwords of the first line of "New Password" and the second line of "Confirm Input" are completely consistent, press the edit button  to confirm the modification, otherwise an error message of "Inconsistent Input" will be prompted. If you want to give up the password change operation and exit midway, you can press the return button  or mode button  to exit.

Attention: After successfully changing your password, please make sure to remember it and avoid password information leakage!

菜单 SEL:  

13 恢复出厂设置

14 密码设置

15 系统U参数锁

16 系统K参数锁

17 系统0参数

19 新建花样

密码设置 SEL:  

输入密码

■

密码设置 SEL:  

输入新密码

确认密码

■

3.6.2 Setting system U/K parameter lock

This function allows users to lock or unlock the parameters that need to be protected by themselves, and each system U parameter and K parameter can set the locking or unlocking status independently. Here we take the example of the system U parameter lock to illustrate the operation method. The K parameter method is similar to the U parameter method.

Press the item selection button   in the system menu to

select "01 System U Parameter Lock", then press the edit button  to enter the password input interface, enter the correct password and press the edit button  to confirm to enter the system U parameter lock setting interface. If the password is entered incorrectly, you cannot enter this interface.

In this interface, use the item selection button   to select the system U parameter whose locking/unlocking status is to be modified, and use the change data button   to modify the parameter locking/unlocking status value. If displayed as , it indicates locking the parameter; if displayed as , it indicates unlocking the parameter. For locked parameters, a lock icon will be displayed in the corresponding parameter modification interface. When you try to modify the parameter value, you will enter the password input interface. Only after entering the correct password can you temporarily unlock the locked state of the parameter and modify the parameter value. Once you return from the parameter setting mode interface and enter the parameter setting interface again, these parameters that are set as locked will still return to the locked state.

菜单 SEL:  

01 系统U参数
02 系统K参数
03 普通花样锁
04 登记P花样
05 复制/删除P花样
06 登记/删除C花样

密码设置 SEL:  

输入密码



系统U参数 SEL:  

 U	缝制的最高速度	
001		3200
U	第一针的缝制速度	
010		800
U	第二针的缝制速度	
011		1200

After setting the parameter lock, you can press the return button  or mode button  to save and exit.

3.7 Create new pattern

Process templates are special patterns developed for specific types of sewing machines. Usually it is a series of fixed stitch object combinations. For example, the linear tacking template is composed of a section of flat stitches and a section of flat stitches. Although the combination of objects in the template is relatively fixed, users can adjust the dimension and stitch density of the template through parameters to generate patterns of required specifications.

In the system menu, press the item selection button   to select "19 New Pattern", then press the edit button  to enter the interface of selecting and generating pattern types, set the presser foot XY range according to the current presser foot dimension, and press the edit button  to confirm to enter the interface of setting pattern parameters 1.

(a): Length of the bar-tack sewing.

(b): Width of the bar-tack sewing.

(c): The length of the bottom stitch can be set to 60-80% of the sleeve length.

(d): Bottom stitch needle degree.

(e): Curved sewing needles.

After setting, press the edit button  to confirm and enter the setting of pattern parameters 2.

Length of the first stitch: default 3mm. Length of the first stitch.

Length of the lock stitch: the lock stitch point is the position.

Angle of the lock stitch: the direction of the last needle.

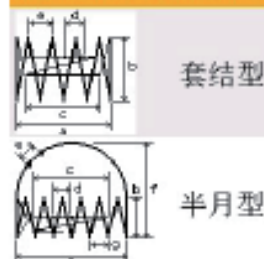
After setting, press the edit button  to confirm and enter the interface for adjusting the sewing position of the pattern, where the XY position of the pattern can be adjusted.

Press the edit button  after setting to confirm to enter the interface of selecting and storing the pattern number, and you can select the pattern storage location, which is the next pattern number by

菜单 SEL:  

- 13 恢复出厂设置
- 14 密码设置
- 15 系统U参数锁
- 16 系统K参数锁
- 17 系统O参数
- 19 新建花样

选择生成花样类型 SEL:  



设置基本参数 SEL:  

- ▶ 压脚范围+X 15.0 mm
- 压脚范围-X 15.0 mm
- 压脚范围+Y 5.0 mm
- 压脚范围-Y 5.0 mm

设置花样参数-1 SEL:  

- ▶ (a) 16.0 mm
- (b) 2.0 mm
- (c) 13.0 mm
- (d) 3.0 mm
- (e) 3.0 mm

default. Click the edit button  to confirm saving, and press the reset button  to exit the new pattern creation interface.

设置花样参数-2

SEL: ▲ ▼

- ▶ 01 第一针长度 3.0 mm
- 02 锁针长度 3.0 mm
- 03 锁针角度 0

选择保存花样号

选择保存花样号 101

调节花样缝制位置

X: -6.5mm
Y: 0.0mm



警告提示页面

W-035

执行成功



3.8 Pedal adjustment

This function can freely adjust the pedal stroke to obtain a better sewing posture, and the pedal stroke can be changed by adjusting the AD values of front pedaling and half-front pedaling.

