300
曲折縫–触摸屏 F
Zigzag Sewing-Instructions F

2016-02

前　言

欢迎您使用本公司的特种缝纫机控制系统。

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

Forewords

Thank you for using our Computerized Control System for Special Sewing Machine.

It is appreciated that you do read this manual carefully in order to operate the machine correctly and effectively. If the user operates the machine contrary to regulations herein, thus cause loss to user or third party, we will not take responsibility. Besides, you should keep this manual for future use. For any fault or problem of machine, please ask the professionals or the technicians authorized by us for repair service.

安全注意事项

1. 安全操作的标志及含义

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

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

2. 安全注意事项

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

	安装完成前，请不要连接电源。 如果误按启动开关，缝纫机动作会导致受伤。
	缝纫机头倒下或竖起时，请用双手操作。不要用力压缝纫机。 如缝纫机失去平衡，缝纫机滑落到地上会造成受伤或机器损坏。
	必须接地。 接驳地线不牢固，是造成触电或误动作的原因。
	所有电缆应固定在离活动部件至少 25mm 以外处。另外，不要过度弯曲或用卡钉固定得过紧。会引起火灾或触电的危险。
	请在机头上安装安全罩壳。

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

Safety Matters for Attention

1. Signs & Definitions of Safety Marks

This User's Manual and the Safety Marks printed on the products are for you to use this product correctly so as to be away from personal injury. The signs and definitions of Marks are shown in below:

⚠ 危险 Danger	The incorrect operation due to negligence will cause the serious personal injury or even death.
⚠ 注意 Caution	The incorrect operation due to negligence will cause the personal injury and the damage to mechanism.
	This kind of marks is "Matters for Attention", and the figure inside the triangle is the content for attention. (Exp. The left figure is "Watch Your Hand!")
	This kind of mark is "Forbidden".
	This kind of mark means "Must". The figure in the circle is the contents that have to be done. (Exp. The left figure is "Ground!")

2. Safety Matters for Attention

⚠ 危险 Danger	
	For opening the control box, please turn off the power and take away the plug from socket firstly, and then wait for at least 5 minutes before opening the control box. Touching the part with high voltage will cause the personal injury.
⚠ 注意 Caution	
Using Environment	
	Try not to use this sewing machine near the sources of strong disturbance like high-frequency welding machine. The source of strong disturbance will affect the normal operation of the sewing machine.
	The voltage fluctuation shall be within ±10% of the rated voltage. The large fluctuation of voltage will affect the normal operations of sewing machine, Therefore a voltage regulator is needed in that situation.
	Working temperature: 0℃~45℃. The operation of the sewing machine will be affacted by environment with temperature beyond the above range.
	Relative Humidity: 35%~85%(No dew inside the machine), or the operation of sewing machine will be affected.
	The supply of compressed gas shall be over the consumption required by the sewing machine. The insufficient supply of compressed gas will lead to the abnormal action of sewing machine.
	In case of thunder, lightning or storm, please turn off the power and pull plug out the socket. Because these will have the influence on the operation of sewing machine
Installation	
	Please ask the trained technicians to install the sewing machine.

	Don’t connect machine to power supply until the installation is finished. Otherwise the action of sewing machine may cause personal injury once the start switch is pressed at that situation by mistake.
	When you tilt or erect the head of sewing machine, please use both of your hands in that operation. And never press the sewing machine with strength. If the sewing machine loses its balance, it will fall into floor thus causes the personal injury or mechanical damage.
	Grounding is a must. If the grounding cable is not fixed, it may cause the electric-shock and mis-operation of machine
	The entire cables shall be fixed with a distance at 25mm away from the moving component at least. By the way, don’t excessively bend or tightly fixed the cable with nails or clamps, or it may cause the fire or electric shock.
	Please add security cover on the machine head.

Sewing	
	This sewing machine can only be used by the trained staff.
	This sewing machine has no other usages but the sewing.
	When operating the sewing machine, please remember to put on the glasses. Otherwise, the broken needle will cause the personal injury in case the needle is broken.
	At following circumstances, please cut off the power at once so as to avoid the personal injury caused by the mis-operation of start switch: 1.Threading on needles; 2. Replacement of needles; 3. The sewing machine is left unused or beyond supervision
	At working, don’t touch or lean anything on the moving components, because both of the above behaviors will cause the personal injury or the damage to the sewing machine.
	During working, if the mis-operation happens or the abnormal noise or smell is found at the sewing machine, user shall cut off the power at once, and then contact the trained technicians or the supplier of that machine for solution.
	For any trouble, please contact the trained technicians or the supplier of that machine.
Maintenance & Inspection	
	Only can the trained technicians perform the repair, maintenance and inspection of this sewing machine.
	For the repair, maintenance and inspection of the electrical component, please contact the professionals at the manufacturer of control system in time.
	At following circumstances, please cut off the power and pull off the plug at once so as to avoid the personal injury caused by the mis-operation of start switch:. 1.Repair, adjustment and inspection ; 2. Replacement of the component like curve needle, knife and so on.
	Before the inspection, adjustment or repair of any gas-driven devices, user shall cut off the gas supply till the pressure indicator falls to 0.
	When adjusting the devices needing the power supply and gas supply, users can’t be too careful at following the entire Safety Matters for Attention.
	If the sewing machine damages due to the unauthorized modification, our company will not be responsible for it.

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1 概要说明

1.1 概述

电子高速曲折缝电脑控制系统，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。

1.2 规格

序号	用途	薄料~中厚料
1	最高转速	5000rpm
2	最大摆幅宽度	10mm
3	最大送布量	正逆 5mm （双步进）有（单步进）无
4	切线	有 （双步进）有（单步进）无
5	送布方式	标准送布(电子控制方式) （双步进）有（单步进）无
6	数据记忆体	U 盘
7	缝制图案	20 种花样
8	额定功率	600W
9	使用温度范围	0℃～45℃
10	使用湿度范围	35%～85% （无结露）
11	电源电压	AC 220V ± 10%；50/60Hz

※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。

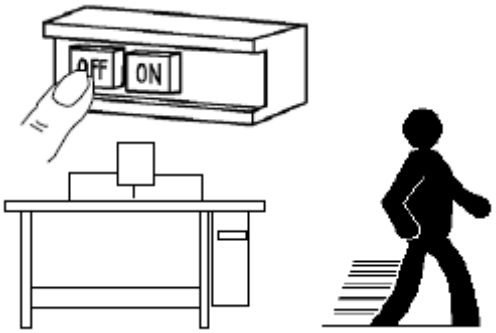
	请遵照指示内容作业。
	注意高温。
	绝对不要执行。

	注意高压电（电击）的危险。
	务必接上接地线。

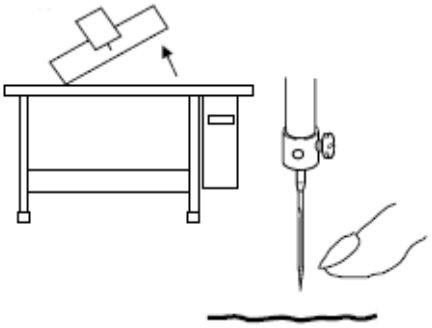
1.4 使用上的预防措施

警告

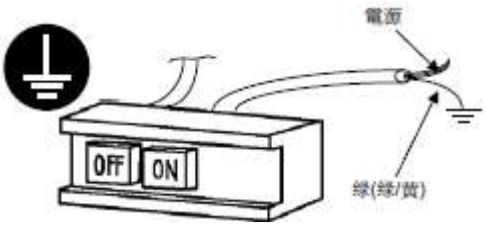
1、要离开工作岗位时，请务必关掉电源。



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。

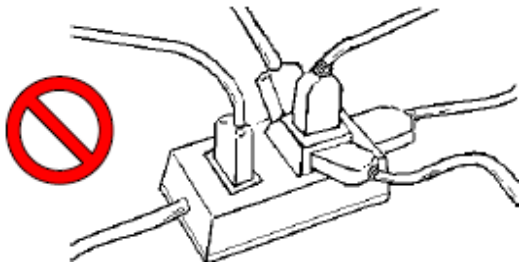
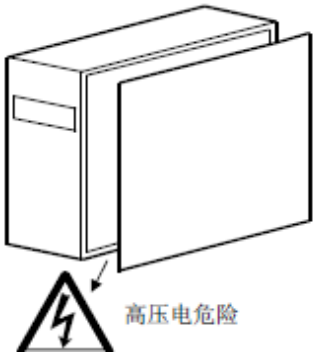
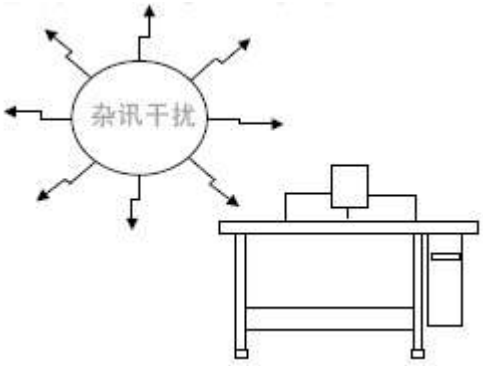
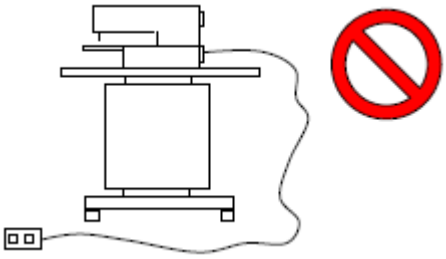


4、接地线要做好接地。



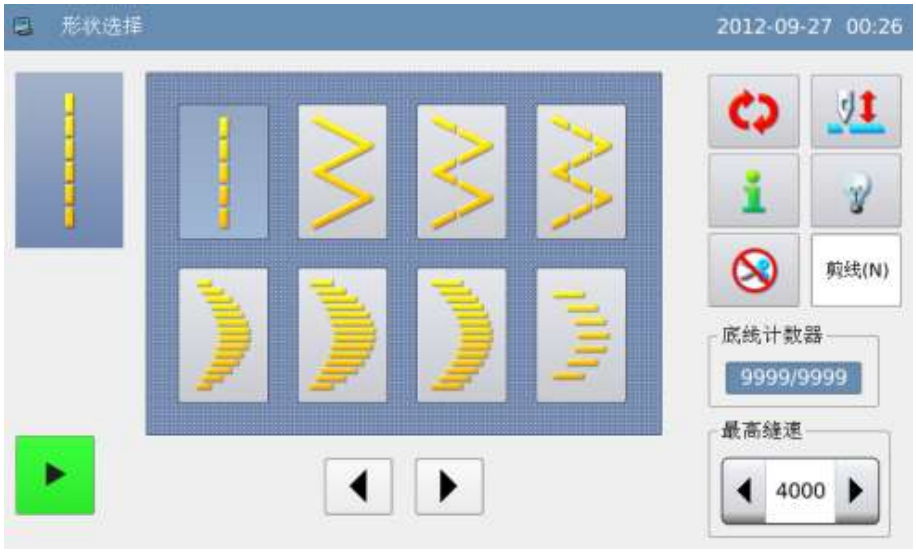
5、不要用家庭用多插孔式延长线。

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。

<table>
<tr><td>  </td><td> 
</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>
<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 操作方式

曲折缝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。



警告

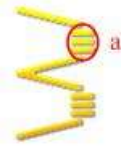
用户在使用过程中应该注意避免使用尖锐的物体触碰屏幕，以免对触摸屏造成永久性损伤。

1.6 机型说明

曲折缝机型主要差异在于送布方式的不同，分别为步进马达、电磁铁和机械拨杆，因此说明书中描述的相关功能更是否具备，取决于具体的产品型号。

1.7 缝制图案一览表

图案名称		针迹图案	图案针数	最大摆宽
直线			1	-
2 点曲折			2	10
3 点曲折			4	
4 点曲折			6	
荷叶边（右）	标准荷叶边		24	
	月牙荷叶边			
	24 针均等荷叶边			

	12 针均等荷叶边		12	10
荷叶边（左）	标准荷叶边		24	
	月牙荷叶边			
	24 针均等荷叶边			
	12 针均等荷叶边		12	
暗缝针迹（左）			2+a	
暗缝针距（右）			2+a	
左 T 型（单步进没有）			3	
右 T 型（单步进没有）				
花样 1（单步进没有）			6	
花样 2（单步进没有）				

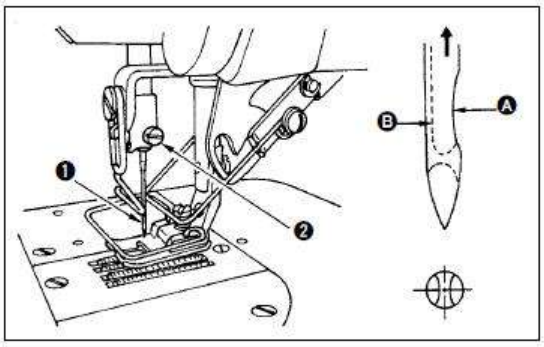
花样 3（单步进没有）			10
花样 4（单步进没有）			
自编花样	-	500	

2 缝制前准备

2.1 机针的安装方法

警告

为防止突然地起动造成人身事故，请关掉电源，确认马达完全停止后在进行操作。



1） 转动飞轮，把机针上升到最高位置。

2） 拧松机针固定螺丝②，把机针①的长槽部Ⓑ转到前面。

3） 把机针向箭头方向深深地插进。

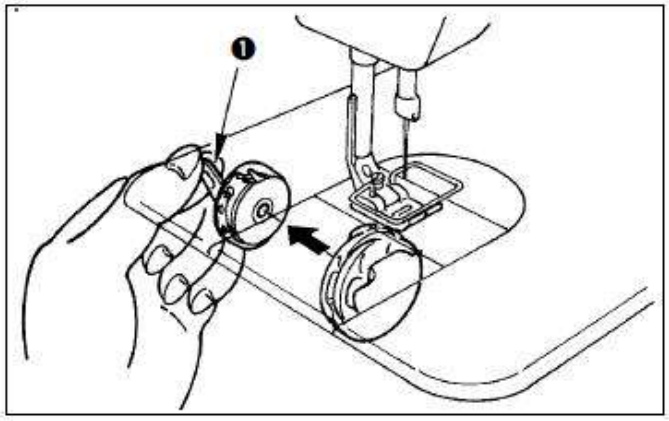
4） 拧紧机针固定螺丝②。

5） 确定机针的长槽Ⓑ是否朝向前面。

2.2 梭壳的安装方法

警告

为防止突然地起动造成人身事故，请关掉电源，确认马达完全停止后在进行操作。



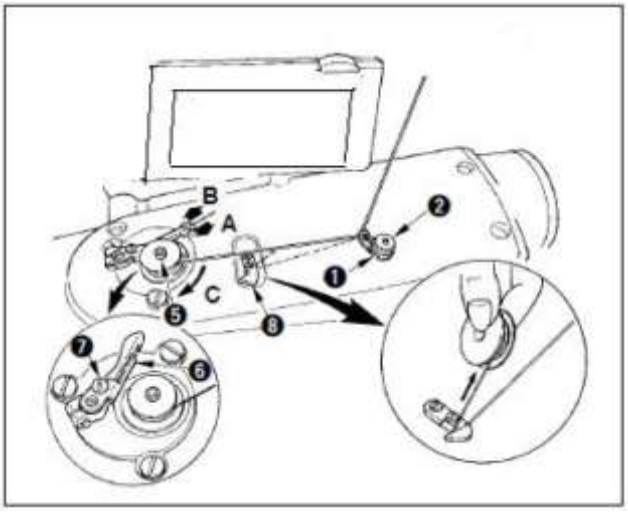
1） 转动飞轮，把机针升到最高位置。

2） 板起梭壳的抓片①，取下梭壳。

2.3 底线的卷绕方法

警告

为防止突然地起动造成人身事故，请关掉电源，确认马达完全停止后在进行操作。



1） 把梭芯插到绕线轴⑤上。

2） 向 A 方向按压绕线拨杆⑥，让缝纫机转动。梭芯向 C 方向转动，线被绕到梭芯上，绕完之后绕线轴⑤自动停止。

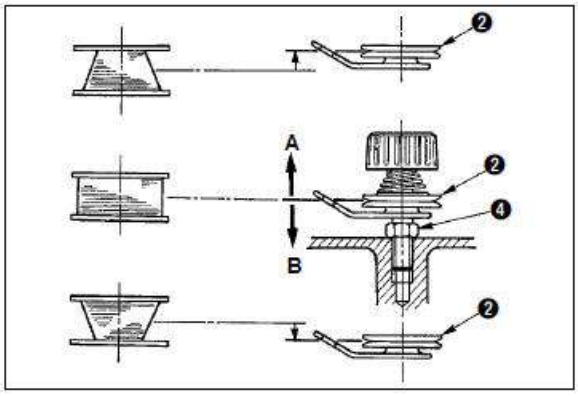
3） 取下梭芯，用切线保持板⑧切线。

4） 调整底线卷绕量时，拧松固定螺丝⑦，向 A 或 B 方向移动绕线调节板⑥，然后拧紧固定螺丝⑦。

A 方向：变少

B 方向：变多

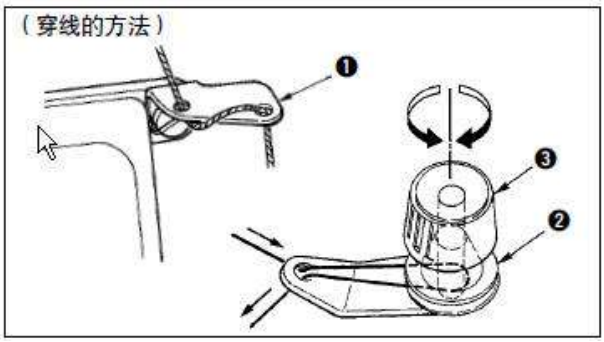
5） 如果不能平坦的卷绕时，请拧松螺母④，转动卷线线张力器，调整线张力盘②的高度。



梭芯的中心和线张力盘的中心高度相同时为标准。

下面绕得多时，向左图的 A 方向移动线张力盘②，上面绕得多时，向左图的 B 方向移动线张力盘的位置。

调整后，拧紧固定螺母④。



调整底线张力时，转动线张力螺母③，进行调整。

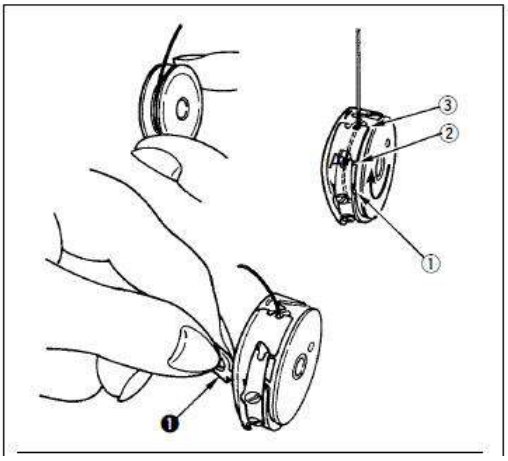
【注 1】卷绕底线时，请在梭芯和线张力盘②之间的线拉紧的状态开始卷绕。

【注 2】不进行缝制的状态，卷绕底线时，请卸下跳线杆线道的上线，并从旋梭中取出梭芯。

2.4 梭芯的放入方法

警告

为防止突然地起动造成人身事故，请关掉电源，确认马达完全停止后在进行操作。



1） 转动飞轮，把机针升高到最高位置。

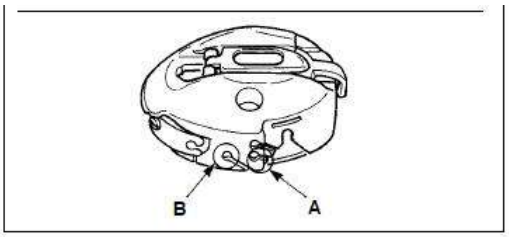
2） 如图所示，把梭芯的线端拉出 5cm 左右，然后放入到梭壳里。

3） 将线按槽上的号码顺序穿线，从线口拉出线，拉底线梭芯就会向箭头方向转动。

4） 如图所示，板起梭壳的抓片①。

5） 此时，从下护罩把手伸进，深深地插进内旋梭轴上。

6） 确定关好梭壳的抓片。



梭壳线孔的使用方法

1） A 孔主要在缝制 2 点曲折缝、扇形荷叶边曲折缝以外时使用。

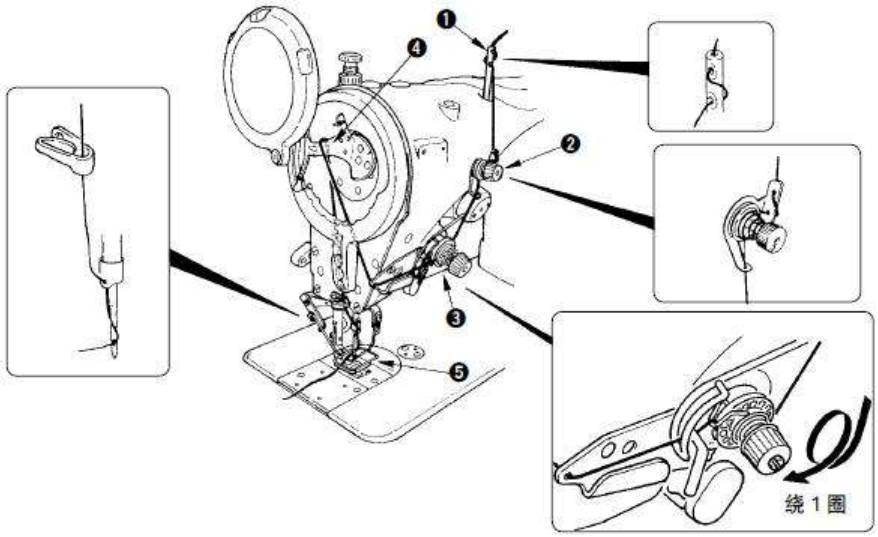
2） B 孔主要在缝制 2 点曲折缝、扇形荷叶边曲折缝时使用。

【注】在 B 孔，切了长纤维细线（#50、#60、#80）之后，开始缝制的几针有可能不容易结线。此时请换成用其他线孔或采用右开始缝制。

2.5 上线的穿线方法

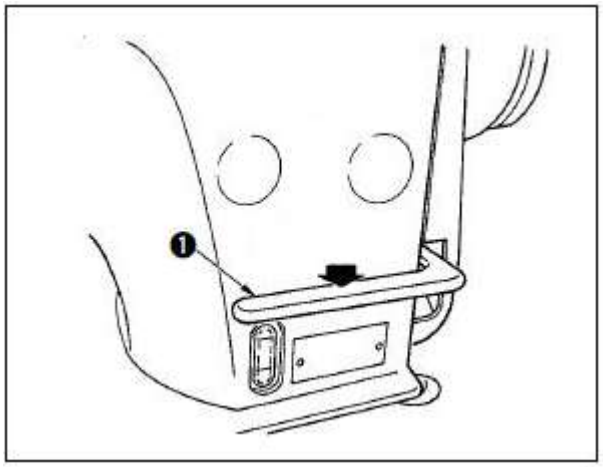
警告

为防止突然地起动造成人身事故，请关掉电源，确认马达完全停止后在进行操作。



1）转到飞轮，把机针移动到上升的位置。
2）按照图示的号码顺序穿线。
3）把线穿过针，拉出 10cm 左右。

2.6 送布长度的调整



1） 使用操作面板进行送布长度的调整。

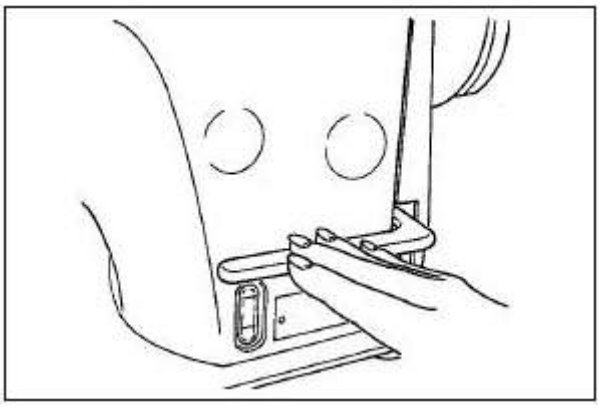
正送：按  键进入正送量设置界面。

逆送：按  键进入逆送量设置界面。

2）进行倒缝时，向下按送布拨杆①。在下按期间，可以进行倒缝。手松开之后，拨杆返回原处，进行正送。

【注】只有双步进款有此功能。

2.7 缩缝的调整



所谓缩缝，就是缝制开始或缝制结束，操作送布杆减小送布间距，进行停止缝制。

1）使用操作面板进行送布长度的调整。

逆送：按  键进入逆送量设置界面，倒送量输入 0，则变为停止缝。

2）停止缝仅是相对而言，请根据缝制情况进行调整。

【注】只有双步进有此功能。

3 操作说明

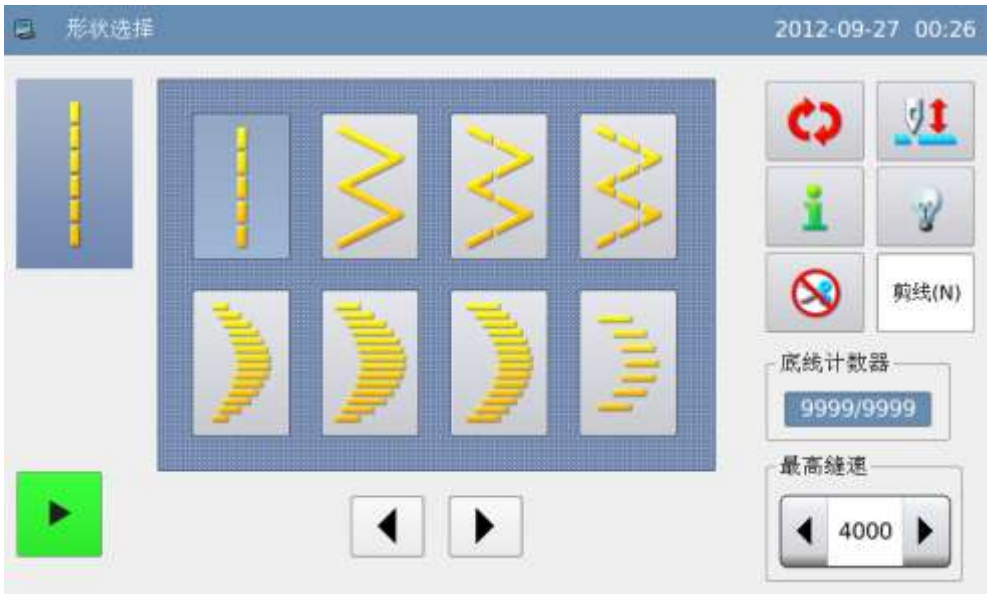
3.1 基本操作

1、打开电源开关

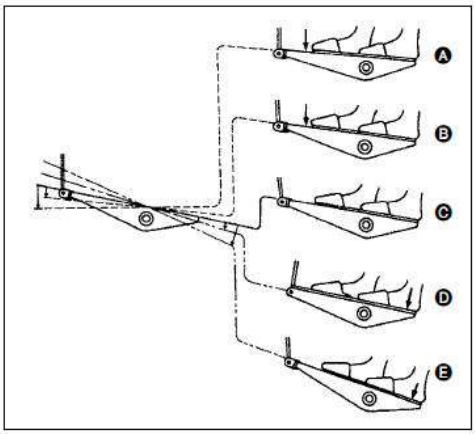
当针杆不在上位置时，会出现「针杆上位置异常」的提示信息，需要转动飞轮使针杆移动到上位置。

2、选择缝制的图案

在当前界面下选择想要缝制的图案。



3、开始缝制



脚踏板有 4 级操作。

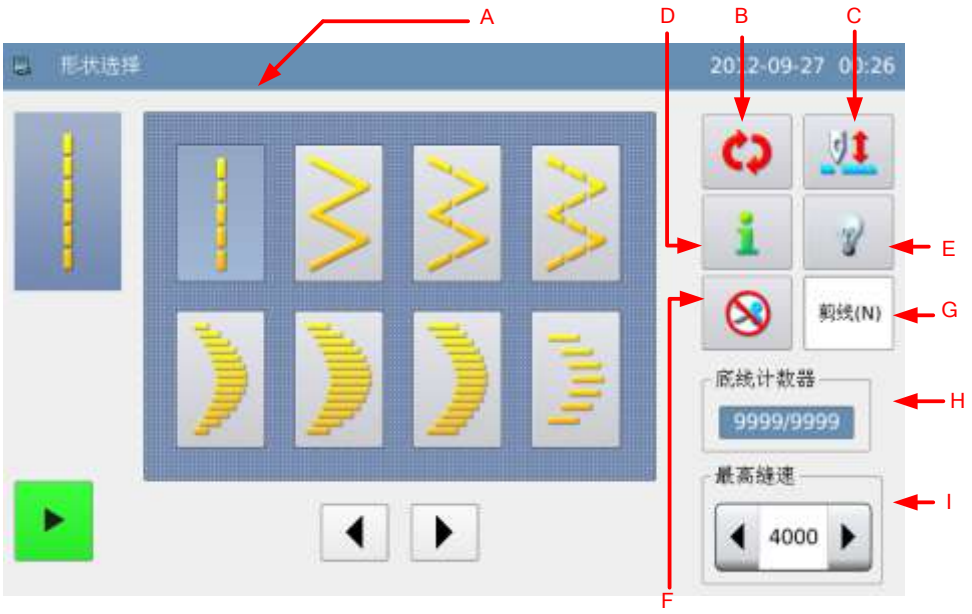
向前轻轻地踩踏板为低速缝纫Ⓑ。

再继续向前踩踏板为高速缝纫Ⓐ（自动倒缝开关被设定时，倒缝结束之后再高速缝纫）。

轻轻地踩踏板返回，缝纫机停止Ⓒ（机针为上停止或下停止）。

向后轻轻踩踏板之后缝纫机执行压脚提升动作Ⓓ，再继续向后踩踏板之后缝纫机执行切线动作Ⓔ。

3.2 通用按键说明



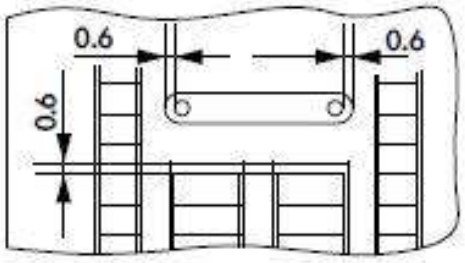
功能说明：

序号	功能	内容
A	标题栏	标题栏左侧显示内容为该界面标题，右侧显示内容为系统日期和时间。 当按下某个按键时，标题栏左侧显示内容会刷新为该按键的功能说明。
B	切换键	循环切换操作主界面。
C	半针补偿键	用于缝制时半针修正。 **【注】可以通过参数「其它」->「操作头补偿键设置」切换半针/一针补偿。**
D	信息键	按下进入信息功能模式界面。
E	照明灯开关键	用于设置照明灯开关状态。  ：打开照明灯  ：关闭照明灯
F	禁止切线开关键	用于设置是否切线。  ：允许切线

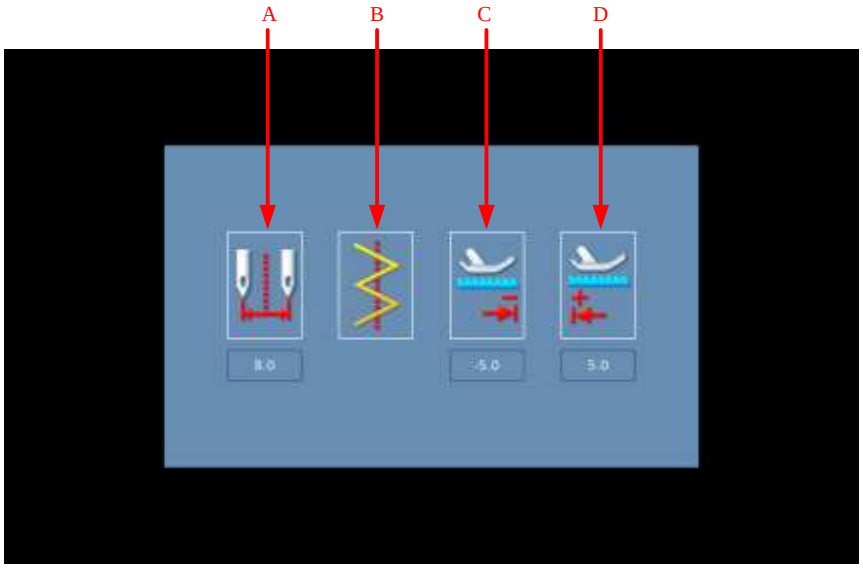
		 ：禁止切线
G	自动切线显示	用于显示当前缝纫模式是否自动切线。  ：没有自动切线  ：有自动切线
H	计数器显示	显示切线计数器或底线计数器信息。 **【注】可以通过参数「计数器」->「计数器显示」切换显示计数器类型。**
I	最高缝制速度限制	用于限制脚踏板最高缝制速度。 **【注】设置项最大值受参数「特殊」->「最高转速」影响。**

3.3 设定图案之前

- 使用标准出货以外的压脚、针板、送布牙时，不正确的设定值会造成机针与针板相碰而断针，送布牙与针板相碰，因此请一定根据使用的标尺遵守各限制值的规定。
- 标准出货时，最大机针摆动幅度为 8mm。
- 最大送量限制为 5mm。
- 更换了标尺后，请把机针和压脚、针板的间隙以及针板与送布牙的间隙调整到 0.6mm 以上。



打开电源时，显示最大摆宽限制值、基准线基准、正送量限制值和逆送量限制值。



功能说明：

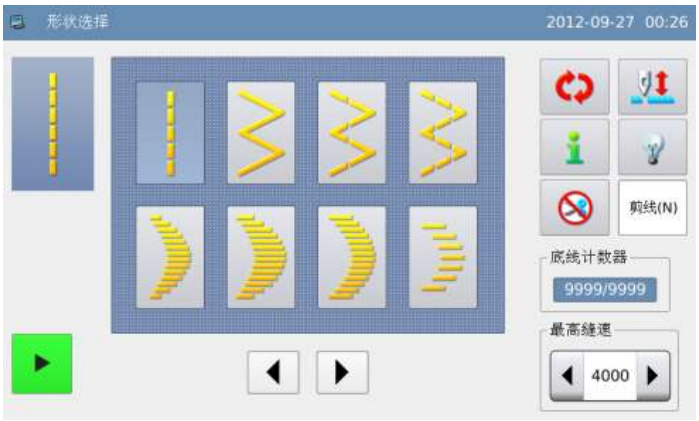
序号	说明
A	最大摆宽限制值（指定为左右位置时画面变化）
B	基准线基准
C	最大逆送量限制值
D	最大正送量限制值

【注】参数「通用」->「摆宽限制显示」可以关闭上电时的限制值显示。
【注】单步进没有 C、D 提示。

设定方法：

1、 进入信息功能模式

主界面下按下信息键  ，进入信息功能模式界面。



2、 进入参数设置

在信息功能模式界面下，选择 Program 键，即进入参数设置界面。

3、 选择「通用」类别参数

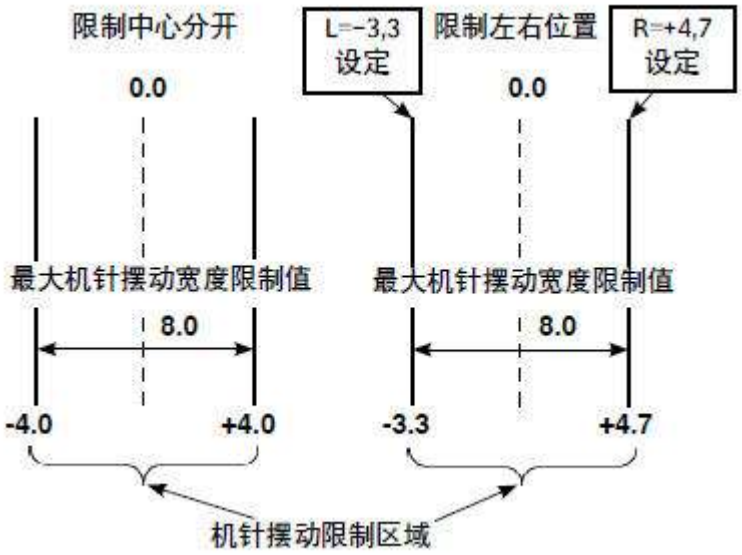
在参数设置界面下，选择「通用」类别参数。

4、 参数设置

打开「通用」类别参数之后，可以选择设置最大摆宽、基准线基准、最大逆送量和最大正送量等设置项。

3.3.1 设置机针最大摆宽

- 限制最大机针摆宽有两种方法：
  1） 以中心为对称的两侧摆动宽度
  2） 指定左右位置



设定方法：

1、选择「摆宽方式」参数

按照前面 1~4 步骤，进入「通用」类别参数设置界面，选择「摆宽方式」参数，按下「P1-0」键。

2、设置摆宽方式

如图所示，可以设置「中心对称」和「左右对称」两种方式，按下 键确定选择。

3、选择「中心对称摆宽限制」参数

返回「通用」类别参数设置界面，选择「中心对称摆宽限制」参数，按下「P1-1」键。

4、 设置中心对称摆宽限制

通过数字键盘输入设定数值，按下 键确定。

5、 选择「摆宽左限制」参数

当摆宽方式设置为左右对称时，选择「摆宽左限制」参数，按下「P1-2」键。

6、 设置摆宽左限制

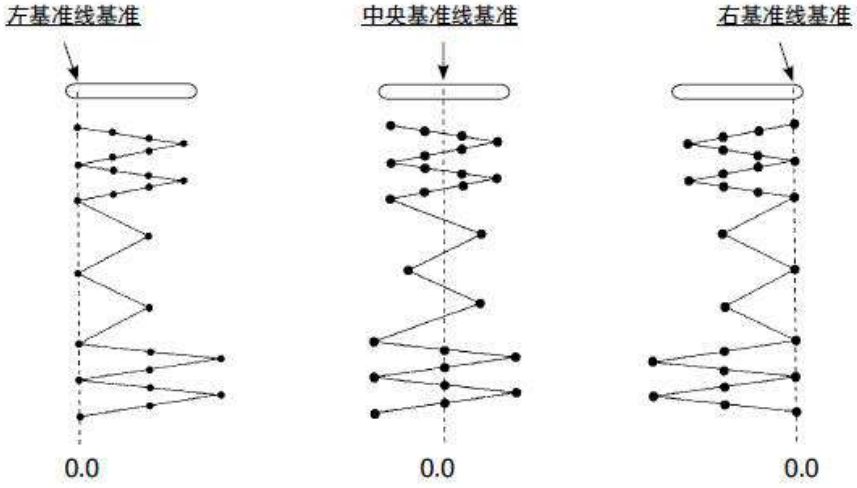
通过数字键盘输入设定数值，按下 键确定。

7、 摆宽右限制设定

设置方法同摆宽左限制设定。

3.3.2 基准线基准的设定

- 可以把基准线的基准位置设定为左、右和中心。



设定方法

1、选择「基准线位置」参数

进入「通用」类别参数设置界面，选择「基准线位置」参数，按下「P1-4」键。

2、设置基准线位置

如图所示，可以设置「中心基准」、「左基准」和「右基准」三种方式，按下↵键确定选择。

3.3.3 送量的设定

- 使用不同的标准部件可以设定正方向的最大设定范围和逆方向的最大设定范围。

【注】本节内容只有双步进款有此功能。

设定方法：

1、选择「逆送量限制」参数

进入「通用」类别参数设置界面，选择「逆送量限制」参数，按下「P1-5」键。

2、设置逆送量限制

通过数字键盘输入设定数值，按下 键确定。

3、设置正送量限制

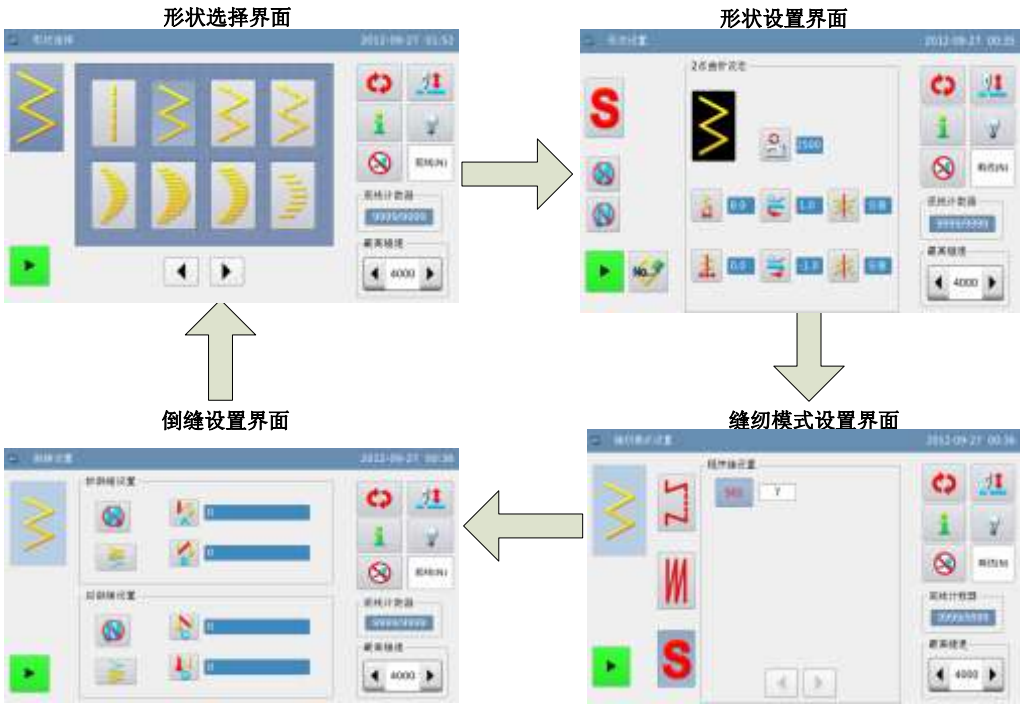
操作方式参照步骤 1~2，选择「正送量限制」参数设置即可。

3.4 主界面说明

- 打开电源后，操作面板显示为上次掉电前的主界面。
- 每次按下切换键 ，主界面会按如下顺序变换（显示内容可能会稍有不同，取决于具体设置）。

实例说明：

这里以两点曲折（程序缝方式）为例说明。



【注 1】选择自由缝纫模式时，按下切换键 不会进入缝纫模式设置界面。

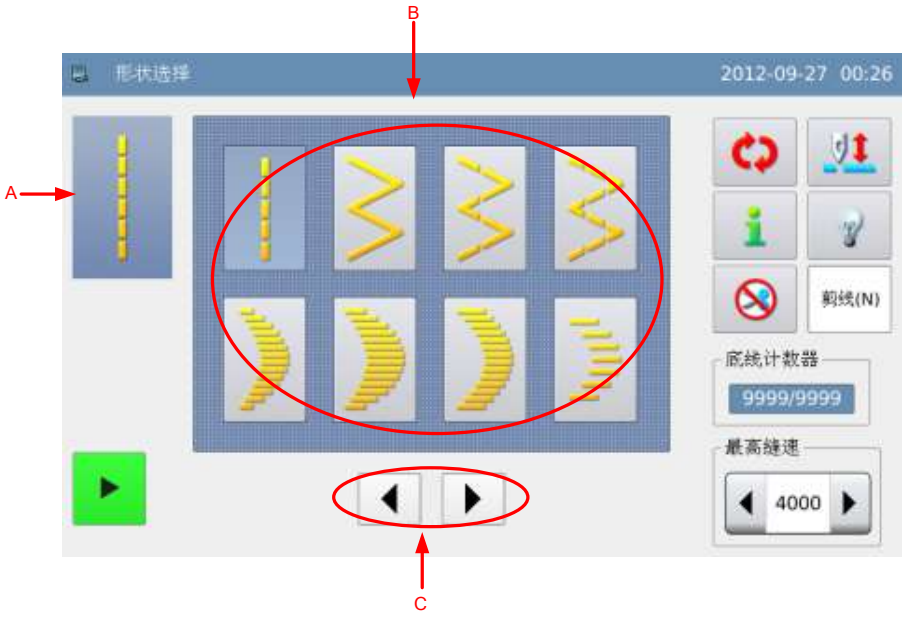
【注 2】选择重叠缝纫模式时，按下切换键 不会进入倒缝设置界面。

【注 3】不同机型界面略有不同，请以实物为准。

3.5 花样选择

说明如何选择一个花样用于缝制。

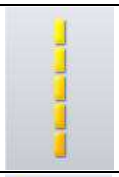
- 切换到形状选择界面，可以选择 20 个基本花型、自编花样、内存花样、连续缝和循环缝。(单步进为 14 个)



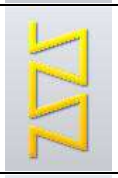
功能说明：

序号	功能	内容
A	当前花样	显示当前花样选择内容。
B	花样选择区	● 用于选择 20 个基本花型、自编花样、内存花样、连续缝和循环缝。(单步进为 14 个)
C	翻页键	用于前后翻页显示。

花样选择键说明：

图标	说明
	直线
	两点曲折
	三点曲折
	四点曲折

	右标准荷叶边
	右月牙荷叶边
	右 24 针均等荷叶边
	右 12 针均等荷叶边
	左标准荷叶边
	左月牙荷叶边
	左 24 针均等荷叶边
	左 12 针均等荷叶边
	左暗缝
	右暗缝
	左 T 型(单步进没有)

	右 T 型(单步进没有)
	花样 1(单步进没有)
	花样 2(单步进没有)
	花样 3(单步进没有)
	花样 4(单步进没有)
	自编花样
	已存花样
	连续缝
	循环缝

3.5.1 标准花型选择

- 形状设置界面下，直接按下基本花型图标按键即可，共有 20 个基本花型用于选择，选择成功后会进入形状设置界面。

【注】单步进没有 和 设置。

3.5.2 自编花样选择

- 形状设置界面下，按下自编花样键，即进入自编花样选择界面。
- 最多可以存储 500 个自编花样。

【注】如果操作面板中没有存储自编花样，则会进入自编花样创建界面。

功能说明：

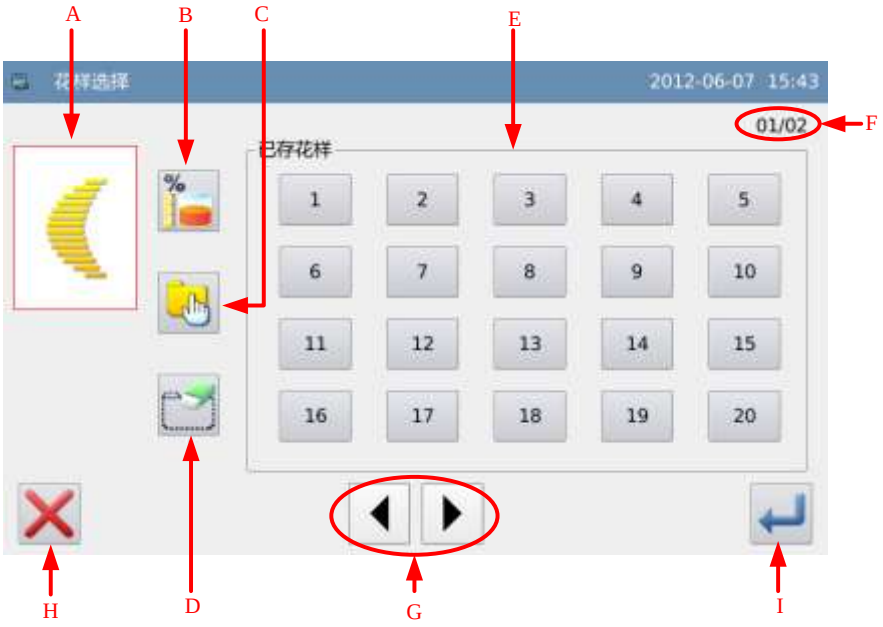
序号	功能	内容
A	花样显示	显示选中花样的形状。
B	创建键	用于新建一个自编花样。
C	复制键	用于复制选中的自编花样。
D	单选/多选键	切换单选/多选操作，多选功能可以同时选中多个花样，用于删除操作。  ：单选  ：多选
E	删除键	用于删除选中花样。 **【注】正在使用的花样不能被删除。**
F	花样选择区	显示操作面板存储的自编花样号码。
G	页码显示	显示当前页码/总页码。
H	翻页键	用于前后翻页显示。
I	取消键	取消当前操作并退出。
J	确定键	确定选择当前花样，并进入自编花样设置界面。 **【注】确定键只有在单选状态下可以使用。**

3.5.3 已存花样选择

- 已存花样是由基本花型或自编花样登记而成，已存花样的参数、缝纫模式和倒缝都是独立的。
- 最多可以登记存储 500 个已存花样。
- 形状设置界面下，按下已存花样键 

，即进入已存花样选择界面。

【注】如果操作面板中没有存储已存花样，会显示「内存中没有登记花样」的提示信息。



功能说明：

序号	功能	内容
A	花样显示	显示选中花样的形状。
B	剩余内存键	用于显示剩余内存。
C	单选/多选键	切换单选/多选操作，多选功能可以同时选中多个花样，用于删除操作。  ：单选  ：多选
D	删除键	用于删除选中花样。 **【注】正在使用的花样不能被删除。**
E	花样选择区	显示可用于选择的已存花样号码。
F	页码显示	显示当前页码/总页码。
G	翻页键	用于前后翻页显示。
H	取消键	取消当前操作并退出。
I	确定键	确定选择当前花样，并进入已存花样设置界面。 **【注】确定键只有在单选状态下可以使用。**

3.5.4 连续缝选择

- 连续缝是连接不同的图案进行缝制的功能或预想 1 图案的最大针数超过 500 针缝制的功能，连续缝花样作为一个图案被识别。
- 形状设置界面下，按下连续缝键  ，即进入连续缝选择界面。
- 最多可以存储 20 个连续缝花样。

【注】如果操作面板中没有存储连续缝花样，则会进入连续缝创建界面。

功能说明：

A	创建键	用于新建一个连续缝花样。
B	复制键	用于复制选中的连续缝花样。
C	单选/多选键	切换单选/多选操作，多选功能可以同时选中多个花样，用于删除操作。  ：单选  ：多选
D	删除键	用于删除选中花样。 **【注】正在使用的花样不能被删除。**
E	花样选择区	显示操作面板存储的连续缝花样号码。
F	页码显示	显示当前页码/总页码。
G	取消键	取消当前操作并退出。
H	确定键	确定选择当前花样，并进入连续缝花样设置界面。 **【注】确定键只有在单选状态下可以使用。**

3.5.5 循环缝选择

- 循环缝是把不同的图案变换顺序进行缝制。
- 形状设置界面下，按下循环缝键  ，即进入循环缝选择界面。
- 最多可以存储 20 个循环缝花样。

【注】如果操作面板中没有存储循环缝花样，则会进入循环缝创建界面。

功能说明：

A	创建键	用于新建一个循环缝花样。
B	复制键	用于复制选中的循环缝花样。
C	单选/多选键	切换单选/多选操作，多选功能可以同时选中多个花样，用于删除操作。  ：单选  ：多选
D	删除键	用于删除选中花样。 **【注】正在使用的花样不能被删除。**
E	花样选择区	显示操作面板存储的循环缝花样号码。
F	页码显示	显示当前页码/总页码。
G	取消键	取消当前操作并退出。
H	确定键	确定选择当前花样，并进入循环缝花样设置界面。 **【注】确定键只有在单选状态下可以使用。**

3.6 基本花样设定

说明如何设定基本花样的摆宽、基准线、送布量和转速等参数。

- 基本花样是指系统自带的 20 个基本花型。

3.6.1 直线设置

【注】单步进没有 和 设置。

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
C	正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
D	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：
E	逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
F	缝纫模式显示	显示当前缝纫模式，按下后进入缝纫模式设置界面。
G	前倒缝类型	显示当前花样的前倒缝类型。 **【注】前倒缝开关为关闭时，不显示前倒缝类型。**
H	后倒缝类型	显示当前花样的后倒缝类型。 **【注】后倒缝开关为关闭时，不显示后倒缝类型。**
I	前倒缝开关	切换前倒缝开关。 ： 前倒缝有效

