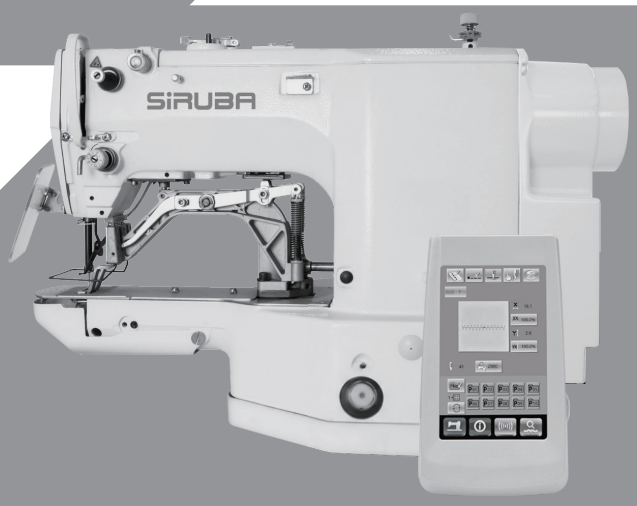
SiRUBA

電控參數說明書

ELECTRONIC CONTROL PARAMETER MANUAL

BT430E/438E/530E



CE

套结机-触摸屏 E

目录

目录

1 概要说明 1
1.1 概述 1
1.2 技术参数表 1
1.3 安全使用注意事项 2
1.4 使用上的预防措施 4
1.5 标准化 6
1.6 操作方式 6
2 操作说明 7
2.1 通用按键 7
2.2 基本操作 8
2.3 普通花样操作 9
2.4 花样登记 13
2.5 花样命名 14
2.6 绕线 14
2.7 花样选择 16
2.8 缝纫数据设定 18
2.9 P 花样登记 20
2.10 试缝操作 20
2.11 计数器操作 22
2.12 急停 23
3 快捷（P）花样操作 25
3.1 P 花样数据输入 25
3.2 P 花样编辑 27
3.3 P 花样复制 28
3.4 P 花样选择 29
3.5 P 花样缝制 30
4 组合（C）花样操作 32
4.1 C 花样数据输入 32
4.2 C 花样编辑 33
4.3 C 花样选择 35
4.4 C 花样缝制 36
5 花样图案编辑 38

5.1 进入花样编辑模式 38
5.2 花样编辑 45
5.3 退出花样编辑模式 50
6 信息功能 52
6.1 查看维修保养信息 52
6.2 维修保养时间设置 53
6.3 警告的解除方法 55
6.4 生产管理信息 55
6.5 显示穿线图 61
6.6 报警记录 62
6.7 运转记录 64
6.8 分期密码设置 65
7 通讯功能 72
7.1 关于可以处理的数据 72
7.2 功能操作 73
7.3 花样传输 73
7.4 参数传输 77
7.5 软件升级 79
8 模式和参数设置 81
8.1 功能说明 82
8.2 一级参数设置 83
8.3 二级参数设置 87
8.4 计数器设置 92
8.5 变换缝制类型 94
8.6 进入花样编辑 95
8.7 花样锁定设置 95
8.8 格式化操作 96
8.9 软件版本查询 98
8.10 检测模式 99
8.11 锁键盘操作 105
8.12 参数备份设置 107
8.13 钉扣机型设置 108
8.14 花样编辑参数设置 112

9 电控系统原理 113
9.1 控制系统组成 113
9.2 1900A 套结机花样一览表 114
9.3 钉扣机花样一览表 118
9.4 1906A 套结花样一览表 119
9.5 报警信息一览表 122
9.6 信息提示一览表 127

1 概要说明

1.1 概述

本系列工业缝纫机电脑控制系统，主轴电机采用具有世界先进水平的交流伺服控制技术驱动，具有力矩大、效率高、车速稳定和噪音低等特点。操作面板设计多样化可满足不同客户的配套要求；系统采用德国式结构设计，安装和维修方便快捷，系统控制软件可通过远程通讯升级，方便用户不断提高产品性能。

1.2 技术参数表

序号	机型 / 项目	430E/438E
1	用途	套结、钉扣
2	缝制范围	X(左右) 方向 40mm × Y(前后) 方向 30mm
3	最高缝纫速度	最高 3000rpm (双倍旋梭是 2700rpm)
4	最小缝制精度	0.1mm
5	送布	间接送布(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	50/100 个
11	拨线方式	脉冲马达抬压脚连动
12	面线张力	电子夹线器
13	旋梭	半旋转标准旋梭或半旋转倍旋梭
14	加油方式	旋转部：微量加油
15	机油	缝纫机油
16	润滑脂	缝纫机用润滑脂
17	数据记忆	U 盘
18	放大缩小功能	X 方向、Y 方向各自独立缩放 20%~200%（1%单位）

19	放大缩小方式	线迹长度和针间距增减方式
20	缝制速度限制	400-3500rpm(100rpm 单位)
21	花样选择功能	花样号码指定方式(1-200)
22	底线记数	上转/下转方式(0 – 9999)
23	机械马达	500W 小型 AC 伺服马达(直接驱动方式)
24	外形尺寸	263mm×153mm×212mm
25	控制箱重量	约为 10 Kg
26	消耗电力	600W
27	使用温度范围	0℃～45℃
28	使用湿度范围	35%～85% （无结露）
29	电源电压	AC 220V ± 10%；50/60Hz

⇘最高缝制速度请根据缝制条件降低速度使用

⇘产品执行标准：QCYXDK0004—2016《工业缝纫机计算机控制系统》。

1.3 安全使用注意事项

- **安装**
  - 控制箱
    - ◆ 请遵照说明正确装好
  - 附件
    - ◆ 如要安装其它附件时，请先关掉电源并拔掉电源插头。
  - 电源线
    - ◆ 请不要用重力去压住电源线或过度的扭曲电源线。
    - ◆ 请不要将电源线靠近转动的部位，最少要离开 25mm 以上。
    - ◆ 控制箱要接入电源前，请必再查看要接入的电源电压是否与控制箱上标示的电压相同及确定位置后，才可供应电源。如有接用电源变压装置的话，同样的要检查一下后才可供应电源。这时缝纫机上的按钮式电源开关一定要放在 [OFF]。
  - 接地
    - ◆ 为防止噪声干扰及漏电而发生电击事件，电源线上的接地线定要确实做好接地。
  - 附属装置
    - ◆ 如要接用电气方面的附属装置的话，请遵照指示的位置接好。
  - 拆卸
    - ◆ 要卸下控制箱时，必须要先关掉电源并拔掉电源插头。
    - ◆ 在拔离电源插头时不可只拉电源线，必须用手拿住电源插头拔出。
    - ◆ 控制箱里面有危险的高压电，所以要打开控制箱盖的话，需要先关掉电源后等候 5 分钟以上才可打开控制箱盖。

- 保养、检查和修理
  - 修理和保养的作业，要请经过训练的技术人员执行。
  - 更换机针和梭子时，请务必要关电。
  - 请使用正厂的零件。
- 其它的安全对策
  - 缝纫机运转中请不要去触摸会转动和会移动的部位 (特别是机针和皮带附件)等，并注意头发不要靠近它们，以免发生危险。
  - 控制装置不可摔落地，更不可在空隙间塞入其它物品。
  - 请不要在拆掉各护盖的情形下运作。
  - 如本控制装置有损伤或无法正常运作时，必要请有经验的技术人员调整，或检查修理，在故障还没排除前请不要再去运转它。
  - 敬请各客户们不要自行改造或变更本控制装置。
- 废弃处理
  - 请以一般产业废弃物处理。
- 警告示意和危险示意
  - 错误的行为可能会发生危险，其程度如后述的标示区别说明。

⚠警告	错误的行动可能会发生重伤或死亡。

⚠注意	错误的行动可能会发生伤害或房屋或财产的损害。

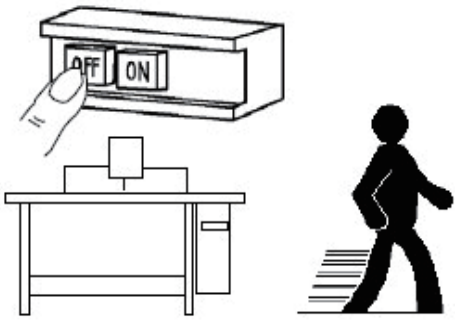
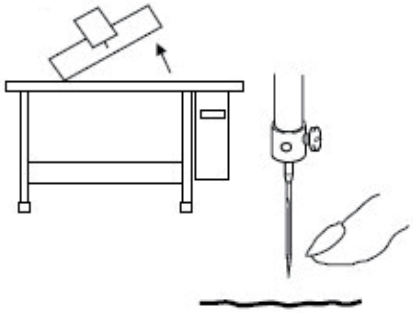
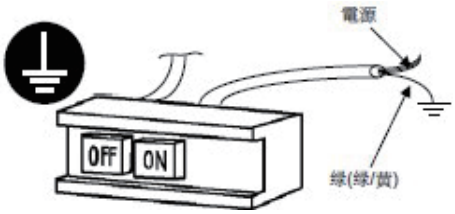
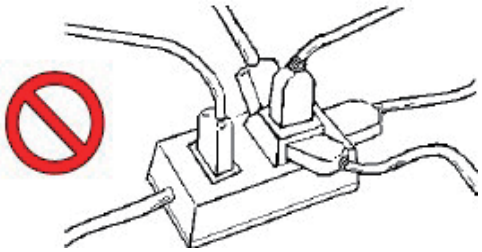
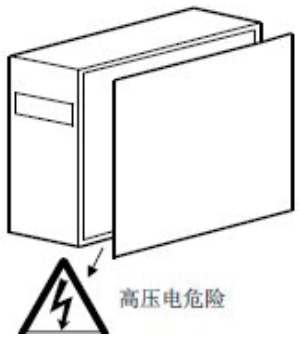
  - 标示符号的表示如下说明。

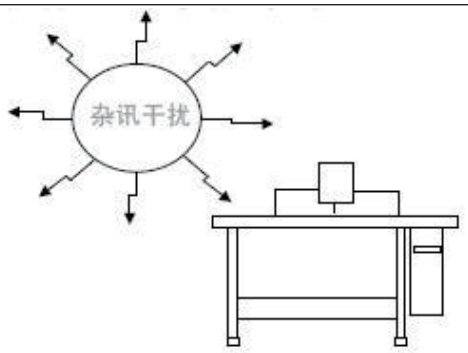
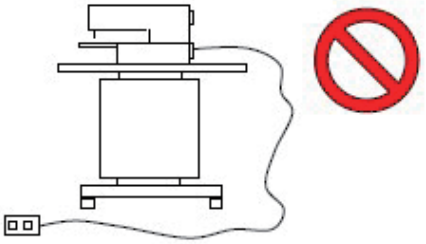
	请遵照指示内容作业。
	注意高温。
	绝对不要执行。

	注意高压电（电击）的危险。
	务必接上接地线。

1.4 使用上的预防措施

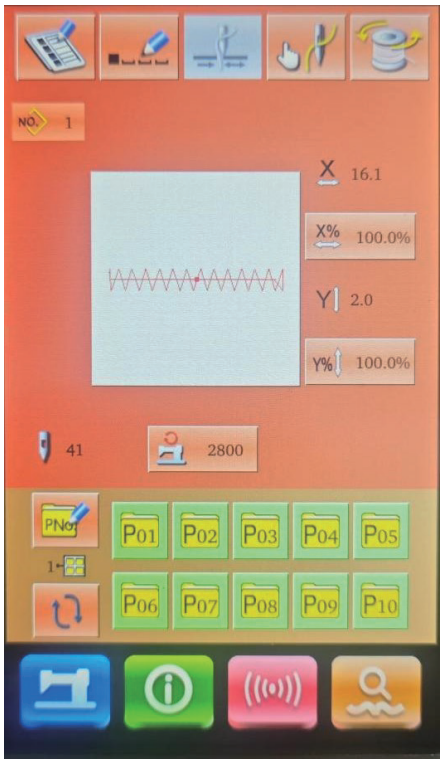
警告

<table>
<tr><td>1、当手要按开关 [ON] 时，脚定要离开脚踏板。
</td><td>2、要离开工作岗位时，请务必关掉电源。
</td></tr>
<tr><td>3、如要横倒头部或更换机针或穿面线时，请务必要关掉电源。
</td><td>4、接地线要做好接地。
</td></tr>
<tr><td>5、不要用家庭用多插孔式延长线。
</td><td>6、控制箱内部存有危险的高压电，所以关掉电源后等候 5 分钟才可打开控制箱盖。
</td></tr>
<tr><td colspan="2">7、更换电机后，请务必参照本资料所示设置主轴电机安装角度。</td></tr>
<tr><td>8、请远离会产生高周波噪声干扰的机器。</td><td>9、如利用外接信号插座接应用附属装置时，其连接线长度请尽量越短越好，长线可能会导致误动作，连接线请用隔离线缆。</td></tr>
</table>

<table>
<tr>
<td>
</td>
<td></td>
</tr>
<tr>
<td colspan="2">10、如保险丝烧断时，请先把原因排除后再换相同容量的保险丝。</td>
</tr>
</table>

1.5 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。



1.6 操作方式

本系统触摸屏操作面板采用了业界先进的触摸操作技术，友好的界面以及便捷的操控都给用户的日常使用带来革新性的变化。用户可以使用手指或者其他物体点触屏幕，完成相应的操作。用户在使用过程中应该注意避免使用尖锐的物体触碰屏幕，以免对触摸屏造成永久性损伤。

功能键包括准备键，信息键，模式键以及通信键等。具体操作方法参照后面章节的说明。

警告

用户在使用过程中应该注意避免使用尖锐的物体触碰屏幕，以免对触摸屏造成永久性损伤。

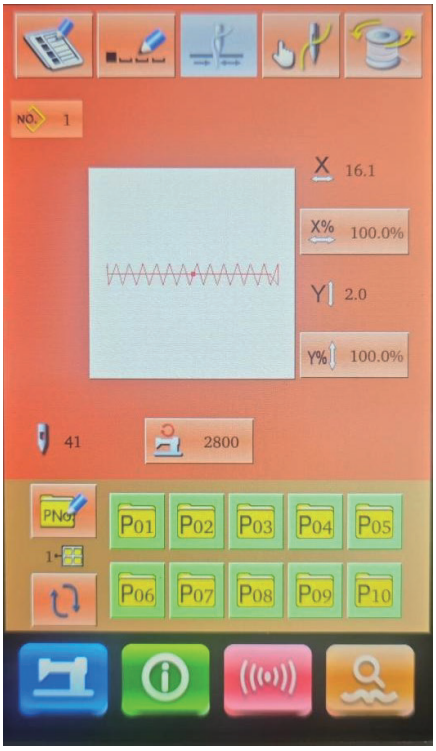
2 操作说明

2.1 通用按键

在本系统的各界面上进行通用操作的按键如下：

序号	图标	功能
1		取消键 → 退出当前设定界面。数据变更界面时，取消变更中的数据。
2		确定键 → 确定变更了的数据。
3		加键 → 向上增加数值按键。
4		减键 → 向下减小数值按键。
5		复位键 → 解除异常。
6		输入键 → 显示数字键盘，可以进行数字的输入。
7		准备键 → 进行数据输入界面和缝制界面的切换。
8		信息键 →进行数据输入界面和信息界面的切换。
9		通信键 → 进行数据输入界面和通信界面的切换。
10		模式键 → 进行数据输入界面和各种详细设定变换界面的切换。

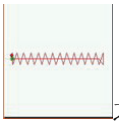
2.2 基本操作

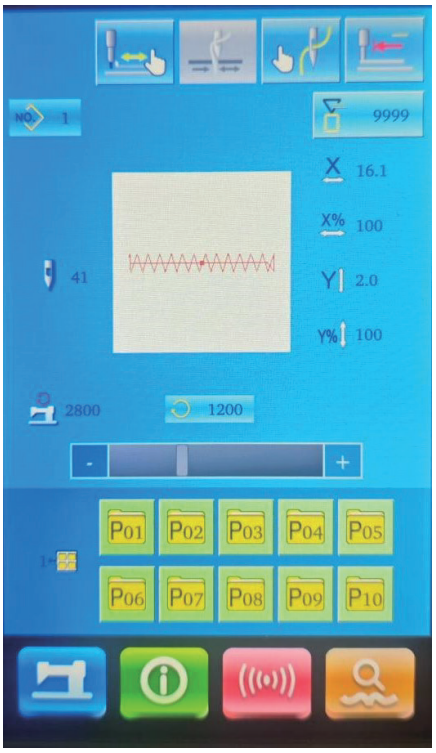


① 打开电源开关

打开电源之后，显示出数据输入界面 。

② 选择想缝制的图案 No.

当前界面下会显示出已选择的图案 No.，按下花样显示按键  之后可以选择图案 No.。 有关花样选择的操作，详见【2.7 花样选择】一节。



③ 设定成可以缝制的状态

按准备键  之后，液晶显示的背景颜色 变为蓝色，变成可以缝制的状态。

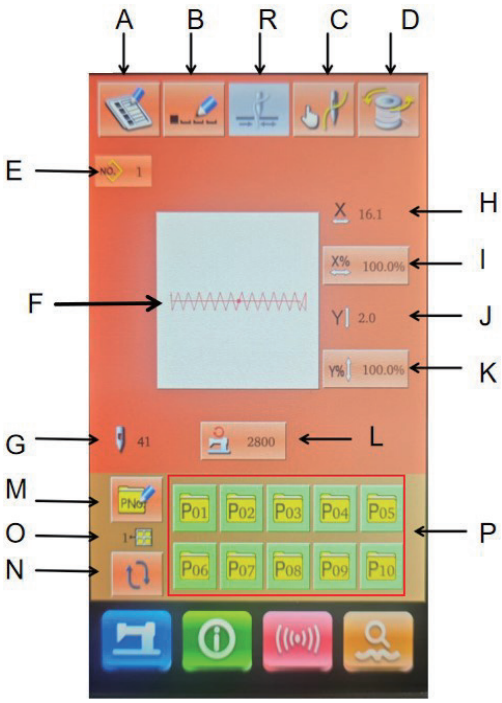
④ 开始缝制

把缝制品安放到压脚部，踩踏板落下压脚，缝纫机启动，开始进行缝制。

2.3 普通花样操作

（1）缝制数据输入界面

数据输入界面如右图所示，详细功能说明请见功能键说明表。



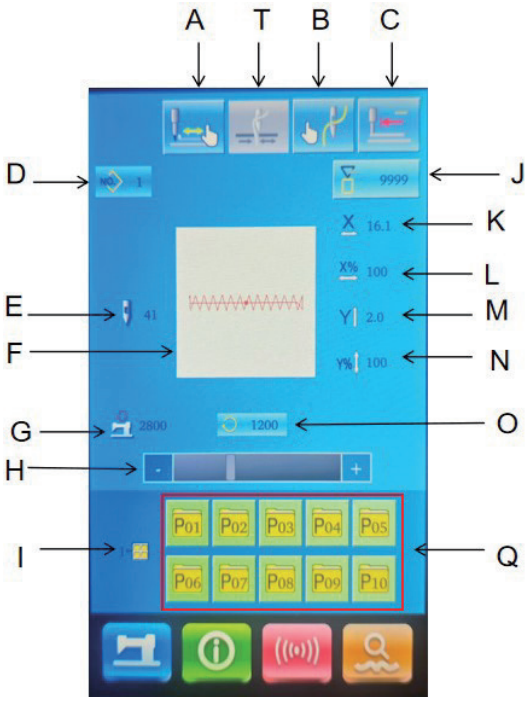
功能说明：

序号	功能	内容
A	花样登记	可以登记 999 个普通花样。
B	花样命名	最多可以输入 14 个字符。
R	抓线按键（根据实际机械配置显示该案件）	选择抓线的有效/无效。受 U35 参数影响。
C	穿线	下降压脚，显示出下降压脚画面。让压脚上升，请按下降压脚画面上显示的按键。
D	绕线	前踩踏板之后方可绕线。
E	花样号码显示	显示当前选择花样号码。
F	缝制形状选择	按键上显示为当前花样缝制形状，按下之后进入花样选择界面。
G	花样针数显示	显示当前选择花样缝纫针数。

H	X 实际尺寸值显示	显示当前选择花样的 X 方向实际尺寸值。
I	X 放大缩小率设定	按键上显示当前选择花样的 X 方向放大缩小率，按下之后进入设置界面。
J	Y 实际尺寸值显示	显示当前选择花样的 Y 方向实际尺寸值。
K	Y 放大缩小率设定	按键上显示当前选择花样的 Y方向放大缩小率，按下之后进入设置界面。
L	最高转速限制	显示最高转速限制值，按下之后可进行设置。
M	快捷花样（简称 P 花样）登记	用于登记 P 花样，最多登记 50 个。
O	P 花样文件夹号码显示	a 显示当前 P 花样文件夹号码。
N	P 花样文件夹选择	顺序切换 P 花样文件夹号码。
P	P 花样选择	显示出已登记的 P 花样，按下之后进入 P 花样数据输入界面。 初期状态不显示该按键。

（2）缝制界面

按下进入缝制界面如右图所示。详 细功能说明请见功能键说明表。

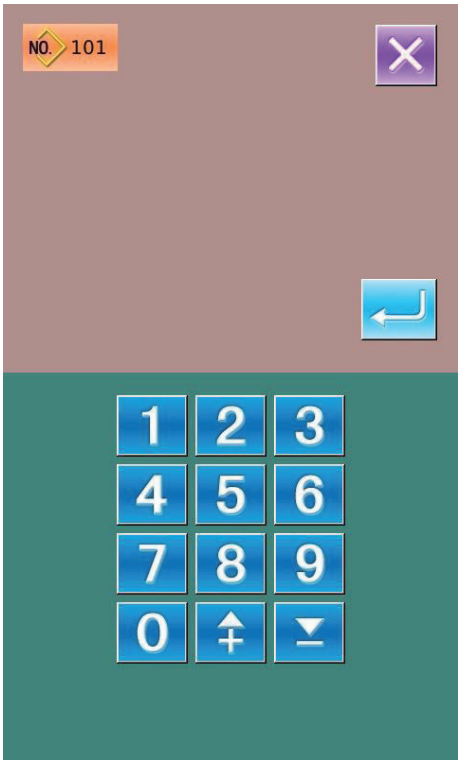


功能说明：

序号	功能	内容
A	试缝	按下后进入试缝界面，可以确定花样形状。
T	抓线按键 （根据实际的机械配置情况显示该按键）	选择抓线的有效/无效。受 U35 参数影响。
B	压脚下降按键	下降压脚，显示出下降压脚画面。让压脚上升时，请按下降压脚画面上显示的按键。
C	原点复位	按下后压脚返回起缝点，上升压脚
D	花样号码显示	显示当前选择花样号码。
E	花样针数显示	显示当前选择花样缝纫针数。

F	花样形状显示	显示当前选择花样形状。
G	最高转速限制显示	显示最高转速限制值。
H	缝纫速度设置	可以变更缝纫速度。
I	P 花样文件夹号码显示	显示当前 P 花样文件夹号码。
J	计数器设置	按下后可以选择计数器类型和设置当前计数值。 ：缝制计数器 ：计件计数器
K	X 实际尺寸值显示	显示当前选择花样的 X 方向实际尺寸值。
L	X 放大缩小率设定	显示当前选择花样的 X 方向放大缩小率。
M	Y 实际尺寸值显示	显示当前选择花样的 Y 方向实际尺寸值。
N	Y 放大缩小率设定	显示当前选择花样的 Y 方向放大缩小率。
O	缝纫速度显示	显示当前缝纫速度。
Q	P 花样选择	显示出已登记的 P 花样，按下之后进入 P 花样缝制界面。初期状态不显示该按键。

2.4 花样登记



最多可以登记普通花样 999 个。按下  进入花样登记界面（如右图所示）：

① 输入花样号

通过数字键可以选择想要输入的花样号码，如果输入了已经存在的花样号码，界面上方会显示出被登记的缝制形状及相关数据。通过 、 键可以检索未登记的花样号码。

② 登记新花样

确定花样号码后按下 ，之前显示花样数据会复制到新登记花样中，操作结束后返回到新登记花样数据输入界面。

如果输入了已经存在的花样号码会提示是否覆盖已存花样。

注：基础花样不能被覆盖。

2.5 花样命名

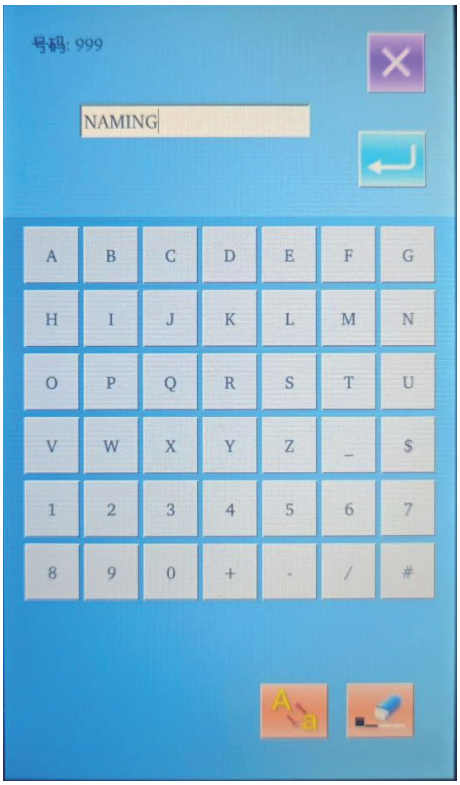
按下进入花样命名界面（如右图所示），最多可以输入 14 个字符。

：字母大小写切换键

：清除键

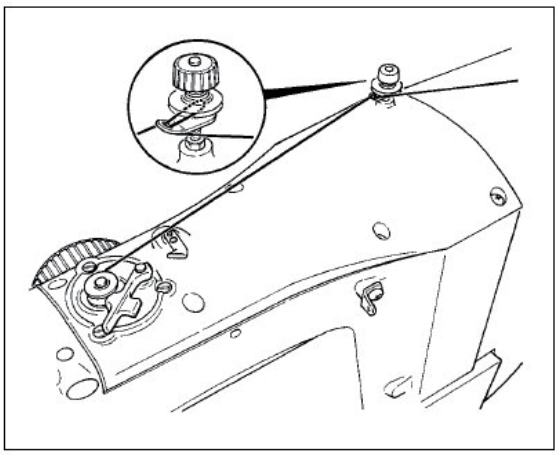
选择想要输入的字符，按下结束花样命名 操作。

通过移动光标可以确定该字符位置，消除键可以 消除该位置字符。



2.6 绕线

① **安装梭芯** 把梭芯插进绕线轴。如右图所示。

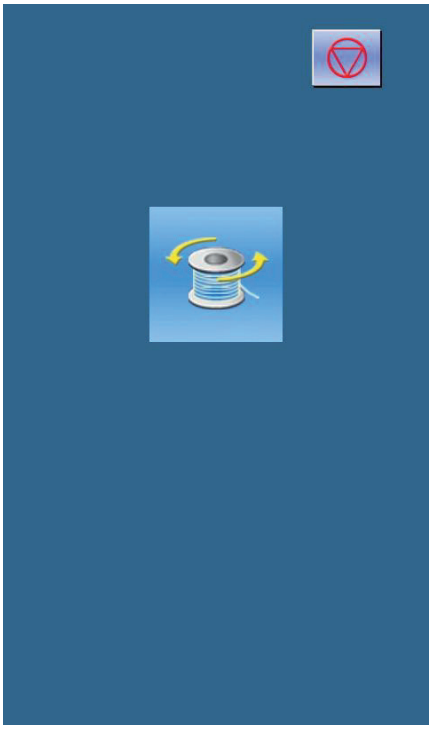


② 显示底线绕线界面

在数据输入界面上，按了绕线按键  之后，绕线界面被显示出来（如右图所示）。

③ 开始绕线

踩踏启动踏板之后，缝纫机转动，开始卷绕底线。



④ 停止缝纫机

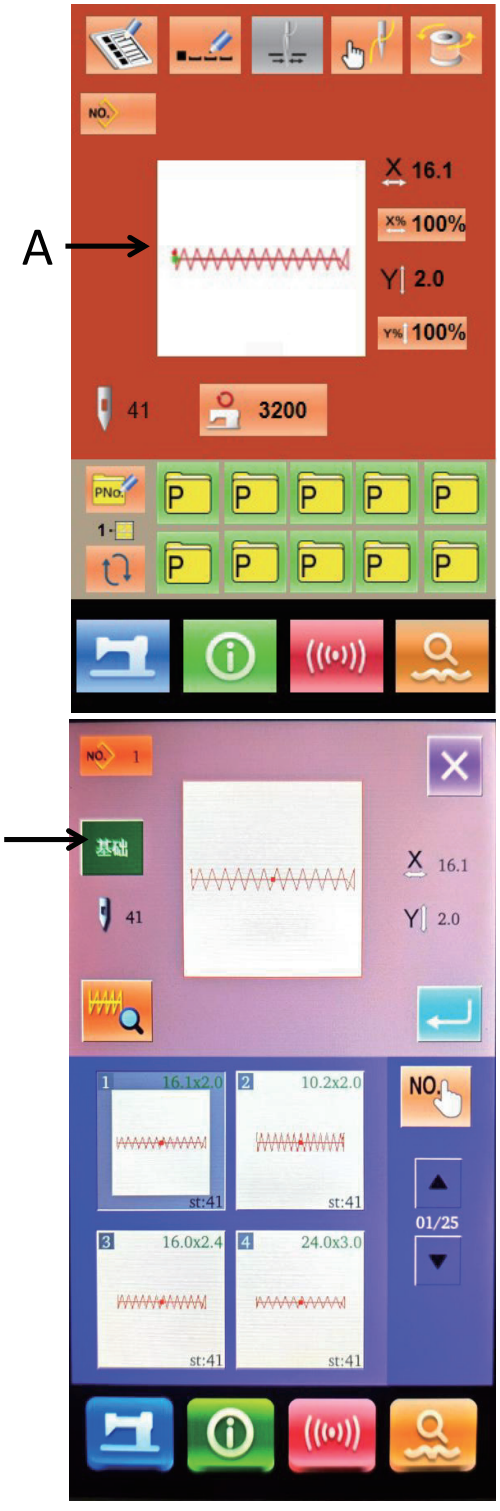
按了停止按键  之后，缝纫机停止转动，返回通常模式。另外，在卷绕底线中再次踩踏踏板之后，缝纫机在绕线模式下停止缝纫机，因此再次踩踏起动踏板，可以继续卷绕底线，在卷绕多个梭芯时可以利用此功能。

注：刚刚打开电源后，或者刚刚变更为主机输入后，不进行卷线动作。请设定1次图案花样，按准备键  **之后显示 出缝制画面。**

2.7 花样选择

① 进入花样选择界面

数据输入界面（如右图所示），点击缝制形状 A 之后进入花样选择界面。

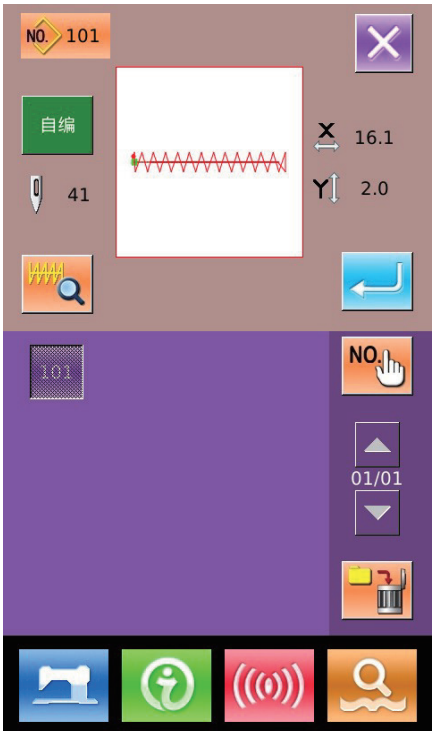


花样选择界面上方为当前选择花样的缝制形状，下方为已登记的花样号码。

：花样预览 ：输入号码查询花样

：花样删除

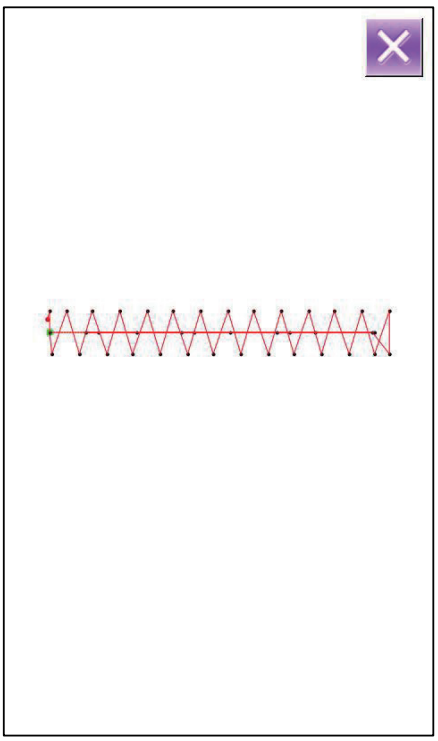
点击 **A** 键，当存在普通花样时，会在基础花样和用户花样之间来回切换。



② 选择花样

当前为基础花样时，每页可以显示 4 个花样号码；自编花样时，每页可显示 20 个花样号码。针对基础花样，每个花样号码上显示出该花样的简图和 x、y 范围；自编花样只显示花样号码。 选中已登记的花样号码时，上方会显示已选择

花样内容，按下完成花样选择操作。



③ 花样查询

按下键会弹出花样查询界面，通过数字键可以直接输入花样号码。

④ 花样删除

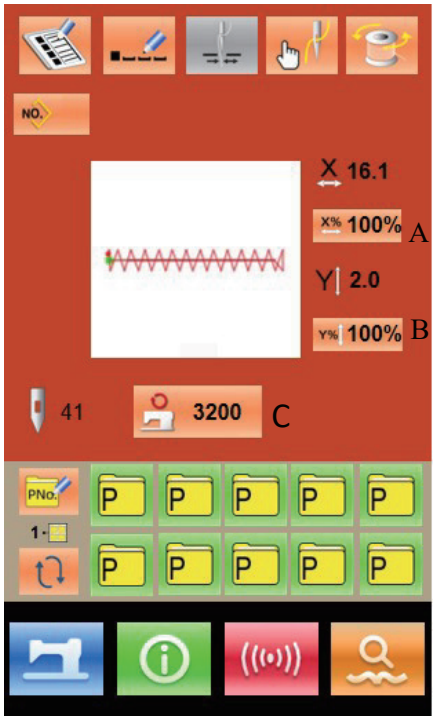
选中已登记的花样，按下键就会删除掉该花样，但是被登记到 P 的花样是不能被删除的。

注：花样分为基础花样和普通花样：基础花样为出厂花样，不能被删除；普通花样为用户打版、复制或 U 盘导入的花样，花样可以被删除和修改。

⑤ 花样预览

按下 键可以全屏预览当前花样形状。（背景色为白色）

2.8 缝纫数据设定



① 进入缝纫数据设定界面

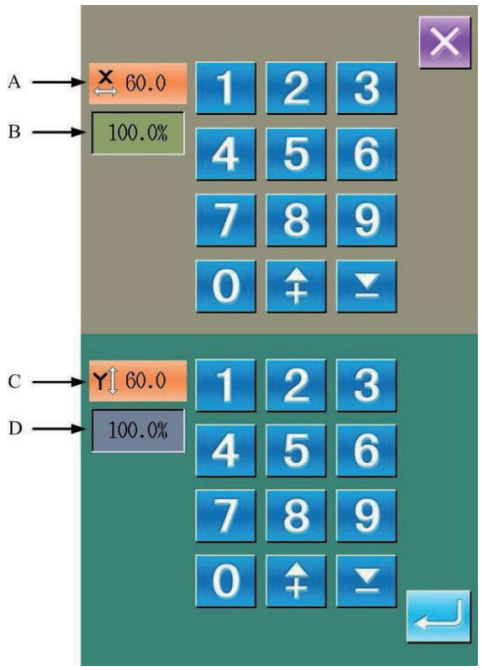
在数据输入界面下相应按下 A、B、C可分别进入缩放率设置和速度限制设置界面。

	项目	输入范围	初始值
A	X 方向放大缩小率	1.0~400.0%	100.0%
B	Y 方向放大缩小率	1.0~400.0%	100.0%
C	最高速度限制	400~3200rpm(各机型上限不同)	2800rpm

注1：参数 U64 可以切换选择设置放大缩小率或实际尺寸值。

注 2：最高速度限制的最大输入范围和初始值受参数 U01 影响。

② 缩放率设定



右图为放大缩小率设定界面，界面上方为X方向设置，下方为Y方向设置。 A：X方向实际值显示 B：X方向放大缩小率显示 C：Y方向实际值显示 D：Y方向放大缩小率显示

通过 0 ~ 9 十数字键盘或 ± 、 ▼ 键输入希望值，被输入的数字插入到显示数值的第一位，以前输入的数字一位一位的累进，按下确定键 ↵ 完成操作返回数据输入界面。

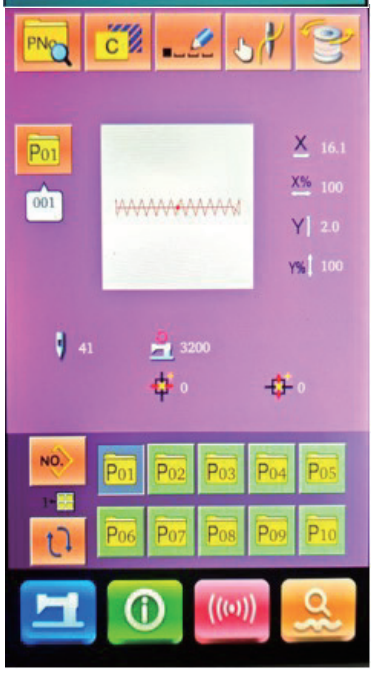
③ 最高速度限制设定

操作同上。



2.9 P 花样登记





① 进入 P 花样登记界面

在数据输入界面下按下 PNo. 进入 P 花样登记界 面，如右图。

② 输入 P 花样号码

通过 0 ~ 9 十数字键盘或 ↑、↓ 键输入想要登记的号码，如果输入了已经登记的花样号码，界面上方会显示出被登记的缝制形状和相关数据，这种情况下是不能登记新花样的。

③ 选择文件夹号码

P 花样号码可以登记到 5个文件夹里，每个文件夹最多保存 10 个 P 花样。文件夹选择键 可以进行顺序选择。

④ 确定花样号码

按下确定键 之后完成 P 花样登记操作，返回到 P 花样数据数据输入界面。

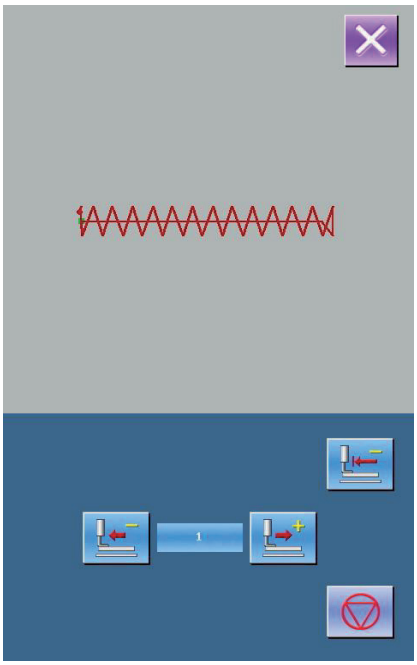
2.10 试缝操作

① 显示缝制界面

在数据输入界面，按准备键 之后，液晶显示的背景颜色变为蓝色，此时进入缝制界面。

② 显示试缝界面

在缝制界面下，按下  键后进入试 缝界面（如右图所示）：



：返回原点

：压脚后退

：压脚前进

：停止

③ 开始试缝

踩下脚踏开关下降压脚，用压脚后退键  和压脚前进键  确定形状。持续一段时间连续按键后，离开按键后压脚继续移动，想停止时按下  键。 按下返回原点键  后，机针返回原点且返回到缝制界面。

④ 结束试缝

按了取消键  退出试缝界面之后，返回缝制界面。花样形状没有在开始缝制位置或结束缝制位置时，踩脚踏开关后，可以从确认中途进行缝纫。如要退出则按下原点复位键  之后，关闭凸起画面，显示出缝制画面，返回开始缝制位置。.

2.11 计数器操作



① 显示计数器界面

在缝制界面中，按了（）键 之后，计数器设定界面被显示出来。

：缝制计数器类型

：计件计数器类型

② 选择计数器类型并设定计数值

通过选择和可以设置计数器类型，并且设置其当前计数值。

2.12 急停

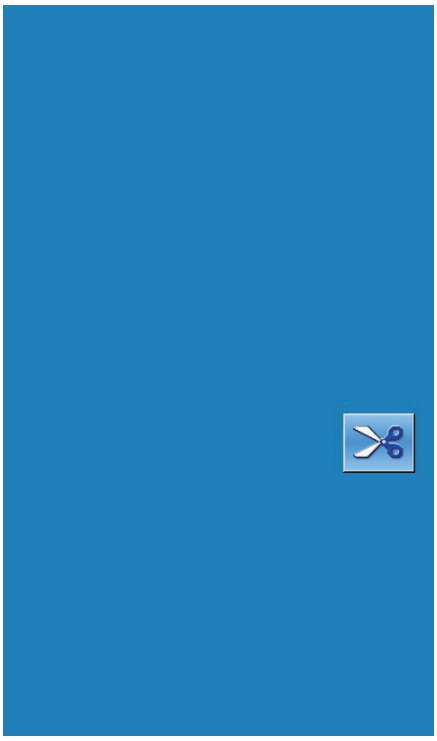


通过设定 U31 参数来选择暂停方式：

可通过无效、操作盘暂停按键、外部开关三种选项来选择。 当选择操作盘暂停键之后，在缝制画面上显示 出暂停按键。

① 解除异常

在缝制中按了暂停键之后，可以停止缝纫机转动。此时异常画面被显示，通知停止开关被按下。此时按下复位键解除异常。



② 进行切线

按下切线键之后，可以进行切线，进入到步骤设置界面。

注：参数 U97 设为暂停后自动切线时直接进入步骤设置。

② **进行步骤设置，调整压脚到重新缝纫位置**

按下切线键进入到步骤设置界面。

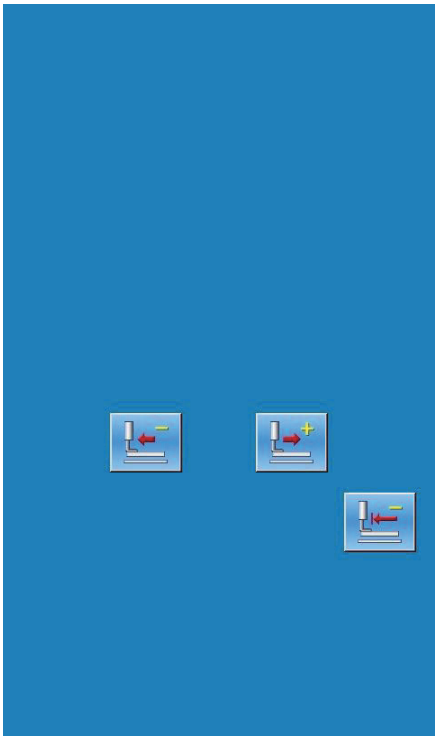
：后退送布

：前进送布

：原点复位

按下或，移动压脚到重新缝纫 位置。

③ **重新缝纫** 踩下脚踏板之后，重新启动缝纫。



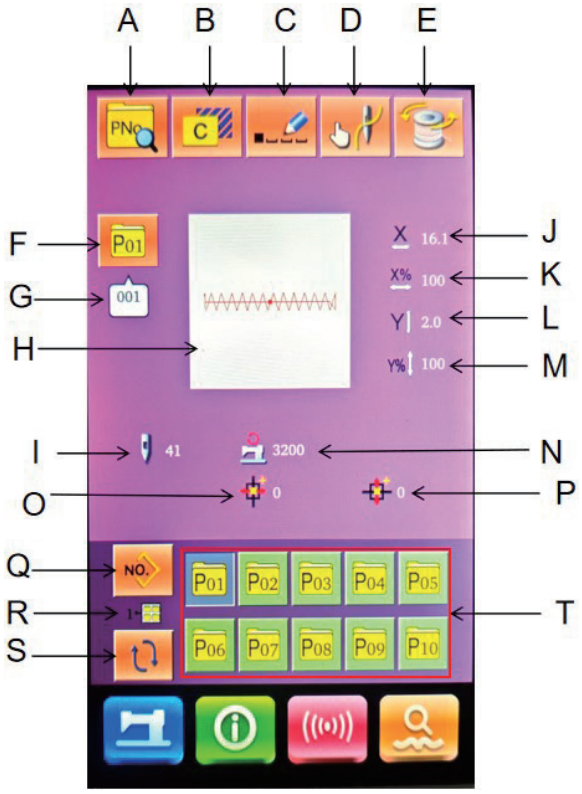
3 快捷（P）花样操作

3.1 P 花样数据输入

快捷花样简称 P 花样，由一个普通花样和相关花样缝制参数（X 缩放率、Y 缩放率、速度限制等）组成。选用 P 花样不需要每次设置相关参数。

P 花样数据输入界面如右图所示。

最多可以登记 50 个 P 花样。



功能说明：

序号	功能	内容
A	P 花样编辑	可以编辑 P 花样内容。
B	P 花样复制	可以复制当前 P 花样内容到一个空花样号码下。
C	花样命名	最多可以输入 14 个字符。
D	穿线	按下之后外压脚下降。
E	绕线	按下一次准备键 之后方可绕线。
F	P 花样号码显示	显示当前选择花样号码。
G	缝纫形状号码显示	显示当前 P 花样下引用的普通花样号码。

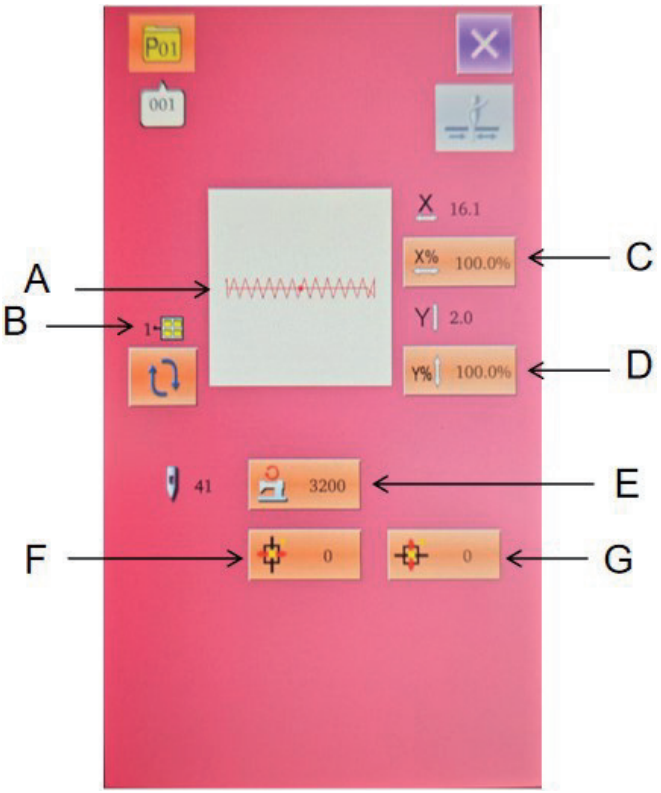
序号	功能	内容
H	缝制形状选择	显示为当前花样缝制形状。
I	花样针数显示	显示当前选择花样缝纫针数。
J	X 实际尺寸值显示	显示当前选择花样的 X 方向实际尺寸值。
K	X 放大缩小率设定	显示当前选择花样的 X 方向放大缩小率。
L	Y 实际尺寸值显示	显示当前选择花样的 Y 方向实际尺寸值。
M	Y 放大缩小率设定	显示当前选择花样的 Y 方向放大缩小率。
N	最高转速限制	显示最高转速限制值。
O	X 方向偏移量显示	显示当前选择花样的 X 方向偏移量。
P	Y 方向偏移量显示	显示当前选择花样的 Y 方向偏移量。
Q	返回普通花样数据输入	返回到普通花样数据输入界面。
R	P 花样文件夹号码显示	显示当前 P 花样文件夹号码。
S	P 花样文件夹选择	顺序切换 P 花样文件夹号码。
T	P 花样选择	显示出已登记的 P 花样。

3.2 P 花样编辑

① 进入 P 花样编辑界面

按下  进入 P 花样编辑界面（如右图所示）。

② 编辑项目数据变更 选择想要变更的项目，设置数值。



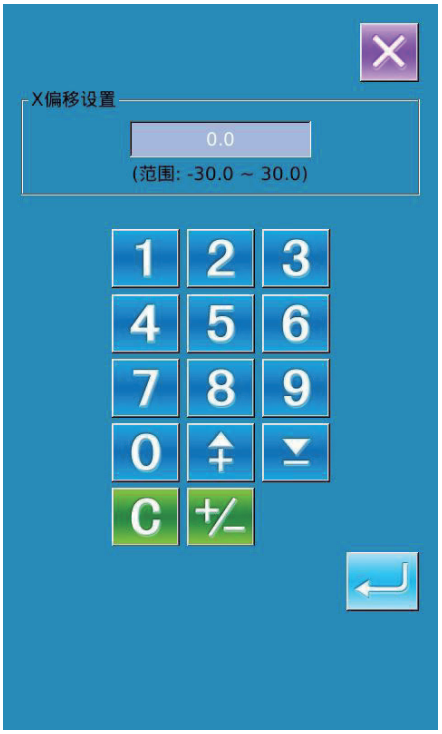
	项目	输入范围	初始值
A	缝制形状		
B	文件夹号码	1~5	
C	X 方向放大 缩小率	1.0~400.0%	100.0%
D	Y 方向放大 缩小率	1.0~400.0%	100.0%
E	最高速度限制	400~3200rpm	3200rpm
F	X 方向偏移 量	-30.0~30.0mm	0
G	Y 方向偏移 量	-30.0~30.0mm	0

③ **确定数据变更**

以设置 X 方向偏移量为例，通过 0~9 十数字键盘或 、 键输入 数值，按下确定键 完成操作。

：代表正数值；

：代表负数值。



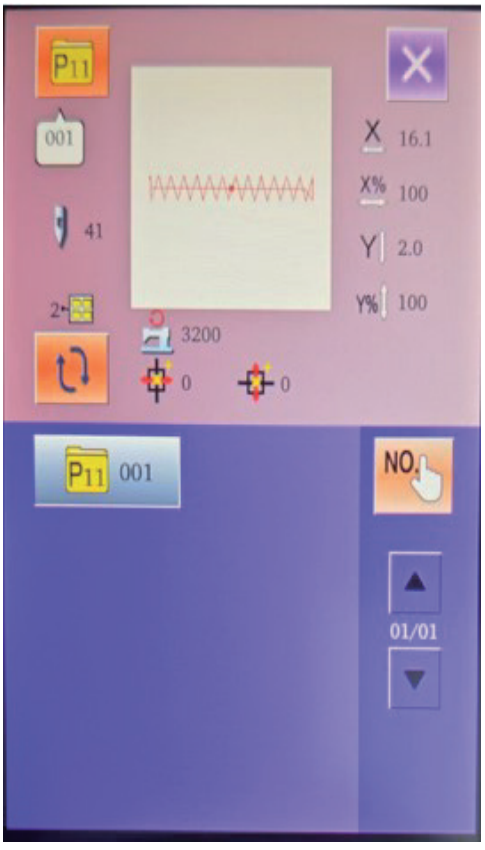
④ **退出编辑**

按下退出键 关闭 P 花样编辑界面，返回数据输入界面。

3.3 P 花样复制

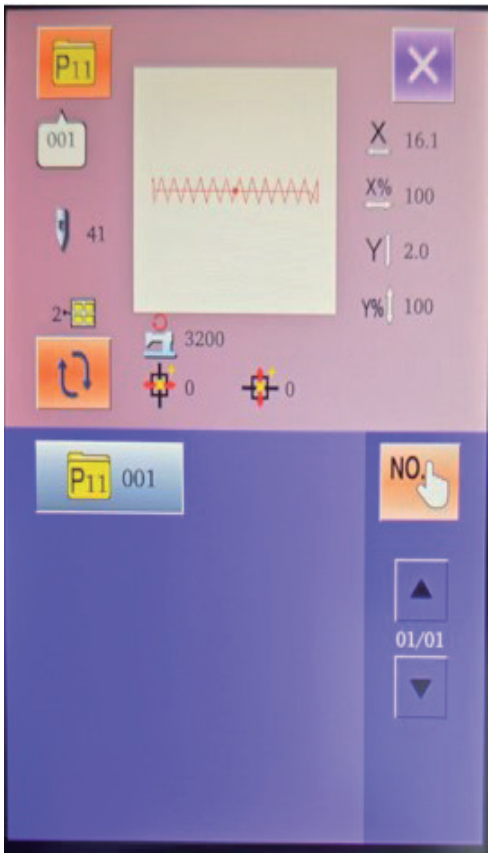
① **选择被复制花样**

按下 进入 P 花样复制界面（如右 图所示）。在已登记的花样中选择被复制花样号码并按下 。



② 输入新登记的花样号码

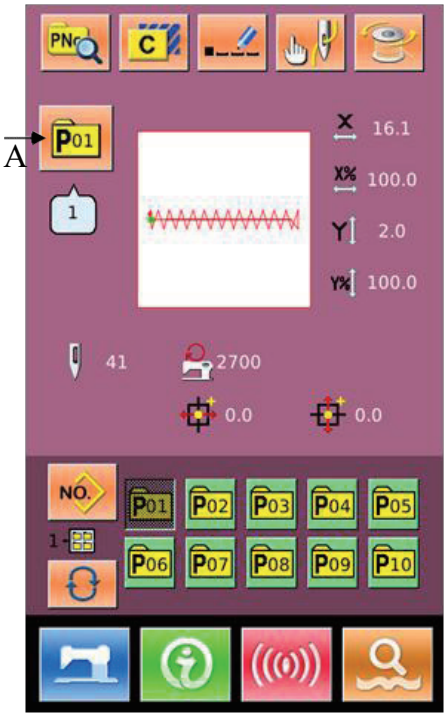
界面上方显示为被复制花样，通过数字键选择未登记的花样号码，已经登记的花样号码不能重复登记。文件夹选择键 可以选择保存的文件夹。按下确定键 则完成花样复制操作，返回到 P 花样复制界面。