In the system menu, press the item selection button   to select "20 Pedal Adjustment", then press the edit button  to enter the pedal adjustment interface, select front pedaling AD (electric control operation), half-front pedaling AD (presser foot down) or reverse pedaling AD and press the edit button  to confirm, and then select the current pedal mode. Press the sewing button  after you depress the pedal to a satisfactory angle with your feet to save it (the pedal angle will be displayed on the screen in real time).

菜单	SEL: ▲ ▼
20 踏板调节	
21 默认值导入导出	
22 步进原点校正	
23 主轴电机原点校正	
01 系统U参数	
02 系统K参数	

踏板调节	
▶ 前踏AD	620
半前踏AD	500
后踏AD	150



踏板调节	
▶ 前踏AD	620
半前踏AD	500
后踏AD	150

▶ 39



3.9 Stepping origin correction

This function allows for adjustment of the origin calibration of the X, Y, and P motors based on their actual installation positions.

In the system menu, press the item selection button   to select "22 Stepping Origin Correction", then press the edit button  to enter the pedal adjustment interface. Use the item selection button   to select X, Y, and P motors, confirm the selection, then press the forward pedal and the change data button   to modify the parameters. After modification, press the edit button  to confirm and exit.

菜单 SEL:  

20 踏板调节
 21 默认值导入导出
 22 步进原点校正
 23 主轴电机原点校正
 01 系统U参数
 02 系统K参数

步进原点校正



+



X
电机

0





-



步进原点校正



+



Y
电机

0





-



步进原点校正



+



压脚
电机

0





-



3.10 Arm shaft motor origin correction

This function adjusts the upper stop needle position based on the actual mechanical origin serving as the zero.

After entering system diagnostics and selecting "23 Arm Shaft Motor Origin Correction", turn the handwheel to move the needle bar to the highest point, then press the prepare button  to save the correction value and return. At this moment, this angle is set as the zero position. An increase of 53° corresponds to the upper positioning.	菜单 SEL: ▲ ▼ 20 踏板调节 21 默认值导入导出 22 步进原点校正 23 主轴电机原点校正 01 系统U参数 02 系统K参数 主轴电机原点校正 主轴角度 0d 
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4 Button attaching function

4.1 Button attaching function setting

- 1) When the sewing indicator  is off, press the  button for 3 seconds. At this time, you can hear the buzzer sound, and release the  button, which starts the service parameter change;
- 2) Press the item selection button  , select "02 System K Parameters", press the edit button  to enter, and then press the item selection button   button to select parameter K241;
- 3) Press the change data button   to change the parameter value to option "3" 438, and then press the  button to confirm the modification. At this point, pressing the reset button will return to the main interface, the machine's function changes to the button attaching function.

Attention: The button attaching function of the machine requires the special presser foot and other auxiliary peripherals needed for button attaching. Please contact your machinery supplier or agent for details.

Note: After changing the machine model, it is necessary to reset the XY origin.

菜单 SEL: ▲ ▼

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

系统K参数 SEL: ▲ ▼

K 主轴电机类型设定	0
227	
K 机型设定	2
241	
K 进入缝制状态准备方法	0
253	

系统K参数 SEL: ▲ ▼

K 机型设定 (3)
241 438



4.2 List of standard patterns for button attaching

The sewing patterns shown below have been set in advance and can be selected according to the specifications. (As long as it can be confirmed that it is within the working range of the presser foot and the feed board, any sewing pattern can be selected for use.)

Please use presser foot and feed board that meet the requirements of various sewing patterns. The length when sewing at a 100% scaling rate.

Number	Number of buttonholes	Pattern	Number of threads	Number of wiring packages	Number of stitches	Dimension (mm)	
						X	Y
1	2		6	—	12	3.4	D
54 ¹			6	—	12		
2			8	—	14		
55 ¹			8	—	14		
3			10	—	16		
4			12	—	18		
52			16	—	22		
62			20	—	26		
56 ¹			6	—	11	D	3.4
73			6	—	12		
233			10	—	16		
83			12	—	18		
93	3		5-5-5	—	21	2.6	2.4
243			7-7-7	—	27		
253			5-5-5	—	21		
263			7-7-7	—	27		
57 ¹	4		6-6	1	18	3.4	3.4
10			6-6	1	19		
58 ¹			8-8	1	22		
11			8-8	1	23		
12			8-8	3	25		
13			10-10	1	27		
27			12-12	1	31		

※ 1 Used for small hole buttons.

※ 2 Before running the program, verify that the buttonhole diameter is not less than 2mm.

※ 3 Do not use floating springs for buttons.

Number	Number of buttonholes	Pattern	Number of threads	Number of wiring packages	Number of stitches	Dimension (mm)	
						X	Y
14 ⁴	4		6-6	0	24	3.4	3.4
36 ⁵			6-6	0	24		
28 ⁴			8-8	0	28		
37 ⁵			8-8	0	28		
15 ⁴			10-10	0	32		
38 ⁵			10-10	0	32		
29 ⁴			12-12	0	36		
39 ⁵			12-12	0	36		
59 ¹			6-5	1	17		
16			6-5	1	18		
60 ¹			8-7	1	21		
17			8-7	1	22		
30			10-9	1	26		
61 ¹			6-6	1	18		
18			6-6	1	19		
62 ¹			8-8	1	22		
19			8-8	1	23		
63 ¹			10-10	1	26		
31			10-10	1	27		
45			12-12	1	31		
20 ⁴			6-6	0	24		
40 ⁵			6-6	0	24		
32 ⁴			8-8	0	28		
41 ⁵			8-8	0	28		
33 ⁴			10-10	0	32		
42 ⁵			10-10	0	32		

※ 1 Used for small hole buttons.