		：前倒缝无效
J	后倒缝开关	切换后倒缝开关。 ：后倒缝有效 ：后倒缝无效
K	登记键	用于登记当前花样。 **【注】仅在自由缝纫或重叠缝纫时可以登记。**

参数设置说明：

这里举例说明如何设置最高转速和基准线位置，正送量和逆送量设置方法同最高转速设置。

1、 最高转速设置

在形状设置界面下，按下最高转速键，即进入最高转速设置界面，通过数字键盘输入目标数值，按下键完成操作。

2、 基准线设置

在形状设置界面下，按下基准线键，即进入基准线设置界面，键或键用于设置基准线位置，并且机针位置会跟随移动，按下键完成操作。

3.6.2 两点、三点、四点曲折设置

这里选择两点曲折进行说明。

【注】单步进没有 和 设置。

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：
D	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。

G	起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。 ：任意 ：右 ：左
H	停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。 ：任意 ：右 ：左
I	-	参照直线设置下说明。

参数设置说明：

这里举例说明如何设置摆宽和起针点位置，停针点位置设置方法同起针点位置设置。

1、摆宽设置

在形状设置界面下，按下摆宽键，即进入摆宽设置界面，↑键或↓键用于设置摆宽数值，并且机针位置会跟随移动，按下↵键完成操作。

2、 起针点设置

在形状设置界面下，按下起针点键，即进入起针点设置界面，选择合适的位置按下↵键完成操作。

3.6.3 荷叶边设置

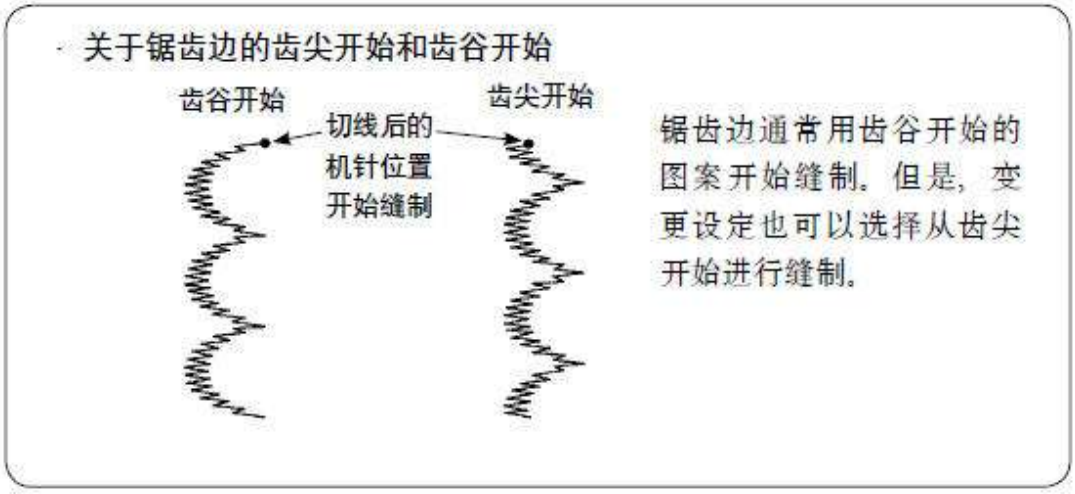
这里选择右标准荷叶边进行说明。

【注】单步进没有 和 设置。

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：
D	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
G	起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。 ： 谷 ： 峰

H	停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。 ：左 ：右 ：任意 ：谷
I	-	参照直线设置下说明。



3.6.4 暗缝设置

这里选择左暗缝进行说明。

【注】单步进没有 和 设置。

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	 摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	 基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准：  中心基准：  右基准： 
D	 最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	 正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	 逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
G	 暗缝针数显示和设置	显示暗缝针数，按下后进入暗缝针数设置界面。
H	-	参照直线设置下说明。

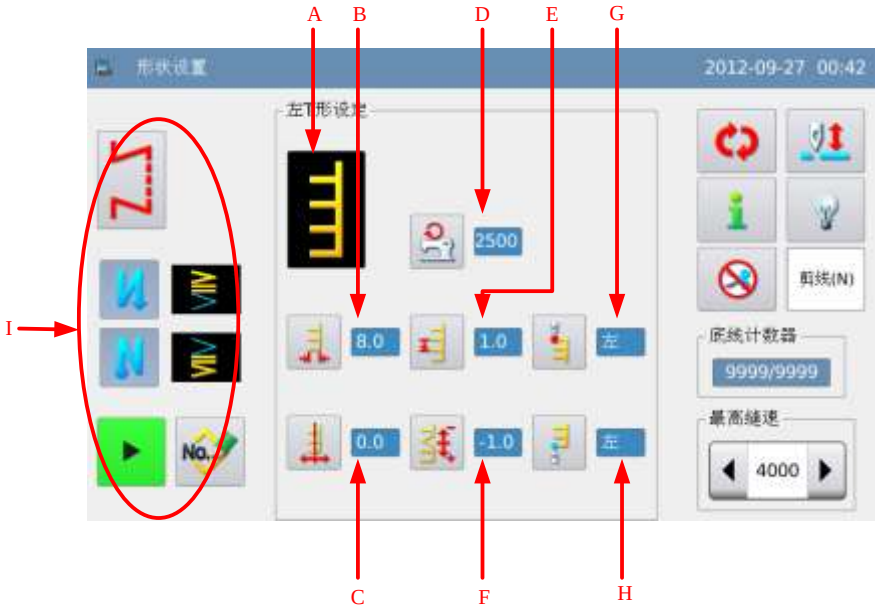
参数设置说明：

这里举例说明如何设置暗缝针数。

1、摆宽设置

在形状设置界面下，按下暗缝针数键  ，即进入针数设置界面，通过数字键盘输入目标数值，按下  键完成操作。

3.6.5 左 T 型设置(单步进没有此花样)



功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	 摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	 基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准：  中心基准：  右基准： 
D	 最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	 正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	 修正量显示和设置	显示修正量数值，按下后进入修正量设置界面。
G	 起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。  ：左  ：右 1  ：右 2  ：任意

H	停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。 ：左　：右 1 ：右 2　：任意
I	-	参照直线设置下说明。

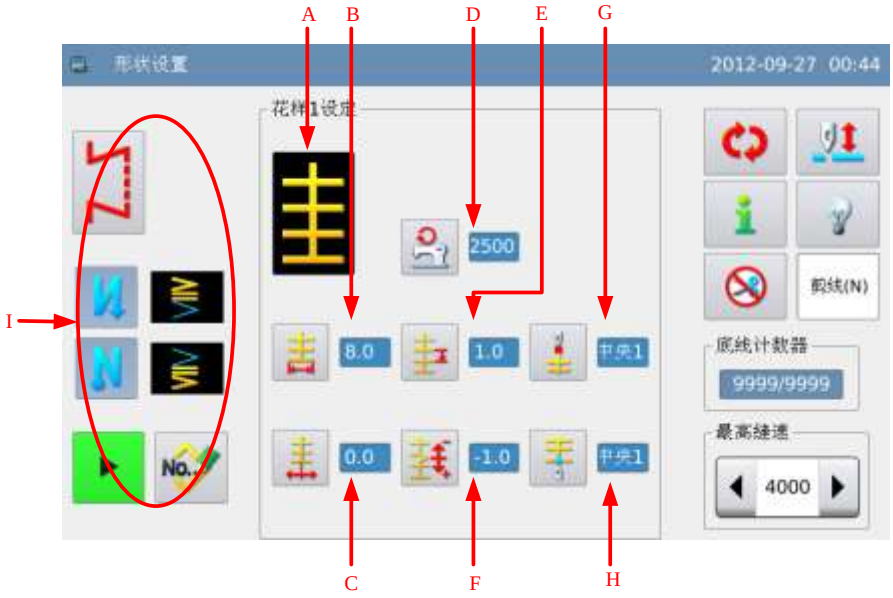
3.6.6 右 T 型设置(单步进没有此花样)

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：

D	 最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	 正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	 修正量显示和设置	显示修正量数值，按下后进入修正量设置界面。
G	 起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。  ：右  ：左 1  ：左 2  ：任意
H	 停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。  ：右  ：左 1  ：左 2  ：任意
I	-	参照直线设置下说明。

3.6.7 花样 1 设置(单步进没有此花样)

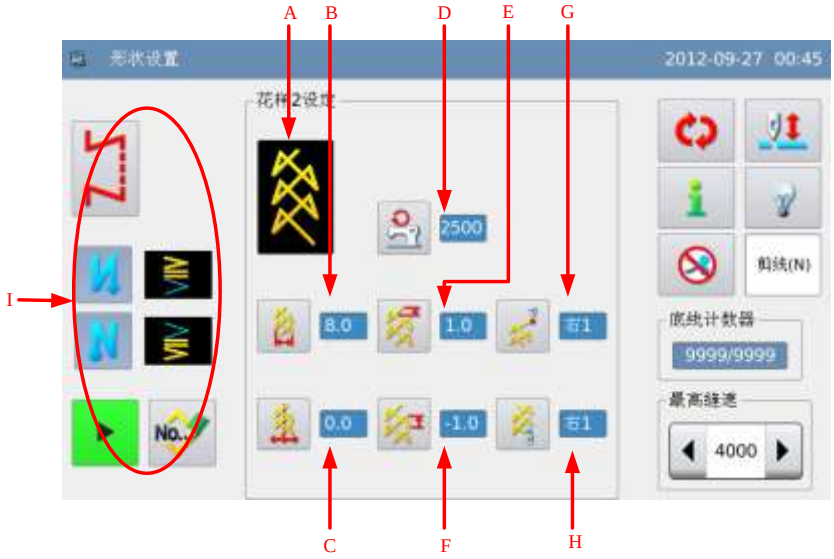


功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	 摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	 基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准：  中心基准：  右基准： 
D	 最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	 正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	 修正量显示和设置	显示修正量数值，按下后进入修正量设置界面。
G		显示起针点位置，按下后进入起针点设置界面。

	起针点显示和设置	：中央 1 ：中央 2 ：左 ：中央 3 ：右 ：任意
H	停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。 ：中央 1 ：中央 2 ：左 ：中央 3 ：右 ：任意
I	-	参照直线设置下说明。

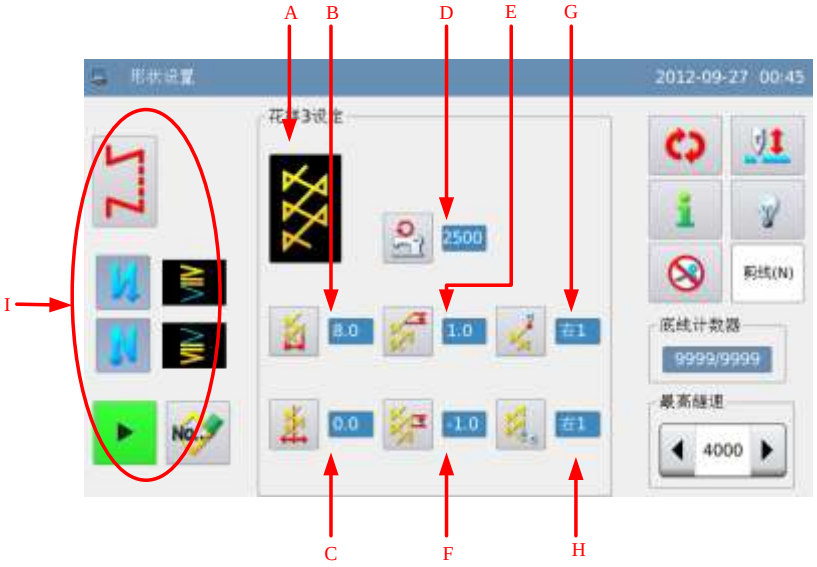
3.6.8 花样 2 设置(单步进没有此花样)



功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	 摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	 基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准：  中心基准：  右基准： 
D	 最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	 正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	 逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
G	 起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。  ：右 1  ：中央 1  ：左 1  ：左 2  ：中央 2  ：右 2  ：任意
H	 停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。  ：右 1  ：中央 1  ：左 1  ：左 2  ：中央 2  ：右 2  ：任意
I	-	参照直线设置下说明。

3.6.9 花样 3 设置(单步进没有此花样)



功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：
D	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。
F	逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
G	起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。 ：右 1 ：中央 1 ：左 1 ：左 2 ：中央 2 ：右 2 ：任意

H	停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。 ：右 1 ：中央 1 ：左 1 ：左 2 ：中央 2 ：右 2 ：任意
I	-	参照直线设置下说明。

3.6.10 花样 4 设置(单步进没有此花样)

功能说明：

A	当前花样	显示当前花样，按下后可以返回形状选择界面。
B	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
C	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：
D	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
E	正送量显示和设置	显示正送量数值，按下后进入正送量设置界面。

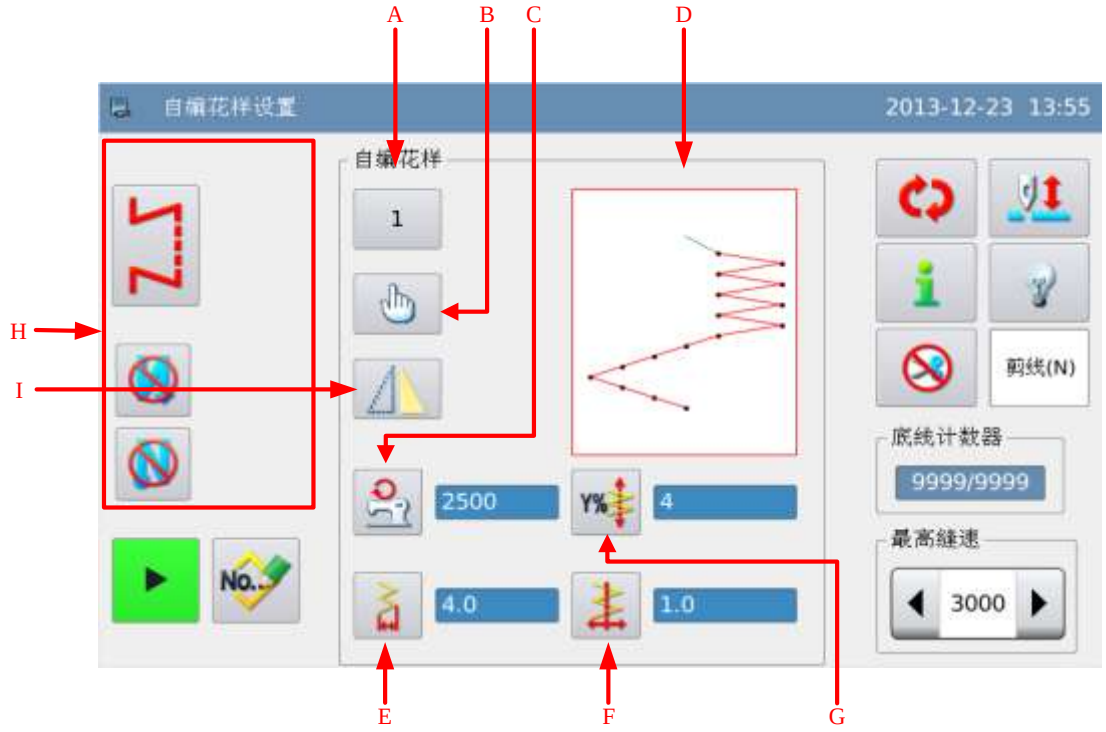
F	 逆送量显示和设置	显示逆送量数值，按下后进入逆送量设置界面。
G	 起针点显示和设置	显示起针点位置，按下后进入起针点设置界面。  ：左 1  ：左 2  ：右 1  ：右 2  ：右 3  ：左 3  ：任意
H	 停针点显示和设置	显示停针点位置，按下后进入停针点设置界面。  ：左 1  ：左 2  ：右 1  ：右 2  ：右 3  ：左 3  ：任意
I	-	参照直线设置下说明。

3.7 自编花样

- 自编花样是指自由落针位置，可以编制任意的机针摆动图案。
- 自编花样可以由操作面板编辑产生，也可以外部导入进来。
- 最多可以存储 500 个自编花样，每个图案最多可以支持 500 针。

3.7.1 自编花样设置

参照【3.5.2 自编花样选择】内容，进入自编花样设置界面。



功能说明：

A	花样号码	显示当前花样号码，按下后进入自编花样选择界面。
B	编辑键	按下后进入花样编辑界面。
C	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
D	花样显示	显示当前花样形状。
E	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
F	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。 显示图标取决于参数「通用」->「基准线位置」： 左基准： 中心基准： 右基准：

G	Y 方向缩放比例设置	Y 缩放比设置（双步进款独有）
H	-	参照基本花样设定下说明。
I	花样沿 Y 轴镜像	点击此按键后，自编花样将沿 Y 轴镜像

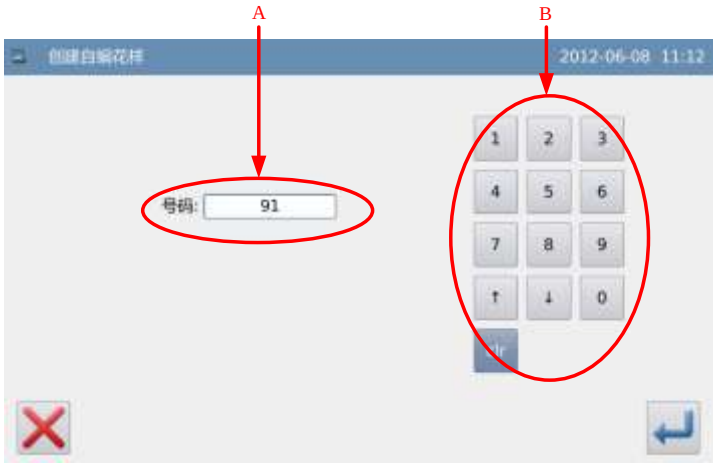
3.7.2 自编花样创建

参照【3.5.2 自编花样选择】内容，按下 New 键可以进入自编花样创建界面。

1、 号码显示区 A 会显示可用于存储的空号码，可以用数字键盘 B 进行选择。

2、 确定号码以后，按下 键完成操作并进入自编花样编辑界面， 键则取消操作并返回上一画面。

【注】如果输入的号码已经存在，会提示「花样号码已存在」的提示信息。



3.7.3 自编花样复制

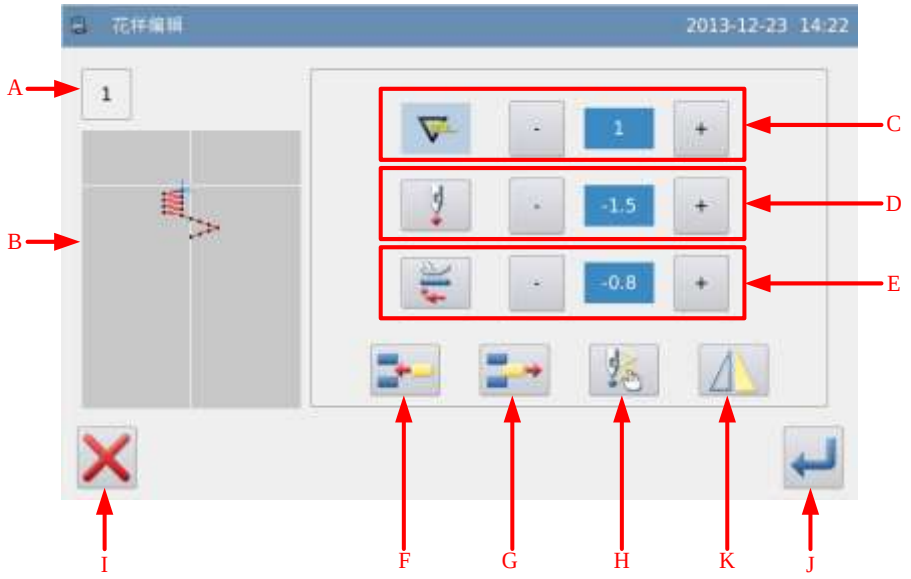
参照【3.5.2 自编花样选择】内容，首先选中想要复制的花样，按下 Copy 键可以进入自编花样复制界面。

操作方式同自编花样创建操作，按下  键取消，按下  键确定操作并返回自编花样选择界面。

【注】如果输入的号码已经存在，会提示「是否覆盖内存中花样数据」的提示信息。

3.7.4 自编花样编辑

自编花样创建后会进入编辑界面，或者在自编花样设置界面里按下编辑键  ，操作结束后会进入自编花样设置界面。



功能说明：

A	花样号码	显示自编花样号码。
B	花样显示	显示花样针迹和光标位置。
C	针号显示和设置	显示当前处于编辑状态的针号。 按下  和  键可以调整针号，同时花样显示区光标会跟随移动。
D	摆宽显示和设置	显示当前针号的机针摆宽值，该数值表示 X 方向的绝对坐标。 按下  和  键可以减小或增加摆宽值，范围为

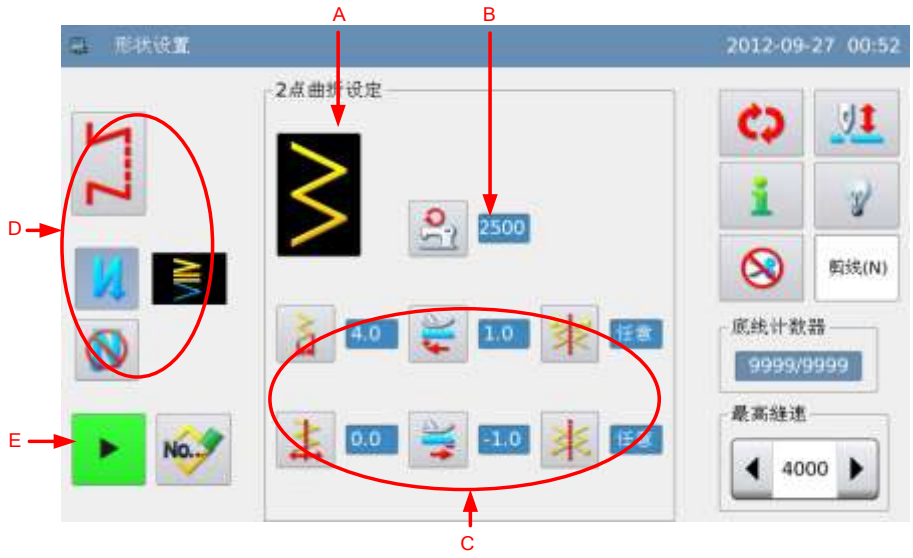
		-5.0~5.0mm。按下  可以直接输入移动的值，这提供了一种方便的设置方式
E	送布量显示和设置	显示当前针号的送布量，该数值表示 Y 方向的相对坐标。 按下  和  键可以减小或增加送布量，范围为 -5.0~5.0mm。按下  可以直接输入送布量的值，这提供了一种方便的设置方式
F	插入一针	在当前针号后面插入一针，新插入的这一针摆针数值与当前针号相同，送布量增加 1.0mm。 **【注】总针数为 500 针时不能插入。**
G	删除一针	删除当前针号的落针点，后面 1 针 1 针的前推。 **【注】总针数为 1 时不能删除。**
H	结束标记	输入结束标记，如果当前针号输入了结束标记，其后的针数全部无效。
I	取消键	取消当前操作，返回上一级界面。
J	确定键	确定操作，并保存编辑结果，进入编辑花样设置界面。
K	镜像方式	按下后可以对编辑的花样选择不同的镜像方式： X 镜像：花样沿 x 轴镜像 Y 镜像：花样沿 y 轴进行

3.8 已存花样

- 已存花样是由基本花样或自编花样登记产生的，仅在自由缝纫和重叠缝纫时能够登记。
- 由自编花样登记的已存花样不允许编辑数据，由基本花样登记的已存花样可以修改花样参数。

3.8.1 已存花样设置

参照【3.5.3 已存花样选择】内容，进入已存花样设置界面。



由基本花样登记的花样

【注】单步进没有 和 设置。

由自编花样登记的花样

功能说明：

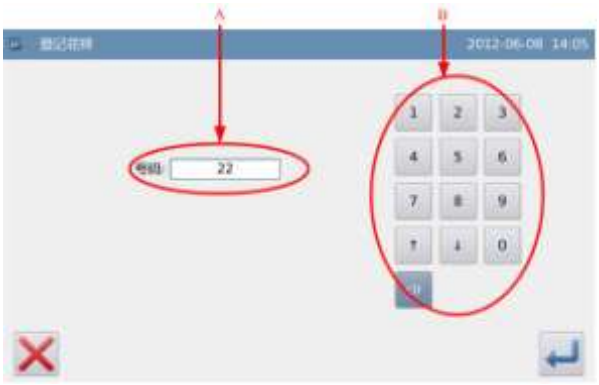
A	花样号码	显示当前花样号码，按下后进入已存花样选择界面。
B	登记花样形状	显示当前花样登记的形状。
C	最高转速显示和设置	显示最高运行速度，按下后进入速度设置界面。
D	花样参数	显示与当前登记的形状所对应的参数，显示内容和设置方法参照基本花样和自编花样。
E	-	参照基本花样设定下说明。
F	复制键	按下后进入复制花样界面。

3.8.2 花样登记

这里以两点曲折花型举例说明。

1、 选择想要登记的花样

设置好想要登记的花样以及缝纫模式、倒缝，进入到花样设置界面，按下登记键 会进入花样登记界面。



2、 输入登记号码

号码显示区 A 会显示可用于存储的空号码，可以用数字键盘 B 输入想要登记的号码。

按下 键则取消操作并返回上一画面，按下 键完成操作。

【注】如果输入的号码已经存在，会提示「是否覆盖内存中花样数据」的提示信息。

3、 登记结束

登记成功后，会进入花样设置界面，登记的图案成为当前缝制花样。

3.8.3 已存花样复制

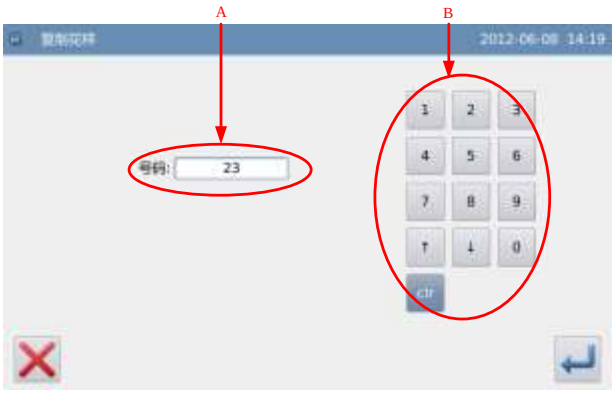
1、进入花样复制界面

在已存花样设置界面下，按下复制键  ，会进入花样复制界面。

2、花样复制

号码显示区 A 会显示可用于复制的空号码，通过数字键盘 B 输入想要复制的号码。

按下  键则取消操作，按下  键完成操作，操作结束后返回已存花样设置界面。

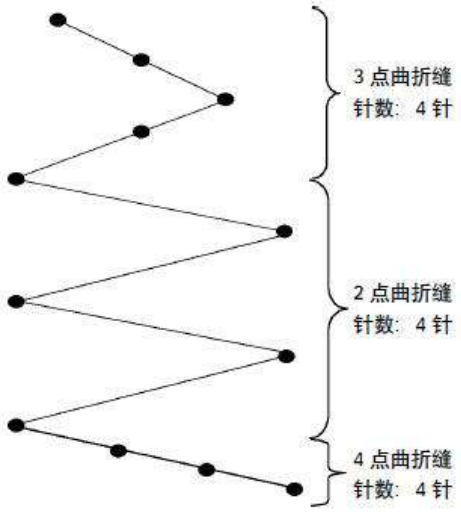


【注】如果输入的号码已经存在，会提示「是否覆盖内存中花样数据」的提示信息。

3.9 连续缝

- 连续缝是由一个或多个已存花样组成的，最多可以设置 32 步骤，每一步骤最多可以设定 500 针。
- 连续缝是作为一个花样缝纫的。

实例说明：



1、 如左图所示，事先把 2 点曲折登记为花样 1，3 点曲折登记为花样 2，4 点曲折登记为花样 3.

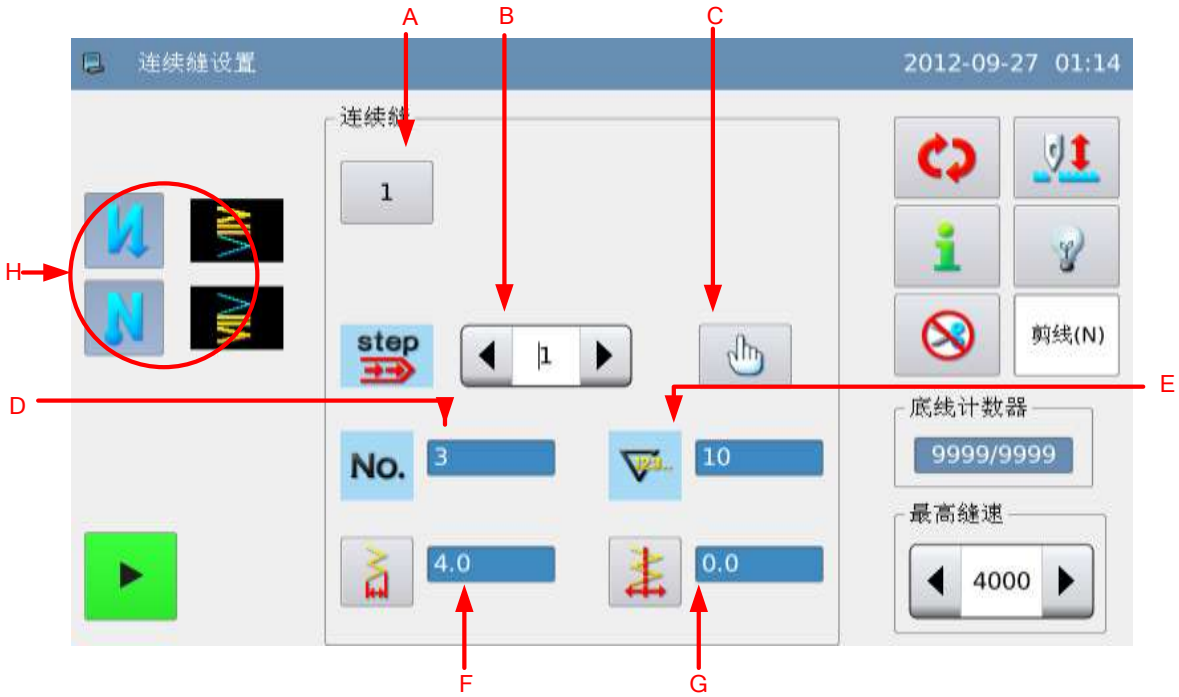
2、 设计如下针数

步骤	花样号	针数
1	2	4
2	1	4
3	3	4

3、编辑界面下按下 键完成操作。

3.9.1 连续缝设置

参照【3.5.4 连续缝选择】内容，进入连续缝设置界面。



功能说明：

A	花样号码	显示当前花样号码，按下后进入连续缝选择界面。
B	连续缝步骤	显示连续缝步骤，操作 左右箭头可以切换显示连续缝各步骤登记信息。
C	编辑键	按下后进入连续缝编辑界面。
D	引用号码	显示当前步骤引用的已存花样号码。
E	步骤针数	显示当前步骤的针数。

F	摆宽显示和设置	显示摆宽数值，按下后进入摆宽设置界面。
G	基准线位置显示和设置	显示基准线位置，按下后进入基准线设置界面。
H	倒缝设置	参照基本花样设定下说明。

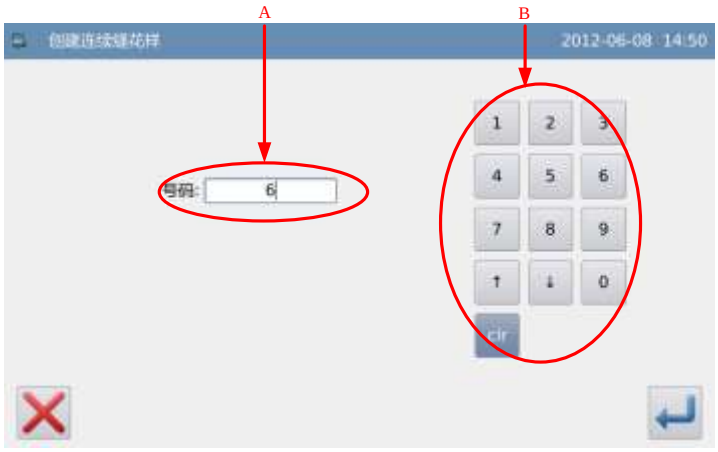
3.9.2 连续缝创建

参照【3.5.4 连续缝选择】内容，按下 New 键可以进入连续缝创建界面。

1、 号码显示区 A 会显示可用于存储的空号码，可以用数字键盘 B 进行选择。

2、 确定号码以后，按下 键完成操作并进入连续缝编辑界面， 键则取消操作并返回上一画面。

【注】如果输入的号码已经存在，会提示「花样号码已存在」的提示信息。



3.9.3 连续缝复制

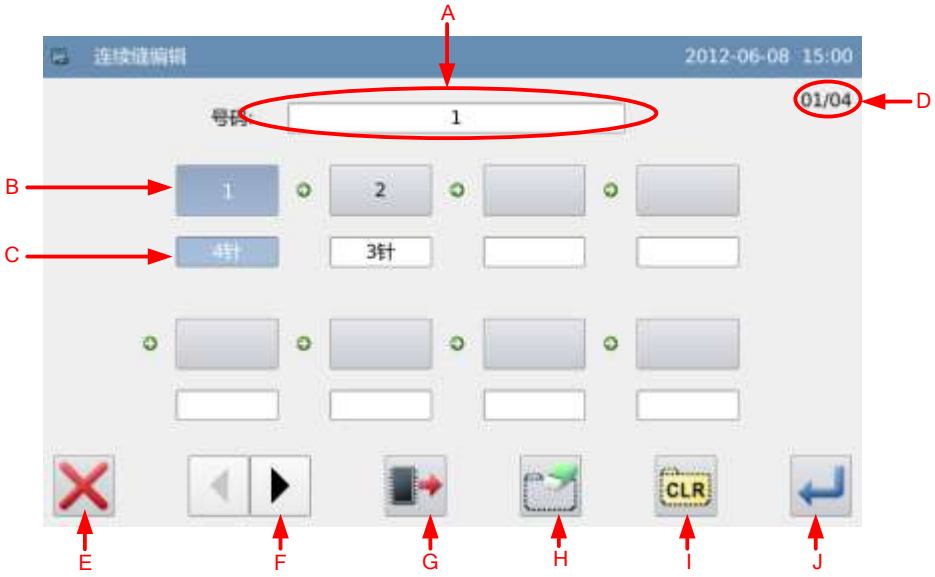
参照【3.5.4 连续缝选择】内容，首先选中想要复制的花样，按下 Copy 键可以进入连续缝复制界面。

操作方式同连续缝创建操作，按下 键取消，按下 键确定操作并返回连续缝选择界面。

【注】如果输入的号码已经存在，会提示「是否覆盖内存中花样数据」的提示信息。

3.9.4 连续缝编辑

连续缝创建后会进入编辑界面，或者在连续缝设置界面里按下编辑键 ，操作结束后会进入连续缝设置界面。

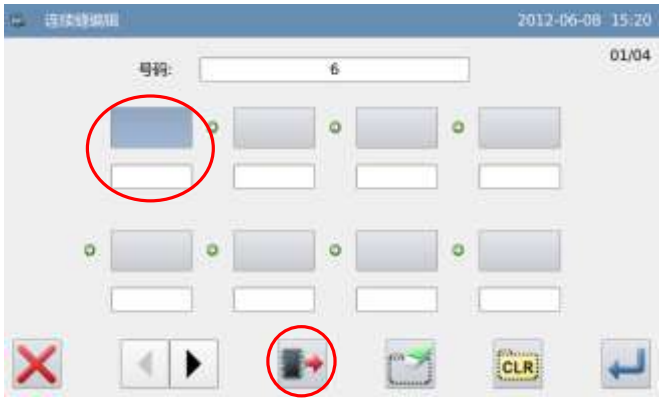


功能说明：

A	花样号码	显示连续缝号码。
B	引用花样号码	显示当前步骤引用的花样号码。
C	步骤针数	显示当前步骤设定针数。
D	页码显示	显示当前页码/总页数。
E	取消键	取消操作并退出。
F	翻页键	用于前后翻页显示。
G	读取花样键	按下后进入引用花样选择界面，用于设置当前步骤引用的花样和针数。
H	步骤删除键	用于删除当前选中步骤，后面的步骤前推。

I	清空键	用于清除连续缝全部内容。
J	确定键	确定操作并退出。

操作说明：



1、 当前步骤编辑

按下读取键，进入引用花样选择界面，选择想要添加的已存花样，这里选择了 8 号花样，并且设置当前步骤针数为 10 针，按下键确定选择。

【注】步骤编辑必须按前后顺序添加。

2、 继续步骤编辑

同之前的操作，继续添加引用花样（这里选择继续添加了 5、1 和 10 号花样）。

如果想要删除掉其中一个引用花样，点击想要删除的引用花样号码，然后再按下删除键即可。

3、 保存连续缝

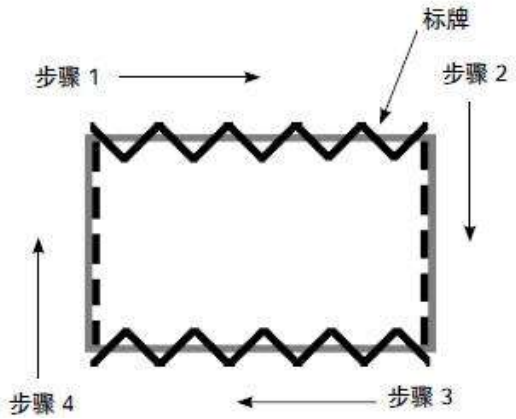
按下键确认保存，并进入到连续缝设置界面。

3.10 循环缝

- 循环缝是由一个或多个已存花样组成的，最多可以设置 32 步骤，把不同的图案变换顺序进行缝制。
- 循环缝可以看做是多个花样按照每个步骤的设置进行程序缝制，同时支持设定针数。

实例说明：

循环缝设定针数后，各步骤机针摆动图案可以进行不同指定长度的缝制。



1、 首先把 2 点曲折登记到花样 1，把直线登记到花样 2。

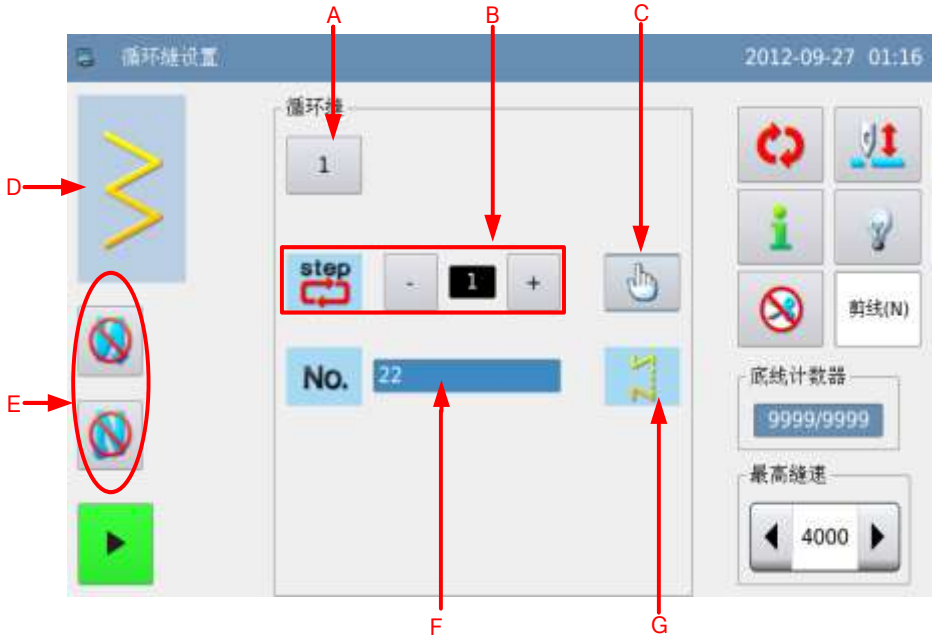
2、 如下表分别设定针数

步骤	花样号	针数
1	1	100
2	2	50
3	1	100
4	2	50

3、编辑界面下按下键完成操作。

3.10.1 循环缝设置

参照【3.5.5 循环缝选择】内容，进入循环缝设置界面。



功能说明：

A	花样号码	显示当前花样号码，按下后进入循环缝选择界面。
B	循环缝步骤	显示循环缝步骤，操作 - 和 + 键可以切换循环缝步骤。
C	编辑键	按下后进入循环缝编辑界面。
D	引用花样显示	显示当前步骤引用的花样形状。
E	倒缝设置	参照基本花样设定下说明。
F	引用号码	显示当前步骤引用的已存花样号码。
G	缝制方式	显示当前缝制方式。

【注】如果当前步骤引用花样的缝纫模式为自由缝纫或重叠缝纫时，不显示针数、停止状态、压脚停止位置和压脚上升时间，界面显示如下。

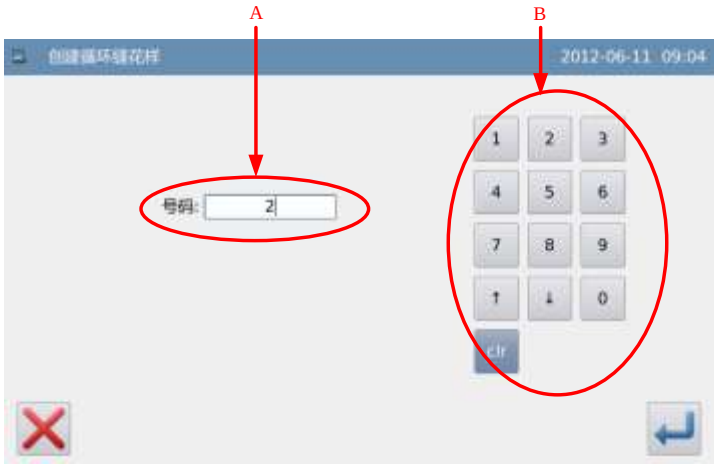
3.10.2 循环缝创建

参照【3.5.5 循环缝选择】内容，按下 New 键可以进入循环缝创建界面。

1、号码显示区 A 会显示可用于存储的空号码，可以用数字键盘 B 进行选择。

2、确定号码以后，按下 键完成操作并进入循环缝编辑界面， 键则取消操作并返回上一画面。

【注】如果输入的号码已经存在，会提示「花样号码已存在」的提示信息。



3.10.3 循环缝复制

参照【3.5.5 循环缝选择】内容，首先选中想要复制的花样，按下 Copy 键可以进入循环缝复制界面。

操作方式同循环缝创建操作，按下 键取消，按下 键确定操作并返回循环缝选择界面。

【注】如果输入的号码已经存在，会提示「是否覆盖内存中花样数据」的提示信息。

3.10.4 循环缝编辑

循环缝创建后会进入编辑界面，或者在循环缝设置界面里按下编辑键 ，操作结束后会进入循环缝设置界面。

功能说明：

A	循环缝号码	显示循环缝号码。
B	步骤	显示当前步骤。
C	一次缝按键	设置当前步骤是否为一次缝。 **【注 1】当前步骤为自由缝时，当前步骤不能设置成一次缝。** **【注 2】当前步骤为重叠缝时，当前步骤只能为一次缝。**
D	引用花样号码	显示当前步骤引用的花样号码，按下后进入引用花样选择界面。
E	当前步骤缝纫模式	显示当前步骤缝纫模式，按下后切换自由缝开关。 **【注】当前步骤为重叠缝时不能设置。**
F	针数设置	设置当前步骤针数，范围为 1~500 针。 **【注】当前步骤为重叠缝和自由缝时不能设置。**
G	停止状态设置	设置当前步骤停止状态。 ：机针下停止 ：切线 ：机针上停止 **【注】当前步骤为重叠缝和自由缝时不能设置。**
H	压脚位置设置	设置当前步骤压脚位置。 ：压脚下停止 ：压脚上停止 **【注】当前步骤为重叠缝和自由缝时不能设置。**
I	压脚上升时间设置	设置当前步骤压脚上升时间，范围为 0.1~99.9s。
J	取消键	按下后取消操作并退出。
K	确定键	按下后保存设置并进入循环缝设置界面。
L	步骤删除键	删除当前步骤。

操作说明：

1、当前步骤编辑

进入循环缝编辑界面，通过 A 可以选择当前步骤并查看信息，本例中所有步骤都为空，从步骤 1 开始编辑。

2、选择引用花样

按下引用号码键 B，进入引用花样选择界面，选择想要添加的已存花样或连续缝，这里选择了 1 号花样，按下 键确定选择。

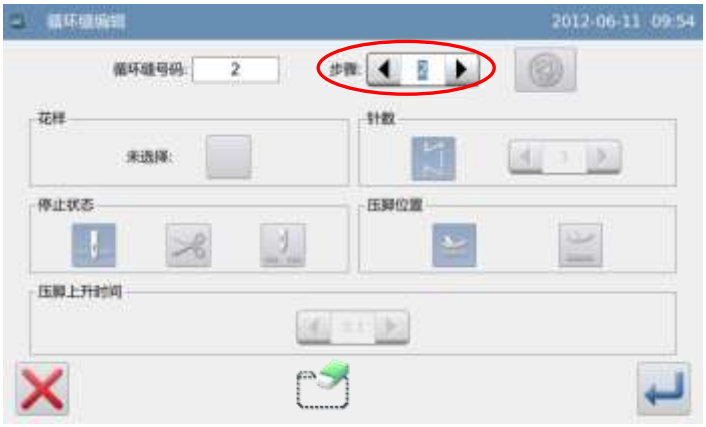
3、 设置步骤参数信息

选择花样以后，可以通过 C 查看当前步骤缝纫模式，默认为引用花样自带的缝纫模式，本例中 1 号已存花样为自由缝。

按下 C 键关闭自由缝，设置针数为 20 针，同时设置停止状态、压脚位置和压脚上升时间等参数信息。

4、 继续步骤编辑

设置当前步骤为 2，同之前的操作，继续添加引用花样。

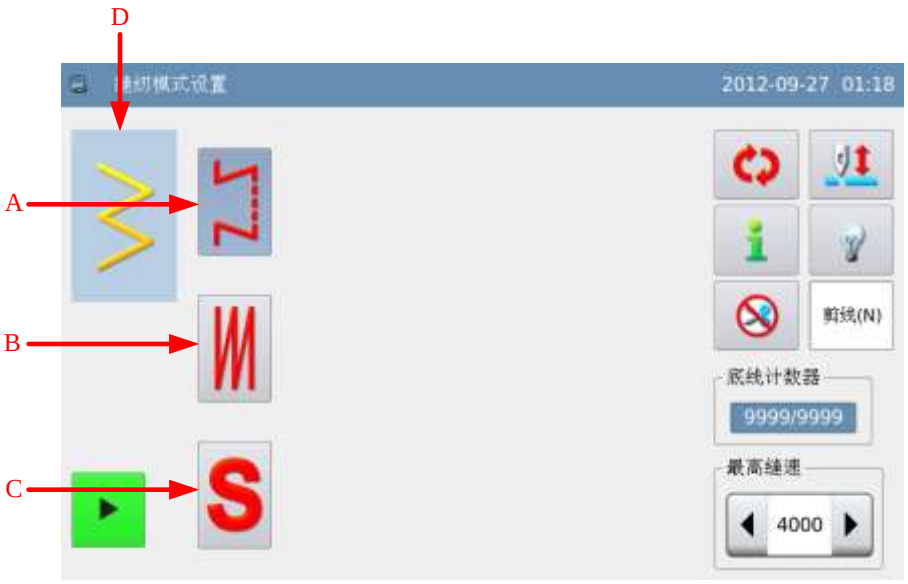


5、 保存循环缝

按下 键确认保存，并进入到循环缝设置界面。

3.11 缝纫模式设置

- 参照【3.4 主界面说明】和【3.6.1 直线设置】内容，可以知道通过切换键 或者在花样设置界面里按下缝纫模式键，都可以进入缝纫模式设置界面。
- 缝纫模式有自由缝、重缝缝和程序缝组成。

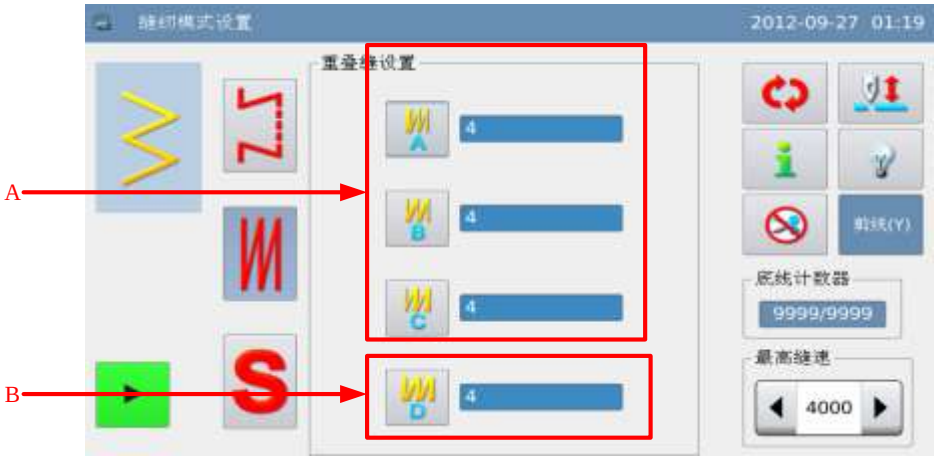


功能说明：

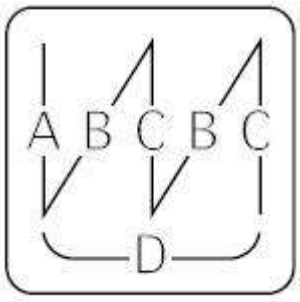
A	自由缝按键	按下后选择自由缝模式。
B	重叠缝按键	按下后选择重叠缝模式。
C	程序缝按键	按下后选择程序缝模式。
D	当前花样	显示当前花样形状。

3.11.1 重叠缝

- 重叠缝默认打开自动切线和一次缝。



功能说明：

A	A、B、C 工序针数显示和设置	分别显示 A、B、C 工序针数，按下设置键后进入重叠缝设置界面，范围为 0~19 针。
B	工序数 D 显示和设置	显示 A、B、C 的总工序数，按下设置键后进入重叠缝设置界面，范围为 0~9。 

操作说明：

按下 A、B、C、D 任意一键进入重叠缝设置界面。

这里举例 A、B、C 工序针数设置为 4 针，总工序 D 设置为 5，则 A 工序执行 1 次，B 工序执行 2 次，C 工序执行 2 次，设置完成后按下 键保存退出。