3.4 P 花样选择

① 进入 P 花样选择界面

如右图所示，按下图标 A，可以进入 P 花样选择界面。



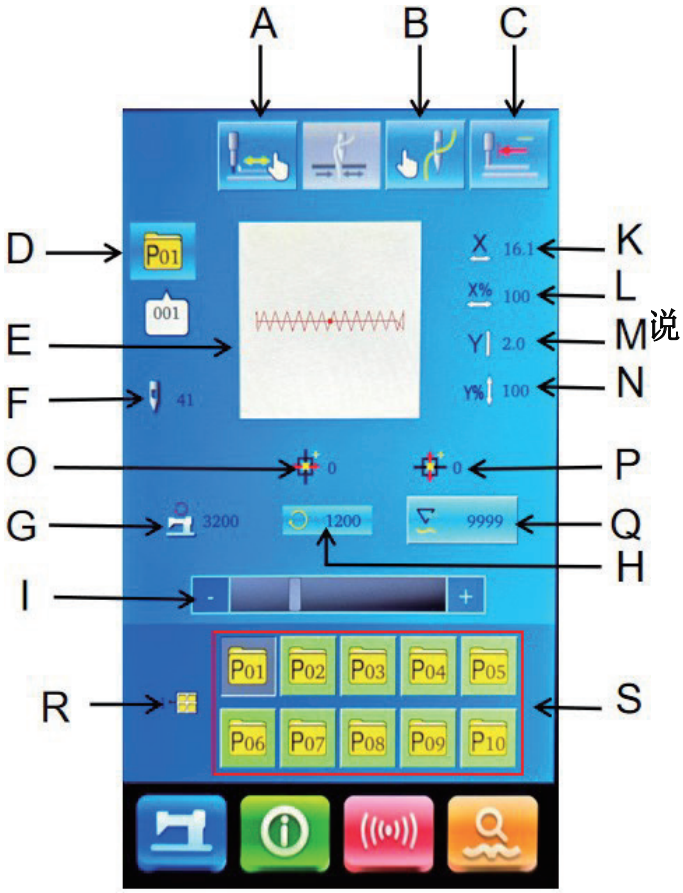
② **选择花样号码** 界面上方为当前选择花样信息，当按下文件夹选择键  切换到文件夹 号码不显示时，可以把已登记的 P 花 样全部显示出来。

③ **确定花样选择**

操作同普通花样选择，按下确定键  结束选择。

3.5 P 花样缝制

在 P 花样数据输入界面下，按下  进入缝制界面（如右图所示）。



序号	功能	内容
A	试缝	按下后进入试缝界面，可以确定花样形状。
B	穿线	按下之后外压脚下降。

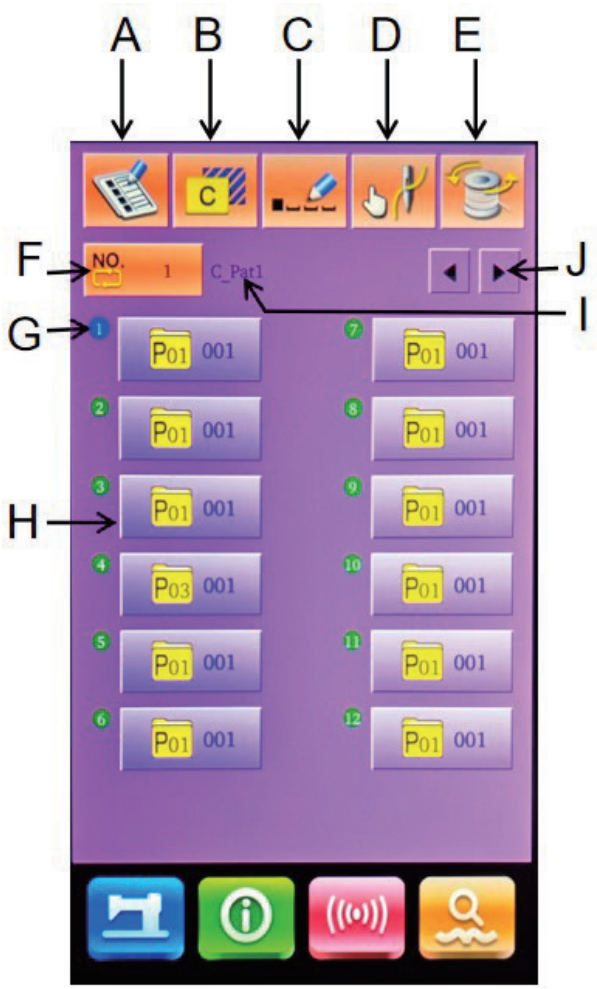
C	原点复位	按下后压脚返回始缝点。
D	P 花样号码显示	显示当前选择花样号码。
E	缝纫形状号码显示	显示当前 P 花样下引用的普通花样号码。
F	花样针数显示	显示当前选择花样缝纫针数。
G	最高转速限制显示	显示最高转速限制值。
H	缝纫速度显示	显示当前缝纫速度。
I	缝纫速度设置	可以变更缝纫速度。
K	X 实际尺寸值显示	显示当前选择花样的 X 方向实际尺寸值。
L	X 放大缩小率设定	显示当前选择花样的 X 方向放大缩小率。
M	Y 实际尺寸值显示	显示当前选择花样的 Y 方向实际尺寸值。
N	Y 放大缩小率设定	显示当前选择花样的 Y 方向放大缩小率。
O	X 方向偏移量显示	显示当前选择花样的 X 方向偏移量。
P	Y 方向偏移量显示	显示当前选择花样的 Y 方向偏移量。
Q	计数器设置	按下后可以选择计数器类型和设置当前计数值。 ：缝制计数器 ：计件计数器
R	P 花样文件夹号码显示	显示当前 P 花样文件夹号码。
S	P 花样选择	显示出已登记的 P 花样。

4 组合（C）花样操作

4.1 C 花样数据输入

组合花样简称 C 花样，由一组 P 花样组成，每组 C 花样可以输入最多 50 个子花样。一共可以登记最多 50 组 C 花样。

参照【8.8 变换缝制类型】一节内容进入组合花样数据输入界面，如右图所示。



功能说明：

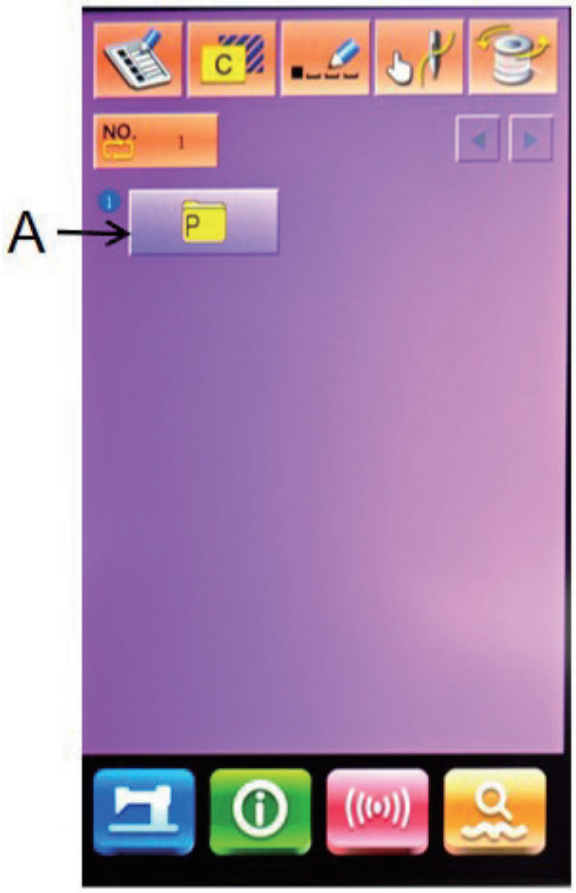
序号	功能	内容
A	C 花样登记	登记一个新组合花样。
B	C 花样复制	可以复制当前 C 花样内容到一个空花样号码下。
C	花样命名	最多可以输入 14 个字符。
D	穿线	按下之后外压脚下降。
E	绕线	按下一次准备键 之后方可绕线。
F	C 花样号码选择	按键上显示当前选择花样号码，按下后进入 C 花样选择界面。

序号	功能	内容
G	缝制顺序显示	显示当前选择花样的缝制顺序，蓝色显示为起始缝制图案。
H	C 花样图案选择	按下后进入 C 花样编辑界面，可以选择输入一个 P 花样。
I	翻页键	C 花样图案最多可以登记 30 个，每页最多显示 6 个图案。
J	C 花样名称	显示 C 花样名称。

4.2 C 花样编辑

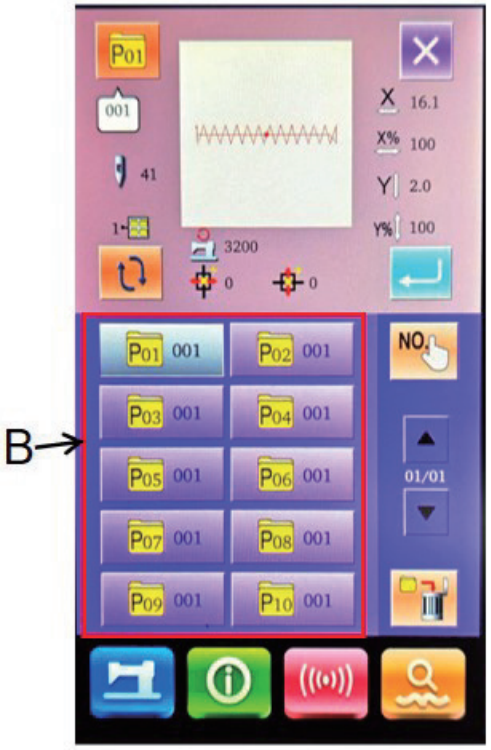
① 进入 C 花样编辑界面

在 C 花样数据输入界面下，按下 A 可以进入 C 花样编辑界面。 在初期状态下，没有登记到 P 花样做为缝制图案，因为第一个图案以空白文件夹状态显示。



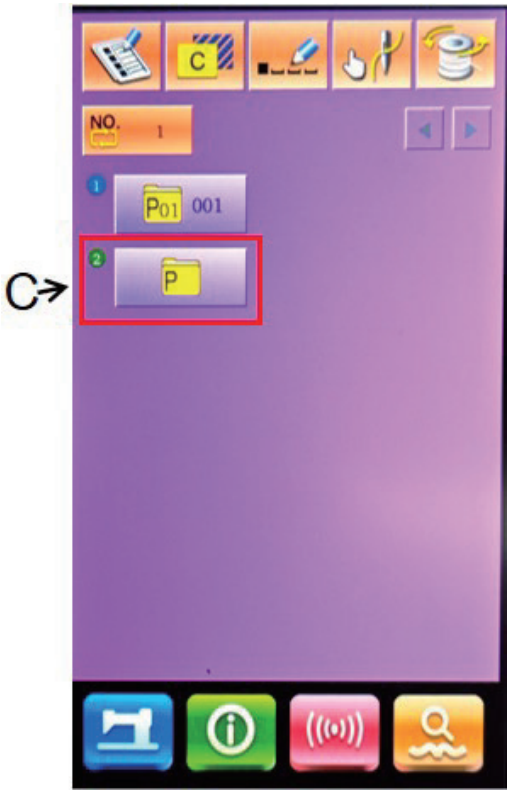
② 选择图案

右图为 C 花样编辑界面，选择想要登记的 P 花样图案 B，按下确定键 之后结束选择。



③ 反复登记剩余图案

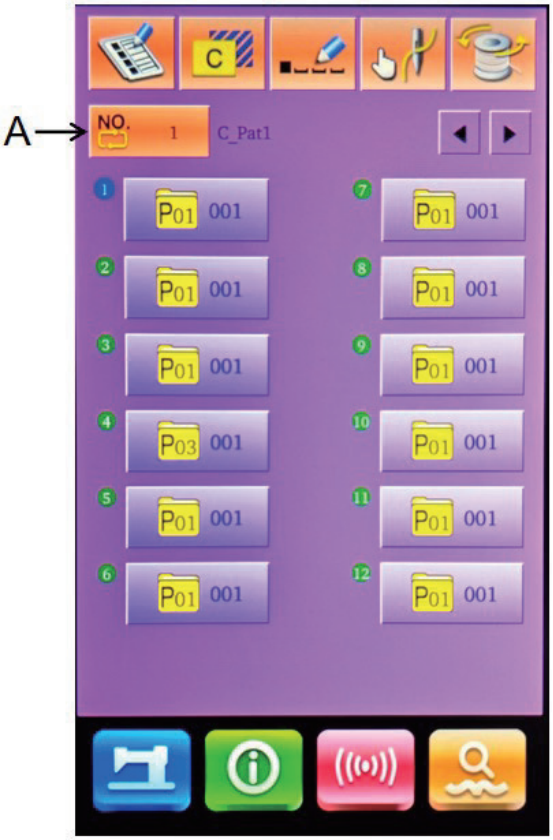
第一个图案登记确定之后，第二个图案选择键 C 被显示出来，操作同上，可以反复登记其它剩余图案。



4.3 C 花样选择

① 进入 C 花样选择界面

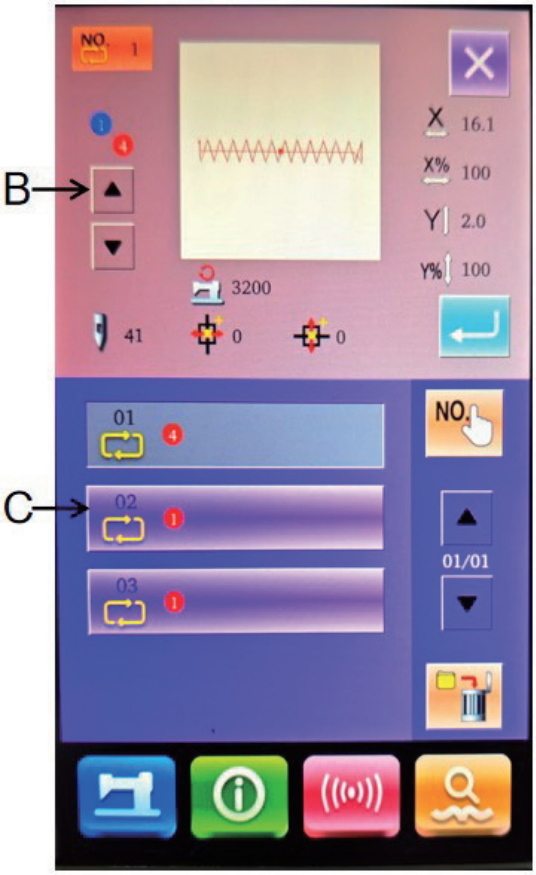
如右图所示，按下图标 A，可以进入 C 花样选择界面。



② 选择 C 花样号码

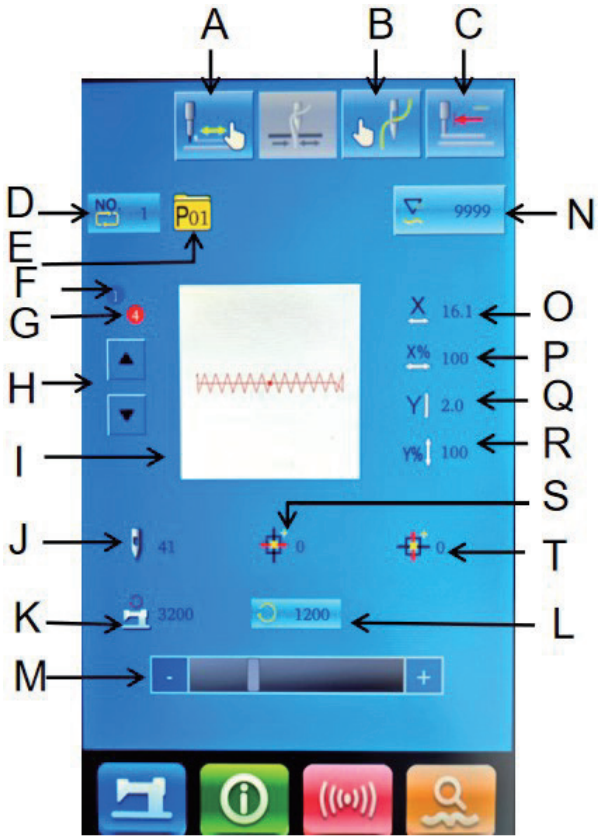
右图为 C 花样选择界面，按下 B 键之后，可以顺序变换当前 C 花样下输入的 P 子花样数据信息。

确定要想要选择的 C 花样号码键C，按下确定键 之后结束选择。



4.4 C 花样缝制

在 C 花样数据输入界面下，按下  进入缝制界面（如右图所示）。



功能说明：

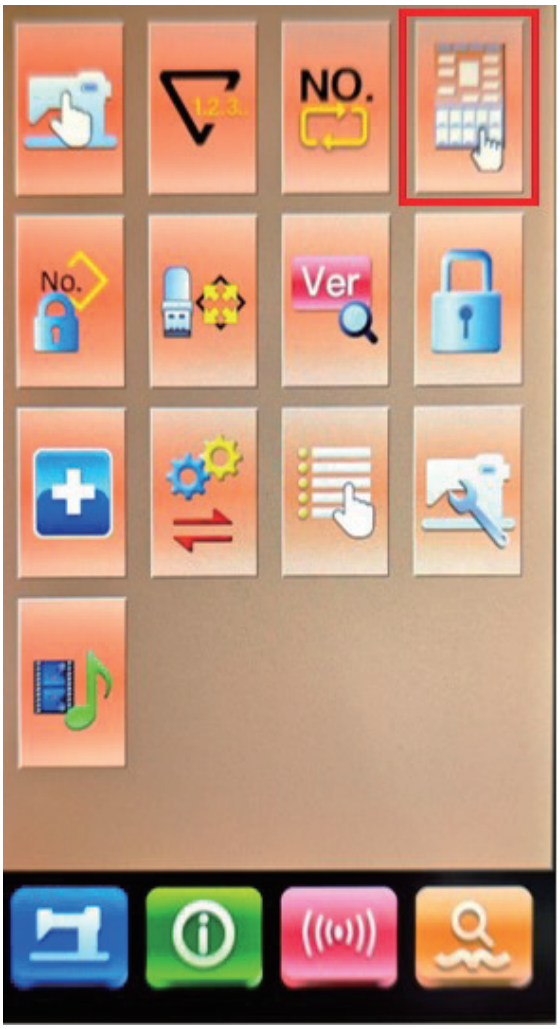
序号	功能	内容
A	试缝	按下后进入试缝界面，可以确定花样形状。
B	穿线	按下之后外压脚下降。
C	原点复位	按下后压脚返回始缝点。
D	C 花样号码显示	显示当前选择 C 花样号码。
E	缝纫形状号码显示	显示当前 C 花样下登记的子花样号码。
F	缝制顺序显示	显示当前缝制花样中的缝制顺序号
G	登记总数显示	显示当前 C 花样所登记的子花样总数

序号	功能	内容
H	缝制顺序前进/后退键	可以把缝制图案选择到后一个/前一个。
I	花样形状显示	显示当前缝制所登记的形状。
J	花样针数显示	显示当前缝纫登记形状针数。
K	最高转速限制显示	显示当前缝纫登记形状最高转速限制值。
L	缝纫速度显示	显示当前缝纫速度。
M	缝纫速度设置	可以滑动变更缝纫速度。
N	计数器设置	按下后可以选择计数器类型和设置当前计数值。 ：缝制计数器 ：计件计数器
O	X 实际尺寸值显示	显示当前缝纫登记形状的 X 方向实际尺寸值。
P	X 放大缩小率设定	显示当前缝纫登记形状的 X 方向放大缩小率。
Q	Y 实际尺寸值显示	显示当前缝纫登记形状的 Y 方向实际尺寸值。
R	Y 放大缩小率设定	显示当前缝纫登记形状的 Y 方向放大缩小率。
S	X 方向偏移量显示	显示当前缝纫登记形状的 X 方向偏移量。
T	Y 方向偏移量显示	显示当前缝纫登记形状的 Y 方向偏移量。

5 花样图案编辑

5.1 进入花样编辑模式

按下  可以切换数据输入界面和模式选择界面（如右图所示），在该界面下可以进行一些详细的设置和 编辑操作。 有关模式选择界面下的详细操作和 设置详见【8 模式和参数设置】。



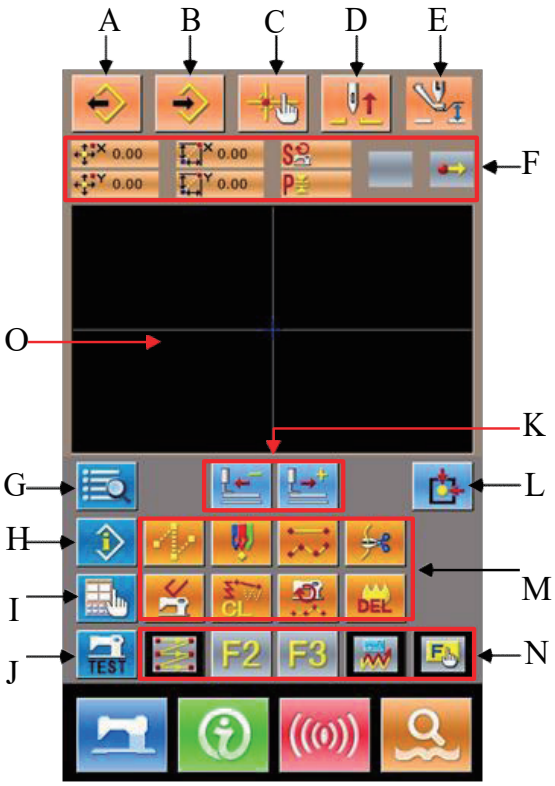
按下 ，会与  互相切换。

：缝纫模式 ：编辑模式

选择编辑模式图标 ，再次按下 键后，退出模式选择界面，系统提示是否进入花样编辑界面。



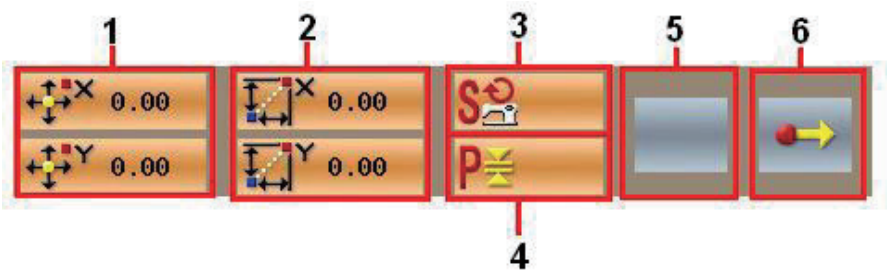
按下 后，进入花样编辑标准界面，如右图所示：



功能说明：

序号	功能	内容
A	读取图案	显示图案读取界面
B	写入图案	显示图案写入界面
C	落针点查询	可以快速查询落针点；在编辑花样时可以直接输入缝制点坐标
D	提针	让机针返回到停车位置
E	中压脚抬升下降	抬升或下降中压脚
F	当前机针位置信息	这是显示现在的机针位置信息的部分
G	编辑功能代码一览表	显示所有可操作的编辑功能，详见【编辑功能一览表】
H	信息显示	显示当前编辑花样的详细信息
I	显示设定	可以进行广角设定以及落针点显示设定等
J	试缝	可以对当前编辑的花样进行试缝
K	前进・后退送布	从现在的针位置移动一针（前进 ；后退 ）
L	原点复位	将现在的机针位置返回到原点。
M	功能按钮	可以直接调用各个按钮上的功能
		1 ： 空送
		2 ： 点缝
		3 ： 普通缝
		4 ： 切线
		5 ： 消除机械控制命令

序号	功能	内容
		6  ： 要素删除
		7  ： 缝制速度区间修改
		8  ： 删除当前编辑的花样图案
N	功能快捷键	通过功能选择・设定（功能代码 112），可以把需要的功能分配到各按钮，作为功能快捷键使用。功能被分配后，表示功能的图标被显示到相应的按键上。
O	花样图案显示区域	显示花样图案。

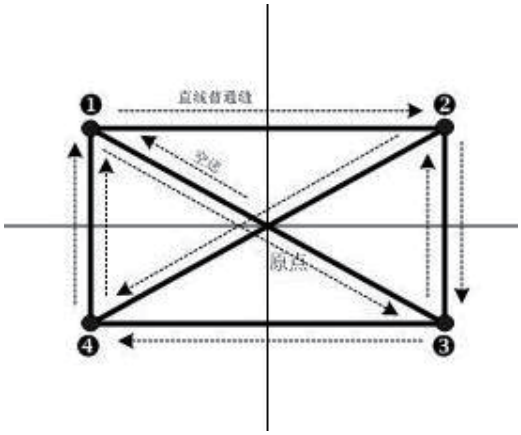


序号	项目	内容
1	绝对坐标	表示从现在的机针位置的原点的绝对坐标。
2	相对坐标	表示现在的机针位置的相对坐标。
3	速度	表示当前点的缝制速度或空送速度。
4	间隔	表示现在的要素缝制针迹长度。(扩大・缩小读取后，扩大缩小前的数值被显示。)
5	要素种类	表示当前的要素种类。缝制数据时，显示该要素种类(空送 、折线 、自由曲线 等)的图标。机械控制命令时，显示该机械控制命令的种类(切线等)的图标。
6	落针种类	表示有关落针位置的种类。
		图案起点，表示是图案的起点位置(原点)。
		要素中途，表示是要素内的中途点 (即不是顶点也不是要素终端)

序号	项目	内容
		顶点，表示是折线的顶点。
		要素终端，表示是要素的终端位置。
		图案终端，表示是图案的最终位置。

5.2 花样编辑

使用花样编辑功能，输入如下花样图案。



输入点：

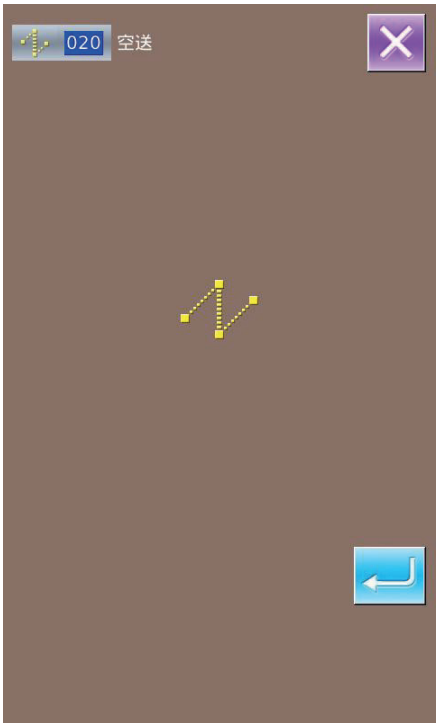
	X (mm)	Y (mm)
◆	-40.00	25.00
❖	40.00	25.00
◆	40.00	-25.00
☒	-4000	-25.00

输入次序：如左图中虚线箭头所示。

空送的输入

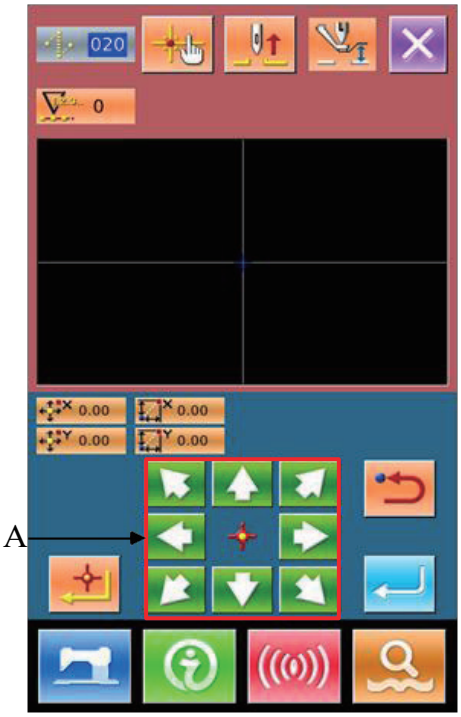
在花样编辑标准界面， 按空送按钮 ，显示出空送设定界面： 注：也可以从功能代码一览表里直接选择

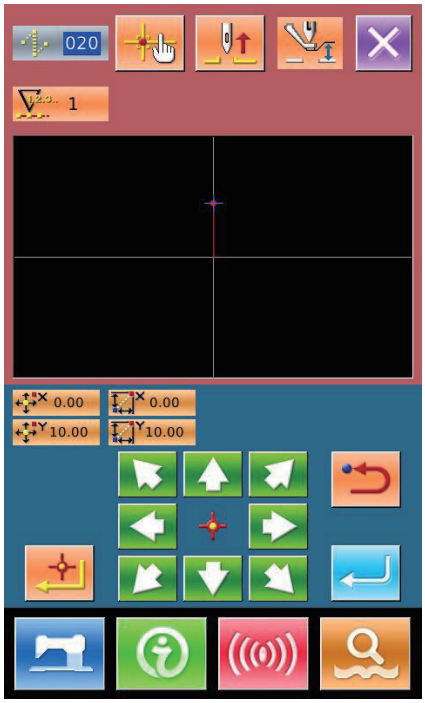
020：空送，进入该界面。

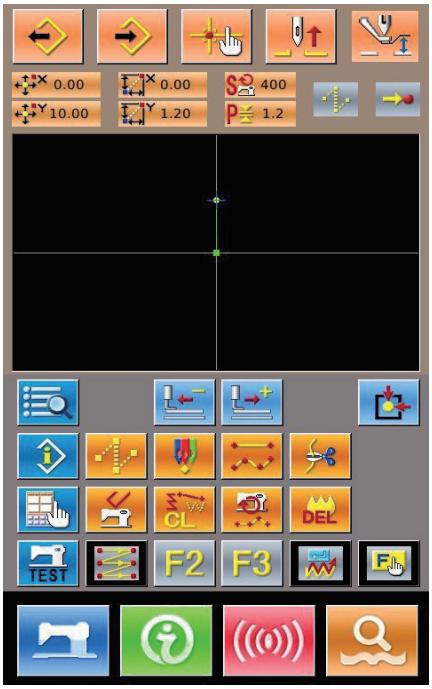


按确认键 后，显示出空送位置指定界面：

在空送位置指定界面，使用方向移动键——>A，移动光标（机针位置）到（0，10）处，按 按钮确定后，再按 键保存设置，退回到花样编辑标准界面并显示出空送针迹：



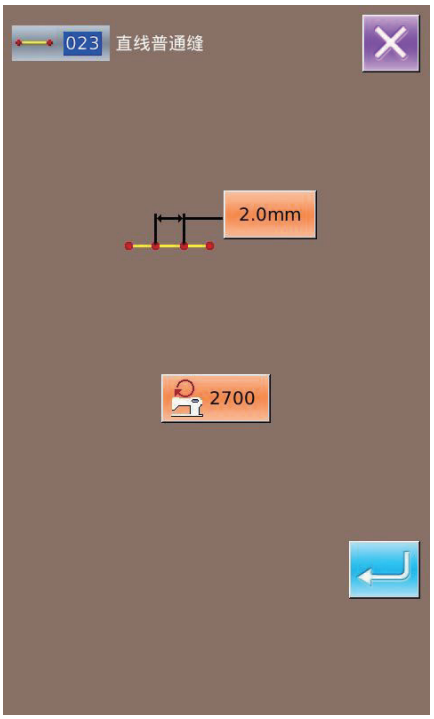




直线普通缝的输入

在功能代码一览表里，选择“023 直线普通缝”，然后按确认键 后，进入直线普通缝设置界面：





在直线普通缝设置界面下，按缝迹长度设定按钮 2.0mm，进入缝迹长度设定界面，如右图所示。



依次按 3、0 数字键，将缝迹长度变更为“3.0”，按确认键保存并退回到直线普缝设置界面。

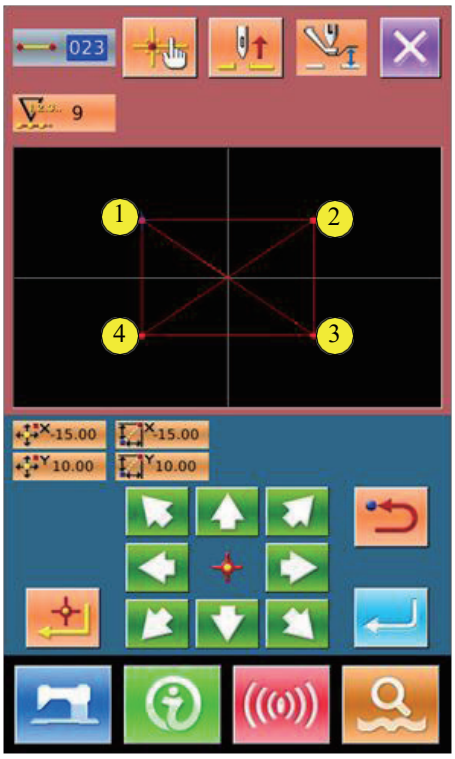
注：按 C 键，数值清零。

确认缝迹长度设定按钮的显示值为“3.0mm”之后，按确认键，进入直线普通缝位置设定界面。

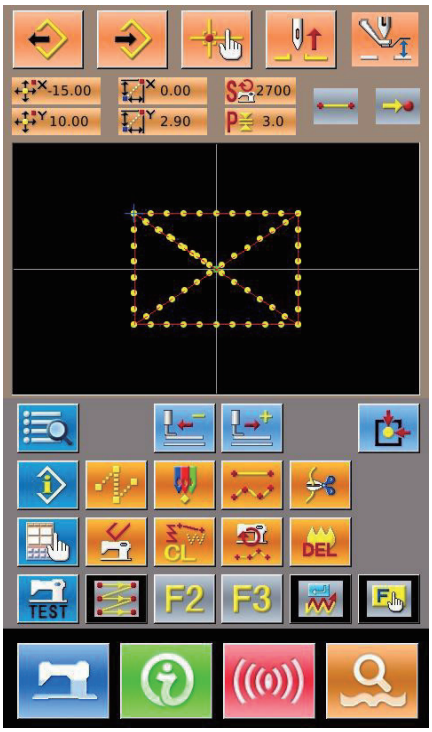
在此界面下，通过方向移动键，将光标（机针位置）从◆处移动到❖处，然后按确定按钮。反复进行上述移动操作，将光标按照

❖∀⬩∀☒∀◆∀⬩∀❖∀☒∀◆

的顺序依次移动，如右图所示。



确认花样图案后，按键生成花样数据并返回到花样编辑标准界面，显示出花样图案。



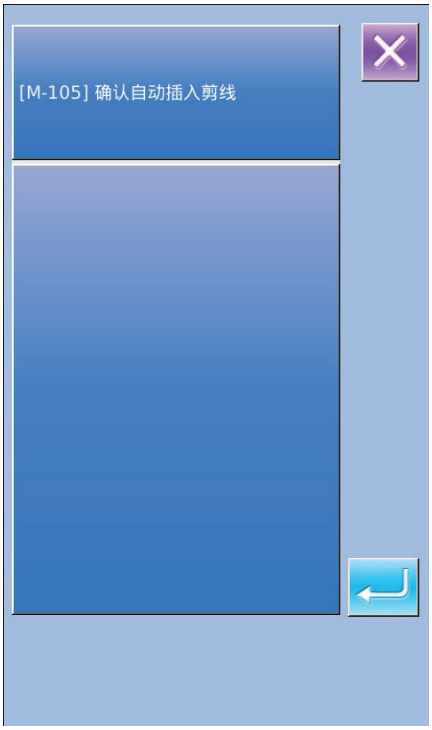
● **保存花样**

按按钮，进入图案花样保存界面，保存编辑好的花样图案，如右图所示。



系统自动设定好样号码，用户也可以通过~十数字键盘或、键输入希望值。通过和按键，可以选择花样图案的存储位置。用户可以选择将其存储在操作面板存储媒介上，也可以选择存储在 U 盘上。

按键后保存花样图案，系统提示，是否自动插入切线，如右图所示。



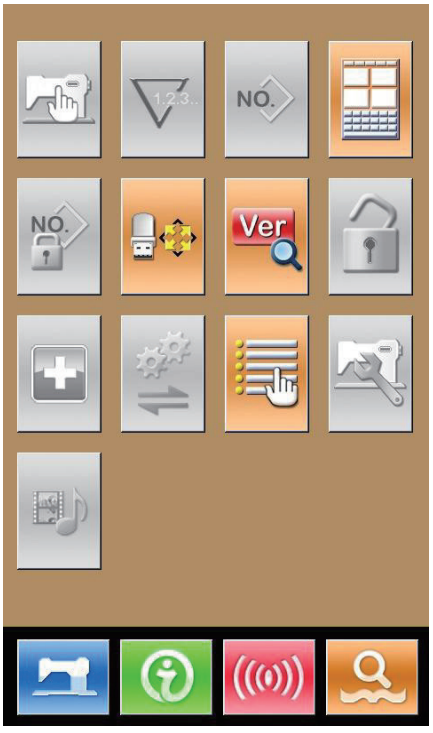
按键自动加入切线；

按键取消自动加入切线。 操作完成后，退回到花样编辑标准界面。

有关花样编辑的具体操作和说明请参照《SP-510 花样打版使用说明书》。

5.3 退出花样编辑模式

在花样编辑标准界面下，按进入模式选 择界面，如右图所示。



按下 ，会与 之间相互切换。其中：

：编辑模式

：缝纫模式

再次按下 键后，退出模式选择界面，系 统提示是否返回到缝制模式。

按 键后，退出花样编辑模式，返回到缝纫 模式。



6 信息功能

信息功能，有下列 3 种功能。 1）可以指定机油更换时期，机针更换时期，清扫时期等，超过了指定事件之后，进行警告通知。

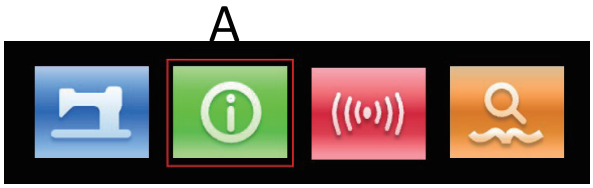
2）利用显示目标值和实际值功能，可以提高生产小组完成目标的意识，可以一目了然地确认进度。

3）显示穿线示意图。

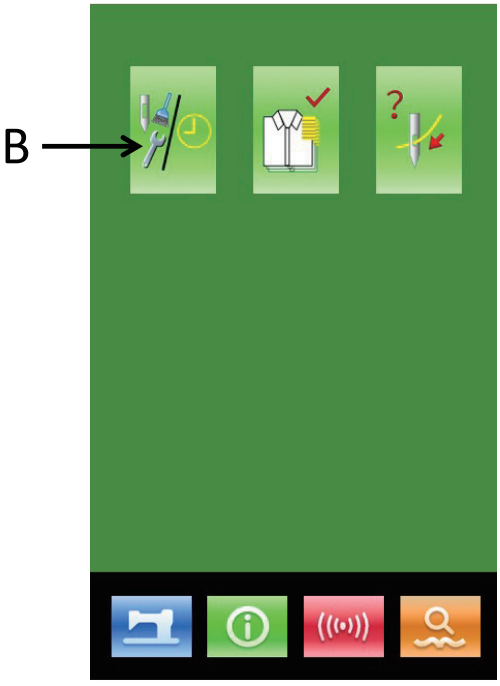
6.1 查看维修保养信息

① 显示信息界面

在数据输入界面，按开关密封部的信息按键（A）之后，信息界面被显示出来。



② 显示保养维修界面。 请按信息界面的保养维修信息界面显示按键（B）。



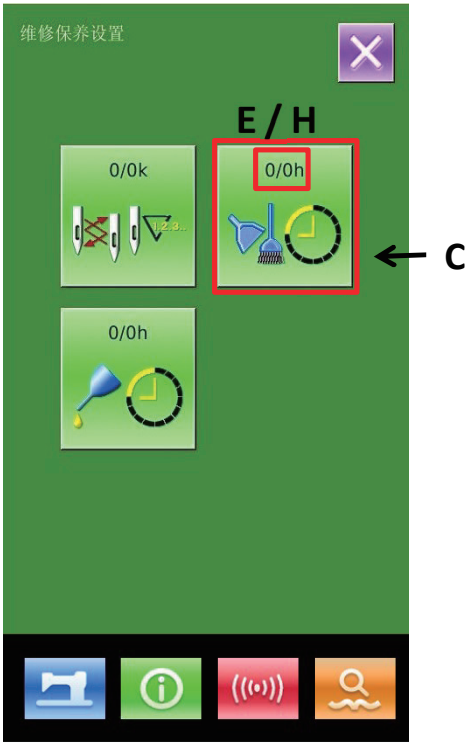
在保养维修信息界面上，有以下 3 个项目的信息被显示出来。

：更换机针(千针)

：清扫时间(小时)

：机油更换时间(小时)

各项目显示在按键(C)，通知检修的间隔显示在 D，至更换的剩余时间显示在 E。



点按相应的按键，可以清除至更换 的剩余时间。

按退出键直接退回到信息界面。

6.2 维修保养时间设置

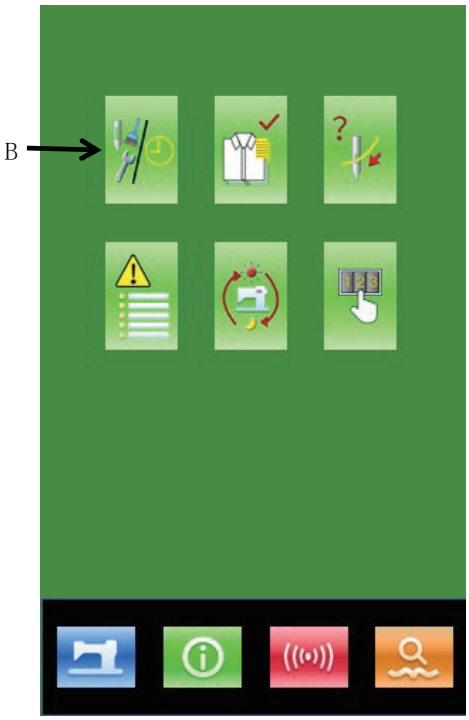
① 显示信息界面（维修人员等级）

在数据输入界面，按信息按键（A）约 3 秒钟之后，信息界面（维修人员等级）被显示出来。

维修人员等级时，有 6 个按键被显示 出来。



② 信息界面功能



维修人员等级时，有六项功能显示：

：维修保养

：生产管理

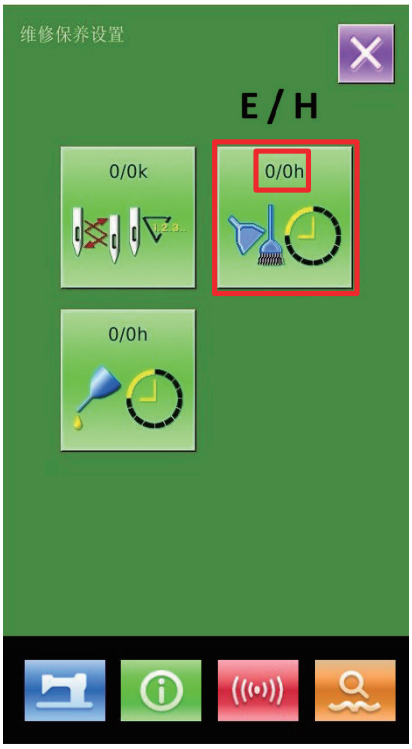
：穿线示意

：报警记录

：运转记录

：分期密码 请按信息界面的保养维修信息界面

显示按键（B），进入维修保养界面。



③ 维修保养设置

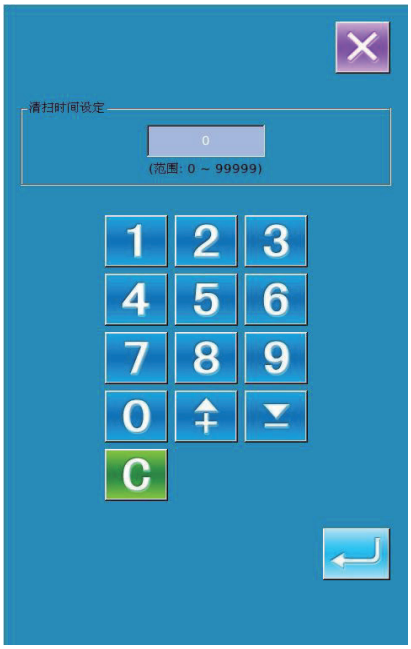
在保养维修信息界面上，显示出与通常的维修保养信息界面一样的信息。

按了想变更维修保养时间的项目按键(C)之后，相关输入界面被显示出来。

比如按下键，则可以设置清扫时间。

按退出键直接退回到信息界面。

④ **设置维修保养项**



把维修保养项设定值设定为 0 之后， 则停止维修保养功能。

维修保养设置项包括：

- ◆ 机针更换时间设定
- ◆ 清扫时间设定
- ◆ 机油更换时间设定 按相应

的图标，进入设置界面：

A、通过数字键盘输入维修保养项的设定值。

B、按回车键 之后确定输入。

C、按退出键 直接退回到维修保养界面。

6.3 警告的解除方法

到了指定的维修保养时间之后，信息提示界面被显示出来。要清除维修保养时间时，请按回车键 。在清除维修保养时间之前，每次缝制结束后显示信息提示界面。

各项目的信息提示号码如下。

- •机针更换 ： M-052
- •机油更换时间：M-053
- •清扫时间 ： M-054

6.4 生产管理信息

在生产管理界面上，指定开始，可以进行从开始到现在的生产件数，生产目标件数的显示等。 生产管理界面的显示方法有以下 2 种：

- 从信息界面显示

- 从缝制界面显示

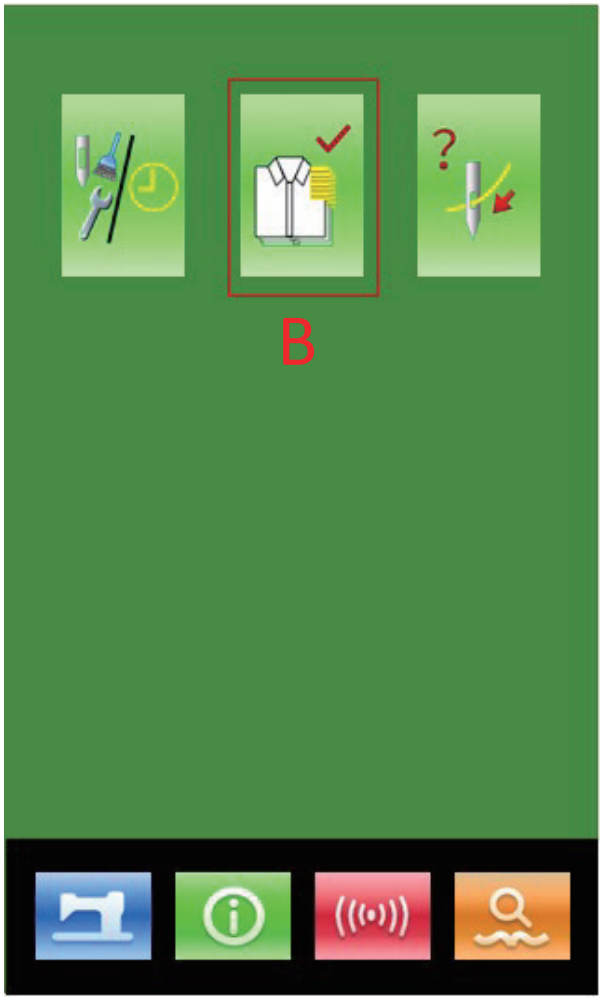
6.4.1 从信息界面显示

① 显示信息界面。

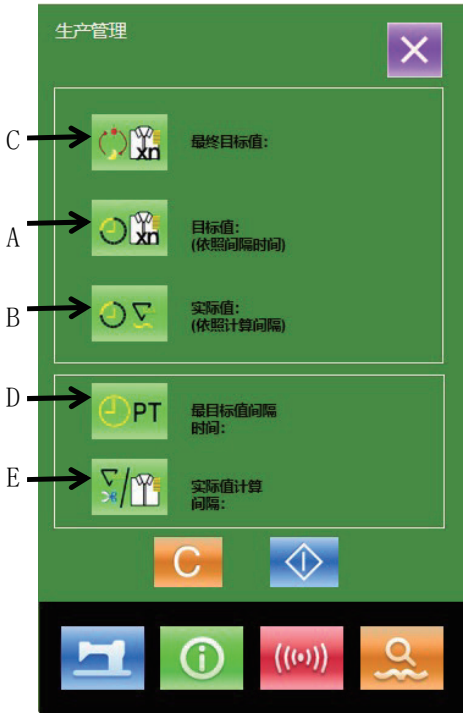
在数据输入界面按了开关部的信息键（A）之后，信息界面被显示出来。



② 显示生产管理界面。 请按信息界面的生产管理界面显示按键（B）。生产管理界面被显示出来（如右图所示）。



生产管理界面上显示有下列 5 个项目的信 息。



A：目标值

照间隔时间自动地显示出截止现在的目标缝制件数。

B：实际值

自动地显示已经缝制的件数。

C：最终目标值

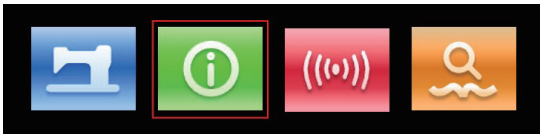
设置最终目标的缝制件数。

D：目标值间隔时间

设置完成一个工序需要的时间（秒）。

E：实际计件间隔

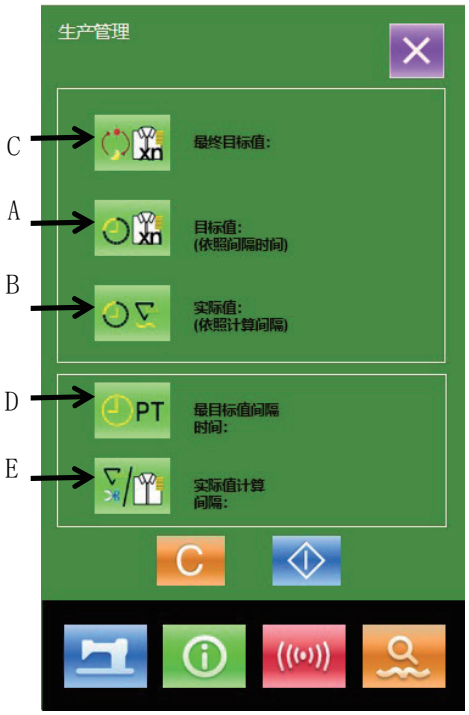
6.4.2 从缝制界面显示

① 显示缝制界面。 在数据输入界面按了准备键 之后，缝制界面被显示出来。	
② 显示生产管理界面。 在缝制界面，按了信息按键（A ）之后生产管理界面被显示出来。 显示内容和功能与上述 6.4.1 节相同。	A 