※ 4 After finishing sewing on one side, the button clamp rises and performs wiping action. In order to finish the sewing, please continue to depress the foot switch before the sewing on the other side begins; Or depress the foot switch again after sewing on one side.

※ 5 After completing sewing on one side, the button clamp does not rise but only performs the wiping action, and continues sewing on the other side.

Number	Number of buttonholes	Pattern	Number of threads	Number of wiring packages	Number of stitches	Dimension (mm)	
						X	Y
64 ¹	4		6-6	1	18	3.4	3.4
21 ³			6-6	1	19	2.4	
34 ³			10-10	1	27		
22 ^{3,4}			6-6	0	24		
43 ^{3,4}			6-6	0	24		
35 ^{3,4}			10-10	0	32		
44 ^{3,4}			10-10	0	32		
46			6-7	1	19	3.4	3.4
47			8-9	1	23		
48			10-11	1	27		
49			12-13	1	31		

※ 1 Used for small hole buttons.

※ 3 Do not use floating springs for buttons.

※ 4 After finishing sewing on one side, the button clamp rises and performs wiping action. In order to finish the sewing, please continue to depress the foot switch before the sewing on the other side begins; Or depress the foot switch again after sewing on one side.

※ 5 After completing sewing on one side, the button clamp does not rise but only performs the wiping action, and continues sewing on the other side.

Number	Pattern	Number of threads	Number of stitches	Dimension (mm)	
				X	Y
50		6	12	3.4	0
51		8	14		
52		10	16		
53		12	18		

5 Upgrade patterns through USB flash disk

Single import (appending) of VDT/Bin pattern can be supported:

(01) Import pattern: Import (appending) the pattern, and overwrite it if the imported pattern number already exists;

(02) Export patterns: export all external patterns to USB storage devices;

(03) Clear the pattern: clear (format) the external pattern storage area of the panel.

5.1 Pattern upgrade operation

Electric control can use a USB flash disk to input VDT/Bin format patterns into the system, with upgraded pattern ranging from No. 101~200. You can also export the existing patterns of No. 101~200 in the electric control to the USB flash disk.

1) Use pattern editing software to make a pattern file with the format of VDT/Bin and name it "XXX.VDT/Bin" (Note: XXX must be a pattern number of 101~200, and this number is also an upgraded pattern number, and the pattern should be placed in the Pattern folder of the root directory of USB flash disk).

2) When the LED indicator of the prepare button is off, press the mode

button  to enter the system menu, press the item selection

button   to select "10 Pattern Importing/Exporting", and

press the edit button  to enter this mode.

3) Press the item selection button   to select "01 Import Pattern" and insert the USB flash disk storing the pattern into the USB interface on the right side of the panel.

Note: Pattern importing/exporting will import and export all patterns from the USB flash disk.

Note: The USB flash disk must be less than 32GB in capacity and formatted with the FAT32.

4) After pressing the prepare button , the panel will display all pattern files in the USB flash disk. Use the edit button  to select the pattern to import. Press the prepare button  to confirm the operation, the panel will display "Please do not turn off while the operation is in progress!" and start the pattern import operation.

Attention: Before this step, please make sure that you have inserted the USB flash disk into the USB interface of the panel. If you perform this step without inserting the USB flash disk, you will not be able to upgrade, and the panel will prompt "W-050 USB flash disk is not connected".

菜单 SEL: ▲ ▼

07 调整亮度

08 查询软件版本

09 软件升级

10 花样导入导出

11 系统检测

12 计数器设定

花样导入导出

▶ 花样导入

花样导出

花样删除



5) After the upgrade is completed, the panel displays "Operation successful", and automatically return to the import pattern mode interface, indicating that the pattern upgrade is complete.

Attention: If some patterns upgraded from No. 101 to No. 200 already exist in the electric control, you can also add patterns by storing pattern files with different names and numbers in the USB flash disk and following the above operations; If a pattern file with the same name number as the existing pattern in the electric control is stored in the USB flash disk, those patterns with the same number in the electric control will be replaced after the upgrade operation.

6) Open the pattern lock: if you select the pattern number in the sewing interface after the pattern upgrade, if you can't select the newly upgraded USB flash disk pattern, it may be because the pattern lock is not opened, and the patterns No. 101-200 are locked and cannot be selected by default when they leave the factory. The following operations are required: when the LHD indicator of the prepare button

is off, press the mode button  to enter the system menu, press the item selection button   to select "03 Ordinary Pattern Lock", and then press the edit button  to enter this mode. In this mode, the left half shows the ordinary pattern number, and you can

press the item selection button   to switch between 1 and 200; The right half shows the pattern state. When it is displayed as "🔓", the pattern can be opened for sewing, and when it is displayed as "🔒", the pattern is locked and cannot be sewn. You can use the data change button   to modify the open or locked state of the pattern.