3.11.2 程序缝

- 程序缝最多可以设置 20 步骤，各步骤最多设定 500 针。
- 程序缝某一步骤设置为切线或针数设置为 0 后，后面的步骤会取消掉。

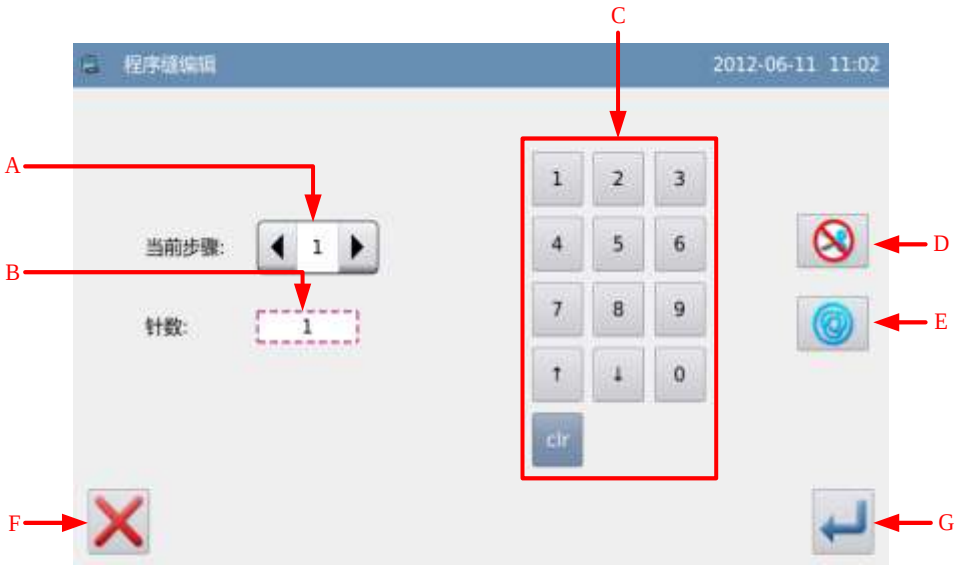
功能说明：

A	步骤信息	显示程序缝各步骤设置针数，按下设置键后进入程序缝设置界面。
B	翻页键	按下后前后翻页显示。 **【注】程序缝步骤总数超过 10 时显示。**

程序缝设置说明：

这里举例按下 

键进入程序缝设置界面。



序号	说明
A	当前步骤显示，按下  左右箭头可以切换当前步骤。 如果当前步骤已经是最后工序，点击右箭头会新增一个工序，最多可以设定 20 个工序。 **【注】如果需要增加步骤，请先设置当前步骤自动切线无效。**
B	当前步骤针数显示。
C	用于输入当前步骤针数。
D	自动切线设置。 **【注】设置自动切线的步骤会切换为最后一步。**
E	一次缝设置，按键选中状态为设置一次缝。 设置了一次缝后，可以自动缝制到该步骤的针数。
F	取消设置并退出。
G	所有步骤设置完成后，保存设置并退出。

3.12 倒缝设置

- 倒缝用于缝制开始和缝制结束的加固，分为标准倒缝、2 点缩缝和自编倒缝三种类型。
- 按下前倒缝开关（  或  ）和后倒缝开关（  或  ），可以设定倒缝有效/无效。

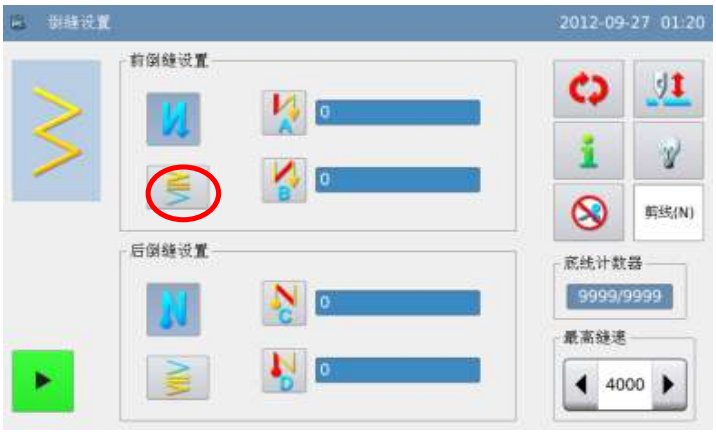
前倒缝	无效	有效	无效	有效

缝制图案				
		A B	C D	A B C D
后倒缝	**无效**	**无效**	**有效**	**有效**

设定方法：

1、进入倒缝设置界面

按下切换键 进入倒缝设置界面，这里以标准前倒缝举例说明，按下前倒缝类型键，进入前倒缝类型设置界面。

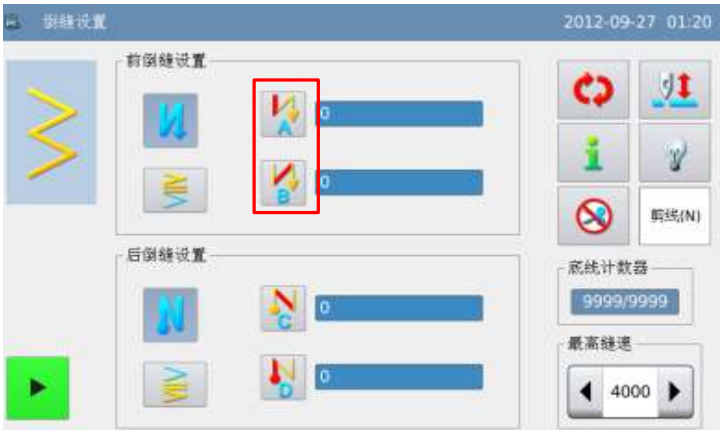


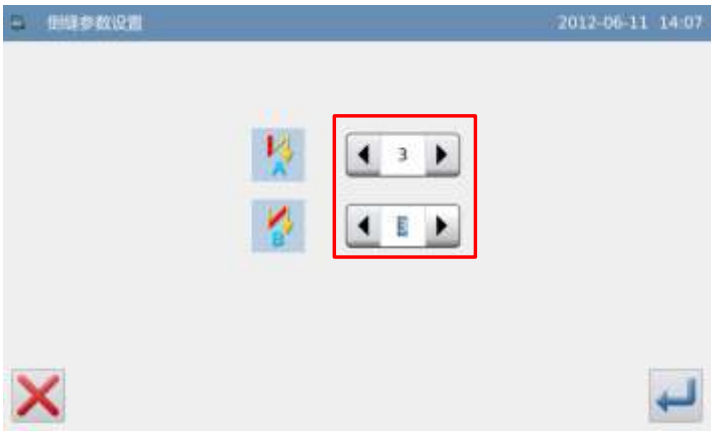
2、选择倒缝类型

如图所示，选择需要的倒缝类型后，按下 键返回倒缝设置界面。

3、 设置倒缝参数

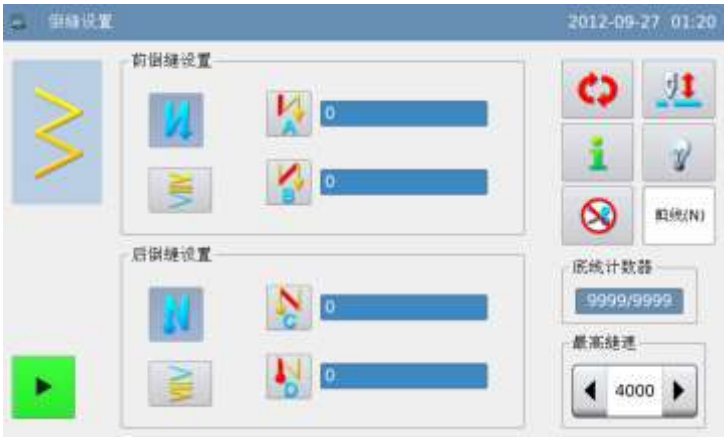
在倒缝设置界面下，按下倒缝工序键 A 或 B，进入倒缝参数设置界面。





4、 输入倒缝工序针数

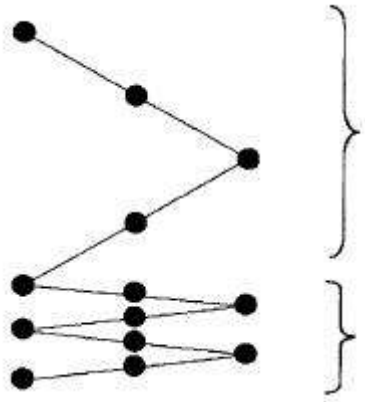
如图所示，按下左右箭头可以输入倒缝各工序针数，按下 键返回倒缝设置界面。



3.12.1 标准倒缝

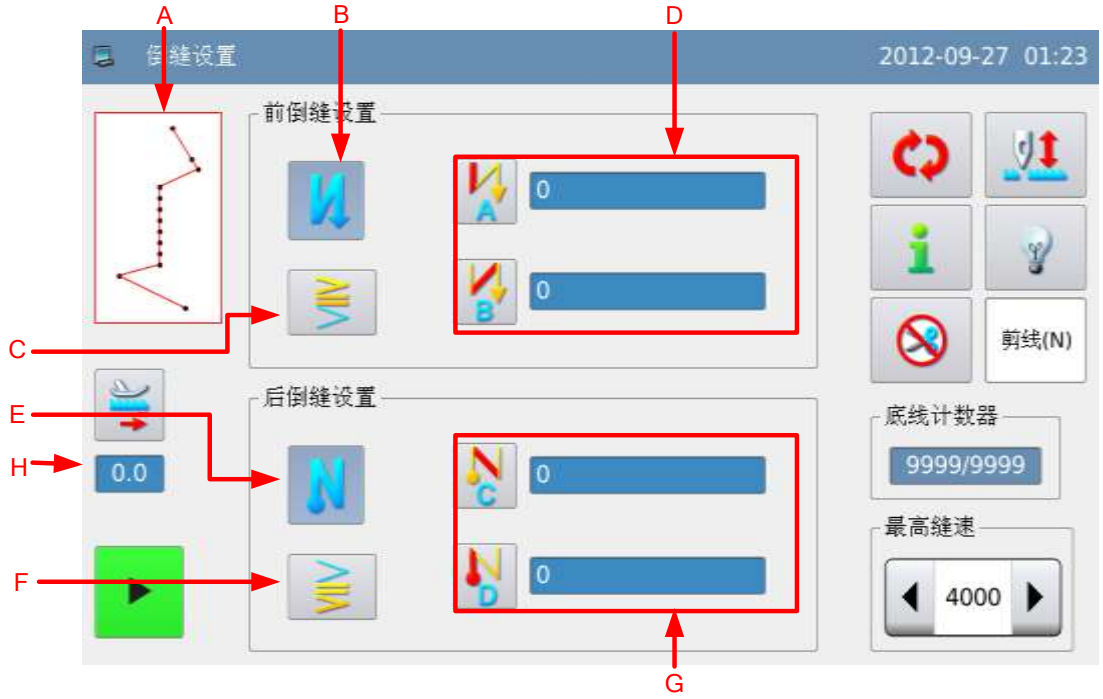
- 标准倒缝可以进行与当前花样的摆动图案相同落针点位置的倒缝。

实例说明：



当前花样部
3 点曲折缝

标准倒缝部
C 工序：设定 4 次



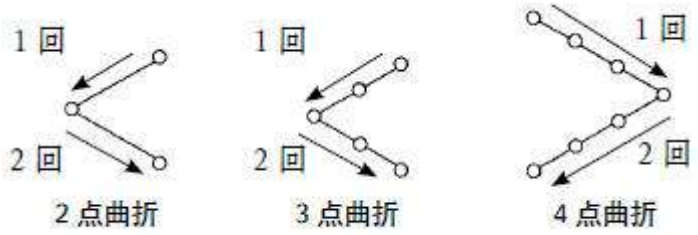
功能说明：

A	当前花样	显示当前花样形状。
B	前倒缝开关	设定前倒缝有效或无效。 ：前倒缝有效　　：前倒缝无效
C	前倒缝类型	显示前倒缝类型，按下进入前倒缝类型选择界面。 ：标准前倒缝
D	前倒缝工序 A 和 B	显示前倒缝 A 和 B 工序针数，按下设定键进入前倒缝参数设置界面。
E	后倒缝开关	设定后倒缝有效或无效。 ：后倒缝有效　　：后倒缝无效
F	后倒缝类型	显示后倒缝类型，按下进入后倒缝类型选择界面。

		 ：标准后倒缝
G	后倒缝工序 C 和 D	显示后倒缝 C 和 D 工序针数，按下设定键进入后倒缝参数设置界面。
H	送布量显示和设置	显示送布量，按下设置键后进入送布量设置界面。 **【注】只有当前花样为自编花样时，才会显示该设置项。**

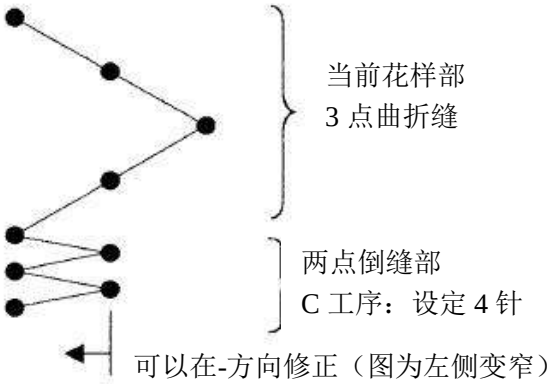
倒缝的设定根据摆针图案的不同，有以下两种方法：
1） 直线、扇形荷叶边、暗缝、自编花样、连续缝时，用针数设定。
前倒缝 –> A（正方向送）：可以设定 0~19 针。
B（反方向送）：可以设定 0~19 针。
后倒缝–> C（反方向送）：可以设定 0~19 针。
D（正方向送）：可以设定 0~19 针。

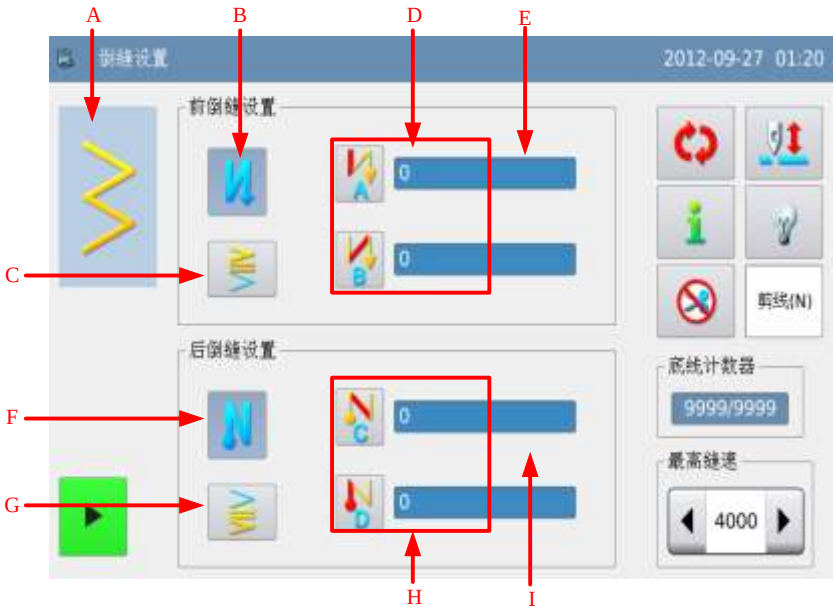
2）2 点曲折、3 点曲折、4 点曲折时，用机针摆动图案的次数来设定。机针摆动图案指机针摆动折回点之间。
前倒缝 –> A（正方向送）：可以设定 0~19 回。
B（反方向送）：可以设定 0~19 回。
后倒缝–> C（反方向送）：可以设定 0~19 回。
D（正方向送）：可以设定 0~19 回。



3.12.2 两点缩缝

- 两点缩缝可以在当前花样的当前落针点和下次落针点两点间进行倒缝。
- 两点间的宽度在「-」方向可以调整。





功能说明：

A	当前花样	显示当前花样形状。
B	前倒缝开关	参照标准倒缝说明。
C	前倒缝类型	显示前倒缝类型，按下进入前倒缝类型选择界面。  ：两点缩缝（前）
D	前倒缝工序 A 和 B	参照标准倒缝说明。
E	前倒缝缩进距离	显示前倒缝缩进距离，按下进入前倒缝参数设置界面。
F	后倒缝开关	参照标准倒缝说明。
G	后倒缝类型	显示后倒缝类型，按下进入后倒缝类型选择界面。  ：两点缩缝（后）
H	后倒缝工序 C 和 D	参照标准倒缝说明。
I	后倒缝缩进距离	显示后倒缝缩进距离，按下进入后倒缝参数设置界面。

两点缩进距离设置说明：

这里举例说明如何设置前倒缝两点缩进距离。

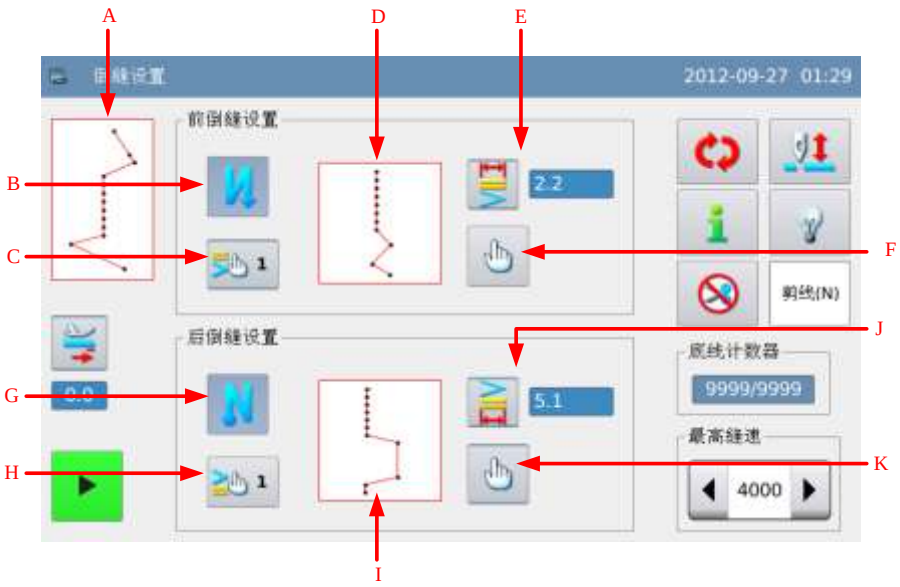
两点缩缝宽度调整在倒缝时可以让最初的落针点到下一落针点的宽度变窄（设定值为 0 时不修正）。

在倒缝设置界面里按下两点缩进键 ，进入倒缝参数设置界面，如图所示，调节左右箭头即可设置缩进距离，按下 键返回倒缝设置界面。

两点缩缝宽度调整在倒缝时可以让最初的落针点到下一落针点的宽度变窄（设定值为 0 时不修正）。

3.12.3 自编倒缝

- 自编倒缝可以在输入的任意落针点进行倒缝。
- 自编倒缝最多支持 64 针。



功能说明：

A	当前花样	显示当前花样形状。
B	前倒缝开关	参照标准倒缝说明。
C	前倒缝自编花样号码	显示前倒缝自编花样号码，按下进入前倒缝自编花样选择界面。
D	前倒缝自编花样显示	显示前倒缝自编花样形状。
E	前倒缝摆宽	显示前倒缝摆宽，按下进入前倒缝参数设置界面。

F	前倒缝编辑键	按下进入前倒缝自编花样编辑界面。
G	后倒缝开关	参照标准倒缝说明。
H	后倒缝自编花样号码	显示后倒缝自编花样号码，按下进入后倒缝自编花样选择界面。
I	后倒缝自编花样显示	显示后倒缝自编花样形状。
J	后倒缝摆宽	显示后倒缝摆宽，按下进入后倒缝参数设置界面。
K	后倒缝编辑键	按下进入后倒缝自编花样编辑界面。

1）自编倒缝摆宽设置说明：

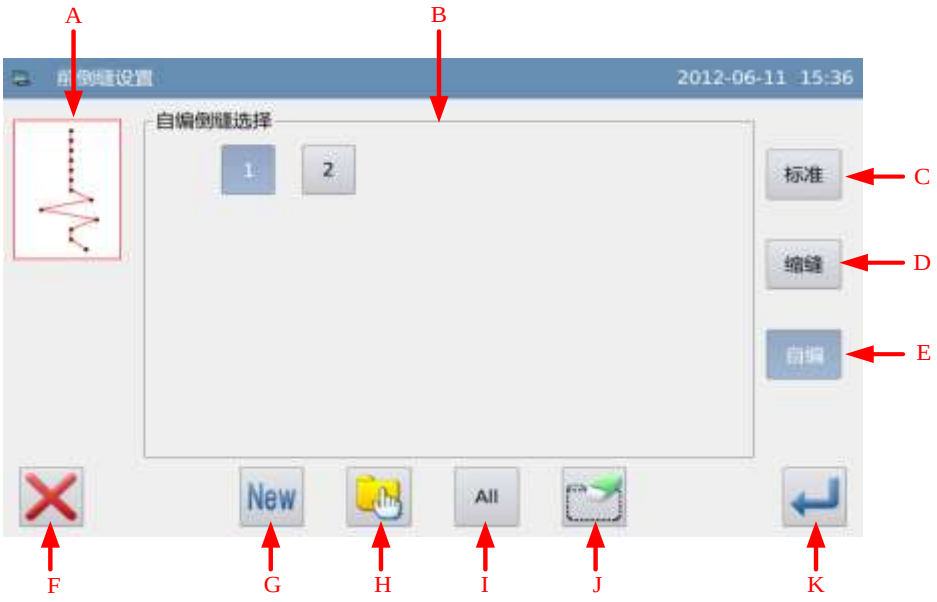
这里举例说明如何设置前倒缝自编倒缝摆宽。

在倒缝设置界面里按下摆宽键 ，进入倒缝参数设置界面，如图所示，调节左右箭头即可设置摆宽，按下 键返回倒缝设置界面。

【注】请在最大摆宽范围内设置。

2）自编倒缝选择说明：

这里以前倒缝为例说明，按下自编花样号码键 ，进入自编倒缝选择界面。



功能说明：

序号	功能	内容
A	花样显示	显示选中花样的形状。
B	花样选择区	显示操作面板存储的自编倒缝号码。
C	标准倒缝键	按下后倒缝类型切换为标准倒缝。
D	两点缩缝键	按下后倒缝类型切换为两点缩缝。
E	自编倒缝键	按下后进入自编倒缝选择界面。
F	取消键	取消当前操作并退出。
G	创建键	用于新建一个自编倒缝。
H	单选/多选键	切换单选/多选操作，多选功能可以同时选中多个自编倒缝，用于删除操作。  ：单选  ：多选
I	全选键	切换选择/取消选择全部自编倒缝，用于删除操作。
J	删除键	用于删除选中自编倒缝。
J	确定键	确定选择当前自编倒缝，并进入倒缝设置界面。 **【注】确定键只有在单选状态下可以使用。**

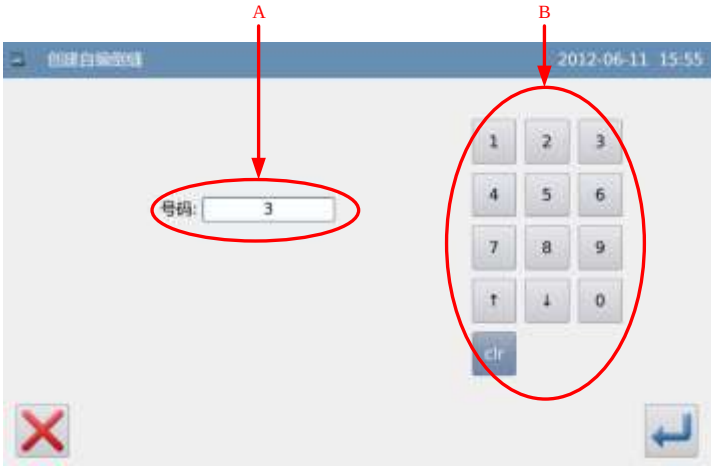
3）自编倒缝创建说明：

参照上节内容，按下 New 键可以进入自编倒缝创建界面。

1、 号码显示区 A 会显示可用于存储的空号码，可以用数字键盘 B 进行选择。

2、 确定号码以后，按下  键完成操作并返回，  键则取消操作并返回。

【注】不能使用已存在的号码。



4）自编倒缝编辑说明：

自编倒缝创建后会进入编辑界面，或者在倒缝设置界面里按下编辑键  也会进入。

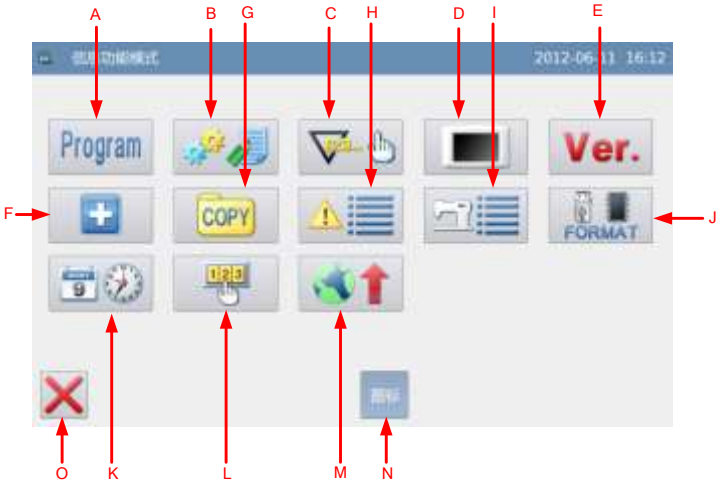
操作方法参照【3.7.3 自编花样编辑】节内容，自编倒缝允许创建的最大针数为 64 针。

3.12.4 各种花样倒缝对比表

	标准倒缝		两点缩缝		自编倒缝	
	前倒缝	后倒缝	前倒缝	后倒缝	前倒缝	后倒缝
直线						
其它花样						

3.13 信息功能模式

在各个主界面下，按下信息键  进入信息功能模式。



功能说明：

序号	功能	内容
A	参数设置	进入参数设置界面。
B	参数管理	提供参数传输、默认参数和参数加密功能。
C	计数器	设置切线计数器和底线计数器。
D	显示设定	提供背光、按键锁、屏保等显示设定。
E	版本查询	查询系统软件版本。
F	检测	进入系统检测界面。
G	数据传输	操作面板与 U 盘之间传输拷贝花样文件。
H	报警记录	查看报警统计信息。
I	运转记录	查看机器运转信息。
J	格式化	格式化 U 盘、花样。
K	日期和时钟设置	设置日期和时间。
L	密码模式	提供用户分期密码功能。
M	软件升级	进入软件升级模式。
N	显示设置	切换按键图标/文本显示。
O	退出	返回主界面。

信息功能模式支持按键两种风格显示：图标和文本。
文本风格显示如下：

3.13.1 参数设置

参数设置主要用于设定各个参数，各个参数的说明请参阅【3.13.4 参数设定表】

设定方法：

1、进入参数设置的方法：

在各个主界面下，按下信息键 进入信息功能模式，如图所示，再按下参数设置键 Program 。

2、参数设置界面

进入参数设置界面以后，有很多参数项供选择，可以通过翻页键 来翻阅画面。

3、实例说明：

① 参数类别选择

所有参数都是按照类别划分的，这里我们选择「主轴和转速」键。

② 内部参数设定界面

进入内部参数设置界面后，可以看到当前类别下的所有参数信息，这里选择按下「P3-4」键。

③ 更改参数设定值

通过数字键盘输入新的设定值，再按下 键确定。

④ 更改后的参数设定值检查

回到内部参数设置界面，可检查更改后的设定值， 按下 键离开。

⑤ 回到参数类别选择界面

回到参数类别选择界面，因为修改了设定值，会有「已修改参数」按键出现。

要回到信息功能模式界面请按 键。

要看「已修改参数」内容，请按下「已修改参数」键。

⑥ **查看已修改参数内容**

a) 进入密码输入模式

在参数类别选择界面里按「已修改设定」键，会进入到密码输入模式，密码输入正确后方可会进入到已修改参数设定模式。(关于密码设置内容详见【3.13.5 参数加密】)

b) 进入已修改参数设定模式

该界面下会显示出参数的更改内容。如要再更改的话，可在该界面下重新更改

如果想要选择部分已修改的参数进行还原的话，可以选择按下标有参数名称的按键（这里可以按下「一次缝制速度」键），然后按下「选择还原」按键，然后按照提示信息内容进行操作即可。

如果想要把更改过的全部设定恢复成出厂设定的话，请按「还原所有」键，然后按照提示信息内容进行操作即可。

参数设定分类说明：

参数设定分为两种类型：选择型和输入型，如下图所示：

选择型

输入型

【注】如按帮助键 📖，则显示该设定值的所有文字，可以看到全文的参数说明。

3.13.2 参数设定表

1、通用：

代号	简述	详述	单位	步长	范围	出厂值	类型
P1-0	摆宽方式	系统摆宽方式设定			0:CEN:中心对称 1:LR:左右对称	0	选择
P1-1	中心对称摆宽限制	中心对称摆宽值范围设定	毫米	0.1	0~10.0	10.0	输入
P1-2	摆宽左限制值（左右摆宽）	左右摆宽方式下左限制值设定	毫米	0.1	-5.0~0	-4.0	输入
P1-3	摆宽右限制值（左右摆宽）	左右摆宽方式下右限制值设定	毫米	0.1	0~5.0	4.0	输入
P1-4	基准线位置	基准线位置设定			0:CEN:中心基准 1:L:左基准 2:R:右基准	0	选择
P1-5	逆送量限制	逆送量限制设定	毫米	0.1	-5.0~5.0	-5.0	输入
P1-6	正送量限制	正送量限制设定	毫米	0.1	-5.0~5.0	5.0	输入
P1-7	对称功能设定	对称功能设定			0:SIG:单个图案对称反转 1:CON:连续对称反转	0	选择
P1-8	自编倒缝基准线位置	自编倒缝基准线位置设定			0:COM:连动 1:FIX:固定	0	选择
P1-9	摆宽限制显示	打开电源时摆宽限制显示设定			0:ON:显示 1:OFF:不显示	0	选择

【注】P1-5 和 P1-6 是单步进没有。

2、倒缝：

代号	简述	详述	单位	步长	范围	出厂值	类型
P2-0*	途中倒缝功能	途中倒缝功能设置			0:OFF:无 1:ON:有	ON	选择
P2-1*	途中倒缝针数	途中倒缝针数设置		1	0~19	4	输入
P2-2	停止时途中倒缝设置	停止时途中倒缝设置			0:OFF:缝纫机停止时无效 1:ON: 缝纫机停止时有效	ON	选择
P2-3*	开始倒缝后的停止功能	开始倒缝后的停止功能设置			0:OFF:无 1:ON:有	0	选择
P2-4	倒缝开始的减速功能	倒缝开始的减速功能			0:OFF:不减速 1:ON:减速	0	选择

P2-5*	倒缝保持时间	设置倒缝电磁铁保持时间	秒	1	2~250	60	输入
P2-6*	倒缝全压输出时间	设置倒缝电磁铁全压控制时间	毫秒	1	50~250	100	输入
P2-7*	倒缝输出占空比	设定倒缝电磁铁保持时电流		1	0~100	40	输入

***带标注的参数需要在专业人员的指导下进行修改。**

3、主轴和转速：

代号	简述	详述	单位	步长	范围	出厂值	类型
P3-0	软启动针数	设置缝制时软启动的针数	针	1	0~9	3	输入
P3-1*	软启动速度	设置软启动时的速度	rpm	50	150~5000	1200	输入
P3-2*	倒缝转速	设置倒缝时的最高转速	rpm	50	150~3000	1500	输入
P3-3	低速转速	踏板最低速度	rpm	10	20~400	200	输入
P3-4	一次缝制速度	设置一次自动缝纫时的转速	rpm	50	200~5000	3000	输入
P3-5*	下停针角度	下停针角度	度	10	120~200	160	输入
P3-6	切线后反转提针功能	设置切线后反转提针功能			0:OFF:无 1:ON:有	0	选择
P3-7	反转提针角度	设置反转提针角度	度	1	0~45	20	输入
P3-8*	主轴角度调整	设置主轴角度调整值，该参数只对一体化电机有效	度	1	-30~6	0	输入
P3-9*	主轴电机类型选择	主轴电机类型选择			0：普通电机 1：一体化电机	1	选择

***带标注的参数需要在专业人员的指导下进行修改。**

4、切线：

代号	简述	详述	单位	步长	范围	出厂值	类型
P4-0	切线功能	设置切线功能是否有效			0:OFF:无效 1:ON:有效	1	选择
P4-1*	切线转速	设置切线时的转速	rpm	10	20~300	300	输入
P4-2	中途倒缝切线	设置倒缝时能否自动切线			0:OFF:无效 1:ON:有效	0	选择
P4-3*	拨线维持时间	拨线维持时间	毫秒	1	0~250	70	输入

***带标注的参数需要在专业人员的指导下进行修改。**

5、压脚和踏板：

代号	简述	详述	单位	步长	范围	出厂值	类型

P5-0*	压脚控制方式	选择压脚提升装置					
P5-2	自动抬压脚功能选择	自动抬压脚功能选择					
P5-3*	开始运行的踏板行程	开始运行的踏板行程					
P5-4*	开始加速的踏板行程	开始加速的踏板行程					
P5-5*	压脚下降的踏板行程	压脚下降的踏板行程					
P5-6*	压脚升起的踏板行程	压脚升起的踏板行程					
P5-7*	开始切线踏板行程 2	开始切线踏板行程 2					
P5-8*	运行高速的踏板行程	运行高速的踏板行程					
P5-9*	踏板中立点的修正	踏板中立点的修正					
P5-10*	压脚自动提升保持时间	压脚自动提升保持时间					
P5-11*	踏板切线开始行程 1	踏板切线开始行程 1					
P5-12*	压脚提升下降时间	压脚提升下降时间					
P5-13	切线后压脚上升功能	切线后压脚上升功能					
P5-14*	抬压脚全压输出时间	抬压脚全压输出时间					
P5-15*	抬压脚输出占空比	抬压脚输出占空比					
P5-16	压脚提升软下降功能	压脚提升软下降功能					
P5-17*	选择踏板曲线	选择踏板曲线					
P5-18	压脚力度级别	压脚力度级别					
P5-19	踏板选择	踏板选择					

***带标注的参数需要在专业人员的指导下进行修改。**

6、操作头：

代号	简述	详述	单位	步长	范围	出厂值	类型
P7-0	蜂鸣器声音设定	蜂鸣器声音设定			0:OFF:无蜂鸣音 1:PAR:操作盘音 2:ALL:操作盘+报警音	2	选择
P7-1	背光自动关闭开关	背光自动关闭开关			0:OF:不自动关闭 1:ON:自动关闭	0	选择
P7-2	背光自动关闭等待时间	背光自动关闭等待时间	分钟	1	1~9	3	输入
P7-3	语言选择	语言选择			0:CH:中文 1:EN:English	0	选择
P7-4	自编花样显示设定	自编花样显示设定			0:STH:针迹显示 1:SHP:轮廓显示	0	选择

7、计数器：

代号	简述	详述	单位	步长	范围	出厂值	类型
P8-0	切线计数器模式	切线计数器模式			0:OFF:禁止 1:ON:打开	1	选择

P8-1	底线计数器模式	底线计数器模式			0:OFF:禁止 1:ON:打开	1	选择
P8-2	电源重开时消除计数器	电源重开时消除计数器			0:CLR:清除 1:RSV:保留	1	选择
P8-3	禁止切线计数器被修改	禁止切线计数器被修改			0:OFF:允许修改 1:ON:禁止修改	0	选择
P8-4	禁止底线计数器被修改	禁止底线计数器被修改			0:OFF:允许修改 1:ON:禁止修改	0	选择
P8-5	到达切线计数器设定值时缝纫机的操作	到达切线计数器设定值时缝纫机的操作			0:OFF:停止缝纫 1:ON:可继续缝纫	0	选择
P8-6	到达底线计数器设定值时缝纫机的操作	到达底线计数器设定值时缝纫机的操作			0:OFF:停止缝纫 1:ON:可继续缝纫	0	选择
P8-7	计数器显示	计数器显示设定			0:OFF:不显示 1:UP:切线计数器显示 2:DN:底线计数器显示	1	选择
P8-8	底线计数器单位	底线计数器单位			0:10:10 针 1:15:15 针 2:20:20 针	1	选择

8、其他：

代号	简述	详述	单位	步长	范围	出厂值	类型
P9-0	停针位	指定缝纫机停止时的针杆位置			0:DN:下针位 1:UP:上针位	0	选择
P9-1	操作头补偿键设置	操作头补偿键设置			0:HAF:半针补偿 1:ONE:1 针补偿	0	选择
P9-2	禁止用手转动手轮后的补偿动作	禁止用手转动手轮后的补偿动作			0:OFF:补偿功能有效 1:ON:补偿功能无效	1	选择
P9-3	半针补偿键附加功能	半针补偿附加功能			0:GEN:通常动作（半针补偿） 1:ONE:补偿 1 针（上停止->上停止）	0	选择
P9-4	开始缝制时的松线针数	开始缝制时的松线针数		1	0~9	0	输入
P9-5*	挑线功能	选择挑线功能			0:OFF:无效 1:ON:有效	1	选择
P9-6	照明灯亮度	照明灯亮度调整		5	0~100	50	输入

***带标注的参数需要在专业人员的指导下进行修改。**

9、维修保养：

代号	简述	详述	单位	步长	范围	出厂值	类型
P10-0	更换机针剩余值	更换机针剩余值	1000 针	1	0~9999	0	输入
P10-1	更换机针设定值	更换机针设定值	1000 针	1	0~9999	0	输入
P10-2	清扫时间剩余值	清扫时间剩余值	小时	1	0~9999	0	输入
P10-3	清扫时间设定值	清扫时间设定值	小时	1	0~9999	0	输入
P10-4	机油更换剩余值	机油更换剩余值	小时	1	0~9999	0	输入
P10-5	机油更换设定值	机油更换设定值	小时	1	0~9999	0	输入

【注 1】参数「P10-0」（更换机针剩余值）、参数「P10-2」（清扫时间剩余值）、参数「P10-4」（机油更换剩余值）都不能执行设定操作，只能在内部参数设置界面下观察数值变化。

【注 2】维修保养设定值参数修改后，其对应的剩余值参数也同时会被修改为相同的数值。

【注 3】维修保养设定值参数被设定后（大于 0 的数值），对应的维修保养计数功能也同时会开启。

10、特殊：

（双步进参数表）

代号	简述	详述	单位	步长	范围	出厂值	类型
P11-0*	最高转速	设定机头的最高转速	rpm	50	50~5000	3000	输入
P11-1*	动框方式	设置动框方式		1	0~5	1	输入
P11-2*	摆针电机电流	设置摆针电机电流		1	0~15	5	输入
P11-3*	摆针电机半流系数	设置摆针电机半流		1	0~15	4	输入
P11-4*	送布电机电流	设置送布电机电流		1	0~15	8	输入
P11-5*	送布电机半流系数	设置送布电机半流		1	0~15	8	输入
P11-6	暂停按键是否显示	暂停按键是否显示			NO：不显示 YES：显示	YES	选择
P11-7*	挑线滞后时间	挑线滞后时间	毫秒	1	0~250	170	输入
P11-8*	摆针动作角度调整	摆针动作角度调整		1	-50~50	0	输入
P11-9*	送布动作角度调整	送布动框角度调整		1	-50~50	0	输入
P11-10*	切线角度调整	切线角度调整		1	-30~30	0	
P11-11	主控烧录地址				0xA0000 0xB0000 0xC0000 0xD0000	0xA0000	

（单步进参数表）

代号	简述	详述	单位	步长	范围	出厂值	类型
P11-0*	最高转速	设定机头的最高转速	rpm	50	50~5000	3000	输入
P11-1*	动框方式	设置动框方式		1	0~5	1	输入

P11-2*	摆针电机电流	设置摆针电机电流		1	0~15	5	输入
P11-3*	摆针电机半流系数	设置摆针电机半流		1	0~15	4	输入
P11-4	暂停按键是否显示	暂停按键是否显示			NO：不显示 YES：显示	YES	选择
P11-5*	挑线滞后时间	挑线滞后时间	毫秒	1	0~250	170	输入
P11-6*	摆针动作角度调整	摆针动作角度调整		1	-50~50	0	输入
P11-7*	切线角度调整	切线角度调整		1	-30~30	0	
P11-8	主控烧录地址				0xA0000 0xB0000 0xC0000 0xD0000	0xA00 00	

***带标注的参数需要在专业人员的指导下进行修改。**

3.13.3 参数还原与备存

可以把更改后的参数设定值保存到 U 盘中，用于以后的还原操作。

1、进入参数传输的方法：

在信息功能模式界面按下  键，进入参数管理模式。

在参数管理模式界面里按下  键。

2、备存参数

进入还原备存参数界面，默认情况下是备份用户参数。

插入 U 盘之后按下确定键，一旦操作成功就会在 U 盘上自动建立一个「bakParam」目录，该目录下的「backup.param」文件即为参数备存文件。

【注】如有同档名文件的话会被盖写上新资料，原有资料会消失掉。

还原参数操作需要按下后翻页键切换到还原模式。

3、还原参数

切换到还原模式后，按下确定键即可执行参数还原操作，操作成功之后返回上一级画面。

3.13.4 默认参数恢复

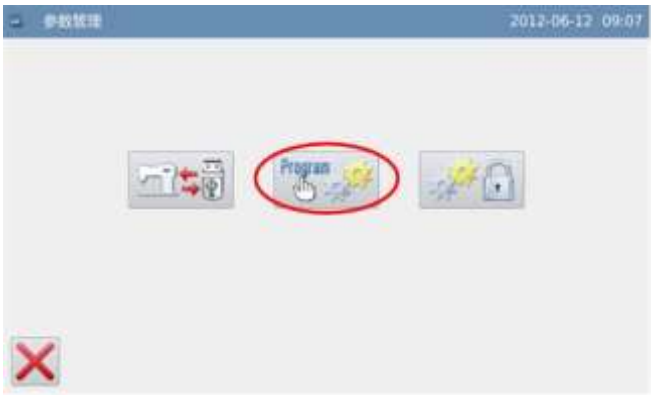
可以把参数设定值恢复为出厂值，另外用户也可以把自己设置好的参数保存起来，用于以后的调用。

1、进入默认参数恢复的方法：

在信息功能模式界面按下  键，进入参数管理模式。

在参数管理界面里按下默认参数键 

，会要求输入密码（初始密码为厂家 ID），密码输入正确后即进入默认参数模式。



在进入参数加密模式之前，需要输入密码（初始密码为厂家 ID）。

输入密码过程中如果出现错误，每按下一次 

键，可以清除掉光标左侧的第一个密码，而按下 

键会清除掉全部输入密码。

输入密码后按下确定键  。

2、调用默认参数

点击相应的默认参数项，按下 
键即可重新加载相应的默认参数。

加载完毕后会自动返回到上一级画面。

【注】部分重要参数（「特殊」类别下参数）不能在该操作中恢复为出厂值。

3、保存用户参数

按下  键可以进入到保存参数界面，该界面下用户能够把设置好的参数保存起来。

点　击 

~ 

其中任意一键，以确定参数保存位置，然后点击  键进行保存。

保存之后会自动退出，返回到上一级画面。

【注】维修保养参数不会被保存起来。

4、调用用户保存参数

进入该界面的方法同上，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。

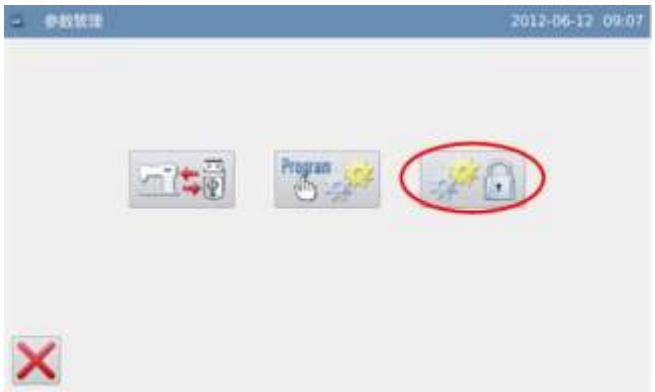
点击该按键，然后按下  键即可重新加载相应的参数设定值，操作成功后会自动返回到上一级画面。

3.13.5 参数加密

参数设置界面下的各个类别都可以设定密码，以防止人为的误操作。

1、进入参数加密的方法：

在信息功能模式界面按下  键，进入参数管理模式。



在参数管理界面里按下参数加密键  ，会要求输入密码（初始密码为厂家 ID）

2、输入密码：

输入密码过程中如果出现错误，每按下一次 ABC 键，可以清除掉光标左侧的第一个密码，而按下 CLR 键会清除掉全部输入密码。

输入密码后按下确定键 。

2、选择加密项：

如图所示，加密项中包含了全部的参数项，可以选择一个或多个参数项进行加密（这里选择了「压脚和踏板」项）。

压脚和踏板：选择状态

压脚和踏板：未选择状态

选择了要加密的参数项后，按下确定键 即可。

此后如果需要设定已加密的参数项参数时，都需要进行输入密码操作。

如果想要修改密码，请按下改密键 。

【注】「特殊」项参数必须要求每次进入输入密码。

3、修改密码

在设置新密码界面下，依次按下 、 和 输入框，并且分别输入当前密码、新密码和确认密码，完成新密码设置操作，最后按下 键。

【注】初始密码为厂家 ID，设置一次密码后，「当前密码」即为上次设置的密码。

3.13.6 计数器

- 计数器分为切线计数器和底线计数器两种，参数「计数器」->「计数器显示」切换显示计数器类型。
- 每次切线之后，切线计数器加数，达到设定值之后提示报警。
- 底线计数器使用每次缝纫的针数，根据参数「计数器」->「底线计数器单位」设定值进行减算，达到 0 后报警提示。

1、进入计数器设置的方法：

在信息功能模式界面按下 键，进入计数器模式。

2、选择要设置的计数器类型

计数器模式界面下，可以查看各个计数器的当前值/设定值。

计数器按键处于选中状态表示计数器处于打开状态，分别是由参数「计数器」->「切线计数器模式」和「底线计数器模式」决定的。

3、计数器设置

这里举例如何设置切线计数器，底线计数器设置操作同切线计数器，仅仅是底线计数器有效/无效键图标不同（ ）

功能说明：

序号	说明
A	切换输入设定值和当前值（蓝底白字为选中状态）。
B	加计数器有效开关（蓝色底色时为有效状态）。
C	退出计数器设置模式，返回上一级画面。
D	清除当前值。
E	设定值和当前值显示（虚线框表示处于输入状态）。
F	数字键盘，用于输入设定值和当前值。 clr 清除当前输入数值。
G	确定设置。

【注】参数「计数器」->「禁止切线计数器被修改」和「禁止底线计数器被修改」设置为禁止修改之后，是不能够设置计数器当前值的。

3.13.7 显示设定

在信息功能模式界面按下  键，进入显示设定模式，可以设置背光关闭、按键锁等功能。。

显示设定内容如下：

1、自动关闭背光

设定的时间一到，屏幕背光会自动关闭。

设定范围：1～9 分钟

出厂设定值：「无效」

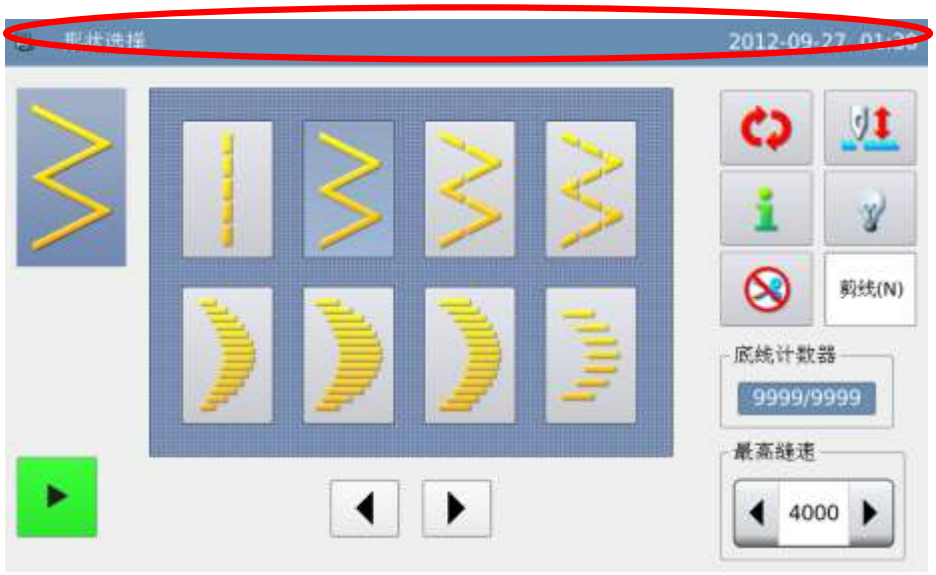
解除方法：在背光关闭期间，只要在面板的任何地方按一下就会点亮屏幕。

2、接触按键锁

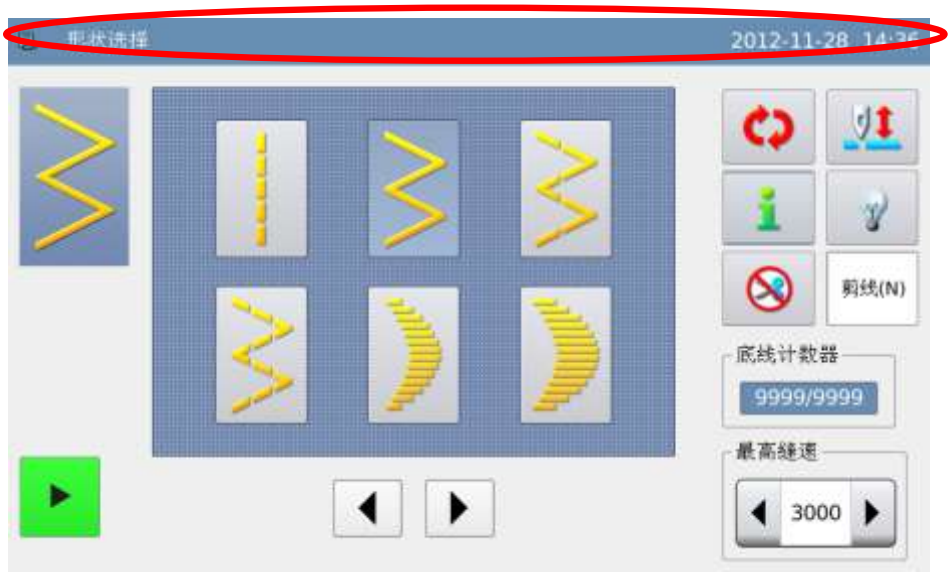
接触按键锁为「有效」时，即进入防止误操作状态，所有按键成无作用状态（显示为灰色），确定键  操作之后会直接返回到主界面。

出厂设定值：「无效」

解除方法：按住主界面的标题栏 5 秒钟以上，等「哔」声响后即完成解除。（解除以后，解除按键锁机能会设定成「无效」）



(双步进)



(单步进)

3、关闭蜂鸣器

设定成「有效」时，按键不会有「哔」的声音发出。

出厂设定值:「无效」

4、照明灯亮度调节

设置照明灯亮度，数值越大亮度越高。

设定范围：0～100

出厂设定值：50

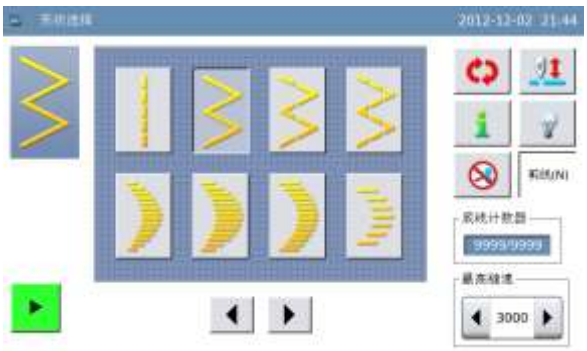
5、面板显示风格

调整面板显示风格。

设定范围：0~1（0：plastique，1：windows）

出厂设定值：0

Plastique 风格



Windows 风格

6、主界面背景色

设置主界面背景色。

按下「设置」键，即可打开调色板。

根据个人喜好选择希望的颜色，然后按下「OK」键确定并关闭调色板。

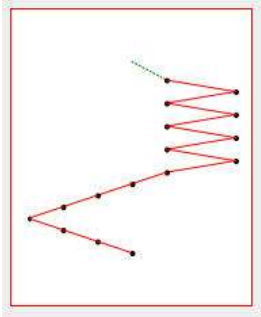
此时颜色显示区域会显示出已选择的颜色，按下 键保存并退出。

7、自编花样显示设定

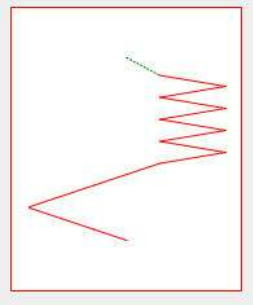
设置自编花样显示。

设定范围：0~1（0：针迹，1：轮廓）

出厂设定值：0



针迹显示



轮廓显示

3.13.8 软件版本

1、进入软件版本查询的方法：

在信息功能模式界面按下 Ver. 键，进入软件版本模式。

2、版本查询与输出

当前界面下可以查询系统软件版本，按下  键可以把软件版本导出到 U 盘根目录下，文件名为 version.png。

3.13.9 花样传输

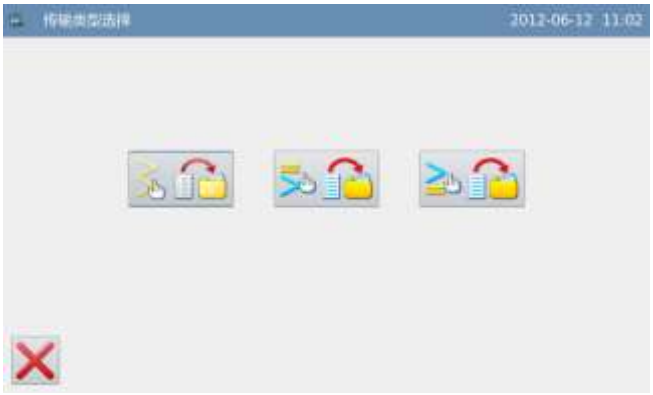
- 提供两种传输方式：「内存复制到 U 盘」和「U 盘复制到内存」。
- 可以导入导出自编花样、自编前倒缝和自编后倒缝。
- 支持导入的数据格式为 VDT、DST、DSB、SBK、JZQ
- U 盘拷贝路径：
  - 自编花样：rand_pat
  - 自编前倒缝：h_pat
  - 自编后倒缝：t_pat