6.4.3 生产管理信息设定

① 显示生产管理界面。

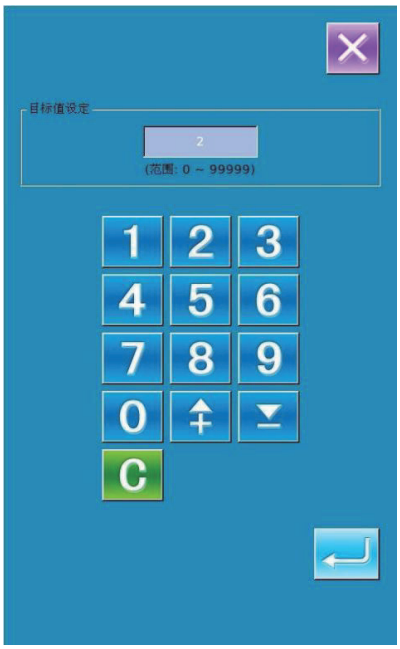
按下 ，显示出生产管理界面。



② 输入最终目标值。

首先，请输入从现在开始进行缝制工序的生产目标件数。按了最终目标值按键 （C）之后，最终目标值输入界面被显示出来。

请用数字键或加减按键输入希望的数值。输入后，请按确定按键 ，按下退出键 退出。



③ 输入间隔时间。

然后，请输入 1 工序需要的间隔时 间。按了前页的间隔时间按键 

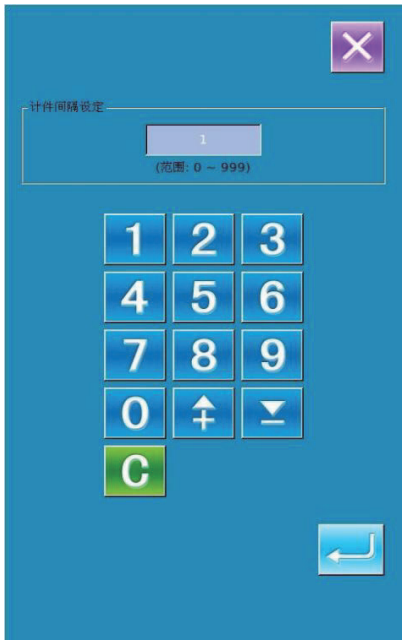
（D）之后，间隔时间输入界面被显示出来。

请用数字键或加减按键输入希望的数值。输入后，请按确定按键 ，按下退出键 直接退出。



⑤ 输入计件间隔。 然后，请输入平均 1 工序的间隔。按了前页的计件间隔按键 （E）之后，计件间隔的输入界面被显示出来。

请用数字键或加减按键输入希望的数值。输入后，请按确定按键 ，按下退出键 直接退出。



⑤ 开始车生产件数的计数。

按键（Ⅰ）之后，【最终目标值】【目标值】【实际值】变灰，并开始生产件数的计数。 **最终目标值：**可以作为参考时间



目标值：目标值按照【目标值间隔】设定的时长，开始计时，每过一个时间间隔增 1。

实际值：当通过“6.4.2 从缝制界面显示”进入时，实际值按照【实际值计件间隔】设定的值，开始计件，每缝完一件增 1。

通过设置目标值和实际值可以对比每缝一件的生产效率是提高了还是降低了。

⑥ 停止计数。

计数状态下，停止键被显示出来。按了停止按键之后，停止计数。停止后，在停止按键的位置显示出计数按键。需要继续进行计数时，请再次按计数按键。

在按了清除按键之前，计数的数值不被清除。

按下退出键直接退出返回。

⑦ **清除计数值。**

清除计数的值时，让计数器为停止计数状态，按下清除按键 C。

可以被清除的值为现在的目标值  和实际值 。

（注：仅在停止计数状态时清除按键可以显示。）

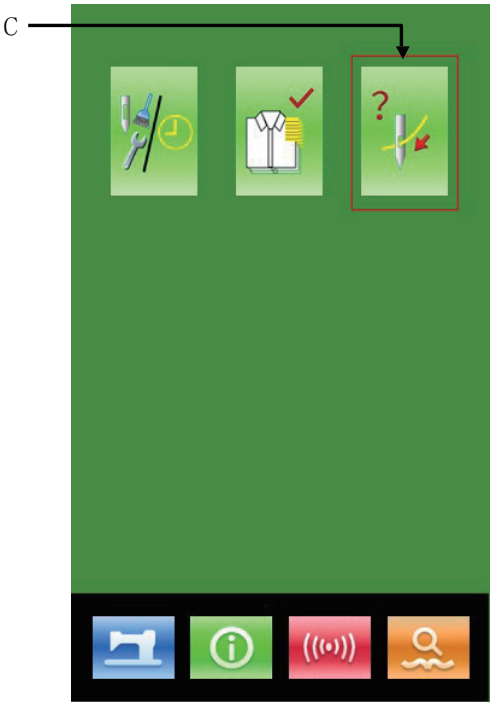
按下清除按键 C 之后，显示出清除确认界面。

在清除确认界面，按下确定按键  确认清除，按下退出键  直接退出。

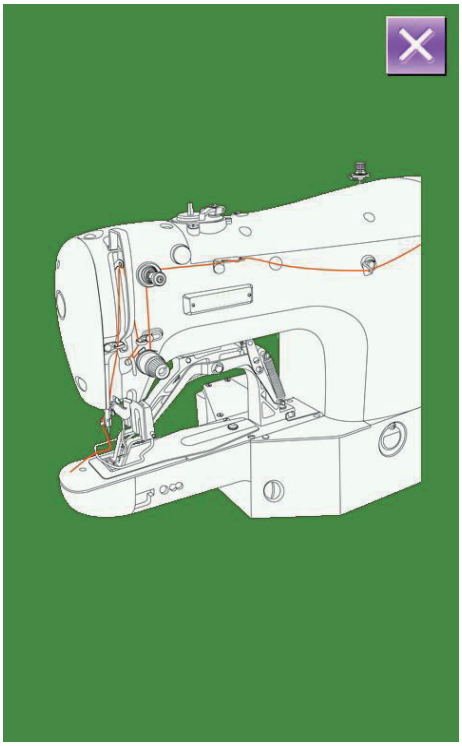


6.5 显示穿线图

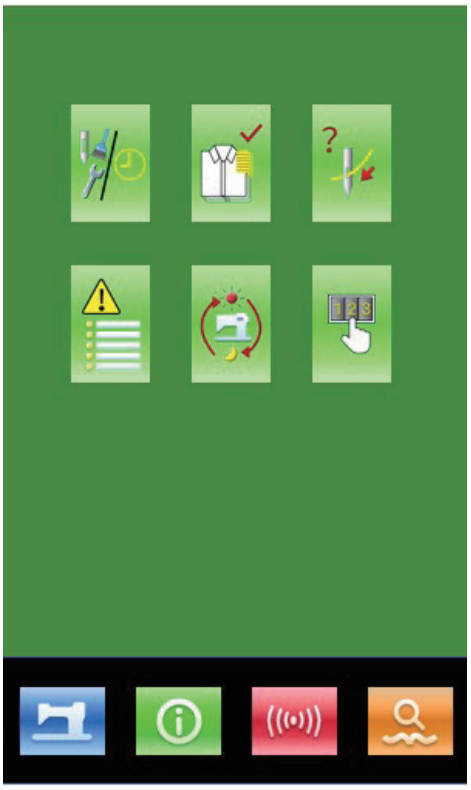
信息界面按下穿线按键 （C）之后，上穿线图被显示出来。



穿线时，请参阅。



6.6 报警记录



① 维修人员等级时，按下  可以查询机器的报警记录信息。

② 按 **查询记录**

如图，显示报警信息和出现的次数



操作键功能：

A、按下 、 进行翻页

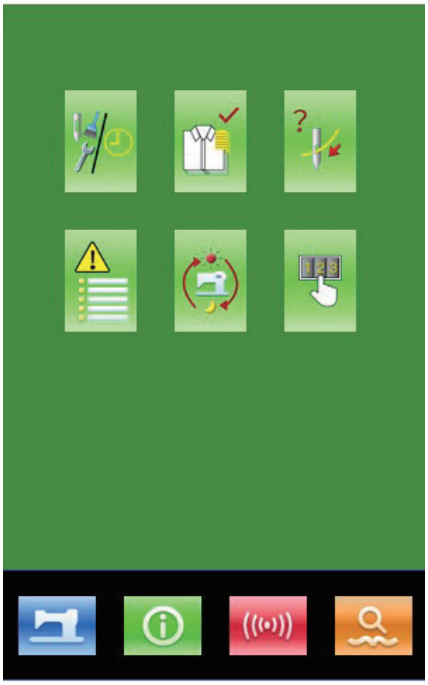
B、按下退出键 退出查询操作。

C、按下清除键 C 清除保留的报警记录

③ **按报警提示栏左边的序号键，显示报警记录的详细信息**

按 退出。

6.7 运转记录



① 维修人员等级时，按下 可以查询机器的运转信息。

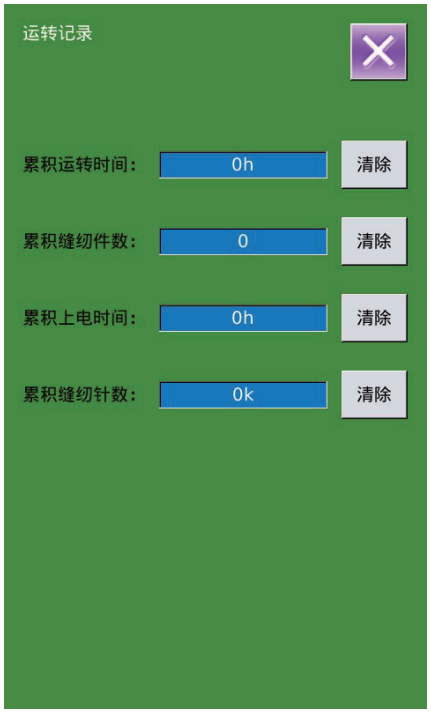
② 运转记录包括：

a) ：机器累积运转时间（小时单位）

b) ：机器累积切线次数

c) ：机器累积上电时间（小时单位）

d) ：机器累积针数（1000 针单位）



A、按退出键 退出 B、按清除键清除

6.8 分期密码设置

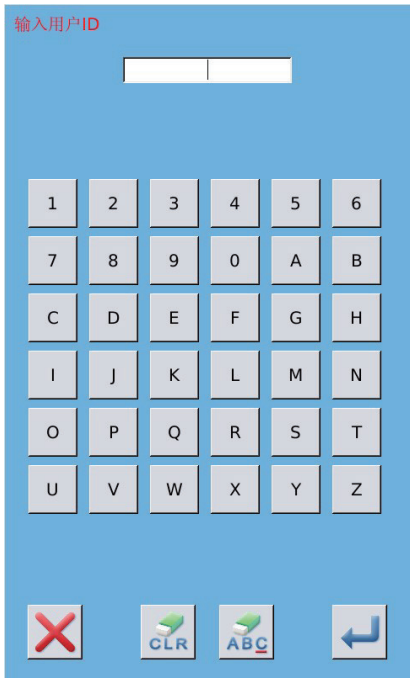


1） **维修人员等级时，按下  可以设置分期密码**

该界面下会显示输入用户 ID 界面，输入正确的厂家 ID 后即进入密码管理模式，主要用于用户分期密码的设置和管理。

- 可以最多设置 10 个不同的密码发作日期。
- 系统可以显示厂家设置的密码信息。

2) **按下  后要求输入厂家 ID**



3) 输入正确的厂家 ID 后，进入密码设置界面 分期密码设置步骤：

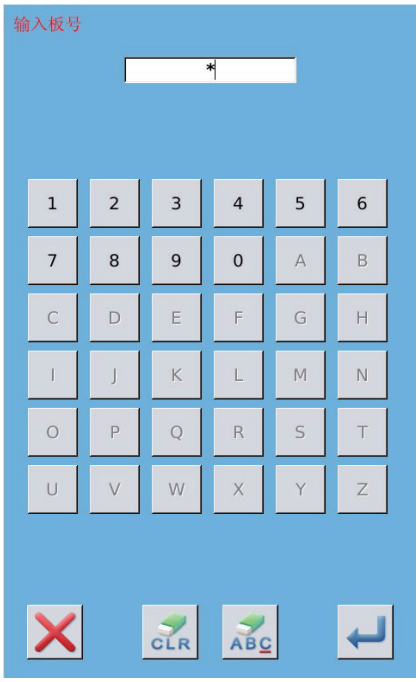
A、 继续输入其他的分期密码



4) 输入板号

按下【板号】键，进入板号输入界面，输入板号后，按下  完成板号输入界面

※ 板号为四位，范围 0～9999



5) 输入系统时钟

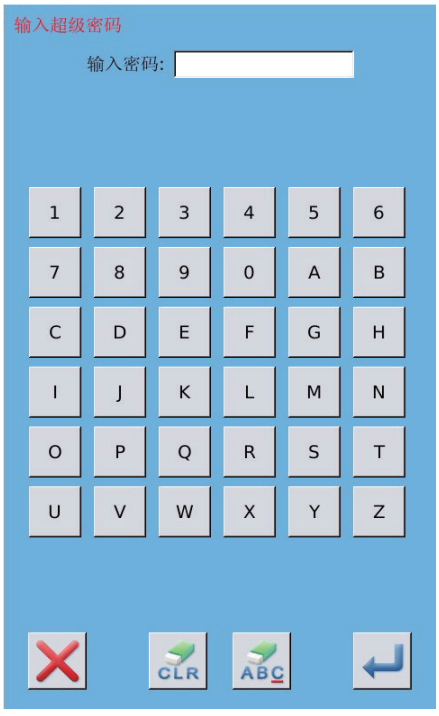
按下【时钟】键，进入系统时钟设置界面，确定系统时钟



6) 输入超级密码 按下【超级密码】键，进入超级密码 设置界面，输入超级密码

※ 最多可输入 9 位总密码

※ 密码输入要求确认，两次密码必须一致



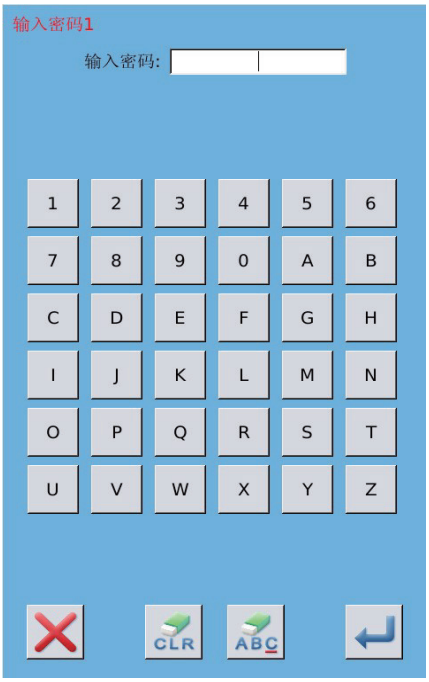
7) 输入分期密码

按下【密码-1】键，进入第一次密码 到期界面

输入第一个有效日期，

选择合适的日期后，按  确认，然后进入密码设置界面，输入密码





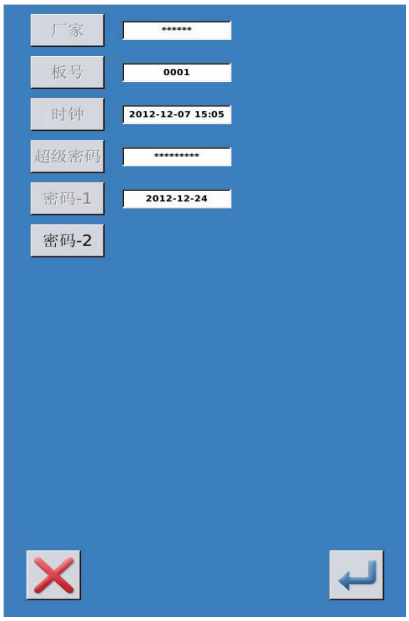
※ **日期不能小于系统日期**

※ **密码输入要求确认，两次密码必须一致**

8) 输入其他的分期密码

其他分期密码的设置和⑦相同，参考⑦的设置

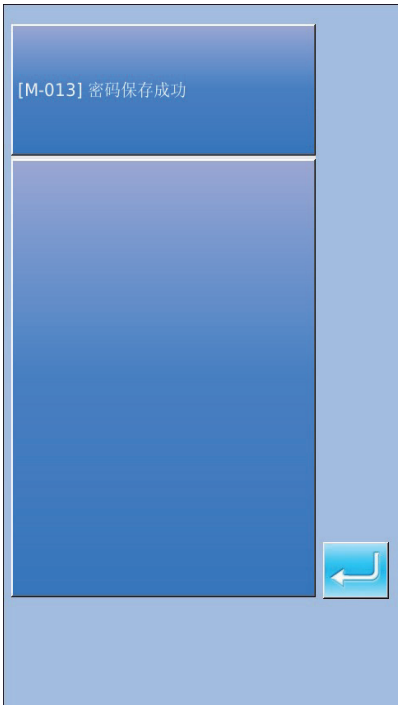
※ **下一个有效日期必须大于上一个有效日期**



9) 保存密码

A、密码输入完成后，按  完成密码保存

B、密码保存成功，显示【密码保存成功】界面，按  完成密码保存并退回到【信息主界面】

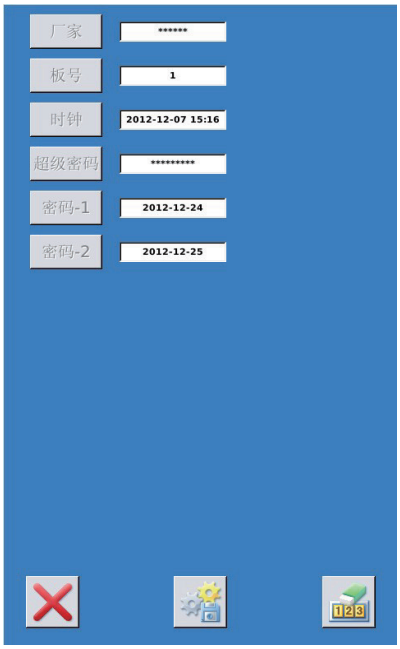


10) 主动清除密码 主动清除密码是指在分期密码发作前主 动清除密码的设置

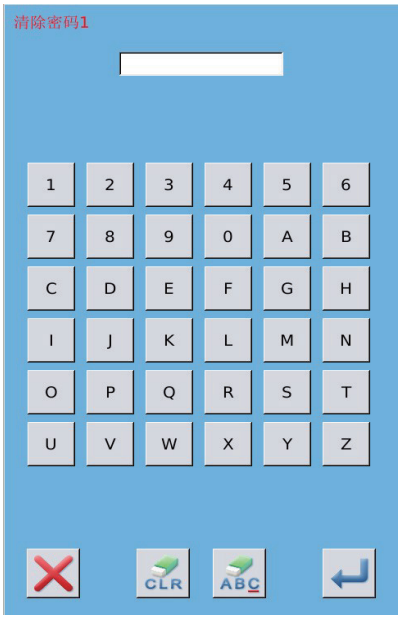
A、进入密码的方法同密码设置 B、输入正确的厂家 ID 后，显示右边的界 面

C、系统显示当前时钟和各个分期密码发作日期

D、按下 ，从前向后依次删除分期密码



连续输入正确的分期密码后清除当前期的 密码，当输入是超级密码时，则全部清除； 密码清除后会以红色显示清除的分期日 期；如果全部密码清除完毕，则自动退出， 返回到信息主界面。



11) 密码发作时清除 如果系统设置了密码，并且没有清除，

则使用至密码发作日期时，会遇到密码发作。

此时若继续使用，必须输入密码才能继续正常使用。

A、有效密码包括当期提示的密码和超级密码。

B、若输入的是当期密码，则清除当期密码。清除当前密码后，若后面没有密码，则机器不再会出现密码发作的问题。

C、若输入的是超级密码，则全部清除分期密码。

7 通讯功能

通信功能完成以下几项功能：

- 把其它缝纫机编制的缝制数据或打版软件编制后的缝制数据下载到缝纫机；
- 向 U 盘或计算机里加载缝制数据。
- 从 U 盘加载参数
- 将操作头中保存的参数导入到 U 盘中
- 操作头软件升级

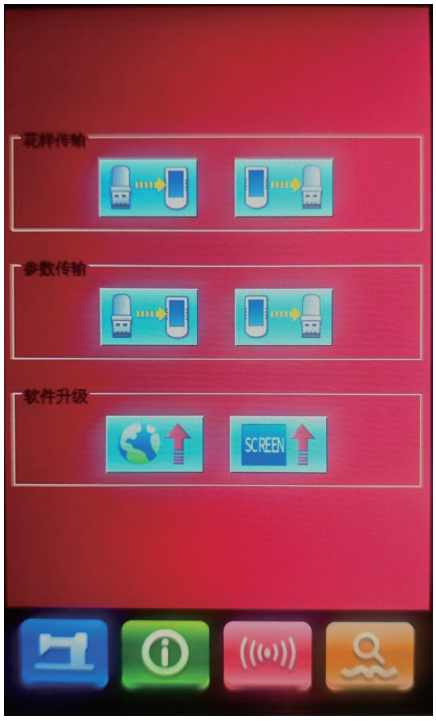
7.1 关于可以处理的数据

可以处理的缝制数据如下：

数据类型	标准格式
VDT	[0-9][0-9][1-9].vdt

往 U 盘保存数据时，请保存到 pattern 文件夹里，否则就不能读取文件。

7.2 功能操作



① 显示通信界面

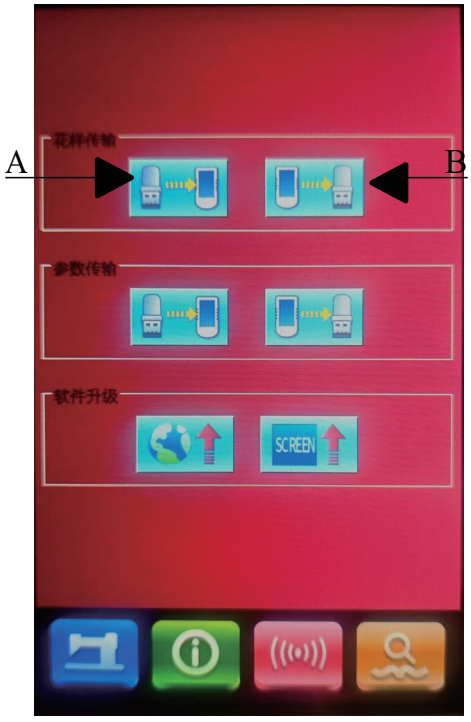
在数据输入界面，按通信键 之后，显示出通信界面。

② 选择相应操作 该界面下可选择的功能，分为三类：

- 花样传输
- 参数传输
- 软件升级 点按相应的图标，进行功能操作。

③ 按通讯键 退出通讯功能

7.3 花样传输



① 显示通信界面

在通讯界面下，按:

A：从 U 盘中向操作头导入花样

B：将操作头中保存的花样导出到 U 盘中

U 盘的路径：pattern

※ 从 U 盘导入花样时，请将花样文件保存 在 U 盘的 pattern 目录中

※ 从操作头导出花样时，导出的花样文件保存在 U 盘的 pattern 中

※ **U 盘中的花样命名方式**

从 U 盘导入花样时，请遵守下面的规则 命名：

文件名：三位数字，001~999

后缀名：vdt（大小写无关）

举例：

正确的文件命名： 100.vdt、102.VDT 其他的命名方式不正确，系统不能识别。

② 按 A 指示键，进入从 U 盘向操作头导入 花样界面



图 1

注：如果 U 盘中花样与操作头中花样存在同名的情况，花样号码会显示出红色，此时红色号码的花样就需要利用 F 键操作才能导入操作头。如图 1 所示。

A、利用【上箭头】、【下箭头】键进行翻页

B、利用下面三种操作，选择花样

- 按 选择全部花样，
- 按 反向选择
- 点击花样号码按键

C、按完成导入花样功能，此时导入操作头的花样号与选择的花样号保

持一致。

D、按完成选中花样的删除功能

E、按退出键退出到通讯界面。

注意：如果选择花样号在操作头中已存在，会无法覆盖。

③ 按 B 指示键，完成操作头的花样导出到 U 盘中



A、利用【上箭头】、【下箭头】键进行翻页

B、利用下面三种操作，选择花样

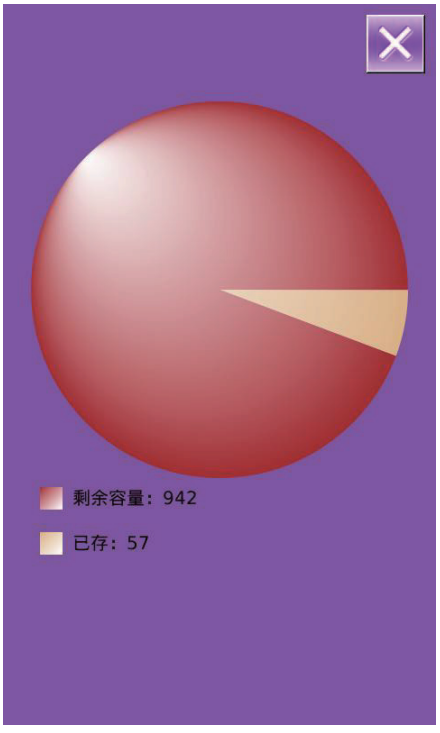
- 按选择全部花样，
- 按反向选择
- 点击花样号码按键

C、按完成选中花样的删除功能

D、按完成导出花样功能

E、按退出键退出花样导出功能界面

F、在该界面下，按键，显示当前内存中花样占用的空间，及花样的个数



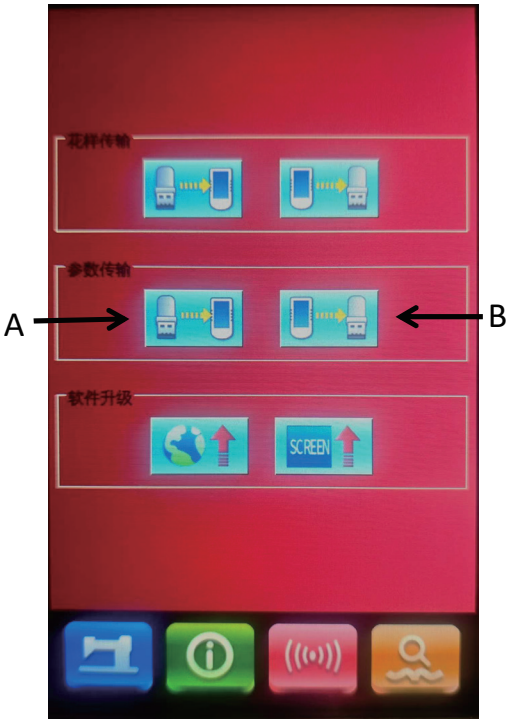
7.4 参数传输

① 显示通信界面

在讯界面下，按:

A：从 U 盘中向操作头导入参数

B：将操作头中保存的参数导出到 U 盘中



※ 从 U 盘导入参数时，请将参数文件保存在 U 盘目录中

※ 从操作头导出参数时，导出的参数文件保存在 U 盘中

※ 参数文件是二进制文件，对文件的操作在操作头上完成，不要手动修改文件，以免影响使用。

② 按 A 指示键，完成从 U 盘向操作头导 入参数

A、按回车键完成从 U 盘向操作头导入参数并退出

B、按退出键直接退出



③ 按 B 指示键，完成操作头的参数导出 到 U 盘中

A、按回车键完成从操作头向 U 盘导出参数并退出

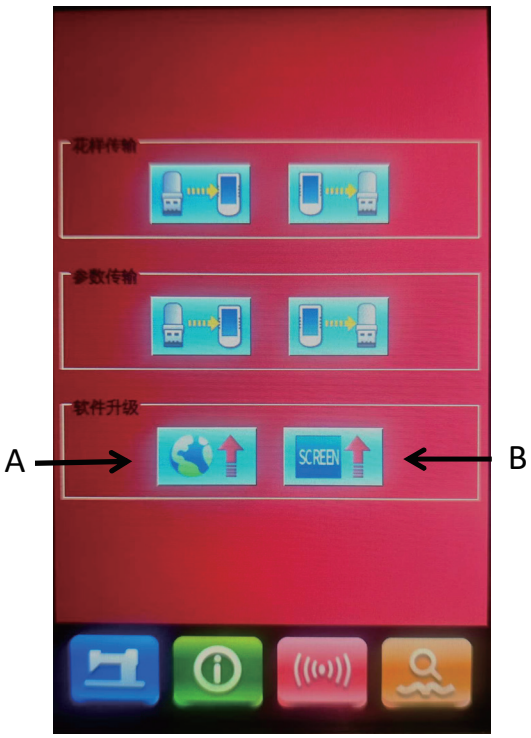
B、按退出键直接退出



7.5 软件升级

1） 显示通信界面

在通讯界面下，按 A 键进入软件升级界 面。



2） 升级类型选择

软件升级包括：

- 操作头程序
- 图标
- 显示字库
- 开机画面

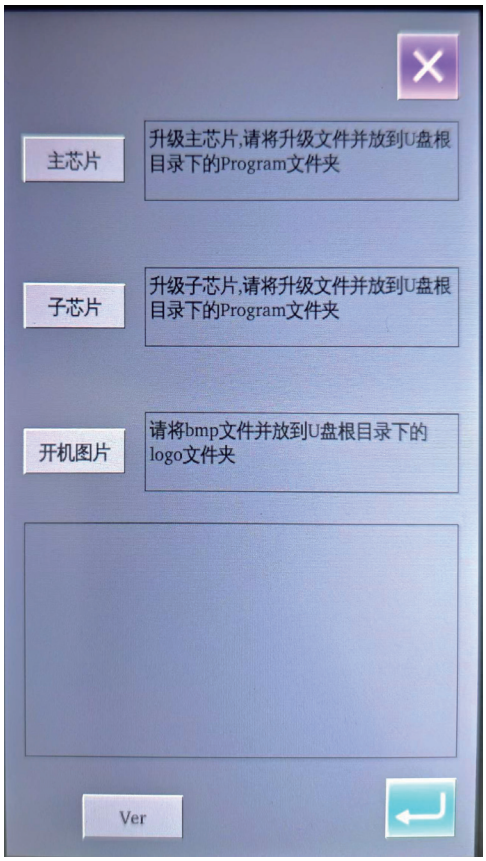
按 和 键进行翻页

A、按回车键 完成选中功能的升级，并退出

B、按退出键 直接退出

C、各个功能键能同时多选，系统顺序执行相应的升级功能

D、 升级完成后，关机重启即可

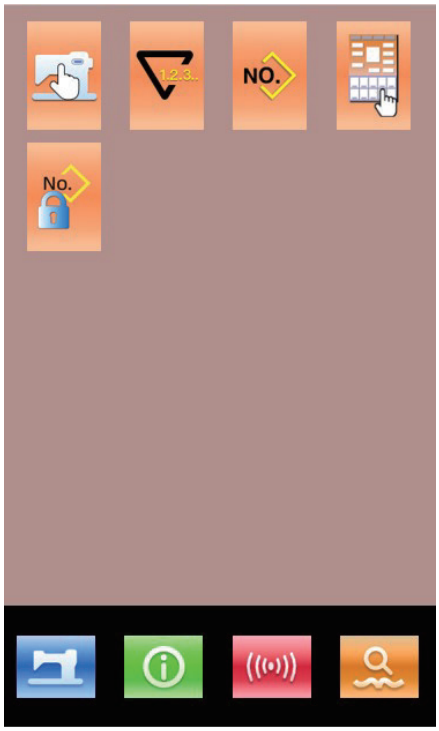


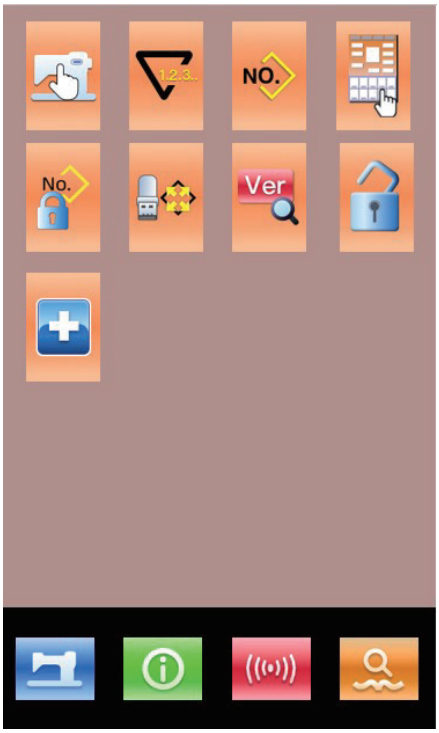
3） **按 B 进入开机画面升级界面** 将开机画面生成的 bin 文件放入 U 盘的 update 目录下，选择 bin 文件后，按回 车键完成开机画面的升级。

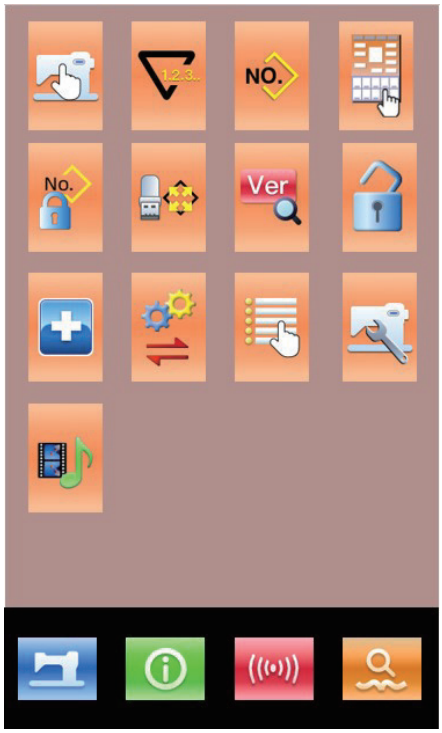
8 模式和参数设置

按下  可以切换数据输入界面和模式界面（如右图所示），在该界面下可以进行一些详细的设置和编辑操作。

长按  键 3 秒可以进入设置模式等级 2 状态，常按 6 秒可以进入设置模式等级 3 状态

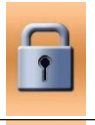




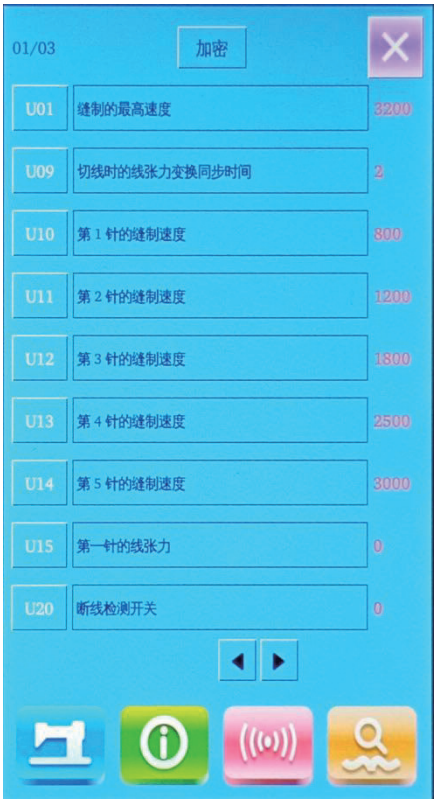


设置模式等级 3

8.1 功能说明

序号	图标	功能	内容
1		一级参数设置	进行一级（U）参数设置。
2		计数器设置	可以设置计数器类型、计数值和设定值。
3		缝制类型设置	切换普通花样缝纫和组合花样缝纫。
4		花样锁定	可以进入花样锁定设置界面。
5		花样编辑	可以进入花样编辑。
6		格式化 U 盘	格式化 U 盘。
7		软件版本查询	查询当前面板、主控、电机软件版本。
8		键盘锁定	可以锁定一些可设定项功能。
9		检测模式	针对机器外设和液晶进行检测。
10		参数备份	可以对当前参数进行备份和恢复。
11		编辑参数开关	可以对编辑下参数进行打开或关闭操作。
12		二级参数设置	进行二级（K）参数设置。
13		视频播放	可播放视频文件

8.2 一级参数设置



① 参数设置操作

选择进入一级参数设置界面（如右图所示）。

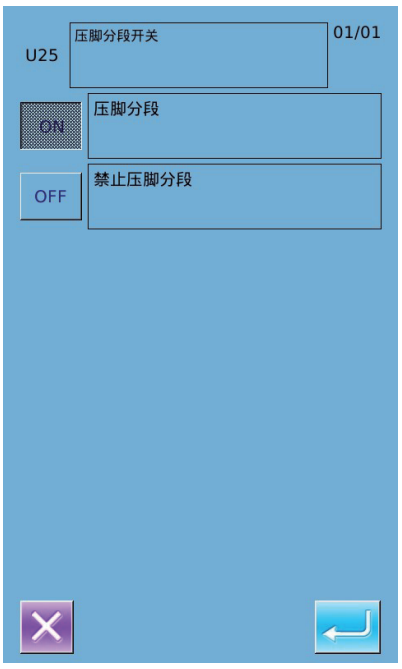
按键退出参数设置界面。 当有参数修改时，在参数设置界面显示【已 修改】按键，

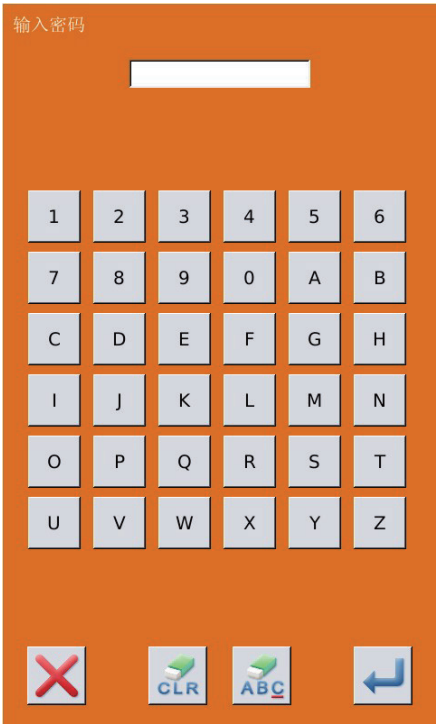
选择想要修改的参数后进入设置状态，参数设置分为数据输入类型和选择类型。举例如下：

选择 U01，进入界面



选择 U25，进入界面





② 参数加密

A、按“加密”键后， 进入密码输入界面。

按CLR全部清除输入内容

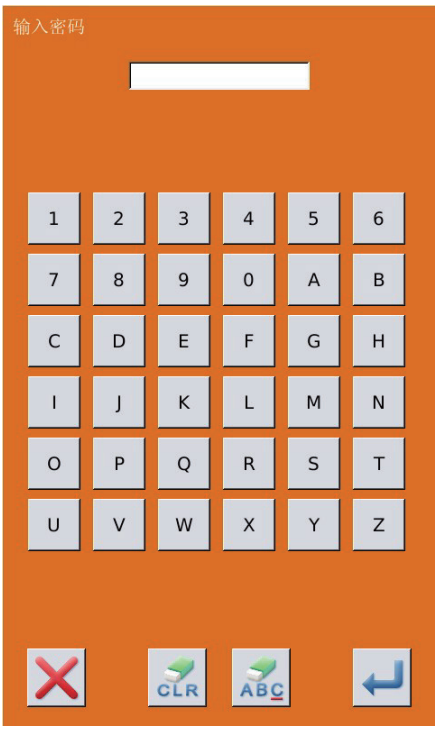
按ABC每按一次删除一个字符

B、输入正确的密码后，进入参数加密界面 选择要加密的参数 按【全选】，全部参数加密 按【反选】，反向选择参数加密 按【改密】，修改加密密码，默认是厂家 ID

按退出键退出加密功能



③ 查询已修改参数



A、 当有参数修改时，在参数设置界面显示【已修改】按键

B、 在参数设置界面，按下【已修改】按键，可以查询已修改过的参数。 首先要求输入密码，输入密码界面的操作参考②的 A 项，输入正确的密码后进入到已修改参数查询界面

C、 在已修改参数查询界面下，可以查询到所有修改过的参数列表，在该列表中显示修改的当前值和复位值。

在该界面下：

- 按【还原所有】按键，将修改的参数恢复为复位值
- 点按参数名称键，例如【压脚类型】，再点按【选择还原】将选中的参数恢复为复位值。参数键可以多选。
- 按参数号码键，例如【U14】，能够进入参数设置界面，可以重新设置参数数值。
- 存在多于 1 个页面时，通过箭头按键可以翻页操作。
- 点按 ，退出该界面



④ 一级参数表

序号	参数	设定范围	编辑单位	出厂设置
U01	最高缝制速度	400 ~ 2500	100rpm	2700rpm
U09	切线时的线张力变换同步时间	-6 ~ 4	1	2
U10	第一针启动速度	400 ~ 1500	100rpm	800rpm
U11	第二针启动速度	400 ~ 3500	100rpm	1200rpm
U12	第三针启动速度	400 ~ 3500	100rpm	1800rpm
U13	第四针启动速度	400 ~ 3500	100rpm	2500rpm
U14	第五针启动速度	400 ~ 3500	100rpm	3000rpm
U15	第一针的线张力	0 ~ 200	1	1
U20	断线检测开关	0 ~ 1	1	1
U32	禁止蜂鸣器	0 ~ 2	1	2
U36	送布动作的同步时间调整	-8 ~ 16	1	16
U37	缝制结束后压脚状态	0 ~ 2	1	1
U38	禁止抬压脚	0 ~ 1	1	0
U39	缝制结束后原点检索设定	0 ~ 1	1	0
U43	机头 LED 照明灯亮度	0 ~ 5	1	5
U46	设定禁止切线	0 ~ 1	1	0
U49	绕线速度设置	800 ~2000	100rpm	1600rpm
U63	XY 缩放率设定方式	0 ~ 1	1	0
U97	暂停后的切线方式	0 ~ 1	1	1
U135	起缝前压脚动作设定	0 ~ 1	1	0
U193	禁止计数器修改	0 ~ 1	1	0
U200	语言选择	0 ~ 3	1	0

8.3 二级参数设置

① 参数设置操作

在设置模式等级 3 下，选择进入二级参数设置界面（如右图所示）。

操作方法参照“8.2 一级参数设置”。

当有参数修改时，在参数设置界面显示【已修改】按键，



按键退出参数设置界面

② 参数加密

参数加密的操作步骤，请参考“8.2 一级参数设置”

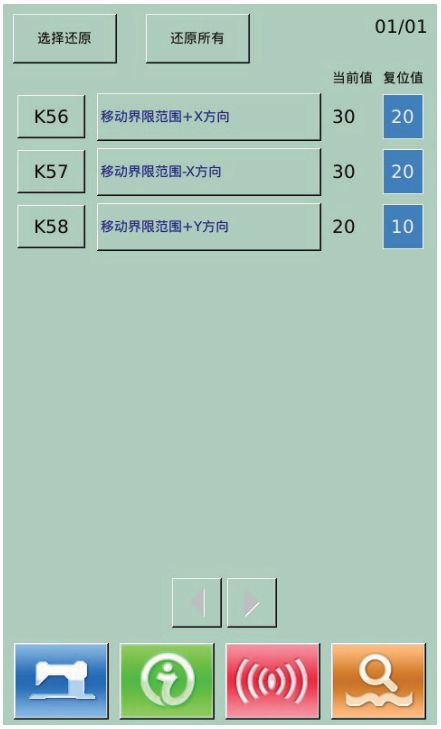


按键退出参数加密界面

③ 已修改参数查询

当有参数修改时，在参数设置界面显示【已修改】按键， 点按【已修改】按键可以查询已修改 过的参数，并且可以进行参数的复 位。

具体操作可参考“8.2 一级参数设置”

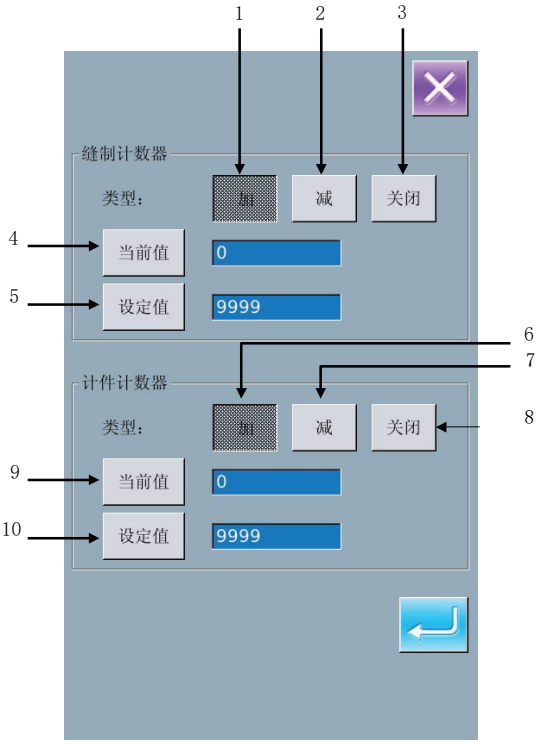


④ 二级参数表

序号	参数	设定范围	编辑单位	出厂设置
K01	脚踏板类型	0 ~ 1	1	0
K27	压脚下降速度	100 ~ 4000rpm	100rpm	4000rpm
K28	压脚上升速度	100 ~ 4000rpm	100rpm	1500rpm
K29	缝制结束时压脚上升速度	100 ~ 4000rpm	100rpm	3500rpm
K036	结束前第 4 针缝制速度	400 ~ 3500rpm	100rpm	3300
K037	结束前第 3 针缝制速度	400 ~ 3500rpm	100rpm	3300
K038	结束前第 2 针缝制速度	400 ~ 3500rpm	100rpm	3300
K039	结束前第 1 针缝制速度	400 ~ 3500rpm	100rpm	400
K043	剪线速度	300 ~ 800rpm	100rpm	400
K056	+X 方向(右侧)的移动限定范围	0 ~ 50	1	20
K057	-X 方向(左侧)的移动限定范围	0 ~ 50	1	20
K058	+Y 方向(后面)的移动限定范围	0 ~ 50	1	20
K059	-Y 方向(前面)的移动限定范围	0 ~ 50	1	20
K090	禁止脚踏报警	0 ~ 1	1	0
K095	剪线角度	-9 ~ 9	1	1
K112	主轴停车补偿	-10 ~ 10	0	1
K122	OC 长度微调	-128 ~ 128	1	15
K123	OD 长度微调	-128 ~ 128	1	-22
K124	BD 长度微调	-512 ~ 512	1	13
K125	OC 长度	1780 ~ 2380	1	2080
K126	OD 长度	-1450 ~ 2050	1	1750
K127	BD 长度	390 ~ 590	1	490
K150	禁用机头翻到开关	0 ~ 1	1	0

K160	禁止反踏急停功能开关	0 ~ 1	1	0
K172	断线检测针数设置	0 ~ 10	1	0
K180	(X)电机找原点方式	0 ~ 2	1	0
K181	(Y)电机找原点方式	0 ~ 2	1	0
K182	(C)电机找原点方式	0 ~ 2	1	0
K183	(P)电机找原点方式	0 ~ 2	1	0
K221	帽眼定位销 X 坐标	-600 ~ 600	1	0
K222	帽眼定位销 Y 坐标	-600 ~ 600	1	0
K241	机型设定			

8.4 计数器设置



按下进入计数器设置界面（如右图所示）。

操作步骤：

① 缝制计数器类型选择 选择缝制计数、计件计数功能

② 设定当前值、设定值

在选定的类型中按“当前值”、“设定值”按键，进行有关操作

③ 选择加计数还是减计数

在选定的类型中，按“加”、“减”按键，进行有关操作。

按键退出计数器设置界面。

按完成设置，并退出。

缝制加计数：

每缝制 1 形状的缝制物之后，在当前值上加数。当当前值与设定值相等时，显示出计数器溢出报警界面。按下键，计数器当前值恢复为 0。

缝制减计数：

每缝制 1 形状的缝制物之后，从当前值减 1。当当前值等于 0 之后，显示出计数器溢出报警界面。按下键，计数器当前值恢复为设定值。

计件加计数：

每缝制 1 循环或 1 连续缝，在当前值上进行加数。当当前值与设定值相等时，显示出计数器溢出报警界面。按下键，计数器当前值恢复为 0。

计件减计数：

每缝制 1 循环或 1 连续缝，从当前值减 1。当当前值等于 0 之后，显示出计数器溢出报警界面。按下键,计数器当 前值恢复为设定值。

④ 关闭计数器

在选定的类型中，按“关闭”按键，关 闭计数器。

8.4.1 功能介绍

序号	功能
1	缝制计数器加计数
2	缝制计数器减计数
3	关闭缝制计数器
4	设定缝制计数器当前值
5	设定缝制计数器设定值
6	计件计数器加计数
7	计件计数器减计数
8	关闭计件计数器
9	设定计件计数器当前值
10	设定计件计数器设定值

8.5 变换缝制类型

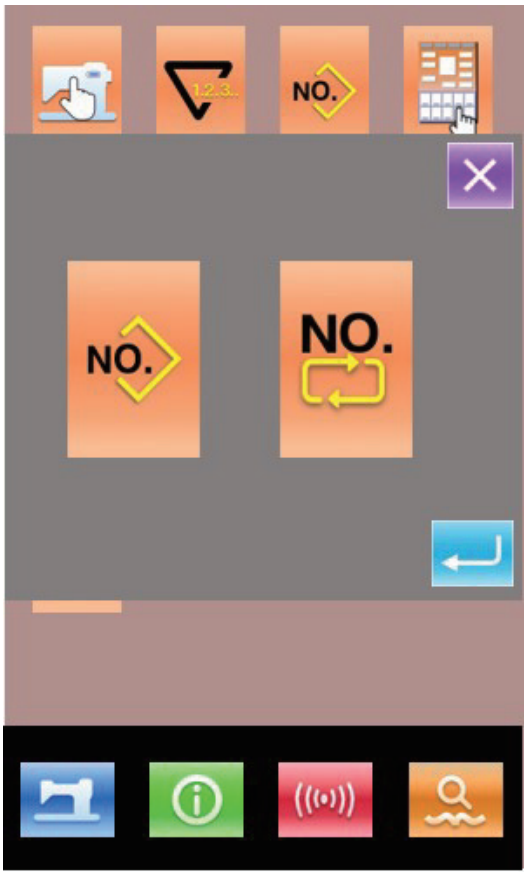
按下  进入缝制类型选择界面。

：普通缝

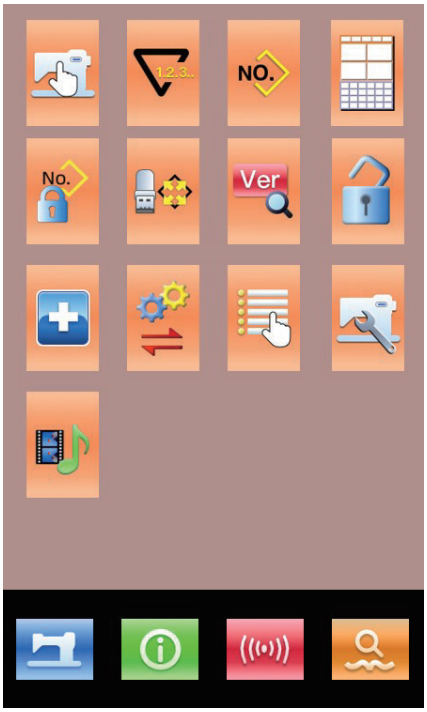
：循环缝

确定缝制类型之后，按下  结束。按  之后，显示出选择的缝制类型的数据输入界面。

按  键退出变换缝制类型界面，原来的缝制类型不变。



8.6 进入花样编辑

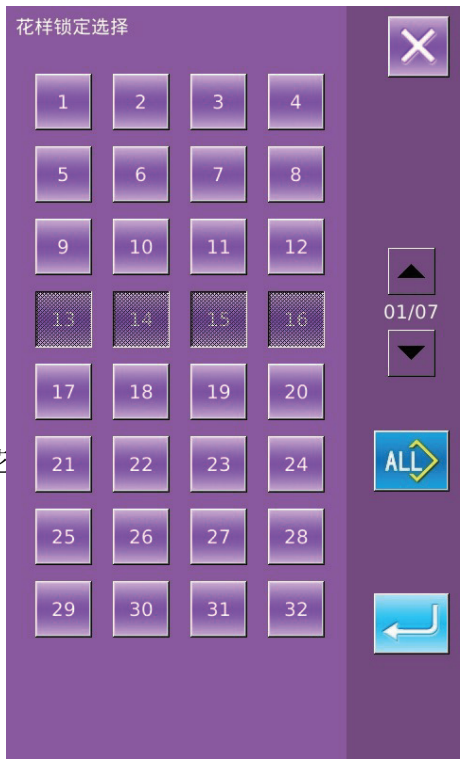


按下 ，如下两种图标会互相切换，选择对应的模式，再按 即可进入花样编辑模式。（参照 5.1 节描述）

：缝纫模式

：编辑模式

8.7 花样锁定设置



在设置模式等级 1 下，按下 进入花样锁定设置界面，该界面会显示所有花样号，每页显示 32 个。如果要锁定某花样，按与花样号对应的按键即可，选中花样号凹下显示。

按下 ，将会保存设置，所有选中的 花样将全部锁定。

8.8 格式化操作



按下进入锁键盘设置界面。

在该界面下，可以完成：

- U 盘格式化
- 内存花样格式化
- 自定义格式化
- P、C 花样格式化

按下相应的功能键，进入相关界面。

按退出键退出格式化 U 盘

② 按“USB”键，进入 U盘格式化



按回车键全部格式化 U 盘文件

按退出键退出格式化 U 盘

③ 按“内存”按键，格式化内存花样

格式花样花样包括：

- 普通花样，包括基础花样和用户花样
- 循环缝 C 花样
- 登记的 P 花样

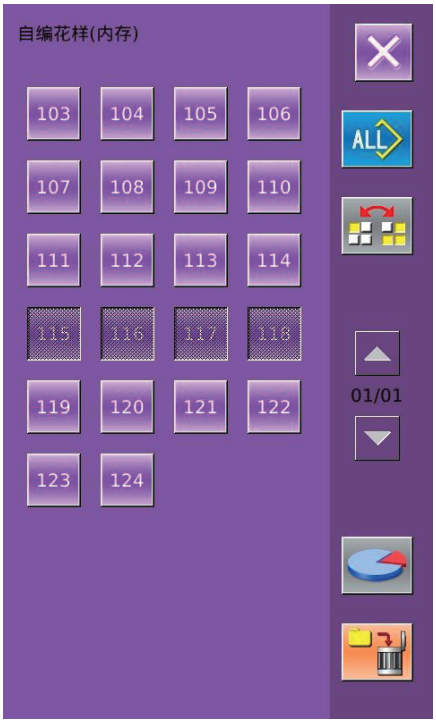


按回车键 全部格式化

按退出键 退出格式化

④ 按“自定义”键，进入批量删除功能

在该界面下，会显示当前内存中存在的所有花样文件，点按相应的按键完成批量删除功能。 自定义功能的操作：



A. 利用“上箭头”、“下箭头”键进行翻页

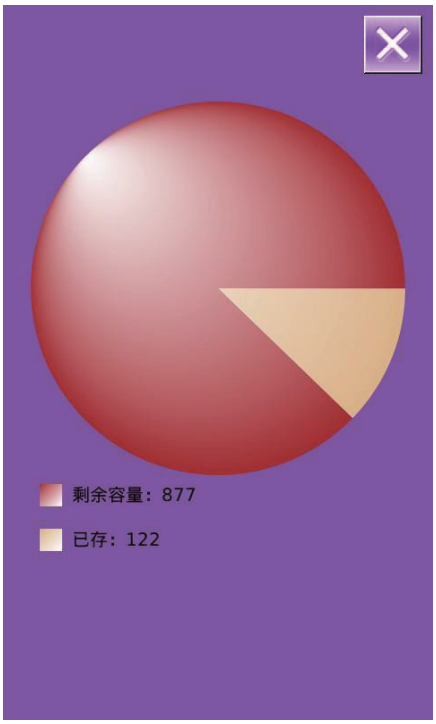
B、利用下面三种操作，选择花样

- 按 选择全部花样，
- 按 反向选择
- 点击花样号码按键

C、按 完成批量删除功能

D、按退出键 退出到格式化操作界面。

⑤ **在自定义格式化界面下，按键，显示当前内存中花样占用的空间，及剩余空间的大小**



按退出键退出到上一界面。

8.9 软件版本查询

在设置模式等级 2 下，按下

可以 查询系统软件版本

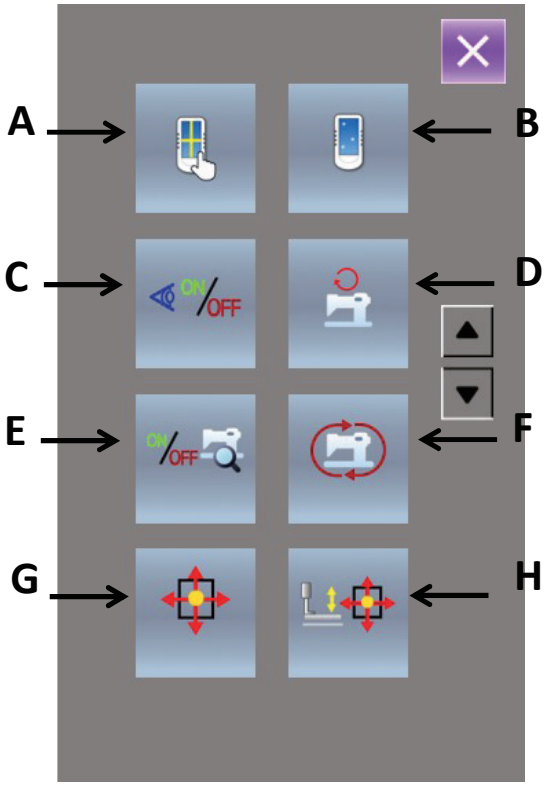


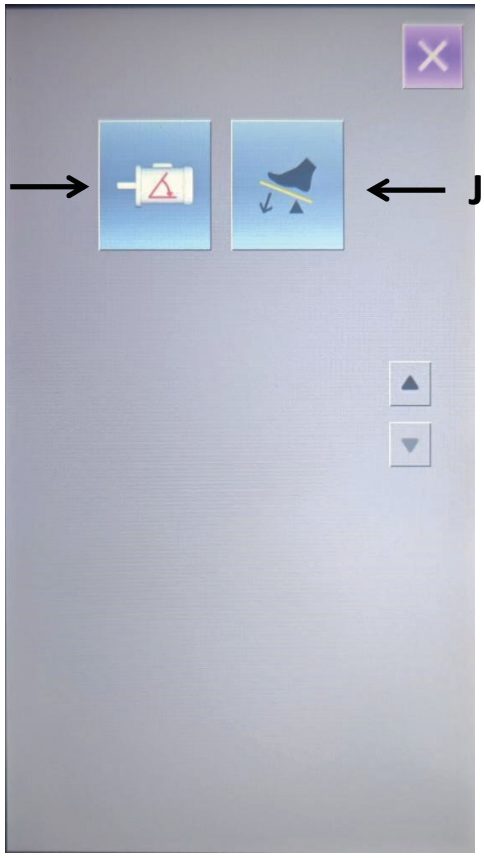
8. 10 检测模式

在设置模式等级 2 下，按下 键可以进入检测模式界面（如右图所示）。

各图标功能说明详见下表：

序号	名称
A	触摸屏校正
B	液晶显示检测
C	输入检测
D	转速测定
E	输出检测
F	连续运转
G	马达原点检测
H	压脚马达/原点传感器检测
I	主轴检测
J	踏板档位调节