菜单 SEL: ▲ ▼

- 01 系统U参数
- 02 系统K参数
- 03 普通花样锁
- 04 登记P花样
- 05 复制/删除P花样
- 06 登记/删除C花样

普通花样锁 SEL: ▲ ▼

▲ +

01

 STD 

▼ -

7) Open the imported pattern with the item selection button   and the data change button  , press the return button  to save the changes and return to the system menu, and then press the return button  to return to the normal sewing mode.

6 Appendix 1

6.1 List of abnormal master control information

Display	Exception name	Reasons and solutions
E-001	System overvoltage	① Is the grid voltage higher than AC260V; ② If it is self generating power supply, please reduce the power of the generator; ③ If it still cannot work normally, please replace the control box and notify the after-sales service.
E-002	System undervoltage	① Whether to insert low voltage; ② Restore default settings ③ If it still cannot work normally, please replace the control box and notify the after-sales service.
E-003	Communication failed	① Turn off the system power supply, check whether the wiring of the display screen is loose or disconnected, restore it to normal, and restart the system.
E-003_2	MCU2 communication is abnormal	② Turn off the power supply of the system, remove the electric control box and only plug in the power cord for power supply. Observe whether the machine alarms B03. If it still alarms B03, replace the control box and notify the after-sales service.
E-005	Poor connection of speed controller	① Check whether the connector of the speed controller is loose or detached, restore it to normal, and restart the system. ② If it still cannot work normally, please replace the control box or speed controller and notify the after-sales service.
E-007	Arm shaft motor stalled	① Turn off the power supply and check whether the handwheel can rotate smoothly (turn the handwheel by hand). If it cannot rotate, please troubleshoot the machinery; ② Turn off the power supply, check whether the motor power interface is loose, plug it in and restart; ③ Check whether the upper stop needle position is correct. If not, adjust the upper positioning position; ④ If it still cannot work normally, please replace the control box or arm shaft motor and notify the after-sales service.
E-009	When starting up to locate, the Z signal of the spindle motor encoder is abnormal	① Turn off the system power supply, check whether the encoder interface of the arm shaft motor is loose or off, and restart the system after it is restored to normal. ② Check whether the zero correction setting of the motor is correct; Reset the zero correction of the motor; ③ Check whether there is oil on the encoder code disc. If yes, please clean it up; ④ If it still cannot work normally, please replace the control box or arm shaft motor and notify the after-sales service.
E-010	Electromagnet overcurrent protection	① Remove the electromagnet interface, if alarm B10 occurs, replace the control box and notify after-sales service. ② If there is no alarm after removing the electromagnet interface, please plug it back in.

		1) Front-pedal the pedal to allow the sewing machine to perform thread tension and bar tack sewing. If an alarm occurs, please turn off the front and rear bar tacks, restart the electric control, and front-pedal again. If an alarm occurs, please turn off the thread tension function and restart the electric control, and front-pedal again. If no alarm occurs, please replace the tension disc. 2) Front-pedal the pedal to allow the sewing machine to perform thread tension and bar tack sewing. If there is an alarm, please turn off the front and rear bar tacks, restart the electric control, and front-pedal again. If there is no alarm, please turn off the thread tension function and restart the electric control, and turn on the front bar tack sewing function, and front-pedal again. If there is an alarm, please replace the backtacking electromagnet. 3) Front-pedal the pedal to allow the sewing machine to perform thread tension and bar tack sewing. If there is no alarm, perform half reverse pedaling and lift the presser foot. If there is an alarm, replace the presser foot electromagnet; 4) Front-pedal the pedal to allow the sewing machine to perform thread tension and bar tack sewing, and the presser foot is lifted by half reverse pedaling. If there is no alarm, please perform full reverse pedaling and thread trimming, and If there is an alarm, please replace the thread trimming electromagnet;
E-011	Arm shaft motor encoder Z signal is abnormal	① Turn off the system power supply, check whether the encoder interface of the arm shaft motor is loose or off, and restart the system after it is restored to normal. ② Check whether the zero correction setting of the motor is correct, Reset the zero correction of the motor, and check whether there is oil on the encoder code disc. If yes, please clean it up; ③ If it still cannot work normally, please replace the control box or arm shaft motor and notify the after-sales service.
E-014	Arm shaft motor encoder AB signal is abnormal	① Turn off the system power supply, check whether the encoder interface of the arm shaft motor is loose or off, and restart the system after it is restored to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or arm shaft motor and notify the after-sales service.
E-015	Arm shaft motor overcurrent error	① Please check for poor contact in the motor power cord; ② Please check whether the motor power cord has been crushed; ③ Please replace the control box or arm shaft motor and notify the after-sales service.
E-042	EEPROM read and write failure	① Restart after restoring factory settings; ② If it still cannot work normally, please replace the control box and notify the after-sales service.
E-046	Watchdog resetting	① Restart after restoring factory settings;
E-046_2	MCU2 watchdog resetting	② If it still cannot work normally, please replace the control box and notify the after-sales service.
E-070_2	MCU2 program	Please cut off the power supply and then turn it back on.