1、进入花样传输的方法：

在信息功能模式界面按下 

键，进入花样传输模式。

2、传输类型说明

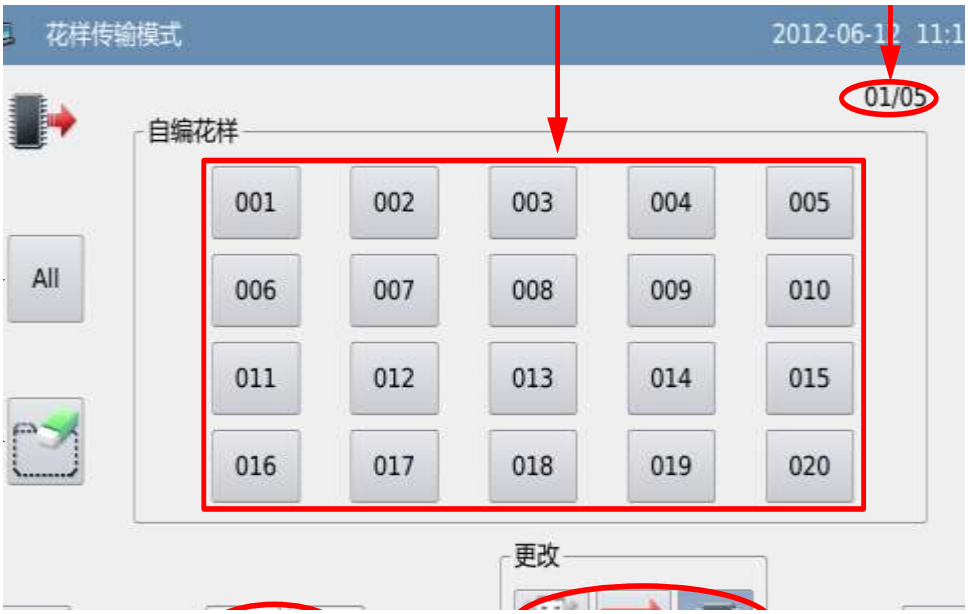


 ：自编花样

 ：自编前倒缝

 ：自编后倒缝

这里以自编花样传输操作举例说明，按下  键进入花样传输界面。



功能说明：

A	花样列表	显示操作头或 U 盘花样列表。
B	页码显示	显示当前页码/总页数。
C	复制模式显示	：内存花样列表 ：U 盘花样列表
D	全部选择	按下后拷贝全部花样。
E	删除键	删除选中花样。

F	退出键	退出，返回上一级界面。
G	翻页键	前后翻页显示。
H	复制模式选择	选择读取内存或者 U 盘花样 ：内存读取模式使能，此时 U 盘读取模式禁止 ：内存读取模式禁止，此时 U 盘读取模式使能 ：U 盘读取模式使能，此时内存读取模式禁止 ：U 盘读取模式禁止，此时内存读取模式使能 ：切换选择 U 盘或内存
I	确定键	确定操作。

操作说明：

1、复制模式选择

默认进入该界面是内存花样复制到 U 盘模式，可以通过切换键切换复制模式。

2、选择文件

在花样列表中选择要复制的花样文件（本例中选择了 001、002、003、004 和 005 号花样），如果花样较多可以通过翻页键来翻阅画面。

如果想要复制全部花样按下 All 键，删除花样按下键。

3、确定复制

选择好了花样文件之后，按下确定键，此时会显示「是否拷贝指定的花样数据」的提示信息，按下确定键执行复制操作。如果是从内存复制到 U 盘，会在 U 盘根目录下自动创建目录，花样文件会拷贝到该目录下。

【注】复制时内存和 U 盘里如有相同的图号时，会被新资料盖写。

3.13.10 报警记录

1、进入报警记录的方法：

在信息功能模式界面按下  键，会要求输入厂家 ID，输入正确后可以进入报警记录模式。

2、查询报警记录

报警记录模式下显示了系统最近发生的报警内容，序号越小表示该报警信息发生的时间越新。

另外还记录了每次报警发生时的切线次数。

按下清除键  会清除掉全部报警记录。

3.13.11 运转记录

1、进入运转记录的方法：

在信息功能模式界面按下  键，会要求输入厂家 ID，输入正确后可以进入运转记录模式。

2、查询运转记录

① 累积运转时间：记录机器缝纫时间总和
② 累积切线件数：记录机器切线总次数
③ 累积上电时间：记录机器上电时间总和
④ 累积缝纫针数：记录机器缝纫针数总和

另外点击「清除」键可以清除掉该项计数值。

3.13.12 格式化

1、进入运转记录的方法：

在信息功能模式界面按下 

键，即进入格式化模式。

2、格式化操作

1）格式化 USB：
按下「USB」按键之后会把 USB 内全部文件删除掉，需要备份资料的话请提前做好备份。

2） 格式化自编花样：
按下「自编」按键之后会把 USB 内全部自编花样删除掉。

3） 格式化内存
按下「内存」按键之后会把操作头的已存花样、连续缝和循环缝全部删除掉。

3.13.13 日期与时间设置

1、进入运转记录的方法：

在信息功能模式界面按下  键，可以进入日期与时间设置模式。

2、日期设置方法：

点击日历中的「年份」（这里为2012），会显示出左右两个箭头，用于调节年分大小。

点击日历中的「月份」（这里为六月），会弹出 1~12 月的选择菜单，选择合适的月份即可。

年份和月份设置后均会刷新日历显示，显示该年月的正确月历内容。

也可以通过  键和  键前后查询月历内容。

在日历中点击日期，就可以设置好日期了。

【注】设置日期必须在月历中点击了日期才可以设置成功，不能仅修改年份和月份。

3、 时间设置方法：

默认情况下进入该界面都是先设置小时，可以通过「小时」键切换成设置分钟（此时「小时」键显示内容会改变为「分钟」），然后通过左右箭头修改内容即可。

也可以点击小时或分钟显示区域来切换修改小时/分钟修改方式。

日期或时间修改完毕后，按下  键保存并退出。

4、 禁止修改系统时间

一旦设置了分期密码，则禁止修改系统时间，清除全部密码后可以解除禁制。

3.13.14 密码模式

- 密码模式用于设置分期付款日期和密码，密码到期发作时会要求输入设置密码。
- 设置密码时请务必认真设置板号，板号用于厂家管理密码。
- 最多支持输入 10 期密码。

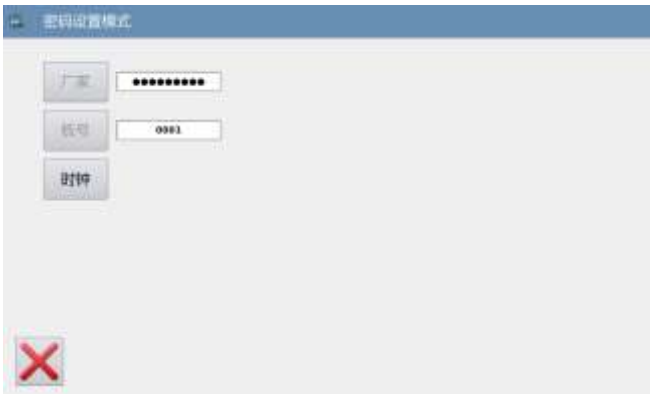
信息功能模式界面中按下密码管理键  ，会显示输入用户 ID 界面，输入正确的厂家 ID 后即进入密码管理模式，主要用于用户分期密码的设置和管理。

① 可以最多设置 10 个不同的密码发作日期。

②系统可以显示厂家设置的密码信息。

1、 输入板号

按下「板号」键，进入输入板号界面，板号为四位，范围 0000～9999，可用于厂家的密码管理。输入板号后并按下 键完成操作并返回上界面。（这里输入板号为 0001）



2、 确定系统时钟

按下「时钟」键，会进入设置系统日期和时间界面，如需要修改系统时钟，请在修改时钟后按下 键完成操作（参照【3.13.13 日期与时间设置模式】节内容），否则按下 键退出即可。

3、 输入超级密码

按下「超级密码」键，会进入输入超级密码界面。

最多可以输入 9 位总密码，画面以「•」号显示，按 键确认后，会要求再次输入密码进行确认。
如果两次输入密码不一致，则要求重新输入超级密码。两次输入密码一致后，按 键保存并退出。

4、 输入分期有效日期和密码

按下「密码-1」键，会要求输入输入第一个有效日期。

有效日期是指第一次密码发作的时间，该日期不可小于系统日期。

选择合适的日期后按下↵键完成操作，此时会进入到输入密码界面。

分期密码输入方式与输入超级密码的方式相同，确认密码完成之后按下↵键保存退出。

5、 选择继续输入分期密码

如果需要输入下一个有效日期和密码，具体操作同上。最多可输入 10 个有效日期和密码。

【注】下一个有效日期必须大于上一个有效日期。

6、 保存密码

输入完所需要的密码后，按下 键保存设置的全部信息，如果密码保存成功会显示「密码保存成功」的提示信息。

确定保存之后会返回到上一级画面。

【注】只有至少设置了一个分期密码后才会显示 键。

7、 主动清除密码

主动清除密码是指在密码发作之前清除密码。

进入密码显示界面的方法与进入密码设置的方法相同。

在正确输入厂家 ID 之后，显示如右图所示，系统显示出当前时钟和各个分期密码的发作日期。

按下 键则会提示输入当前密码，清除密码依照从前往后的顺序。

此时，输入两个密码有效。当输入密码为当前提示密码时，则清除当前密码；当输入密码为超级密码时，则清除所有密码，即机器不再有密码。当清除的为当前密码时，如果后面无密码，则机器不再有密码。按下 键完成操作。

经解密的密码显示为红色，如右图所示。如果全部密码被解密则自动退出，返回到上一级界面。

8、 密码发作时清除密码

如果系统已经设置密码并且未解除，则使用至设定密码有效日期时会遇到密码发作，此时要求用户必须输入有效密码才能使机器继续正常运行。

有效密码包括当前提示的密码和总密码。当输入密码为当前提示密码时，则清除当前密码；当输入密码为总密码时，则清除所有密码，即机器不再有密码。当输入的为当前密码时，如果后面没有密码，则机器不再有密码；如果后面还有密码，则按照设置日期生效。

3.13.15 软件升级

1、进入软件升级模式的方法：

在信息功能模式界面按下  键，可以进入软件升级模式。

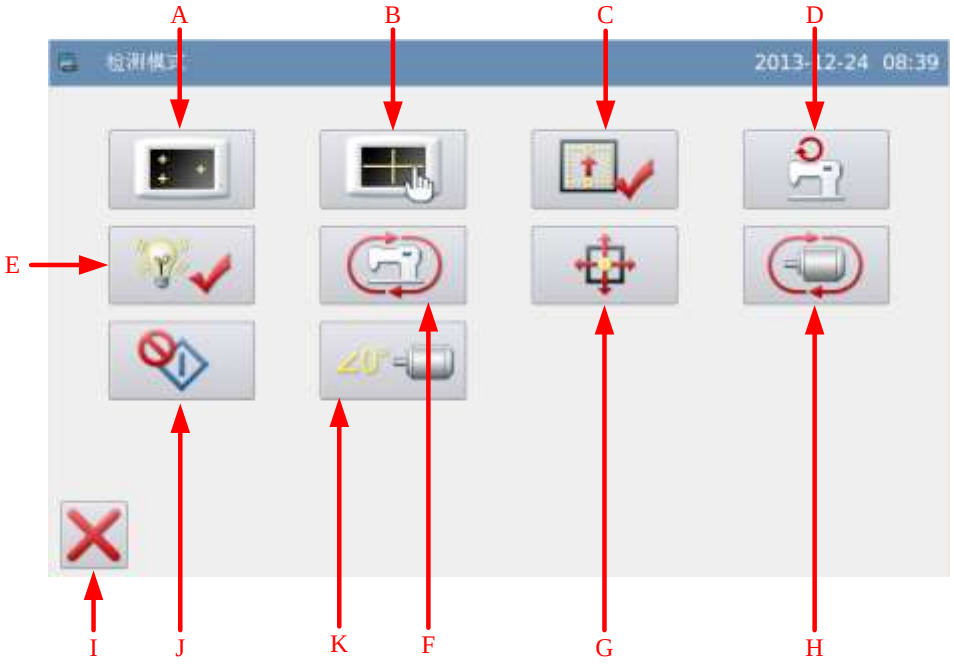
2、升级说明

升级软件需要放在 U 盘「update」目录下。

点击需要升级的内容（蓝底白字为选择状态），然后按下  键即可。

3.14 检测模式

在信息功能模式界面按下  键，可以进入检测模式。



功能说明：

序号	功能	内容
A	液晶检测	用于检测液晶显示。
B	触摸屏校正	用于校正触摸屏。
C	输入信号检测	用于检测各类开关、传感器等输入信号。
D	速度检测	用于检测主轴马达转速。
E	输出信号检测	用于检测各类压脚、剪线等输出信号。
F	连续运转	用于设定连续运转参数，进入老化状态。
G	摆针/送布马达调整	用于检测摆针和送布马达原点。
H	摆针测试	用于单独检测摆针电机。

I	退出	退出检测模式，返回到主界面。
J	旋梭调整	用于调整旋梭。
K*	一体化电机校准	用于一体化电机的零位校准

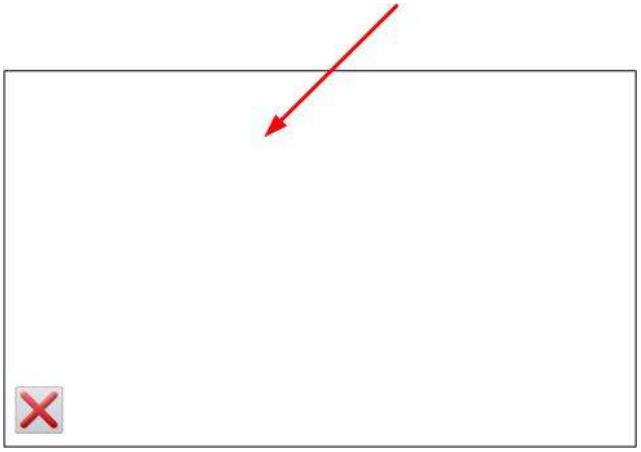
【注】 当 P3-9 选择为普通电机时，K 项不会出现

3.14.1 液晶检测

功能说明：

检测模式界面下按下液晶检测按键  ，进入液晶检测功能，点击除退出键  以外的位置，液晶会依次显示白、黑、红、绿、蓝五种颜色，用于判定液晶是否存在失色。

按下退出键  返回到上一级画面。



3.14.2 触摸屏校正

功能说明：

检测模式界面下按下触摸屏校正键  ，此时会显示「确定进入触摸屏校正模式？」提示信息，按下确定键  进入触摸屏校正功能。

需要进行 5 点的校正，最好采用触摸笔一类工具点击画面中的十字光标，校正结束后会显示提示信息显示本次操作是否成功。

【注】校正过程中请务必按照十字光标指示位置进行确定，否则会导致校正结束后无法正常使用触摸屏。

3.14.3 输入信号检测

功能说明：

检测模式界面下按下输入信号检测按键  ，进入输入信号检测功能。

ON：表示开启

OFF：表示关闭

输入信号种类：

①摆针电机（X）

②送布电机（Y）

③倒缝开关

④镜像开关

⑤上针位

⑥倒缝扳手（范围为 0~1023）

⑦脚踏板（范围为 0~1023）

⑧主轴角度（范围 0~359）

按下退出键  返回到上一级画面。

3.14.4 主轴转速检测

功能说明：

检测模式界面下按下速度检测按键 ，进入主轴转速检测功能。

通过 + 和 - 可以设置主轴马达目标转速，按下运转键 GO 后，主轴马达会以设定的转速运转。此时，实际测得的转速会显示在实际转速输入栏。

按下停止键 STOP，则机器停止运转。

按下退出键 返回到上一级画面。

3.14.5 输出信号检测

功能说明：

检测模式界面下按下输出信号检测按键 ，进入输出信号检测功能。

在该界面下按下输出信号按键，就可以检测电磁铁等输出信号的输出状态。

输出信号种类：

①拨线

②扫线

③剪线

④松线

⑤压脚

⑥倒缝

⑦镜像 LED

⑧照明灯

按下退出键 返回到上一级画面。

【注】缝纫机会有实际动作。

3.14.6 连续运转

检测模式界面下按下连续运转按键  ，进入连续运转设定功能。

功能说明：

序号	功能	内容
A	花样显示	显示老化运行花样。
B	花样选择键	用于从 20 个基本花型中选择老化运行花样。
C	摆宽显示和设置	显示摆宽数值，按下设置键后进入摆宽设置界面。
D	老化时间设置	按下设置键可以输入老化总时间。
E	老化阶段设置	按下设置键可以设置阶段 1、阶段 2 和阶段 3 的权重比和老化速度。
F	间隔时间设置	设置老化间隔时间。
G	运行时间设置	设置老化运行时间。
H	老化进度显示	显示已经老化时间和百分比。
I	运行键	按下后启动老化，运行过程中该按键显示「暂停」。
J	跳进键	用于改变老化进度。 **【注】缝纫机处于运行状态时，不能修改老化进度。**
K	结束键	手动结束老化过程。
L	退出键	退出老化过程，返回前一画面。

3.14.7 摆针/送布马达原点检测

功能说明：

检测模式界面下按下摆针/送布马达原点检测按键  ，进入摆针/送布马达原点检测功能。

在该界面下通过方向键驱动 XY 马达移动，过程中可以实时显示出传感器的 ON/OFF 状态。

ON：检测到传感器

OFF：未检测到传感器

找零 键用于马达自动找零，退出键  返回到上一级画面。

【注】缝纫机会有实际动作。

（双步进）

（单步进）

3.14.8 摆针电机老化

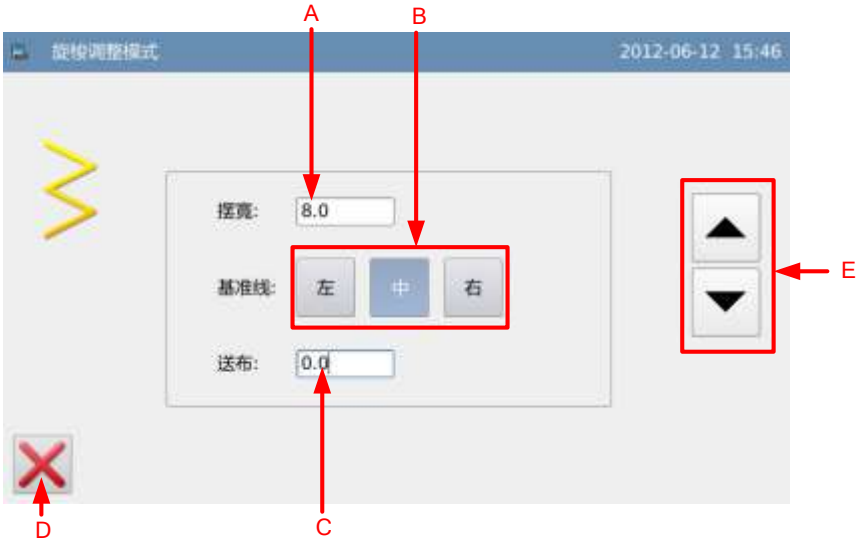
检测模式界面下按下摆针电机老化键  ，进入摆针电机老化模式，在该模式下对摆针电机进行老化检测。

功能说明：

序号	功能	内容
A	设定摆针老化时间	按“+”、“-”键设置老化时间，范围 0~200，单位：10ms。当设置为 255 时，停止老化
B	设定步进老化时间	按“+”、“-”键设置老化时间，范围 0~200，单位：10ms。当设置为 255 时，停止老化 **【注】单步进没有这个设置。**
C	停止	停止老化
D	启动	开始老化
E	退出	退出摆针老化界面

3.14.9 旋梭调整

检测模式界面下按下旋梭调整键  ，进入旋梭调整模式，测试花样为两点曲折。



功能说明：

序号	功能	内容
A	摆宽显示	显示摆宽数值
B	基准线设置	修改基准线位置。
C	送布量显示	显示送布量数值。 **【注】单步进没有这个设置。**
D	退出	退出并返回前一画面
E	数值调整	调整摆宽或送布量。 点击摆宽或送布量显示框，即确定数值调整类型，按上下箭头输入数值。

3.14.10 一体化电机校准

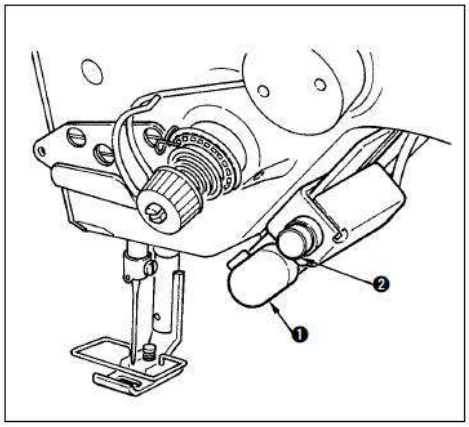
当 P3-9 参数（主轴电机类型选择）为一体化电机时，可以进行一体化电机校准，为普通电机，该功能键不出现。

检测模式界面下按下一体化电机校准键  ，进入一体化电机校准模式，进入该模式时首先需要输入密码，然后才能进入。一体化电机校准需要专业人员操作。

功能说明：

序号	功能	内容
A	校准	校准后当前的校准值会保存到 P3-8 参数中
B	退出	不进行校准，退出
C	当前角度和校准值显示	显示当前角度数值和校准数值。

3.15 手持开关说明



1） 倒送开关①

按下倒送开关①之火，进行倒送。手放开之后，变为正送。

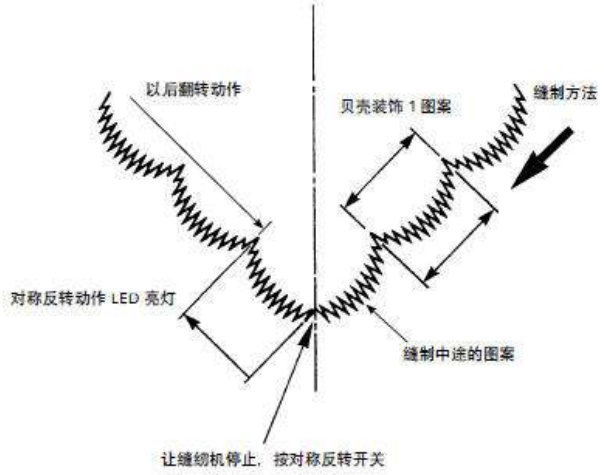
2） 对称缝制开关②

选择了扇形荷叶边、随即图案、连续缝时，变为对称缝制开关。

所谓对称翻转功能就是是在缝制中途停止时，按对称翻转开关之后，缝制反图案的功能。

缝制方法：

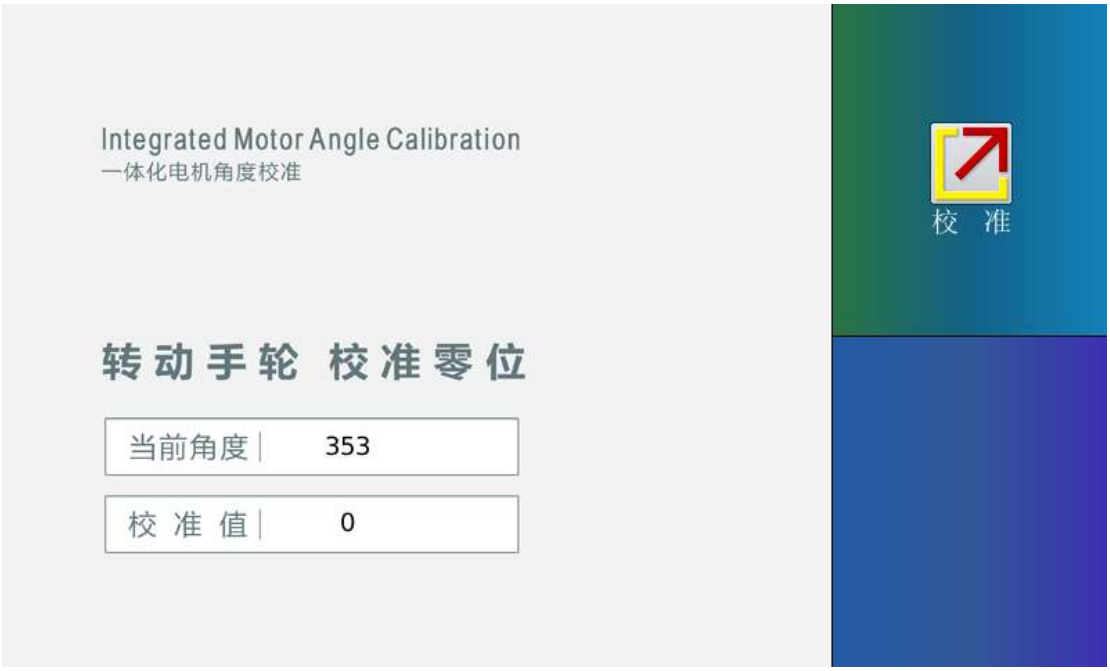
1） 缝制中，在让缝纫机对称翻转缝制的位置停止缝纫机。
2） 按下对称翻转开关②，对称翻转开关打开之后，LED 亮灯。（开关只在停止中起作用，缝纫机运转中不起作用）
3） 用缝纫机进行对称翻转缝制。
4） 切线或再次按对称翻转开关，结束翻转缝制。



4 附录 1

4.1 开机校准说明

如果所选机型的主轴电机配置为一体化电机时，当电控系统第一次开机或进行过恢复默认参数操作，那么重新上电开机时，电控系统会进入主轴电机校准界面，如下：



在该界面下进行主轴电机的校准，该界面下会显示当前的主轴角度和校准值，请转动手轮对主轴电机角度进行校准，主轴电机校准的操作请参考“3.14.10 一体化电机校准”的介绍。

第一次操作时必须对一体化电机的主轴角度进行校准，否则不能进行正常的缝制操作。

如果电机的配置不是一体化电机，那么该界面不会出现。

5 附录 2

5.1 报警信息一览表

故障号	故障名称	子信息内容
E-003	机头翻倒	请关闭电源。
E-004	主电压（300V）过低	请关闭电源，检查系统硬件。
E-005	主电压（300V）过高	无
E-007	IPM 过压或过流	请关闭电源，检查系统硬件。
E-008	辅助设备电压（24V）过高	请关闭电源，检查系统硬件。
E-009	辅助设备电压（24V）过低	请关闭电源，检查系统硬件。
E-013	编码器故障或未连	请关闭电源，检查系统硬件。
E-014	电机运行异常	请关闭电源，检查系统硬件。
E-015	移动过程中超出缝制范围	请按下确定键解除故障。
E-016	针杆上位置异常	请转动手轮调整针杆位置。
E-020	步进软件版本错误	请关闭电源。
E-025	X 原点检测异常	请关闭电源。
E-026	Y 原点检测异常	请关闭电源。
E-030	步进驱动器通讯异常	请关闭电源。
E-031	步进电机过流	请关闭电源。
E-032	步进驱动电源异常	请关闭电源。
E-034	异常电流	请关闭电源。
E-035	IPM 频繁过流 1	请关闭电源。
E-036	IPM 频繁过流 2	请关闭电源。
E-037	电机堵转 1	请关闭电源。
E-038	电机堵转 2	请关闭电源。
E-039	电机超速	请关闭电源。
E-040	停车过流	请关闭电源。
E-041	电机过载	请关闭电源。
E-042	母线电压异常	请关闭电源。
E-045	器件异常	请关闭电源。
E-046	CRC 校验错误	请关闭电源。
E-047	数据校验异常	请关闭电源。
E-048	X 校验异常	请关闭电源。
E-049	Y 校验异常	请关闭电源。
E-050	MD1 步进过流	请关闭电源
E-051	MD1 X 方向未走完	请关闭电源
E-052	MD1 Y 方向未走完	请关闭电源

5.2 提示信息一览表

信息号	信息名称	子信息内容
M-001	切线计数器达到设定值	请按下确定键。
M-002	底线计数器达到最大值	请按下确定键。
M-003	设定值太大	请输入范围内数值。
M-004	设定值太小	请输入范围内数值。
M-005	存储参数异常	请按下确定键恢复出厂值。
M-006	内存花样个数已满	请删除不使用的缝制数据。
M-007	是否删除花样数据	按下确定键执行删除操作,按下取消键退出当前操作。
M-008	是否覆盖内存中花样数据	按下确定键执行覆盖操作,按下取消键退出当前操作。
M-009	花样数据不能删除	被选中的缝制数据正在使用!
M-010	是否格式化内存	按下确定键执行格式化操作,按下取消键退出当前操作。 格式化后会删除全部内存花样数据。
M-011	操作头与控制箱类型不符	请核对机型和软件版本。
M-012	密码错误	请重新输入。
M-013	硬件时钟故障	发现硬件时钟故障，请联系厂家维修!
M-014	针数超出范围	请减少花样针数。
M-015	通讯错误	操作头与控制箱通讯异常!
M-016	是否拷贝指定的花样数据	是否覆盖原本图形? 是：Enter 否：X
M-017	是否拷贝全部花样数据	确定键执行操作，取消键退出操作。
M-018	是否恢复出厂设置	确定键执行操作，取消键退出操作。
M-019	USB 盘已拔出	USB 盘已经拔出!
M-020	U 盘中没有发现花样数据	–
M-021	无报警记录	–
M-022	更换机针	更换机针设定值已到达，请更换机针!
M-023	更换机油	更换机油时间设定值已到达，请更换机油!
M-024	清扫机器	清扫机器时间设定值已达到，请清扫机器!
M-025	输入用户 ID 有误	请重新输入
M-026	确认密码失败	请重新输入密码
M-027	禁止修改系统时间	设置了分期密码，不能修改系统时间。
M-028	密码文件写入失败	–
M-029	密码文件读取失败	-
M-030	密码保存成功	-
M-031	清除全部密码失败	密码文件无法被删除。
M-032	清除密码失败	清除密码后，文件写入失败。
M-033	密码文件被恶意删除	用户设置的分期密码被恶意删除，请关机。
M-034	用户 ID 文件损坏	–

信息号	信息名称	子信息内容
M-035	输入不能为空	请输入密码
M-036	当前密码不符	请重新输入当前密码。
M-037	新密码不一致	请重新输入新密码并再次确认。
M-038	触摸屏校正成功	校正成功，请关闭电源后重启。
M-039	确定清除报警记录	是否确定？ 是：Enter　否：X
M-040	是否删除选中的文件	是否确定？ 是：Enter　否：X
M-041	复制所有的图形	是否覆盖原本图形？ 是：Enter　否：X
M-042	拷贝文件失败	请检查磁盘空间是否已满！
M-043	拷贝文件失败	请检查是否拔出了 USB 盘！
M-044	打开文件失败	打开文件失败！
M-045	格式不匹配	格式不匹配，放弃当前读入！
M-046	参数超出范围	参数超出范围，确定后超出范围的参数将按默认参数恢复！
M-047	请创建目录和文件	请在 U 盘下创建 bakParam 目录，并将备份文件命名为 backup.param，并拷贝到 bakParam 目录下。
M-048	文件读写错误	文件读写错误！
M-049	请选中条目	请选中要读写的条目！
M-050	文件不存在	当前条目对应文件不存在！
M-051	确定进入触摸屏校正模式？	是否确定？ 是：Enter　否：X
M-052	确定清除累积运转时间？	是否确定？ 是：Enter　否：X
M-053	确定清除累积切线次数？	是否确定？ 是：Enter　否：X
M-054	确定清除累积上电时间？	是否确定？ 是：Enter　否：X
M-055	确定清除累积缝纫针数？	是否确定？ 是：Enter　否：X
M-056	分期密码不能和总密码相同	请重新输入密码。
M-057	禁止修改切线计数器	当修改时，请关闭设定。
M-058	禁止修改底线计数器	当修改时，请关闭设定。
M-059	没有选中升级条目	请选中要升级的条目，至少要选中一个条目。
M-060	选中的升级条目中有些不存在	不存在升级文件的条目返回后将会取消选中。
M-061	升级成功	升级成功，请重新启动机器。
M-062	是否格式化 U 盘	按下确定键执行格式化操作，按下取消键退出当前操作。 格式化后会删除全部 U 盘文件！

信息号	信息名称	子信息内容
M-063	U 盘不存在	请插入要格式化的 U 盘!
M-064	成功	已成功执行当前操作!
M-065	失败	当前操作失败!
M-066	是否覆盖 U 盘中同名花样	按下确定键覆盖文件，按下取消键退出当前操作。
M-067	触摸屏校正失败	请重新校正。
M-068	是否还原所有设定	是否确定？ 是：Enter 否：X
M-069	是否还原选择项目	是否确定？ 是：Enter 否：X
M-70	未选择项目	请选择一个或几个参数项。
M-71	SRAM 初始化	清除掉 SRAM 中全部数据，请关电并将拨码开关位置还原。
M-72	关机，再见	–
M-73	恢复参数成功	恢复参数成功，请重新启动机器。
M-74	软件版本保存成功	软件版本已成功保存到 U 盘根目录下。
M-75	花样号码不存在	请重新选择花样。
M-77	该花样的缝制方式不能登记为图案号	请修改缝制方式。
M-78	没有对应的花样文件或读取失败	请重新选择花样文件。
M-79	创建花样文件失败	请重新选择花样文件。
M-80	设置的参数值超出系统限定范围	请检查参数设置。
M-81	索引号超出系统设定范围	请重新选择索引号。
M-82	内存中没有登记花样	请登记一个花样保存到内存中。
M-83	覆盖花样失败	–
M-84	倒缝数据不能删除	被选中的倒缝数据正在使用!
M-85	是否格式化自编花样	按下确定键执行格式化操作,按下取消键退出当前操作。 格式化后会删除全部自编花样!
M-89	不能拷贝覆盖当前花样	拷贝队列里存在当前花样号码,不能覆盖当前花样。
M-90	花样文件不存在	对花样文件的操作执行失败，请重新选择文件。
M-91	花样数据错误	生成的花样数据错误，机器不支持。 请确定文件正确或重新选择文件。
M-92	禁止删除花样文件	该花样文件禁止被删除。
M-93	步骤错误	选择的步骤在当前操作中不存在，请重新选择。
M-94	读 VDT 文件错误	系统不支持该 VDT 文件，或 VDT 文件被破坏。
M-95	写 VDT 文件错误	写 VDT 文件时失败,超过系统支持的最大文件个数，或文件写错误。
M-96	VDT 数据错误	系统不识别 VDT 数据，或 VDT 文件被破坏。

信息号	信息名称	子信息内容
M-97	该花样不能进行转换	请确认花样文件。
M-98	转换花样格式错误	请确认花样文件。
M-99	转换花样数据超长	请确认花样文件。
M-100	转换花样无法打开	请确认花样文件。
M-101	禁止删除前倒缝文件	该文件正在使用。
M-102	禁止删除后倒缝文件	该文件正在使用。
M-103	缝制范围超出左边界	请检查参数设置。
M-104	缝制范围超出右边界	请检查参数设置。
M-105	摆幅超限	请检查参数设置。
M-106	送量超限	请检查参数设置。
M-107	缩放超限	请检查参数设置。
M-108	速度超限	请检查参数设置。
M-109	花样个数已满	请删除不用的花样。
M-110	单针步长超限	步长超过 12.7 或低于 0.1，请检测花样数据。
M-111	花样创建号码已存在	请选择一个空号码。
M-112	连续缝引用花样个数为空	请至少添加一个花样。
M-113	连续缝引用花样总针数为 0	请修改花样针数。
M-114	前倒缝数据不可用	-
M-115	后倒缝数据不可用	-
M-116	前倒缝针数超限	-
M-117	后倒缝针数超限	-
M-118	花样号码非法	请重新选择号码
M-119	引用的内存花样不存在	请检查内存花样或重新选择号码
M-120	升级主控程序时校验失败	-
M-121	参数加载失败	请联系厂家维修!
M-122	校准成功	校准成功，请重新启动机器
M-123	主轴电机类型更改	主轴电机类型已更改，请重新启动机器
M-124	镜像后花样，不能执行该操作	当前的花样是镜像后的花样，不能执行该操作 请在原花样上进行修改

6 附录 3

6.1 电控箱安装尺寸

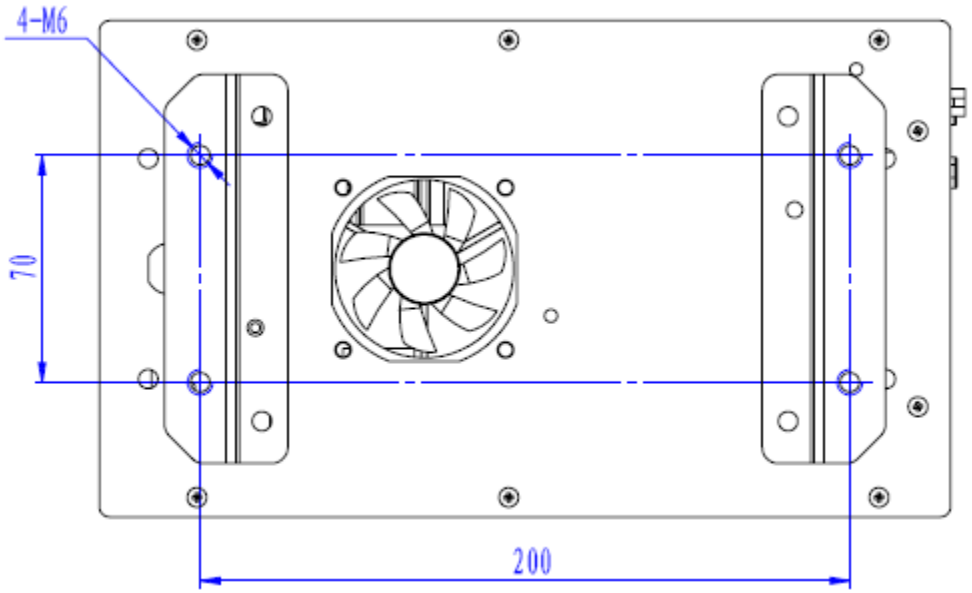


图 1 四孔安装尺寸图

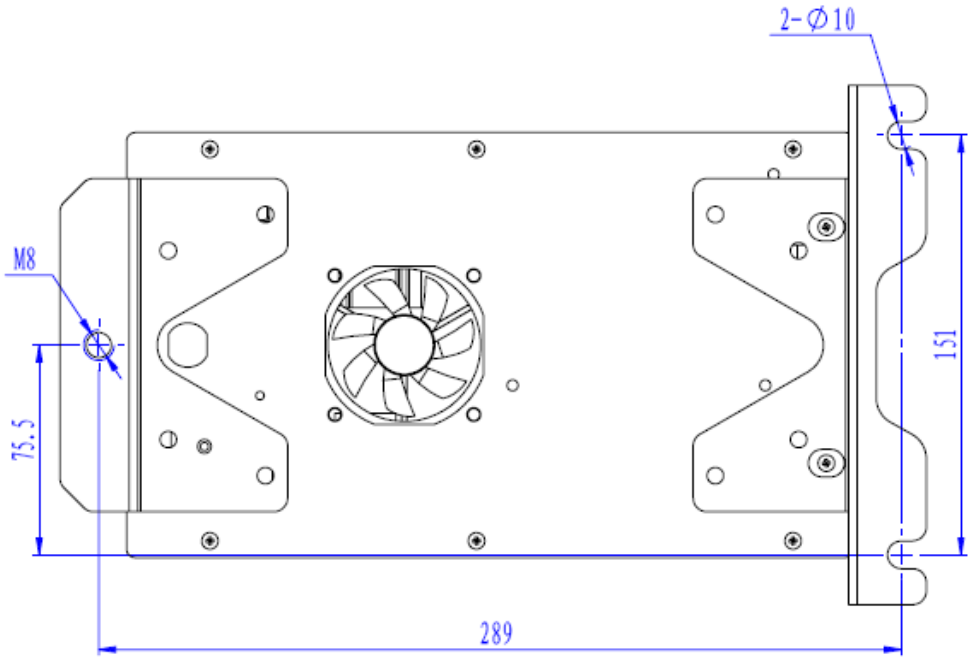
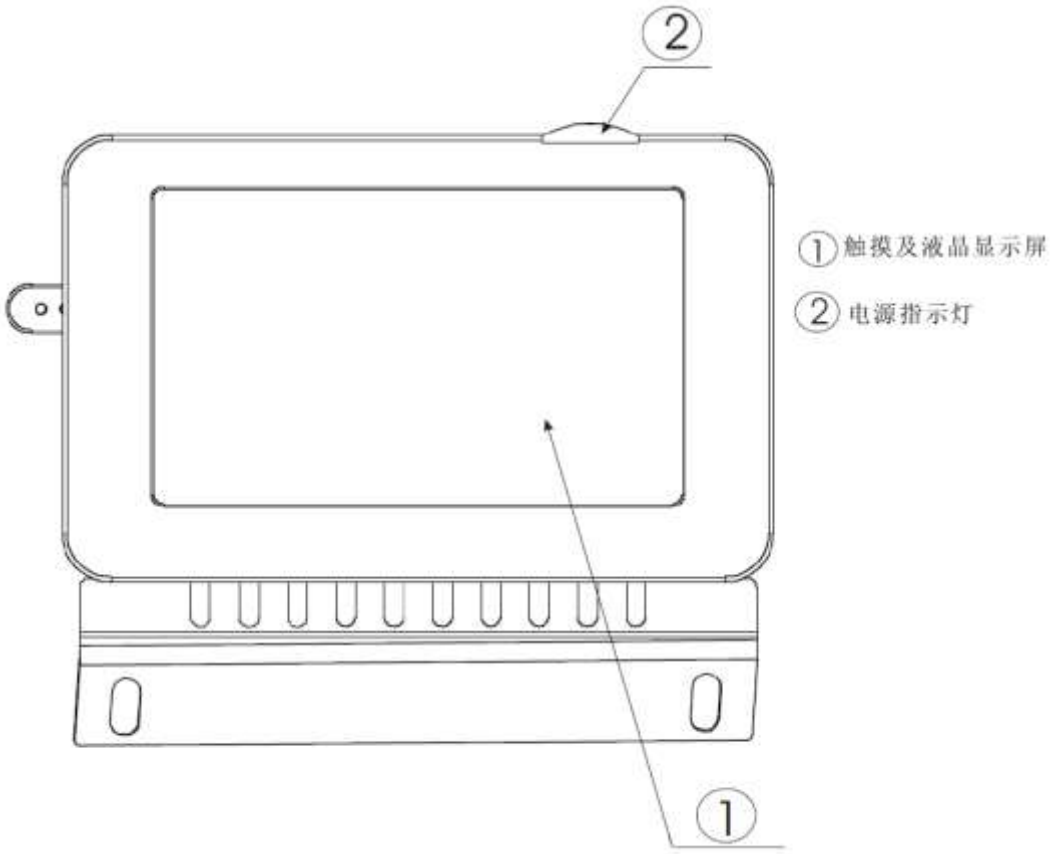
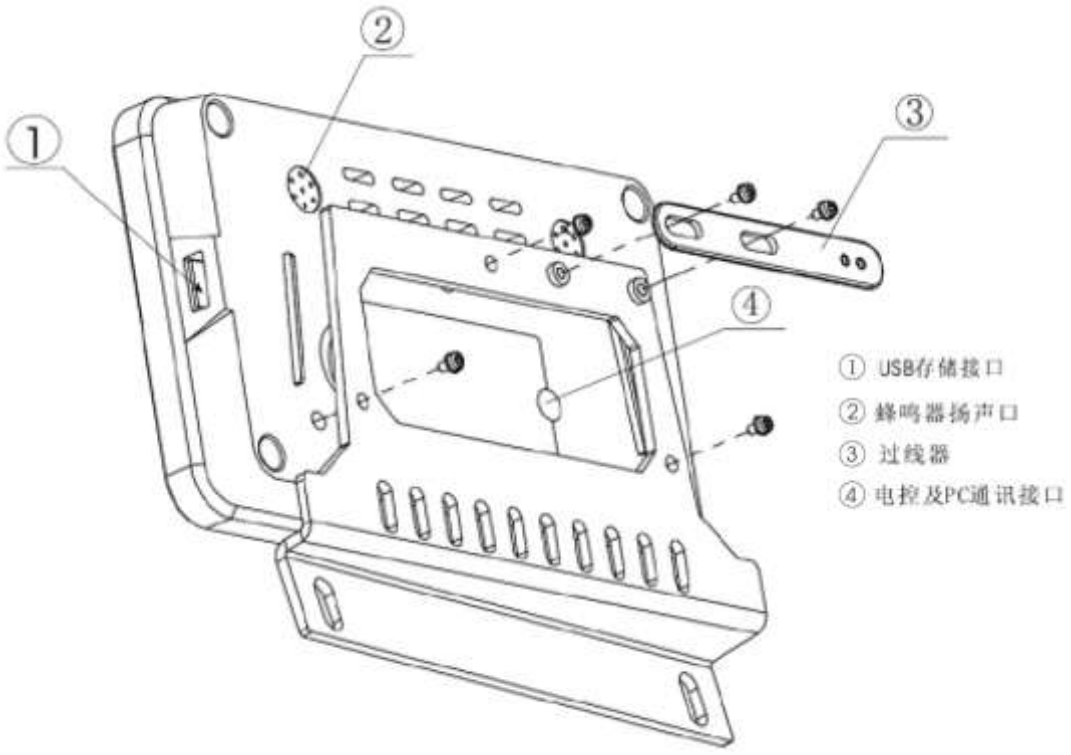


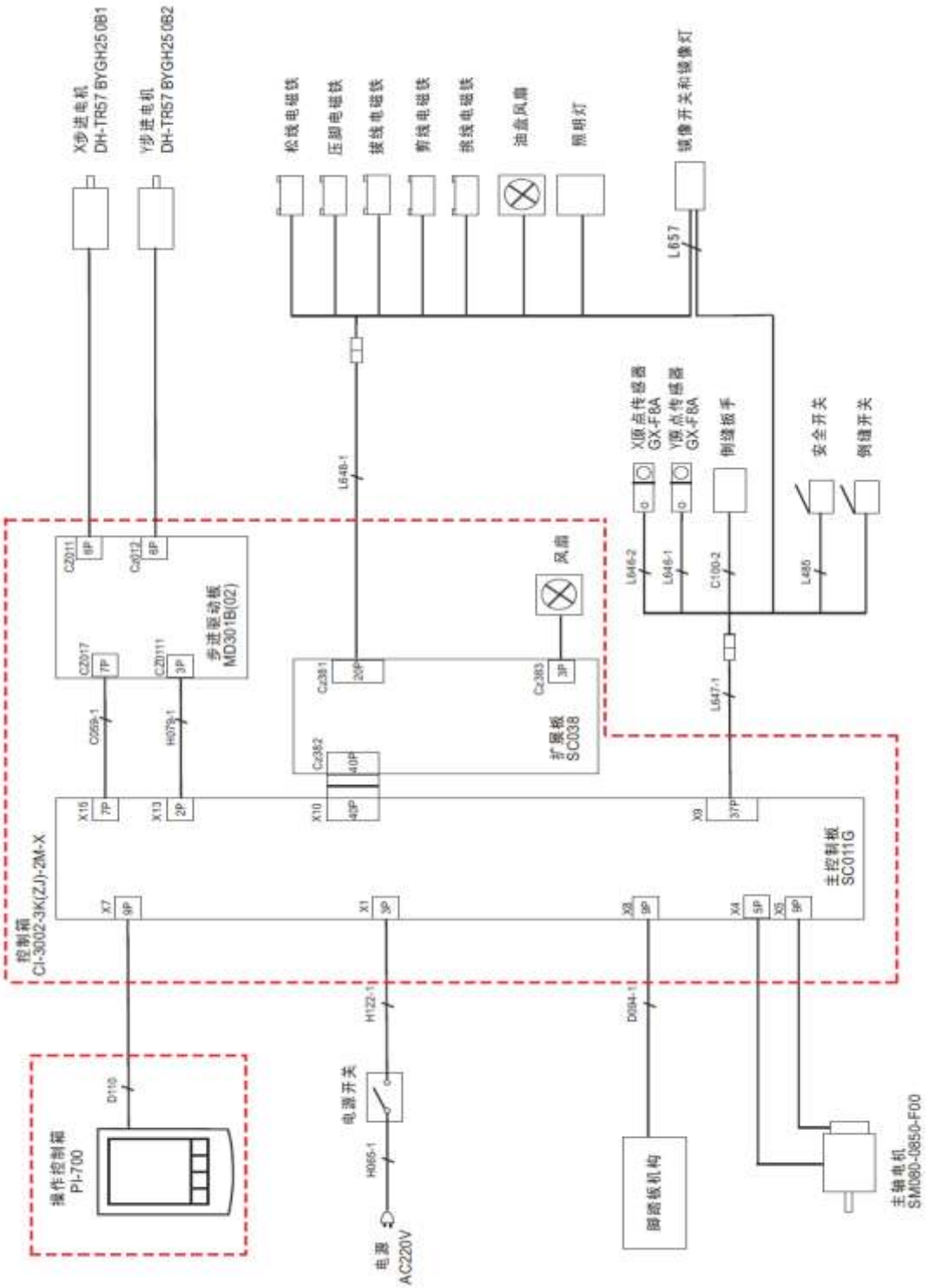
图 2 三孔安装尺寸图

6.2 操作箱安装尺寸


②
①触摸及液晶显示屏
②电源指示灯
①


②
①
③
④
① USB存储接口
② 蜂鸣器扬声口
③ 过线器
④ 电控及PC通讯接口

6.3 SC300 电子高速曲折缝系统框图



【注 1】双步进款没有倒缝电磁铁。

【注 2】单步进带剪线款没有 Y 步进电机、Y 原点传感器和倒缝扳手。

【注 3】单步进不带剪线款没有所有电磁铁、Y 步进电机、Y 原点传感器、油盘风扇、倒缝开关和倒缝扳手。

1 General Information

1.1 Summary

Computerized control system for high-speed zigzag sewing machine: 1) Adoption of the world leading AC servo control technology on main shaft motor provides high torque, good efficiency, stable speed and low noise; 2) Diversified design of control panel can meet the special requirement of users on attachment; 3) System adopts German style structure, which offers easy installation and maintenance to users.

1.2 Specification

序号	**Application**	Thin Material ~ Middle/Thick Material
1	Max Speed	5000rpm
2	Max Swing	10mm
3	Max Feeding Amount	5 mm (Both direction), only available at dual-stepping model
4	Thread-trimming	Yes, only available at dual-stepping model
5	Feeding Method	Standard Feeding (Computerized control), only available at dual-stepping model
6	Memory	U Disk
7	Patterns	20 kinds of Patterns
8	Power Consumption	600W
9	Operation Temperature Range	0℃～45℃
10	Operation Humidity Range	35%～85% （No Dew Condensation）
11	Line Voltage	AC 220V ± 10%；50/60Hz

※Effective standard for product:QCYXDK0004—2016《Computerized Control System for Industrial Sewing Machine》.