按 键退出检测模式界面。

（1）触摸屏校正

A、 在检测模式界面按下  （I01 触摸屏校正）键，提示【确定进入触摸屏校正模式】，按  进入触摸屏校正界面（如右图所示），按  可以退出触摸屏校正状态。



B、 需要进行 5 点校正，最好采用触摸笔一类的工具点击画面中的十字光标，校正结束后，会显示本次操作是否成功

※ **校正过程中，请务必按照十字光标标识的位置进行，否则会导致校正结束后无法正常使用触摸屏的情况**

（2）液晶检测

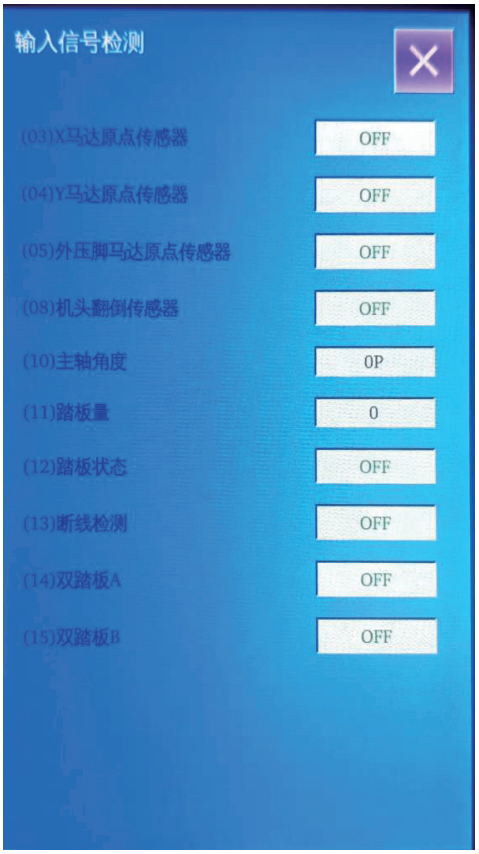
在检测模式界面按  I02 液晶检测）键进入液晶检测界面（如右图所示），在该状态下检测液晶是否失色。



在界面下点按，在“蓝色 — 黑色 — 红色 —绿色 — 白色”间循环显示

按退出键  退出液晶检测界面。

（3）输入信号检测方法



在检测模式界面按下 （I03 输入检测）键进入输入检测界面（如右图所示），在该界面下可以确认各种开关和传感器的输入状况。 **ON：**表示开启
OFF：表示关闭

03：X 马达原点传感器

04：Y 马达原点传感器

05：外压脚马达原点传感器

06：机头翻到传感器

10：主轴角度

11：踏板量

12：踏板状态

13：断线检测

14：双踏板 A

15：双踏板 B

（4）转速测定

① 显示转速测定界面



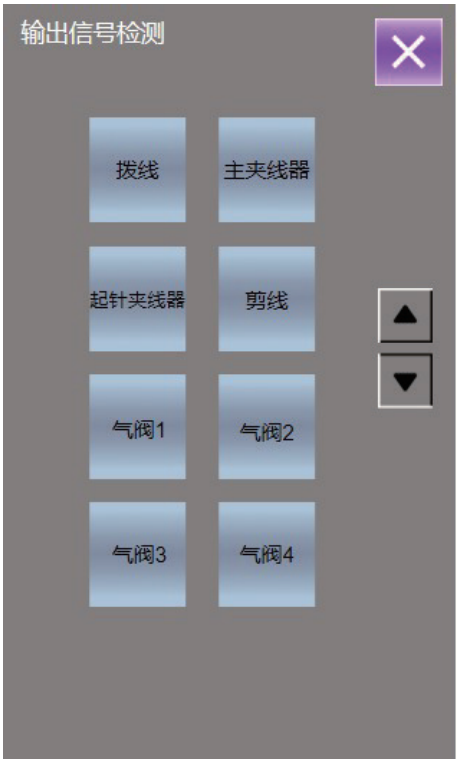
在检测模式界面按下 （I07 转速测定）键进入转速测定界面（如右图所示），在该界面下可以检测主轴马达转速。

按 退出转速测定界面。

② 转速测定设置

通过按加键“+”和按减键“-”可以设置主轴马达转速，按下 后，主轴马达会以已设定的转速旋转。此时，实际测得的转速在界面中的实际转速栏中显示。按下 则机器停止运转。

（5）输出检测



在检测模式界面按下 （I05 输出检测）键进入输出检测界面（如右图所示），在该界面下可以检测的输出状态包括：

01：松线电磁铁检测

02：面线电磁铁检测

按 退出输出检测界面

※ 注意缝纫机会有相应的动作

（6）连续运转



① 显示连续运转界面

在检测模式界面按 I06 连续运转）键进入连续运转界面（如右图所示）。

A：动作间隔

B：收针原点检测

按 退出连续运转界面。

② 连续运转设置

点击连续运转状态下的“动作间隔”输入框和“收针原点检测”输入框，通过数字键盘输入设置值，可设定动作间隔时间和收针原点检测。

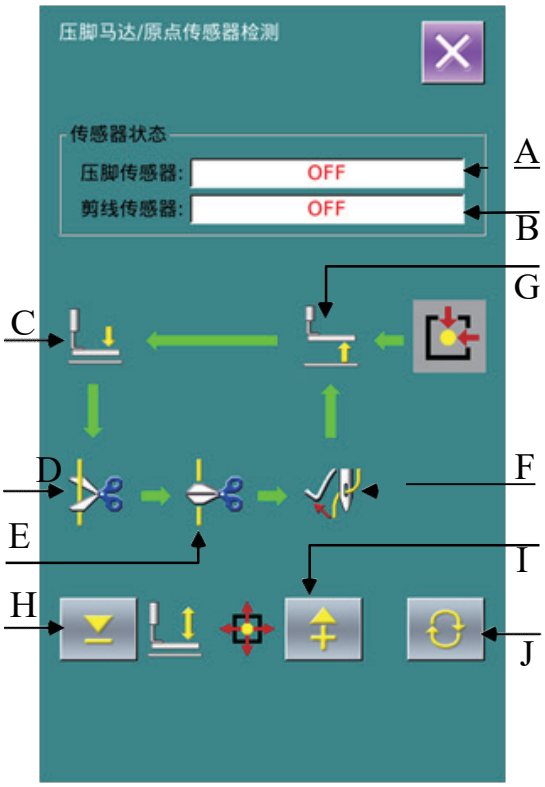
按键，踩下脚踏板即开始连续运转。连续运转过程中可以通过暂停开关暂停，也可以在动作结束后压脚抬起时踩下脚踏板或按暂停开关停止连续运转。

（7）XY 马达原点传感器检测

在检测模式界面按下（XY 马达 原点检测）键进入 XY 马达、传感器输出检测界面（如右图所示）。若上电后不进入准备状态且在该界面下不按进行原点检索，可以直接通过方向键驱动马达移动，并显示出 XY 两传感器的 ON/OFF 状态，以检测 XY 马达驱动和传感器是否正常工作；若上电后进入过准备状态，或在该界面按下过进行原点检索，则每次进入该 I07 模式后，都需要先按键进行原点检索后，才可以通过按方向键驱动 XY 马达移动，这种情况下表示对 XY 原点进行微调功能。左侧 X、Y 坐标显示的是原点偏移值，右侧 X、Y 坐标显示的是压脚框当前所处位置，按下可将当前位置设置为原点参考值。



（8）压脚马达/原点传感器检测



根据压脚原点传感器状态，A 位置显示压脚原点传感器的 ON/OFF 状态，B 位置显示剪线传感器的状态。

通过和，压脚电机以 1 个脉冲 1 个脉冲进行驱动。

另外，按下可驱动压脚电机到下述的定位置，显示该位置的图形为阴影。

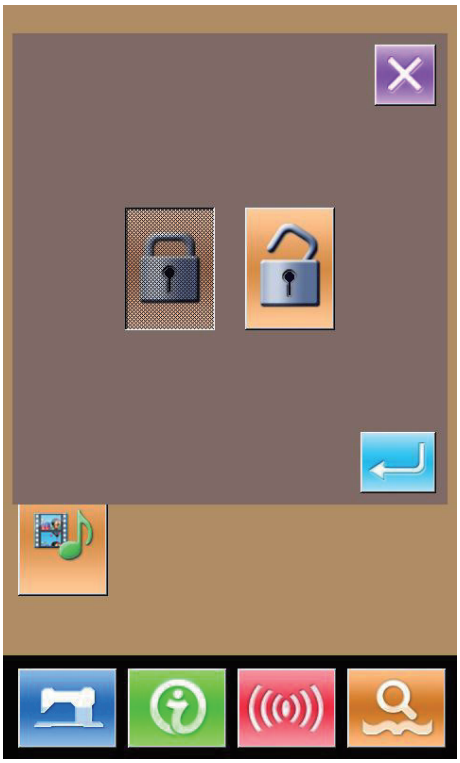
A：压脚传感器 B：剪线传感器

C：压脚放下位置 D：分线完成位置 E：剪线完成位置 F：拨线完成位置 G：压脚抬起位置 H：正向运动一步 J：运动到下一位置 I：反向运动一步

注：用启动开关进行压脚・切线电机原点检索之后，变为有效。

8.11 锁键盘操作

在设置模式等级 2 下，按下  进入锁键盘设置界面。



① 锁键盘操作

：未设定锁键盘状态

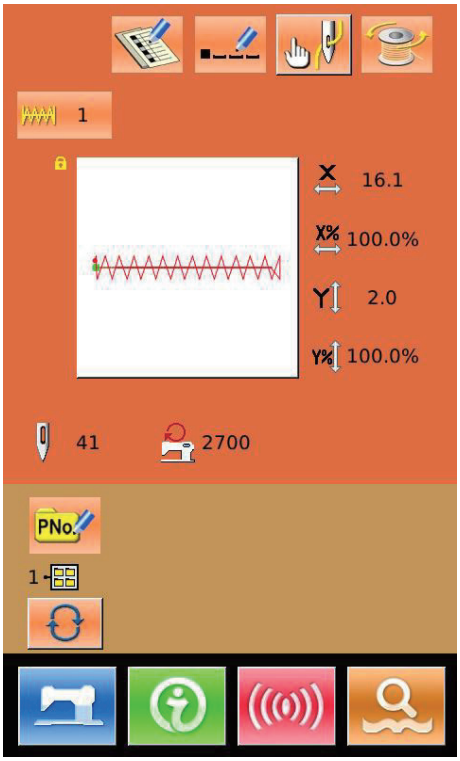
：已设定锁键盘状态

选择 ，按下  完成锁键盘操作。

按退出键  退出锁键盘操作。

② 锁键盘状态显示

关闭参数设置模式界面，返回数据输入界面，如右图，可以看到花样号码下方有一个显示锁键盘状态的图标 。在锁键盘状态下仅显示可使用图标。



③ 键盘锁定范围

1、普通缝数据输入界面：

1） 花样登记

2） 花样命名

3） 放大缩小率设置

4） 最高转速限制

5） P 花样登记

6） 花样删除

2、普通缝缝制界面：

1） 移框

2） 计数器设置

3、P 花样输入界面：

1） P 花样编辑

2）P 花样复制

3）P 花样命名

4）花样删除

4、P 花样缝制界面：

2） 计数器设置

5、C 花样数据输入界面：

1） C 花样登记

2） C 花样复制

3） C 花样命名

4） C 花样编辑

5） 花样删除

6、C 花样缝制界面：

2） 计数器设置

7、参数设置模式：

1） 参数 1 级

2） 参数 2 级

3）计数器编辑

4）检测模式

5）花样锁定设置

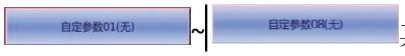
8.12 参数备份设置

在设置模式等级 3 下，按  键进入参数还原备份界面，如右图所示：



清除键：清除全部已经保存的自定参数

保存键：保存当前参数 恢复键：恢复当前参数

① 点击  其中任意一键，以确定参数保存位置，然后点击「保存」键进行保存。

② 观察「自定参数 xx（有/无）」键显示内容，如果括号内显示为「有」的则表示该位置上存储了用户参数。例如 。

③ 选择已经存储参数的自定参数键，按下「恢复」键就会重新加载相应的参数设定值。

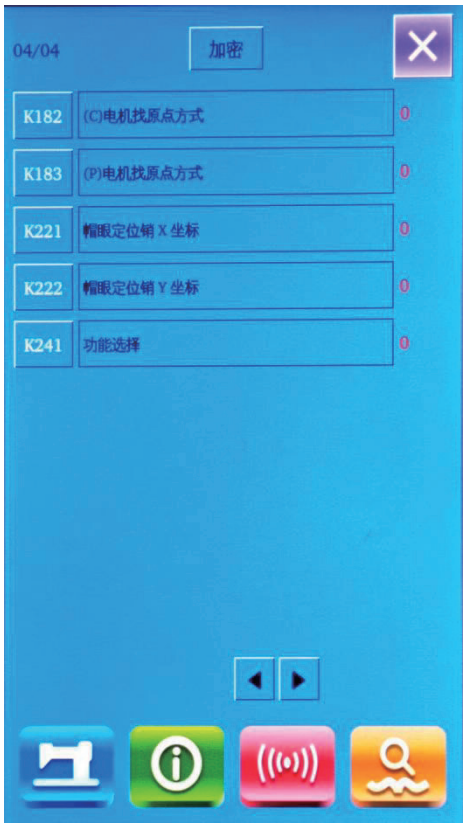
④ 按下「清除」键会清除全部已存参数。

8.13 钉扣机型设置

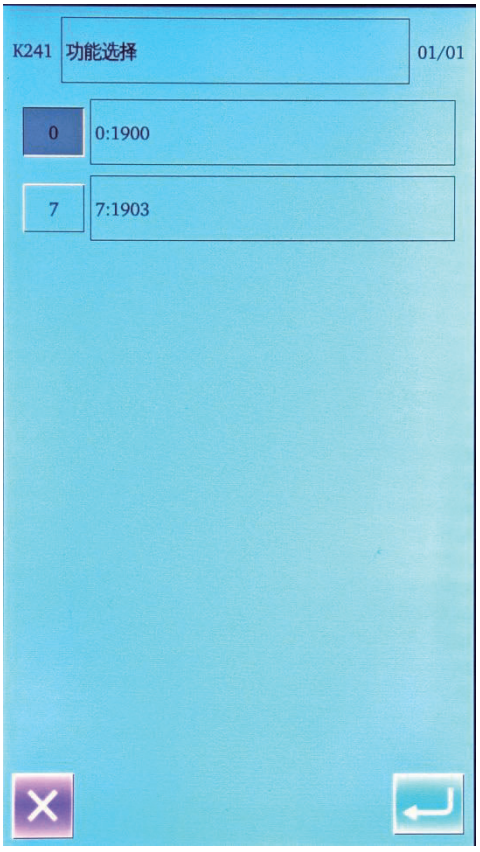
① 参数设置操作

在设置模式等级 3 下，选择  进入二级参数设置界面（如右图所示）。操作方法参照一级或二级参数设置。

选择 K241 进下一界面。

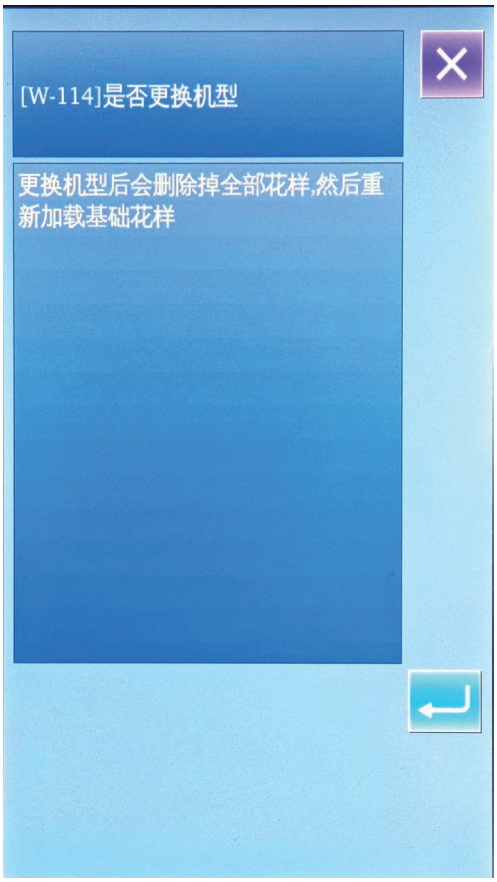


右图为机型选择界面，通过键盘选择数字 7，即为选择为钉扣功能。 按下  则结束选择。



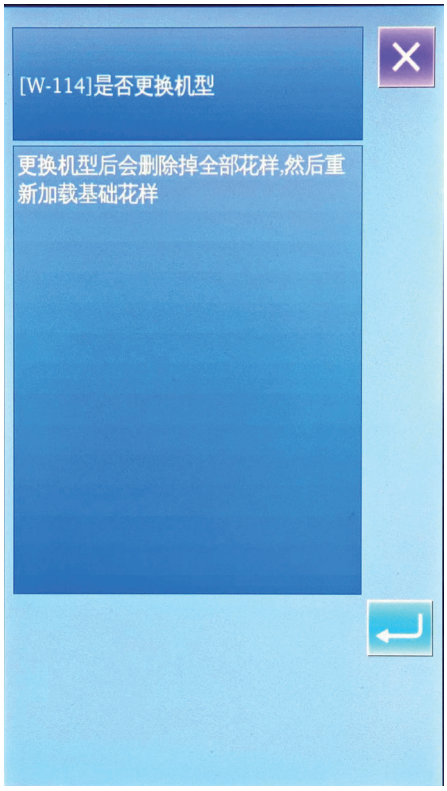
注：更换机型后会清除掉系统已存储的花样，然后重新加载新机型花样，更换机型前请注意备份花样。

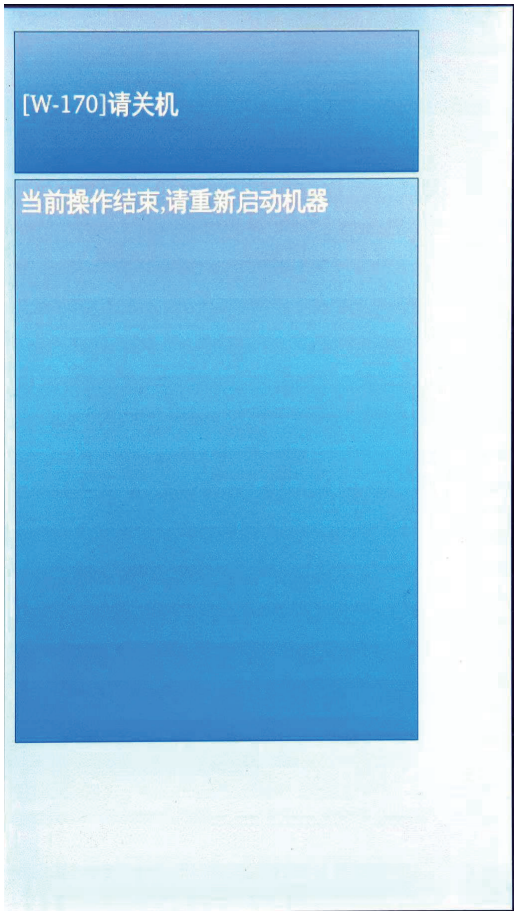
此时出现提示界面，如右图所示，按下退出键 则取消设置，按下 则进入确定清除掉旧机型已存花样。



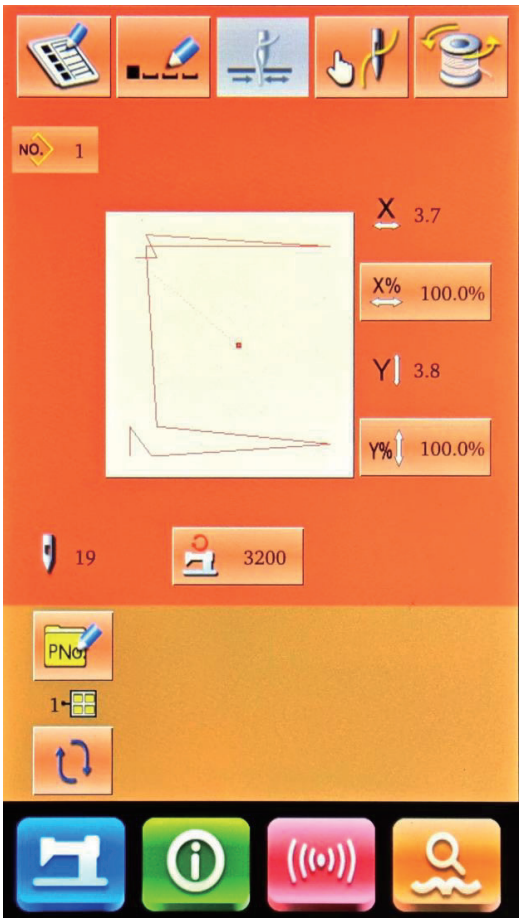
成功清除掉旧机型花样后，

需要关闭电源，如右图所示。





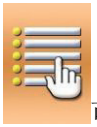
关闭电源重新启动后，会出现加载新机型花样的提示界面，按下确定 键即可。



成功加载了机型基础花样之后，系统进入到 N 花样主界面，如右图所示。

钉扣功能设置成功！

8.14 花样编辑参数设置

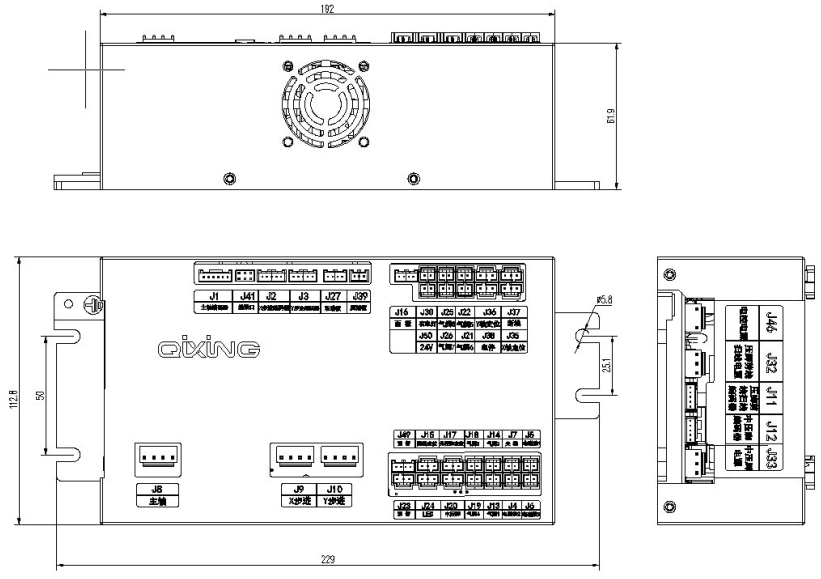
在设置模式等级 3 下，按下  可以进入花样编辑参数设置界面。 带有阴影效果的凹下图标表示该功能被 打开，不带有阴影效果的凸起图标表示该 功能被禁止。 根据需要设置编辑参数，按下确定键  完成设置。



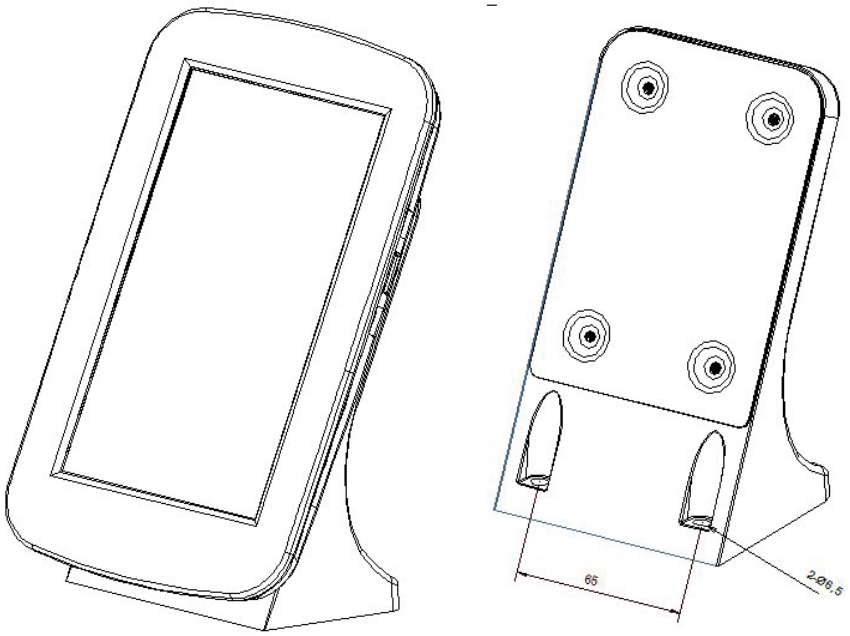
9 电控系统原理

9.1 控制系统组成

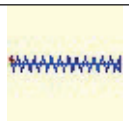
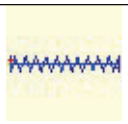
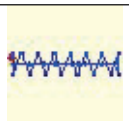
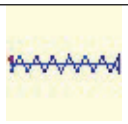
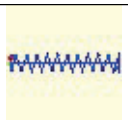
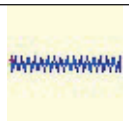
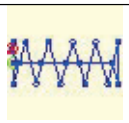
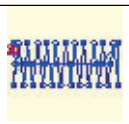
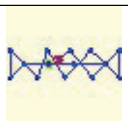
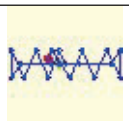
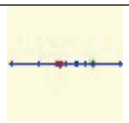
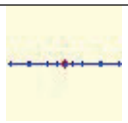
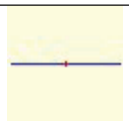
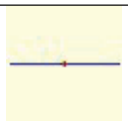
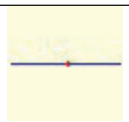
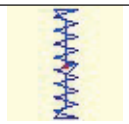
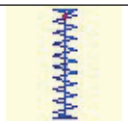
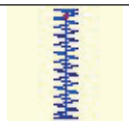
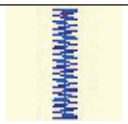
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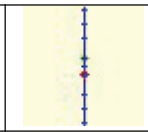
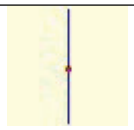
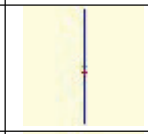
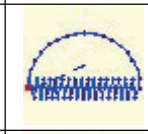
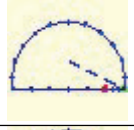
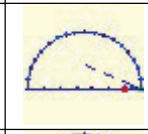
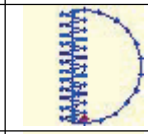
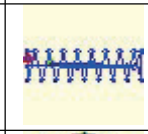
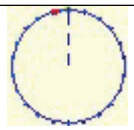
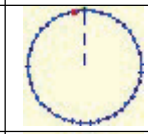
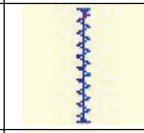
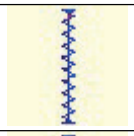
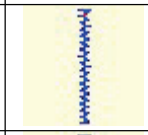
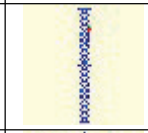
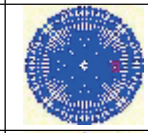


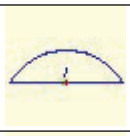
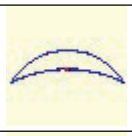
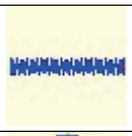
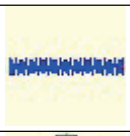
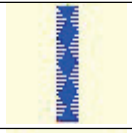
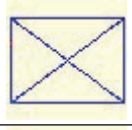
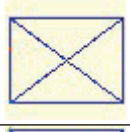
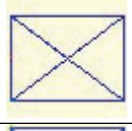
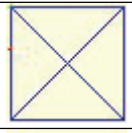
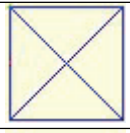
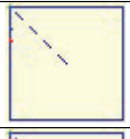
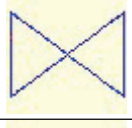
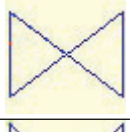
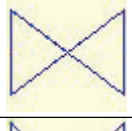
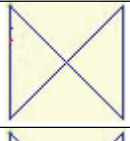
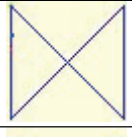
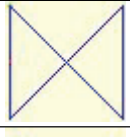
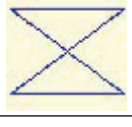
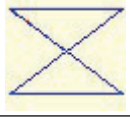
9.1.2 操作头安装尺寸

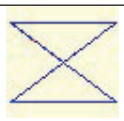
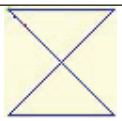
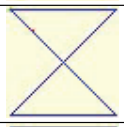
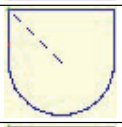
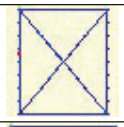
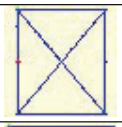
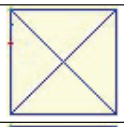
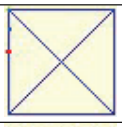
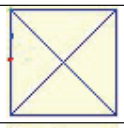
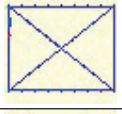
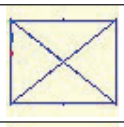
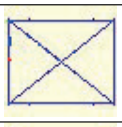
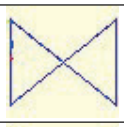
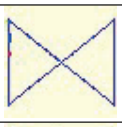
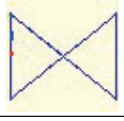
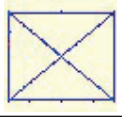


9.2 1900A 套结机花样一览表

NO.	缝纫图案	针数	长 × 宽 (mm)	NO.	缝纫图案	针数	长 × 宽 (mm)
1		41	16.1×2	2		41	10.2×2
3		41	16×2.4	4		41	24×3
5		27	10.1×2	6		27	16×2.4
7		35	10.1×2	8		35	16×2.4
9		55	24×3	10		63	24×3
11		20	6.1×2.4	12		27	6.2×2.4
13		35	6.1×2.4	14		14	8×2
15		20	8×2	16		27	8×2
17		20	10×0	18		27	10×0
19		27	25.2×0	20		35	24.8×0
21		40	25.2×0	22		43	35×0
23		27	4×20	24		35	4×20
25		41	4×20	26		55	4×20

27		17	0×20		28		20	0×10
29		20	0×20		30		27	0×20
31		51	10.1×7		32		62	12.1×7
33		23	10.2×6		34		30	12×6
35		47	7×10		36		47	7×10
37		89	24×3		38		27	8×2
39		25	11.8×12		40		45	12×12
41		28	2.4×20		42		38	2.4×25
43		38	2.4×25		44		57	2.4×30
45		75	2.4×30		46		41	2.4×30
47		89	8×8		48		98	8×8
49		147	8×8		50		163	8×8
51		110	7.9×7.9		52		120	7.9×7.9
53		130	7.9×7.9		54		51	12.4×10.2

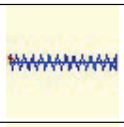
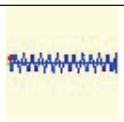
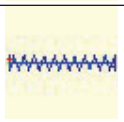
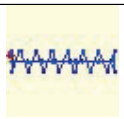
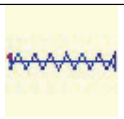
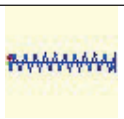
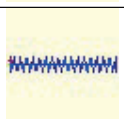
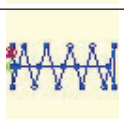
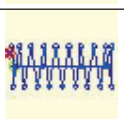
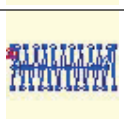
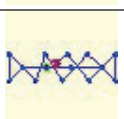
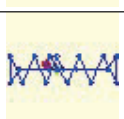
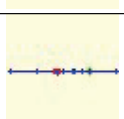
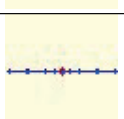
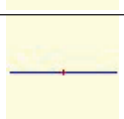
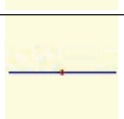
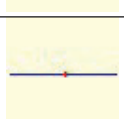
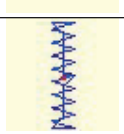
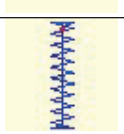
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67		76	30×30	68		60	30×30
69		52	40×30	70		40	40×30
71		32	40×30	72		44	30×30
73		36	30×30	74		28	30×30
75		60	40×30	76		48	40×30
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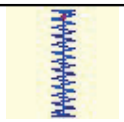
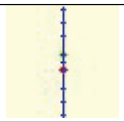
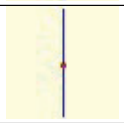
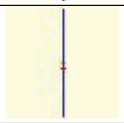
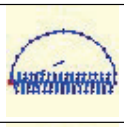
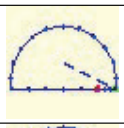
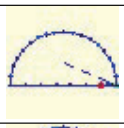
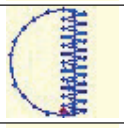
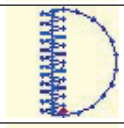
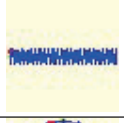
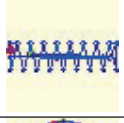
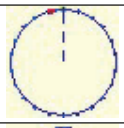
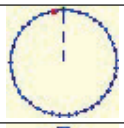
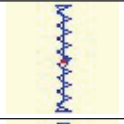
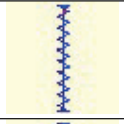
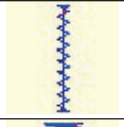
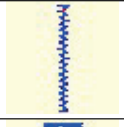
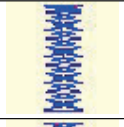
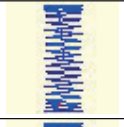
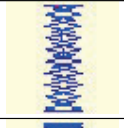
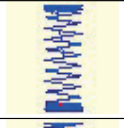
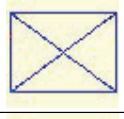
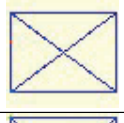
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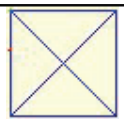
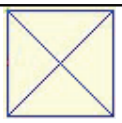
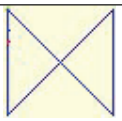
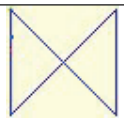
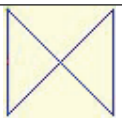
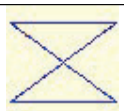
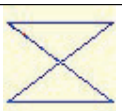
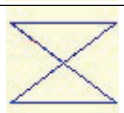
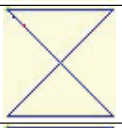
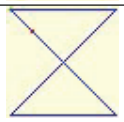
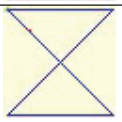
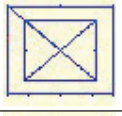
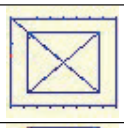
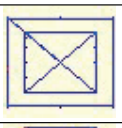
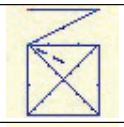
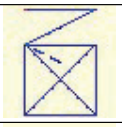
9.3 钉扣机花样一览表

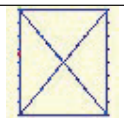
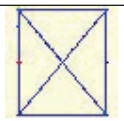
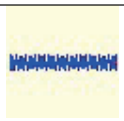
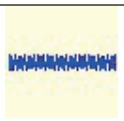
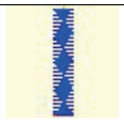
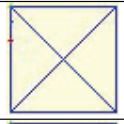
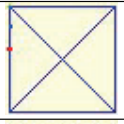
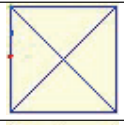
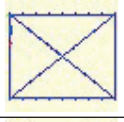
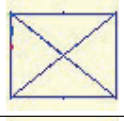
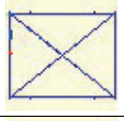
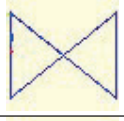
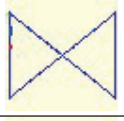
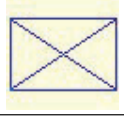
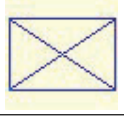
图案号	缝制图案	缝线(根)	标准缝制长度	标准缝制长度	图案号	缝制图案	缝线(根)	标准缝制长度	标准缝制长度
			X(mm)	Y(mm)				X(mm)	Y(mm)
1 • 34		6-6	3.4	3.4	18 • 44		6	3.4	0
2 • 35		8-8			19 • 45		8		
3		10-10			20		10		
4		12-12			21		12		
5 • 36		6-6			22		16		
6 • 37		8-8			23 • 46		6	0	3.4
7		10-10			24		10		
8		12-12			25		12		
9 • 38		6-6			26 • 47		6-6	3.4	3.4
10 • 39		8-8			27		10-10		
11		10-10			28 • 48		6-6		
12 • 40		6-6			29		10-10		
13 • 41		8-8			30 • 49		5-5-5	3.0	2.5
14		10-10			31		8-8-8		
15 • 42		6-6			32 • 50		5-5-5		
16 • 43		8-8			33		8-8-8		
17		10-10							

9.4 1906A 套结花样一览表

NO.	缝纫图案	针数	长 × 宽	NO.	缝纫图案	针数	长 × 宽
			(mm)				(mm)
1		41	16.1×2	2		41	10.2×2
3		41	16×2.4	4		41	24×3
5		27	10.1×2	6		27	16×2.4
7		35	10.1×2	8		35	16×2.4
9		55	24×3	10		63	24×3
11		20	6.1×2.4	12		27	6.2×2.4
13		35	6.1×2.4	14		14	8×2
15		20	8×2	16		27	8×2
17		20	10×0	18		27	10×0
19		27	25.2×0	20		35	24.8×0
21		40	25.2×0	22		43	35×0
23		27	4×20	24		35	4×20

25		41	4×20	26		55	4×20
27		17	0×20	28		20	0×10
29		20	0×20	30		27	0×20
31		51	10.1×7	32		62	12.1×7
33		23	10.2×6	34		30	12×6
35		47	7×10	36		47	7×10
37		89	24×3	38		27	8×2
39		25	11.8×12	40		45	12×12
41		28	2.4×20	42		38	2.4×25
43		38	2.4×25	44		57	2.4×30
45		141	10×30	46		122	10×30
47		97	10×30	48		109	10.1×30
49		122	10.1×30	50		265	10×30
51		108	40×30	52		80	40×30
53		64	40×30	54		96	30×30

55		76	30×30		56		60	30×30
57		52	40×30		58		40	40×30
59		32	40×30		60		44	30×30
61		36	30×30		62		28	30×30
63		60	40×30		64		48	40×30
65		36	40×30		66		56	30×30
67		44	30×30		68		36	30×30
69		67	40×30		70		51	40×30
71		39	40×30		72		55	30×30
73		43	30×30		74		35	30×30
75		42	30×30		76		32	30.1×30
77		26	30×30		78		103	30×25
79		82	30×25		80		64	30×25
81		80	20×30		82		60	20×30
83		80	30×20		84		60	30×20

85		74	20×24	86		54	20×24
87		115	40×5	88		115	40×5
89		93	5×30	90		109	5×30
91		65	20×20	92		49	20×20
93		39	20×20	94		63	25×20
95		51	25×20	96		45	25×20
97		42	25×20	98		33	25×20
99		111	60×40	100		91	60×40

9.5 报警信息一览表

故障号	故障名称	复位方法
E-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。
E-002	系统欠压	①是否插入低电压； 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。
E-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。 ②关闭系统电源，拆下电控箱只插电源线通电，是否报警 E03，如还是报 警 E03，更换控制箱并通知售后服务。
E-003_2	MCU2 通讯异常	
E-005	控速器连接不良	①检查控速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，请更换控制箱或控速器并通知售后服务。

E-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。
E-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。
E-010	电磁铁过流保护	①拔除电磁铁接口，如报警 E10，更换控制箱并通知售后服务。 ②如果拔除电磁铁接口后不再报警，请插回接口。 1）前踏踏板让缝纫机进行夹线和加固缝，如果报警，请关闭前加固和后 加固，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）前踏踏板让缝纫机进行夹线和加固缝，如果报警，请关闭前加固和后 加固，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， 并打开前加固缝功能，再次前踏，如果报警，请更换倒缝电磁铁。 3）前踏踏板让缝纫机进行夹线和加固缝，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）前踏踏板让缝纫机进行夹线和加固缝，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；
E-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。
E-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。 ②检查光栅安装是否正确（光栅螺丝有没有固紧，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； ②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。
E-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。
E-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。
E-046	看门狗复位	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。
E-046_2	MCU2 看门狗复位	
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。

E-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	中压脚步进电机过流	①关闭系统电源，观察中压脚步进电机是否卡住。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步进电机并通知售后服务。
E-082_4	外压脚步进电机过流	①关闭系统电源，观察外压脚步进电机是否卡住。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步进电机并通知售后服务。
E-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（光栅螺丝有没有固紧，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（光栅螺丝有没有固紧，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。

E-084_3	中压脚步进电机编码器 Z 信号异常	①关闭系统电源，观察中压脚步进电机是否卡住。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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-084_4	外压脚步进电机编码器 Z 信号异常	①关闭系统电源，观察外压脚步进电机是否卡住。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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-085	X 轴步进电机编码器 AB 信号异常	①关闭系统电源，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（光栅螺丝有没有固紧，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 轴步进电机并通知售后服务。
E-085_2	Y 轴步进电机编码 器 AB 信号异常	①关闭系统电源，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（光栅螺丝有没有固紧，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。
E-085_3	中压脚步进电机编码器 AB 信号异常	①关闭系统电源，检查中压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-085_4	外压脚步进电机编码器 AB 信号异常	①关闭系统电源，检查外压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。

E-086	X 轴步进电机启动失败	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（光栅螺丝有没有固紧，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 轴步进电机并通知售后服务。
E-086_2	Y 轴步进电机启动失败	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（光栅螺丝有没有固紧，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；
E-086_3	中压脚步进电机启动失败	①关闭系统电源，检查中压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服
E-086_4	外压脚步进电机启动失败	①关闭系统电源，检查外压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-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（光栅螺丝有没有固紧，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 轴步进电机并通知售后服务。
E-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（光栅螺丝有没有固紧，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。

E-087_3	中压脚步进电机堵转	①关闭系统电源，检查中压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-087_4	外压脚步进电机堵转	①关闭系统电源，检查外压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。
E-086_3	中压脚步进电机启动失败	①关闭系统电源，检查中压脚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（光栅螺丝有没有固紧，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脚步进电机并通知售后服务。

9.6 信息提示一览表

信息号	信息名称	子信息内容
W-001	急停	检查机器
W-003	翻倒保护	
W-005	风扇堵转	关闭机器后检查风扇
W-006	踏板未回到中央位置	
W-008	断线	可在警告弹窗界面取消该警告，且及时补线即可继续操作机器
W-009	密码错误	请重新输入
W-010	未插入 usb	
W-011	设定值太大	请输入范围内数值。

信息号	信息名称	子信息内容
W-012	设定值太小	请输入范围内数值。
W-030	触摸屏校正成功	请关闭电源后重启
W-031	确定进入触摸屏校正程序	是否确认? 是:Enter 否:X
W-032	确定清除报警记录	是否确认? 是:Enter 否:X
W-038	花样个数已满	请删除不用的花样后再执行操作
W-039	是否覆盖花样	是否确认? 是:Enter 否:X
W-041	升级失败	
W-042	升级成功	请关机/请重新启动机器
W-043	花样已存在	不能执行覆盖操作!
W-044	电控和面板机型不一致	按复位键重设面板保存机型
W-045	花样被引用,不能删除!	请在 P 花样或 C 花样中解除引用
W-046	是否删除选中的文件?	是否确认? 是:Enter 否:X
W-047	加载出厂花样	内存中没有花样，需要加载出厂花样
W-049	号码不存在	
W-050	P 花样不存在	请先创建 P 花样
W-051	更换机针设定值已到达,请更换机针	是否确认? 是:Enter 否:X
W-052	厂家默认值表不一致	
W-053	没有默认值表	
W-054	更换机油时间设定值已到达,请更换机油	是否确认? 是:Enter 否:X
W-055	确定清除更换机针计数值?	是否确认? 是:Enter 否:X
W-056	确定清除更换机油计数值?	是否确认? 是:Enter 否:X
W-057	确定清除清扫时间计数值?	是否确认? 是:Enter 否:X
W-058	确定清除生产管理计数值?	是否确认? 是:Enter 否:X
W-059	清扫机器时间设定值已到达,请清扫机器	是否确认? 是:Enter 否:X
W-065	是否编辑新花样	
W-066	是否返回缝制模式	
W-067	是否还原所有设定	
W-068	是否还原选择项目	

信息号	信息名称	子信息内容
W-070	缝制计数器达到设定值	请按下确定键清除
W-071	计件计数器达到设定值	请按下确定键清除
W-072	成功	已成功执行当前操作!
W-073	失败	
W-078	花样数据不能删除	被选中的缝制数据正在使用
W-088	是否格式化 U 盘	
W-089	是否格式化内存	
W-091	不能选择该功能	
W-092	指定的形状点重复或存在相同的形状点	
W-093	确认自动插入剪线	
W-094	删除当前编辑的花样图形	是否确认? 是:Enter 否:X
W-095	删除要素	是否确认? 是:Enter 否:X
W-096	执行,确认吗?	是否确认? 是:Enter 否:X
W-097	删除机械控制命令?	是否确认? 是:Enter 否:X
W-105	进入 Boot 模式	
W-106	MCU1 烧录程序出错	
W-107	MCU2 烧录程序出错	
W-109	MCU1 的 Boot 通信异常	
W-110	MCU2 的 Boot 通信异常	
W-112	MCU1 没有 APP 程序	
W-113	MCU2 没有 APP 程序	
W-114	是否更换机型	更换机型后会删除掉全部花样,然后重新加载基础花样
W-116	禁止修改基础花样!	
W-118	禁止修改计数器	当修改时,请关闭设定
W-120	是否恢复出厂设置	是否确认? 是:Enter 否:X
W-121	缝制计数器达到设定值	
W-124	计件计数器达到设定值	按下确认键执行格式化操作,按下取消键退出当前操作
W-127	是否更换语言	

信息号	信息名称	子信息内容
W-128	外压脚在上	当前操作需要落下外压脚后执行!
W-129	不能执行此操作	
W-145	备份成功	
W-146	备份失败	
W-147	是否恢复参数?	是否确认? 是:Enter 否:X
W-148	恢复成功	
W-149	恢复失败	请检查文件内容
W-150	不能进行正常操作	
W-151	找不到对应的机型目录:	
W-152	找不到对应的机型参数文件:	
W-153	是否导入参数文件:	
W-154	是否导出参数文件:	
W-155	已有同名文件,是否覆盖?	
W-156	是否导出选中的文件到 U 盘	
W-157	是否覆盖 U 盘中文件名相同的文件	
W-158	文件导出结果	
W-159	文件导入结果	
W-160	是否导入选中的文件	注:已存在花样无法导入覆盖
W-161	以下文件删除有误	
W-162	文件有误	请检查文件
W-163	导入失败	请检查文件内容
W-164	导入成功	
W-165	删除成功	
W-166	删除失败	
W-167	主轴零点保存成功	
W-168	电控与面板机种不匹配	
W-169	电控机型不属于当前面板机种	
W-170	请关机	当前操作结束,请重新启动机器

Tacking Machine-Touching Panel E

Table of Contents

1. Overview 1
1.1 Overview 1
1.2 Technical Parameter Table 1
1.3 Precautions for safe use 2
1.4 Precautions for use 5
1.5 Standardization 7
1.6 Operation 7
2 Operating instructions 8
2.1 General buttons 8
2.2 Basic operations 9
2.3 Basic pattern operation 10
2.4 Pattern registration 13
2.5 Pattern naming 14
2.6 Bobbin winding 14
2.7 Pattern selection 16
2.8 Sewing data setting 18
2.9 P pattern registration 20
2.10 Trial stitching operation 20
2.11 Counter operation 22
2.12 Emergency stop 23
3 Quick (P) pattern operation 24
3.1 P pattern data input 24
3.2 P pattern editing 27
3.3 P pattern copy 28
3.4 P pattern selection 29
3.5 P pattern sewing 30
4 Combination (C) pattern operation 32
4.1 C pattern data input 32
4.2 C pattern editing 33
4.3 C pattern selection 35
4.4 C pattern sewing 36
5 Pattern editing 38
5.1 Entering the pattern editing mode 38
5.2 Pattern editing 46
5.3 Exit pattern editing mode 51

6 Information function 52
6.1 View maintenance information 52
6.2 Maintenance time setting 53
6.3 How to clear the warning 56
6.4 Production management information 56
6.5 Displaying the threading diagram 65
6.6 Alarm record 62
6.7 Operation record 64
6.8 Installment password setting 65
7 Communication function 72
7.1 About data that may be processed 72
7.2 Functional operation 73
7.3 Pattern transmission 73
7.4 Parameter transmission 79
7.5 Software upgrade 81
8 Mode and parameter settings 83
8.1 Functional description 82
8.2 Level 1 parameter settings 84
8.3 Level 2 parameter settings 88
8.4 Counter settings 92
8.5 Change sewing type 95
8.6 Enter pattern editing 96
8.7 Pattern lock settings 96
8.8 Formatting operations 97
8.9 Software version query 100
8.10 Detection mode 101
8.11 Locking keyboard operation 107
8.12 Parameter backup settings 109
8.13 Button sewing machine model settings 110
8.14 Pattern editing parameter settings 112
9 Principle of electric control system 113
9.1 Control system components 113
9.2 1900A Tacking Machine Pattern List 114
9.3 Button Sewing Machine Pattern List 119
9.4 1906A Tack Pattern List 120
9.5 Alarm Information List 123

9.6 Information Prompt List 129

1. Overview

1.1 Overview

This series of industrial sewing machines is equipped with a computer control system. The spindle motor operates using advanced AC servo control technology, featuring high torque, high efficiency, stable speed, and low noise. Diversified operation panel designs meet the diverse integration requirements of different customers. The system adopts a German-style structural design for convenient and quick installation and maintenance. System control software can be upgraded via remote communication, allowing users to continuously improve product performance.

1.2 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	Maximum 3000rpm (double hook is 2700rpm)
4	Minimum sewing accuracy	0.1mm
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 patterns	50/100
11	Wiping mode	Pulse motor presser foot lifting linkage
12	Needle thread tension	Electronic tension disco
13	Spinning shuttle	Semi-rotating standard hook or semi-rotating double hook
14	Refueling mode	Rotating part: Micro refueling
15	Engine oil	Sewing-machine oil
16	Lubricating grease	Lubricating grease for sewing machines
17	Data memory	USB flash disk
18	Zoom in/out function	The X and Y directions are independently scaled by 20%~200% (in 1% units)

19	Zoom in/out mode	Adjustment method for stitch length and needle spacing
20	Sewing speed limitation	400-3500rpm (100rpm unit)
21	Pattern selection function	Pattern number designation mode (1-200)
22	Bobbin thread count	Up/Down mode (0-9999)
23	Mechanical motor	500W small AC servo motor (direct driving mode)
24	Overall dimensions	263mm×153mm×212mm
25	Control box weight	Approximately 10 kg
26	Power consumption	600W
27	Temperature range for use	0℃～45℃
28	Use humidity range	35%-85% (no condensation)
29	Power supply voltage	AC 220V ± 10%; 50/60Hz

Please reduce the maximum sewing speed according to the sewing conditions

The implementation standard of the product: QCYXDK0004—2016 Computer Control System for Industrial Sewing Machines.

1.3 Precautions for safe use

Installation

Control box

Please follow instructions for correct installation

Accessories

If installing additional accessories, turn off the power and unplug the power cord first.

Power cord

Do not apply pressure or excessively twist the power cord.

Keep the power cord at least 25mm away from moving parts.

Before connecting the control box to power, verify that the voltage matches the marked voltage on the box and confirm the location before supplying power. If using a power transformer, ensure compatibility before supplying power. Ensure the push-button power switch on the sewing machine is set to [OFF].

Grounding

To prevent electric shock caused by noise interference or leakage, ensure the ground wire on the power cord is properly grounded.

Accessories

If connecting electrical accessories, ensure you connect them at the designated locations as instructed.

Removal

Before removing the control box, always turn off the power and unplug the power cord.

When unplugging, do not just pull the cord; firmly grasp the power plug to unplug.

The control box contains dangerous high-voltage electricity; if opening the cover, turn off the power and wait for more than 5 minutes before proceeding.

Maintenance, Inspection, and Repair

Ensure that repair and maintenance are conducted by trained technicians.
When replacing the needle and shuttle, always turn off the power.
Always use genuine parts.

Other safety measures

Do not touch rotating or moving parts while the sewing machine is operating (especially the needle and belt accessories), and keep your hair away from them to avoid hazards.
Do not drop the control device, and do not insert any objects into its gaps.
Do not operate the machine without all protective covers in place.
If the control device is damaged or malfunctioning, consult an experienced technician for adjustment, inspection, or repair. Do not operate it until the fault is resolved.
Kindly refrain from modifying or altering the control device on your own.

Disposal

Dispose of as general industrial waste.

Warning signs and danger signs

Incorrect actions may pose danger; the severity is indicated by the markings described below.

⚠ Warning	Incorrect actions may cause serious injury

⚠ Attention	Incorrect actions may result in injury or damage to property.

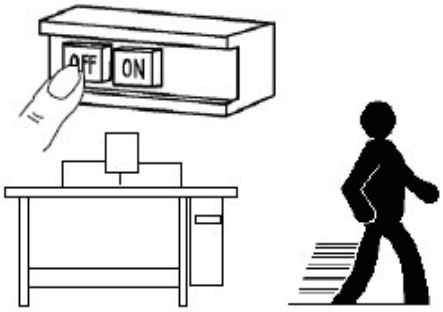
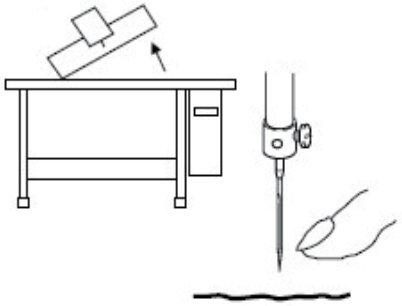
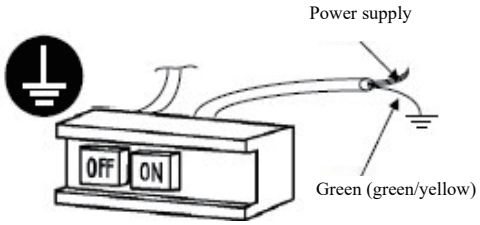
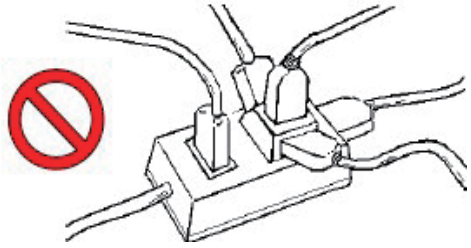
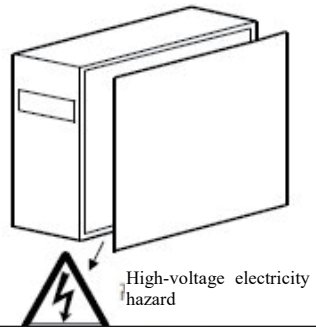
The symbols are explained as follows.