	exception, please reprogram	
E-082	X-axis stepping motor overcurrent	① Turn off the system power supply and observe if the X-axis stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the interface of X-axis stepping motor is loose or falling off, and restart the system after it returns to normal. ② If it still cannot work normally, please replace the control box or X-axis stepping motor and notify the after-sales service.
E-082_2	Y-axis stepping motor overcurrent	① Turn off the system power supply and observe if the Y-axis stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the interface of Y-axis stepping motor is loose or falling off, and restart the system after it returns to normal. ② If it still cannot work normally, please replace the control box or Y-axis stepping motor and notify the after-sales service.
E-082_3	Middle presser foot stepping motor overcurrent	① Turn off the system power supply and observe if the middle presser foot stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the interface of the middle presser foot stepping motor is loose or detached, restore it to normal, and restart the system. ② If it still cannot work normally, please replace the control box or middle presser foot stepping motor and notify the after-sales service.
E-082_4	External presser foot stepping motor overcurrent	① Turn off the system power supply and observe if the external presser foot stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the external presser foot stepping motor interface is loose or falling off, and restart the system after it is restored to normal. ② If it still cannot work normally, please replace the control box or external presser foot stepping motor and notify the after-sales service.
E-084	Z signal of X-axis stepping motor encoder is abnormal	① Turn off the system power supply and observe if the X-axis stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the encoder interface of X-axis stepping motor is loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or X-axis stepping motor and notify the after-sales service.
E-084_2	Z signal of Y-axis stepping motor encoder is abnormal	① Turn off the system power supply and observe if the Y-axis stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the encoder interface of Y-axis stepping motor is loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or Y-axis

		stepping motor and notify the after-sales service.
E-084_3	Z signal of middle presser foot stepping motor encoder is abnormal	① Turn off the system power supply and observe if the middle presser foot stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the encoder interface of the middle presser foot stepping motor is loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or middle presser foot stepping motor and notify the after-sales service.
E-084_4	Z signal of external presser foot stepping motor encoder is abnormal	① Turn off the system power supply and observe if the external presser foot stepping motor is stuck. If it gets stuck, first eliminate the mechanical failure of the head. If normal, check whether the encoder interface of the external presser foot stepping motor is loose or detached, restore it to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or external presser foot stepping motor and notify the after-sales service.
E-085	AB signal of x-axis stepping motor encoder is abnormal	① Turn off the system power supply, check whether the X-axis stepping motor encoder interface is loose or detached, restore it to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or X-axis stepping motor and notify the after-sales service.
E-085_2	AB signal of Y-axis stepping motor encoder is abnormal	① Turn off the system power supply, check whether the Y-axis stepping motor encoder interface is loose or detached, restore it to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or Y-axis stepping motor and notify the after-sales service.
E-085_3	AB signal of middle presser foot stepping motor encoder is abnormal	① Turn off the system power supply, check whether the interface of the middle presser foot stepping motor encoder is loose or detached, restore it to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head);

		③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or middle presser foot stepping motor and notify the after-sales service.
E-085_4	AB signal of external presser foot stepping motor encoder is abnormal	① Turn off the system power supply, check whether the encoder interface of the external presser foot stepping motor is loose or falling off, and restart the system after restoring them to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or external presser foot stepping motor and notify the after-sales service.
E-086	X-axis stepping motor failed to start	① Turn off the system power supply, check whether the X-axis stepping motor power cord interface and encoder interface are loose or detached, restore them to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or X-axis stepping motor and notify the after-sales service.
E-086_2	Y-axis stepping motor failed to start	① Turn off the system power supply, check whether the power cord interface and encoder interface of Y-axis stepping motor are loose or falling off, and restart the system after it returns to normal. Restore them to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or Y-axis stepping motor and notify the after-sales service.
E-086_3	Middle presser foot stepping motor failed to start	① Turn off the system power supply, check whether the power cord interface and encoder interface of the middle presser foot stepping motor are loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or middle presser foot stepping motor and notify the after-sales service.
E-086_4	External presser foot stepping motor failed to start	① Turn off the system power supply, check whether the power cord interface and encoder interface of the external presser foot stepping motor are loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head);

		③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or external presser foot stepping motor and notify the after-sales service.
H-087	X-axis stepping motor stalled	① Turn off the system power supply, check whether the X-axis stepping motor power cord interface and encoder interface are loose or detached, restore them to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or X-axis stepping motor and notify the after-sales service.
H-087_2	Y-axis stepping motor stalled	① Turn off the system power supply, check whether the power cord interface and encoder interface of Y-axis stepping motor are loose or falling off, and restart the system after it returns to normal. Restore them to normal, and restart the system. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or Y-axis stepping motor and notify the after-sales service.
H-087_3	Middle presser foot stepping motor stalled	① Turn off the system power supply, check whether the power cord interface and encoder interface of the middle presser foot stepping motor are loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or middle presser foot stepping motor and notify the after-sales service.
H-087_4	External presser foot stepping motor stalled	① Turn off the system power supply, check whether the power cord interface and encoder interface of the external presser foot stepping motor are loose or falling off, and restart the system after it returns to normal. ② Check whether the grating is installed correctly (whether the grating screw is fastened and whether the grating is in the center position of the encoder head); ③ Check whether there is oil on the grating code disc. If yes, please clean it up and restart the system after recovery; ④ If it still cannot work normally, please replace the control box or external presser foot stepping motor and notify the after-sales service.