1.3 Matters for Safe Using

- **Installation**
  - Control Box
    - Please install the control box according to the instruction
  - Attachments

- If other attachments are needed, please turn off the power and pull off the power plug.

- Power Cable
  - Do not press power cable with force or excessively twist power cable.
  - The power cables shall be fixed with a distance at 25mm away from the rotating component at least.
  - Before powering the control box, user shall carefully check the voltage of power supply and position of power input on control box. If the power transformer is used, user should also check it before powering the machine. At this moment, the power switch of sewing machine must be set as "Off".
- Grounding
  - In order to avoid the noise disturbance and shock caused by electrical leakage, user should install the grounding cable.
- Attachments
  - If the electrical attachments are needed, please connect them to the proper positions.
- Disassemble
  - When removing the control box, user should turn off the power and pull off the power plug.
  - At pulling off the power plug, user should hold the plug and remove it, instead of pulling the power cable only.
  - The control box contains the dangerous high voltage power. For opening the control box, please turn off the power and take away the plug from socket firstly, and then wait for at least 5 minutes before opening the control box.

Maintenance, Inspection and Repair

- Only can the trained technicians perform the repair and maintenance of this machine.
- When replacing the needles and shuttles, user has to turn off the power.
- Please use the spare parts from the authorized manufacturers

Others

- Do not touch the rotating or moving part of the machine, especially the needle and belt, when the machine is working. User should also keep his/her hair away from those moving parts, so as to avoid the danger.
- Do not drop the control device on the floor, nor insert any stuff into the slots on the control box.
- Do not run the machine without the cover shells
- If this control device is damaged or unable to work normally, please ask the technicians to adjust or repair it. Do not run the machine when the problem is not solved.
- Please do not change or modify the control device without authorization.

Abandonment

- Dispose it as common industrial trash.

- **Warning and Danger**

  - The mistake operation may cause danger. For the serious level, please refer to the figure at below:

Warning	The wrong operation may cause serious injury or death

Caution	The wrong operation may cause personal injury or loss of property

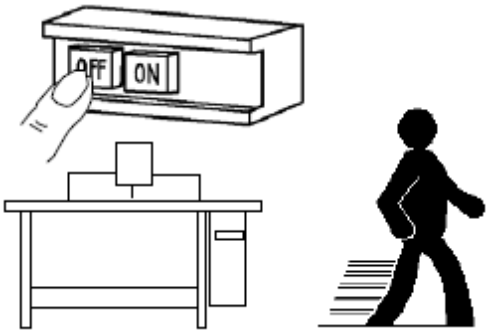
  - The meaning of the figure are shown at below:

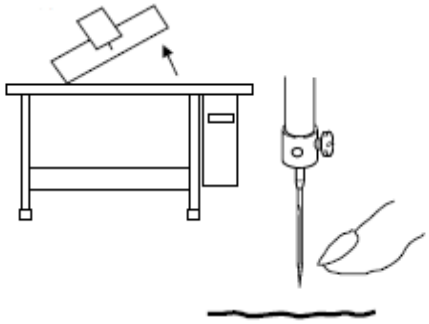
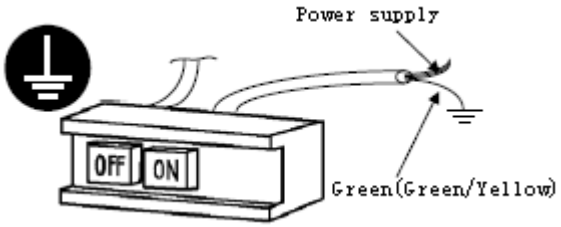
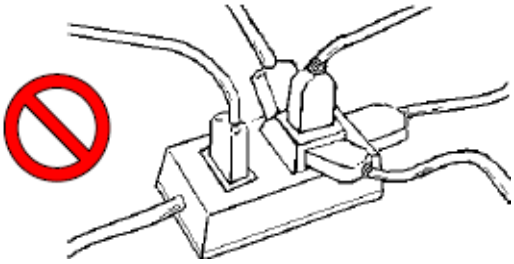
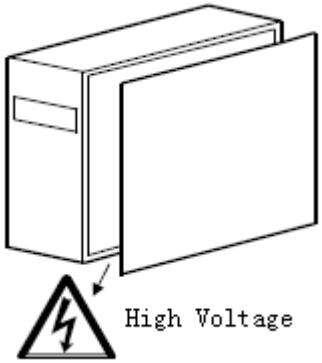
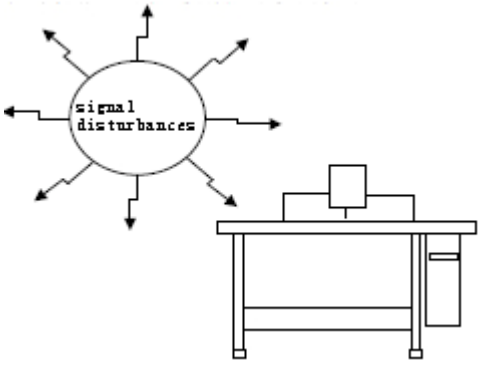
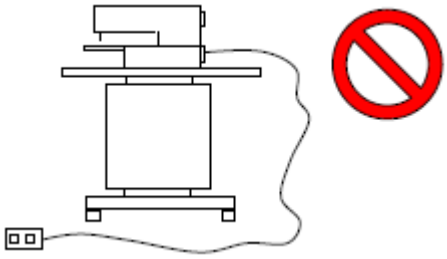
	Please operate machine according to instruction
	Caution: High Temperature
	Never do this

	Caution: High Voltage
	Grounding is a must

1.4 The Preventions on Instruction

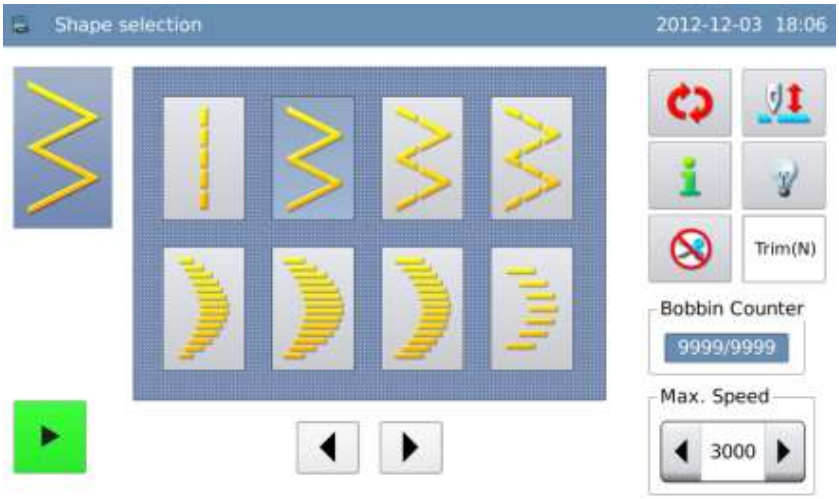
Warning

1、When you leave the machine, please turn it off. 	
3、If user needs tilt the head or replace the needle or thread the upper thread, please turn off the power	4、Grounding the machine with ground cable.

<table>
<tr><td>  </td><td> 
</td></tr>
<tr><td>5、Do not use the household terminal block to let machines to share one power supply
  </td><td>6、For opening the control box, please turn off the power and take away the plug from socket firstly, and then wait for at least 5 minutes before opening the control box.
 
</td></tr>
<tr><td>8、Please keep it away from the machine creating the high cyclic disturbance
 
</td><td>9、If user needs the external signal socket to connect the attachments, the connecting wire shall be as short as possible. The long cable may cause the wrong operation. And the connection cable shall be the isolated cable
  </td></tr>
<tr><td colspan="2">10、、If the fuse is burnt, please solve the problem before replacing a new one with same capacity.</td></tr>
</table>

1.5 Operation Method

The touching panel of zigzag sewing controller adopts the advanced touching operation technology, whose friendly interface and easy control bring the revolutionary changes to the daily usage of the users. For performing the relating operations, user can use his fingers or other objects to touch the screen.



Warning

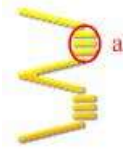
Don’t use the sharp object to touch the screen so as to avoid causing the permanent damage to the touching panel.

1.6 Model

The main difference among 2290S-SR/S/B is the cloth-feeding method, which are stepping motor, solenoid and lever respectively. Therefore, the relating function of products is depending on the specific type of machine.

1.7 Sewing Pattern List

Name	Stitch Form	Stitch Number	Max Swing Width
Line		1	-
2-point zigzag		2	10
3-point zigzag		4	

4-point zigzag			6	
Scallop (Right)	Standard		24	
	Lunar			
	Average 24 Stitches			
	Average 12 Stitches		12	
Scallop (Left)	Standard		24	
	Lunar			
	Average 24 Stitches			
	Average 12 Stitches		12	
Blind Stitch Form (Left)			2+a	
Blind Stitch Interval (Right)			2+a	

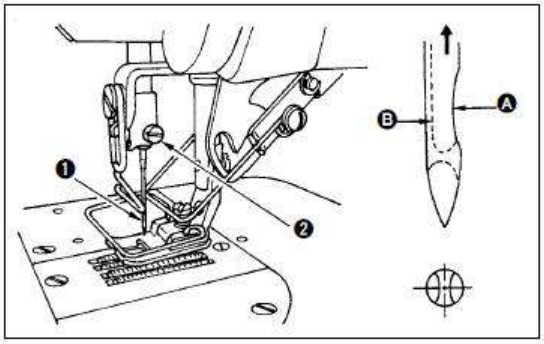
Left T（this pattern does not exist at Single Stepping Model）		3	
Right T（ this pattern does not exist at Single Stepping Model）			
Pattern 1（this pattern does not exist at Single Stepping Model）		6	
Pattern 2 （this pattern does not exist at Single Stepping Model）			
Pattern 3（this pattern does not exist at Single Stepping Model）			
Pattern 4（this pattern does not exist at Single Stepping Model）			
Customized Pattern	-	500	

2 Preparation before Sewing

2.1 Installation of Needle

Warning

In order to avoid the personal injury due to the sudden move, user should perform the operation after the motor stops completely.



1） Turn the wheel to lift the needle to the highest position.

2） Loosen the needle screw ② and turn the slot Ⓑ on the needle ① to front.

3） Insert the needle in the direction of arrow deeply

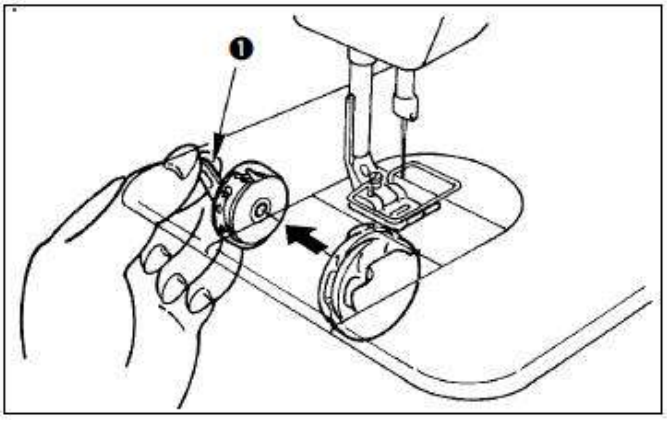
4） Fix the needle screw ②.

5） Make sure the slot Ⓑ on the needle is facing the front.

2.2 Installation of Bobbin Case

Warning

In order to avoid the personal injury due to the sudden move, user should perform the operation after the motor stops completely.



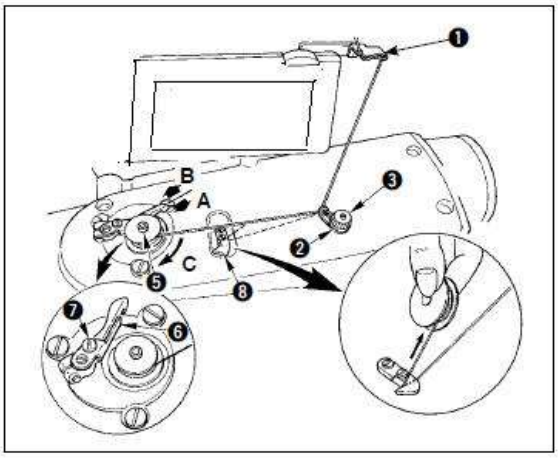
1） Turn the wheel to lift the needle to the highest position.

2） Draw the handle ① on the bobbin case and take it off

2.3 Wind the Bottom Thread

Warning

In order to avoid the personal injury due to the sudden move, user should perform the operation after the motor stops completely.



1） Put shuttle core on the winding shaft⑤.

2） Thread in order from① to ⑧, and then wind the thread on the shuttle core for several loops.

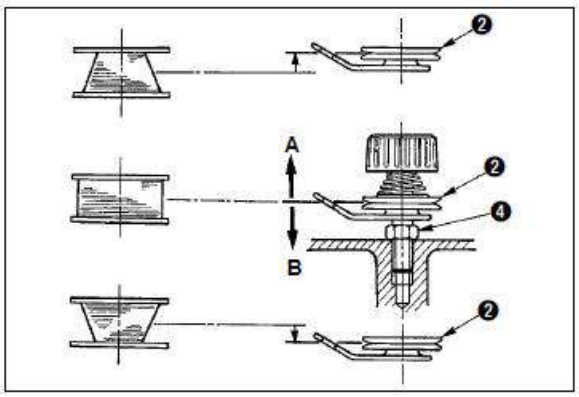
3） Press the winding lever⑥ in direction A and run the sewing machine. The shuttle core will rotate in direction C and the thread will be wound on the shuttle core. After the winding, the winding shaft ⑤ will stop automatically.

4） Remove the shuttle core and use cutting plate ⑧ to cut thread

5） When adjusting the winding amount of bottom thread, user needs loosen the screw⑦, move the winding adjustment plate ⑥ in direction A or B and fix the screw⑦.

Direction A：Reduce the amount

Direction B：Increase the Amount

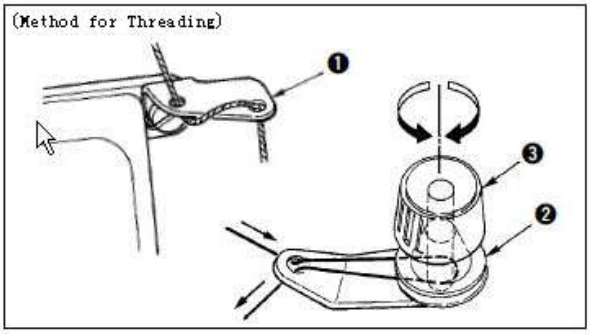


6） If user can not wind the thread smoothly, user should loosen the nut④, turn the winding tension device and adjust the height of the thread tension plate②.

The standard position is that the center height of shuttle core is same as that of tensions plate.

When the lower side has more threads, user needs move thread tension plate② in direction A, or user should move the tension plate to direction B.

After adjustment, fix the nut④.



When adjusting the bottom thread tension, user needs turn the thread tension nut ③ and adjust it.

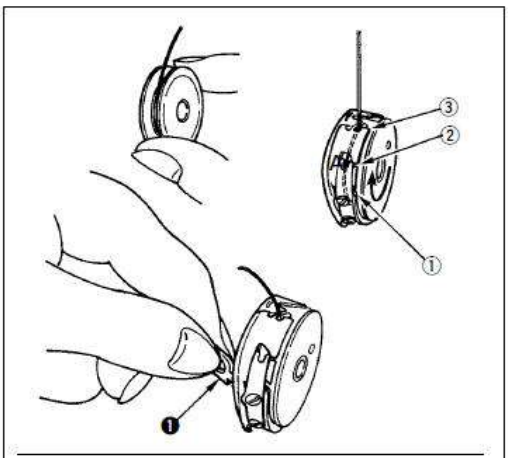
[Note 1] At winding the bottom thread, please tighten the thread between the shuttle core and tension plate② firstly.

[Note 2] When winding the bottom thread not in the status of sewing, user needs remove the upper thread on the slot of down jump thread rod and take out the shuttle core from the shuttle

2.4 Method for Putting Shuttle Core

Warning

In order to avoid the personal injury due to the sudden move, user should perform the operation after the motor stops completely.



1） Turn the wheel to lift the needle to the highest position.

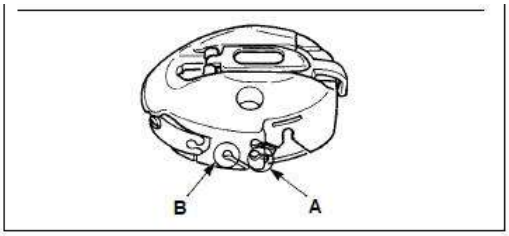
2） Pull the about 5cm thread from the shuttle core and put them into the bobbin case.

3） Thread in the order of the number. Pull thread form the opening. Pulling the bottom thread will have the shuttle core to rotate in the direction of arrow.

4） Draw the handle① on bobbin case.

5） At this moment, put thread from the lower shield handle and insert it into the inner shuttle shaft

6） Close the handle on the bobbin case



Usage Method of Thread Hole on Bobbin Case:

1） Hole A is used at the sewing beyond the 2-points zigzag sewing and scallop zigzag sewing.

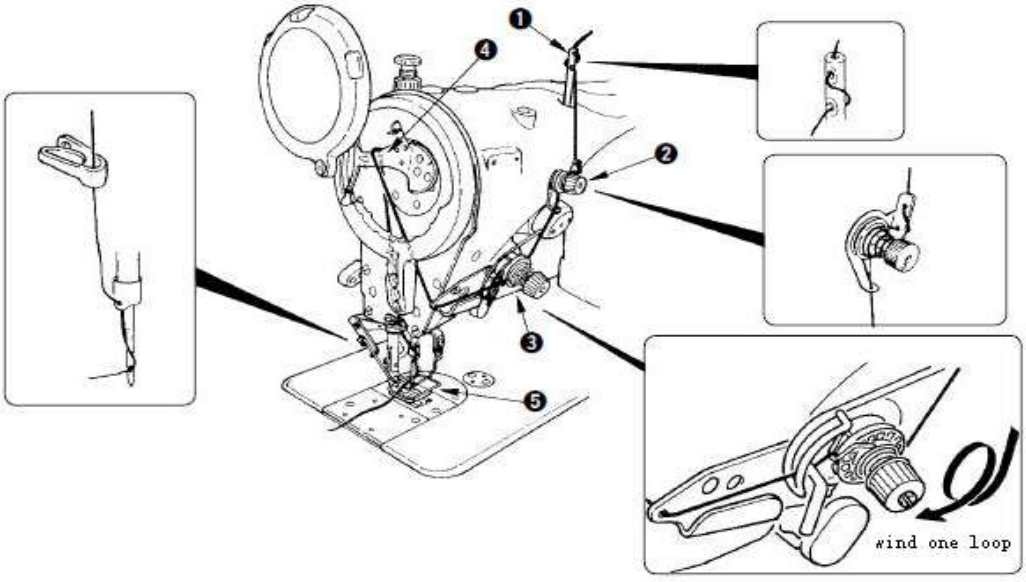
2） Hole B is used at the 2-points zigzag sewing and scallop zigzag sewing mainly.

[Note] At Hole B, after machine cuts the long fiber thin thread, the first few stitches may be hard to get knotted. Therefore, please use other thread hole or start sewing from right

2.5 Threading Method of Upper Thread

Warning

In order to avoid the personal injury due to the sudden move, user should perform the operation after the motor stops completely.

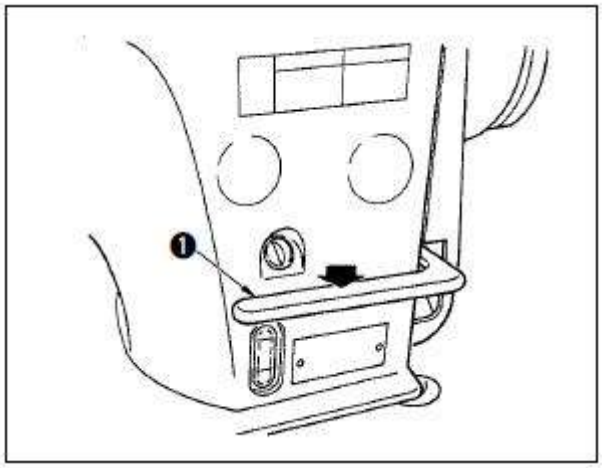


1）Turn the wheel to lift the needle to the up position

2）Thread according to the number order on picture.

3）Draw the thread out of needle at about 10cm.

2.6 Adjustment of Cloth-feeding Length



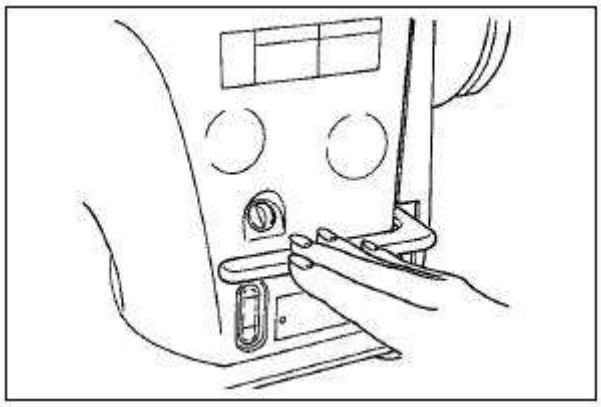
1） Use the operation panel to adjust the length of feeding cloth.

Normal Feeding：Press to have access to the interface for setting normal feeding.

Contrary Feeding：Press to have access to the interface for setting contrary feeding.

2） At reverse sewing, press the feeding bar① to down position for perform the reverse sewing. The bar will return to the original position after you release it. Then the machine will return to feed cloth normally. **【Note】This function is only available for dual-stepping model**

2.7 Adjustment of Contraction Sewing



The contraction sewing is to operate the feeding bar to reduce the feeding interval to stop sewing at the sewing start or sewing end.

1）Adjust the feeding length via the operation panel.

Contrary Feeding：Press  to have access to the interface for setting the contrary feeding. Set the contrary feeding amount at 0, then it will turn to the stop sewing.

2）The stop sewing is related to the normal sewing. Please adjust it according to the sewing condition.

【Note】This function is only available for dual-stepping model

3 Operations

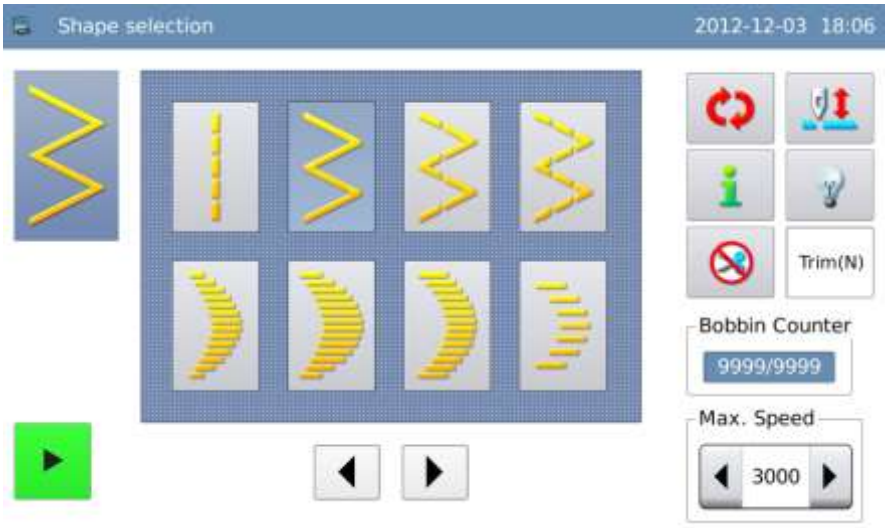
3.1 Basic Operations

1、Turn on Power Switch

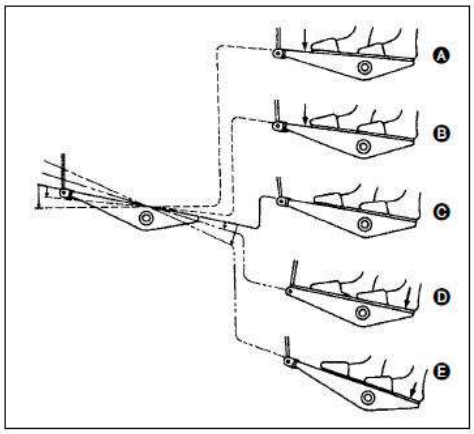
When the needle rod is not at the upper position, the system will give “Needle Up Posi. Error”. At this moment, user has to turn the wheel to move the needle rod to the upper position.

2、Select the Pattern

Select the pattern for sewing at current interface.



3、Start Sewing



The pedal has four levels.

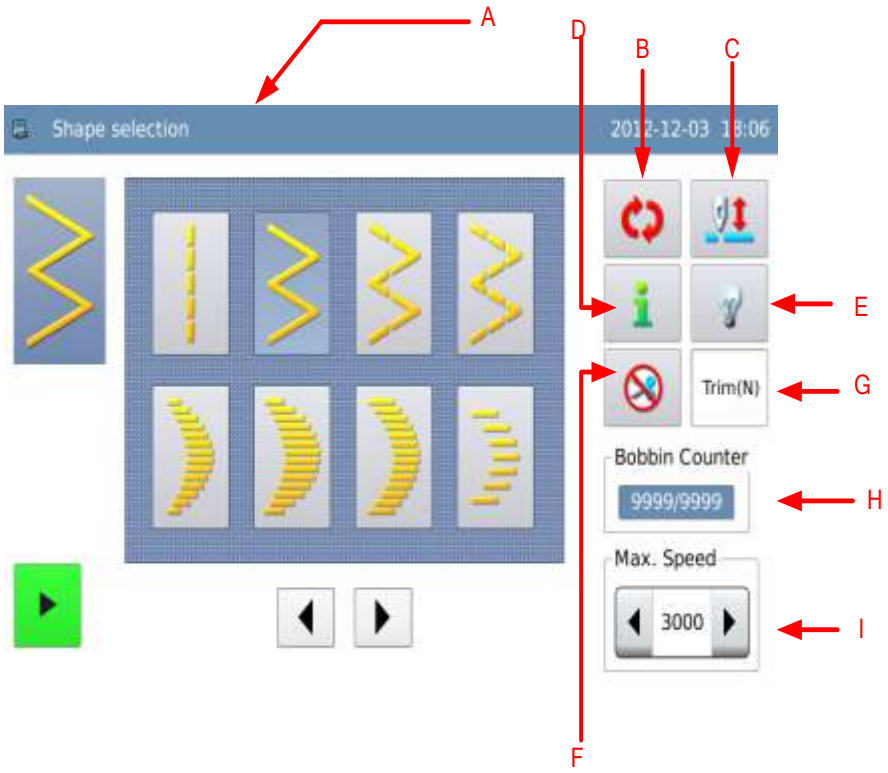
1） Stepping front part of pedal slightly is for slow speed sewing Ⓑ.

2） Stepping front part of pedal again is for high speed sewing Ⓐ (When the auto reverse sewing switch is set, the machine will start high speed sewing after the reverse sewing).

3） Step the pedal slightly and release, the machine will stop Ⓒ (The needle stops at upper or down position)

4） Stepping the rear part of pedal is to lift the presser Ⓓ, stepping that part again is to cut thread Ⓔ.

3.2 Buttons



Functions:

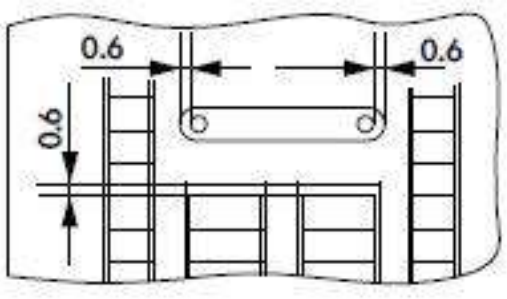
No.	Functions	Content
A	Title	The left part of it will display the title of interface, while the right part of it will display the date and time. When user presses a button, the left part of the title will be refreshed to the function description of that button.
B	Shift	Shift the main operation interface in cycle
C	Half-stitch Compensation	Used for the half-stitch compensation at sewing **[Note]: User can shift it between the half-stitch and one-stitch via parameter 「Others」 -> 「Panel Compensation Setting」.**
D	Information	Press it to have access to the interface of information mode.
E	Light Switch	Set the status of light : Light On : Light Off
F	Trimming Switch	Set the action of knife

		 ：Trimming Permitted  ：Trimming Forbidden
G	Auto Trimming Display	Used for displaying the trimming status in current sewing mode.  ：No Auto Trimming  ：Auto Trimming
H	Counter	Display the information of trimming counter or the bottom thread counter **[Note]: Use「Counter」->「Counter Display」 to shift the type of counter.**
I	Max Speed Limits	Limit the Max sewing speed **[Note]: it is affected by parameter「Special」->「Max Speed」.**

3.3 Before Setting Pattern

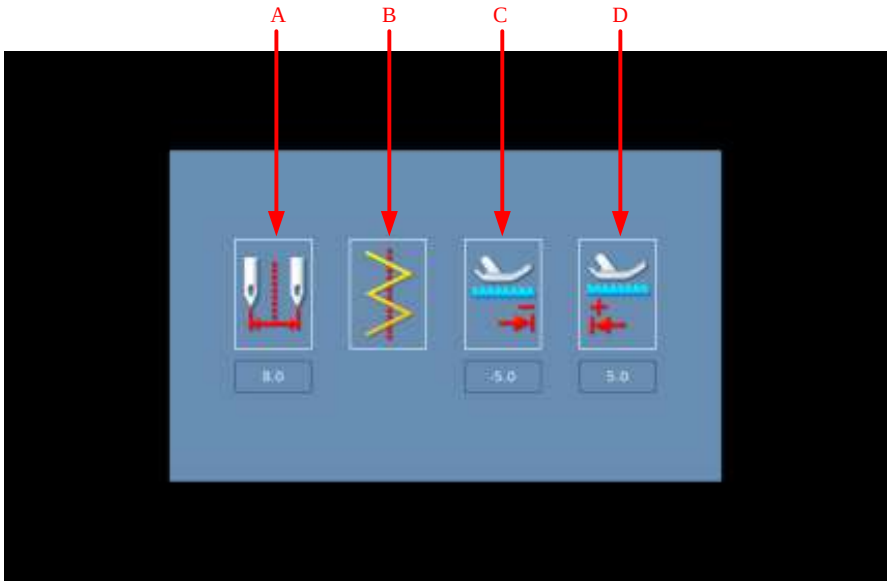
Caution

- When user uses the presser, needle plate and feeding device beyond the standards, the incorrect value may cause the crashes between needle and needle plate (thus causes the needle-breakage) or the feeding device and needle plate. Therefore, user has to follow the rules on the value limits according to the scale used.
- At standard, the Max swing of needle is 8mm.
- The Max feeding is 5mm
- After the change of scale, user needs to adjust the interval among needle, presser and needle plate, as well as the interval between needle plate and feeding device to more than 0.6mm.



When power is on, the system will display the Max swing limits, base line, normal feeding limits

and contrary feeding limits.



Functions:

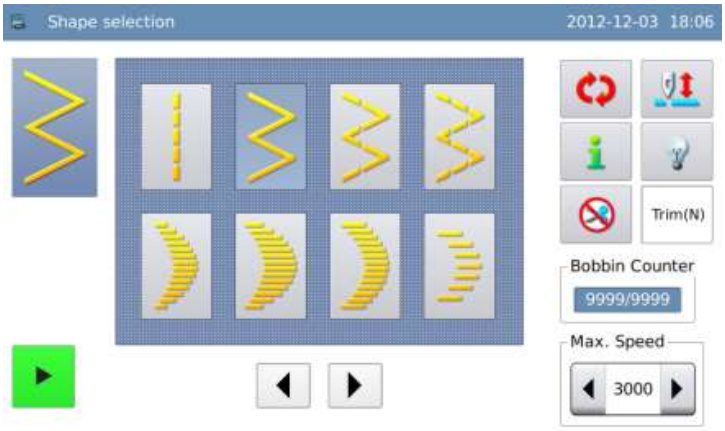
No.	Description
A	Max Swing Limits (The figure will change when the pointed position is different)
B	Base Line
C	Max Contrary Feeding Limits
D	Max Normal Feeding Limits

[Note] Use parameter「General Setting」->「Swing Limits Display」to turn off the display of the limits value at power-on.

Setting Method:

1、 Have access to Information Mode

Press  in main interface to have access to the interface of information mode



2、 Have access to parameter setting

In the interface of information mode, press Program to have access to the interface for setting parameters.

3、 Select「General Setting」parameter

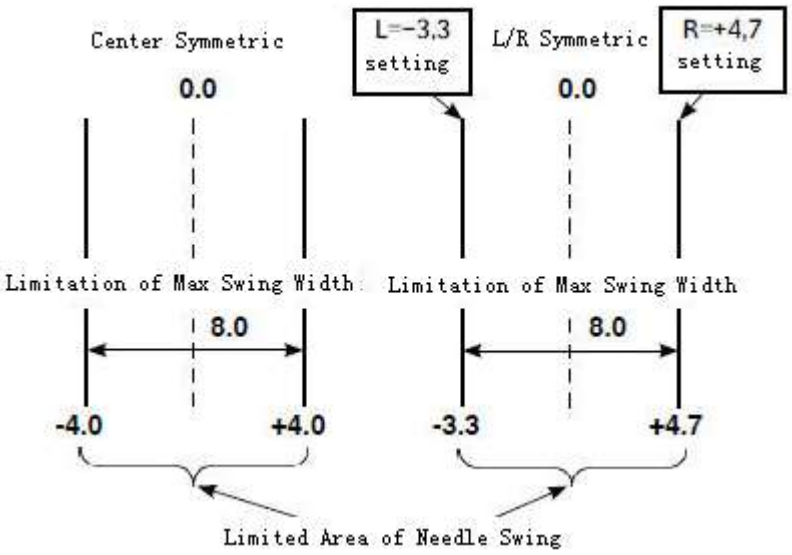
In the parameter setting interface, select「General Setting」

4、 Parameter Setting

Open this parameter group. Then user can set the parameters like Max Swing, Base Line, Max Contrary Feeding Amount and Max Normal Feeding Amount.

3.3.1 Set Max Swing of Needle

- There are two ways to limit the max needle swing：
  1） Set the swing width at both sides (Symmetric in center)
  2） Point the positions at both sides



Setting Method:

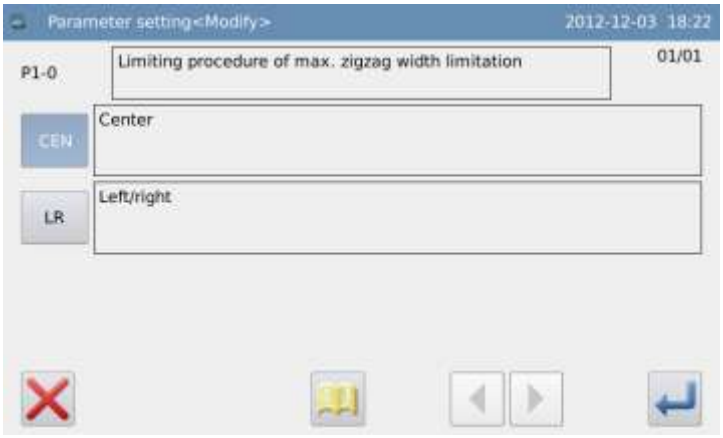
1、Select「Swing Type」

Follow the steps 1~4 at above to enter the interface for setting the general parameters. Select "Swing Type" and press "P1-0".

2、Set Swing Type

As the picture shows, user can select "Center Symmetric" or "L/R Symmetric".

Press  to confirm the selection.

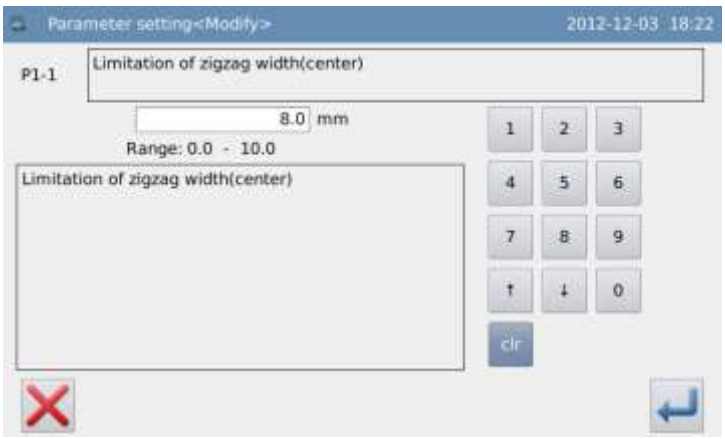


3、Select "Center Symmetric Swing Limits"

Return to the setting interface of general parameter and select "Center Symmetric Swing Limits" and press "P1-1".

4、Set "Center Symmetric Swing Limits"

Use number keys to input the value and press  to confirm.

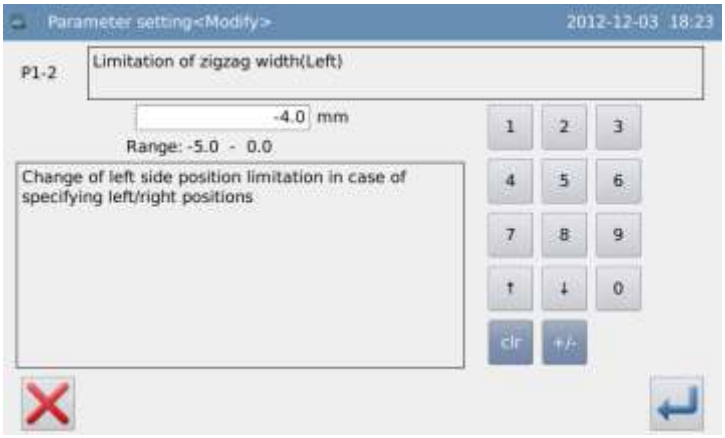


5、Select "Swing Left Limits"

When the swing type is set at "L/R Symmetric", user needs select "Swing Left Limits" and press "P1-2".

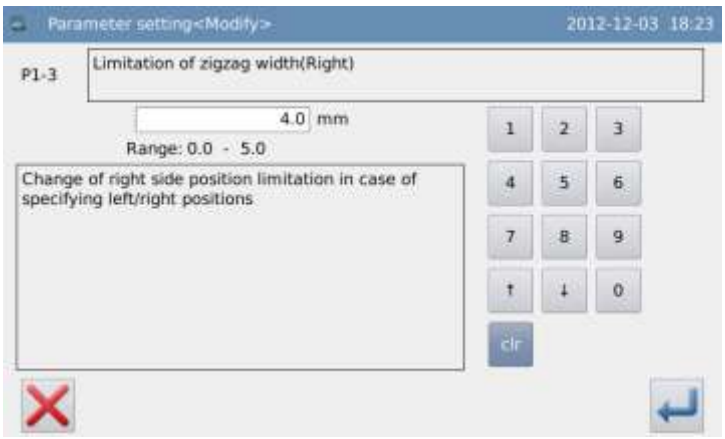
6、 Set "Swing Left Limits"

Use number keys to input the value and press  to confirm.



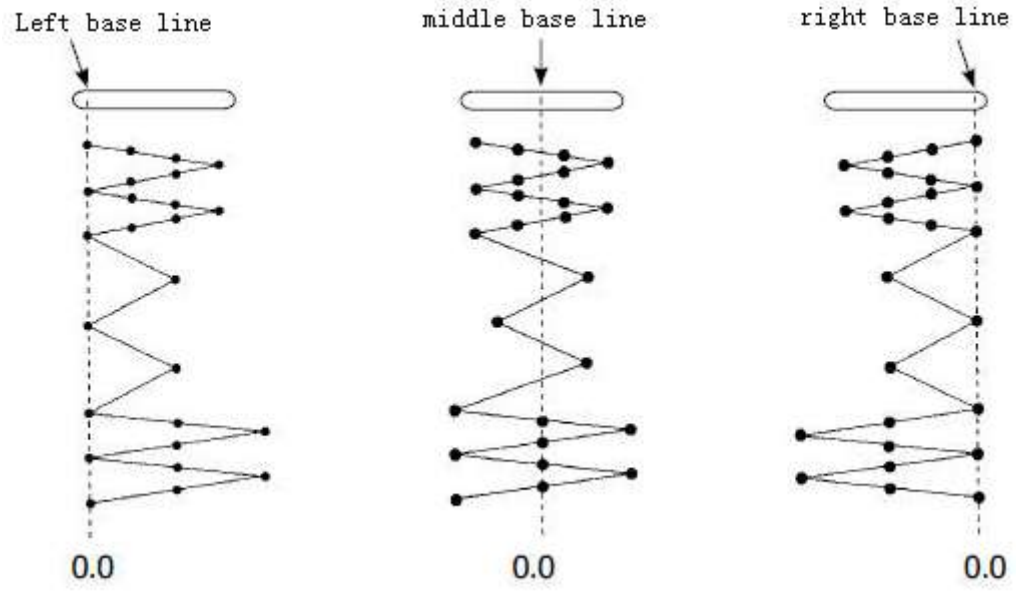
7、 Set "Swing Right Limits"

The setting method is same as that in above.



3.3.2 Setting of Base Line

- User can set the position of the base line at Left, Right or Center.



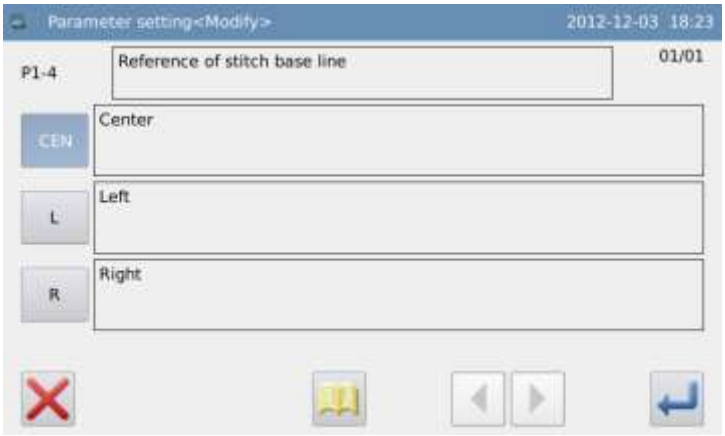
Setting Method:

1、Select "Base Line Position"

Enter the interface for setting general parameter, select "Base Line Position" and press "P1-4".

2、Set Position of Base Line

As shown in right picture, there are "Center", "Left" and "Right". Press to confirm the selection.



3.3.3 Setting of the Feeding Amount

- When user uses the different standard parts, he can set the max feeding in normal direction and the max feeding in contrary direction.
- **【Note】This function is only available for dual-stepping model。**

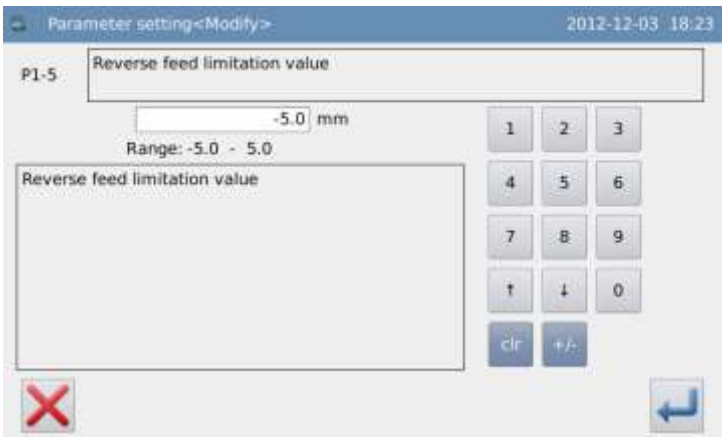
Setting Method:

1、Select "Contrary Feeding Limits"

Have access to the interface for setting general parameters, select "Contrary Feeding Limits" and press "P1-5"

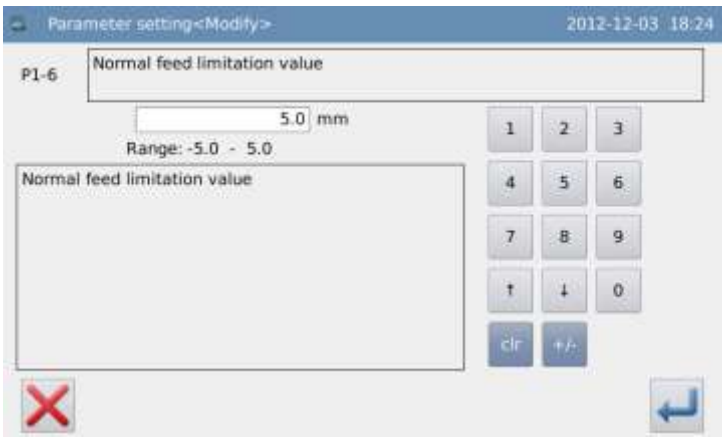
2、Set "Contrary Feeding Limits"

Use number keys to input the value and press  to confirm.



3、Set "Normal Feeding Limits"

Refer to the operations in steps 1~2 and select "Normal Feeding Limits" to input value.

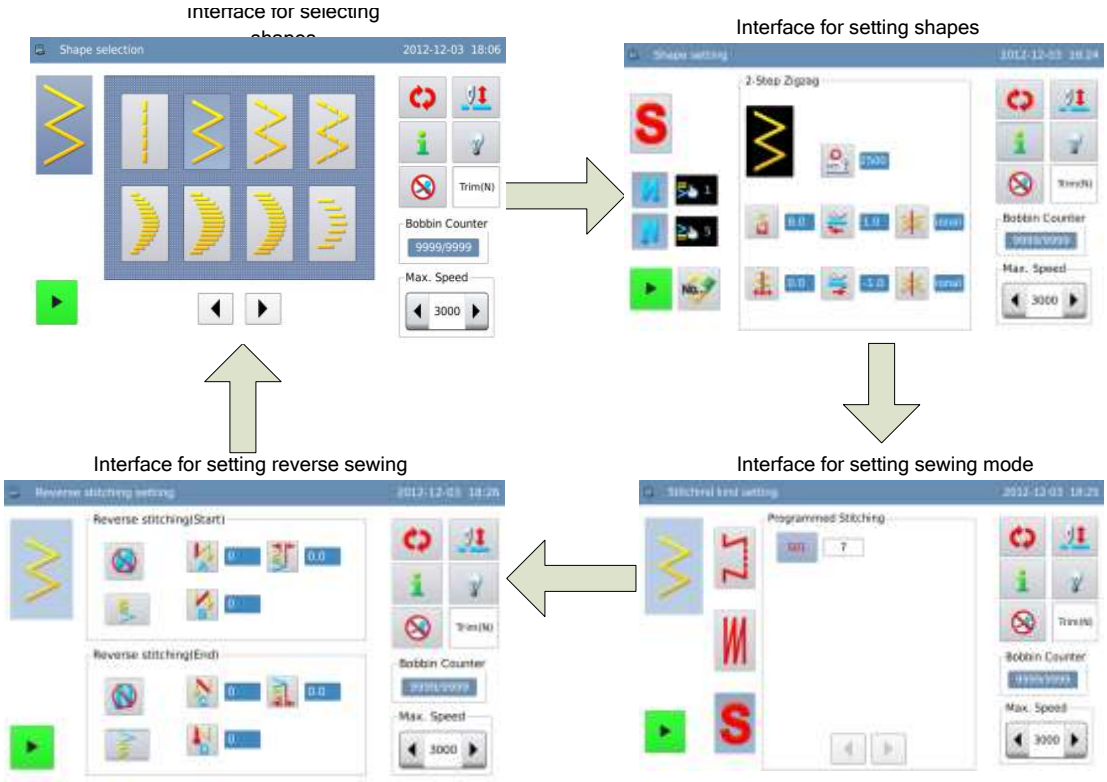


3.4 Main Interface

- Turn on the power. The interface at operation panel will be the main interface before the power-off.
- Press  to shift the main interface in the following order (The contents displayed may be a little different, which are depended on the specific setting).

Example：

We use 2-points zigzag (Program Sewing Mode) as the example:



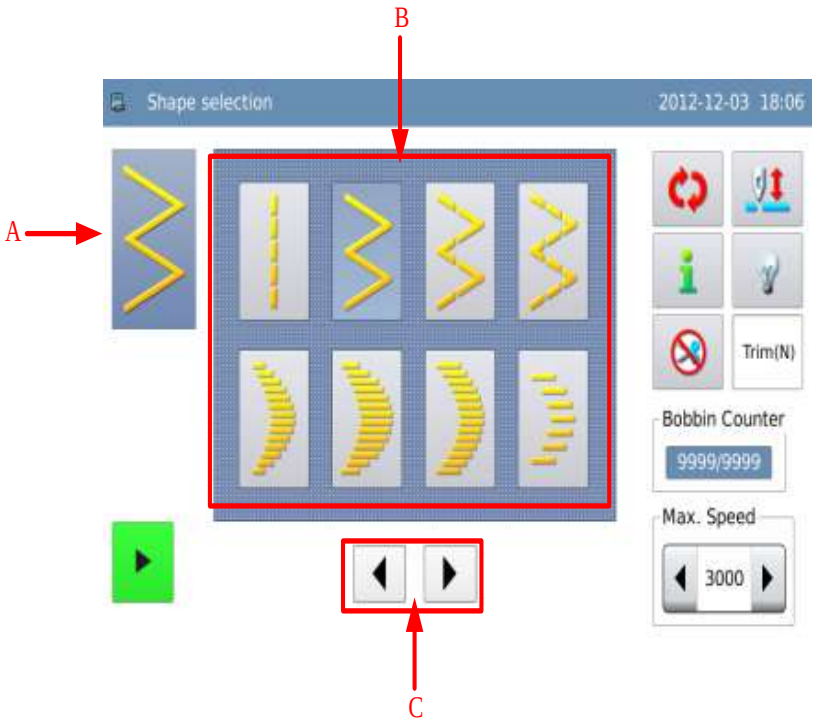
[Note 1]: if you select free sewing mode, the system will not enter the sewing mode setting interface at pressing  **.**

[Note 2]: if you select overlapped sewing mode, the system will not enter the interface for setting reverse sewing at pressing  **.**

3.5 Patten Selection

How to select a pattern for sewing:

- Shift to interface for selecting the shape, where user can select 20 basic patterns, customized patterns, memory patterns, continuous sewing or cyclic sewing. (Single Stepping Model is 14)



Functions:

No.	Functions	Contents
A	Current Pattern	Display the pattern selected currently
B	Pattern Selection Area	Select 20 basic patterns, customized patterns, memory pattern, continuous sewing and cyclic sewing. (Single Stepping Model is 14)
C	Page Key	Turn the pages for display

Description of Pattern Selection:

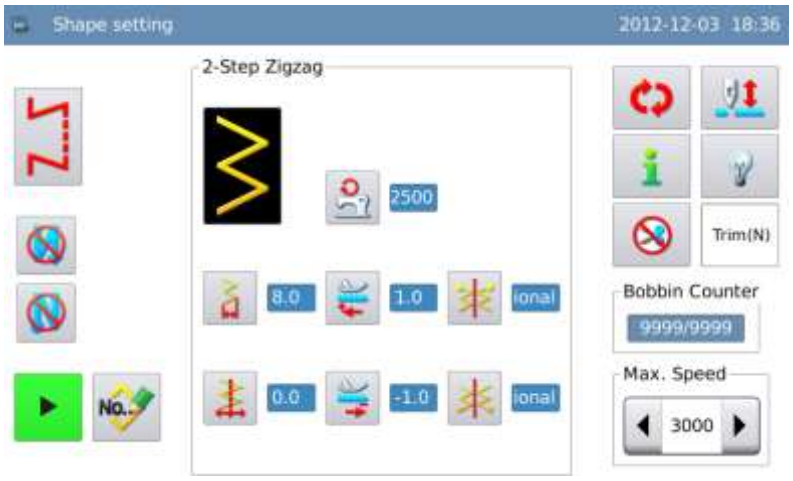
Figures	Description
	Line
	2-points Zigzag
	3-points Zigzag

	4-points Zigzag
	Right Standard Scallop
	Right Lunar Scallop
	Right 24-stitch Average Scallop
	Right 12-stitch Average Scallop
	Left Standard Scallop
	Left Lunar Scallop
	Left 24-stitch Average Scallop
	Left 12-stitch Average Scallop
	Left Blind Stitch
	Right Blind Stitch

	Left T Sewing(this pattern does not exist at Single Stepping Model)
	Right T Sewing(this pattern does not exist at Single Stepping Model)
	Pattern 1(this pattern does not exist at Single Stepping Model)
	Pattern 2(this pattern does not exist at Single Stepping Model)
	Pattern 3(this pattern does not exist at Single Stepping Model)
	Pattern 4(this pattern does not exist at Single Stepping Model)
	Customized Pattern
	Saved Pattern
	Continuous Sewing
	Cyclic Sewing

3.5.1 Standard Pattern Selection

- In shape setting interface, user can press basic pattern button. There are 20 basic patterns for selection. After the successful selection, the system will enter the interface for setting shape.