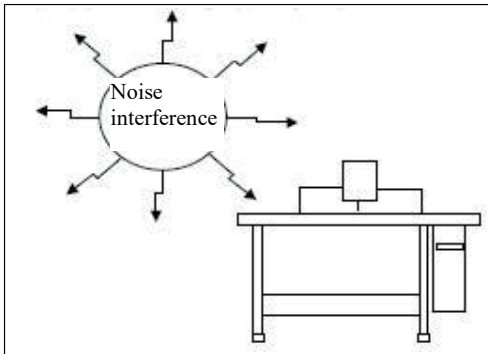
	Follow the instructions carefully.
	Be cautious of high temperatures.
	Do not perform this action under any circumstances.

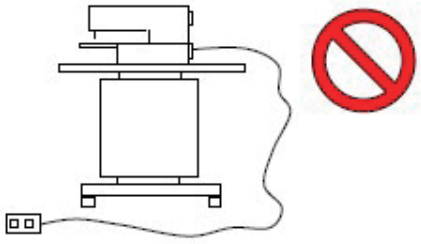
	Be cautious of high-voltage electricity (electric shock hazard).
	Ensure the ground wire is properly connected.

1.4 Precautions for use

Warning

<table>
<tr><td>1. When pressing the switch [ON] with your hands, keep your foot off the pedal.
</td><td>2. Always turn off the power when leaving your workstation.
</td></tr>
<tr><td>3. If tilting the head sideways, replacing the needle, or threading the upper thread, always turn off the power.
</td><td>4. Ensure the grounding wire is properly grounded.
</td></tr>
<tr><td>5. Avoid using household multi-outlet extension cords.
</td><td>6. Hazardous high-voltage electricity is present inside the control box. After powering off, wait for 5 minutes before opening the control box cover.
</td></tr>
<tr><td colspan="2">7. After motor replacement, ensure to set the spindle motor installation angle in accordance with the instructions in this document.</td></tr>
<tr><td>8. Keep away from machines that generate high-frequency noise interference.</td><td>9. When connecting ancillary devices via external signal sockets, keep the cable length as short as possible. Long cables may cause malfunctions; use isolated cables.</td></tr>
</table>

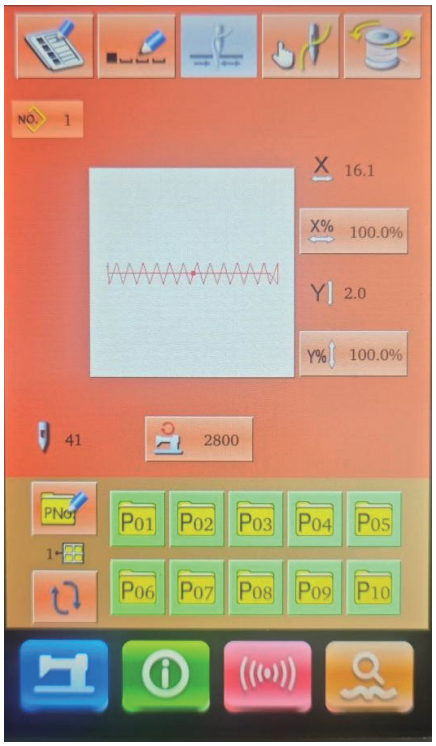




10. If the fuse blows, first identify and eliminate the cause before replacing it with a fuse of the same capacity.

1.5 Standardization

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



1.6 Operation

This system's touching panel operation panel employs industry-leading touch operation technology. Its user-friendly interface and convenient control bring revolutionary changes to users' daily operations. Users can use fingers or other objects to touch the screen and complete corresponding operations. During use, users shall avoid touching the screen with sharp objects to prevent permanent damage to the touching panel.

Function buttons include the ready button, information button, mode button, and communication button, among others. For detailed operation methods, refer to the instructions in subsequent sections.

Warning

During use, users shall avoid touching the screen with sharp objects to prevent permanent damage to the touching panel.

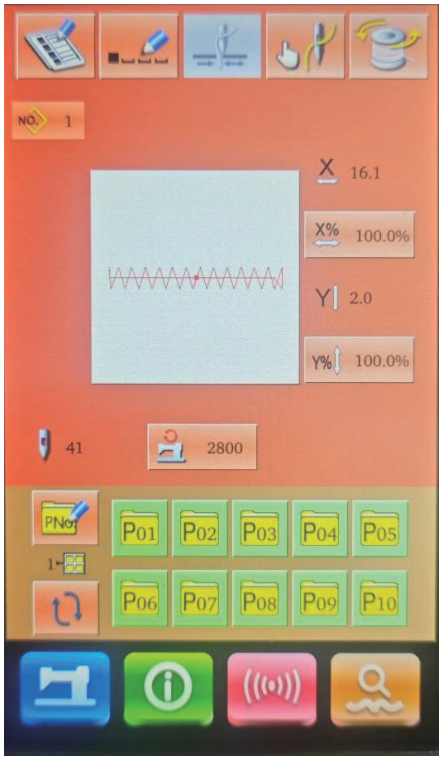
2 Operating instructions

2.1 General buttons

The general operation buttons used across all interfaces of this system are as follows:

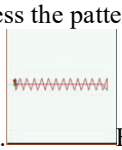
No.	Icon	Function
1		Cancel button → Exit the current setup interface. In the data modification interface, cancel the modified data.
2		OK button → Confirm the modified data.
3		Plus button → Button to increase the value.
4		Minus button → Button to decrease the value.
5		Reset button → Resolve an abnormality.
6		Enter button → Display the numeric keypad for data input.
7		Ready button → Switch between the data input interface and the sewing interface.
8		Information button → Switch between the data input interface and the information interface.
9		Communication button → Switch between the data input interface and the communication interface.
10		Mode button → Switch between the data input interface and various detailed setting interfaces.

2.2 Basic operations



① Turn on the power switch.
After turning on the power, the data input interface is displayed.

② Select the desired sewing pattern No.
The selected pattern No. will be displayed in the current interface. Press the pattern display button to



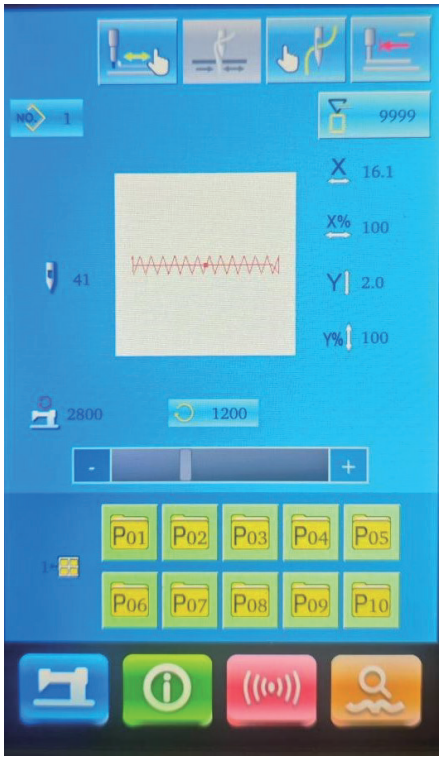
select the pattern No. For detailed operations on pattern selection, see [Section 2.7 Pattern Selection] for details.

③ Set to a sewing-ready state

After pressing the ready button , the LCD display background color changes to blue, indicating the machine is ready for sewing.

④ Start sewing

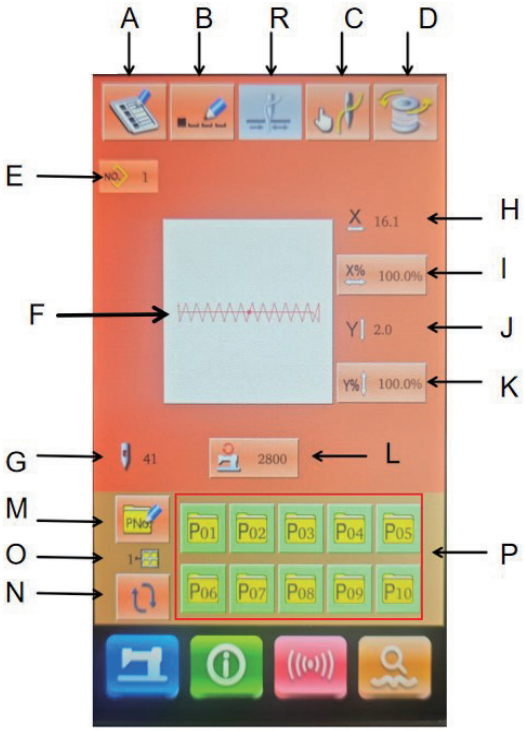
Position the sewing product on the presser foot, engage the pedal to lower the presser foot, and start the sewing machine to begin sewing.



2.3 Basic pattern operation

(1) Sewing data input interface

The data input interface is as shown in the right figure. For detailed function descriptions, refer to the function button description table.



Function description:

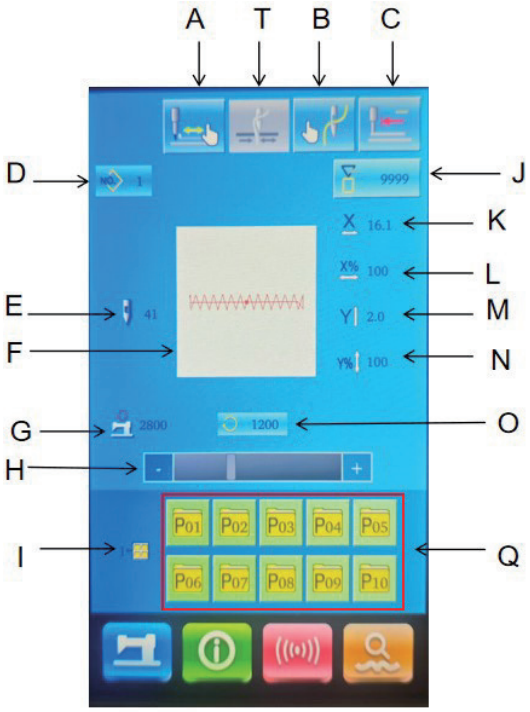
No.	Function	Content
A	Pattern registration	Up to 999 standard patterns can be registered.
B	Pattern naming	A maximum of 14 characters can be entered.
R	Thread capture button (Displayed based on actual machine configuration)	Select whether thread capture is enabled or disabled. Affected by U35 parameters.
C	Threading	Lower the presser foot, and the presser foot lowering screen will be displayed. To raise the presser foot, press the button on the presser foot lowering screen.
D	Winding	Forward pedal engagement is required before winding the thread.
E	Pattern number display	Displays the currently selected pattern number.
F	Sewing shape	The sewing shape of the current pattern is displayed on the button.

	selection	Pressing it enters the pattern selection interface.
G	Pattern stitch count display	Displays the stitch count for the currently selected pattern.

H	X actual size value display	Displays the X-direction actual size value of the currently selected pattern.
I	X zoom in/out ratio setting	The X-direction zoom in/out ratio of the currently selected pattern is displayed on the button. Pressing it leads to the setting interface.
J	Y actual size value display	Displays the Y-direction actual size value of the currently selected pattern.
K	Y zoom in/out ratio setting	The Y-direction zoom in/out ratio for the currently selected pattern is displayed on the button. Press to enter the settings interface.
L	Maximum speed limit	Displays the maximum speed limit value, which can be set upon pressing.
M	Quick pattern registration (abbreviated as P pattern)	Used for registering P patterns; up to 50 patterns can be registered.
O	P pattern folder number display	A Displays the current P pattern folder number.
N	P pattern folder selection	Sequentially switch between P pattern folder numbers.
P	P pattern selection	Displays the registered P patterns. Press to enter the P pattern data input interface. This button is not displayed in the initial state.

(2) Sewing interface

Press  to enter the sewing interface as shown in the right figure. For detailed function descriptions, please refer to the function button description table.



Function description:

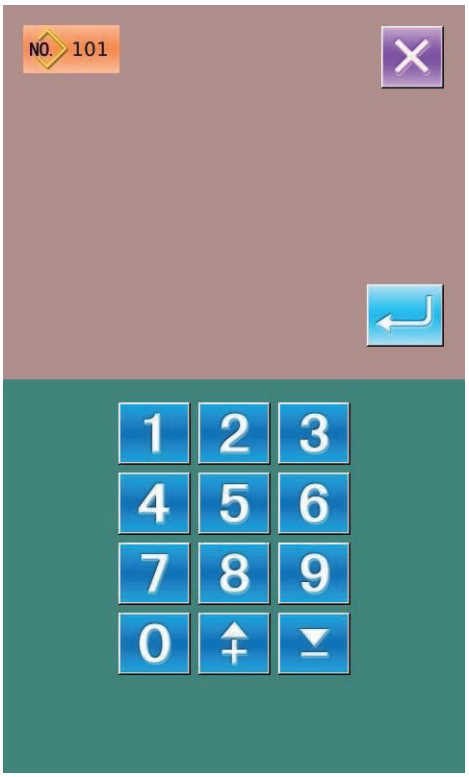
No.	Function	Content
A	Trial stitching	Press to enter the trial stitching interface and determine the pattern shape.
T	Thread capture button (This button is displayed based on the actual mechanical configuration)	Select whether thread capture is enabled or disabled. Affected by U35 parameters.
B	Presser foot down button	Lower the presser foot, and the presser foot lowering screen will be displayed. To raise the presser foot, press the  button shown on the presser foot lowering screen.
C	Origin reset	Press to return the presser foot to the starting point of sewing and raise the presser foot.
D	Pattern number display	Displays the currently selected pattern number.
E	Pattern stitch count display	Displays the stitch count for the currently selected pattern.

F	Pattern shape display	Displays the currently selected pattern shape.
G	Maximum speed limit display	Displays the maximum speed limit value.
H	Sewing speed settings	The sewing speed can be adjusted.
I I	P pattern folder number display	Displays the current P pattern folder number.
J	Counter settings	Press to select the counter type and set the current count value. : Sewing counter : Piece counter
K	X actual size value display	Displays the X-direction actual size value of the currently selected pattern.
L	X zoom in/out ratio setting	Displays the X-direction zoom in/out ratio for the currently selected pattern.
M	Y actual size value display	Displays the Y-direction actual size value of the currently selected pattern.
N	Y zoom in/out ratio setting	Displays the Y-direction zoom in/out ratio for the currently selected pattern.
O	Sewing speed display	Displays the current sewing speed.
Q	P pattern selection	Displays the registered P pattern. Press to enter the P pattern sewing interface. This button is not displayed in the initial state.

2.4 Pattern registration



A maximum of 999 standard patterns can be registered. Press to enter the pattern registration interface (as shown in the right figure):



① Enter the pattern number

Use the numeric buttons to select the desir pattern number. If you enter an existing patte number, the registered sewing shape ar related data will be displayed at the top of tl interface. Use the  and  buttons retrieve unregistered pattern numbers.

② Register a new pattern

After confirming the pattern number, press  to copy the previously displayed pattern data to the newly registered pattern. Upon completion, you will return to the new pattern data input interface.

Upon completion, you will return to the new pattern data input interface. If you enter an existing pattern number, the system will prompt you whether to overwrite the existing pattern.

Note: Fundamental patterns cannot be overwritten.

2.5 Pattern naming

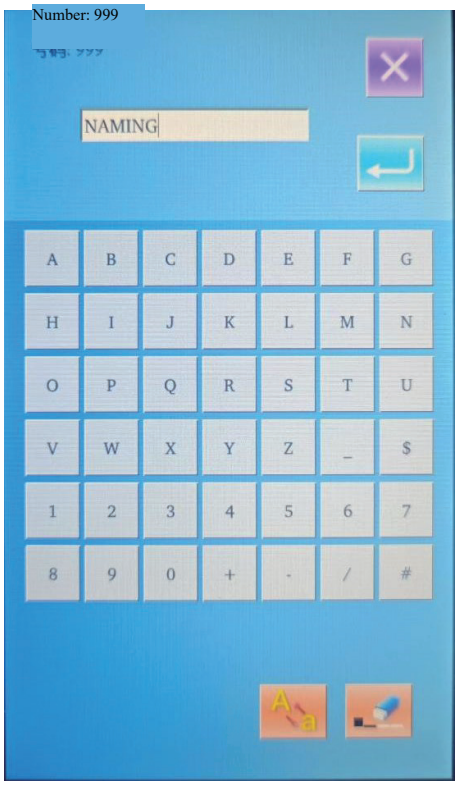
Press  to access the pattern naming interface (as shown in the right figure), allowing for a maximum of 14 characters.

: Case switch button for alphabets

: Clear button

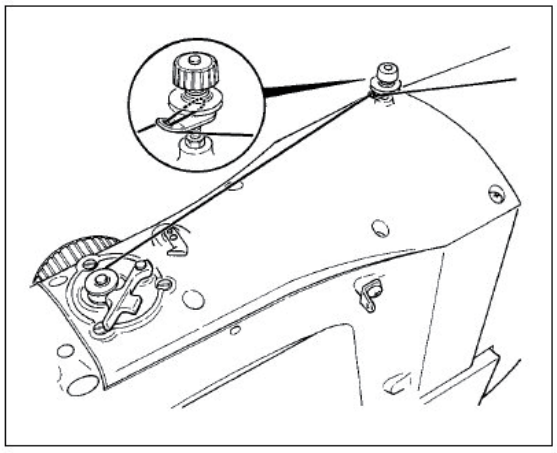
Select the desired characters for input and press  to finalize the pattern naming operation.

You can determine the character position by moving the cursor, and use the erase button to delete the character at the specified position.



2.6 Bobbin winding

① Install the bobbin by inserting it into the winding axis. As shown in the right figure.

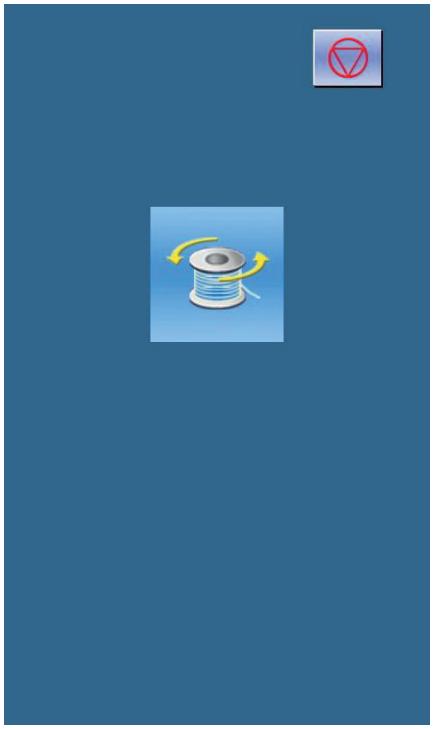


② Display the bobbin thread winding interface

Within the data input interface, pressing the winding button  displays the winding interface (as shown in the right figure).

③ Initiate winding

Upon depressing the start pedal, the sewing machine begins to operate and commences winding the bobbin thread.



④ Cease operation of the sewing machine

After pressing the stop button , the sewing machine ceases movement and reverts to normal mode. Additionally, pressing the pedal again during bobbin thread winding stops the sewing machine in winding mode. Pressing the start pedal again resumes bobbin thread winding, which is useful when winding multiple bobbins.

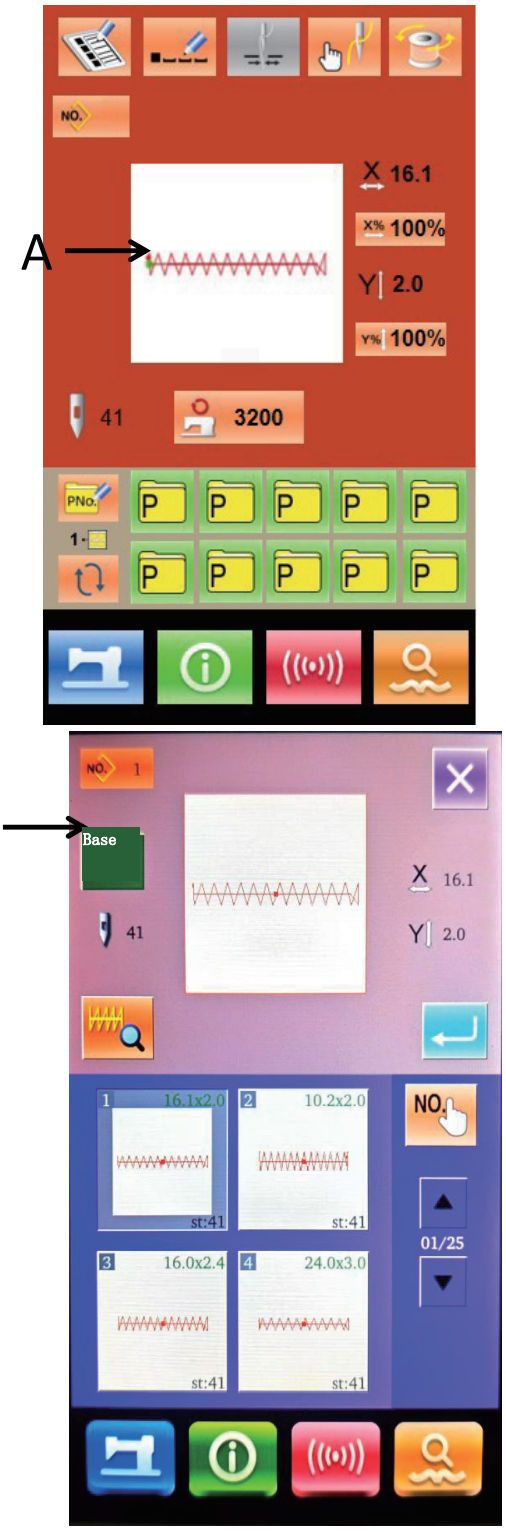
Note: Winding action will not commence immediately after power-up or after switching to host input.

Please set one pattern, press the ready button  and the sewing screen will be displayed.

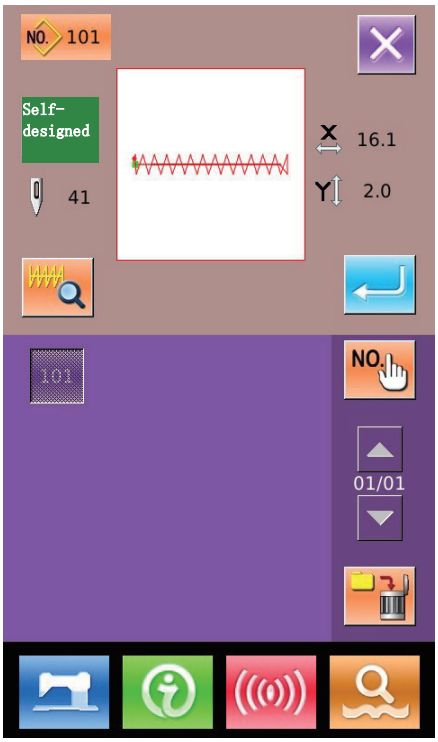
2.7 Pattern selection

① Enter the pattern selection interface

In the data input interface (as shown in the right figure), click on Sewing Shape A to enter the pattern selection interface.



The top of the pattern selection interface shows the sewing shape of the currently selected pattern, while the bottom displays the registered pattern numbers.

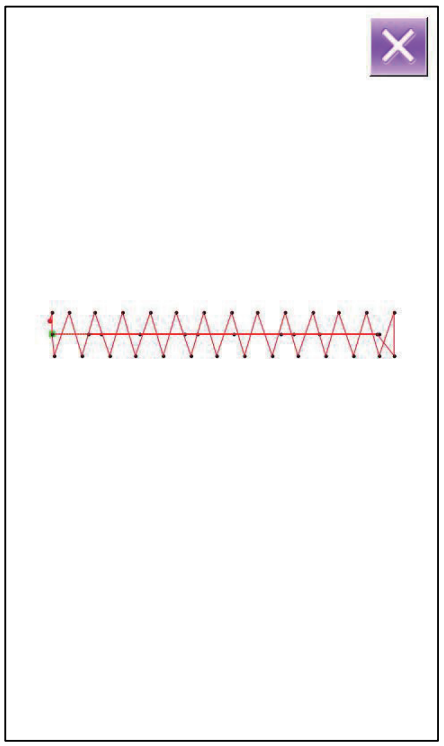


: Pattern preview : Input number to query pattern: pattern delete

Click the button; when common patterns exist, it toggles between basic patterns and user patterns.

② Select the pattern

When the current pattern is a basic pattern, 4 pattern numbers can be displayed per page; for self-designed patterns, 20 pattern numbers can be displayed per page. For basic patterns, each pattern number displays a simple diagram and the X and Y ranges; for self-designed patterns, only the pattern number is displayed. When a registered pattern number is selected, the selected pattern content is displayed above. Press to complete the pattern selection operation.



③ Pattern query

Press the button to open the pattern query interface, where you can directly input the pattern number using numeric buttons.

④ Pattern deletion

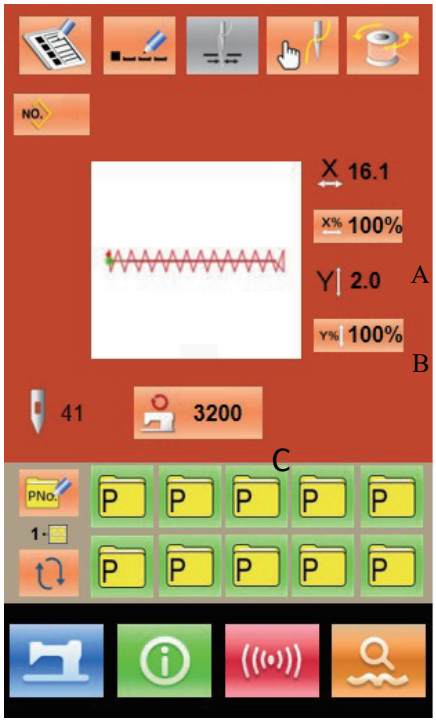
Select a registered pattern and press to delete it, but patterns registered to P cannot be deleted.

Note: Patterns are categorized into basic and common patterns: basic patterns are factory presets and cannot be deleted; common patterns are created, copied, or imported via USB flash disk by the user and can be deleted and modified.

⑤ Pattern preview

Press the  button to preview the current pattern shape in full screen. (Background color is white)

2.8 Sewing data setting



① Enter the sewing data setting interface

In the data input interface, pressing A, B, and C respectively enters the zoom ratio setting and speed limit setting interfaces.

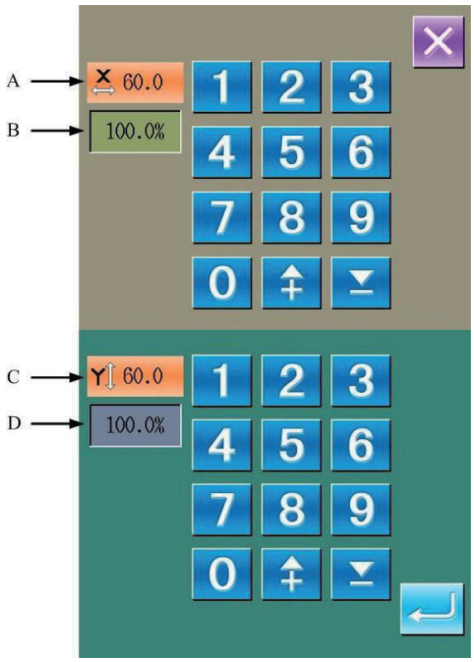
	Item	Input range	Initial value
A	X-direction enlargement and	1.0~400.0%	100.0%
B	Y-direction enlargement and	1.0~400.0%	100.0%
C	Maximum speed limit	400~3200rpm (upper limit varies by model)	2800rpm

Note 1: Parameter U64 can be toggled to select between zoom in/out ratio or actual dimension value settings.

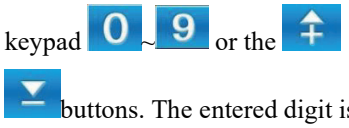
Note 2: The maximum input range and initial value of the maximum speed limit are affected by Parameter U01

.

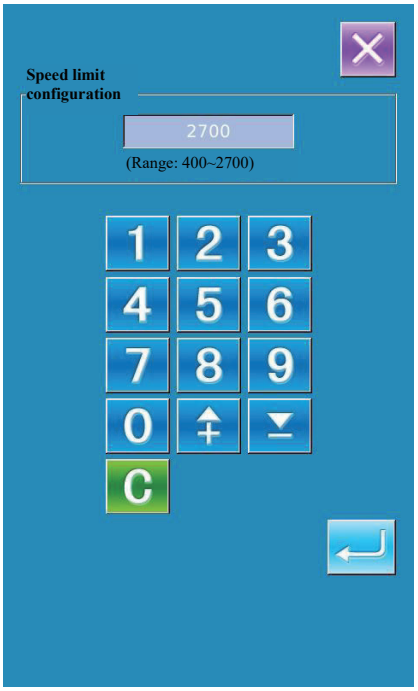
② Zoom ratio setting



The image on the right shows the zoom in/out ratio setting interface, with the top section for X-direction settings and the bottom section for Y-direction settings. A: Actual value display for X direction B: Zoom in/out ratio display for X direction C: Actual value display for Y direction D: Magnification/reduction ratio display for Y direction

Enter the desired value using the numeric keypad 0~9 or the  buttons. The entered digit is inserted at the first position of the displayed value, and previously entered digits shift right one by one. Press the OK button to complete the operation and return to the data input interface.

③ Maximum speed limit setting



The operation is the same as above.

2.9 P pattern registration



① Enter the P pattern registration interface

In the data input interface, press [ ] to enter the P Pattern Registration Interface, as shown in the figure on the right.

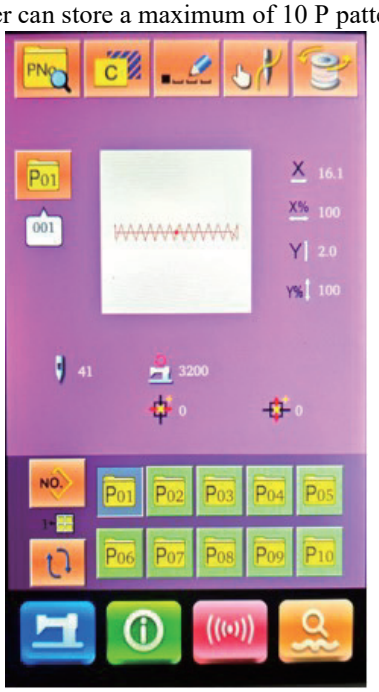
② Enter the P pattern number

Use the numeric keypad 0 ~ 9 or the buttons to enter the desired pattern number. If a pattern number that has already been registered is entered, the registered sewing shape and related data will be displayed at the top of the interface, and in this case, a new pattern cannot be registered.

③ Select a folder number

P pattern numbers can be registered in up to 5 folders, each folder can store a maximum of 10 P patterns.

The folder selection button allows sequential selection.



④ Confirm the pattern number

Press the OK button to complete the P pattern registration operation and return to the P pattern data input interface.

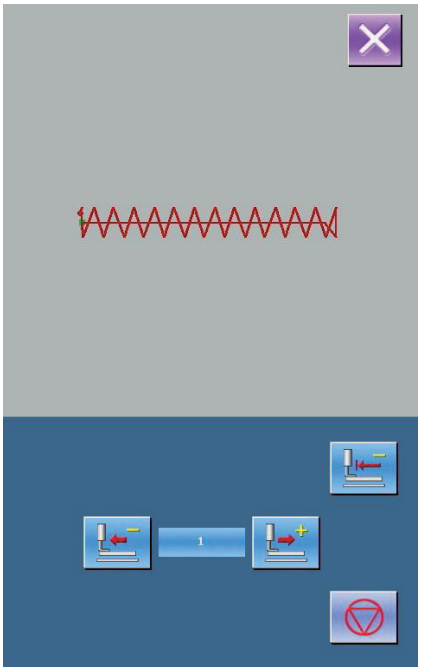
2.10 Trial stitching operation

① Display the sewing interface

In the data input interface, press the ready button, causing the LCD display background color to turn blue, indicating entry into the Sewing Interface.

② Display the trial stitching interface

In the sewing interface, press the button to enter the trial stitching interface (as shown in the right figure):



Return to origin

: Presser foot retreats

foot advances

stop

③ Start trial stitching

Step on the foot switch to lower the presser foot, and use the presser foot back button and presser foot forward button to define the shape. After pressing the button continuously for a period, the presser foot continues to move after releasing the button. Press the button to stop. After pressing the return to origin button , the needle returns to origin and returns to the sewing interface.

④ End trial stitching

Press the cancel button to exit the trial stitching interface and return to the sewing interface. If the pattern shape is not at the sewing start position or the sewing end position, you can confirm and commence sewing midway by pressing the foot switch. If you want to exit, press the origin reset button to close the elevated screen, display the sewing screen, and return to the start sewing position.

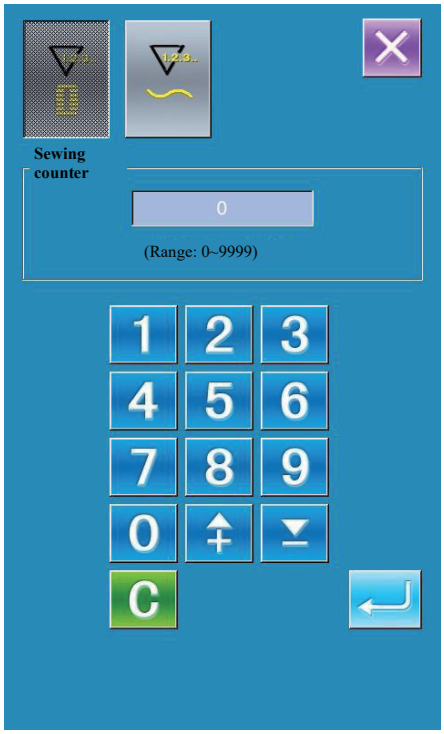
2.11 Counter operation

① Display counter interface

In the sewing interface, after pressing 
, the counter setting interface is displayed.

 Manufactured Counter Type

 Parts Counter Type



② **Select counter type and set count value**

By selecting  and , you can set the counter type and its current count value.

2.12 Emergency stop

Select the pause mode by setting U31 parameters: Three options are available: Invalid, pause button on the operation panel, and external switch.
When the pause button on the operation panel is selected, the pause button  is displayed on the sewing screen.

Resolve the exception

Pressing the pause button during sewing can stop the sewing machine. At this time, the abnormal screen is displayed, notifying that the stop switch is pressed. At this time, pressing the reset button  is abnormal.



② Perform tangent

Press the tangent button  to perform tangent and enter the step setting interface.

Note: When parameter U97 is set to automatic thread trimming after pause, it directly enters the step setting.

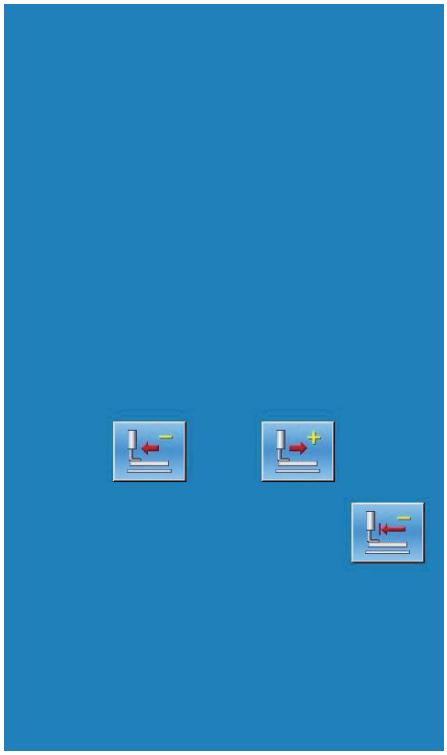
② Perform step settings and adjust the presser foot to the re-sewing position

Press the tangent button  to enter the step setting interface. : Reverse feeding

: Forward feeding

: Origin reset

Press  or  to move the presser foot to the re-sewing position.



③ Resume sewing after pressing the foot pedal, restart sewing.

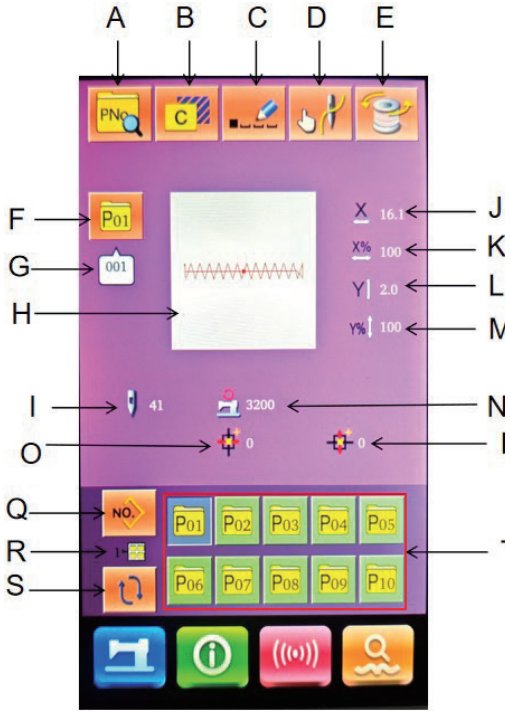
3 Quick (P) pattern operation

3.1 P pattern data input

The quick pattern, abbreviated as P pattern, consists of a standard pattern and associated sewing parameters (X-direction zoom ratio, Y-direction zoom ratio, speed limit, etc.).When using a P pattern, it is unnecessary to set the associated parameters each time.

The P pattern data input interface is as shown in the right figure.

A maximum of 50 P patterns can be registered.



Function description:

No.	Function	Content
A	P pattern editing	The content of the P pattern can be edited.
B	P pattern copy	You can copy the current P pattern content to an unused pattern number.
C	Pattern naming	A maximum of 14 characters can be entered.
D	Threading	Pressing it causes the outer presser foot to descend.
E	Winding	Press the ready button  once before winding.
F	P pattern number display	Displays the currently selected pattern number.
G	Sewing shape number display	Displays the standard pattern number referenced by the current P pattern.

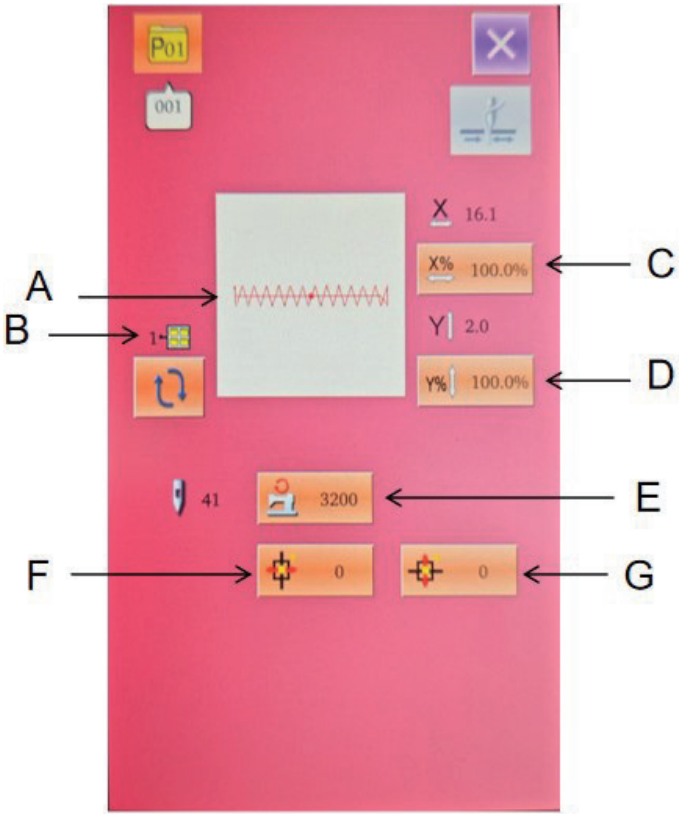
No.	Function	Content
H	Sewing shape selection	Displays the sewing shape of the current pattern.
I	Pattern stitch count display	Displays the stitch count for the currently selected pattern.
J	X actual size value display	Displays the X-direction actual size value of the currently selected pattern.
K	X zoom in/out ratio setting	Displays the X-direction zoom in/out ratio for the currently selected pattern.
L	Y actual size value display	Displays the Y-direction actual size value of the currently selected pattern.
M	Y zoom in/out ratio setting	Displays the Y-direction zoom in/out ratio for the currently selected pattern.
N	Maximum speed limit	Displays the maximum speed limit value.
O	X-direction offset display	Displays the X-direction offset of the currently selected pattern.
P	Y-direction offset display	Displays the Y-direction offset of the currently selected pattern.
Q	Return to normal pattern data input	Return to the normal pattern data input interface.
R	P pattern folder number display	Displays the current P pattern folder number.
S	P pattern folder selection	Sequentially switch between P pattern folder numbers.
T	P pattern selection	Registered P patterns are displayed.

3.2 P pattern editing

① Enter the P pattern editing interface

Press  to enter the P pattern editing interface (as shown in the right figure).

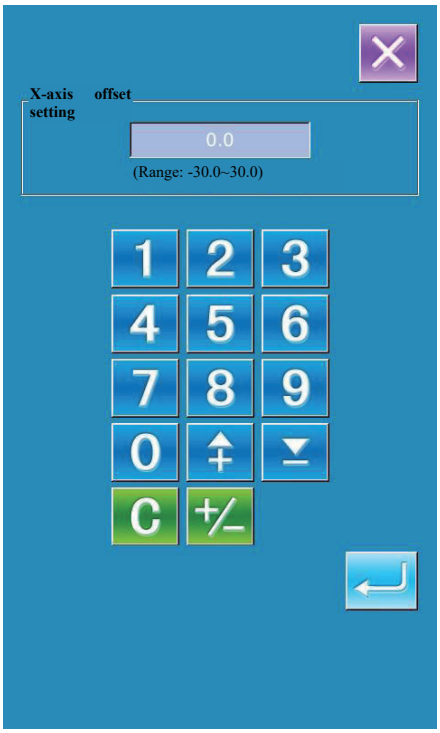
② Edit item data. Select the item you want to modify and set the value.



	Item	Input range	Initial value
A	Sewing shape		
B	Folder number	1~5	
C	X-direction enlargement and reduction ratio	1.0~400.0%	100.0%
D	Y-direction enlargement and reduction ratio	1.0~400.0%	100.0%
E	Maximum speed limit	400~3200rpm	3200rpm
F	X-direction offset	-30.0~30.0mm	0
G	Y-direction offset	-30.0~30.0mm	0

③ Confirm data changes

Taking the setting of the X-direction offset as an example, input the value using 0~9 numeric keypad or the ▲ and ▼ buttons, and press the OK button ↵ to finalize the operation.



+: Represents a positive value;

−: Represents a negative value.

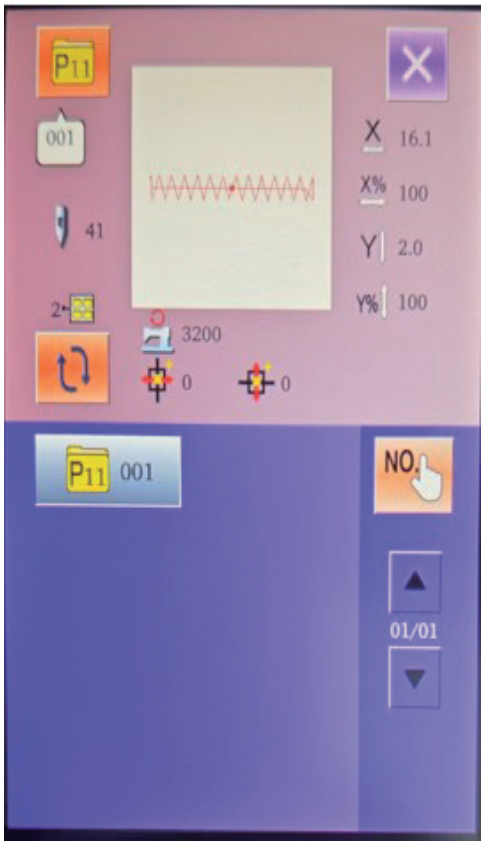
④ Exit editing

Press the exit button ✕ to close the P pattern editing interface and return to the data input interface.

3.3 P pattern copy

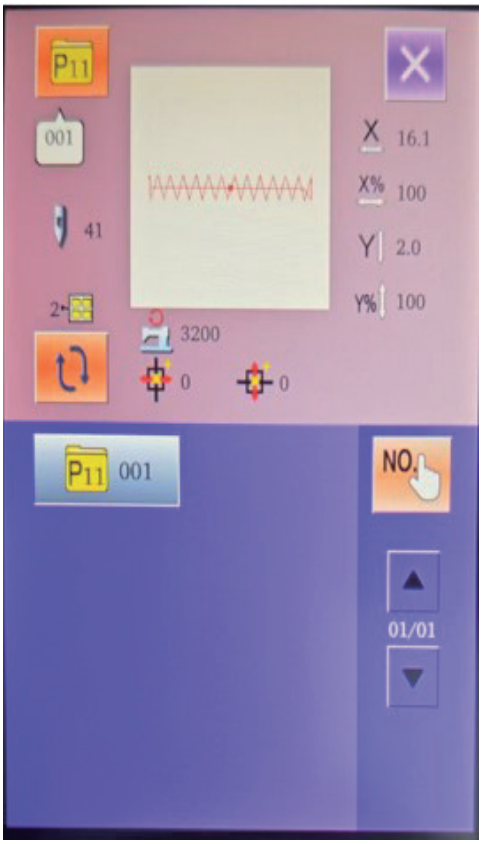
① Select the pattern to be copied

Press C to enter the P pattern copy interface (as shown in the right figure). Select the pattern number to be copied from the registered patterns and press NO.



② **Enter the newly registered pattern number**

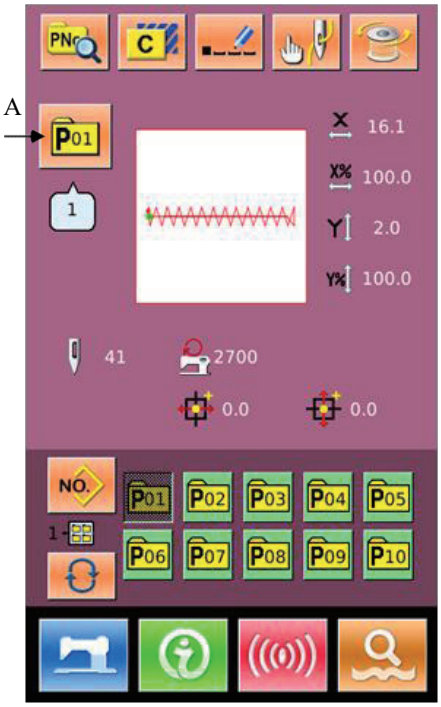
The copied pattern is displayed at the top of the interface. Use the numeric buttons to select an unregistered pattern number. Registered pattern numbers cannot be registered again. The folder selection button  can be used to select the folder for saving. Press the OK button  to complete the pattern copy operation and return to the P pattern copy interface.



3.4 P pattern selection

① **Enter the P pattern selection interface**

As shown in the right figure, press icon A to enter the P pattern selection interface.



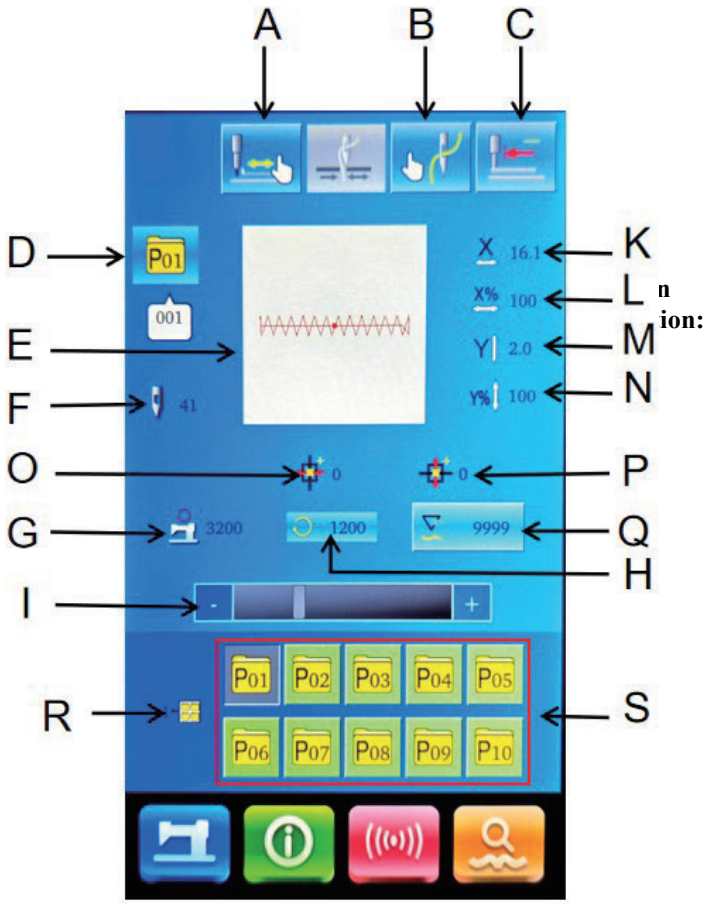
② Select the pattern number. The top of the interface displays the current pattern information. When you press the folder selection button to switch to folder number not displayed, all registered P patterns can be shown.

③ Confirm the pattern selection

The operation is the same as standard pattern selection. Press the OK button to finish selection.

3.5 P pattern sewing

In the P pattern data input interface, press to enter the sewing interface (as shown in the right figure).



No.	Function	Content
A	Trial stitching	Press to enter the trial stitching interface and determine the pattern shape.
B	Threading	Pressing it causes the outer presser foot to descend.
C	Origin reset	Press the rear presser foot to return to the sewing start point.

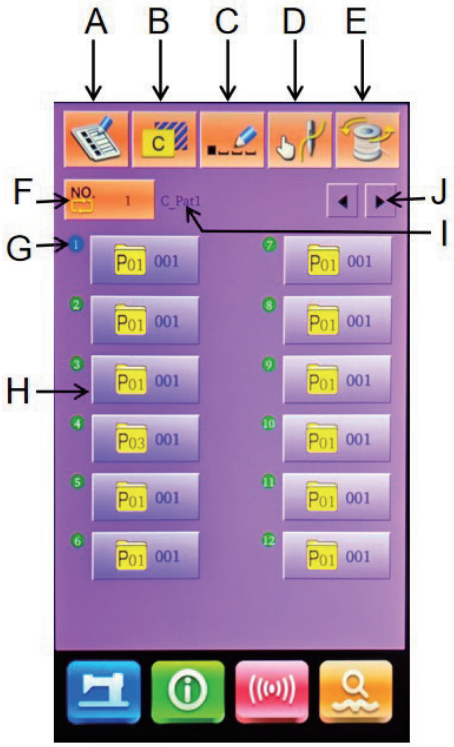
D	P pattern number display	Displays the currently selected pattern number.
E	Sewing shape number display	Displays the standard pattern number referenced by the current P pattern.
F	Pattern stitch count display	Displays the stitch count for the currently selected pattern.
G	Maximum speed limit display	Displays the maximum speed limit value.
H	Sewing speed display	Displays the current sewing speed.
I	Sewing speed settings	The sewing speed can be adjusted.
K	X actual size value display	Displays the X-direction actual size value of the currently selected pattern.
L	X zoom in/out ratio setting	Displays the X-direction zoom in/out ratio for the currently selected pattern.
M	Y actual size value display	Displays the Y-direction actual size value of the currently selected pattern.
N	Y zoom in/out ratio setting	Displays the Y-direction zoom in/out ratio for the currently selected pattern.
O	X-direction offset display	Displays the X-direction offset of the currently selected pattern.
P	Y-direction offset display	Displays the Y-direction offset of the currently selected pattern.
Q	Counter settings	Press to select the counter type and set the current count value. : Sewing counter : Piece counter
R	P pattern folder number display	Displays the current P pattern folder number.
S	P pattern selection	Registered P patterns are displayed.

4 Combination (C) pattern operation

4.1 C pattern data input

The combined pattern, referred to as C pattern, consists of a group of P patterns. Each C pattern group can input up to 50 sub-patterns. A total of up to 50 sets of C patterns can be registered.

Refer to section [8.8 Change Sewing Type] to enter the combination pattern data input interface, as shown in the right figure.



Function description:

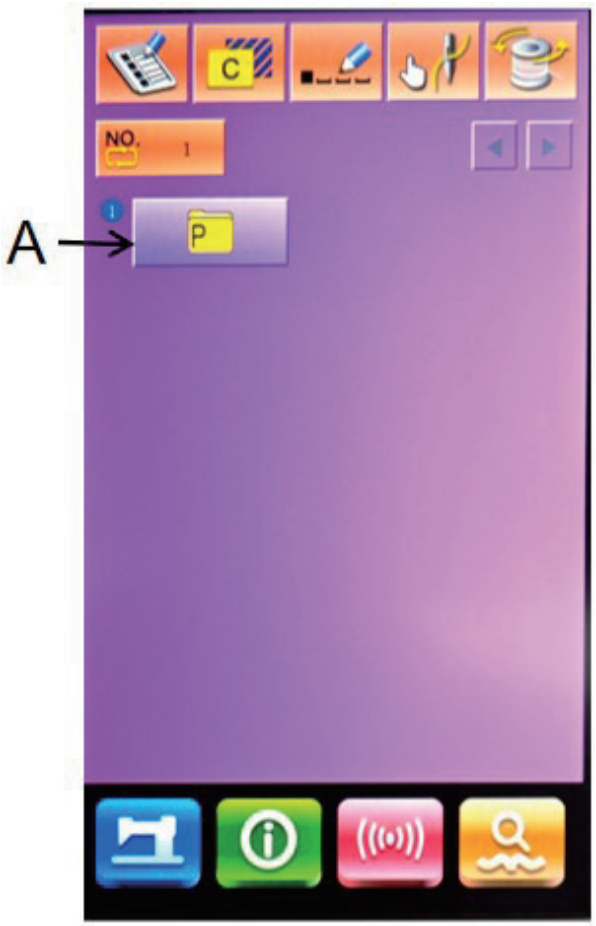
No.	Function	Content
A	C pattern registration	Register a new combination pattern.
B	C pattern copy	You can copy the current C pattern content to an empty pattern number.
C	Pattern naming	A maximum of 14 characters can be entered.
D	Threading	Pressing it causes the outer presser foot to descend.
E	Winding	Press the ready button  once before winding.
F	C pattern number selection	The currently selected pattern number is displayed on the button. Press it to enter the C pattern selection interface.