6.2 List of abnormal panel information

Error code	Exception name	Abnormal content	Reasons and solutions
W-001	Emergency stop	Manual operation for emergency stop	Press the reset button to enter the trial sewing, and then depress forward to continue running
W-003	Flipping protection	Electric control flipping alarm	Correct the head or set K150 to disable the head flipping switch
W-005	Fan stalled	Abnormal electric control cooling fan	Check whether the fan wiring or fan is damaged
W-006	Pedal failed to return to center position	The pedal is not in the middle position when entering the sewing process	Check whether the pedal is depressed when entering the sewing process
W-007	Overheat alarm	Temperature sensor alarm	Check whether the fan wiring or fan is damaged
W-008	Thread breakage, Please check the needle thread	Thread breakage, Please check the needle thread	Check whether the needle thread is broken
W-010	Disconnect the USB flash disk	The panel cannot detect the USB flash disk	Please insert the USB flash disk
W-011	The file is empty	The USB flash disk contains no files	Please verify the files on the USB flash disk
W-029	The pattern is locked	The pattern has been locked and cannot enter the sewing process	Sewing can only be done after unlocking the pattern
W-030	The pattern is empty	The C pattern does not contain any patterns and cannot be sewn	Edit C pattern, import P pattern into C pattern
W-031	Pattern out of range	Pattern size exceeds the presser foot range	Change the pattern, replace the presser foot, or adjust the presser foot range of K56, K57, K58, K59
W-035	Execution successful	Execution successful	Execution successful
W-036	Execution failed	Execution failed	Execution failed
W-037	Execution successful, please turn off	Execution successful, please turn off	Execution successful, please turn off
W-038	Execution failed, please turn off	Execution failed, please turn off	Execution failed, please turn off
W-039	Please turn off	Reset operation completed, takes effect after turning off and restarting	The operation is completed and will take effect after turning off and restarting
W-040	Pedal AD value setting is abnormal	AD action of pedal	Reset the AD values for the front, middle, and rear pedaling
W-041	Upgrade failed	Upgrade of electric control program failed	Check the panel and electric control wiring, and upgrade the file content before re-upgrading
W-042	Upgrade completed,	Upgrade completed, please restart	Upgrade completed, please restart

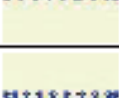
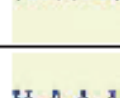
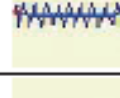
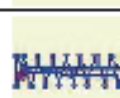
	please restart		
W-043	Upgrade file does not exist	The panel cannot detect the upgrade file of the USB flash disk	Check the upgrade file of the USB flash disk
W-044	The electric control and panel models are inconsistent	The parameter values of the model read on the panel are inconsistent with the model values of the electric control	Press the reset button to reset the panel and save the model
W-045	The electric control and panel models are inconsistent	The parameter values of the model read on the panel are inconsistent with the model values of the electric control	Press the reset button to reset the panel and save the model
W-046	Certain parameters out of range	Certain parameters out of range	Reset to default value by pressing the reset button
W-047	Switch the model	Switch the model	Initialize data by pressing the reset button
W-048	Flash read/write error		
W-049	The electric control and panel programs are inconsistent	The electric control and panel programs are inconsistent	Please turn the corresponding matching program
W-050	USB flash disk not inserted or inaccessible	The panel cannot detect the USB flash disk	Please insert the USB flash disk or disconnect and reinsert it
W-051	Please apply lubricant	Please apply lubricant	Please apply lubricant
W-052	The factory default value table is inconsistent	The factory default value table is inconsistent	Please turn the corresponding default value file
W-053	No default value table available	No default value table available	Please turn the corresponding default value file
W-054	Counter reaches the set value	Counter reaches the set value	Press the reset button to reset the counter and exit the pause
W-055	Number of stitches is too large, please edit again	The amount of data for editing new patterns exceeds the range	Re-edit the pattern parameters
W-056	Insufficient storage space	Insufficient storage space, unable to edit new patterns	Format import pattern, free up more memory, and then re-edit
W-057	Abnormal graphic parameters	Edit the parameter content of the new pattern incorrectly	Check the relevant graphic parameters and re-edit the pattern
W-060	P pattern is full	Cannot create a new P pattern	After deleting the P pattern, it can be edited
W-061	C pattern is full	Cannot create a new C pattern	After deleting the C pattern, it can be edited
W-062	There are no P patterns	Without P patterns, it is not possible to copy or delete P patterns or create new C patterns	After creating a P pattern, it can be edited
W-063	The P pattern is	This P pattern is occupied by C	Check the C pattern, and delete the P