【Note】This sitting does not have and for Single Stepping Model.

3.5.2 Customized Pattern Selection

- In the shape setting interface, press  to have access to the interface for selecting customized pattern.
- At most 500 customized patterns can be saved.

[Note]: If the operation panel has no customized pattern, the system will enter the interface for creating customized pattern.

Functions:

No.	Functions	Contents
A	Pattern Display	Display the shape of the selected pattern
B	New Pattern	Create a new customized pattern
C	Copy	Copy the customized pattern that is selected
D	Single Selection/ multi-selection	Shift the sing-selection / multi-selection. The multi-selection enables user to select several patterns at one time, which is used at pattern deletion  : Single Selection  : Multi-selection
E	Deletion	Delete the selected pattern. **[Note] The pattern being embroidered can not be deleted**
F	Pattern Selection Area	Display the number of the customized pattern saved in operation panel.
G	Page No.	Display current page/ total page
H	Page Key	Turn the pages
I	Cancel	Cancel the current operation and quit
J	Enter	Confirm the selection of current pattern and have access to the interface for setting the customized pattern. **[Note] This button can only be used at single selection status**

3.5.3 Selection of the Saved Pattern

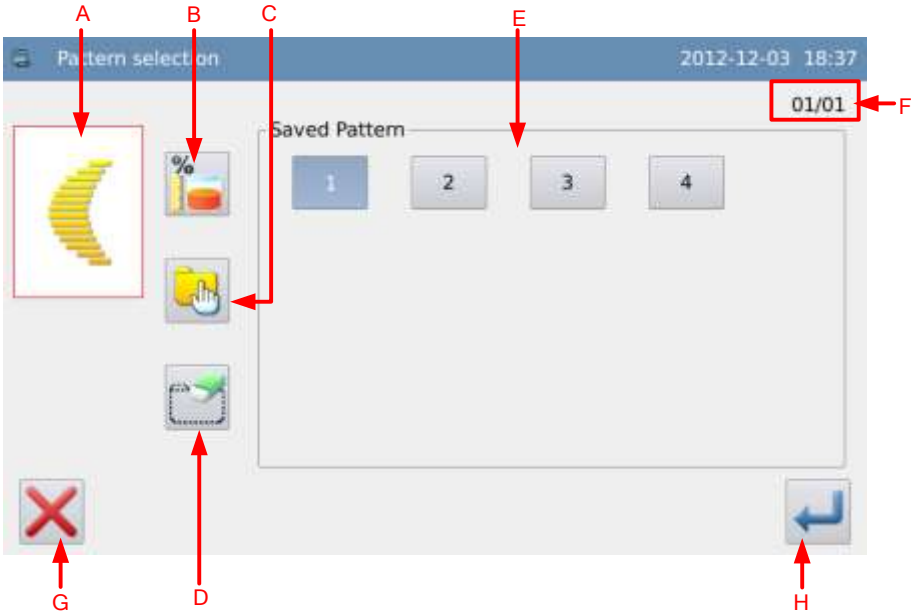
- After the registration, the basic patterns or the customized patterns will become the saved pattern. The parameters, sewing mode and reverse sewing of the saved pattern are

independent.

- At most, 500 saved patterns can be registered in the memory.
- In the interface of setting shape, user can press 

to have access to the interface for selecting the saved patterns.

[Note] If the operation panel doesn't contain any saved pattern, the system will display "No Registered Pattern in Memory".



Function:

No.	Functions	Contents
A	Pattern Display	Display the shape of the selected pattern
B	Free Memory	Display the rest free memory
C	Single Selection/ multi-selection	Shift the sing-selection / multi-selection. The multi-selection enables user to select several patterns at one time, which is used at pattern deletion  : Single Selection  : Multi-selection
D	Deletion	Delete the selected pattern. **[Note] The pattern being embroidered can not be deleted**
E	Pattern Selection Area	Display the number of the available saved pattern in operation panel.
F	Page No.	Display current page/ total page
G	Page Key	Turn the pages
H	Cancel	Cancel the current operation and quit
I	Enter	Confirm the selection of current pattern and have access to the interface for setting the saved pattern. **[Note] This button can only be used at single selection status**

3.5.4 Continuous Sewing Selection

- The continuous sewing is the function to connect the different patterns or sew the pattern whose estimated stitch number is over 500 stitches. The continuous sewing pattern can be recognized by the system as one pattern.
- In the interface of setting shape, user can press 

to have access to the interface for selecting the continuous sewing.
- At most, 20 continuous sewing patterns can be saved.

[Note] If the operation panel doesn't contain any continuous sewing pattern, the system will enter the interface for creating the continuous sewing pattern.

Functions:

A	New Pattern	Create a new continuous sewing pattern
B	Copy	Copy the selected continuous sewing pattern
C	Single Selection/ multi-selection	Shift the sing-selection / multi-selection. The multi-selection enables user to select several patterns at one time, which is used at pattern deletion  : Single Selection  : Multi-selection
D	Deletion	Delete the selected pattern. **[Note] The pattern being embroidered can not be deleted**
E	Pattern Selection Area	Display the number of the continuous sewing pattern saved in operation panel.
F	Page No.	Display current page/ total page

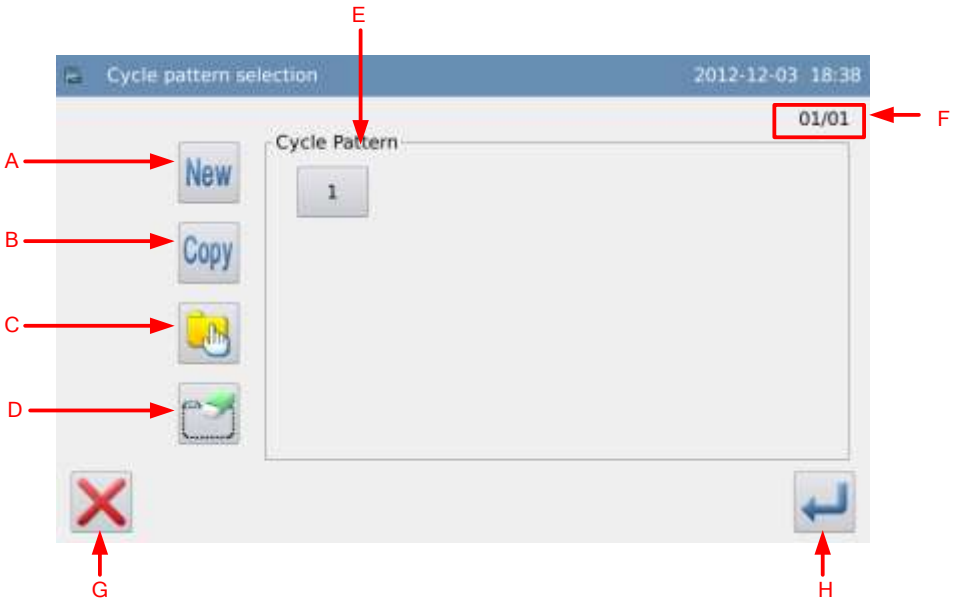
G	Cancel	Cancel the current operation and quit
H	Enter	Confirm the selection of current pattern and have access to the interface for setting the continuous sewing pattern. **[Note] This button can only be used at single selection status**

3.5.5 Cyclic Sewing Selection

- Cyclic sewing is to sew the different patterns in order.
- In the interface of setting shape, user can press 

to have access to the interface for selecting the cyclic sewing.
- At most, 20 cyclic sewing patterns can be saved.

[Note]: If the operation panel doesn't contain any cyclic sewing pattern, the system will enter the interface for creating the cyclic sewing pattern.



Functions:

A	New Pattern	Create a new cyclic sewing pattern
B	Copy	Copy the selected cyclic sewing pattern
C	Single Selection/ multi-selection	Shift the sing-selection / multi-selection. The multi-selection enables user to select several patterns at one time, which is used at pattern deletion  : Single Selection  : Multi-selection
D	Deletion	Delete the selected pattern. **[Note] The pattern being embroidered can not be deleted**

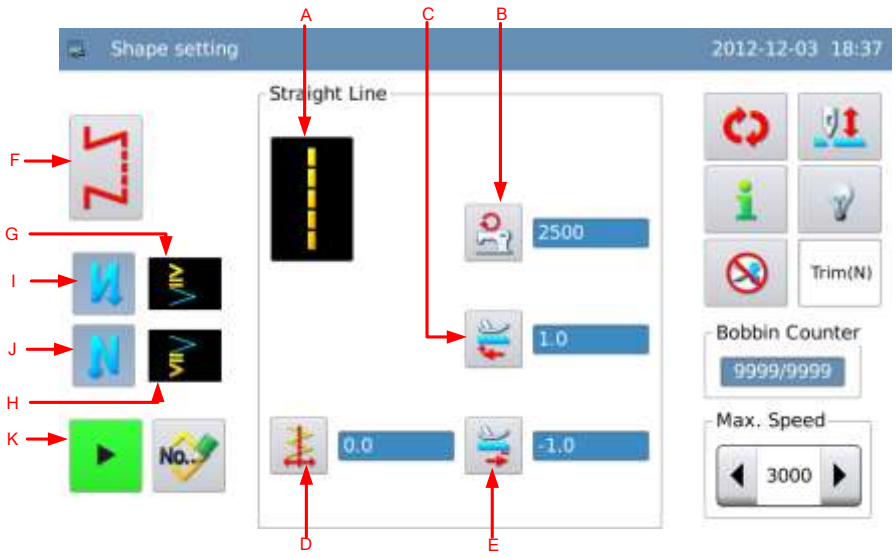
E	Pattern Selection Area	Display the number of the cyclic sewing pattern saved in operation panel.
F	Page No.	Display current page/ total page
G	Cancel	Cancel the current operation and quit
H	Enter	Confirm the selection of current pattern and have access to the interface for setting the cyclic sewing pattern. **[Note] This button can only be used at single selection status**

3.6 Setting of Basic Pattern

How to set the swing width, base line, cloth feeding amount and speed of basic pattern

- The basic patterns are the 20 default patterns saved in the system at beginning.

3.6.1 Setting of Line



【Note】This sitting does not have and for Single Stepping Model.

Functions:

A	Current Pattern	Display the current patterns. User can press it to return to the interface for selecting the shape
B	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.
C	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

D	 Display & Setting of Base Line Position	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」： Left：  Center：  Right： 
E	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
F	Sewing Mode	Display the current sewing mode. Press it to have access to the interface for setting the sewing mode
G	Front Reverse Sewing Type	Display the front reverse sewing type of the current pattern **[Note]: When the front reverse sewing switch is at Off, the front reverse sewing type will not be displayed.**
H	Back Reverse Sewing Type	Display the back reverse sewing type of the current pattern **[Note]: When the back reverse sewing switch is at Off, the back reverse sewing type will not be displayed.**
I	Front Reverse Sewing Switch	Turn on/off the front reverse sewing  ：Effective  ：Ineffective
J	Back Reverse Sewing Switch	Turn on/off the back reverse sewing  ：Effective  ：Ineffective
K	Registration	Register the current pattern. **[Note] The registration is only available at free sewing or overlapped sewing.**

Instructions on Parameter Setting：

At here, we will explain how to set the Max Speed and the Position of Base Line. The method for setting the normal feeding amount and contrary feeding amount is same as that of Max Speed

1、 Set the Max Speed

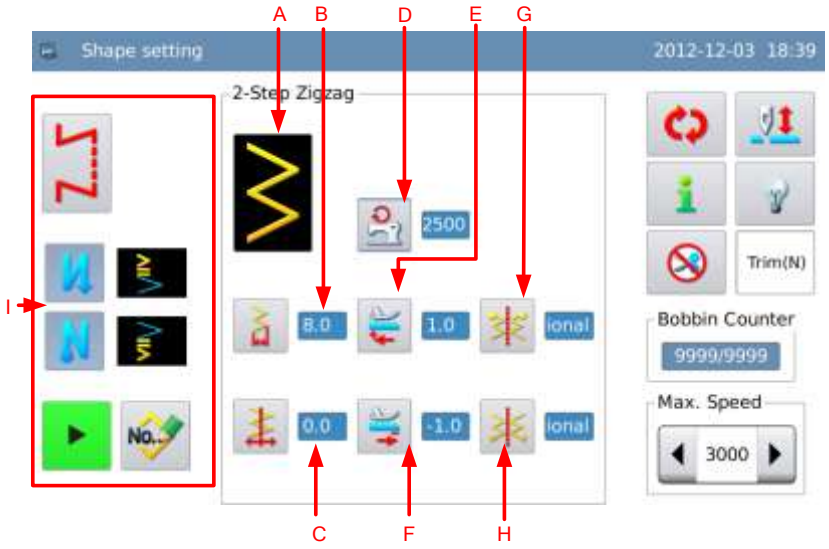
In the interface for setting shape, user needs press  to have access to the interface for setting the Max Speed. Use the number keys to input value and press  to finish the operation.

2、 Set Base Line

In the interface for setting shape, user needs press  to have access to the interrace for setting the Base Line. Use  or  to set the position of the base line. The needle position will change along with the setting. Press  to finish the operation.

3.6.2 Setting of X-points Zigzag Sewing (X can be 2, 3 and 4)

At here, we will introduce how to make 2-points zigzag sewing.



【Note】This sitting does not have  and  for Single Stepping Model.

Functions:

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	 Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	 Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left:  Center:  Right: 
D	 Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.
E	 Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding.
F	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding.
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Random  : Right  : Left
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Random

		: Right : Left
I	-	Refer to the description in Line Setting

Instructions on Parameter Setting:

At here, we will explain how to set the swing width and the position of the start point. The setting method of the end point is same as that of the start point.

1、Set Swing Width

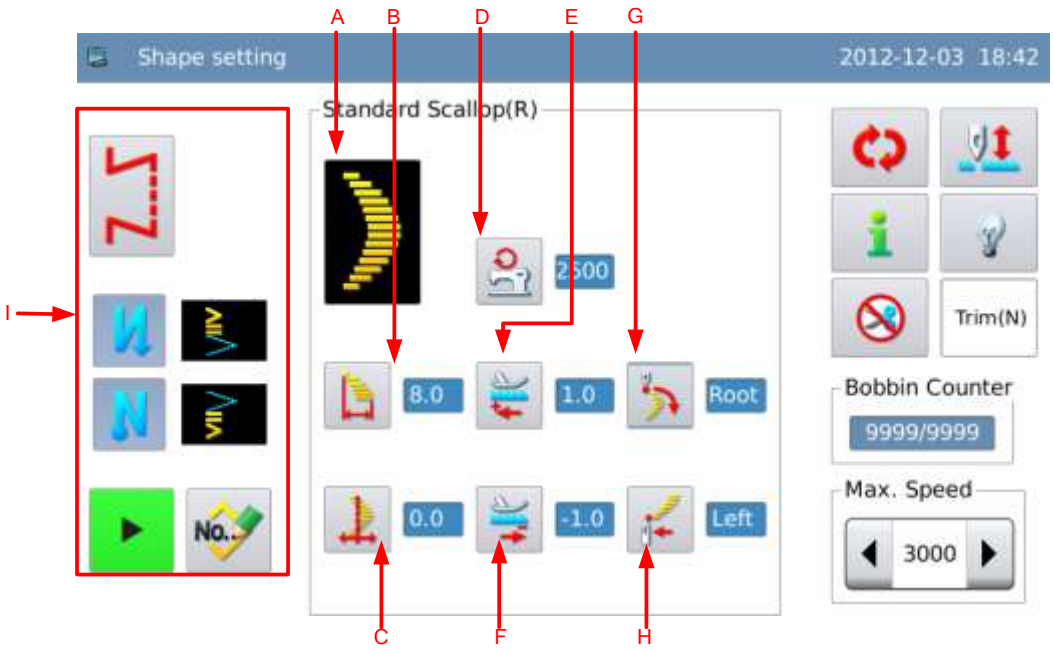
In the interface for setting shape, user needs press to have access to the interface for setting the swing width, where user can use or to set the value. The needle will move along with the change of value. Press to finish the operation.

2、 Set Start Point

In the interface for setting shape, user needs press to have access to the interface for setting the start point. Find a proper position and press to finish the operation.

3.6.3 Set Scallop

We use the right standard scallop as the example.

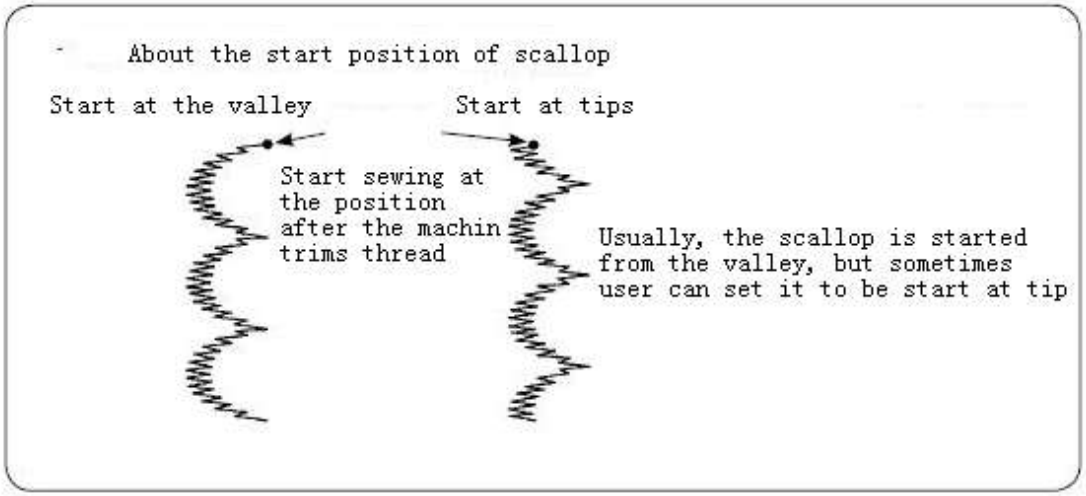


【Note】This sitting does not have and for Single Stepping Model.

Functions:

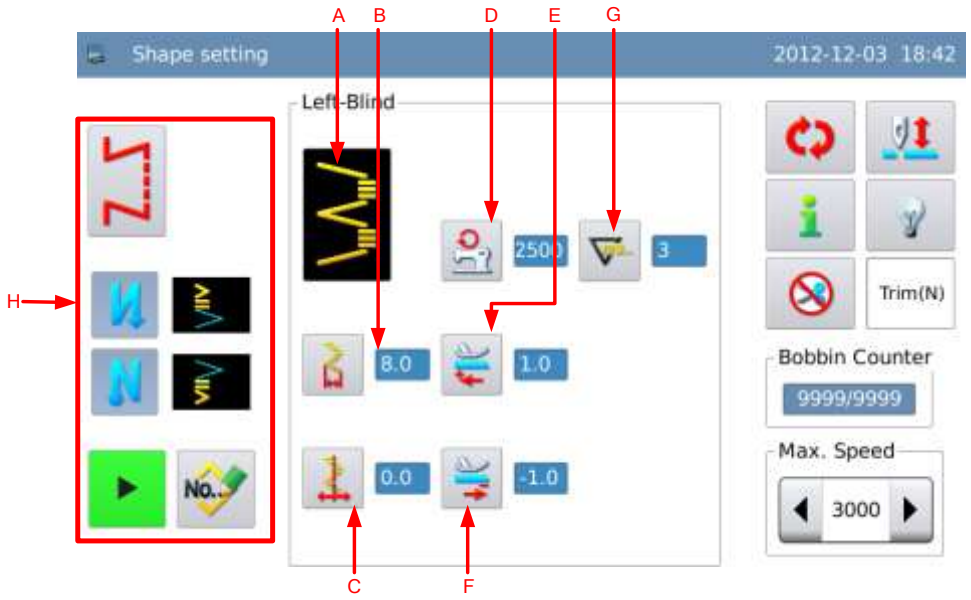
A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left: Center: Right:
D	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.
E	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

F	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Valley  : Peak
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Left  : Right  : Random  : Valley
I	-	Refer to the description in Line Setting



3.6.4 Set Blind Stitch

We use the left blind stitch as example.



【Note】This sitting does not have and for Single Stepping Model.

Functions:

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left: Center: Right:
D	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

F	Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
G	Display & Setting of Blind Stitch Number	Display the number of blind stitch. Press it to have access to the interface for setting the blind stitch.
H	-	Refer to the description in Line Setting

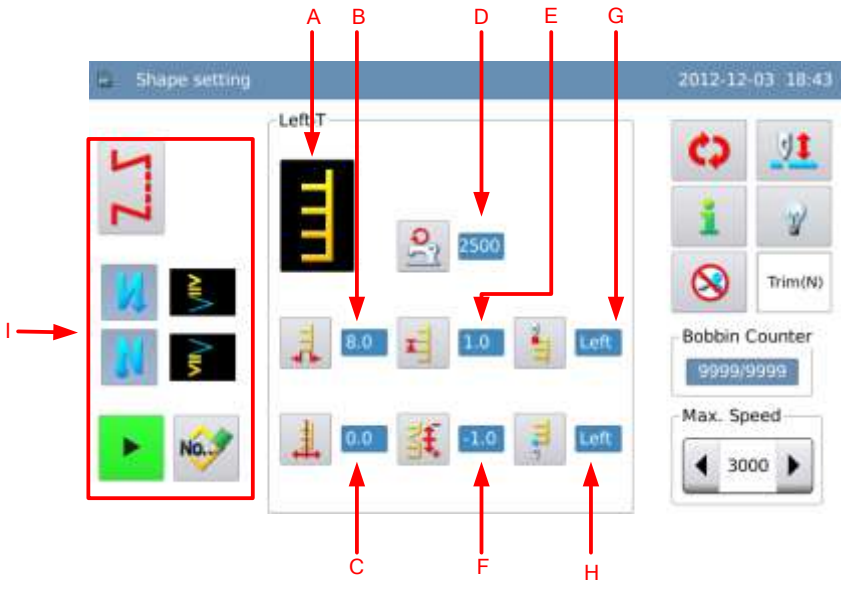
Instructions on Parameter Setting:

We give the example on how to set the blind stitch number

1、Set Blind Stitch Number

In the interface for setting shape, user needs press to have access to the interface for setting the stitch number, where user can input the value vai keyboard on screen. Press to finish the operation.

3.6.5 Set Left T Sewing(Not Available in Single Stepping Model)

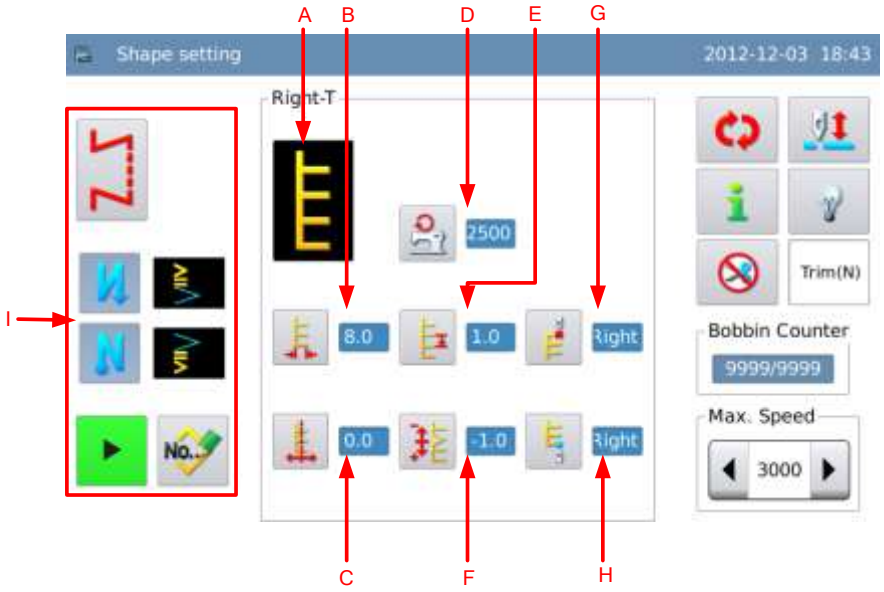


Functions：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	 Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	 Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left：  Center：  Right： 
D	 Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	 Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding
F	 Display and Setting of Compensation	Display the compensation value. Press it to have access to the interface for setting the compensation value.
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  ： Left  ： Right 1  ： Right 2  ： Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  ： Left

		： Right 1 ： Right 2 ： Random
I	-	Refer to the description in Line Setting

3.6.6 Set Right T Sewing(Not Available in Single Stepping Model)

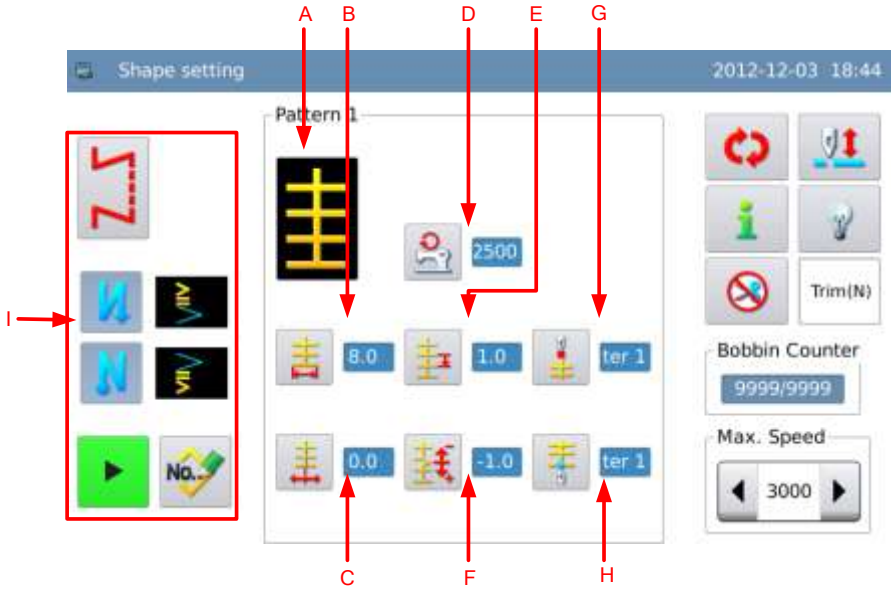


Function：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left： Center：

		Right： 
D	 Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	 Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding
F	 Display and Setting of Compensation	Display the compensation value. Press it to have access to the interface for setting the compensation value.
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  ： Right  ： Left 1  ： Left 2  ： Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  ： Right  ： Left 1  ： Left 2  ： Random
I	-	Refer to the description in Line Setting

3.6.7 Set Pattern 1(Not Available in Single Stepping Model)

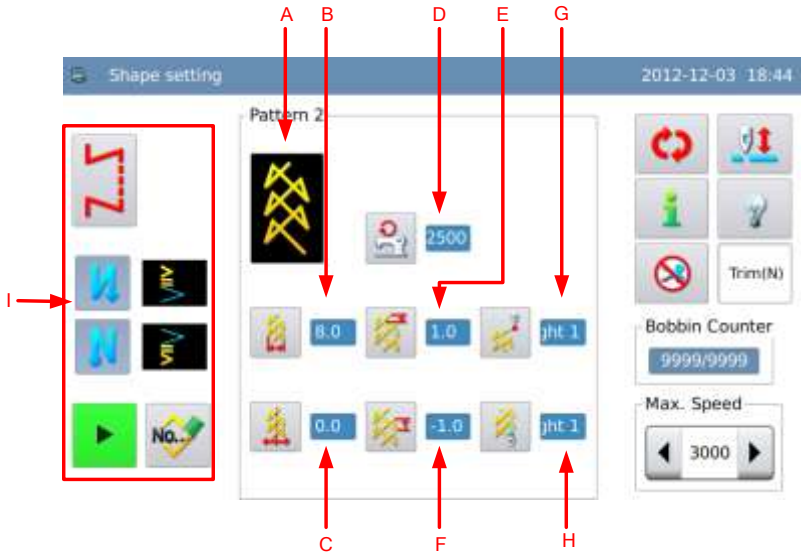


Functions：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	 Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	 Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left:  Center:  Right: 
D	 Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	 Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

F	 Display and Setting of Compensation	Display the compensation value. Press it to have access to the interface for setting the compensation value.
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Center 1  : Center 2  : Left  : Center 3  : Right  : Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Center 1  : Center 2  : Left  : Center 3  : Right  : Random
I	-	Refer to the description in Line Setting

3.6.8 Set Pattern 2(Not Available in Single Stepping Model)

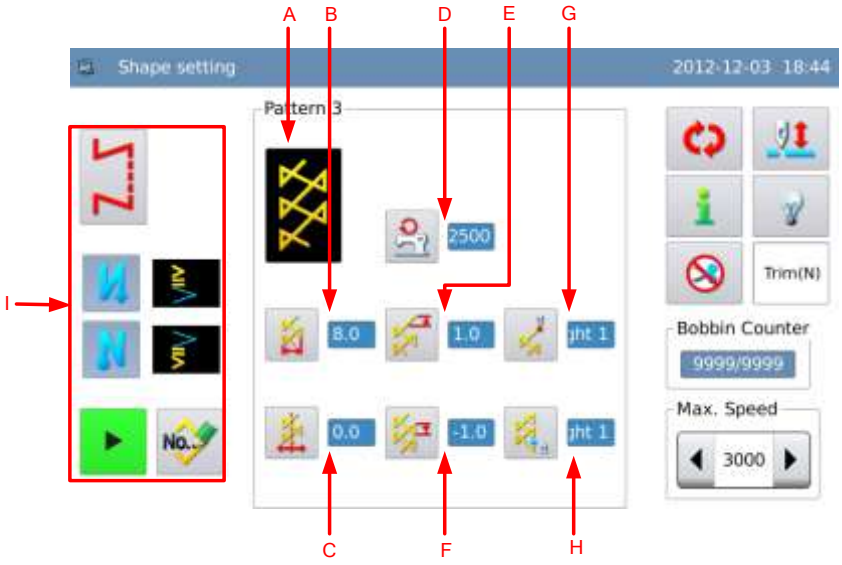


Functions：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left： Center： Right：
D	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

F	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Right 1  : Center 1  : Left 1  : Left 2  : Center 2  : Right 2  : Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Right 1  : Center 1  : Left 1  : Left 2  : Center 2  : Right 2  : Random
I	-	Refer to the description in Line Setting

3.6.9 Set Pattern 3(Not Available in Single Stepping Model)

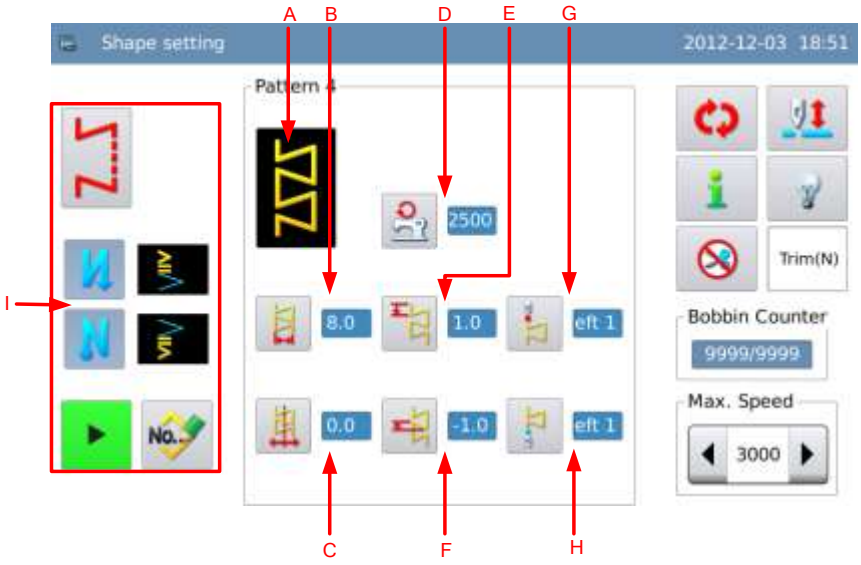


Functions：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」-> 「Base Line Position」: Left： Center： Right：
D	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

F	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Right 1  : Center 1  : Left 1  : Left 2  : Center 2  : Right 2  : Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Right 1  : Center 1  : Left 1  : Left 2  : Center 2  : Right 2  : Random
I	-	Refer to the description in Line Setting

3.6.10 Set Pattern 4(Not Available in Single Stepping Model)



Functions：

A	Current Pattern	Display the current pattern. Press it to return to the shape selection interface.
B	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
C	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」-> 「Base Line Position」: Left： Center： Right：
D	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
E	Display & Setting of Normal Feeding	Display the normal feeding value. Press it to have access to the setting interface of the normal feeding

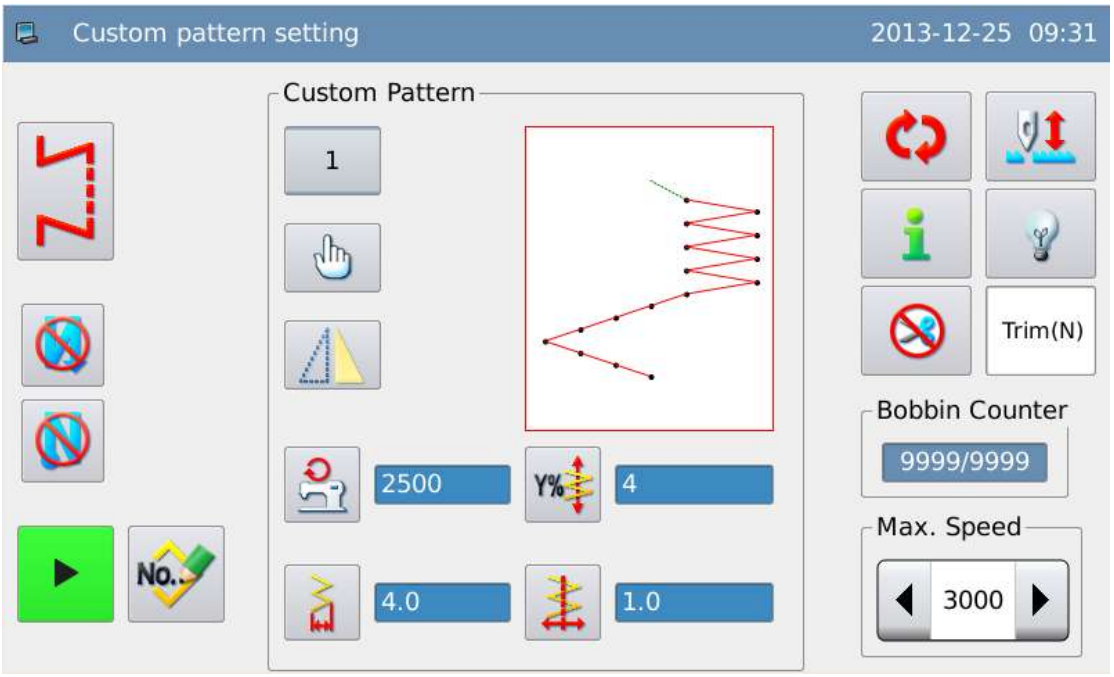
F	 Display & Setting of Contrary Feeding	Display the contrary feeding value. Press it to have access to the setting interface of the contrary feeding
G	 Display & Setting of Start Point	Display the position of the start point. Press it to have access to the interface for setting the start point.  : Left 1  : Left 2  : Right 1  : Right 2  : Right 3  : Left 3  : Random
H	 Display & Setting of End Point	Display the position of the end point. Press it to have access to the interface for setting the end point.  : Left 1  : Left 2  : Right 1  : Right 2  : Right 3  : Left 3  : Random
I	-	Refer to the description in Line Setting

3.7 Customized Pattern

- The customized pattern is the pattern with free needle entry position that user can edit it at will.
- The customized pattern can created at the operation panel or imported from outside.
- At most 500 customized patterns can be saved, and each pattern can contain 500 stitches.

3.7.1 Set Customized Pattern

According to the content in [3.5.2 Customized Pattern Selection], user can have access to the interface for setting customized pattern.



Functions：

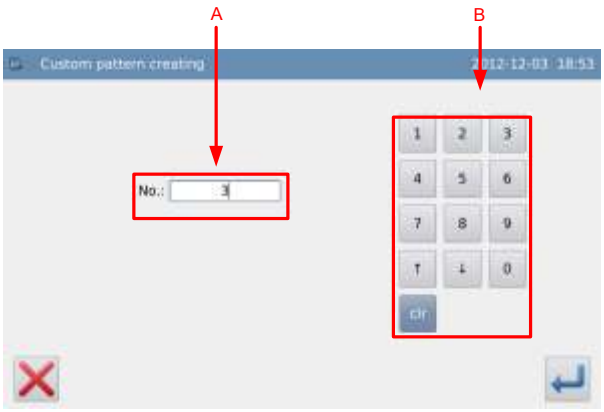
A	Pattern Number	Display the current pattern number. Press it to have access to the interface for selecting the customized pattern.
B	Edition	Press it to have access to pattern edition interface
C	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
D	Pattern Display	Display the shape of the current pattern
E	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
F	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line The figure displayed can be changed via 「General Parameter」->「Base Line Position」: Left：

		Center： Right：
G	Y Scale Setting	Set Y scaling ratio（Only available in double stepping model）
H	-	Refer to the description at the setting of basic pattern.
I	Y Mirror	Press this button, the system will make the mirror of the pattern along Y axis

3.7.2 Create the Customized Pattern

Refer to the content in [3.5.2 Customized Pattern Selection], user can press New to have access to the interface for creating the customised pattern.

1、The Number Area (A) will display the empty number for saving, and user can set it with Keyboard (B).
2、After the number is set, user can press to finish the operation and enter the edition interface of the customized pattern or press to cancel the operation and return to the previous interface



[Note] If the inputted number has existed, the system will hint "Pattern Number Exists"

3.7.3 Copy Customized Pattern

According to the content in [3.5.2 Customized Pattern Selection], user needs select the pattern for copy and press Copy to have access to the interface for copying the customized pattern.

Its operation method is same as that in creating the customized pattern. Press  to quit, while press  to confirm the operation and to return to the interface for selecting the customized pattern.

[Note] If the inputted number has existed, the system will hint user "Replace the Pattern in Memory?"

3.7.4 Edit the Customized Pattern

After creating the customized pattern, user needs activate the edition interface or press  in the customized pattern setting interface. After the operation, the system will enter the interface for setting the customized pattern.

Functions

A	Pattern Number	Display the number of customized pattern
B	Pattern Display	Display the stitch form on pattern and the position of icon
C	Display and Setting of Stitch Number	Display the needle number that is in edition status at present.

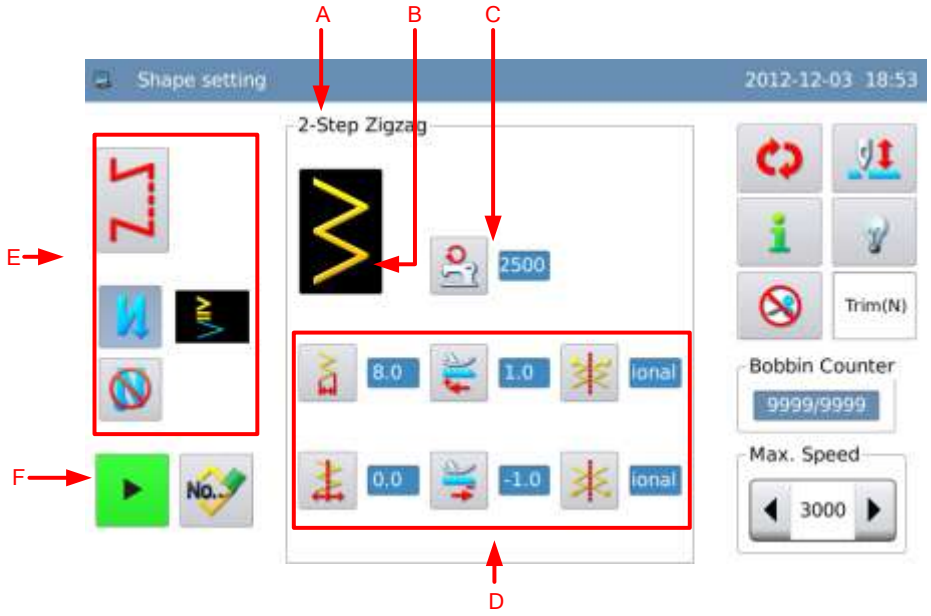
		Press  and  to adjust the needle number. At same time, the icon in pattern display area will move along with the setting.
D	Display and Setting of Swing Width	Display the needle swing width of the current stitch. That value stands for the X absolute coordinate. Press  or  to adjust the value, the range of it is -5.0~5.0mm.
E	Display and Setting of Feeding Amount	Display the feeding amount of the current stitch. That value stands for the Y relevant coordinates Press  or  to adjust the value, the range of it is -5.0~5.0mm。
F	Insert a Stitch	Insert a stitch at the current stitch. The inserted stitch has the same swing width as the current stitch. And system will add 1.0mm to the feeding amount. **[Note]: when the total stitch number is 500, this operation is unavailable.**
G	Delete a Stitch	Delete the needle entry point of current stitch, and the following stitches will move forwards. **[Note]: when the total stitch number is 1, this operation is unavailable.**
H	End Mark	Input the end mark. Once you input the end mark at the current stitch, the stitches after the current stitch will become invalid.
I	Cancel	Cancel the current operation and return to the previous level
J	Enter	Confirm the operation and save the editing result. The system will enter the interface for setting the editing pattern
K	Mirror	Press this button to select the mirror method for the pattern： X：Make the mirror along X axis Y：Make the mirror along Y axis

3.8 Saved Pattern

- After the registration, the basic patterns or the customized patterns will become the saved pattern. User can only register the pattern in free sewing mode and overlapped sewing mode.
- After the registration: user can not edit the data of the saved pattern from the customized pattern, while he can edit the parameters of the saved pattern from the basic pattern.

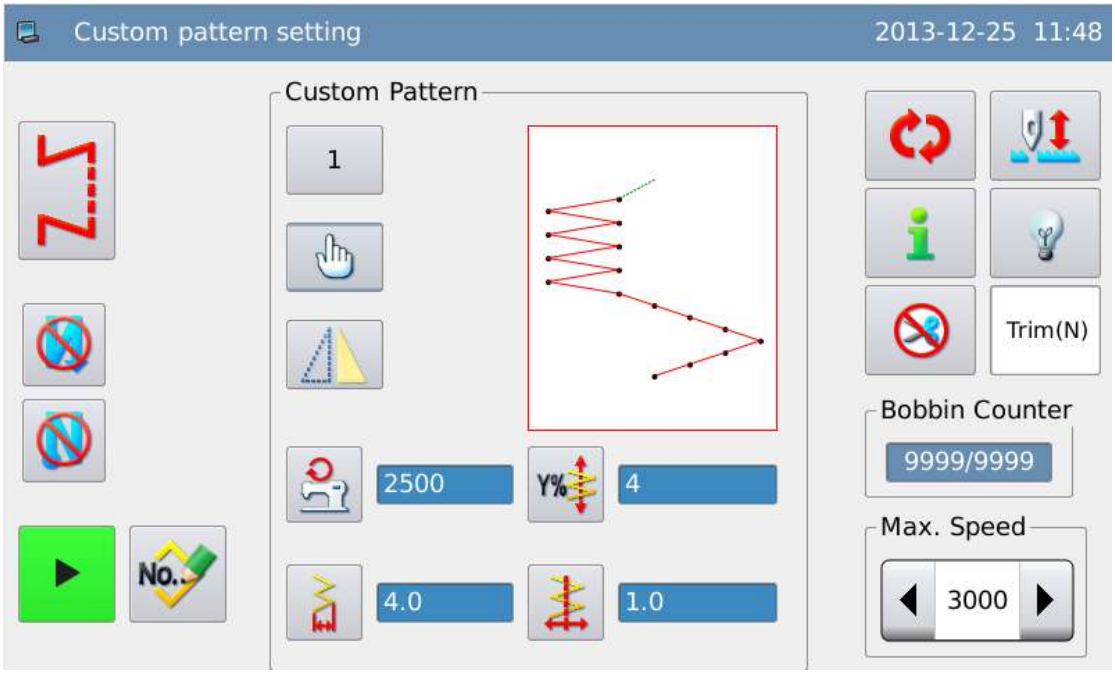
3.8.1 Set the Saved Pattern

According to the contents in [3.5.3 Selection of the Saved Pattern], user can have access to the interface for setting the saved pattern.



The saved pattern registered from the basic pattern

【Note】This sitting does not have and for Single Stepping Model.



The saved pattern registered from the customized pattern

Functions：

A	Pattern Number	Display the pattern number. Press it to have access to the interface for selecting the saved pattern.
B	Pattern Shape at Registration	Display the shape of pattern at registration.
C	Display & Setting of Max Speed	Display the Max speed. Press it to have access to the setting interface of speed.。
D	Pattern Parameter	Display the parameters corresponding to the registered shape at present. For the setting method and the displayed content, please refer to the relating section in basic pattern and customized pattern.
E	-	Refer to the description in basic pattern setting
F	Copy	Press it to have access to the interface of pattern copy

3.8.2 Register Pattern

We use the 2-points zigzag sewing as example:

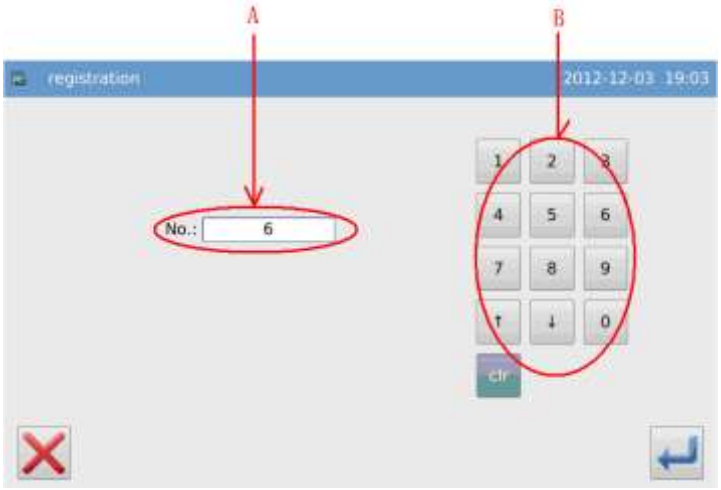
1、 Select Pattern for Registration

Set the pattern for registration and its sewing mode and reverse sewing. Then, have access to the interface for setting the pattern. Press  to enter the pattern registration interface.

2、 Input Registration Number

In number display area (A), the system will give the empty number for saving, user can also input the number via the keyboard (B)

Press  to cancel the operation and return to the previous level interface, press  to finish the operation

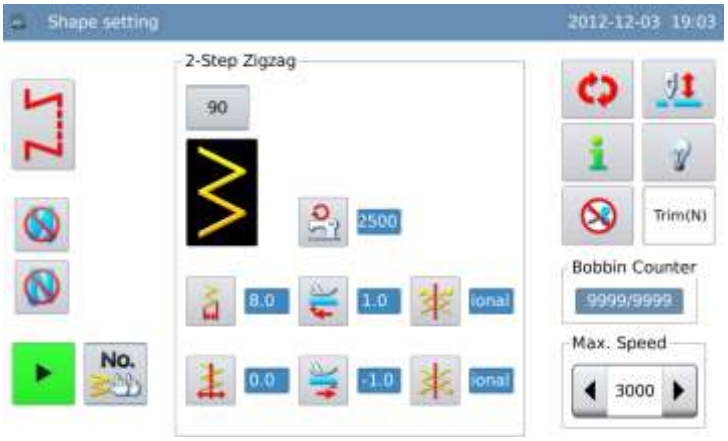


[Note] If the inputted number has

existed, the system will hint user "Replace the Pattern in Memory?"

3、 End Registration

After the successful registration, the system will enter the pattern setting interface, where the registered pattern will become the current sewing pattern.

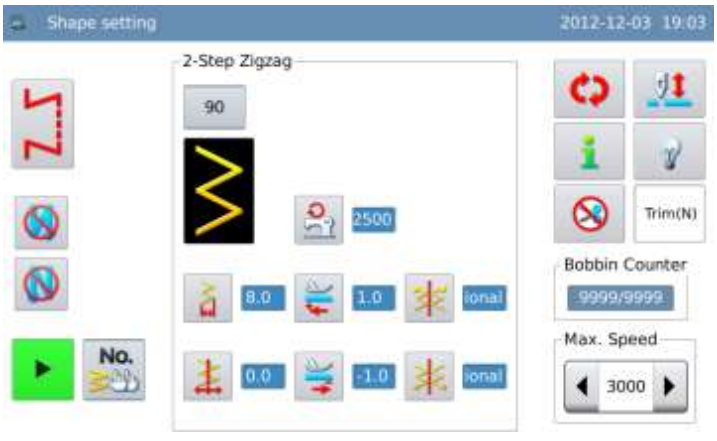


3.8.3 Copy the Saved Pattern

1 、 Have Access to Pattern Copy Interface

In the interface for setting the saved pattern, press 

to have access to the pattern copy interface.

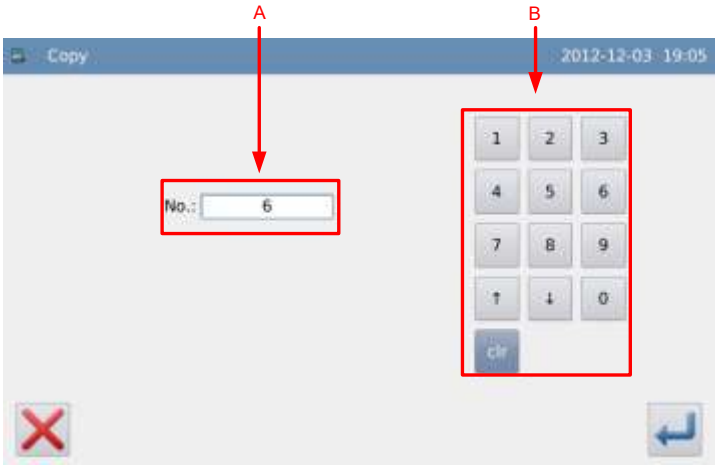


2、Copy Pattern

The number display area (A) will display the empty number for copy; user can use the keyboard (B) to input the number to copy.

Press  to cancel the operation;

Press  to finish the operation and return to the interface for setting the saved patterns

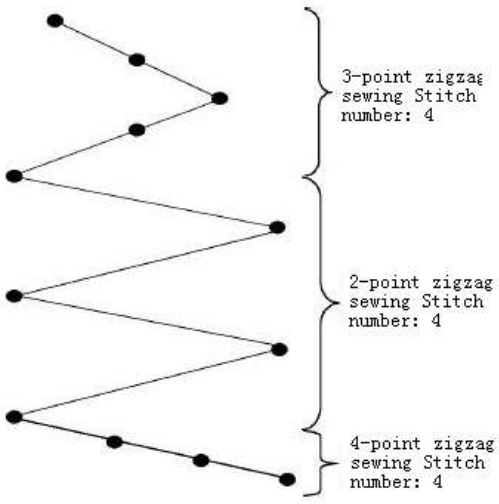


[Note] If the inputted number has existed, the system will hint user "Replace the Pattern in Memory?"

3.9 Continuous Sewing

- The continuous sewing is formed by one or more saved patterns. The continuous sewing can contain 32 steps at most, and user can set at most 500 stitches in each step.
- The continuous sewing is sewn as one pattern.

Example:



1、 As the left picture shows, user can register the 2-points zigzag sewing as pattern 1, 3-points zigzag sewing as pattern 2 and 4-points zigzag sewing as pattern 3.