No.	Function	Content
G	Sewing order display	Displays the sewing order of the currently selected pattern, with the blue display indicating the starting sewing pattern.
H	C pattern selection	Press to enter the C pattern editing interface, where you can choose to input a P pattern.
I	Page turning button	A maximum of 30 C patterns can be registered, with up to 6 patterns displayed per page.
J	C pattern name	Displays the C pattern name.

4.2 C pattern editing

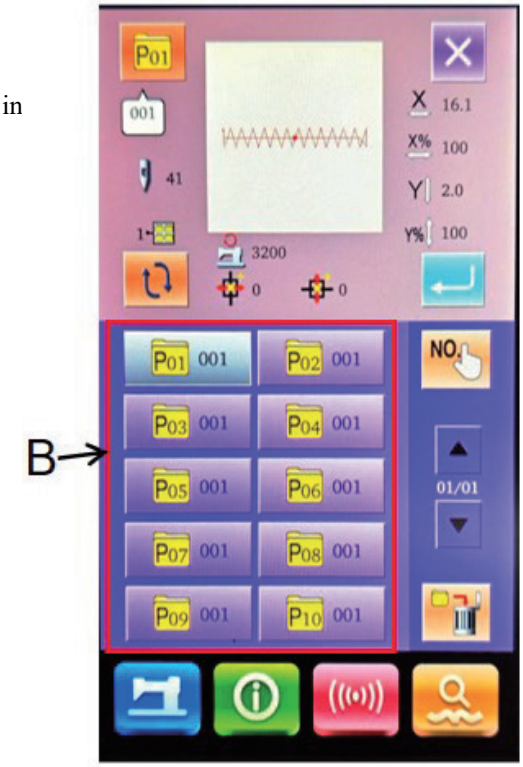
① Enter the C pattern editing interface

In the C pattern data input interface, press A to enter the C pattern editing interface. Initially, no P pattern is registered as a sewing pattern since the first pattern is displayed as a blank folder.



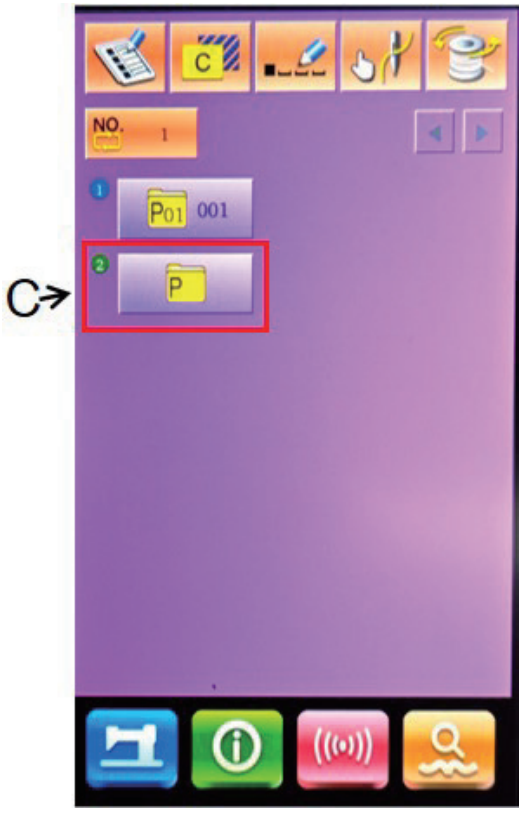
② **Select a pattern**

The image on the right is the C pattern editing in Select the P pattern B you wish to register, then press the OK button to finalize the selection.



③ Repeatedly register the remaining patterns

Once the first pattern is registered, the second pattern selection button C is displayed. The procedure remains the same for further patterns, allowing for repeated registration of remaining patterns.



4.3 C pattern selection



① Enter the C pattern selection interface

As shown in the right figure, press icon A to enter the C pattern selection interface.

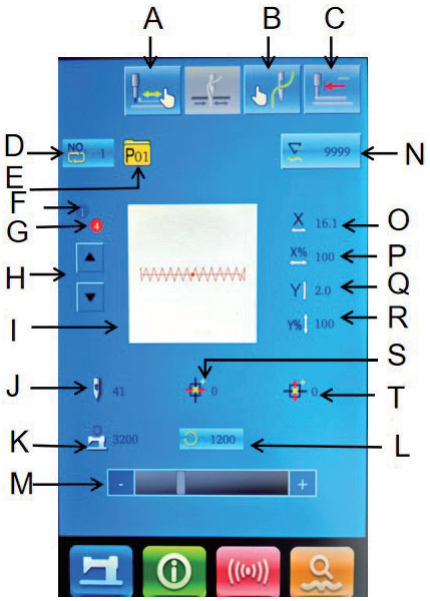
② Select C pattern number

The image on the right is the C pattern selection interface. After pressing the B button, you can cycle through the P sub-pattern data under the current C pattern.

Confirm the desired C pattern number by selecting button C, and press the OK button  to finalize selection.

4.4 C pattern sewing

Within the C pattern data input interface, press  to enter the sewing interface (as shown in the right figure).



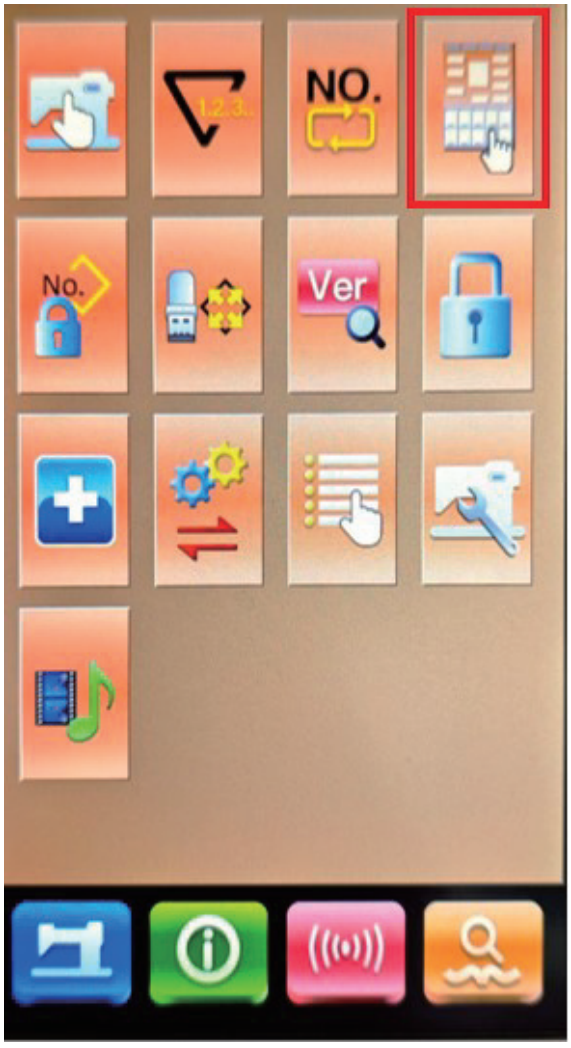
Function description:

No.	Function	Content
A	Trial stitching	Press to enter the trial stitching interface and determine the pattern shape.
B	Threading	Pressing it causes the outer presser foot to descend.
C	Origin reset	Press the rear presser foot to return to the sewing start point.
D	C pattern number display	Displays the currently selected C pattern number.
E	Sewing shape number display	Displays the sub-pattern number registered under the current C pattern.
F	Sewing order display	Display the sewing sequence number in the current sewing pattern
G	Display total registration count	Displays the total number of sub-patterns registered in the current C pattern

No.	Function	Content
H	Sewing sequence forward/backward button	You can select the next/previous sewing pattern.
I	Pattern shape display	Displays the shape currently registered for sewing.
J	Pattern stitch count display	Displays the number of stitches in the current sewing registration shape.
K	Maximum speed limit display	Displays the maximum speed limit value of the current sewing registration shape.
L	Sewing speed display	Displays the current sewing speed.
M	Sewing speed settings	You can adjust the sewing speed by sliding.
N	Counter settings	Press to select the counter type and set the current count value. : Sewing counter : Piece counter
O	X actual size value display	Displays the actual dimension of the current sewing registration shape along the X-axis.
P	X zoom in/out ratio setting	Displays the zoom in/out ratio along the X-axis for the current sewing registration shape.
Q	Y actual size value display	Displays the actual dimension of the current sewing registration shape along the Y-axis.
R	Y zoom in/out ratio setting	Displays the zoom in/out ratio along the Y-axis for the current sewing registration shape.
S	X-direction offset display	Displays the offset along the X-axis for the current sewing registration shape.
T	Y-direction offset display	Displays the offset along the Y-axis for the current sewing registration shape.

5 Pattern editing

5.1 Entering the pattern editing mode



Press  to toggle between the data input interface and mode selection interface (as shown in the right figure), where detailed settings and editing operations can be performed. For detailed operations and settings in the mode selection interface, refer to [8 Mode and Parameter Settings].

Press  and  to toggle.

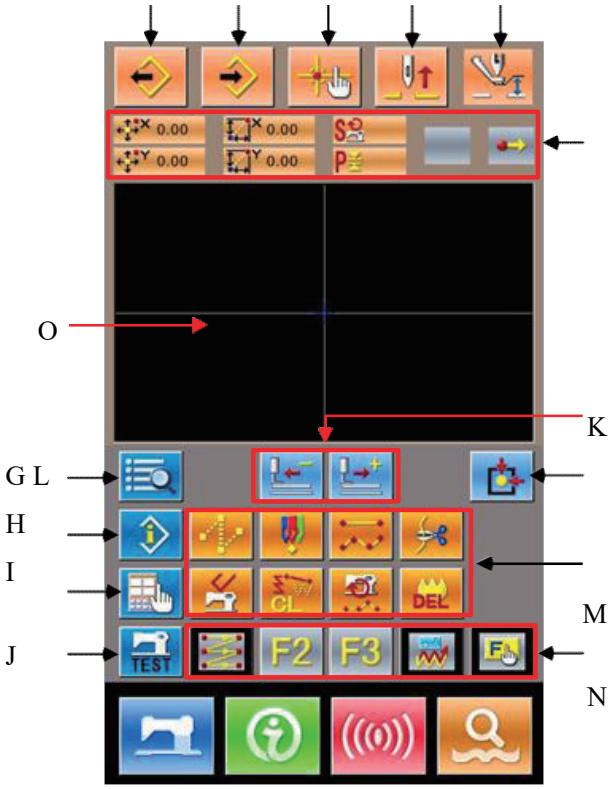
 Mode  : Editing mode

Select the editing mode icon  and press the  button again to exit the mode selection interface. The system prompts whether to enter the pattern editing interface.



F

Press  to enter the standard pattern editing interface, as shown in the right figure:



O

K

G L

H

I

J

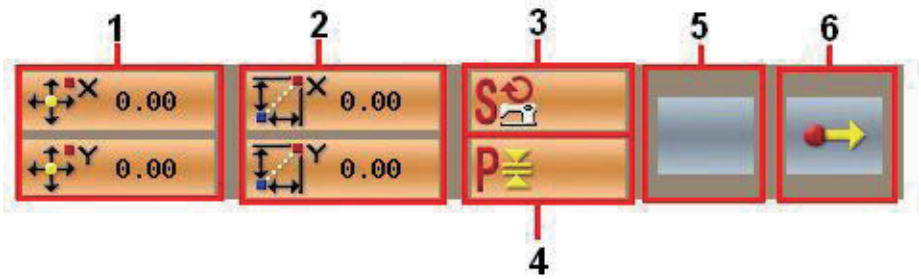
M

N

Function description:

No.	Function	Content
A	Read pattern	Display pattern reading interface
B	Write pattern	Display pattern writing interface
C	Needle drop point query	You can quickly query the needle drop point; when editing patterns, you can directly input sewing point coordinates
D	Needle lifting	Return the needle to the parking position
E	Middle presser foot lift and lower	Raise or lower the middle presser foot
F	Current needle position information	This section displays the current needle position information
G	Edit function code list	Display all available editing functions; see [Editing Function List] for details
H	Information display	Display detailed information of the currently edited pattern
I	Display settings	Wide-angle and needle drop point display settings are available
J	Trial stitching	Trial stitching can be performed on the currently edited pattern
K	Forward and reverse feeding	Move one stitch from the current needle position (forward ; backward )
L	Origin reset	Return the current needle position to the origin
M	Function buttons	Functions on each button can be directly accessed
		1  Send
		2  Stitch
		3  Through stitch
		4  Line
		5  Exclude mechanical control commands

No.	Function	Content
		6 Element deletion
		7 Modify sewing speed range
		8 Delete the currently edited pattern
N	Function shortcut buttons	By function selection and setting (function code 112), required functions can be assigned to buttons as function shortcut buttons. Once a function is assigned, its icon is displayed on the corresponding button
O	Pattern display area	Displays the pattern.



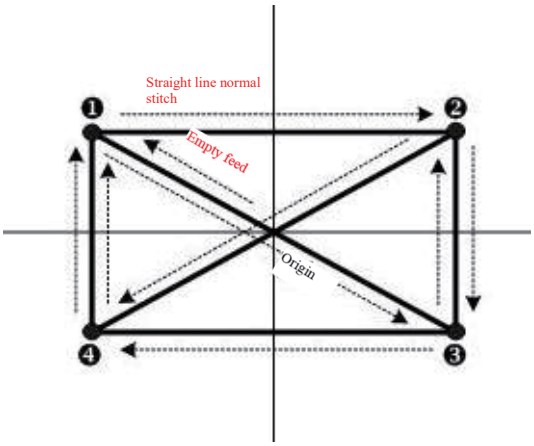
No.	Item	Content
1	Absolute coordinate	Indicates the absolute coordinates from the origin of the current needle position.
2	Relative coordinate	Indicates the relative coordinates of the current needle position.
3	Speed	Indicates the sewing speed or idle feed speed at the current point.
4	Interval	Indicates the current element sewing stitch length.(After reading the zoom in/out, the value before zoom in/out is displayed.)
5	Element type	Indicates the current element type. When sewing data, the icon of the element type (empty feed line by curve) is displayed. In the case of a machine control command, the icon indicating the type of the machine control command (such as thread trimming) is displayed.
		Indicates the type of needle drop position.
		Pattern starting point, indicating the starting position (origin) of the pattern.

6	Needle drop type	 Element midway, indicating a midway point within an element (i.e., not a vertex nor an element terminal).

No.	Item	Content
		Vertex, indicating the vertex of the polyline.
		Element terminal, indicating the terminal position of the element.
		Pattern terminal, indicating the final position of the pattern.

5.2 Pattern editing

Use the pattern editing function to input the following pattern.



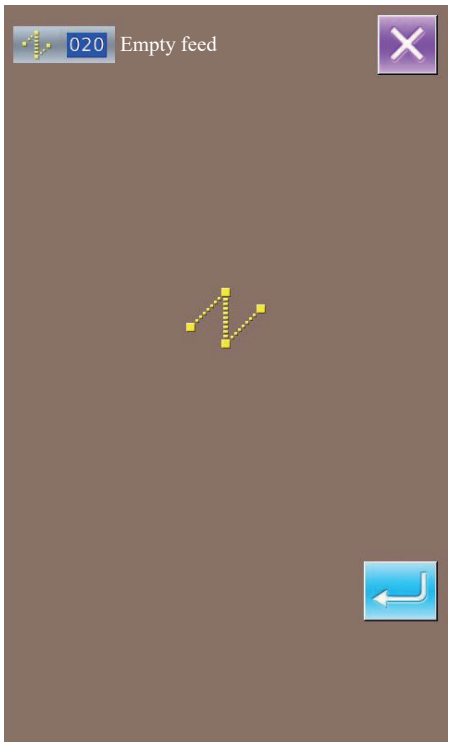
Input point:

	X (mm)	Y (mm)
	-40.00	25.00
	40.00	25.00
	40.00	-25.00
	-4000	-25.00

Input order: as shown by the dotted arrow in the left figure.

Empty feed input

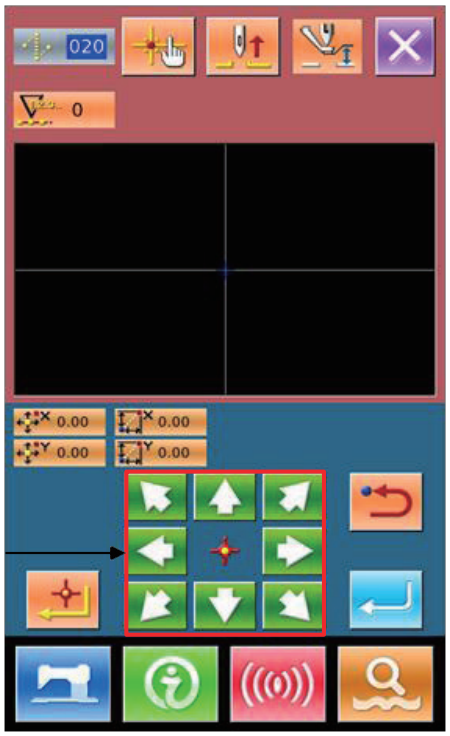
In the standard interface of pattern editing, press the empty feed button , the empty feed setting interface is displayed: Note: You can also directly select 020: Empty feed from the function code list to enter this interface.

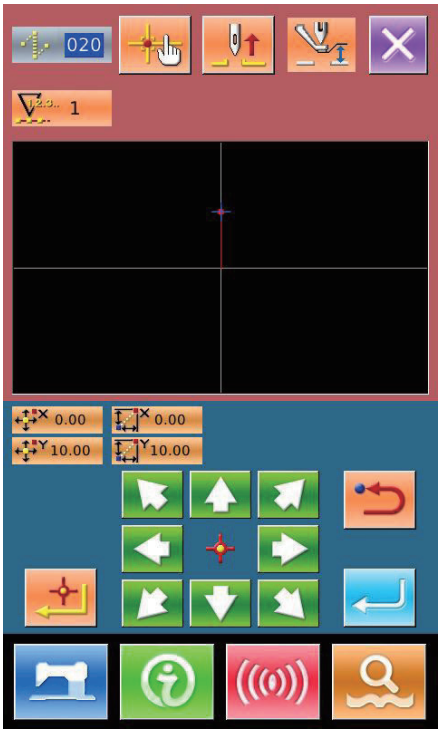


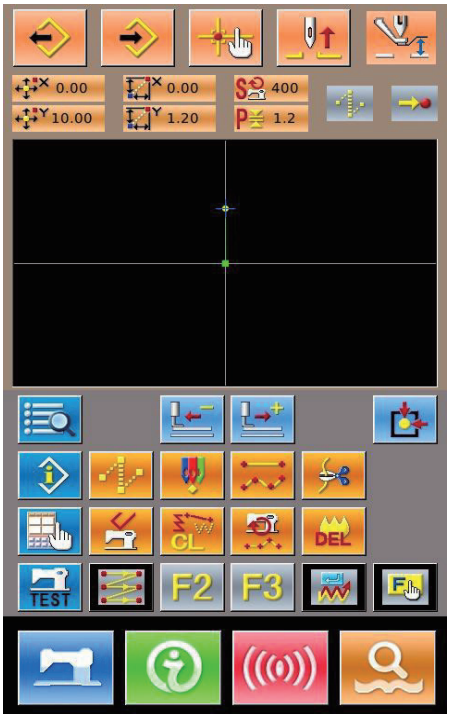
After pressing the confirm button , the empty feed position designation interface is displayed:

In the empty feed position specification interface, use the direction movement buttons ——>A, move the cursor (needle position) to (0, 10), press the  button to confirm, and then press the  to save the setting, return to the standard interface of pattern editing and display the empty feed stitch:

A

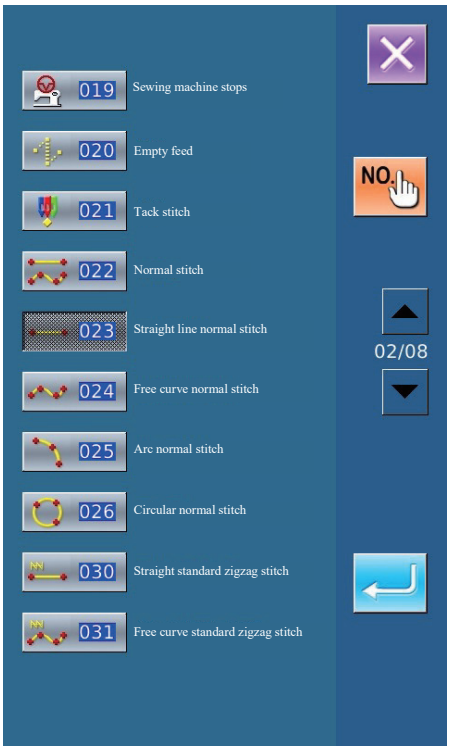


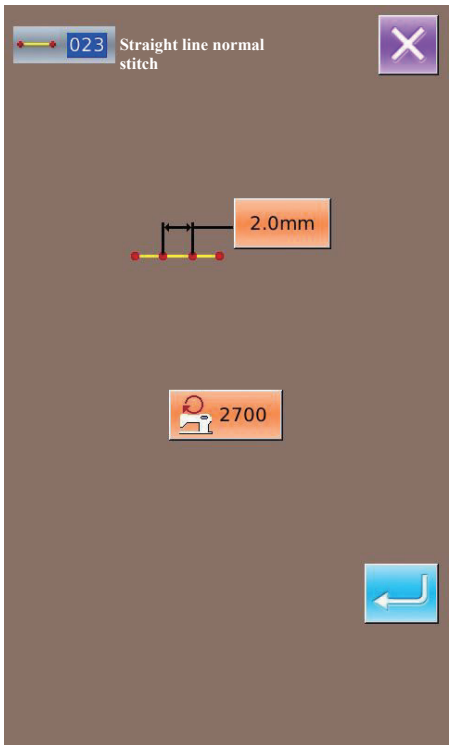




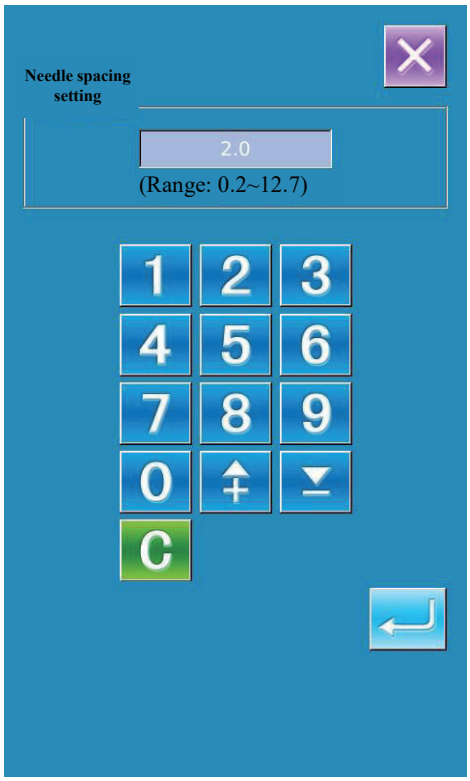
Input of straight line normal stitch

In the function code list, select "023 Straight Line Normal Stitch", then press the confirm button  to enter the straight line normal stitch setting interface:





In the straight line normal stitch setting interfa[2.0mm] e stitch length setting button to enter the stitch length setting interface, as shown in the right figure.

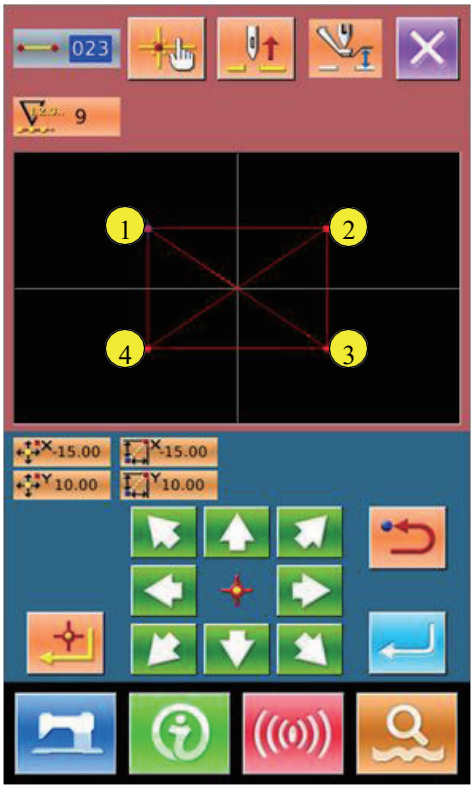


Press the [3] and [0] numeric buttons in sequence to change the stitch length to 3.0, then press the confirm button to save and return to the straight line normal stitch setting interface.

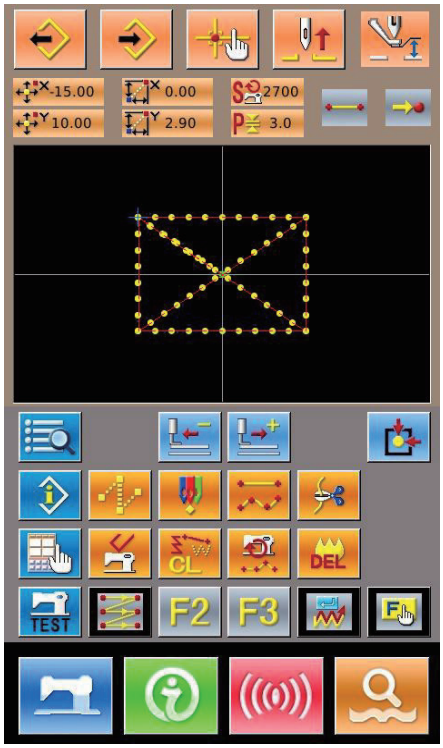
Note: Press the [C] button to reset the value to zero.

After confirming that the displayed value of the stitch length setting button is 3.0mm, press the confirm button to enter the straight line normal stitch position setting interface.

In this interface, use the direction moving buttons to move the cursor (needle position) from to , then press the OK button .Repeat the above movement operation to move the cursor in the sequence , as shown in the right figure.



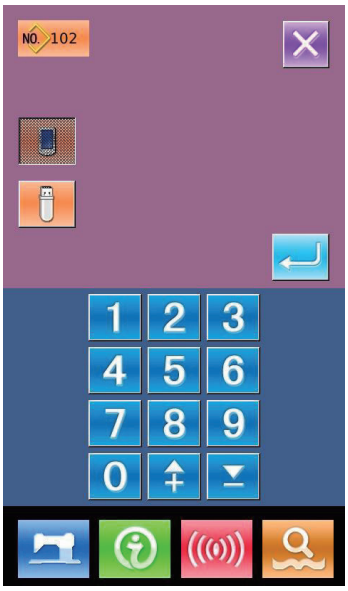
After confirming the pattern, press the button to generate the pattern data and return to the standard pattern editing interface to display the pattern.



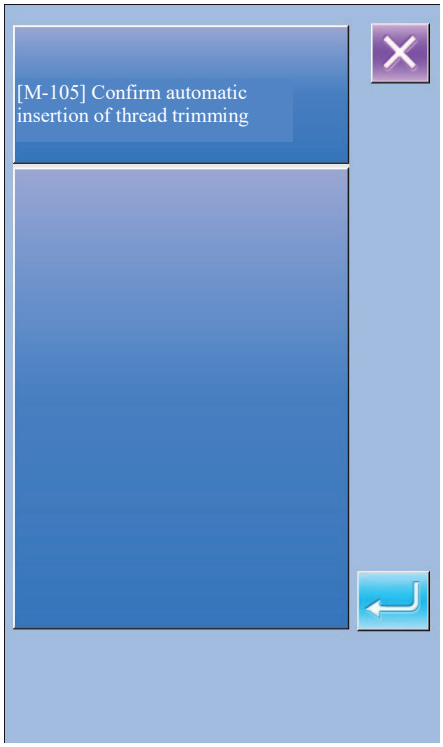
Save the pattern

Press the button to enter the pattern saving interface and save the edited pattern, as shown in the right figure.

The system automatically sets the pattern number, while the user can also input the desired value using the 0 ~ 9 numeric keypad or the and buttons. Use the and buttons to select the storage location for the pattern. The user can choose to store it on the operation panel's storage medium or on a USB flash disk.



Press the button to save the pattern. The system will prompt whether to automatically insert the tangent line, as shown in the right figure.



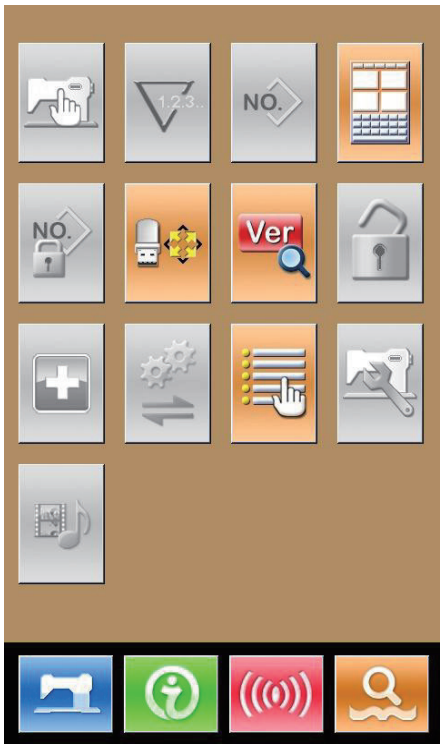
Press the button to automatically add tangents;

Press the button to cancel the automatic tangent addition. After the operation is completed, return to the standard pattern editing interface.

For detailed operations and instructions on pattern editing, please refer to the SP-510 Pattern-making User Manual.

5.3 Exit pattern editing mode

In the standard pattern editing interface, press to enter the mode selection interface, as shown in the right figure.





Press to switch between  and .

Where:

: Editing mode

: Sewing mode

After pressing the  button again, exit the mode selection interface, and the system prompts whether to return to the sewing mode.

Press the  button to exit the pattern editing mode and return to the sewing mode.

6 Information function

The information function includes the following three functions.1) You can specify the oil change period, needle change period, and cleaning period, and issue a warning notification after the specified event has passed.

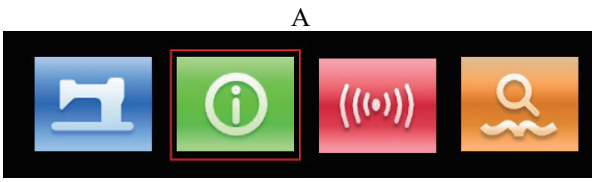
2) The display of target values and actual values increases the production team's awareness of goal achievement and allows for progress confirmation at a glance.

3) Display the threading schematic diagram.

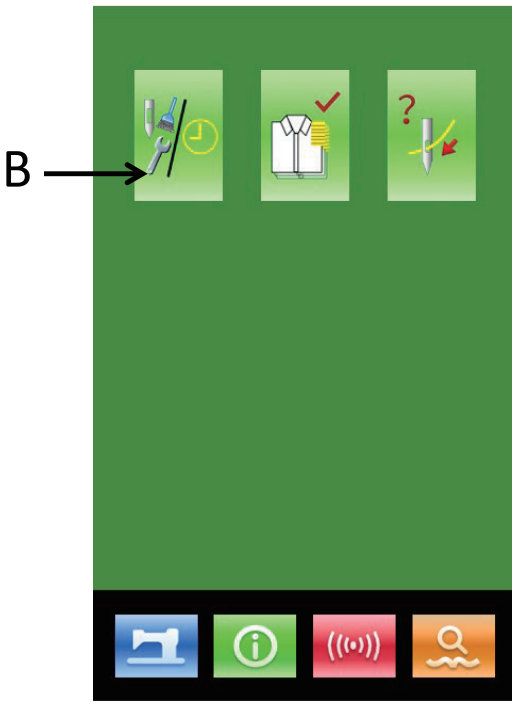
6.1 View maintenance information

① Display information interface

On the data input interface, press the information button (A) on the switch seal to display the information interface.



② Display the maintenance interface. Please press the maintenance information button on the information interface to display button  (B).

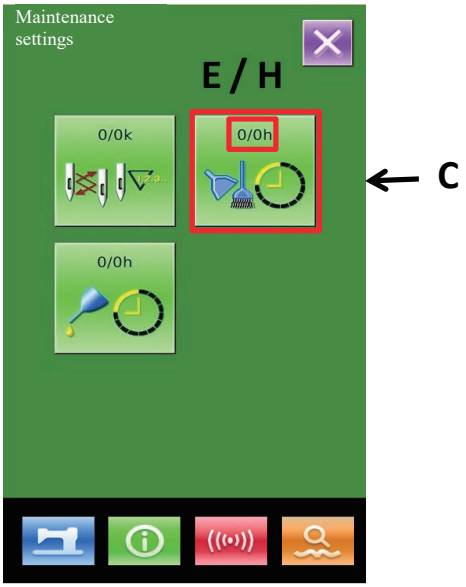


On the maintenance information interface, there are 3 items of information displayed.

: Replace needle (thousand needles)

: Cleaning time (hours)

: Oil change time (hours)



Each item is displayed on button (C), and the interval for notifying maintenance is displayed on button (D),
the remaining time until replacement is displayed on E.

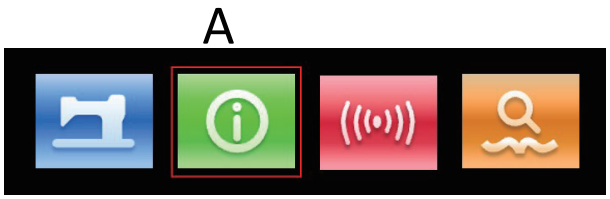
Click the corresponding button to clear the remaining time until replacement.

Press the exit button to return directly to the information interface.

6.2 Maintenance time setting

① Display information interface (maintenance personnel level)

On the data input screen, press the information button (A) for about 3 seconds to display the information screen (maintenance personnel level).



At maintenance personnel level, 6 buttons are displayed.

② Information interface function

When the maintenance personnel level is selected, six functions are displayed:

: Maintenance

: Production management

: Threading instructions

: Alarm records

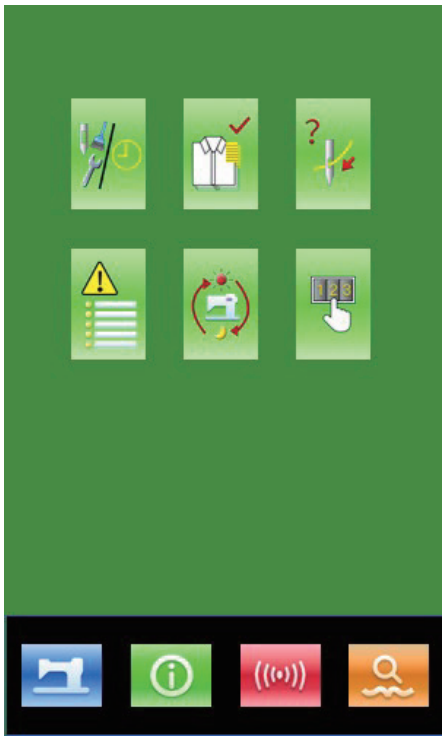
: Operation records

: Installment password.

Please press the maintenance information button on the information interface

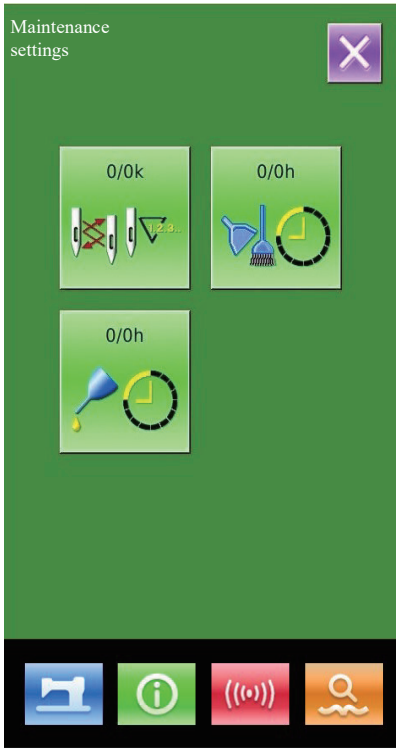
Press the display button  (B) to enter the maintenance interface.

B



③ Maintenance settings

On the maintenance information interface, the same information as the normal maintenance information interface is displayed.



Press the item you want to change the maintenance time.

Press button (C) to display the

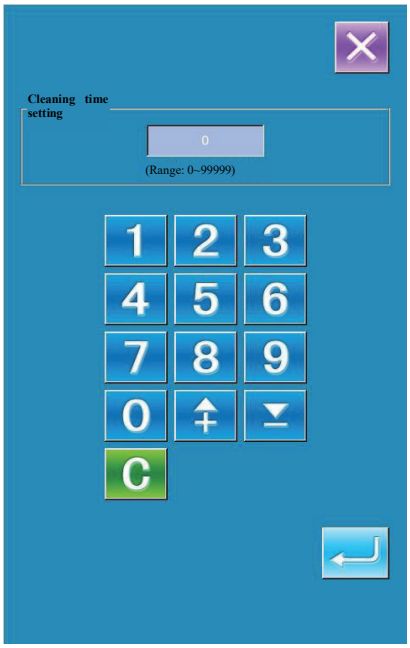
relevant input interface.

For example, pressing the  button allows setting the cleaning time.

Press the exit button  to return directly to the information interface.

④ **Set maintenance items**

After the maintenance item setting value is set to 0, the maintenance function will be stopped.



Maintenance settings include:

Needle replacement time setting

Cleaning time setting

Oil change time setting. Press the corresponding icon to enter the setting interface:

A. Enter the set value of the maintenance item using the numeric keypad.

B. Press the enter button  to confirm the input.

C. Press the exit button  to return directly to the maintenance interface.

6.3 How to clear the warning

When the designated maintenance time comes, the information prompt interface is displayed. To clear the maintenance time, press Enter .Before clearing the maintenance time, an information prompt interface is displayed after each sewing is completed.

The information reminder numbers for each item are as follows.

- Needle replacement: M-052
- Oil change time: M-053
- Cleaning time: M-054

6.4 Production management information

On the production management interface, specify the start, and you can display the number of pieces produced from the start to now, the production target number of pieces, etc. There are two ways to display the production management interface:

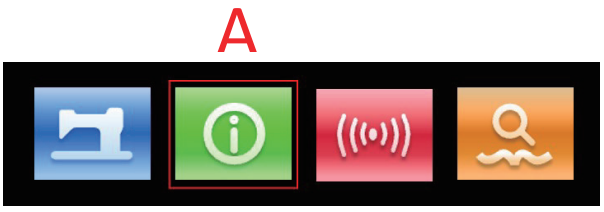
Display from the information interface

Display from the sewing interface

6.4.1 Display from the Information Interface

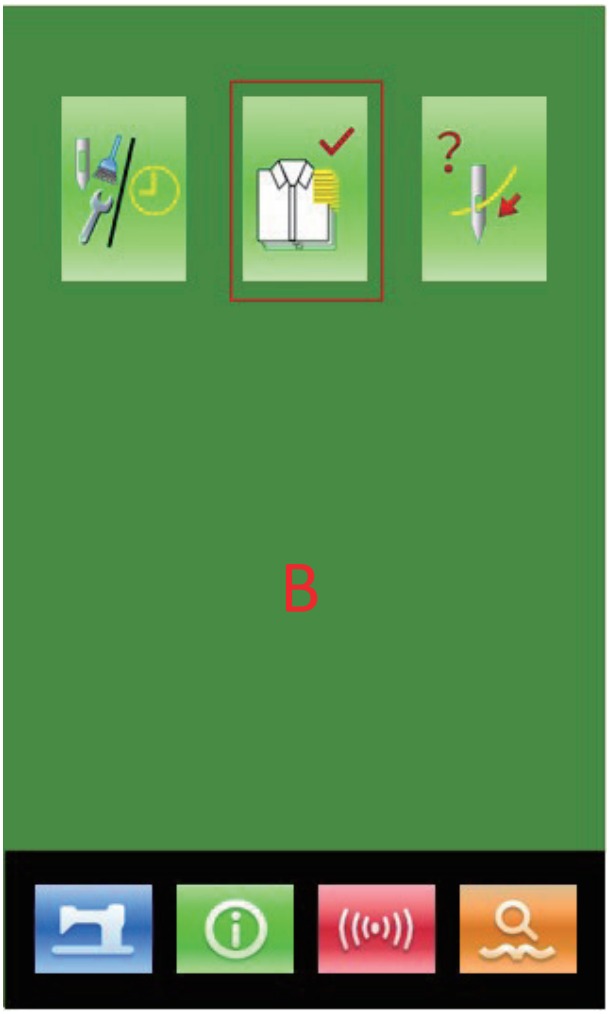
① Display information interface.

Press the information button on the switch part on the data input interface
(A) After that, the Information Interface is displayed.

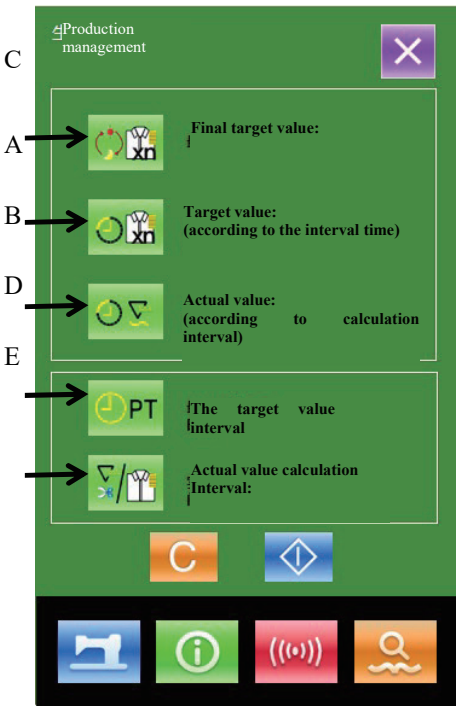


② Display the production management interface. Please press the button (B) displayed on the production management interface of the information interface.

The production management interface is displayed (as shown in the right figure).



The production management interface displays information for the following five items.



A: Target value

The target number of sewn pieces up to now is automatically displayed according to the interval time.

B: Actual value

The number of sewn pieces is automatically displayed. C: Final target value

Set the final target number of sewn pieces. D: Target value interval time

Set the time (in seconds) required to complete a task. E: Actual piece counting interval

Set the interval for actually completing a task

6.4.2 Display from sewing interface

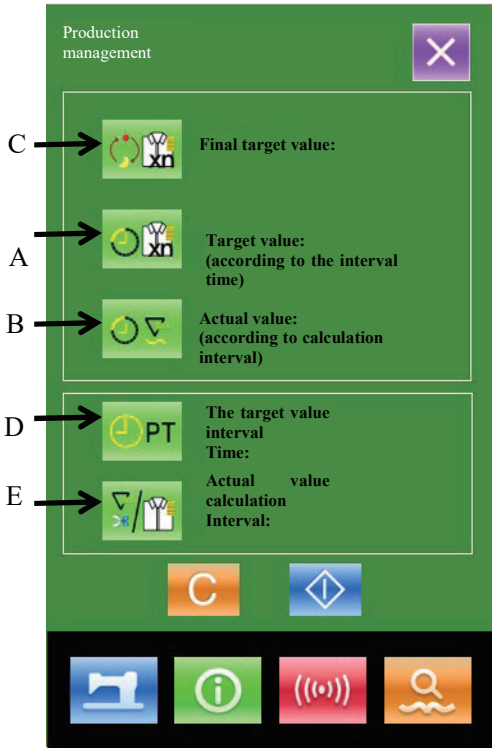
① Display the sewing interface. After pressing the ready button on the  data input screen, the sewing interface is displayed.	
② Display the production management interface.	A

In the sewing interface, press the information button (A), and the production management interface will be displayed. The display content and functions are the same as those in Section 6.4.1 above.	

6.4.3 Production management information setting

① Display the production management interface.

Press  to display the production management interface.



② Enter the final target value.

First, input the production target of sewn pieces from now on. Press the final target value

After pressing the  (C) button, the final target value input interface is displayed.

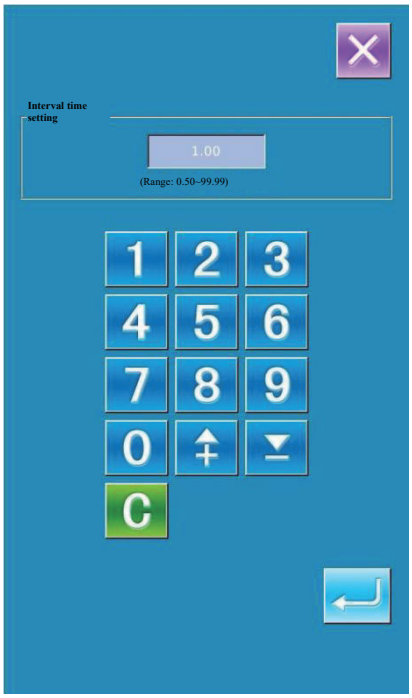
Please use the numeric buttons or the plus and minus buttons to enter the desired value. After entering, please press the confirm button  and then press the exit button  to exit.

③ Enter the interval time.

Then, please enter the interval time required for one process.

After pressing the interval time button 

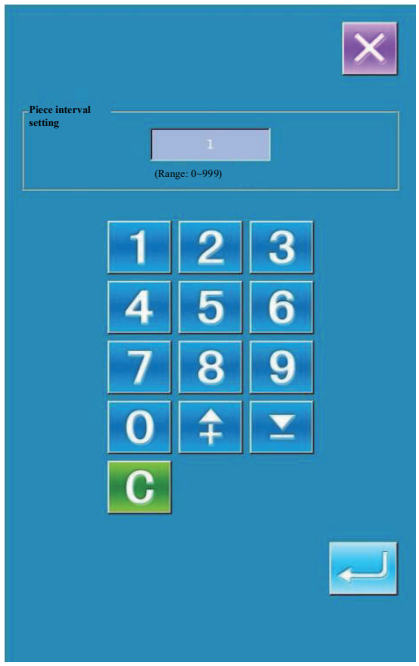
(D) on the previous page, the interval input interface is displayed.



Please use the numeric buttons or the plus and minus buttons to enter the desired value. After entering, please press the confirm button , and then press the exit button to exit directly.

⑤ Enter the piece counting interval. Then, please enter the average interval of one process.

When the piece counting interval button [ ] (E) on the previous page is pressed, the piece counting interval input interface is displayed.



Please use the numeric buttons or the plus and minus buttons to enter the desired value. After entering, please press the confirm button , and then press the exit button  to exit directly.

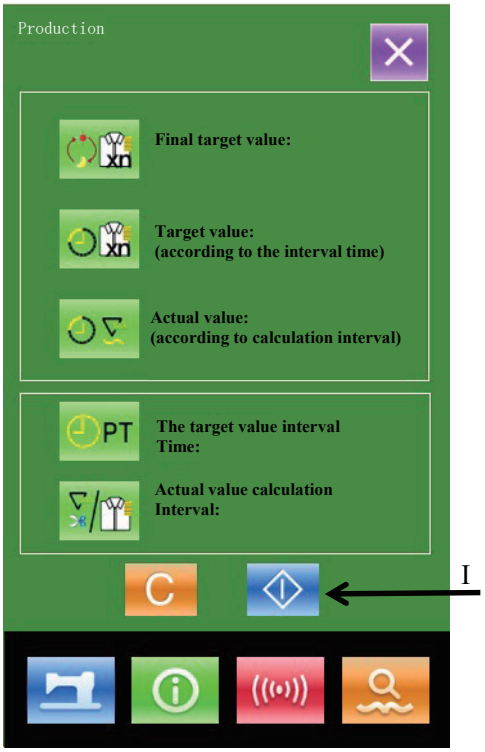
⑤ Start counting the number of pieces produced.

After pressing the button (I), the [Final target value], [Target value], and [Actual value] become grayed out, and counting of the number of pieces produced begins. Final target value: Can be used as a reference time

Target value: Begins timing according to the duration set in [Target Value Interval] and increases by 1 after each time interval.

Actual value: When accessed through "6.4.2 Display from the sewing interface", the actual value starts counting based on the [Actual Value Piece Counting Interval] setting, and increases by 1 after each piece is sewn.

By setting the target and actual values, you can compare whether the production efficiency of each sewn piece has increased or decreased.



⑥ Stop counting.

In the counting state, the stop button is displayed. Press the stop button to stop counting. After stopping, the count button is displayed at the stop button's position. To continue counting, press the count button again.

The count value will not be cleared until the clear button  is pressed.

Press the exit button  to exit and return directly.

⑦ Clear the count value.

To clear the count value, set the counter to stop c

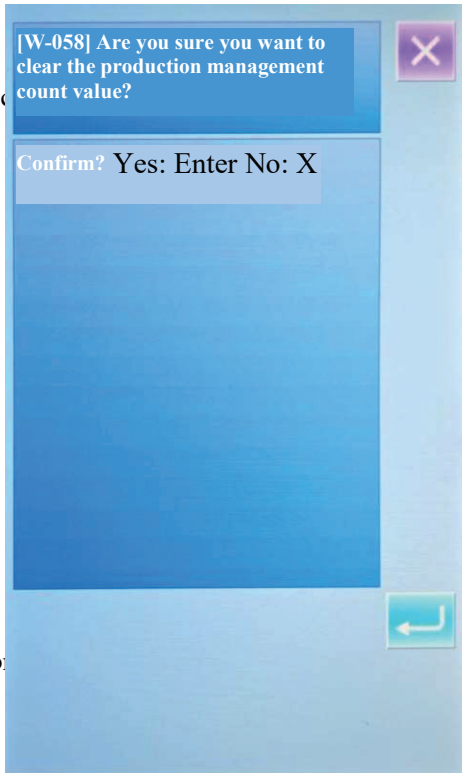
Press the clear button  to clear the status. The values that can be cleared are the current target value  and actual value .

(Note: The clear button is displayed only when counting is stopped.)

After pressing the clear button , the clear confirmation interface is displayed.

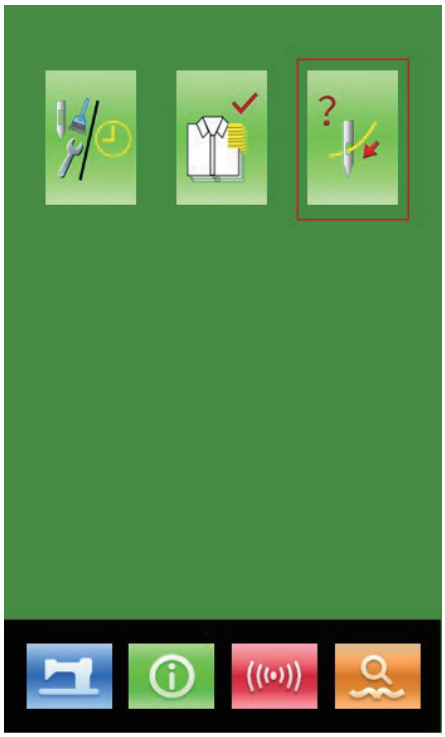
On the clear confirmation interface, press the co

 Confirm clearing, and press the exit button  to exit directly.

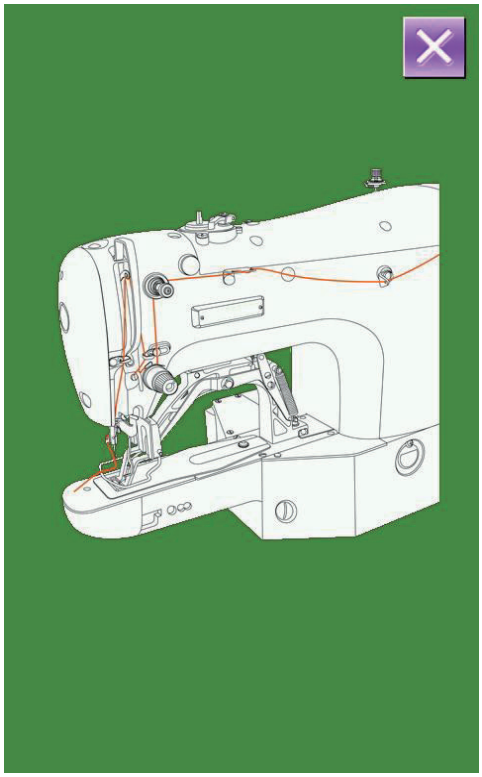


6.5 Displaying the threading diagram

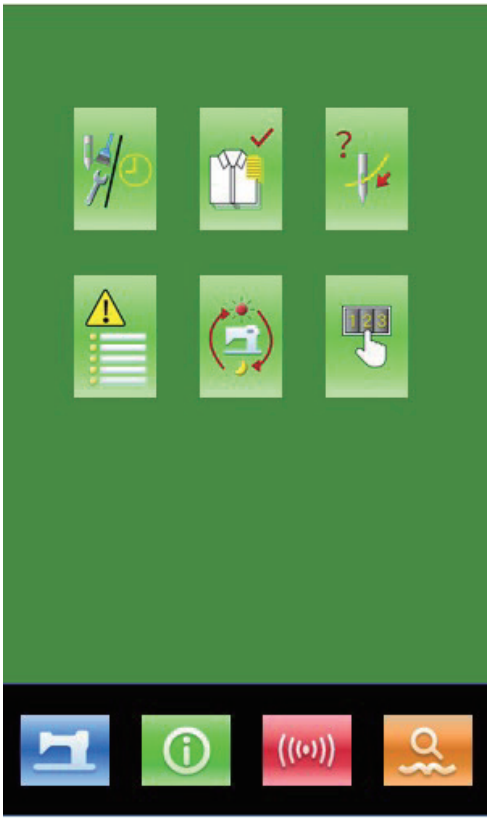
After pressing the threading button  C (C) on the information interface, the upper threading diagram is displayed.



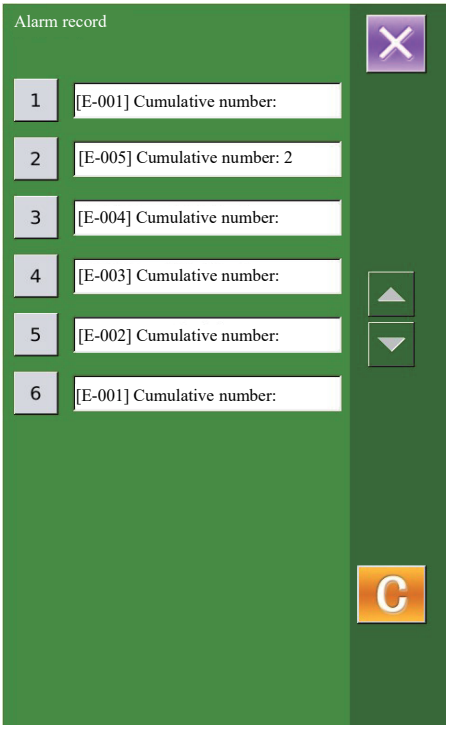
When threading, refer to.