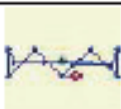
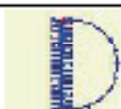
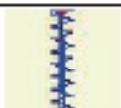
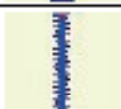
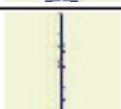
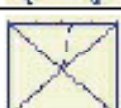
	occupied	pattern and cannot be deleted	pattern after releasing its occupation
W-064	The last P pattern cannot be deleted	The last P pattern cannot be deleted	After creating other P patterns, the P pattern can be deleted
W-065	The last C pattern cannot be deleted	The last C pattern cannot be deleted	After creating other C patterns, the C pattern can be deleted
W-105	Enter Boot mode	Electric control enters Boot mode	Front-pedal startup and entering the Boot mode, which is used to upgrade the electric control program.
W-106	MCU1 burnprocess error	Error in the last burnprocess of the main chip	Check the panel and electric control wiring, and upgrade the file content before re-upgrading
W-107	MCU2 burnprocess error	Error in the last burnprocess of the sub chip	Check the panel and electric control wiring, and upgrade the file content before re-upgrading
W-110	MCU2Boot communication is abnormal	The main chip cannot communicate with the underlying program of the sub chip	The underlying program was not burned. Please check the internal wiring of the electric control or contact the manufacturer
W-112	MCU1 has no APP program	The main chip has not burned the electric control program	No application program burned, please re-burn the electric control program
W-113	MCU2 has no APP program	The sub chip has not burned the electric control program	No application program burned, please re-burn the electric control program
W-114	The panel Boot program version is outdated	This method cannot be used for upgrade	Please update the program
W-120	Another file of this pattern has been selected	Another file of this pattern has been selected	Please verify the file content is normal
W-121	No patterns for export are available	No patterns for export are available	Please verify the file content is normal
W-122	Import this pattern will overwrite the existing pattern	Import this pattern will overwrite the existing pattern	Import this pattern will overwrite the existing pattern
W-123	No deletable patterns are available	No deletable patterns are available	No deletable patterns are available
W-124	There are unrecognized G-codes, but the import proceeded	There are unrecognized G-codes, but the import proceeded	There are unrecognized G-codes, but the import proceeded

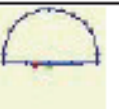
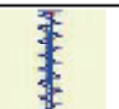
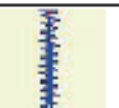
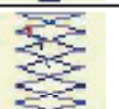
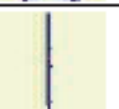
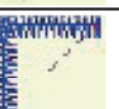
6.3 List of standard patterns for tacking

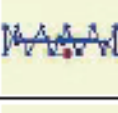
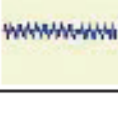
The sewing patterns shown below have been set in advance and can be selected according to the specifications. (As long as it can be confirmed that it is within the working range of presser foot and feed board, you can choose to use any sewing pattern).

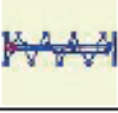
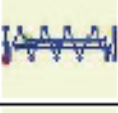
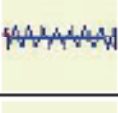
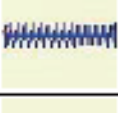
Please use presser foot and feed board that meet the requirements of various sewing patterns. The length when sewing at a 100% scaling rate.

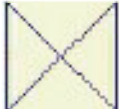
NO.	Sewing pattern	Number of	Length × Width (mm)	NO.	Sewing pattern	Number of	Length × Width (mm)
1		41	16×2	2		41	20×3
3		34	19.8×3	4		30	16×2
5		28	10×2	6		29	16×3
7		27	8×2	8		20	7×2
9		20	6.9×2	10		20	10×0.3
11		27	10×0.3	12		27	20×0.3
13		34	10×2	14		34	15.9×3
15		41	10×2	16		42	16×3
17		41	24×3	18		55	24×3
19		63	24×3	20		27	7×2
21		34	7×2	22		13	6.9×2
23		34	25×0.3	24		41	25×0.3

25		44	25×0.3
27		34	3×10
29		20	0.3×10
31		27	8×2
33		14	8×2
35		57	12×7
37		56	7×12
39		52	7×10
41		35	3×16
43		67	3×24
45		69	9×25
47		43	0.4×25
49		92	10×10
51		104	30×26
53		59	11×11

26		27	3×10
28		18	0.3×10
30		27	0.3×10
32		21	8×2
34		34	12×7.2
36		56	7×12
38		52	7×10
40		31	3×16
42		43	3×20
44		45	9×15
46		26	0.3×20
48		69	10×10
50		83	16×16
52		59	11×11
54		77	15×15

55		77	15x15
57		115	9x9
59		103	10x10
61		123	10x10
63		34	19.2x3
65		42	16x2
67		29	10x2
69		35	10x2
71		28	7x2
73		28	8x2
75		14	7x2
77		22	8x2
79		35	19.2x3
81		35	15.9x3
83		42	24x3

56		105	9x9
58		126	9x9
60		113	10x10
62		41	20x3
64		29	16x2
66		31	16x2
68		21	7x2
70		41	10x2
72		35	7x2
74		21	7x2
76		28	8x2
78		42	20x3
80		30	16x3
82		43	16x3
84		56	24x3