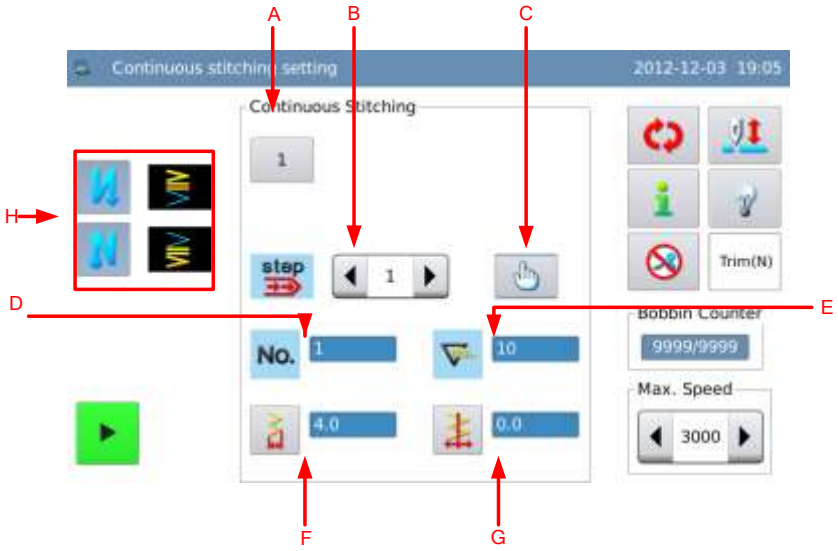
2、 Design the stitch number as below:

Step	Pattern No.	Stitch Number
1	2	4
2	1	4
3	3	4

3、Press  in edition interface to finish the operation.

3.9.1 Set Continuous Sewing

According to the content in [3.5.4 Continuous Sewing Selection], user can have access to the interface for setting the continuous sewing.



Functions:

A	Pattern Number	Display the pattern number. Press it to have access to the interface for selecting the continuous sewing pattern.
B	Steps of Continuous Sewing	Display the continuous sewing steps. Use  to shift the registration information of steps in the continuous sewing
C	Edition	Press it to have access to the interface for editing the continuous sewing.
D	Quoted Number	Display the number of saved pattern quoted in the current step.
E	Step Stitch Number	Display the stitch number at current step.
F	Display and Setting of Swing Width	Display the swing width. Press it to have access to the interface for setting the swing width.
G	Display and Setting of Base Line	Display the position of the base line. Press it to have access to the interface for setting the base line
H	Reverse Sewing Setting	Please refer to the description in basic pattern section

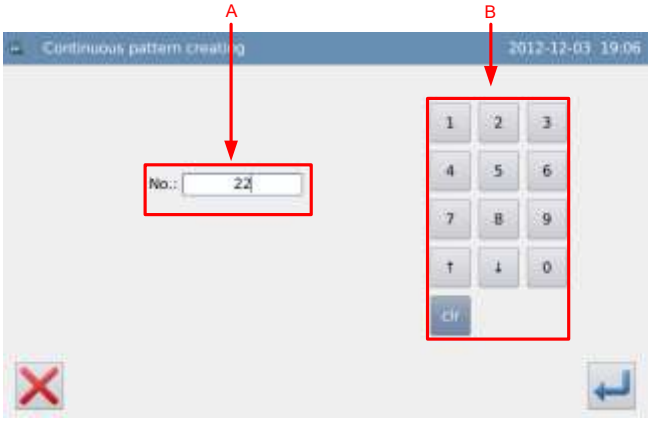
3.9.2 Create Continuous Sewing

According to the content in [3.5.4 Continuous Sewing Selection], user can press 

to enter the interface for creating the continuous sewing.

1、The number display area (A) will display the empty number for saving; user can use the keyboard (B) to input the number wanted

2、After confirming the number, user can press  to finish the operation and enter the continuous sewing edition interface. Press  to cancel the operation and return to the previous interface

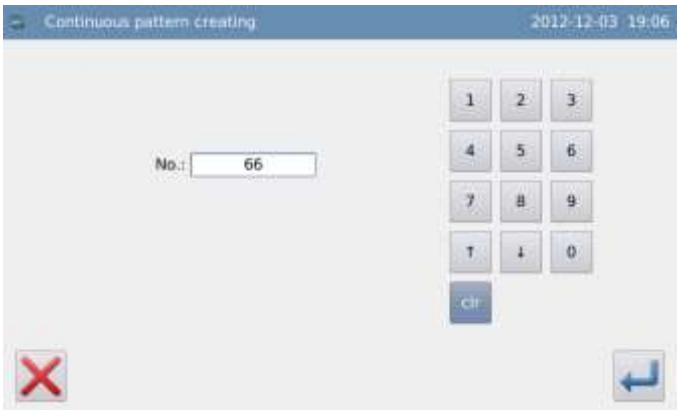


[Note] If the inputted number has existed, the system will hint "Pattern Number Exists"

3.9.3 Copy Continuous Sewing

According to the contents in [3.5.4 Continuous Sewing Selection], user can select the pattern for copy and press  to have access to the continouse sewing copy interface.

The operation is same as that in the creation of continuous sewing. Press  to cancel the operation, press  to confirm the operation and return to the continuous sewing selection interface.



[Note] If the inputted number has existed, the system will hint user "Replace the Pattern in Memory?"

3.9.4 Edit Continuous Sewing

After creation of the continuous sewing, the system will enter the edition interface; or user can press  in continuous sewing setting interface to enter the edition interface.

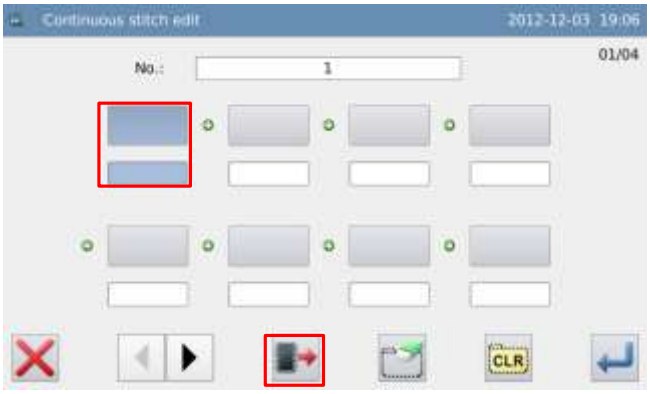
Functions:

A	Pattern Number	Display the number of the continuous sewing
B	Quoted Number	Display the number of saved pattern quoted in the current step.
C	Stitch Number of Step	Display the stitch number in current step.
D	Page Number	Display the current page/ total pages
E	Cancel	Cancel the operation and quit
F	Page Key	Turn the page.
G	Load Pattern	Press it to have access to the selection interface of quoted patterns. It is used to set the quoted pattern and its stitch number in current step.
H	Step Deletion	Delete the selected step. The steps following will move forward.
I	Clear	Clear the entire content in the continuous sewing
J	Enter	Confirm the operation and quit

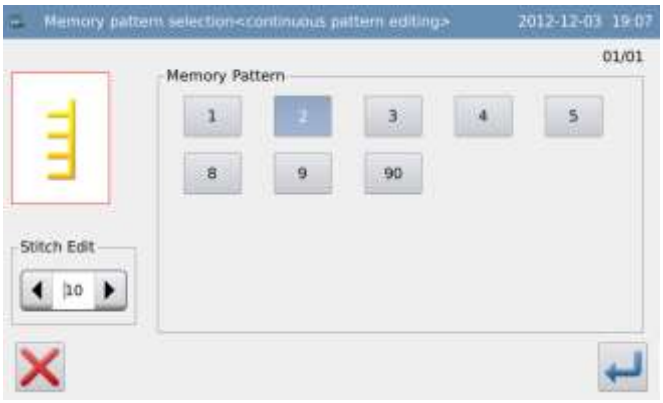
Operation:

1、 Edit Current Step

Press  to enter the interface for selecting the quoted pattern and select the saved pattern for adding. We select No.8 pttern and set the stitch number of the current step at 10. Press  to confirm the selection.



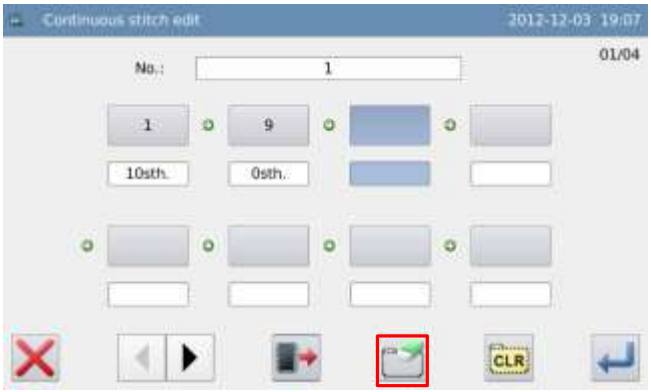
[Note]: the step edition shall be done in order



2、 Continue Editing Steps

Repeat the operation at above to add new quoted patterns (Here, we added No.5, No.1 and No.10 pattern in order).

If user wants to delete a quoted pattern, he should click its number and press  .



3、 Save Continuous Sewing

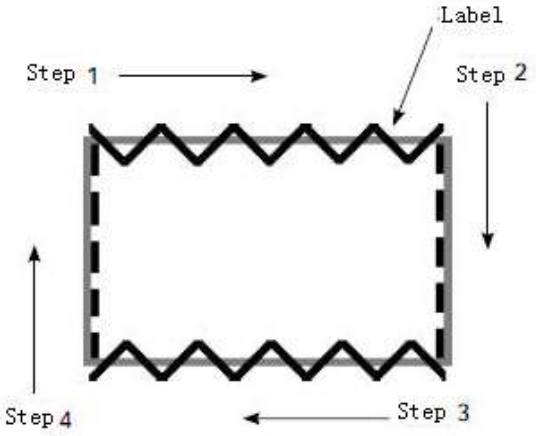
Press  to confirm the saving and return to the setting interface of continuous sewing.

3.10 Cyclic Sewing

- The cyclic sewing is formed by one or more saved patterns. It can contain 32 steps at most, in which the machine will sew the different patterns.
- The cyclic sewing can be deemed as the machine performs several program sewing according to the set stitch numbers.

Example：

After user sets the stitch number at cyclic sewing, the pattern in each step can be sewn in different length.



1、 Register the 2-points zigzag sewing to pattern 1 and register the line to pattern 2

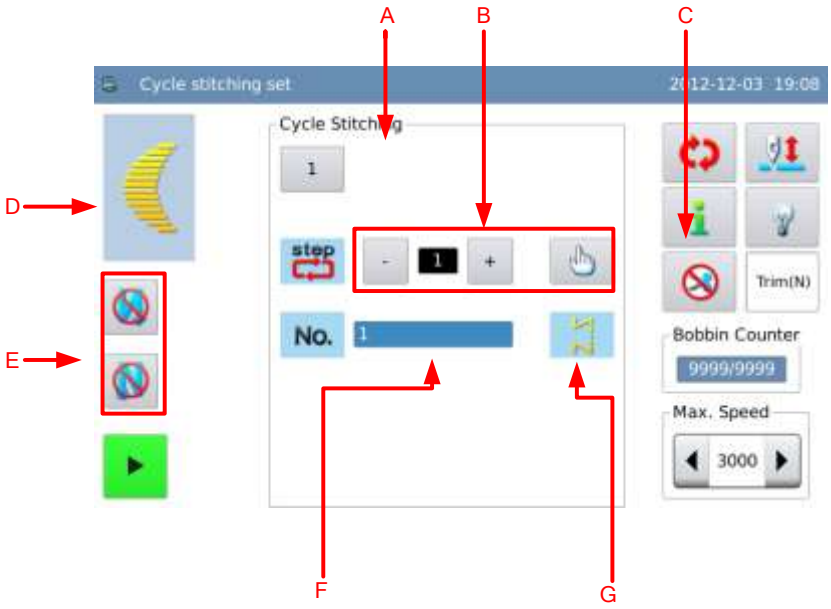
2、 Set the stitch number as shown in table below:

Steps	Pattern No.	Stitch Number
1	1	100
2	2	50
3	1	100
4	2	50

3、In edition interface, press  to finish the operation.

3.10.1 Set Cyclic Sewing

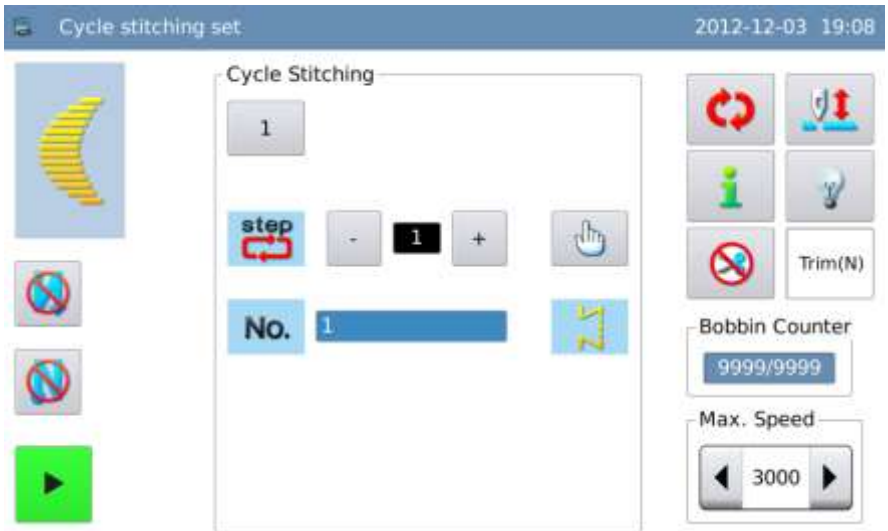
According to the contents in [3.5.5 Cyclic Sewing Selection], user can have access to the interface for setting the cyclic sewing.



Functions:

A	Pattern Number	Display the current pattern number. Press it to have access to the cyclic sewing selection interface.
B	Cyclic Sewing Step	Display the cyclic sewing step. Use - or + to shift the cyclic sewing steps
C	Edition	Press it to have access to the interface for editing the cyclic sewing.
D	Quoted Pattern Display	Display the pattern quoted at current step.
E	Reverse Sewing Setting	Refer to the description at Basic Pattern
F	Quoted Number	Display the number of saved pattern quoted in the current step.
G	Sewing Method	Display the current sewing method

[Note]: If the sewing mode of the pattern quoted in current step is free sewing or overlapped sewing, the system will not display the stitch number, stop status, presser stop position and presser up time as below:



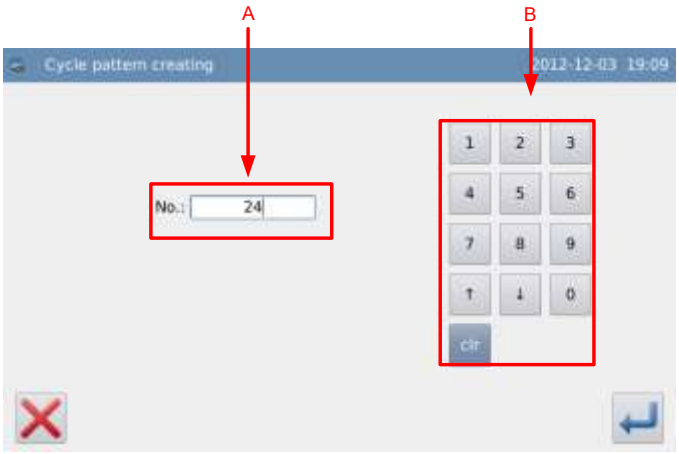
3.10.2 Create Cyclic Sewing

According to the contents in [3.5.5 Cyclic Sewing Selection], user can press New to enter the interface for creating the cyclic sewing.

1、The number display area (A) will display the empty number for saving; user can use the keyboard (B) to input the number wanted as well

2、After setting the number, user can press  to finish the operation and enter the cyclic sewing edition interface; Press  to cancel the operation and return to the previous screen

[Note] If the inputted number has existed, the system will hint "Pattern Number Exists"



3.10.3 Copy Cyclic Sewing

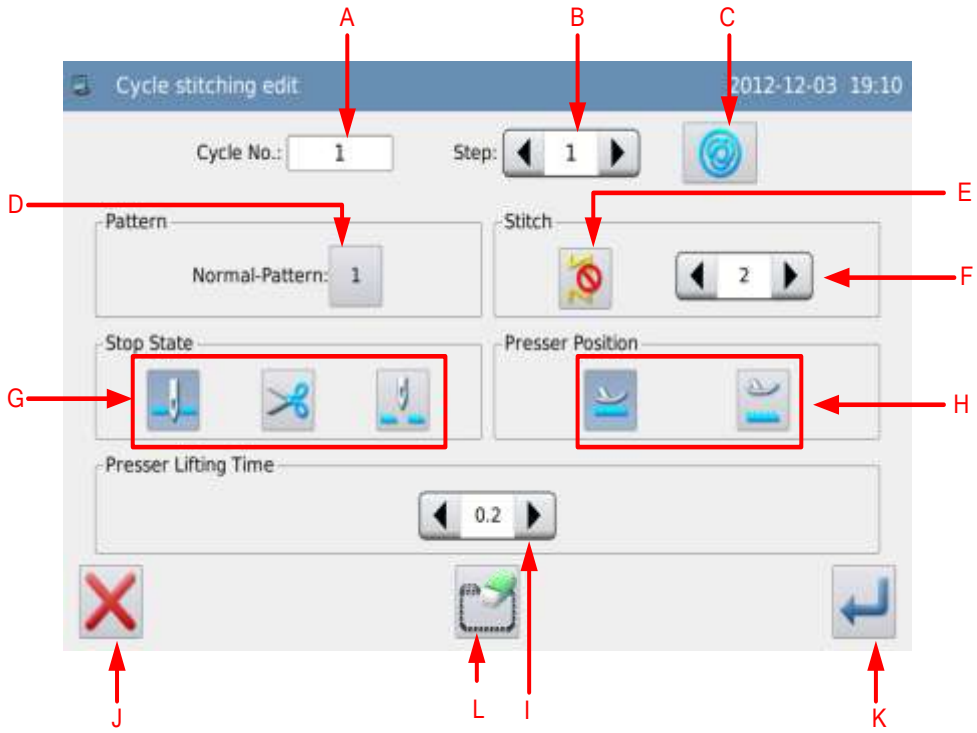
According to the contents in [3.5.5 Cyclic Sewing Selection], user can select the pattern for copy and press  to have access to the cyclic sewing copy interface.

The operation is same as that in the creation of cyclic sewing. Press  to cancel the operation; press  to confirm the operation and return to the cyclic sewing selection interface.

[Note] If the inputted number has existed, the system will hint user "Replace the Pattern in Memory?"

3.10.4 Edit Cyclic Sewing

After creation of the cyclic sewing, the system will enter the edition interface; or user can press  in cyclic sewing setting interface to enter the edition interface.



Functions:

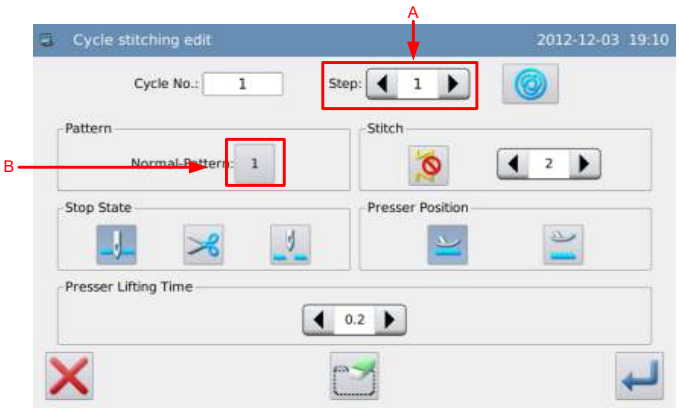
A	Cyclic Sewing Number	Display the cyclic sewing number.
B	Step	Display the current step
C	Single Sewing	Set whether the current step is single sewing. **[Note 1]: If the current step is free sewing, the current step can not be set as single sewing.** **[Note 2]: If the current step is overlapped sewing, the current step can only be the single sewing.**
D	Quoted Pattern Number	Display the number of pattern quoted at current step. Press it to enter the interface for selecting the quoted pattern.
E	Current Step Sewing Mode	Display the sewing mode at current step. Press it to turn to the free sewing switch. **[Note]: It can not be set when the current step is overlapped sewing**
F	Stitch Number Setting	Set the stitch number at current step; Range: 1~500 stitches **[Note] It can not be set when the current step is overlapped sewing or free sewing**
G	Stop Status	Set the stop status of current step  ：Needle Down Stop  ：Trimming

		: Needle Up Stop **[Note] It can not be set when the current step is overlapped sewing or free sewing**
H	Presser Position	Set the presser position of current step : Presser Down Stop : Presser Up Stop **[Note] It can not be set when the current step is overlapped sewing or free sewing**
I	Presser Up Time	Set the presser up time at current step. Range:0.1~99.9s
J	Cancel	Press it to cancel the operation and quit
K	Enter	Press it to save the settings and enter the interface for setting the cyclic sewing.
L	Step Deletion	Delete the current step

Operation:

1、Edit Current Step

Enter the edition interface of cyclic sewing. Adjust A to select the current step and check the information. In this example, all the steps are empty, so user has to start the edition from step 1.



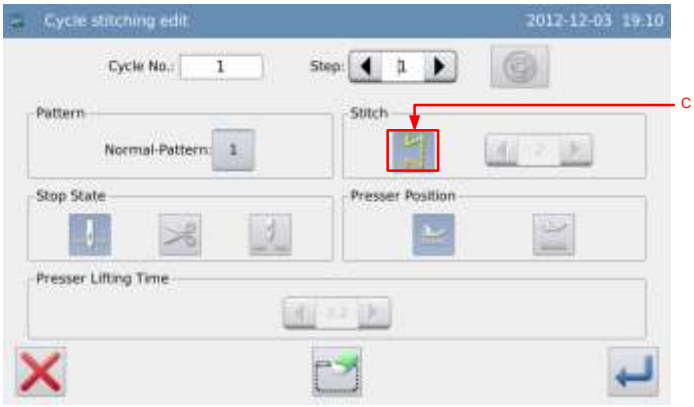
2、Select the Quoted Pattern

Press button (B) to enter the interface for selecting the quoted pattern, where user can select the saved pattern or the continuous sewing for adding. Here, we select No.1 pattern, please press  to confirm it.

3、 Set Step Parameter

After the pattern selection, user can use C to check the sewing mode of current step. The default setting to use the original sewing mode of the quoted pattern. In this example, the No.1 saved pattern is the free sewing.

Press button C to turn off the free sewing, and set the stitch number at 20, as well as the parameters like stop status, presser position, presser up times and so on.

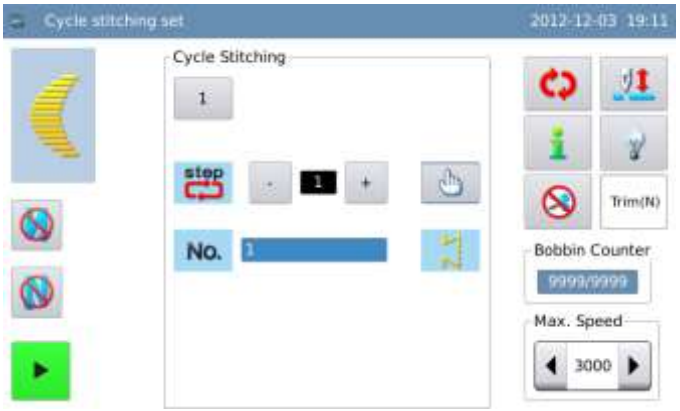


4、 Continue Editing Step

Set the current step as 2. Repeat the operations at above and add more quoted patterns.

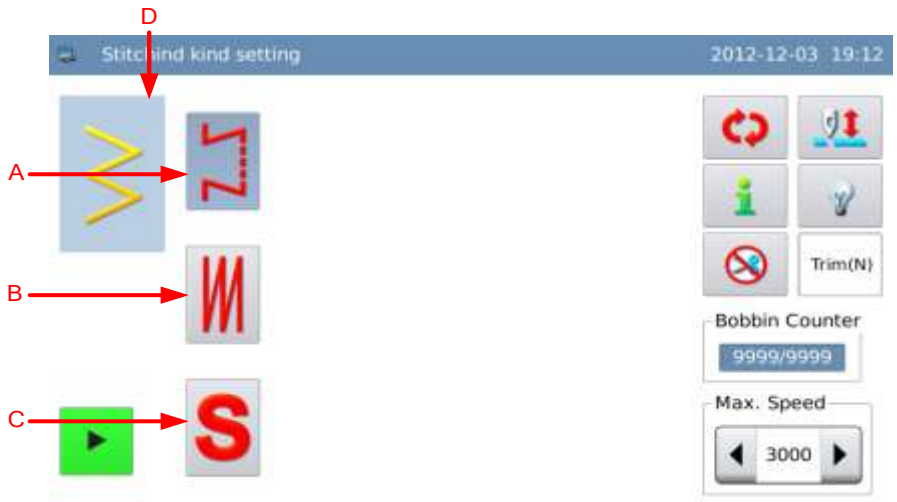
5、 Save Cyclic Sewing

Press to confirm saving and enter interface for setting cyclic sewing.



3.11 Sewing Mode Setting

- According to the contents in [3.4 Main Interface] and [3.6.1 Setting of Line], user can use or press sewing mode button at pattern setting interface to enter the setting interface of sewing mode.
- The sewing mode contains free sewing, overlapped sewing and program sewing.

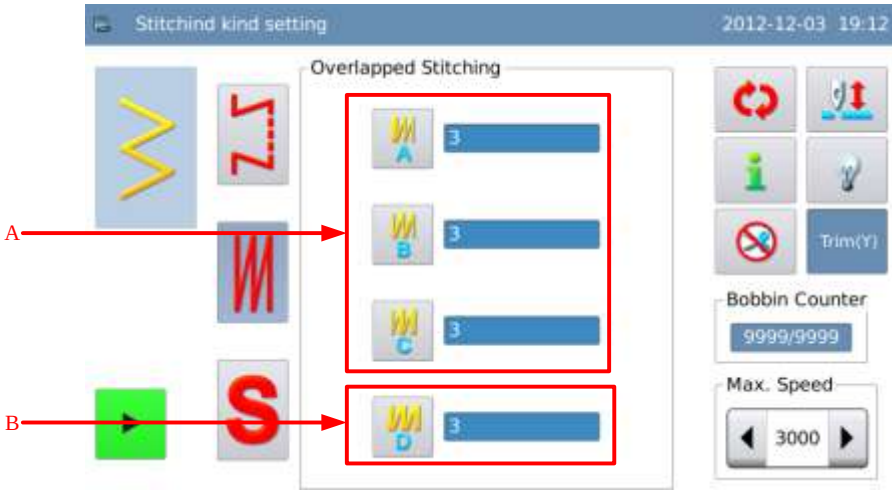


Functions:

A	Free Sewing	Press it to select free sewing mode
B	Overlapped Sewing	Press it to select overlapped sewing mode.
C	Program Sewing	Press it to select program sewing mode
D	Current Pattern	Display the shape of current pattern

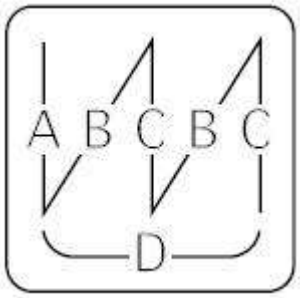
3.11.1 Overlapped Sewing

- In overlapped sewing, the system will open the auto trimming and single sewing as default.



Functions:

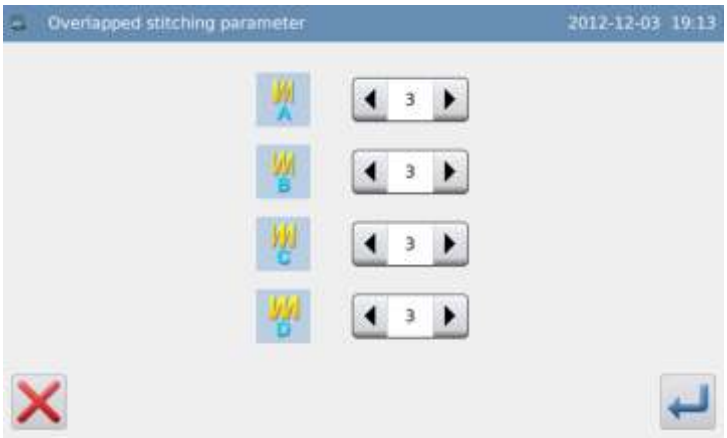
A	Display & Setting of	Respectively display the stitch number in

	Stitch Number in Steps A, B and C	step A, B and C. Press the setting button to enter the setting interface of overlapped sewing. Range: 0~19 stitches
B	Display & Setting of Step D	Display the total step number of A, B and C. Press the setting key to enter the overlapped sewing setting interface. Range: 0~9。 

Operation：

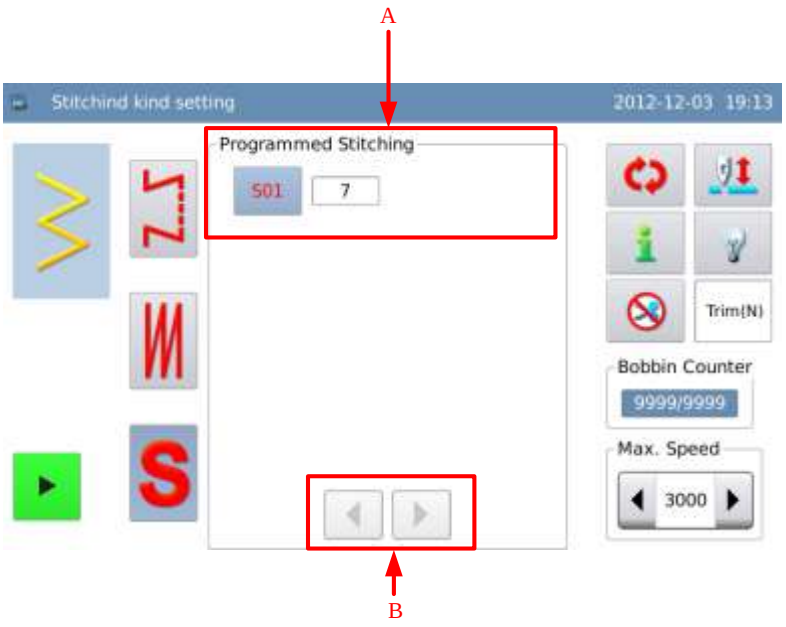
Press A, B, C or D to enter the overlapped sewing setting interface.

At here, we set the stitch number of step A, B and C at 4 respectively. The total step number (D) at 5. Therefore the system will perform the step A for once, step B for twice and step C for twice. After the setting, user can press  to save and quit.



3.11.2 Program Sewing

- In program sewing, user can set 20 steps at most, and each step can contain 500 stitches at most.
- In the program sewing, if one step is set as thread-trimming or its stitch number is set at 0, the following steps will be canceled.



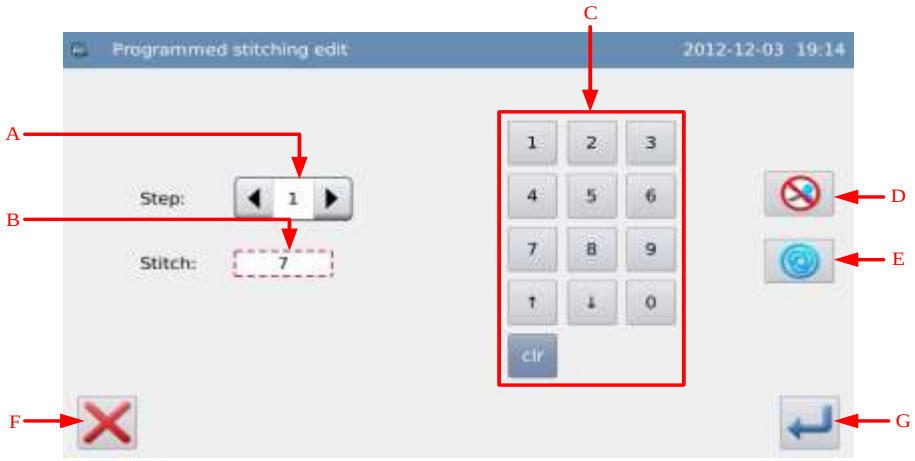
Functions:

A	Step Information	Display the stitch number of each step in the program sewing. Press it to enter the setting interface of program sewing.
B	Page Key	Press it to turn the pages **[Note]: Only display when the step number is over 10.**

Set Program Sewing:

Example: Press 

to enter the setting interface of program sewing.



No.	Descriptions

A	Display current step. Pressing the arrows in  will change the current step. If the current step is the last one, pressing the right arrow will add a new step. At most 20 steps can be set. **[Note]: If needing to add new step, user should set the auto trimming in current step as Ineffective.**
B	Display stitch number in current step.
C	Input the stitch number in current step.
D	Set auto trimming。 **[Note] The step set with the auto trimming will become the last step.**
E	Set single sewing. Select it to set the single sewing. After user sets the single sewing, the system will automatically sew to the stitch number of that step.
F	Cancel the setting and quit.
G	After all the steps are set, the system will save the setting the quit.

3.12 Set Reverse Sewing

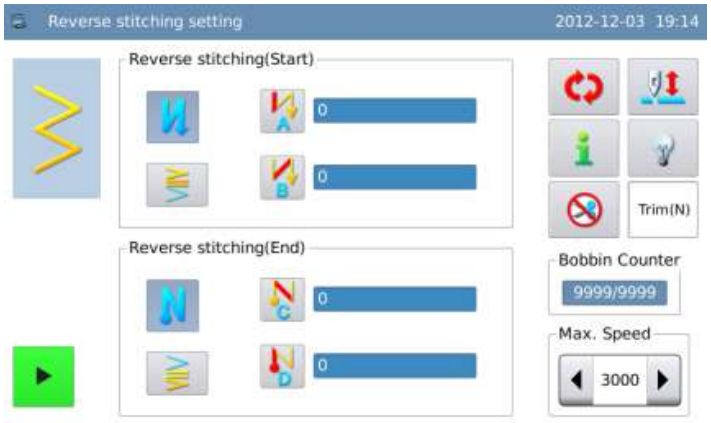
- Reverse Sewing is used for strengthening the parts at sewing start and sewing end. It contains standard reverse sewing, 2-points contraction sewing and customized reverse sewing
- Pressing front reverse sewing switch ( or ) and back reverse sewing switch ( or ) can activate or deactivate the reverse sewing.

Front reverse sewing	**Ineffective**	**Effective**	**Ineffective**	**Effective**
Pattern				
Back reverse sewing	**Ineffective**	**Ineffective**	**Effective**	**Effective**

Setting Method:

1、Enter Setting Interface of Reverse Sewing

Press  to enter the interface for setting the reverse sewing. At here, we use the standard front reverse sewing as the example: Press the front reverse sewing type key to enter the interface for setting the front reverse sewing.



2、Select Reverse Sewing Type

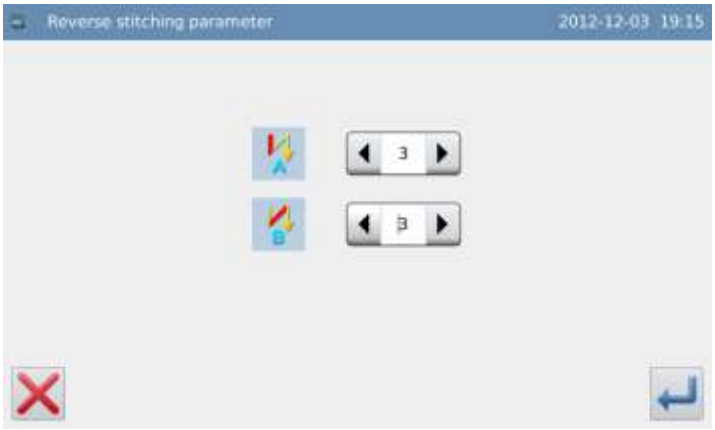
As shown in the picture, after user select the sewing type, user needs press  to back to the reverse sewing setting interface.

3、 Set Reverse Sewing Parameters

In the reverse sewing setting interface, user can press step button A or B to enter the parameter setting interface

4、 Input the Stitch Number in Step

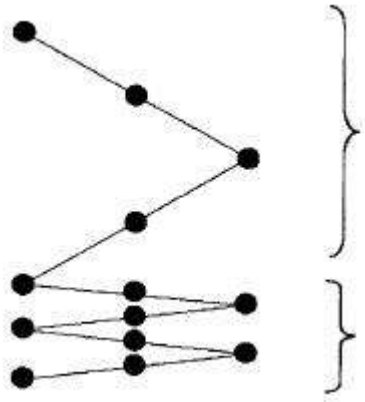
As the picture shows, press the arrows to input the stitch number in steps. press  to return to the reverse sewing setting interface



3.12.1 Standard Reverse Sewing

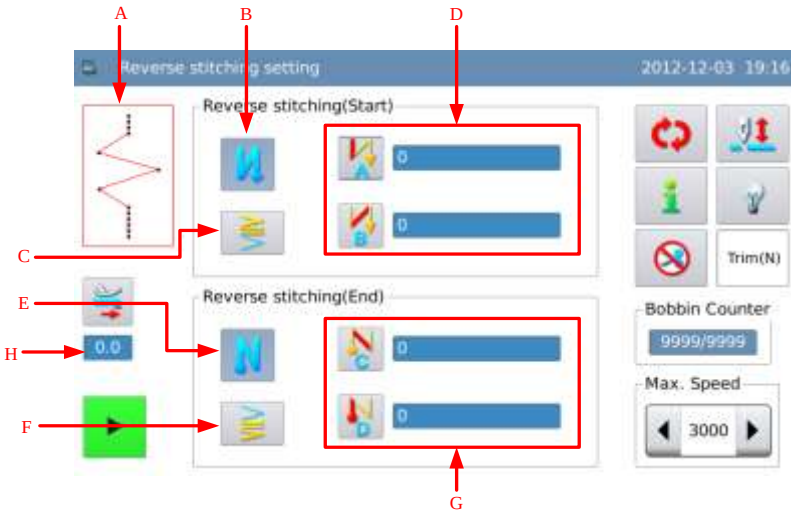
- At the standard revere sewing, user can perform the reverse sewing with the needle entry points same to the current pattern.

Example：



Current Pattern
3-points zigzag sewing

Standard reverse Sewing
Step C: Set at 4 times



Functions：

A	Current Pattern	Display the shape of the current pattern
B	Front Reverse Sewing Switch	Turn-on/off the front reverse sewing  ： Effective  ： Ineffective
C	Front Reverse Sewing Type	Display the type of the front reverse sewing. Press it to enter the selection interface of front reverse sewing type.  ： Standard Front Reverse Sewing
D	Front Reverse Sewing Step A & B	Display the stitch number of front reverse sewing A &B. Press the Set button to enter the interface for setting front reverse sewing parameters.
E	Back Reverse Sewing Switch	Turn-on/off the back reverse sewing  ： Effective  ： Ineffective
F	Back Reverse Sewing Type	Display the type of the back reverse sewing. Press it to enter the selection interface of back reverse sewing type  ： Standard Back Reverse Sewing
G	Back Reverse Sewing Step C & D	Display the stitch number of back reverse sewing C &D. Press the Set button to enter the interface for setting back reverse sewing parameters.
H	Display & Setting of Cloth-feeding	Display the cloth-feeding amount. Press it to have access to the interface for setting the cloth-feeding amount. **[Note]: Only when the current pattern is the customized pattern, can the system display this item**

According to the difference of the pattern, there are two ways for setting the reverse sewing:

1） At the line, scallop, blind stitch, customized pattern and continuous sewing, user can use the stitch number to set it.

Front reverse sewing –> A（feeding in positive direction）：Can set 0~19 stitches.
B（feeding in opposite direction）：Can set 0~19 stitches.

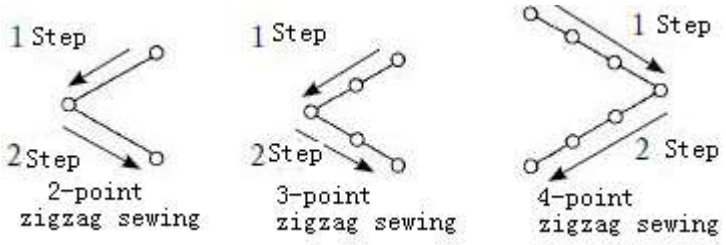
Back reverse sewing –> C（feeding in opposite direction）：Can set 0~19 stitches.
D（feeding in positive direction）：Can set 0~19 stitches.

2）At 2-points zigzag, 3-point zigzag and 4-points zigzag, user can use the times of the needle swing pattern, which is the pattern part between the return points

Front reverse sewing –> A（feeding in positive direction）：can set 0~19 times
B（feeding in opposite direction）：can set 0~19 times

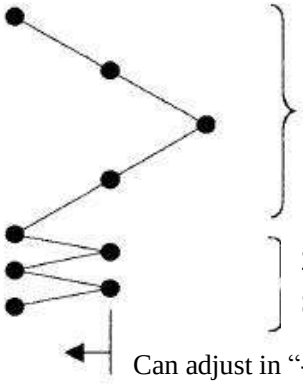
Back reverse sewing–> C（feeding in opposite direction）：can set 0~19 times

D（feeding in positive direction）：can set 0~19 times



3.12.2 2-points Contraction Sewing

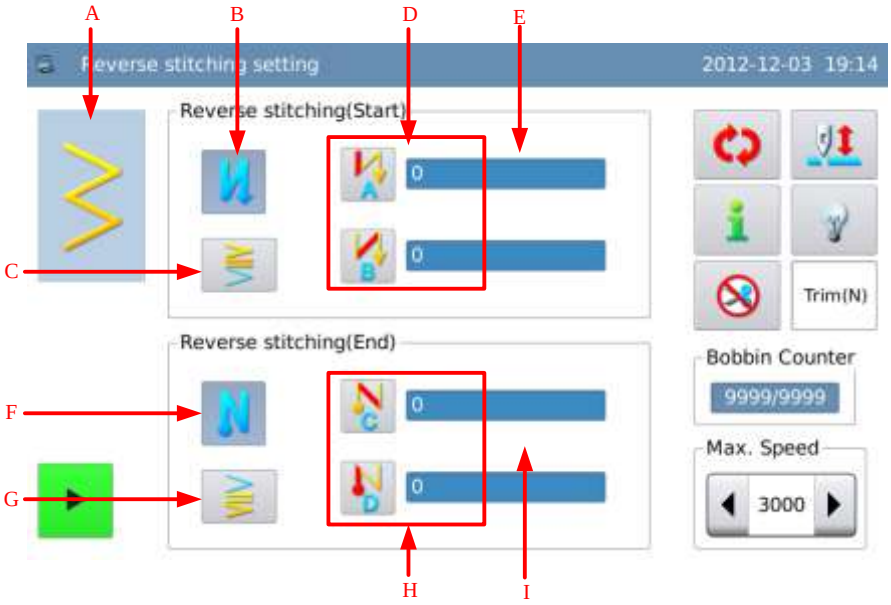
- With the 2-points contraction sewing function, user can make the reverse sewing between the current needle entry point and the next needle entry point.
- The width between two point can be adjusted in "-" direction.



Current Pattern Part:
3-points zigzag sewing

2-points Reverse Sewing Part
Step C：set 4 stitches

Can adjust in "-" direction (Narrow the figure from left)



Functions：

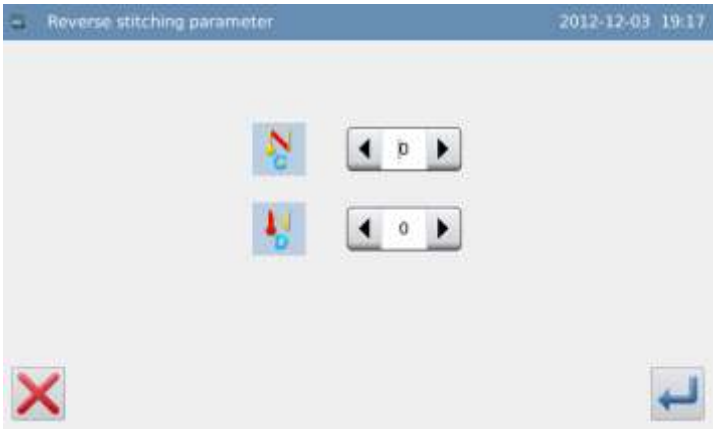
A	Current Pattern	Display the shape of the current pattern

B	Front Reverse Sewing Switch	Please refer to description in standard reverse sewing
C	Front Reverse Sewing Type	Display the type of the front reverse sewing. Press it to enter the selection interface of front reverse sewing type  ： 2-points contraction sewing (Front)
D	Front Reverse Sewing Step A & B	Please refer to description in standard reverse sewing
E	Front Reverse Sewing Contraction Distance	Display the contraction distance of Front Reverse Sewing. Press the button to enter the interface for setting front reverse sewing parameters.
F	Back Reverse Sewing Switch	Please refer to description in standard reverse sewing
G	Back Reverse Sewing Type	Display the type of the back reverse sewing. Press it to enter the selection interface of back reverse sewing type  ： 2-points contraction sewing (Back)
H	Back Reverse Sewing Step C & D	Please refer to description in standard reverse sewing
I	Back Reverse Sewing Contraction Distance	Display the contraction distance of Back Reverse Sewing. Press the button to enter the interface for setting back reverse sewing parameters.

Description of Setting Contraction Distance：

Example: how to set the 2-points contraction distance of the front reverse sewing

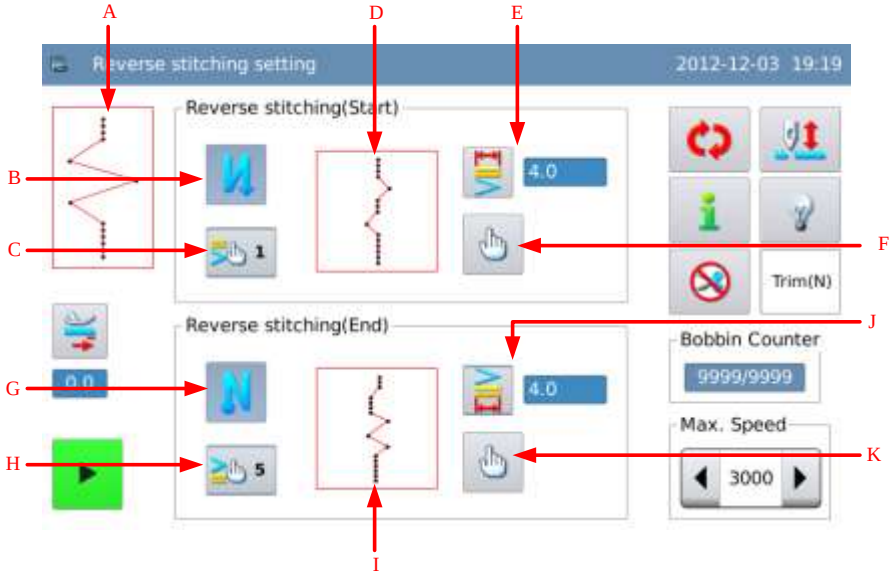
In the reverse sewing setting interface, press  to enter the interface for setting the reverse sewing parameters, as shown in left picture. Adjust the arrow to set the contraction distance. Press the  to return to the interface for setting the reverse sewing。



The width adjustment can narrow the distance from the original needle entry point to the next needle entry point at reverse sewing (no adjustment when the value is 0)

3.12.3 Customized Reverse Sewing

- This enable user to perform reverse sewing at any inputted needle entry point.
- At most, 64 stitches can be supported.



Functions:

A	Current Pattern	Display the shape of the current pattern
B	Front Reverse Sewing Switch	Please refer to description in standard reverse sewing
C	Number of Customized Pattern in Front Reverse Sewing	Display the number of the customized pattern in the front reverse sewing. Press it to enter the interface for selecting the customized pattern in the front reverse sewing.
D	Customized Pattern in Front Reverse Sewing	Display the shape of the customized pattern in front reserve sewing
E	Front Reverse Sewing Width	Display the sewing width of the front reverse sewing. Press the button to enter the interface for setting front reverse sewing parameters
F	Edition of Front Reverse Sewing	Press the button to enter the interface for editing the customized pattern in front reverse sewing
G	Back Reverse Sewing Switch	Please refer to description in standard reverse sewing
H	Number of Customized Pattern in Back Reverse Sewing	Display the number of the customized pattern in the back reverse sewing. Press it to enter the interface for selecting the customized pattern in the back reverse sewing.
I	Customized Pattern in Back Reverse Sewing	Display the shape of the customized pattern in back reserve sewing

J	Back Reverse Sewing Width	Display the sewing width of the back reverse sewing. Press the button to enter the interface for setting back reverse sewing parameters
K	Edition of Back Reverse Sewing	Press the button to enter the interface for editing the customized pattern in back reverse sewing

1）Set Swing Width of Customized Reverse Sewing Pattern：

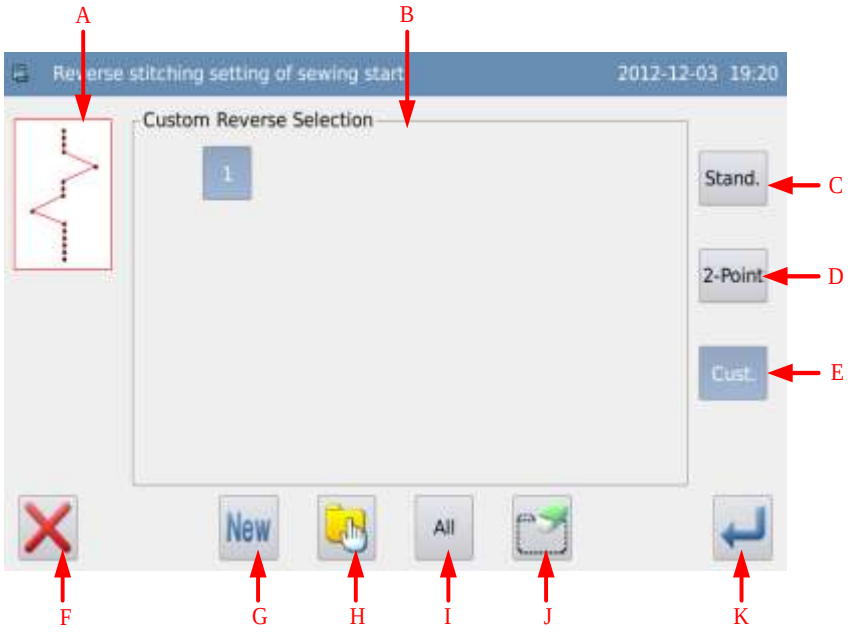
Example: how to set the swing width of the customized pattern in front reverse sewing.

In the interface for setting the reverse sewing, press  to have access to the interface for setting the reverse sewing parameters, as shown in right picture. Adjust the arrow to set the swing width. Press  to return to the reverse sewing setting interface.

[Note]: please set it within the Max swing range

2）Select Customized Reverse Sewing Pattern：

We take the front reverse sewing as the example. Press  to have access to the interface for selecting the customized reverse sewing pattern.