6.6 Alarm record



① **At the maintenance personnel level, press**  **to query the machine's alarm record information.**



② Press  to query records

As shown in the figure, the alarm information and its frequency are displayed

Operation button functions:

A. Press  and  to turn pages.

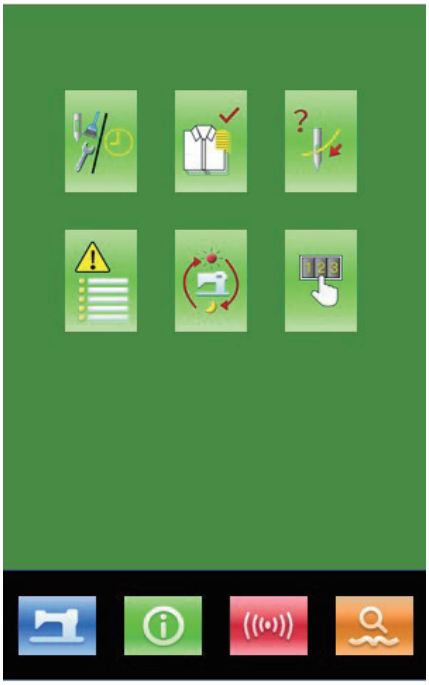
B. Press the exit button  to exit the query operation.

C. Press the clear button  to retain the alarm record

③ Press the serial number button on the left side of the alarm prompt bar to display detailed information of the alarm record

Press  to exit.

6.7 Operation record



① **When maintenance personnel level is selected, press to query**

Machine operation information.

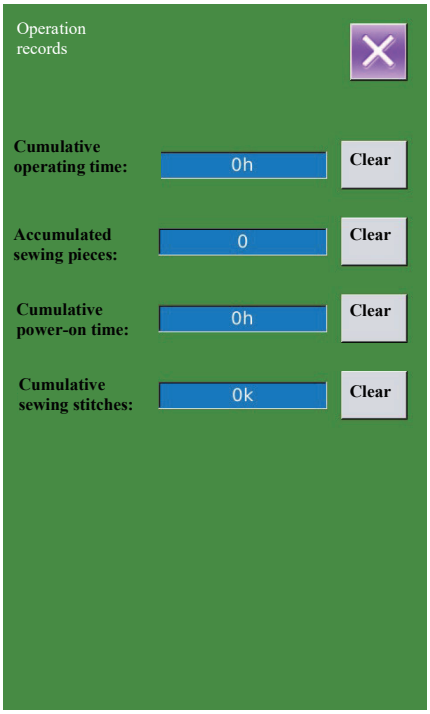
② **Operation records include:**

a): Machine cumulative operating time (in hours)

b): Machine cumulative thread cutting count

c): Machine cumulative power-on time (in hours)

d): Machine cumulative stitch count (per 100 units)



A. Press the exit button to exit. B. Press the clear buttonto clear records

6.8 Installment password setting



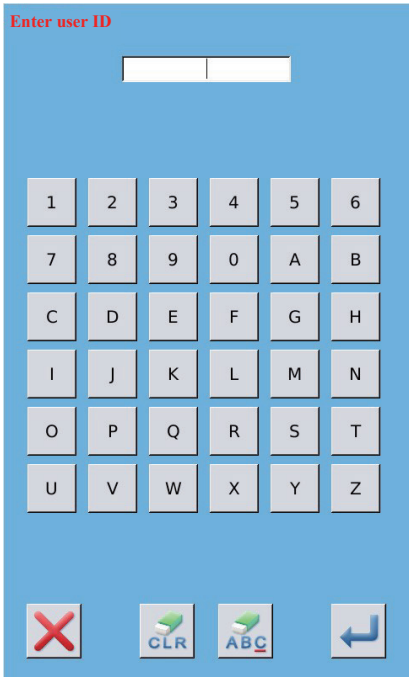
1) At maintenance personnel level, press  **to set**

Installment password

The user ID input interface will be displayed in this interface. After entering the correct manufacturer ID, you'll enter password management mode, mainly used for setting and managing user installment passwords.

You can set up to 10 different password activation dates.

The system can display password details set by the manufacturer.



2) Press  **to prompt entry of the manufacturer ID**

3) Enter the correct manufacturer ID to access the password setup interface. Steps to set up installment password:

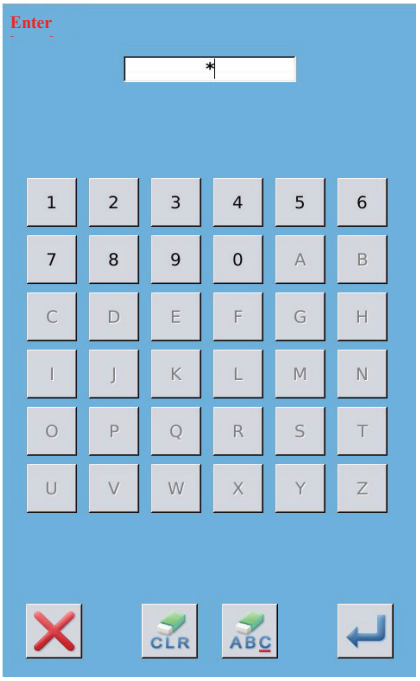
A. Continue entering additional installment passwords



4) Enter the board number

Press the [Board Number] button to enter the board number input interface. After entering the board number, press  to complete the board number input interface.

※ The board number is four digits, ranging from 0 to 9999



5) Enter the system clock

Press the [Clock] button to enter the system clock setting interface and confirm the system clock.

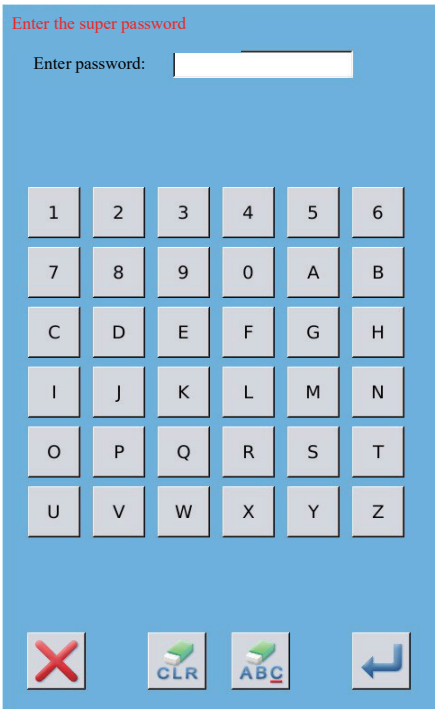


6) Enter the super password. Press the [Super Password] button to access the super password setting interface and input the super password.

※ You can enter a total password of up to 9 digits

※ Password input requires confirmation;

the two passwords must be identical.



7) Enter the installment password

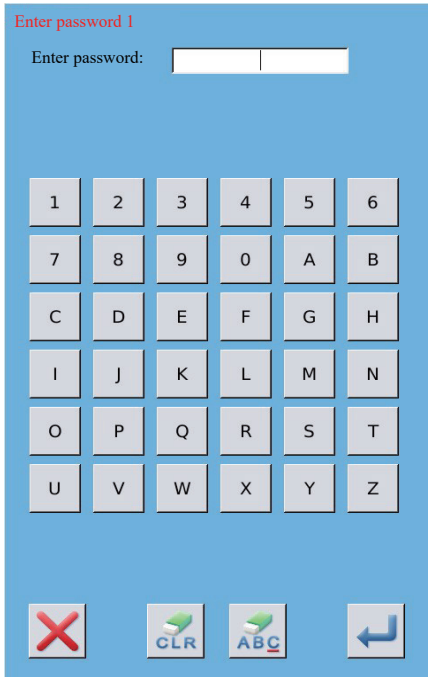
Press the [Password-1] button to access the first password expiration interface, and input the first valid date.

After selecting the appropriate date, press  to confirm, then enter the password setting interface to input the password.

※ The date cannot be earlier than the system date.

※ Password input requires confirmation; the two passwords must be identical.

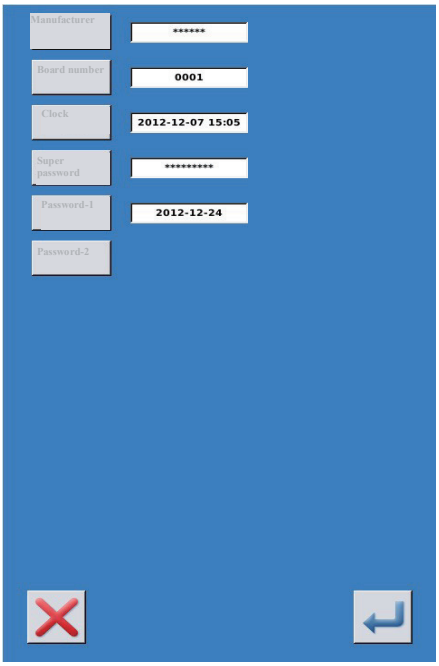




8) Enter additional installment passwords

Additional installment password settings are identical to ⑦; refer to settings of ⑦.

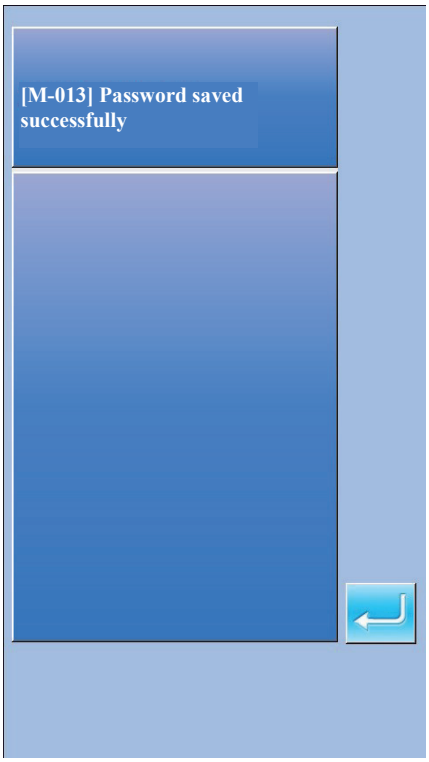
※ The next valid date must be later than the previous valid date.



9) Save the password

A. After entering the password, press  to complete password saving.

B. The password is successfully saved, and the [Password Saved Successfully] interface appears. Press  to finalize password saving and return to the [Information Main Interface].

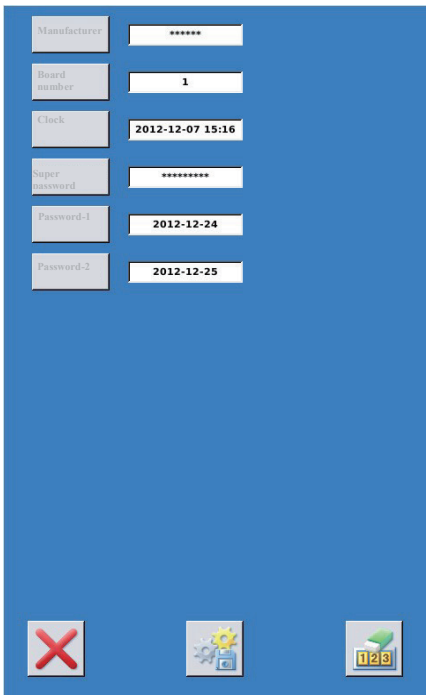


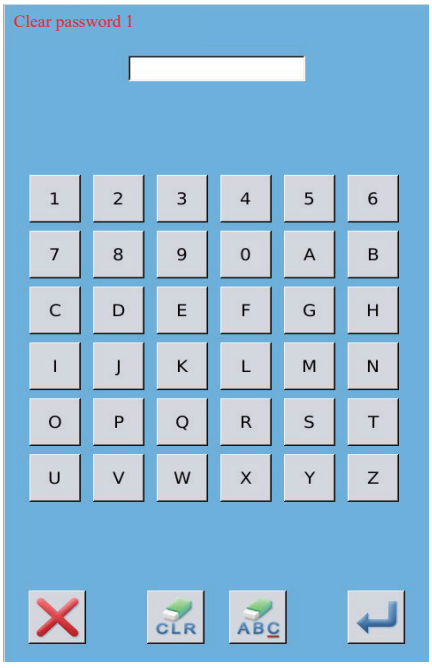
10) Actively clear passwords. Actively clearing passwords refers to clearing password settings before installment password activation.

A. Password entry method is identical to password setup. B. Upon correct manufacturer ID input, the right-side interface is displayed.

C. The system displays the current time and each installment password's activation date.

D. Press  to sequentially delete installment passwords from beginning to end.





After continuously entering the correct installment password, the current period's password will be cleared. If the entered password is the super password, all installment passwords will be cleared. The cleared installment dates will be displayed in red. If all passwords are cleared, the system will automatically exit and return to the information main interface.

11) Password occurrence clearance. If the system has set a password and has not cleared it, using the machine until the password expiration date will trigger password occurrence.

At this point, to continue usage, you must enter the password to proceed normally.

A. Valid passwords include the prompted current password and the super password.

B. If the current password is entered, the current period's password will be cleared. After clearing the current password, if there are no subsequent passwords, the machine will no longer experience password occurrence issues.

C. If the super password is entered, all installment passwords will be cleared.

7 Communication function

The communication function performs the following tasks:

Download sewing data compiled by other sewing machines or pattern-making software to the sewing machine.

Load sewing data onto a USB flash disk or computer.

Load parameters from a USB flash disk.

Export the parameters saved in the operation head to a USB flash disk.

Perform operation head software upgrade.

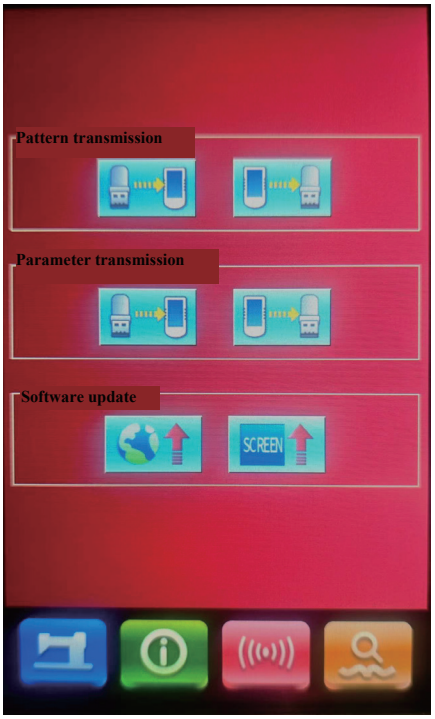
7.1 About data that may be processed

The sewing data that can be processed are as follows:

Data types	Standard format
VDT	[0-9][0-9][1-9].vdt

When saving data to a USB flash disk, ensure it is saved to the "pattern" folder, otherwise the file cannot be read.

7.2 Functional operation



① Display communication interface

In the data input interface, press the communication button to display the communication interface.

② Select the corresponding operation.

Functions available in this interface are divided into three categories:

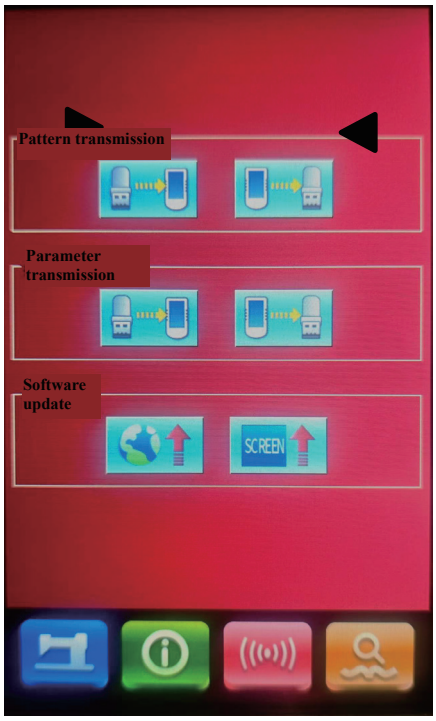
Pattern transmission

Parameter transmission

Software upgrade: Click the appropriate icon to execute the function.

③ Press the communication button to exit the communication function.

7.3 Pattern transmission



① Display communication interface

In the communication interface, press:

A:Import the pattern from the USB flash disk to the operation head.

B: Export the pattern saved in the operation head to the USB flash disk.

USB flash disk path: pattern

※ When importing a pattern from a USB flash disk, ensure that the pattern file is saved in the pattern directory of the USB flash disk.

※ When exporting the pattern from the operating head, the exported pattern file is saved in the pattern directory of the USB flash disk.

※ Naming convention for patterns in a USB flash disk

When importing patterns from a USB flash disk, adhere to the following naming rules:

File name: three-digit number, 001~999; Suffix: vdt (case insensitive)

Example:

Correct file naming: 100.vdt, 102.VDT.

Other naming conventions are incorrect and will not be recognized by the system.

② Press the A indicator button to enter the interface for importing patterns from the USB flash disk to the operating head.

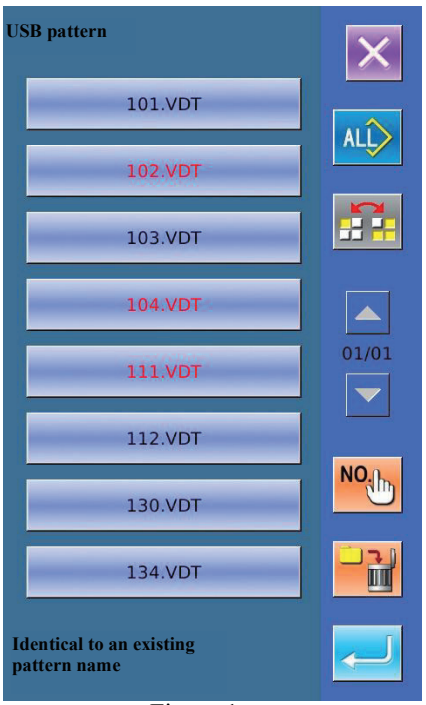


Figure 1

Note: If the pattern in the USB flash disk shares the same name as a pattern in the operating head, the pattern number will be shown in red. In such cases, use the F button to import the pattern into the operating head. As shown in Figure 1.

A. Use the [Up Arrow] and [Down Arrow] buttons to navigate pages.

B. Use the following operations to select the pattern:

Press  to select all patterns.

Press  to invert selection.

Click the pattern number button.

C. Press  to complete the pattern import function, ensuring the pattern number in the operating head matches the selected pattern number.

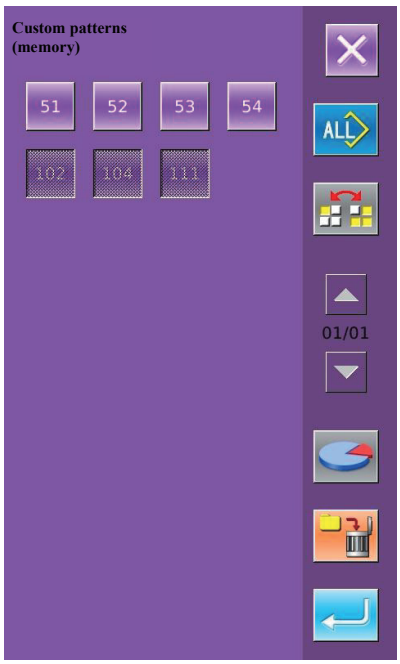
Consistent.

D. Press  to delete the selected pattern.

E. Press the exit button  to return to the communication interface.

Note: If the selected pattern number already exists in the operating head, it cannot be overwritten.

③ Press the B indicator button to export the pattern from the operating head to the USB flash disk.



A. Use the [Up Arrow] and [Down Arrow] buttons to navigate pages.

B. Use the following operations to select the pattern:

Press  to select all patterns.

Press  to invert selection.

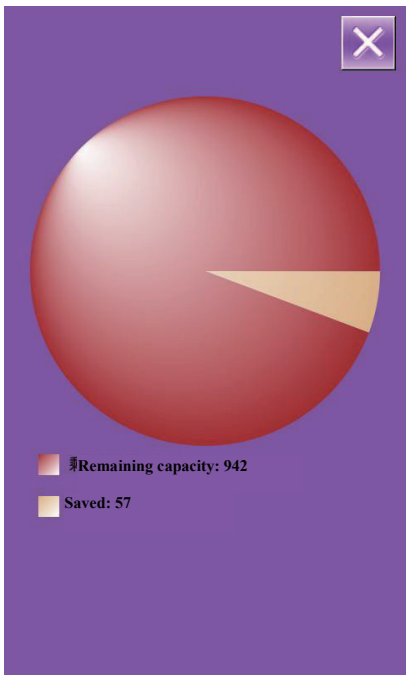
Click the pattern number button.

C. Press  to delete the selected pattern.

D. Press  to complete the export pattern function.

E. Press the exit button  to exit the pattern export function interface.

F. In this interface, press the  button to display the space occupied by the patterns in the current memory and the number of patterns.



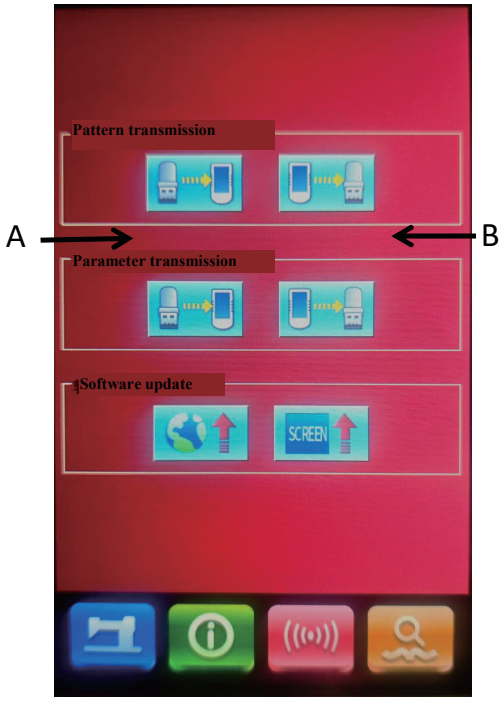
7.4 Parameter transmission

① **Display communication interface**

In the communication interface, press:

A:Import parameters from USB flash disk to the operation head

B: Export the parameters saved in the operation head to the USB flash disk



※ When importing parameters from a USB flash disk, please save the parameter file in the USB flash disk directory.

※ When exporting parameters from the operation head, the exported parameter file is saved in the USB flash disk

※ The parameter file is a binary file. Operations on the file are completed on the operation head. Do not modify the file manually to prevent affecting its functionality.

② **Press the A indicator button to complete the import of parameters from the USB flash disk to the operation head.**

A. Press the enter button to complete importing parameters from the USB flash disk to the operation head and exit

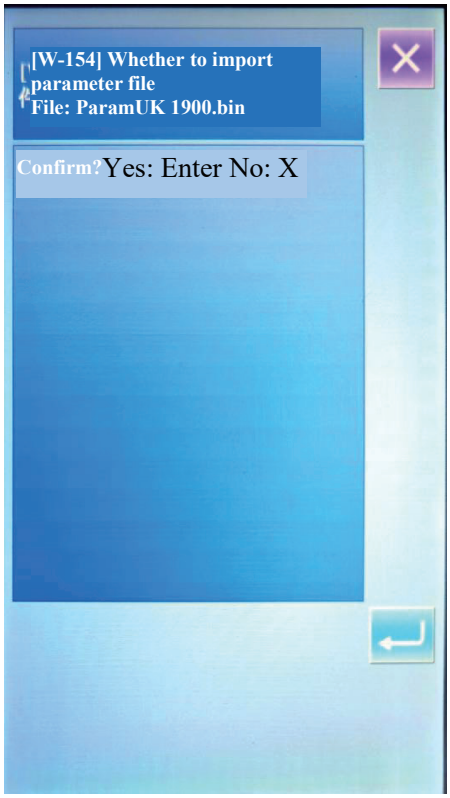
B. Press the exit button to exit directly



③ Press the B indicator button to export the parameters from the operation head to the USB flash disk.

A. Press the enter button to complete exporting parameters from the operation head to the USB flash disk and exit

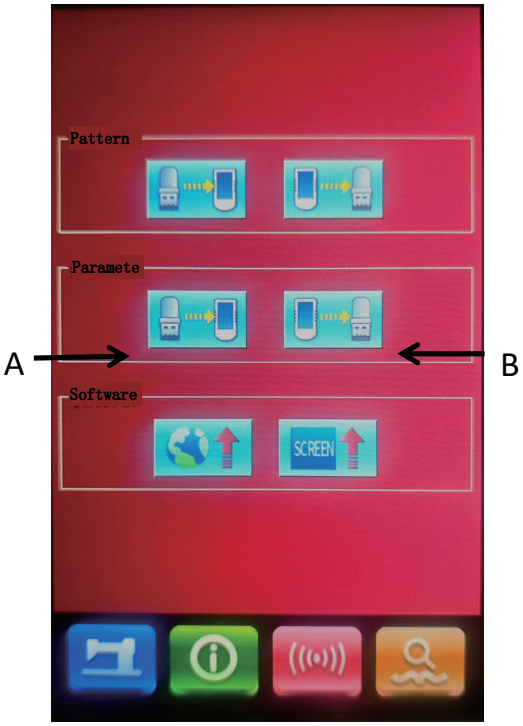
B. Press the exit button to exit directly



7.5 Software upgrade

1) Display the communication interface

In the communication interface, press the A button to enter the software upgrade interface.



2) Upgrade type selection

Software upgrade includes:

Operation head program

Icon

Display font

Startup screen

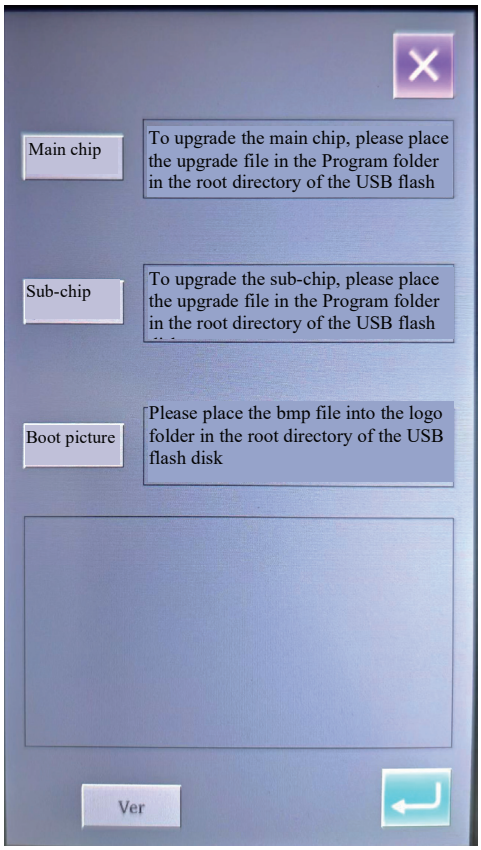
Press and to turn pages

A. Press the enter button to complete the upgrade of the selected function and exit

B. Press the exit button to exit directly

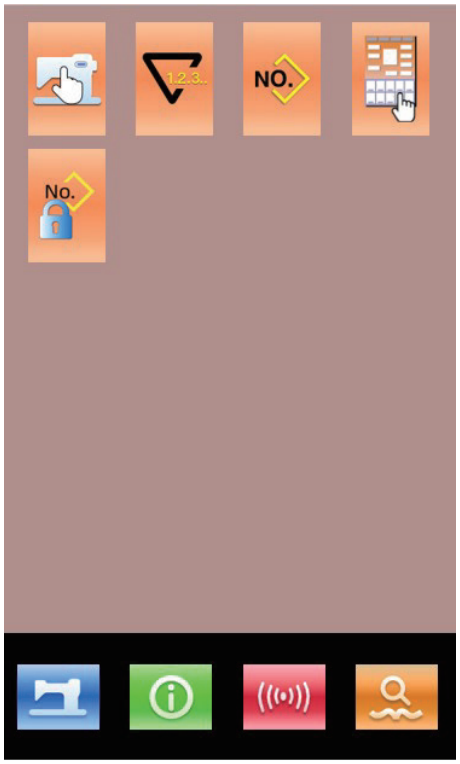
C. Multiple function buttons can be selected simultaneously, and the system will execute the corresponding upgrade functions in sequence.

D. After the upgrade is complete, shut down and restart the system.



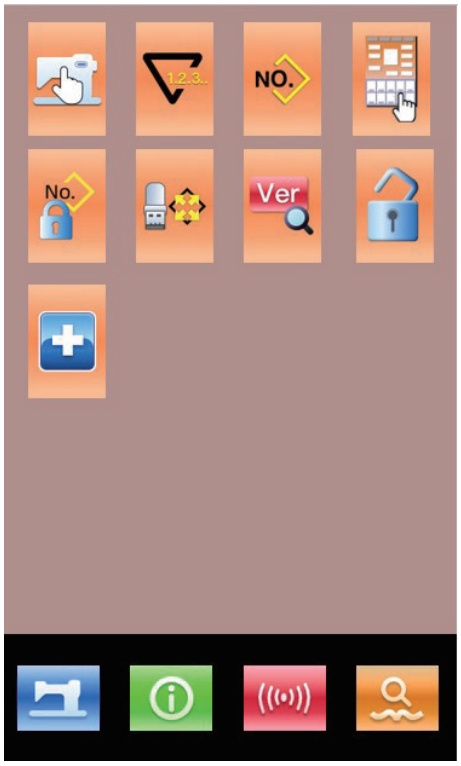
3) Press B to enter the boot screen upgrade interface. Place the bin file generated by the boot screen into the update directory of the USB flash disk. After selecting the bin file, press the enter button  to complete the boot screen upgrade.

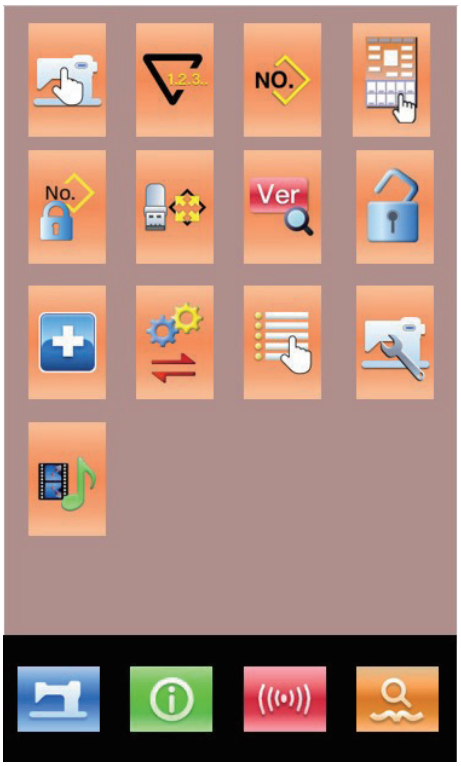
8 Mode and parameter settings



Press  to toggle between the data input interface and the mode interface (as shown in the right figure). Detailed settings and editing operations can be performed on this interface.

Press and hold the  button for 3 seconds to enter setting mode level 2. Press and hold for 6 seconds to enter setting mode level 3.



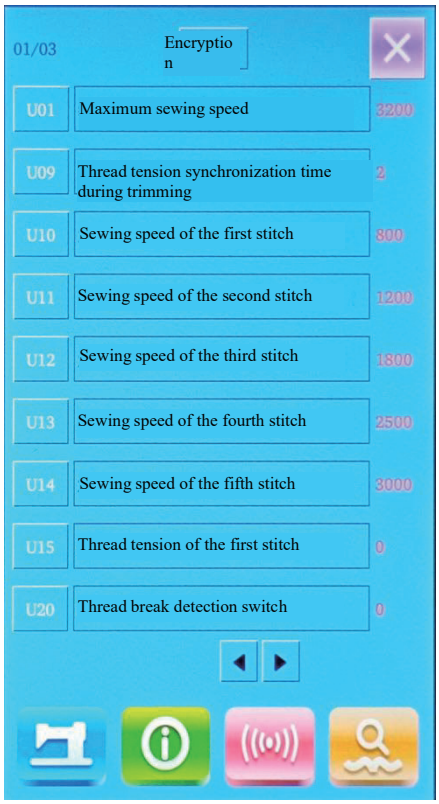


8.1 Functional description

No.	Icon	Function	Content
		Level 1 parameter setting	Perform Level 1 (U) parameter settings.
		Counter settings	The counter type, count value, and set value can be configured.
		Sewing type settings	Toggle between normal pattern sewing and combined pattern sewing.
		Pattern lock	Enter the pattern lock settings interface.
		Pattern editing	Access the pattern design editing interface.
		Format USB flash disk	Format USB flash disk.
		Software version query	Query the software versions of the current panel, main control, and motor.
		Keyboard lock	Certain configurable functions can be locked.
		Detection mode	Test the machine's peripherals and LCD.
		Parameter backup	Backup and restore current parameters.
		Edit parameter switch	Parameters being edited can be enabled or disabled.
		Level 2 parameter settings	Execute Level 2 (K) parameter settings.

		Video playback	Video files can be played.

8.2 Level 1 parameter settings



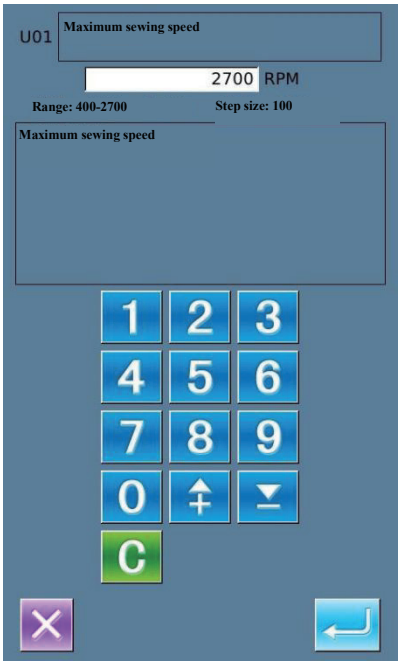
① Parameter setting operation

Select  to enter the Level 1 parameter settings interface (as shown in the right figure).

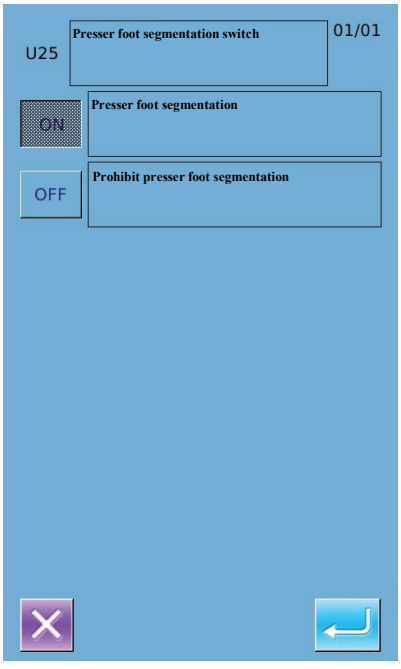
Press the  button to exit the parameter settings interface. When a parameter is modified, the [Modified] button appears on the parameter settings interface.

After selecting the parameter to be modified, enter the setting mode. Parameter settings are divided into data input type and selection type. Examples are as follows:

Select U01 to enter the interface



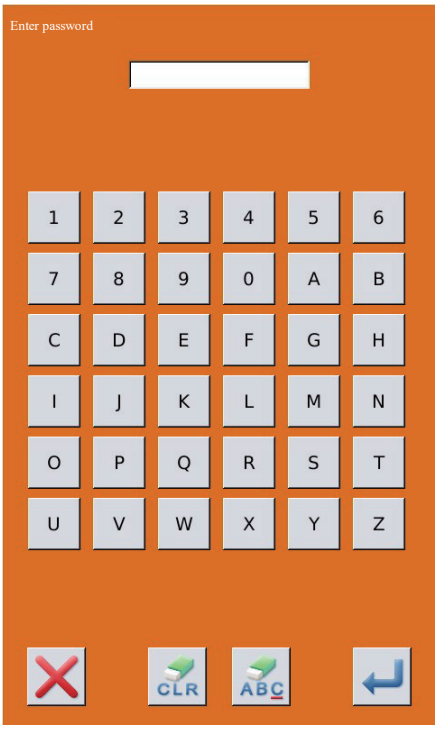
Select U25 to enter the interface



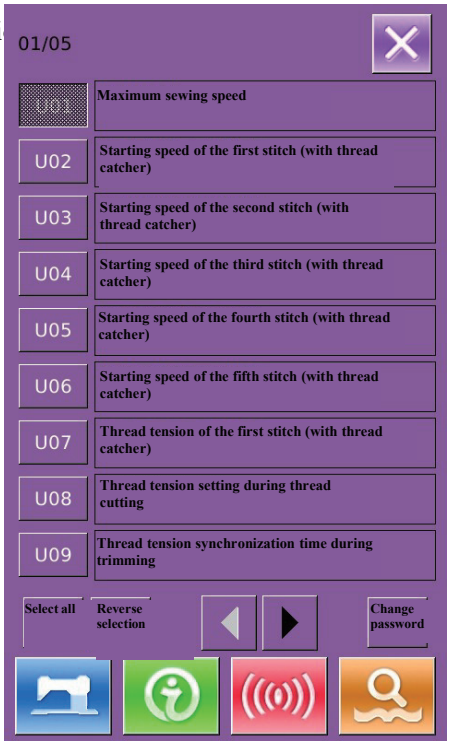
② Parameter encryption

A. Press the "Encryption" button to enter the password input interface. Press CLR to clear all input. Press ABC to delete one character at a time.

B. After entering the correct password, access the parameter encryption interface and choose the parameters to encrypt. Press [Select All] to encrypt all parameters. Press [Reverse Selection] to invert the selection. Press [Change Password] to modify the encryption password, default is manufacturer ID.



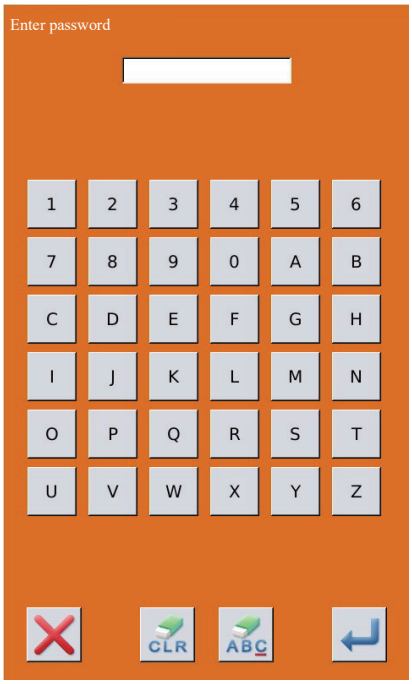
Press the exit button to exit the encrypti



③ Query modified parameters

A. When a parameter is modified, the [Modified] button appears on the parameter settings interface.

B. In the Parameter Setting Interface, press the [Modified] button to query the modified parameters. First, you are required to enter a password. For operations on the password input interface, refer to item A of ②. After entering the correct password, enter the modified parameter query interface.



C. In the modified parameter query interface, you can view a list of all modified parameters, displaying both the current modified values and their reset values.

Within this interface:

Press the [Restore All] button to restore the modified parameters to their reset values.

Tap the parameter name button, such as [Presser Foot Type], then tap [Select Restore] to restore the selected parameters to their reset values. Multiple parameter buttons can be selected.

Press the parameter number button, such as [U14], to enter the Parameter Setting Interface and reconfigure the parameter values.

When more than one page exists, use the arrow buttons to navigate pages.

Click  to exit this interface.

④ Level 1 Parameter Table

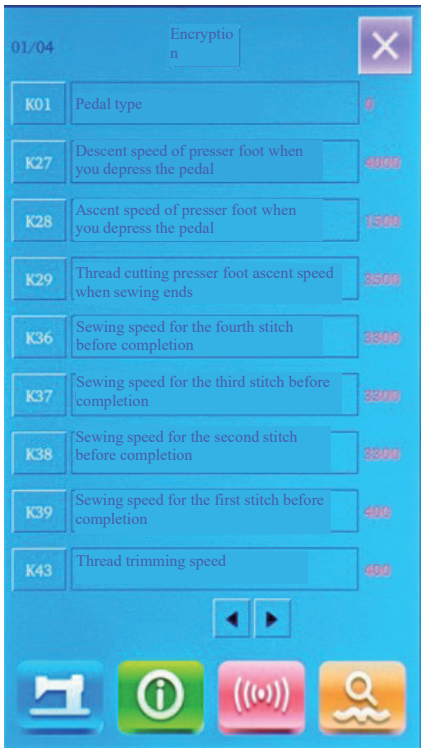
No.	Parameter	Setting range	Edit unit	Factory settings
U01	Maximum sewing speed	400 ~ 2500	100rpm	2700rpm
U09	Thread tension synchronization time during trimming	-6 ~ 4	1	2
U10	Starting speed of the first stitch	400 ~ 1500	100rpm	800rpm
U11	Starting speed of the second stitch	400 ~ 3500	100rpm	1200rpm
U12	Starting speed of the third stitch	400 ~ 3500	100rpm	1800rpm
U13	Starting speed of the fourth stitch	400 ~ 3500	100rpm	2500rpm
U14	Starting speed of the fifth stitch	400 ~ 3500	100rpm	3000rpm
U15	Thread tension of the first stitch	0 ~ 200	1	1
U20	Thread break detection switch	0 ~ 1	1	1
U32	Disable buzzer	0 ~ 2	1	2
U36	Synchronization timing adjustment for fabric feeding	-8 ~ 16	1	16
U37	Presser Foot Condition Post-Sewing	0 ~ 2	1	1
U38	Prohibit lifting presser foot	0 ~ 1	1	0
U39	Origin Search Setting Post-Sewing Completion	0 ~ 1	1	0
U43	Brightness of head LED lighting lamp	0 ~ 5	1	5
U46	Set prohibiting thread cutting	0 ~ 1	1	0
U49	Winding speed configuration	800 ~2000	100rpm	1600rpm
U63	XY scaling rate setting mode	0 ~ 1	1	0
U97	Thread cutting mode after pause	0 ~ 1	1	1
U135	Presser Foot Activity Setting Prior to Sewing	0 ~ 1	1	0
U193	Prohibit counter modification	0 ~ 1	1	0
U200	Language selection	0 ~ 3	1	0

8.3 Level 2 parameter settings

① Parameter setting operation

In setting mode level 3, select  to enter the Level 2 parameter setting interface (as shown in the right figure).

For the operation method, refer to "8.2 Level 1 Parameter Settings". When a parameter is modified, the [Modified] button appears on the parameter settings interface.

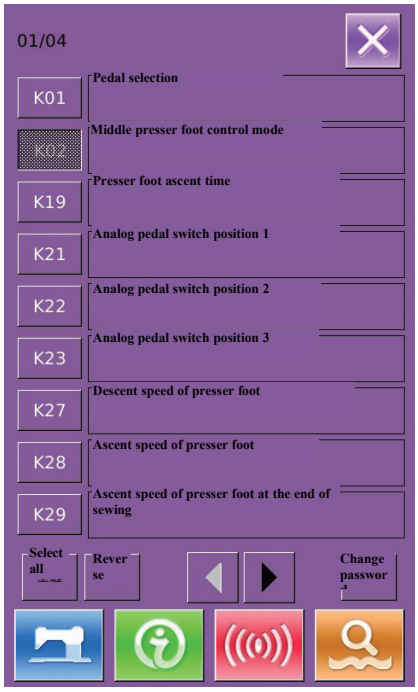


Press the  button to exit the parameter setting interface.

② Parameter encryption

For the operating steps of parameter encryption, please refer to "8.2 Level 1 Parameter Settings".

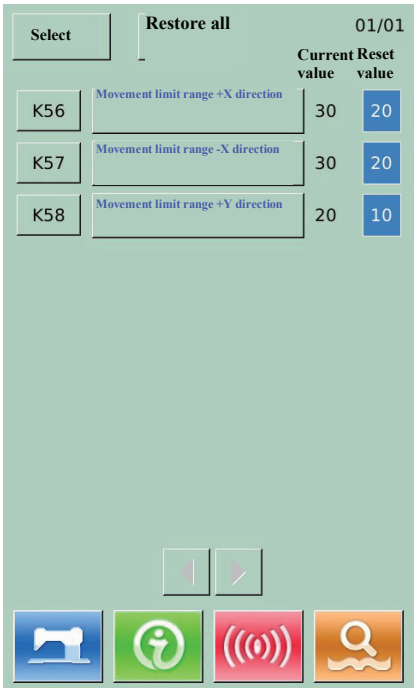
Press the  button to exit the parameter encryption interface.



③ Modified parameter query

When a parameter is modified, the [Modified] button is displayed on the parameter setting interface. Click the [Modified] button to query the modified parameters and reset the parameters.

For specific operations, please refer to "8.2 Level 1 Parameter Settings".



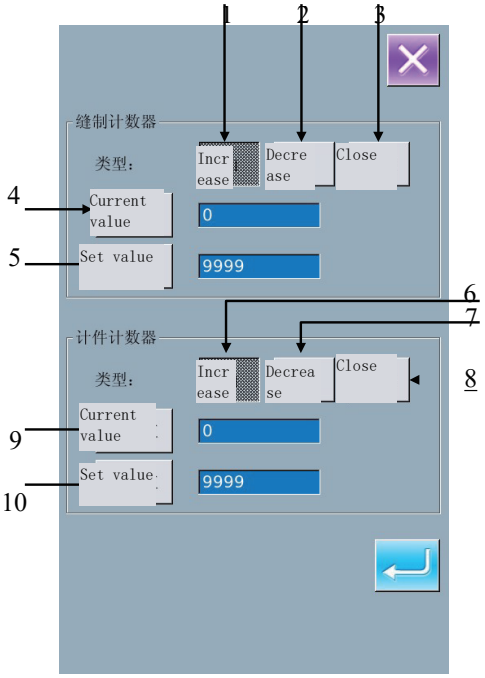
④ **Level 2 Parameter Table**

No.	Parameter	Setting range	Edit unit	Factory settings
K01	Pedal type	0 ~ 1	1	0
K27	Descent speed of presser foot	100 ~ 4000rpm	100rpm	4000rpm
K28	Ascent speed of presser foot	100 ~ 4000rpm	100rpm	1500rpm
K29	Ascent speed of presser foot at the end of sewing	100 ~ 4000rpm	100rpm	3500rpm
K036	Sewing speed for the fourth stitch before completion	400 ~ 3500rpm	100rpm	3300
K037	Sewing speed for the third stitch before completion	400 ~ 3500rpm	100rpm	3300
K038	Sewing speed for the second stitch before completion	400 ~ 3500rpm	100rpm	3300
K039	Sewing speed for the first stitch before completion	400 ~ 3500rpm	100rpm	400
K043	Thread trimming speed	300 ~ 800rpm	100rpm	400
K056	Movement limit range in +X direction (right)	0 ~ 50	1	20
K057	Movement limit range in -X direction (left)	0 ~ 50	1	20
K058	Movement limit range in +Y direction (rear)	0 ~ 50	1	20
K059	Movement limit range in -Y direction (front)	0 ~ 50	1	20
K0	Prohibit pedal alarm	0 ~ 1	1	0

90				
K095	Thread trimming angle	-9 ~ 9	1	1
K112	Arm shaft stop compensation	-10 ~ 10	0	1
K122	OC length fine adjustment	-128 ~ 128	1	15
K123	OD length fine adjustment	-128 ~ 128	1	-22
K124	BD length fine adjustment	-512 ~ 512	1	13
K125	OC length	1780 ~ 2380	1	2080
K126	OD length	-1450 ~ 2050	1	1750
K127	BD length	390 ~ 590	1	490
K150	Disable the head flip switch	0 ~ 1	1	0
K160	Disable reverse emergency stop function switch	0 ~ 1	1	0
K172	Number of stitches setting for thread break detection	0 ~ 10	1	0
K180	(X) Motor find origin method	0 ~ 2	1	0
K181	(Y) Motor find origin method	0 ~ 2	1	0
K182	(C) Motor find origin method	0 ~ 2	1	0
K183	(P) Motor find origin method	0 ~ 2	1	0
K221	Hat eye positioning pin X coordinate	-600 ~ 600	1	0
K222	Hat eye positioning pin Y coordinate	-600 ~ 600	1	0
K241	Model settings			

8.4 Counter settings

Press  to enter the counter setting interface (as shown in the right figure).



Operating steps:

① Sewing counter type selection: select sewing counting or piece counting function.

② Set the current value and set value.

In the selected type, press the "Current Value" or "Set Value" button to perform related operations.

③ Choose whether to count up or down.

In the selected type, press the "Plus" and "Minus" buttons to perform related operations.

Press the  button to exit the counter setting interface. Press  to complete the setting and exit.

Sewing counting increment:

Each time one shape of sewing material is sewn, the current value is incremented. When the current value matches the set value, the counter overflow alarm interface is displayed.

Press  to reset the counter current value to 0.

Sewing counting decrement:

After sewing one shape of sewing material, the current value is decremented by 1. When the current value reaches 0, the counter overflow alarm interface is displayed. Press  to reset the counter current value to the set value.

Piece counting increment:

Each time one sewing cycle or one continuous sewing is performed, the current value is incremented. When the current value matches the set value, the counter overflow alarm interface is displayed. Press  to reset the counter current value to 0.

Piece counting decrement:

Each time one sewing cycle or one continuous sewing is performed, the current value is decremented by 1.When the current value reaches 0, the count is displayed.

Counter overflow alarm interface. Press  to reset the counter current value to the set value.

④ Turn off the counter

In the selected type, press the "Close" button to deactivate the counter.

8.4.1 Function introduction

No.	Function
1	Sewing increment counter
2	Sewing decrement counter
3	Turn off the sewing counter
4	Set the current value of the sewing counter
5	Set the preset value of the sewing counter
6	Piece increment counter
7	Piece decrement counter
8	Turn off the piece counter
9	Set the current value of the piece counter
10	Set the preset value of the piece counter

8.5 Change sewing type

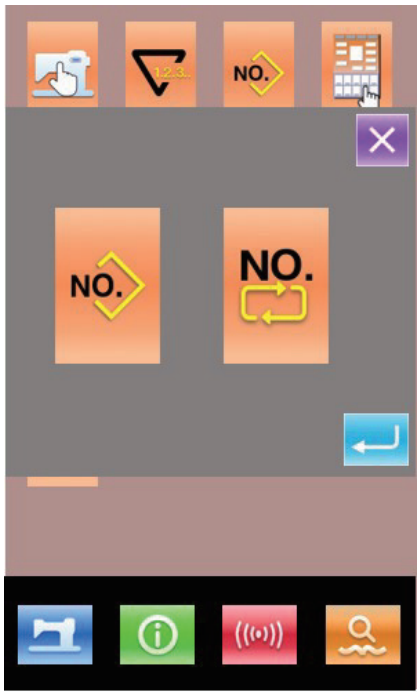
Press  to enter the sewing type selection interface.

: Normal stitch

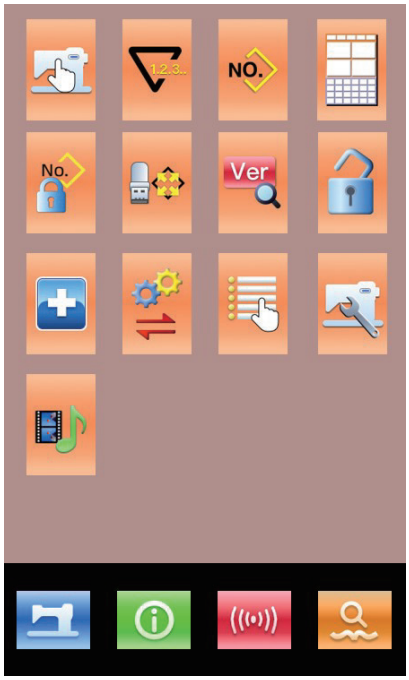
:Circular stitch

After selecting the sewing type, press  to finish. After pressing , the data input interface for the selected sewing type is displayed.

Press  to exit the change sewing type interface, preserving the original sewing type.



8.6 Enter pattern editing

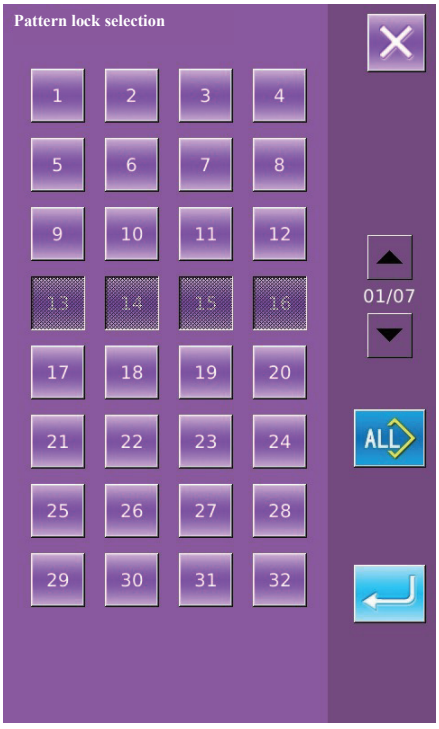


Press , the following two icons will toggle between each other, select the appropriate mode, then press  to enter pattern editing mode. (Refer to Section 5.1 for description)

: Sewing mode 

: Editing mode

8.7 Pattern lock settings



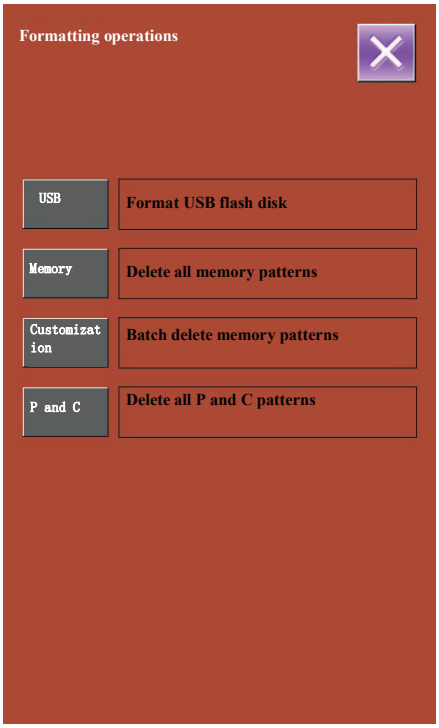
In setting mode level 1, press  to enter the pattern lock settings interface, which displays all patterns.

Numbers, 32 per page. If you want to lock a pattern,

Press the button corresponding to the pattern number. The selected pattern number will be displayed in a recessed manner.

Press  to save the settings. All selected patterns will be locked.

8.8 Formatting operations



Press  to enter the keyboard lock settings interface.

In this interface, you can perform:

USB flash disk formatting

Memory pattern formatting

Custom formatting

P, C pattern formatting

Press the corresponding function

button to enter the relevant interface.

Press the exit button  to exit

USB flash disk formatting



② Press the "USB" button to enter USB flash disk formatting

Press the enter button  to

format all USB flash disk files.

Press the exit button  to exit

USB flash disk formatting.