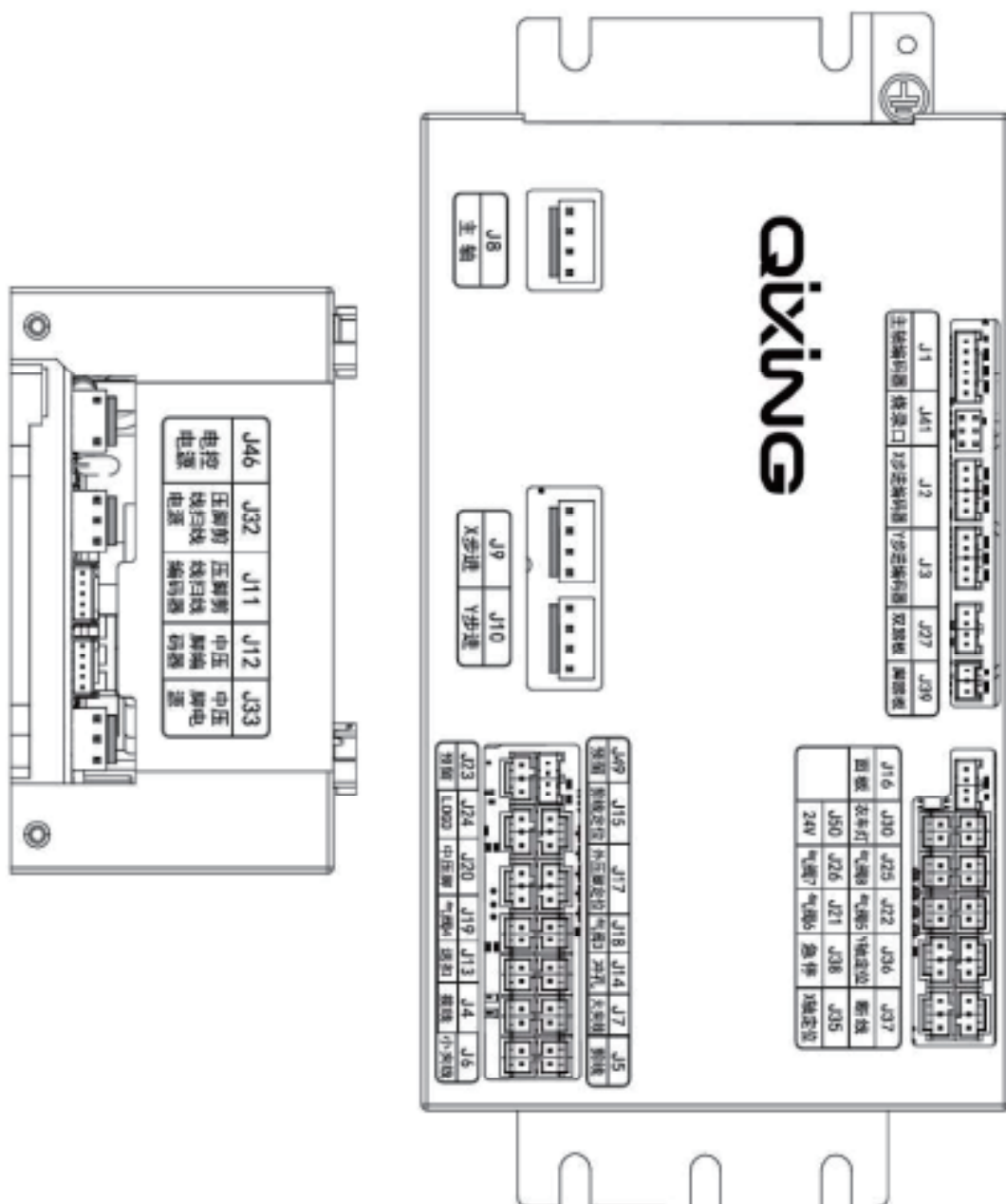
85		64	24x3
87		27	6x2
89		89	24x3
91		44	30x30
93		36	30x30

86		20	6x2
88		34	6x2
90		42	30x30
92		28	30x30
94		35	30x30

***Only some models offer these patterns (No. 90-94)**

7 Appendix 2

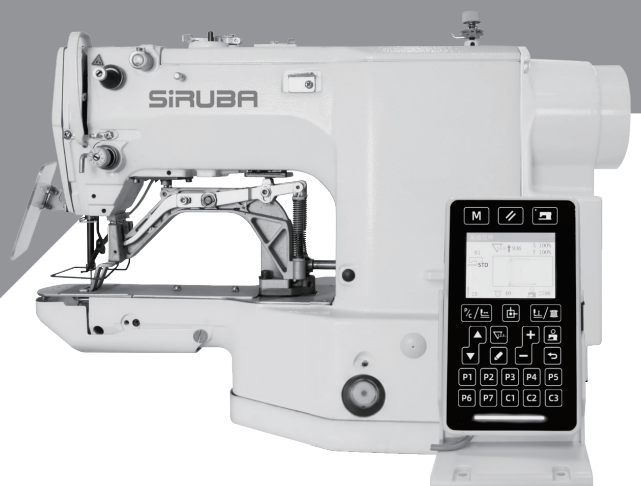
7.1 Installation dimensions of electric control box



7.2 Installation dimensions of operation box



Operating head USB interface



高林股份有限公司
KAULIN MFG. CO., LTD.

由於對產品的改良及更新，本產品零件圖及外觀的修改恕不事先通知！
The specification and/or appearances of the equipment described in this parts list are
subject to change because of modification which will without previous notice.
JDL-23AD02-3.FEB.2026