③ Press the "Memory" button to format memory patterns

Formatted patterns include:

Regular patterns, including basic patterns and user patterns

Circular stitch C pattern

Registered P patterns

Press the enter button  to format all. Press the exit button  to exit formatting.

※ Formatting memory patterns will delete all pattern files in memory. Please operate with caution!

④ Press the "Custom" button to enter the batch deletion function. This interface displays all pattern files currently in memory. Press the corresponding button to complete the batch deletion function. Custom function operation:

a. Use the "Up Arrow" and "Down Arrow" buttons to scroll through pages

B. Use the following operations to select the pattern:

Press  to select all patterns.

Press  to invert selection.

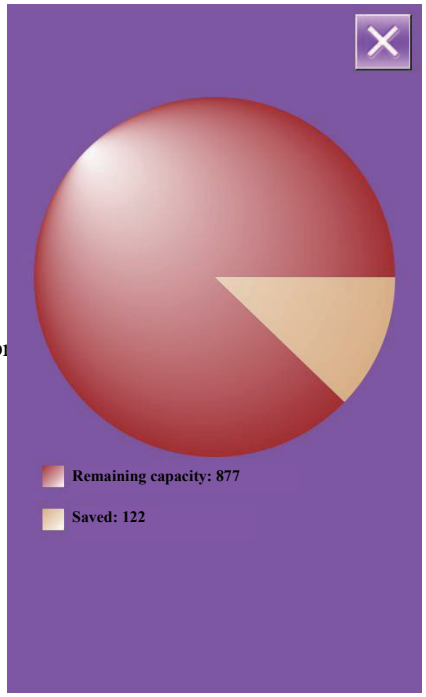


Click the pattern number button.

C. Press  to execute the batch deletion function

D. Press the exit button  to return to the formatting operation interface.

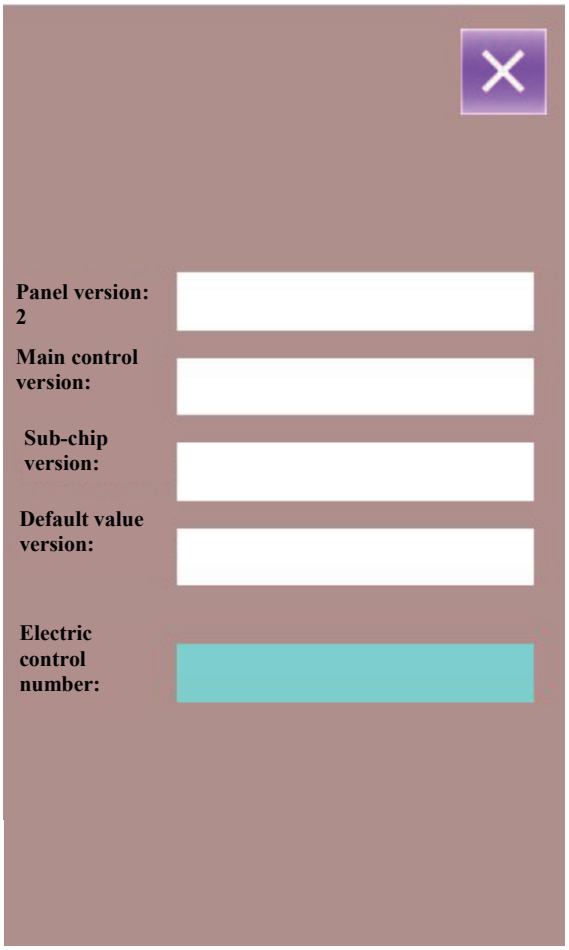
⑤ In the custom formatting interface, press the  button to display the space occupied by the pattern in memory and the size of the remaining space.



Press the exit button  to return to the pr

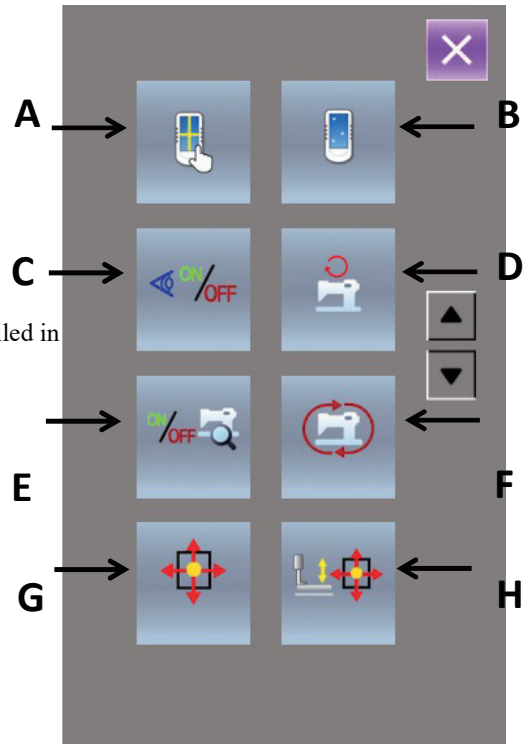
8.9 Software version query

In setup mode level 2, press  to check the system software version



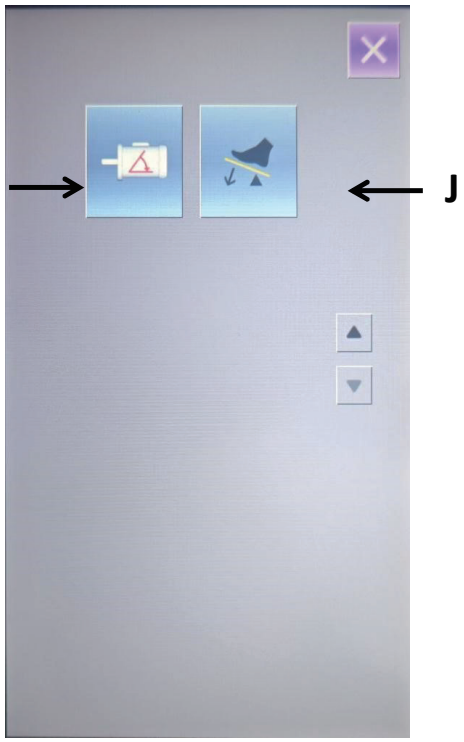
8.10 Detection mode

In setup mode level 2, press  to enter the detection mode interface (as shown in the right figure).



The function description of each icon is detailed in

No.	Name
A	Touching panel calibration
B	LCD screen detection
C	Input detection
D	Speed detection
E	Output detection
F	Continuous operation
G	Motor origin detection
H	Presser foot motor/origin sensor detection
I	Spindle detection
J	Pedal position adjustment



Press the  button to exit the detection mode interface.

(1) Touching panel calibration

A. In the detection mode interface press  (I01 Touching Panel Calibration) button, prompt [Conform to enter touching panel calibration mode],

press  to enter the touching panel calibration interface (as shown in the right figure),



and press  to exit touching panel calibration state.

B. A 5-point calibration is required. It is recommended to use a stylus or similar tool to click the crosshair on the screen. After calibration, it will display if the operation was successful.

※ During the calibration process, ensure to follow the position marked by the cross cursor. Otherwise, the touching panel may not function properly after calibration.



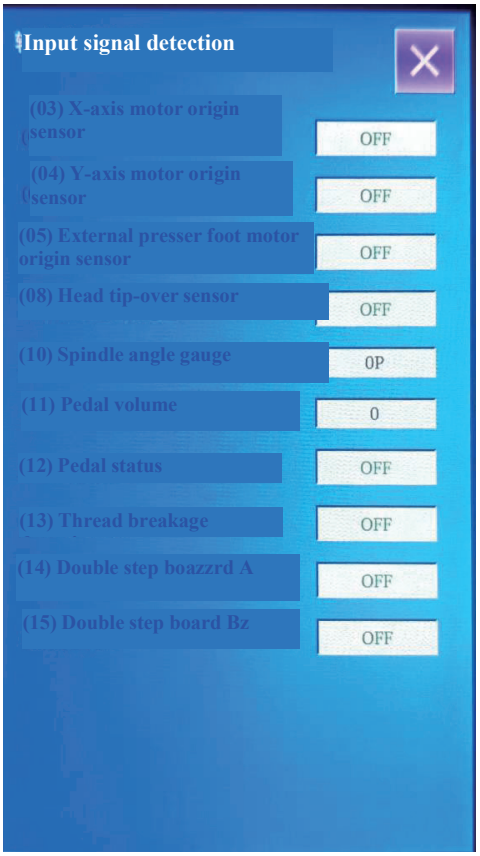
(2) LCD detection

In the detection mode interface, press  (I02 LCD Detection) to enter the LCD detection interface (as shown in the right figure). In this state, detect

Tap on the interface to cycle through the colors: blue - black - red - green - white.

Press the exit button  to exit the LCD detection interface.

(3) Input signal detection method



In the detection mode interface, press  [03 Input Detection] to proceed.

Enter the input detection interface (as shown in the right figure). Confirm the input status of various switches and sensors here. ON: Indicates turned on OFF: Indicates turned off

03: X-axis motor origin sensor

04: Y-axis motor origin sensor

05: External presser foot motor origin sensor

06: Head tip-over sensor

10: Spindle angle

11: Pedal volume

12: Pedal status

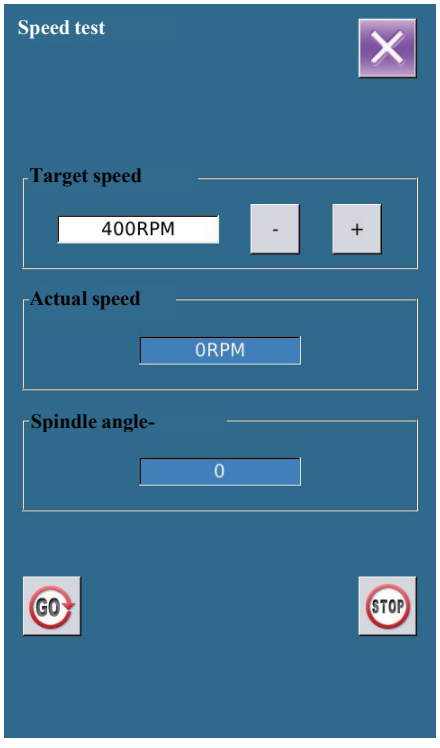
13: Thread breakage detection

14: Double pedal A

15: Double pedal B

(4) Speed measurement

① Display the speed measurement interface



In the detection mode interface, press  [07 Speed Measurement] to enter the speed measurement interface (as shown in the right figure). In this interface, the spindle motor speed can be detected.

Press  to exit the speed measurement interface.

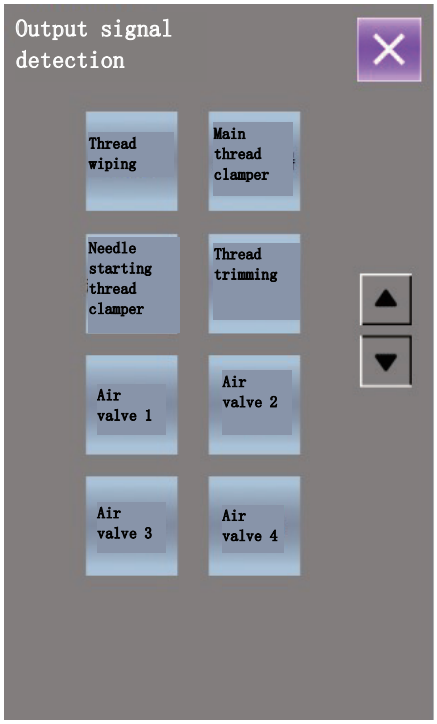
② Speed measurement setting

The spindle motor speed can be set by pressing the plus button "+" and the minus button "-". Press  and the spindle motor will rotate at the set speed. At this moment, the actual measured speed is displayed in the actual speed column on the

interface. Press 

to stop the machine.

(5) Output detection



In the detection mode interface, press  (I05 Output Detection) to enter the output detection interface (as shown in the right figure). The output states that can be detected in this interface include:

01: Thread loosening electromagnet detection

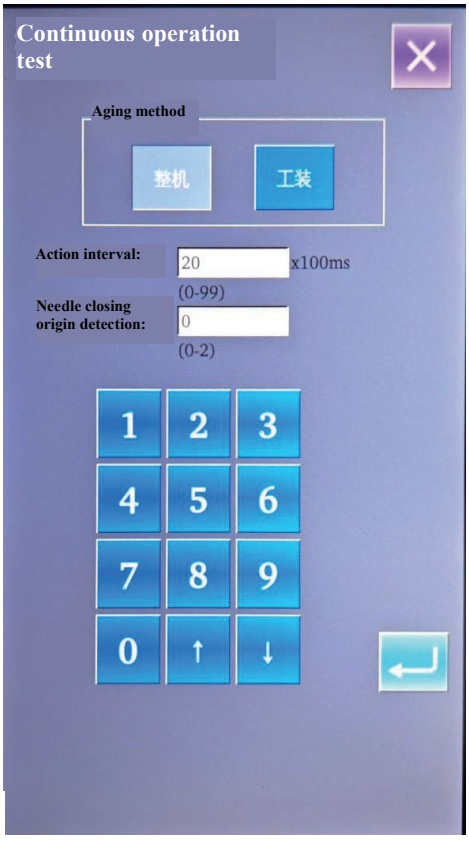
02: Upper thread electromagnet detection

Press  to exit the output detection interface.

※ Note: The sewing machine will perform corresponding actions.

(6) Continuous operation

① Display the continuous operation interface



In the detection mode interface, press  (I06 Continuous Operation) to enter the continuous operation interface (as shown in the right figure).

A: Action interval B: Needle closing origin detection

Press  to exit the continuous operation interface.

② Continuous operation setting

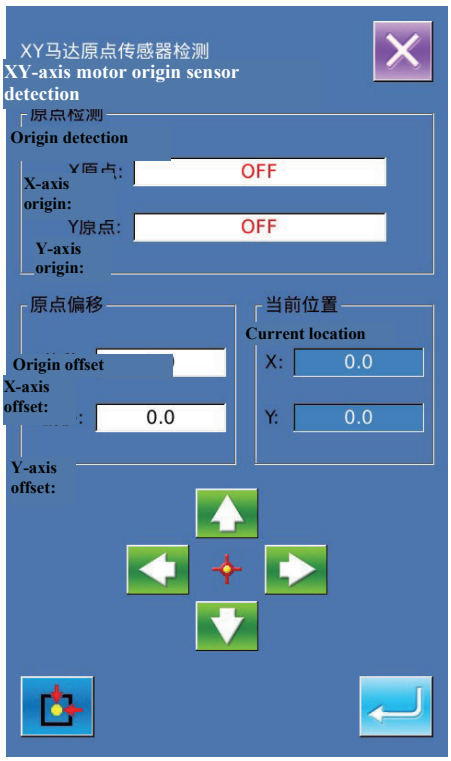
Click the "Action Interval" input box

and the "Needle Closing Origin Detection" input box under continuous operation mode, and enter the setting value using the numeric keypad to set the action interval time and needle closing origin detection.

Press the  button, then step on the foot pedal to start continuous operation. During continuous operation, you can pause using the pause switch, or stop continuous operation by stepping on the foot pedal or pressing the pause switch when the presser foot is raised after the action is completed.

(7) XY-axis motor origin sensor detection

In the detection mode interface, press  (I07 XY-axis Motor Origin Detection) to enter the XY-axis motor and sensor output detection interface (as shown in the right figure).



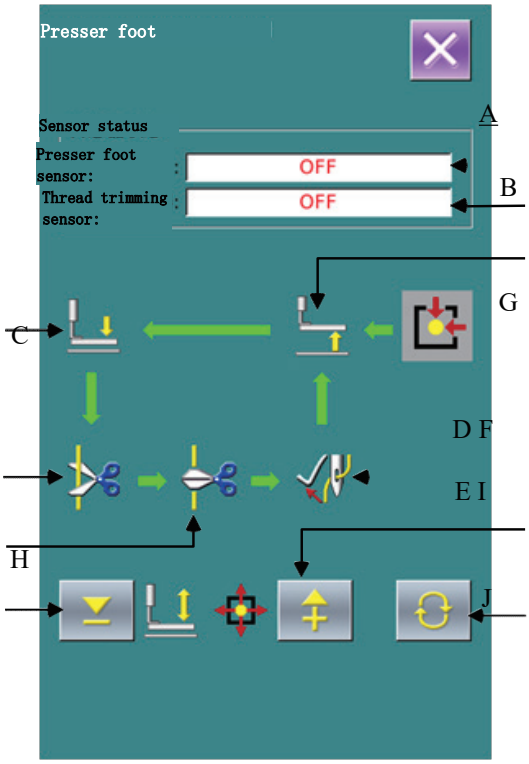
If the system does not enter the ready state after power-on and the origin search is not performed on this interface by pressing , the motor can be directly driven to move via the direction keys, displaying the ON/OFF status of both XY-axis sensors, to detect whether the XY-axis motor drive and sensors are functioning properly;

If the system has entered the ready state after power-on, or if the origin search has been performed on this interface by pressing , then each time this I07 mode is entered, the origin search must first be performed by pressing the  button before the XY-axis motor can be driven to move via the direction buttons; in this case, it indicates the function for fine adjustment of the XY-axis origin.

The left X and Y coordinates display the origin offset values, and the right X and Y coordinates display the current position of the presser foot frame. Press  to set the current position

(8) Pressed foot motor/origin sensor detection

Based on the presser foot origin sensor status, the A position shows the ON/OFF status of the presser foot origin sensor, and the B position shows the thread trimming sensor status.



The motor is driven by  pins pulse by pulse.

Additionally, press  to move the presser foot motor to the specified position, and the graphic for the position will be shaded.

A: Presser foot sensor B:

Thread trimming sensor C:

Presser foot down position D:

Thread separating completed

position E: Thread trimming

completion position F: Thread

wiping completion position G:

Presser foot raised position H:

Forward movement one step J:

Move to next position I:

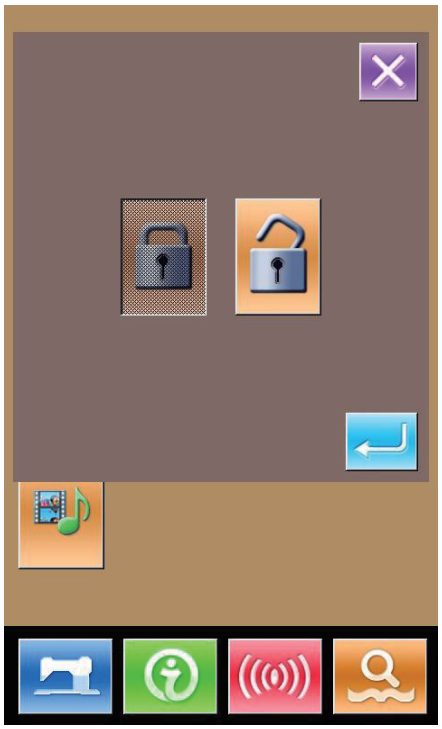
Reverse movement one step

Note: Use the start switch to activate the presser foot and thread trimmer.

It becomes effective after machine origin retrieval.

8.11 Locking keyboard operation

In setting mode level 2, press  to lock the keyboard setting interface.



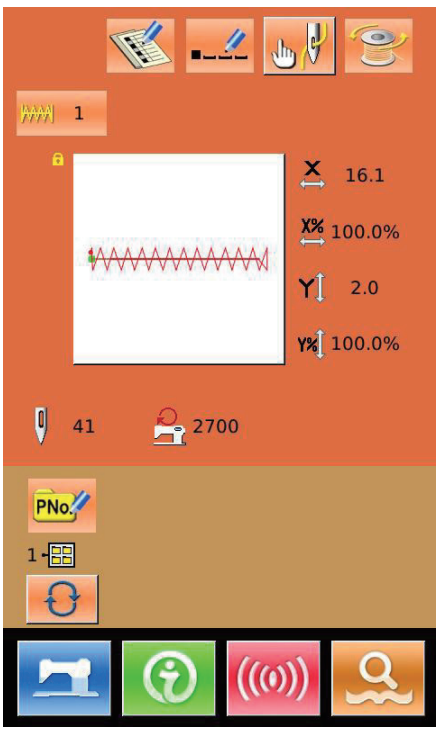
① Lock keyboard operation

: Keyboard lock status not set : Keyboard lock status set

Select , press  to complete keyboard lock operation. Press the exit button  to leave keyboard lock operation.

② Keyboard lock status display

Close the parameter setting mode interface and return to data input interface, as shown in the figure on the right. You can see



An icon indicating keyboard lock status . Only usable icons are shown when keyboard is locked.

③ Keyboard lock range

1. Normal stitch data input interface:

1) Pattern registration

2) Pattern naming

3) Zoom in/out ratio setting

4) Maximum speed limit

5) P pattern registration

6) Pattern deletion

2. Normal stitch interface:

1) Frame shifting

2) Counter setting

3. P pattern input interface:

1) P pattern editing

2) P pattern copy

3) P pattern naming

4) Pattern deletion

4. P pattern sewing interface:

2) Counter setting

5. C pattern data input interface:

1) C pattern registration

2) C pattern copy

3) C pattern naming

4) C pattern editing

5) Pattern deletion

6. C pattern sewing interface:

2) Counter setting

7. Parameter setting mode:

1) Parameter Level 1

2) Parameter Level 2

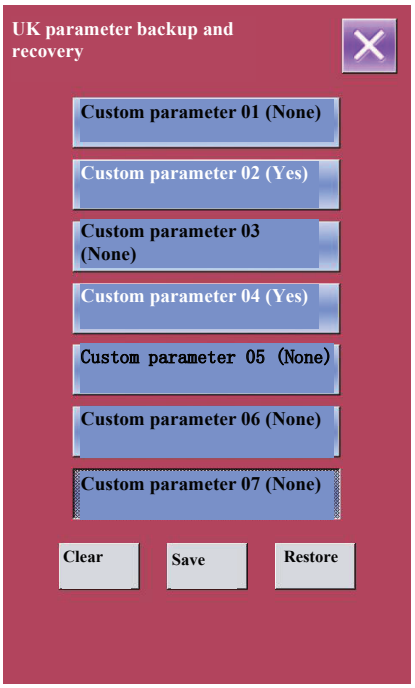
3) Counter editing

4) Detection mode

5) Pattern lock setting

8.12 Parameter backup settings

In setting mode level 3, press  to enter the parameter restore backup interface, as shown in the right figure:



Clear button: Clear all saved custom parameters. Save button: Save current parameters. Restore Button: Reload current parameters.

① Click any button among   to determine the parameter saving location, then click the "Save" button.

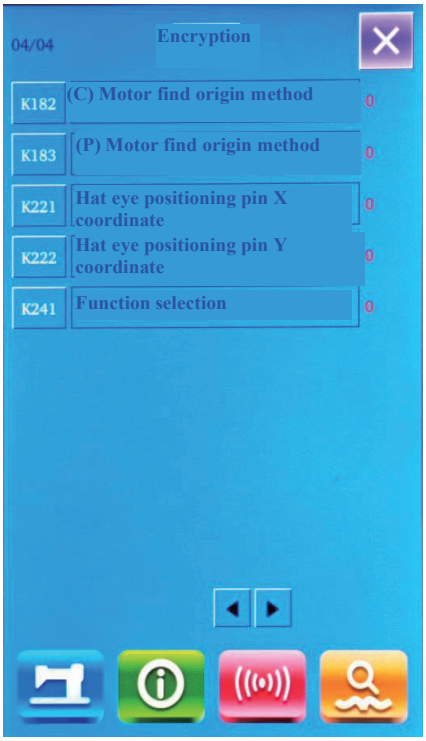
② Observe the display content of the "Custom Parameter xx (Yes/No)" button. "Yes" indicates user parameters are stored at that position. For example 

③ Select the custom parameter button with stored parameters. Press the "Restore" button to reload the corresponding parameter settings.

④ Press the "Clear" Button to clear all stored parameters.

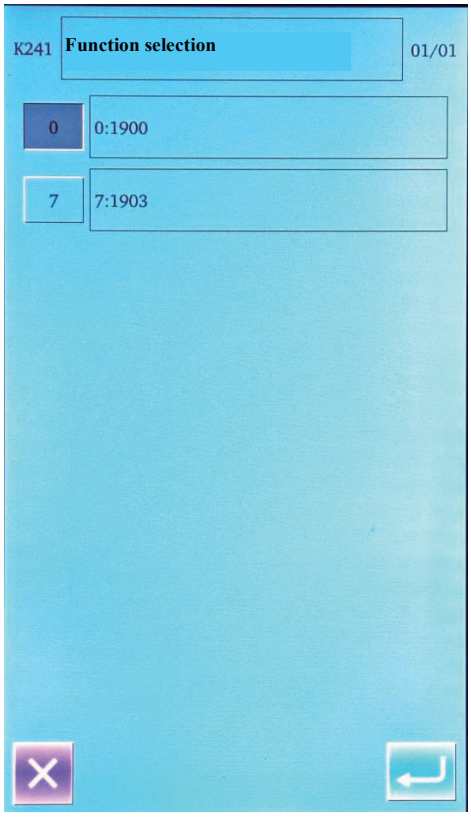
8.13 Button sewing machine model settings

① Parameter setting operation



In setting mode level 3, select  to enter the Level 2 parameter setting interface (as shown in the right figure). The operation refers to Level 1 or Level 2 parameter settings.
Select K241 to enter the next interface.

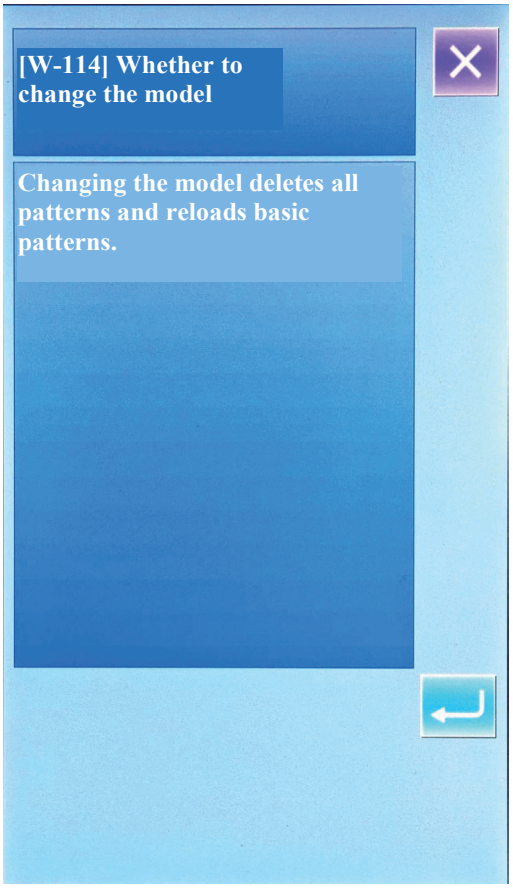
The figure on the right shows the model selection interface. Use the keyboard to enter a number. 7 indicates selection of the button sewing function. Press  to finalize the selection.



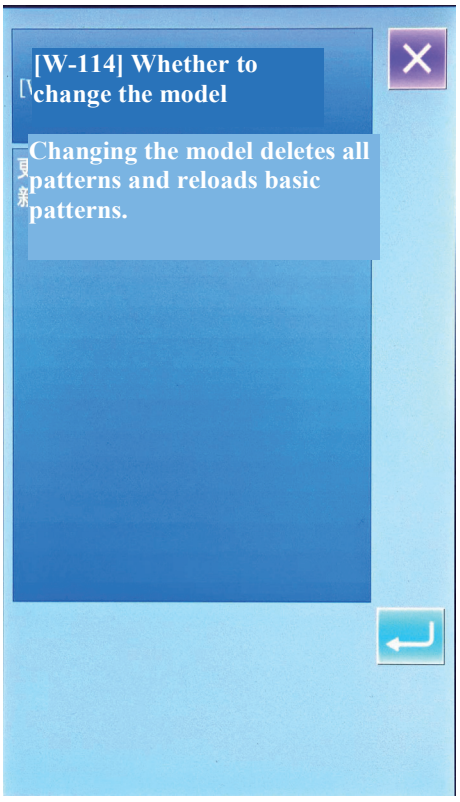
Note: Changing the model will clear stored patterns in the system and reload new model patterns. Backup patterns before changing.

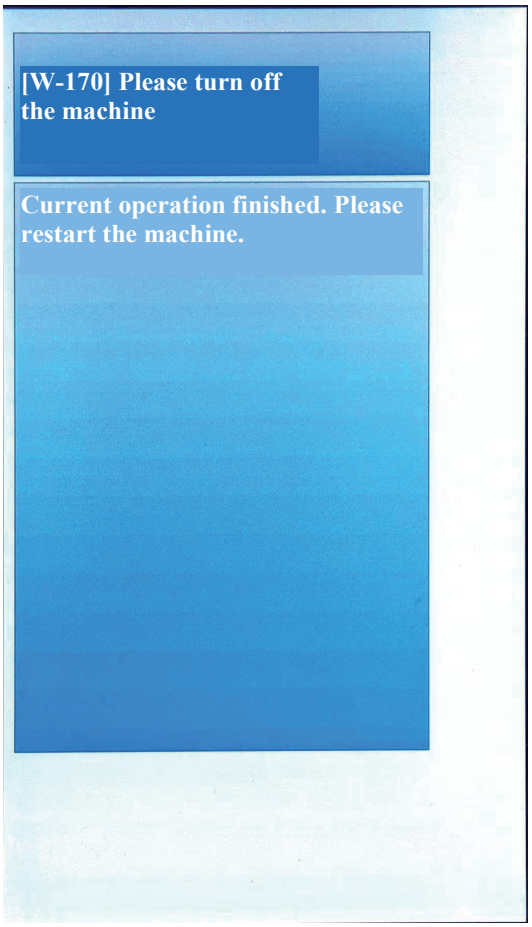
A prompt interface appears, as shown in the right figure. Press the exit button to cancel the setting.

Press to confirm and clear old model stored patterns.



After clearing old model patterns, turn off power, as shown in the right figure.

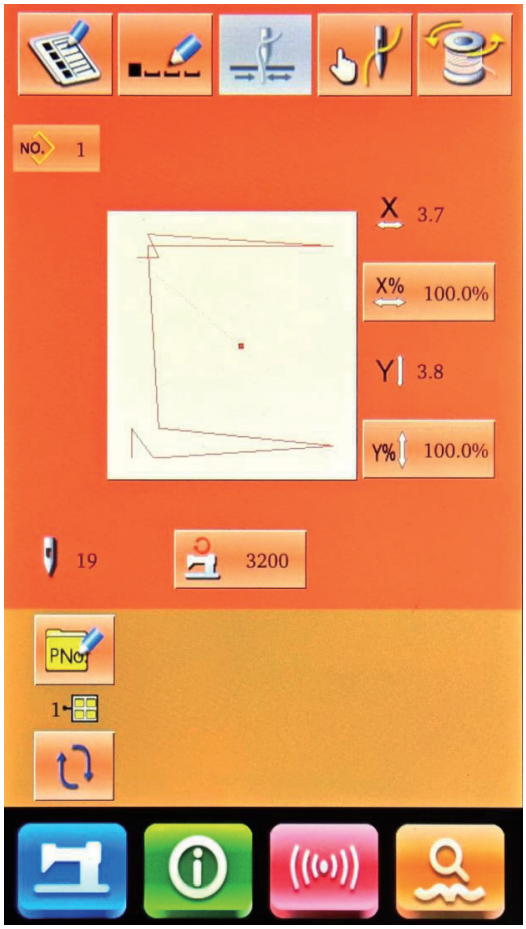




Restart post power-off prompts loading new model patterns. Press OK button .

Successful base pattern loading leads system to N pattern main interface, as shown in the right figure.

Button sewing function configured successfully!



8.14 Pattern editing parameter settings

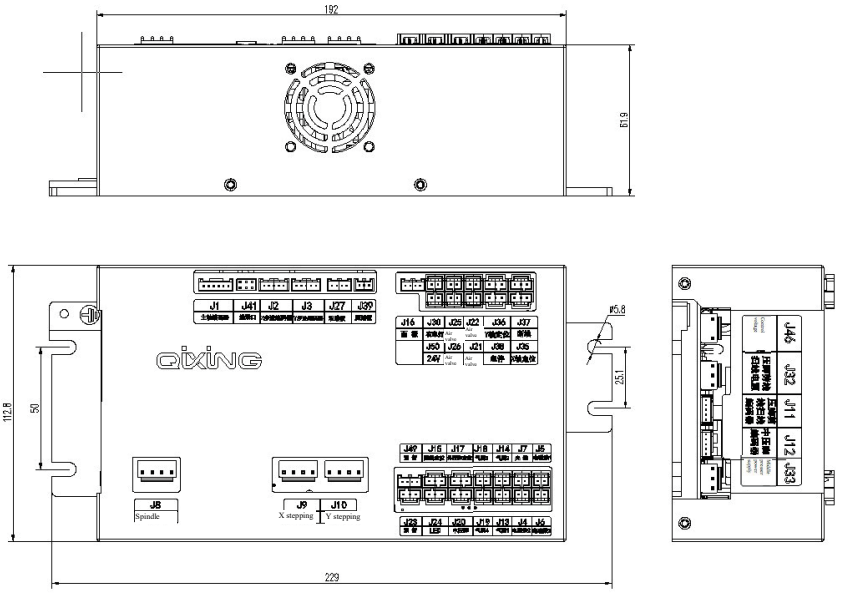
In setting mode level 3, press  to enter the pattern editing parameter setting interface. A recessed icon with a shadow effect indicates the function is activated, while a raised icon without a shadow effect indicates it is disabled. Adjust editing parameters as required and press the OK button  to confirm the settings.



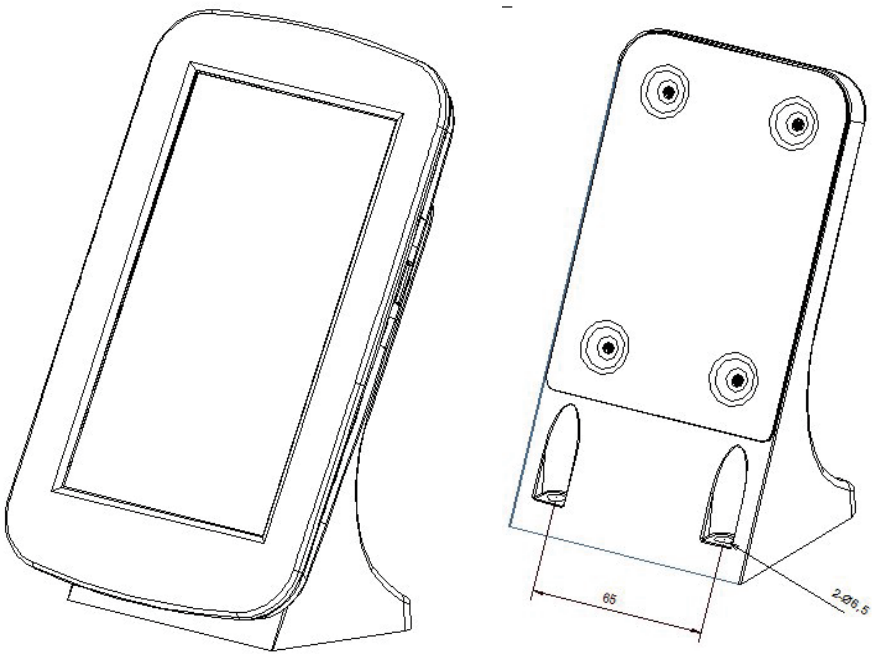
9 Principle of electric control system

9.1 Control system components

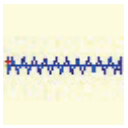
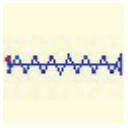
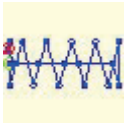
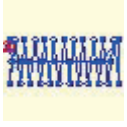
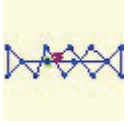
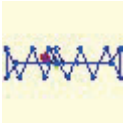
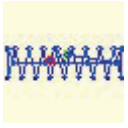
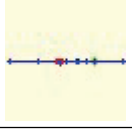
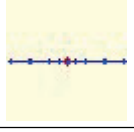
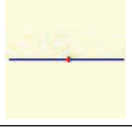
9.1.1 Electric control box installation dimensions

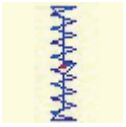
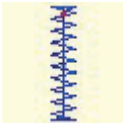
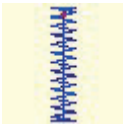


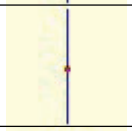
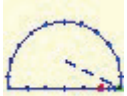
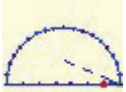
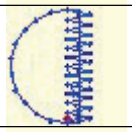
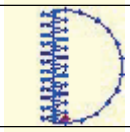
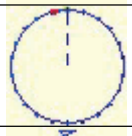
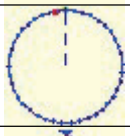
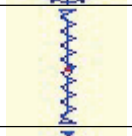
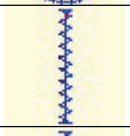
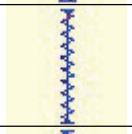
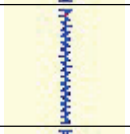
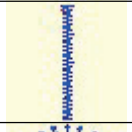
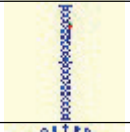
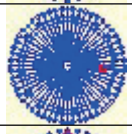
9.1.2 Operating head installation dimensions

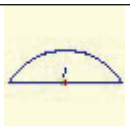
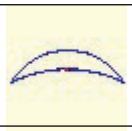
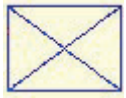
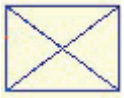
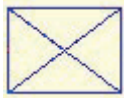
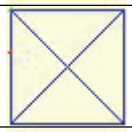
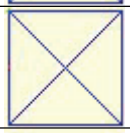
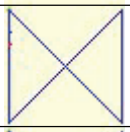
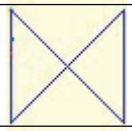
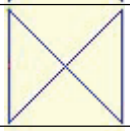
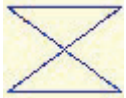
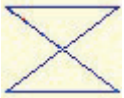


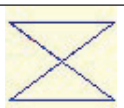
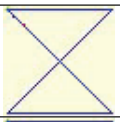
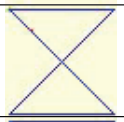
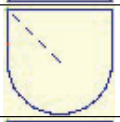
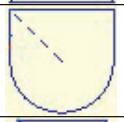
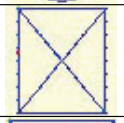
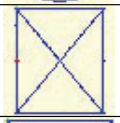
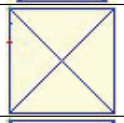
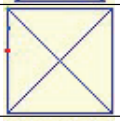
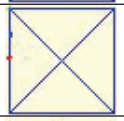
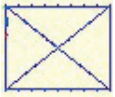
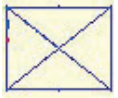
9.2 1900A Tacking Machine Pattern List

NO.	Sewing pattern	Number of stitches	Length × Width (mm)	NO.	Sewing pattern	Number of stitches	Length × Width (mm)
1		41	16.1×2	2		41	10.2×2
3		41	16×2.4	4		41	24×3
5		27	10.1×2	6		27	16×2.4
7		35	10.1×2	8		35	16×2.4
9		55	24×3	10		63	24×3
11		20	6.1×2.4	12		27	6.2×2.4
13		35	6.1×2.4	14		14	8×2
15		20	8×2	16		27	8×2
17		20	10×0	18		27	10×0
19		27	25.2×0	20		35	24.8×0
21		40	25.2×0	22		43	35×0

23		27	4×20		24		35	4×20
25		41	4×20		26		55	4×20

27		17	0×20		28		20	0×10
29		20	0×20		30		27	0×20
31		51	10.1×7		32		62	12.1×7
33		23	10.2×6		34		30	12×6
35		47	7×10		36		47	7×10
37		89	24×3		38		27	8×2
39		25	11.8×12		40		45	12×12
41		28	2.4×20		42		38	2.4×25
43		38	2.4×25		44		57	2.4×30
45		75	2.4×30		46		41	2.4×30
47		89	8×8		48		98	8×8
49		147	8×8		50		163	8×8
51		110	7.9×7.9		52		120	7.9×7.9
53		130	7.9×7.9		54		51	12.4×10.2

55		50	12.4×10.2		56		52	21×6
57		57	21×6		58		102	19×3
59		115	40×5		60		115	40×5
61		93	5×30		62		109	5×30
63		108	40×30		64		80	40×30
65		64	40×30		66		96	30×30
67		76	30×30		68		60	30×30
69		52	40×30		70		40	40×30
71		32	40×30		72		44	30×30
73		36	30×30		74		28	30×30
75		60	40×30		76		48	40×30
77		36	40×30		78		56	30×30
79		44	30×30		80		36	30×30
81		67	40×30		82		51	40×30

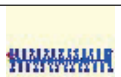
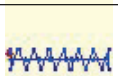
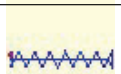
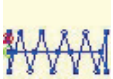
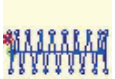
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85		35	30×30		86		42	30×30
87		32	30.1×30		88		26	30×30
89		74	20×24		90		54	20×24
91		65	20×20		92		49	20×20
93		39	20×20		94		63	25×20
95		51	25×20		96		45	25×20
97		42	25×20		98		33	25×20
99		27	25×20		100		88	30×25

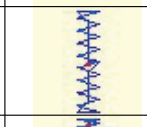
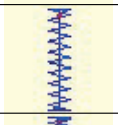
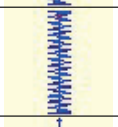
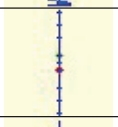
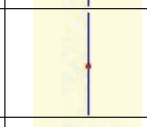
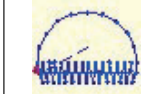
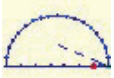
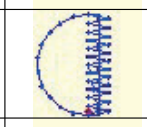
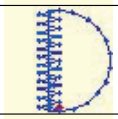
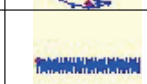
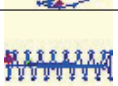
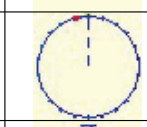
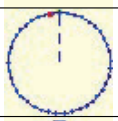
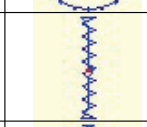
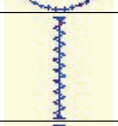
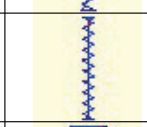
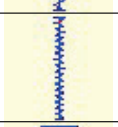
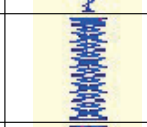
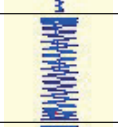
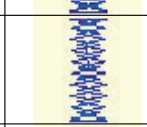
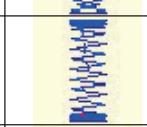
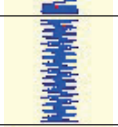
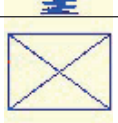
9.3 Button Sewing Machine Pattern List

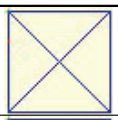
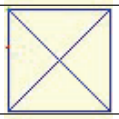
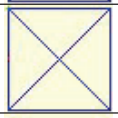
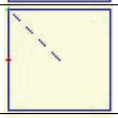
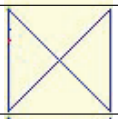
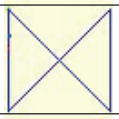
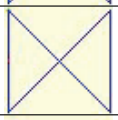
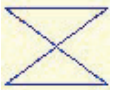
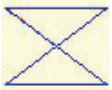
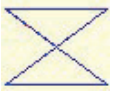
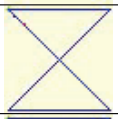
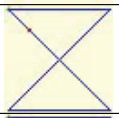
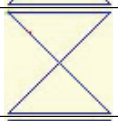
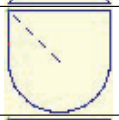
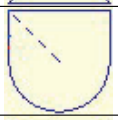
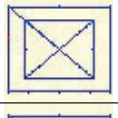
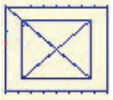
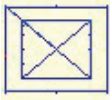
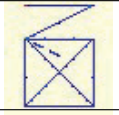
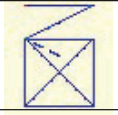
Pattern number	Sewing pattern	Stitching (pcs)	Standard sewing length X(mm)	Standard sewing length Y(mm)	Pattern number	Sewing pattern	Stitching (pcs)	Standard sewing length X(mm)	Standard sewing length Y(mm)
1·34		6-6	3.4	3.4	18·44		6	3.4	0
2·35		8-8			19·45		8		
3		10-10			20		10		
4		12-12			21		12		
5·36		6-6			22		16		
6·37		8-8			23·46		6	0	3.4
7		10-10			24		10		
8		12-12			25		12		
9·38		6-6			26·47		6-6	3.4	3.4
10·39		8-8			27		10-10		
11		10-10			28·48		6-6		
12·40		6-6			29		10-10		
13·41		8-8			30·49		5-5-5	3.0	2.5
14		10-10			31		8-8-8		
15·42		6-6			32·50		5-5-5		

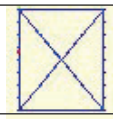
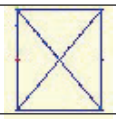
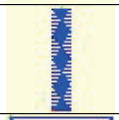
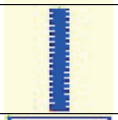
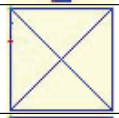
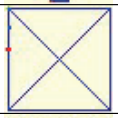
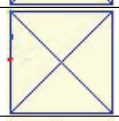
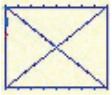
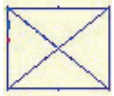
16·43		8-8			33		8-8-8		
17		10-10							

9.4 1906A Tack Pattern List

NO.	Sewing pattern	Number of stitches	Length × Width		NO.	Sewing pattern	Number of stitches	Length × Width
			(mm)					(mm)
1		41	16.1×2		2		41	10.2×2
3		41	16×2.4		4		41	24×3
5		27	10.1×2		6		27	16×2.4
7		35	10.1×2		8		35	16×2.4
9		55	24×3		10		63	24×3
11		20	6.1×2.4		12		27	6.2×2.4
13		35	6.1×2.4		14		14	8×2
15		20	8×2		16		27	8×2
17		20	10×0		18		27	10×0
19		27	25.2×0		20		35	24.8×0

21		40	25.2×0	22		43	35×0
23		27	4×20	24		35	4×20
25		41	4×20	26		55	4×20
27		17	0×20	28		20	0×10
29		20	0×20	30		27	0×20
31		51	10.1×7	32		62	12.1×7
33		23	10.2×6	34		30	12×6
35		47	7×10	36		47	7×10
37		89	24×3	38		27	8×2
39		25	11.8×12	40		45	12×12
41		28	2.4×20	42		38	2.4×25
43		38	2.4×25	44		57	2.4×30
45		141	10×30	46		122	10×30
47		97	10×30	48		109	10.1×30
49		122	10.1×30	50		265	10×30
51		108	40×30	52		80	40×30

53		64	40×30		54		96	30×30
55		76	30×30		56		60	30×30
57		52	40×30		58		40	40×30
59		32	40×30		60		44	30×30
61		36	30×30		62		28	30×30
63		60	40×30		64		48	40×30
65		36	40×30		66		56	30×30
67		44	30×30		68		36	30×30
69		67	40×30		70		51	40×30
71		39	40×30		72		55	30×30
73		43	30×30		74		35	30×30
75		42	30×30		76		32	30.1×30
77		26	30×30		78		103	30×25
79		82	30×25		80		64	30×25
81		80	20×30		82		60	20×30
83		80	30×20		84		60	30×20

85		74	20×24	86		54	20×24
87		115	40×5	88		115	40×5
89		93	5×30	90		109	5×30
91		65	20×20	92		49	20×20
93		39	20×20	94		63	25×20
95		51	25×20	96		45	25×20
97		42	25×20	98		33	25×20
99		111	60×40	100		91	60×40

9.5 Alarm Information List

Fault number	Fault name	Reset method
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 system power, verify display screen connections for any looseness or detachment, restore to normal and restart. Restart the system. ② Turn off the system power, disconnect the electric control box and connect only the power cord. Verify if alarm E03 persists.
E-003_2	MCU2 communication is abnormal	

		If alarm E03 persists, replace the control box and notify 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 and verify if the handwheel rotates smoothly (manually turn the handwheel). If not, inspect mechanical components; 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 E10 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 disco. 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; ② 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; ② If it still cannot work normally, please replace the control box and notify the after-sales service.
E-046_2	MCU2 watchdog resetting	
E-070_2	MCU2 program exception, please reprogram	Please cut off the power supply and then turn it back on.
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;
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.
E-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.
E-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.
E-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.
E-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.
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.

9.6 Information Prompt List

Information number	Information name	Sub-information content
W-001	Emergency stop	Check the machine
W-003	Flipping protection	
W-005	Fan stalled	Check the fan after shutting down the machine
W-006	Pedal failed to return to center position	
W-008	Thread breakage	You can cancel the warning on the warning pop-up interface and promptly restore the connection to continue operating the machine
W-009	Wrong password	Please enter again
W-010	USB not inserted	
W-011	The set value is too large	Please enter a value within the range.

Information number	Information name	Sub-information content
W-012	Set value is too small	Please enter a value within the range.
W-030	Touching panel calibration successful	Please turn off the power and restart
W-031	Confirm to enter the touching panel calibration procedure	Confirm? Yes: Enter No: X
W-032	Confirm to clear alarm records	Confirm? Yes: Enter No: X
W-038	Pattern count is full	Please delete the unused patterns before performing the operation
W-039	Whether to overwrite the pattern	Confirm?Yes: Enter No: X
W-041	Upgrade failed	
W-042	Upgrade succeeded	Please shut down/please restart the machine
W-043	Pattern already exists	Overwrite operation cannot be performed!
W-044	The electric control and panel model numbers are inconsistent	Press the reset button to reset the panel and save the model
W-045	The pattern is referenced and cannot be deleted!	Please remove the reference in the P pattern or C pattern
W-046	Do you want to delete the selected files?	Confirm?Yes: Enter No: X
W-047	Load factory pattern	There are no patterns in memory; the factory default pattern needs to be loaded
W-049	Number does not exist	
W-050	P pattern does not exist	Please create a P pattern first
W-051	The needle replacement setting has been reached. Please replace the needle	Confirm?Yes: Enter No: X
W-052	The factory default value table is inconsistent	
W-053	No default value table available	
W-054	The oil change setting time has been reached. Please change the oil	Confirm?Yes: Enter No: X
W-055	Are you sure you want to clear the needle replacement count?	Confirm?Yes: Enter No: X
W-056	Are you sure you want to clear the oil change count value?	Confirm?Yes: Enter No: X
W-057	Are you sure you want to clear the cleaning time count value?	Confirm?Yes: Enter No: X
W-058	Are you sure you want to clear the production management count value?	Confirm?Yes: Enter No: X
W-059	The cleaning time setting has been reached. Please clean the machine	Confirm?Yes: Enter No: X
W-065	Edit new pattern	

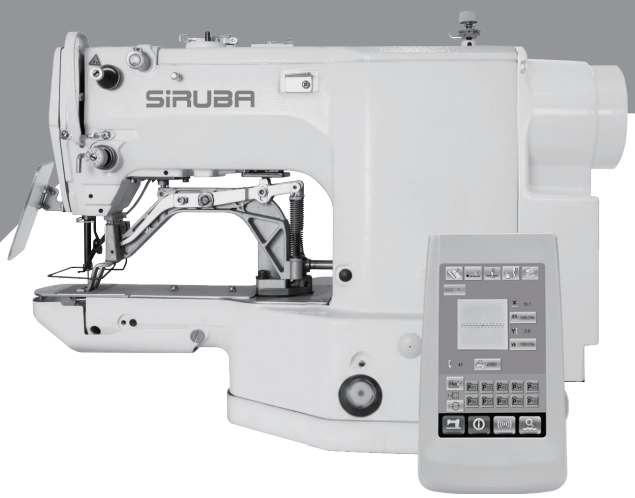
W-066	Do you want to return to sewing mode?	
W-067	Do you want to restore all settings?	
W-068	Do you want to restore the selected items?	

Information number	Information name	Sub-information content
W-070	The sewing counter has reached the set value	Please press the OK button to clear
W-071	The piece counter has reached the set value	Please press the OK button to clear
W-072	Succeeded	The current operation has been successfully executed!
W-073	Failed	
W-078	Pattern data cannot be deleted	The selected sewing data is being used
W-088	Do you want to format the USB flash disk?	
W-089	Do you want to format the memory?	
W-091	This function cannot be selected	
W-092	Specified shape points are repeated or identical shape points exist	
W-093	Confirm automatic insertion of thread trimming	
W-094	Delete the currently edited pattern graphic	Confirm?Yes: Enter No: X
W-095	Delete elements	Confirm?Yes: Enter No: X
W-096	Execute, confirm?	Confirm?Yes: Enter No: X
W-097	Delete machine control command?	Confirm?Yes: Enter No: X
W-105	Enter Boot mode	
W-106	MCU1 burnprocess error	
W-107	MCU2 burnprocess error	
W-109	Boot communication abnormality of MCU1	
W-110	Boot communication abnormality of MCU2	
W-112	MCU1 has no APP program	
W-113	MCU2 has no APP program	
W-114	Do you want to change the model?	After changing the model, all patterns will be deleted, and basic patterns will be reloaded.
W-116	Modification of basic patterns is prohibited!	
W-118	Prohibit counter modification	When modifying, please close the settings
W-120	Do you want to restore factory settings?	Confirm?Yes: Enter No: X
W-121	The sewing counter has reached the set value	
W-124	The piece counter has reached the set value	Press the confirm button to execute formatting operations, press the cancel button to exit the current operation.
W-127	Do you want to change the	

	language?	

Information number	Information name	Sub-information content
W-128	Outer presser foot is up	Please lower the outer presser foot before proceeding with the current operation!
W-129	Cannot perform this operation	
W-145	Backup successful	
W-146	Backup failed	
W-147	Do you want to restore parameters?	Confirm?Yes: Enter No: X
W-148	Restoration successful	
W-149	Restoration failed	Please check the file contents
W-150	Cannot perform normal operations	
W-151	Unable to find the corresponding model directory:	
W-152	Unable to find the corresponding model parameter file:	
W-153	Do you want to import the parameter file:	
W-154	Do you want to export the parameter file:	
W-155	There is already a file with the same name; do you want to overwrite it?	
W-156	Do you want to export the selected file to the USB flash disk?	
W-157	Do you want to overwrite the file with the same name in the USB flash disk?	
W-158	File export results	
W-159	File import results	
W-160	Do you want to import the selected file?	Note: Existing patterns cannot be imported and overwritten
W-161	The following files were deleted incorrectly	
W-162	Incorrect file	Please verify the file
W-163	Import failed	Please check the file contents
W-164	Import successful	
W-165	Deletion successful	
W-166	Deletion failed	
W-167	Spindle zero point successfully saved	
W-168	The electric control and panel models do not match	
W-169	The electric control model does not belong to the current	

	panel model	
W-170	Please turn off	Current operation has ended. Please restart the machine



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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.

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