Functions：

No.	Functions	Contents
A	Pattern Display Area	Display the shape of the selected pattern
B	Pattern Selection Area	Display the number of customized reveres sewing pattern in operation panel
C	Standard Reverse Sewing	Shift the type to standard reverse sewing
D	2-points Contraction Sewing	Shift the type to 2-points contraction sewing
E	Customized Reverse Sewing	Press it to enter the selection interface of customized reverse sewing
F	Cancel	Cancel the current operation and quit
G	New Pattern	Create a new customized reveres sewing
H	Single Selection/ Multi-selection	Shift between single selection and multi-selection. In multi-selection, user can selection several customized reverse sewing at same time, which can be used for deleting patterns.  ： Single Selection  ： Multi-selection
I	Select All	Select all the customized reverse sewing patterns. It can be used in the operation of deletion
J	Deletion	Delete the selected pattern.
J	Enter	Confirm the selection of the current pattern and enter the reverse sewing setting interface. **[Note] The Enter can only be used in single selection status**

3）Create the Customized Reverse Sewing Pattern：

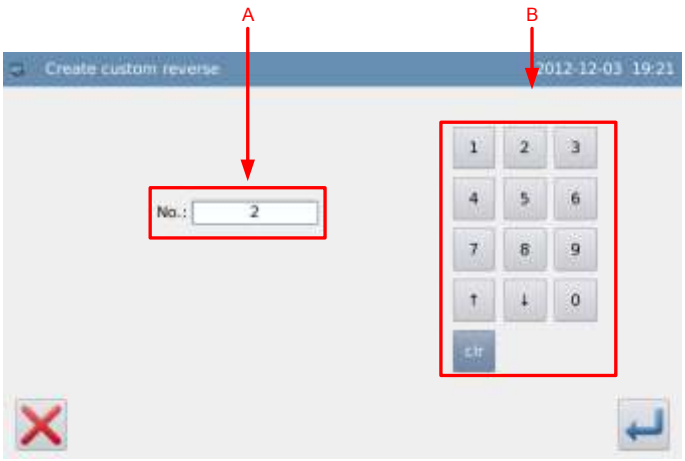
Referring to the contents in above sector, user can press 

to enter the interface for creating the customized reverse sewing pattern.

1、 The number display area (A) will display the empty number for saving; user can use the keyboard (B) to input the number wanted as well.

2、 After confirming the number, user can press  to finish the operation and return or press  to cancel the operation and return.

[Note] Can not use the existing number.



4）Edit the Customized Reverse Sewing Pattern：

After creation of the customized reverse sewing, the system will enter the edition interface; or user can press  in reverse sewing setting interface to enter the edition interface.

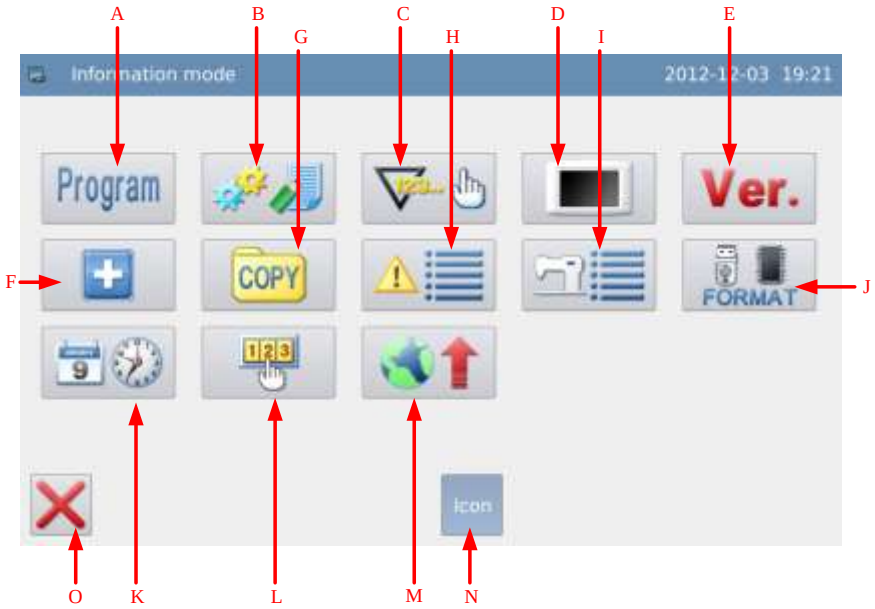
For the operation methods, please refer to [3.7.4 Edit the Customized Pattern]. The max permitted stitch number for the customized sewing is 64 stitches

3.12.4 Comparison of Reverse Sewing Patterns

	Standard Reverse Sewing		2-points Contraction Sewing		Customized Reverse Sewing	
	Front Reverse Sewing	Back Reverse Sewing	Front Reverse Sewing	Back Reverse Sewing	Front Reverse Sewing	Back Reverse Sewing
Line						
Other patterns						

3.13 Information Mode

In the main interfaces, press  to enter information mode.



Functions:

No.	Functions	Contents
A	Parameter Setting	Enter parameter setting interface
B	Parameter Management	Provide the functions of parameter transfer, parameter restoration and parameter encryption
C	Counters	Set the thread-trimming counter and the bottom thread counter
D	Display Setting	The settings of display, such as back light, keyboard lock and screen protect and so on.
E	Version Inquiry	Inquire the version of system software
F	Test	Enter the system test interface
G	Data Transfer	Transfer the patterns between the operation panel and the U disk
H	Alarm Record	Check the alarm statistic information。
I	Working Record	Check the running information of machine
J	Format	Formatting the U disk and pattern
K	Date and Time	Set date and time
L	Password Mode	Activate the periodical password for user
M	Software Update	Enter software update mode
N	Display Shift	Shift the display between the Text and Figure
O	ESC	Return to main interface

In the information mode, the system supports two display styles: Figure and Text

This is the text style:

3.13.1 Parameter Setting

The parameter setting is used to set the parameters. For the description of each parameter, please refer to [3.13.4 Parameter List].

Setting Method：

1、Enter Parameter Setting：

In main interface, press  to enter the information mode, as shown in right. And then press  .

2、Parameter Setting Interface

In the parameter setting interface, there are many parameters for selection. User can use  to turn the pages.

3、Examples：

① Select Parameter Type

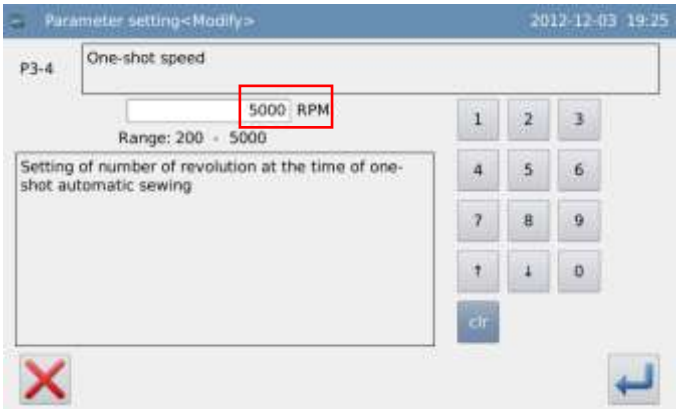
The parameters are divided in types. We select "Main-shaft and Speed".

② Interface for Setting the Internal Parameters

Enter the interface for setting the internal parameters. We can see the information of all the parameters in the current group. Here, we press「P3-4」.

③ Change the Parameter Value

Use the number keyboard to input the new value and then press ↵ to confirm.



④ Check the Parameter Value after Change

Return to the interface for setting the internal parameters and check the value after the change. Press  to quit.

⑤ Return to Interface for Selecting Parameter Type

Return to the interface for selecting the parameter type. Because the original value is changed, the Changed Parameter will be displayed

Press  to back to information mode interface.

To check the content of the changed parameter, please press “Changed Parameter”

⑥ Check the Content of Changed Parameter

a) Enter Password Input Mode

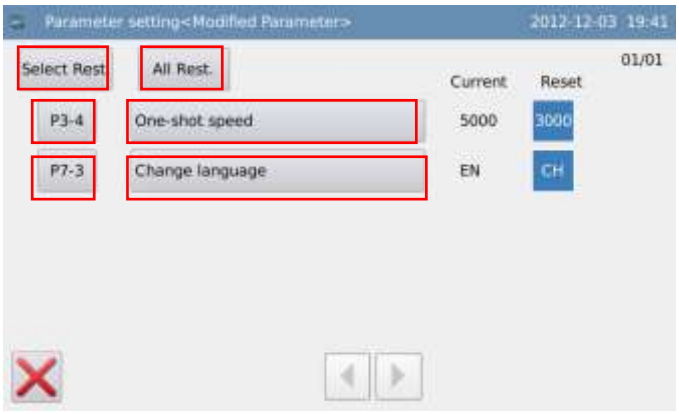
Press “Changed Parameter” to enter the password input mode. Input the right parameter to enter the changed parameter setting mode (For setting password, please refer to [3.13.5 Parameter Encryption])

b) Enter the Setting Mode of Changed Parameter

In this interface, the system will display the changed content of the parameter. If user needs change the value again, he can change it again (at here, please press「P1-9」).

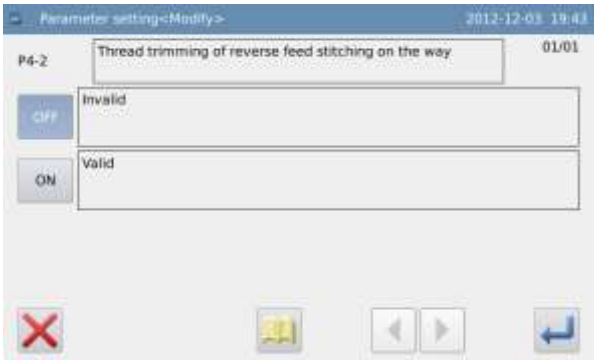
If user wants to restore the changed parameter, please press that parameter (at here, user can press Swing Limits or Sewing Speed at One Time) and "Restore", then follow the hint to operate the machine.

If user wants to restore all the changed parameters, please press "Restore All" and then follow the hint to operate the machine.

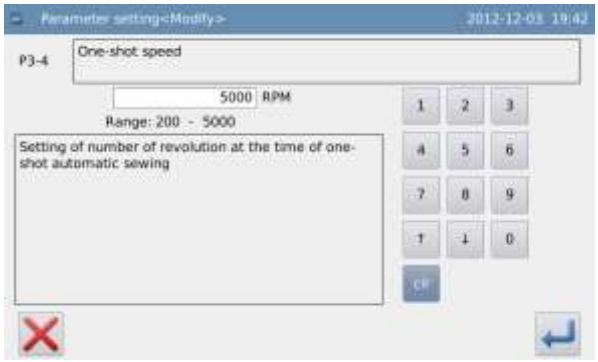


Instruction of Parameter Setting Classification:

The setting of the parameters contains two types, one is the input type, the other is the input type, as shown at below:



Selection Type



Input Types

[Note] Pressing  will display the detailed description on that parameter.

3.13.2Parameter List

1、General Parameters:

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P1-0	Swing Type	Set the swing method in system			0:CEN:Center Symmetry 1:LR:LR Symmetry	0	Selection
P1-1	Center	The swing range at center	mm	0.1	0~10.0	10.0	Input

	Symmetry Swing Limits	symmetry					
P1-2	Swing Left Limits (LR Swing)	Set down left limits in LR Swing method	mm	0.1	-5.0~0	-4.0	Input
P1-3	Swing Right Limits (LR Swing)	Set down right limits in LR Swing method	mm	0.1	0~5.0	4.0	Input
P1-4	Base Line Position	Base line position setting			0:CEN:Center 1:L:Left 2:R:Right	0	Selection
P1-5	Contrary Feeding Limits	Set the contrary feeding limits	mm	0.1	-5.0~5.0	-5.0	Input
P1-6	Normal Feeding Limits	Set the normal feeding limits	mm	0.1	-5.0~5.0	5.0	Input
P1-7	Symmetry Function Setting	Set the symmetry function			0:SIG:Single Pattern Symmetric Inversion 1:CON: Continuous Symmetric Inversion	0	Selection
P1-8	Base Line Position of Customized Reverse Sewing	Set the base line position of customized reverse sewing			0:COM: Linkage 1:FIX:Fixed	0	Selection
P1-9	Swing Limits Display	Display the setting on Swing limits at power-on.			0:ON: Display 1:OFF: Not Display	0	Selection

【Note】P1-5 and P1-6 are only available for Single Stepping Model.

2、Reverse Sewing

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P2-0*	Midway Reverse Sewing	Set the reverse sewing function in midway			0:OFF:No 1:ON:Yes	ON	Selection
P2-1*	Midway Reverse Sewing Stitch Number	Set the reverse sewing stitch number in midway		1	0~19	4	Input
P2-2	Midway Reverse Sewing Setting at Stop	Midway reverse sewing setting at stop			0:OFF: Ineffective at Machine Stop 1:ON: Effective at	ON	Selection

					Machine Stop		
P2-3*	Stop Function at Starting the Reverse Sewing	Set the stop function at starting the reverse sewing.			0:OFF:No 1:ON:Yes	0	Selection
P2-4	Deceleration Function at Reverse Sewing Start	Decelerating function at reverse sewing start			0:OFF:Not Decelerate 1:ON: Decelerate	0	Selection
P2-5*	Reverse Sewing Holding Time	Set the holding time of the reverse sewing solenoid	s	1	2~250	60	Input
P2-6*	Reverse Sewing Total Pressure Output Time	Set the total pressure control time of the reverse solenoid	ms	1	50~250	100	Input
P2-7*	Reverse Sewing Output Duty Cycle	Set the current when the reverse solenoid is holding		1	0~100	40	Input

***The parameters with mark "*" should be changed under the guide of the professional technicians.**

3、Main-shaft and Speed:

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P3-0	Soft Start Stitch Number	Set the stitch number of soft start at sewing	Stitch	1	0~9	3	Input
P3-1*	Soft Start Speed	Set the speed at soft start	rpm	50	150~5000	1200	Input
P3-2*	Reverse Sewing Speed	Set the Max speed at reverse sewing	rpm	50	150~3000	1500	Input
P3-3	Min Speed	The Min Speed	rpm	10	20~400	200	Input
P3-4	Sewing Speed at One Time	Set the speed at an automatic sewing	rpm	50	200~5000	3000	Input
P3-5*	Down Needle Stop Angle	Down Needle Stop Angle	Degree	10	120~200	160	Input
P3-6	Needle Conversion at Trimming	Set the function for converting the needle after trimming			0:OFF: No 1:ON:Yes	0	Selection
P3-7	Conversion Needle Angle	Set the angle for converting the needle	Degree	1	0~45	20	Input
P3-8*	Main shaft angle adjustment	Adjust the main shaft angle. It is only effective for the integrated motor.	Degree	1	-30~6	0	Input
P3-9*	Main motor Selection	Select the type of main shaft motor			0：Normal Motor 1：Integrated motor	1	Selection

***The parameters with mark "*" should be changed under the guide of the professional technicians.**

4、Thread-trimming：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P4-0	Trimming Function	Set the trimming function			0:OFF:Ineffective 1:ON:Effective	1	Selection
P4-1*	Trimming Speed	Set the speed at trimming	rpm	10	20~300	300	Input
P4-2	Midway Reverse Sewing Trim	Set whether to trim thread automatically at reverse sewing			0:OFF:Ineffective 1:ON:Effective	0	Selection
P4-3*	Thread-stirring Time	The holding time for stirring thread	ms	1	0~250	70	Input

***The parameters with mark "*" should be changed under the guide of the professional technicians.**

5、Presser and Pedal：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P5-0*	Presser Control Method	Select the device control the action of presser			0:MAG:Solenoid 1:AIR:Valve 2:MEC:Mechanism (No presser auto up function)	0	Selection
P5-1	Presser Up at Pedal in Middle	Lift presser when pedal at middle position			0:OFF:Ineffective 1:ON:Effective	0	Input
P5-2	Auto Lift Presser	Activate the presser auto up function			0:OFF:Ineffective 1:ON:Effective	1	Input
P5-3*	Pedal Stroke at Start	Pedal stroke at sewing start		1	10~50	30	Input
P5-4*	Pedal Stroke at Accelerating	Pedal stroke at starting acceleration		1	10~100	60	Input
P5-5*	Pedal Stroke at Presser Down	Pedal stroke at presser down		1	-60~-10	-21	Input
P5-6*	Pedal Stroke at Presser Up	Pedal stroke at presser up		1	8~50	10	Input
P5-7*	Pedal Stroke at Trimming Start 2	Pedal Stroke at Trimming Start 2		1	-60~10	-51	Input
P5-8*	Pedal Stroke at High-speed Running	Pedal stroke at high-speed running		1	10~150	150	Input
P5-9*	Correction of Pedal Middle Position	Correction of pedal's middle position		1	-15~15	0	Input
P5-10*	Presser Auto Up Holding Time	The holding time of presser auto-up	s	1	2~250	10	Input

P5-11*	Pedal Stroke at Trimming Start 1	Pedal Stroke at Trimming Start 1		1	-60~10	-51	Input
P5-12*	Presser Action Time	Time for lowering the presser after up		10	0~250	140	Input
P5-13	Presser up after Trim	Presser up after trimming			0:OFF:No 1:ON:Yes	1	Selection
P5-14*	Presser up Full Output Time	The time for full pressure output at presser up	ms	5	50~250	150	Input
P5-15*	Presser up Output Duty Cycle	Output duty cycle at presser up		1	0~100	30	Input
P5-16	Soft Down at Presser up	Soft down after presser is up			0:FAS:Fast 1:SLW:Slow	0	Selection
P5-17*	Select Pedal Curve	Select pedal curve		1	0~2	0	Input
P5-18	Presser Force Level	Presser force level					
P5-19	Pedal Selection	Pedal selection					

***The parameters with mark "*" should be changed under the guide of the professional technicians.**

6、Operation Head：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P7-0	Buzzer Voice	Set the voice of buzzer			0:OFF:No Voice 1:PAR:Panel Voice 2:ALL:Panel + Alarm Voice	2	Selection
P7-1	Backlight Auto Off	Backlight auto off switch			0:OF:No Auto Off 1:ON: Auto Off	0	Selection
P7-2	Backlight Auto Off Time	Backlight auto off waiting time	min	1	1~9	3	Input
P7-3	Language	Select language			0:CH:中文 1:EN:English	0	Selection
P7-4	Customized Pattern Display Setting	Set display of customized pattern			0:STH:Stitch 1:SHP:Shape Outline	0	Selection

7、Counter：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P8-0	Trim Counter Mode	Trim counter mode			0:OFF:Forbidden 1:ON:Permitted	1	Selection
P8-1	Bottom Thread Counter Mode	Bottom thread counter mode			0:OFF:Forbidden 1:ON:Permitted	1	Selection
P8-2	Clear Counter at	Clear counter value at			0:CLR:Clear	1	Selection

	Repower	repowering machine			1:RSV:Reserve		
P8-3	Cannot Change Trim Counter	Cannot change trim counter			0:OFF:Permit Changing 1:ON:Forbid Changing	0	Selection
P8-4	Cannot Change Bottom Thread Counter	Cannot change bottom thread counter			0:OFF:Permit Changing 1:ON:Forbid Changing	0	Selection
P8-5	Machine Action at Trim Counter set Value	Action of sewing machine when the set value of trim counter is reached			0:OFF:Stop Sewing 1:ON:Keep Sewing	0	Selection
P8-6	Machine Action at Bottom Thread Counter Set Value	Action of sewing machine when the set value of bottom thread counter is reached			0:OFF:Stop Sewing 1:ON:Keep Sewing	0	Selection
P8-7	Counter Display	Counter Display Setting			0:OFF: Not Display 1:UP:Trim Counter Display 2:DN:Bottom Thread Counter Display	1	Selection
P8-8	Bottom Thread Counter Unit	Unit for Bottom Thread Counter			0:10:10 Stitch 1:15:15 Stitch 2:20:20 Stitch	1	Selection

8、Others：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P9-0	Stop Position	The pointed needle rod position for stopping the sewing machine			0:DN:Down Position 1:UP:Up Position	0	Selection
P9-1	Panel Compensation Key Setting	Set compensation key of panel			0:HAF:Half Stitch 1:ONE:1 Stitch	0	Selection
P9-2	Forbid Compensation after Turn Wheel	Forbid the compensation action after turning the wheel			0:OFF: Compensation Effective 1:ON: Compensation Ineffective	1	Selection
P9-3	Half Compensation Additional Function	Additional function of Half Stitch Compensation			0:GEN:General Action (Half Stitch Compensation) 1:ONE: One Stitch	0	Selection

					Compensation (Up Stop→Up Stop)		
P9-4	Thread Loose Number at Start	Thread-loosing stitch number at sewing start		1	0~9	0	Input
P9-5*	Pick Thread	Activate function for picking thread			0:OFF:Ineffective 1:ON:Effective	1	Selection
P9-6	Lightness	Adjust lightness of lamp		5	0~100	50	Input

***The parameters with mark "*" should be changed under the guide of the professional technicians. 。**

9、Repair & Maintenance：

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P10-0	Needle Replacement Rest Value	Rest stitches for needle replacement	1000 Stitch	1	0~9999	0	Input
P10-1	Needle Replacement Set Value	Set stitches for needle replacement	1000 Stitch	1	0~9999	0	Input
P10-2	Clearing Time Rest Value	Rest hours for clearing	Hour	1	0~9999	0	Input
P10-3	Clearing Time Set Value	Set hours for clearing	Hour	1	0~9999	0	Input
P10-4	Oil Replacement Rest Value	Rest hours for oil replacement	Hour	1	0~9999	0	Input
P10-5	Oil Replacement Set Value	Set hours for oil replacement	Hour	1	0~9999	0	Input

[Note 1]: Parameters, like "P10-0", "P10-2" and "P10-4" can not be set. User can only check them in the Internal Parameter Setting Interface

[Note 2]: After the modification of parameters for repair and maintenance, the corresponding parameters of "Rest Value" will be changed to the set value

[Note 3]: After the parameter value of repair and maintenance are set (value over 0), the corresponding counting function for repair and maintenance will be activated as well.

10、Special：

（Parameter List for Double Stepping Model）

Code	Brief	Description	Unit	Step Length	Range	Default Value	Type
P10-0*	Max Speed	Max Speed of Head	rpm	50	50~5000	4000	Input
P10-1*	Frame-moving Method	Set frame-moving method		1	0~5	1	Input
P10-2*	Swing Motor Current	Set the current of swing motor		1	0~15	5	Input
P10-3*	Swing Motor Half Current Coefficient	Set the half current at swing motor		1	0~15	4	Input

P10-4*	Feeding Motor Current	Set the current of feeding motor		1	0~15	5	Input
P10-5*	Feeding Motor Half Current Coefficient	Set the half current at feeding motor		1	0~15	4	Input
P11-6	Display of Pause Button	Display the pause button or not			NO：Not display YES：Display	YES	Selection
P11-7*	Pick-up Delay Time	Delay time at picking up thread	ms	1	0~250	170	Input
P11-8*	Swing Action Angle Adjustment	Adjustment of swing action angle		1	-50~50	0	Input
P11-9*	Feeding Action Angle Adjustment	Adjustment of frame-moving angle at feeding		1	-50~50	0	Input
P11-10*	Thread-trimming Angle Adjustment	Adjustment of thread-trimming angle		1	-30~30	0	
P11-11	Main Controller Burning Address				0xA0000 0xB0000 0xC0000 0xD0000	0xA0000	

***The parameters with mark "*" should be changed under the guide of the professional technicians. 。**

（Parameter List for Single Stepping Model）

Code	Name	Description	Unit	Step	Range	Default	Type
P11-0*	Max Speed	Set Max speed for each head	rpm	50	50~5000	3000	Input
P11-1*	Frame-moving Method	Set frame-moving method		1	0~5	1	Input
P11-2*	Swing Motor Current	Set swing motor current		1	0~15	5	Input
P11-3*	Swing Motor Semi-current Value	Set swing motor semi-current		1	0~15	4	Input
P11-4	Display of Pause Button	Display the pause button or not			NO：Not display YES：Display	YES	Selection
P11-5*	Pick-up Delay Time	Delay time at picking up thread	ms	1	0~250	170	Input
P11-6*	Feeding Action Angle Adjustment	Adjustment of frame-moving angle at feeding		1	-50~50	0	Input
P11-7*	Thread-trimming Angle Adjustment	Adjustment of thread-trimming angle		1	-30~30	0	
P11-8	Main Controller Burning Address				0xA0000 0xB0000 0xC0000	0xA0000	

					0xD0000		

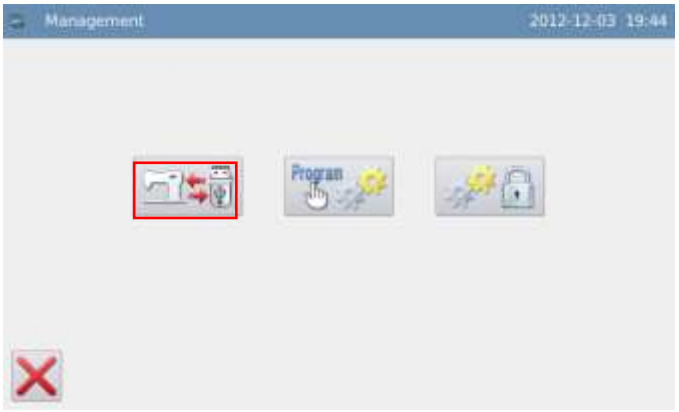
***The parameters with "*" shall be modified under the guide of the professional technician**

3.13.3 Parameter Recovery and Back-up

User can save the changed parameter into U disk for the recovery operation in future

1、Enter Parameter Transfer Interface:

Press  in Information Mode interface to enter the parameter management interface, where user needs press  .



2、Back up Parameters

In the interface of parameter recovery and back-up, the default setting is to back-up the parameters.

After inserting the U disk, user needs press  . After the operation, the system will create catalogue called as "bakParam" in U disk automatically. The file "backup. param" within that catalogue is the parameter back-up file

[Note]: the file with the same name will be replaced with new data. The original data will be lost.

In parameter recovery operation, user can press  to shift to recovery mode.

3、Parameter Recovery

At recovery mode, press  to recover the parameters. After the operation, the system will return to the previous level.

3.13.4 Default Parameter Recovery

User can restore the parameters to their default values. Additionally, user can also save the set parameters for the usage in future.

1、Enter Default Parameter Recover Interface:

Press  in Information Mode interface to enter the parameter management interface

In parameter management interface, press 

and then input the password (the original password is the manufacturer ID). After user inputs the correct password, user can have access to Default Parameter Mode

Before entering the parameter encryption mode, user needs input passwords (The original password is manufacturer's ID).

If the password is wrong, pressing 

at each time will erease the first figure at left of icon. Pressing 

will clear all the password inputted.

Input password and press  .

2、Use the Default Parameter

Click the corresponding default parameter and then press 
to reload that value

After the reloading, the system will return to the upper interface automatically

[Note] Some important parameters, (like the "Special parameters"), can not be restored in this operation.

3、Save Customized Parameter

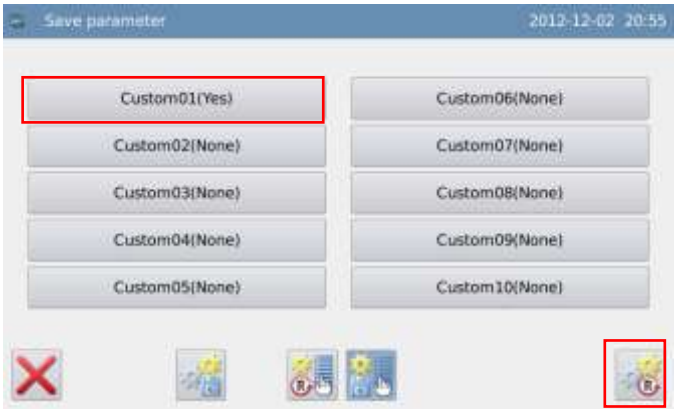
Press  to have access to the interface for saving parameters, where user can save the parameter value after the setting.

Click  or  to confirm the position for saving that parameter. Then click  to save it.

After the saving, the system will return to the upper interface automatically.

[Note] The parameters for repair and maintenance can not be saved

4、Load Parameters Saved by User



Have access to that interface. Check the content on button "Customized Parameter (Y/N)". If it is Y in the bracket, it means that position has customized parameter.

Click that key and press  to reload the corresponding parameter. After the operation, the system will return to the upper interface.

3.13.5 Parameter Encryption

User can set the password in each level under the parameter setting interface, so as to avoid the artificial mis-operation.

1. Enter Parameter Encryption Interface:

In information mode interface, press  to enter the parameter management interface

In parameter management interface, press  , then system will ask for the password (default password is manufacturer ID).

2、Input Password:

If user inputs the wrong figure, pressing  will delete the first figure at left of the icon, while pressing  will delete the entire figures inputted.

Input the password and press  。

2、Select Parameter for Encryption:

As shown in picture, user can select one or many parameters for encryption. (Here, we select "Presser and Pedal".)

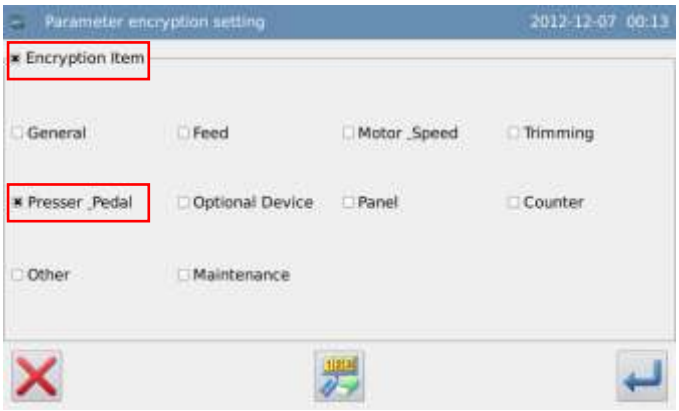
Presser _Pedal : Selected

Presser _Pedal : Unselected

After selecting the parameter for encryption, user can press .

From then on, user has to input password when setting the parameter that was encrypted.

For changing password, please press .



[Note] User has to input password at having access to the Special Parameter in each time.

3、Change Password

In the interface of setting new password, press Cur-Password: , New-Password: & Confirm: in order and input the current password, new password, confirmation respectively. At last press .

[Note]: The original password is the manufacturer ID. After setting the password, the "Current Password" is the password set at last time

3.13.6 Counter

- The counter contains the trimming counter and bottom thread counter. User can shift the type of counter via "Counter" → "Counter Display".
- At trimming in each time, the value of trimming counter will increase. When it reaches the set value, the system will give warning.
- Bottom thread counter is to reduce the number set at "Counter" → "Bottom Thread Counter Unit" in each sewing. When the value reaches 0, the system will give warning

1、Enter interface for setting counter

In information mode interface, press  to enter counter mode.

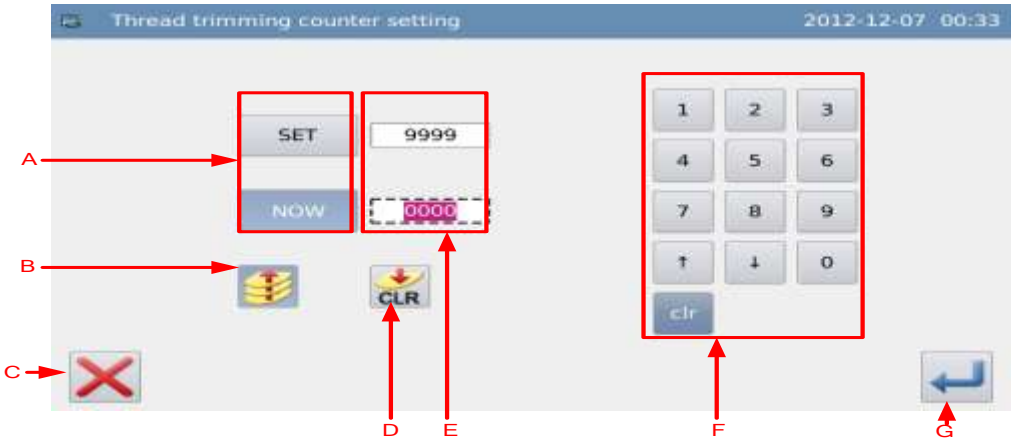
2、Select the Counter for Setting

In counter mode interface, user can check the current value and set value of each counter.

If the counter is selected, the counter will be opened, which is determined by parameter "Counter" → "Trim Counter Mode" & "Bottom Thread Counter".

3、Set Counter

Example: How to set trim counter. The operation for setting the trim counter is similar to that of bottom thread counter. The only difference is at Bottom Thread Counter Activate( )



Functions:

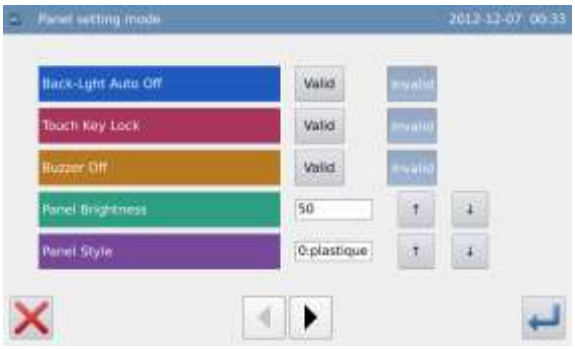
No.	Content
A	Shift the input between the set value and the current value (The button in shadow is the selected one).
B	Up Counter Switch (This button will be effective when it is in blue background).
C	Quit counter setting mode and return to previous interface.
D	Clear current value。
E	Display the set value and current value (User can input the value in the spot line frame)
F	Number keyboard, used to input set value and current value  Clear the value inputted currently
G	Confirm setting

[Note] if the parameter "Counter" → "Cannot Change Trim Counter" and "Cannot Change Bottom Thread Counter" is set at Forbid Changing, user will not enable to set the current value of counter

3.13.7 Display Setting

In information mode interface, press  to enter the display settting mode, where user can set Backlight Auto Turn-off, Keyboard Lock and so on.

The setting content of display is shown as below:



1、Backlight Auto Turn-off

By the set time, the backlight of screen will be turned off automatically.

Range：1～9 min

Default Value: Invalid

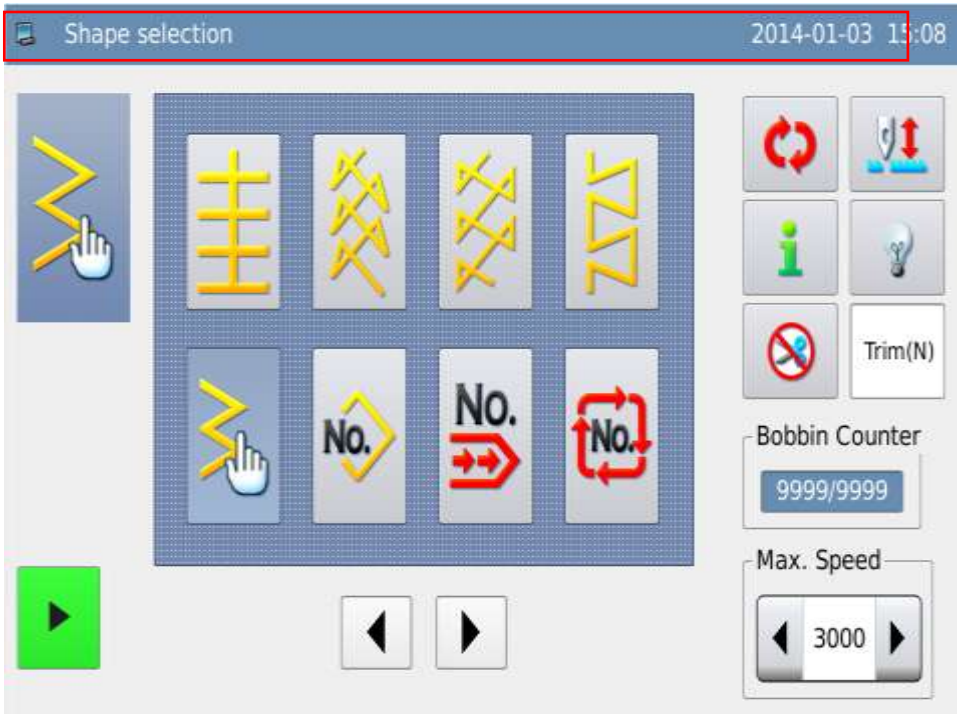
Releasing Method: If the backlight is off, user can touch any position on the panel to turn it on.

2、Keyboard Lock

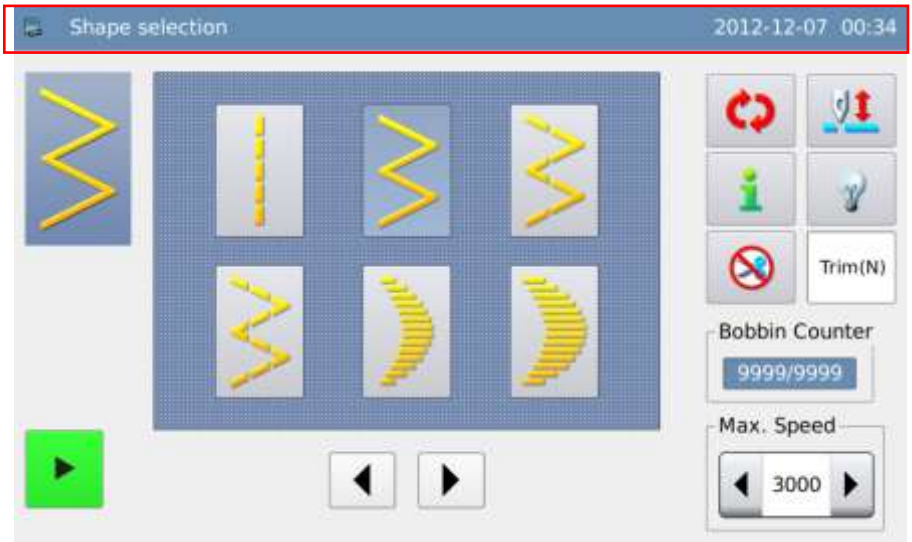
When it is set as “Valid”, all the buttons will turn to grey in display and become useless. Pressing  will directly return to main interface

Default Value: Invalid

Releasing Method: Hold the title bar at main interface for over 5 seconds, until user hear “Bee--m”. After that the lock is released. (After the releasing, this function will be set as Invalid)



(**dual-stepping model**)



(**Single Stepping Model**)

3、Turn off Buzzer

When it is set as “Valid”, system will keep silence when user presses button.

Default Value: “Invalid”

4、Lightness Control

Adjust the lightness of the LCD screen. The larger value is, the lighter will be

Range：1～100

Default Value：50

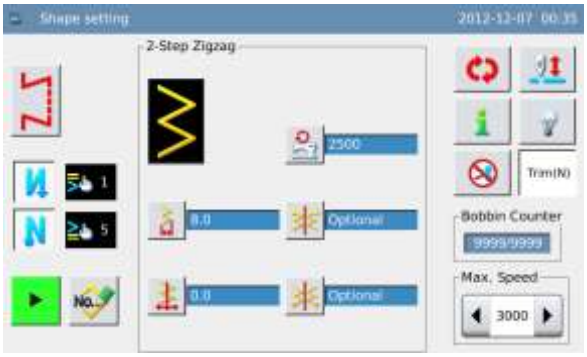
5、Panel Display Style

Adjust the panel display style

Range：0~1（0：plastique，1：windows）

Default Value：0

Plastique Style



Windows Style

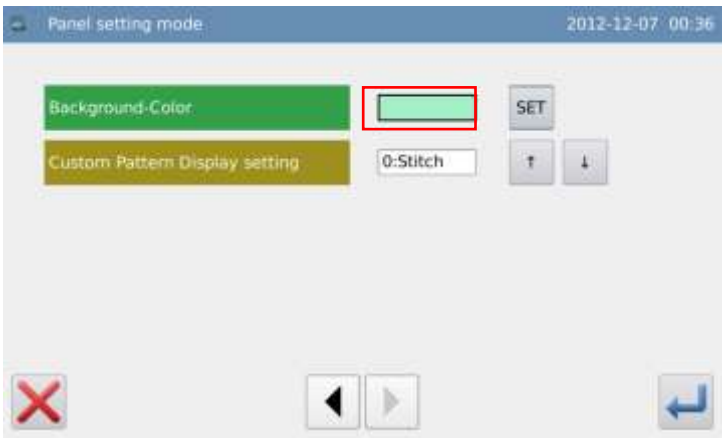
6、Main Interface Background Color

Set the background color of the main interface

Press “Set” to open the color board

Select the color and press “OK”.

At this moment, the color display area will display the selected color. Press to save and quit.

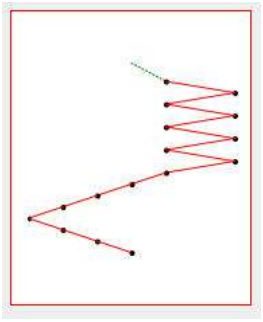


7、Customized Pattern Display Setting

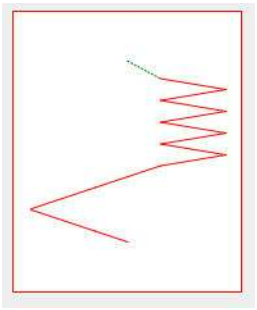
Set the display of customized pattern

Range：0~1（0: Stitch Form; 1: Shape Outline）

Default Value：0



Stitch Form



Shape Outline

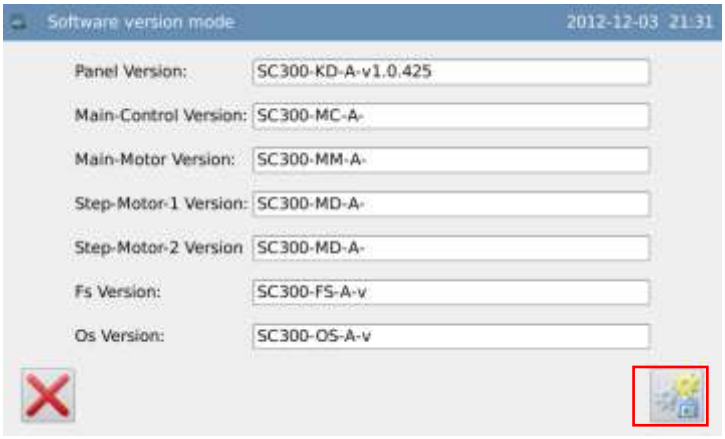
3.13.8 Software Version

1 、 Enter the interface for checking software version:

Press Ver. in information mode interface to enter the software version mode.

2、Version Inquiry and Output

Check the software version in current interface. Press  to output the software version to the base catalogue of the U disk with name “version.png”.



3.13.9 Pattern Transfer

- Two ways are provided: “Memory to U Disk” and “U Disk to Memory”.
- Enable to import/export customized pattern, customized front reverse sewing pattern and customized back reverse sewing pattern
- The supported versions are VDT, DST, DSB, SBK and JZQ
- U Disk Copy Path：
  - Customized Pattern：rand_pat
  - Customized Front Reverse Sewing：h_pat
  - Customized Back Reverse Sewing：t_pat

1、Enter Pattern Transfer Mode:

In Information Mode interface, press 

to enter pattern transfer mode.

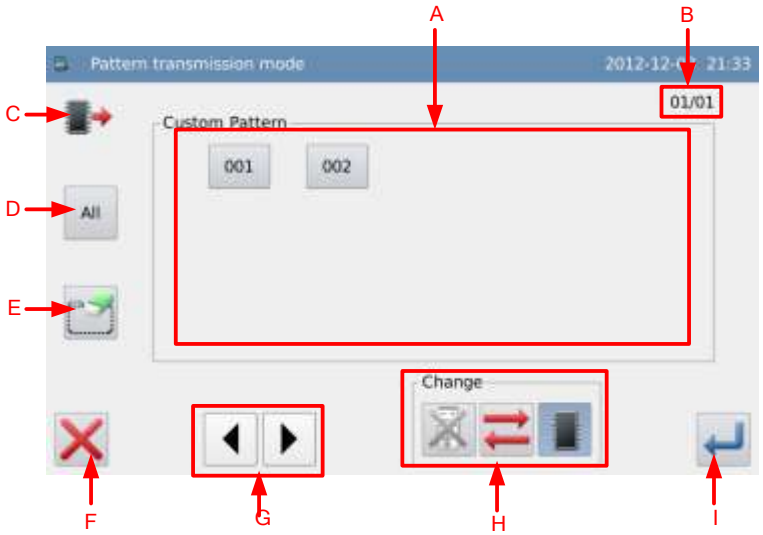
2、Transfer Type

 : Customized Pattern

 : Customized Front Reverse Sewing

 : Customized Back Reverse Sewing

Here, we use the "Customized Pattern Transfer" as the example. Press  to enter the interface for pattern transfer.



Functions:

A	Pattern List	Display the pattern list of panel or U disk
B	Page	The current page/total pages are displayed
C	Copy Mode Display	: Memory Pattern List : U Disk Pattern List
D	Select All	Select all the patterns。
E	Delete	Delete the selected pattern
F	Quit	Quit and Return to Upper Interface
G	Page Key	Turn the page。

H	Copy Mode Selection	Load pattern from memory or U disk ：Activate the Memory Load Mode: At this moment, user cannot load pattern from U disk. ：Deactivate the Memory Load Mode: At this moment, user can load pattern from U disk. ：Activate the U Disk Load Mode: At this moment, user can not load pattern from memory. ：Deactivate the U Disk Load Mode: At this moment, user can load pattern from memory. ：Shift between U Disk and Memory
I	Enter	Confirm the operation.

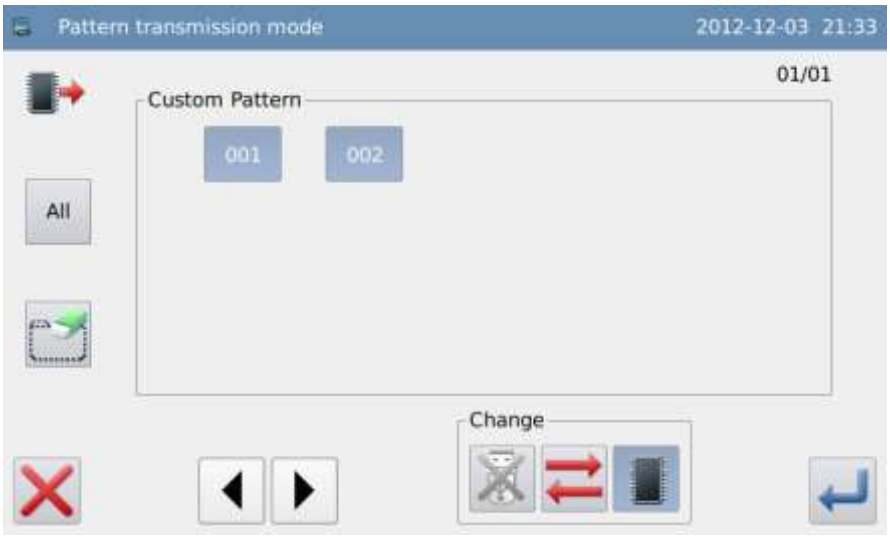
Operation：

1、Copy Mode Selection

The default setting is to copy pattern from memory to U disk, user can press to change the copy mode.

2、File Selection

Select the pattern for copy in the pattern list (here, we select No.001, 002, 003, 004 and 005). If the patterns are so many, please use to turn the page.



For copying all the patterns, please press All. For deletion, please press .

3、Confirm the Copy

After selection, please press . Then the system will display “Copy the Selected Pattern”, user can press to perform the operation. If the pattern is copied from memory to U disk, the system will automatically create a directory at the base catalogue of U disk and save the pattern at there.

[Note]: At the process of copy, if the memory contains the pattern with the number same to that of the pattern in the U disk, the new pattern will replace the old one.

3.13.10 Alarm Records

1、Enter Alarm Record Mode:

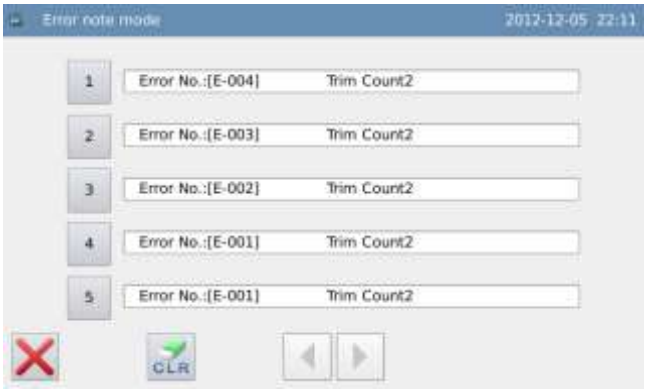
In the information mode interface, press , then system will ask for the manufacturer ID. After user gives the right ID, the system will have access to the alarm record mode.

2、Inquire Alarm Record

In this mode, the recent alarms will be recorded. The smaller number means the later the alarm is.

Additionally, it also records the thread-trimming numbers at alarm.

Press CLR to clear all the alarm records.



3.13.11 Running Records

1、Enter Running Record Mode：

In the information mode interface, press  then system will ask for the manufacturer ID. After user gives the right ID, the system will have access to the running record mode

2、Check Running Records

① Accumulated Running Time: Record total sewing time of machine.

② Accumulated trimming Pieces: Record the total number of the trimming.

③ Accumulated Power-on Time: Record the total time of power-on

④ Accumulated Stitch Number: Record the total stitch number of the machine.

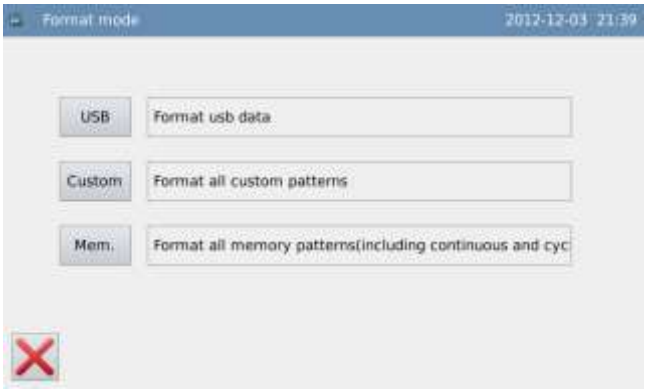
Additionally, click “Clear” to cleat the counting value

3.13.12 Formatting

1、Enter Formatting Mode：

In the information mode interface, press  to enter formatting mode.

2、Formatting Operation



1）**USB Formatting：**

Press “USB” to delete all the patterns within the U disk. So user needs back up the data if necessary.

2） Customized Pattern Formatting

Press “Customized” to delete all the customized patterns within the USB.

3） **Memory Formatting**

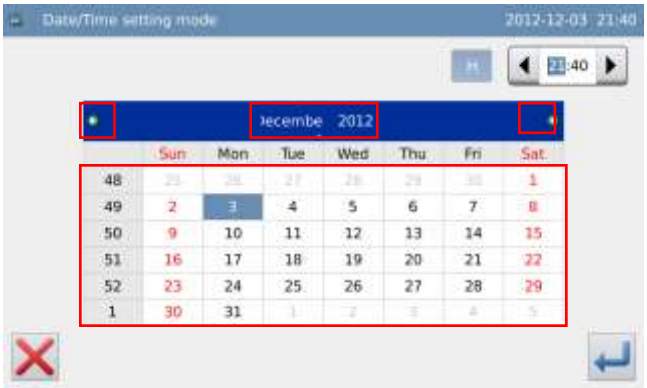
Press “Memory” to delete all the patterns (Customized pattern, cyclic sewing patterns and continuous sewing patterns) within the memory.

3.13.13 Date and Time Setting

1、Enter Date and Time Setting Mode：

In the information mode interface, press  to have access to the date and time setting mode.

2、Method for Setting Date：



Click “Year” (At here, it is 2012.)to display two arrows to adjust it

Click “Month” (At here, it is June) to display the list of months. User can select the proper month.

After the setting, the display of year and month will be refreshed to the right ones.

User can also use  &  to check the content in calendar.

Click the day to complete the setting.

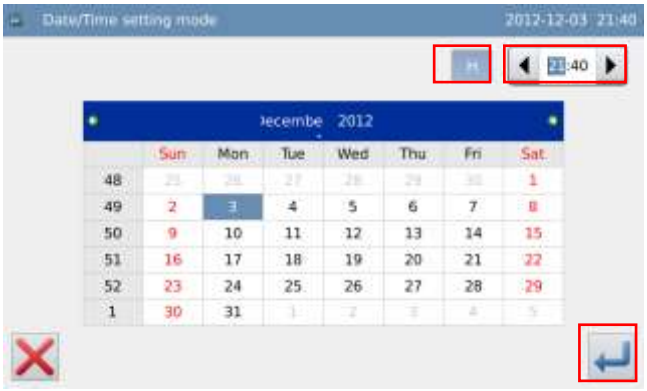
[Note]: User has to set year, month and date to finish the setting. Only setting the year and month will not complete this operation.

3、 Method for Setting Time：

In default, user has to set hour firstly. Press “hour” to shift the setting to minute (Pressing “hour” is to change it to “minute”) and then press the arrows to change the time

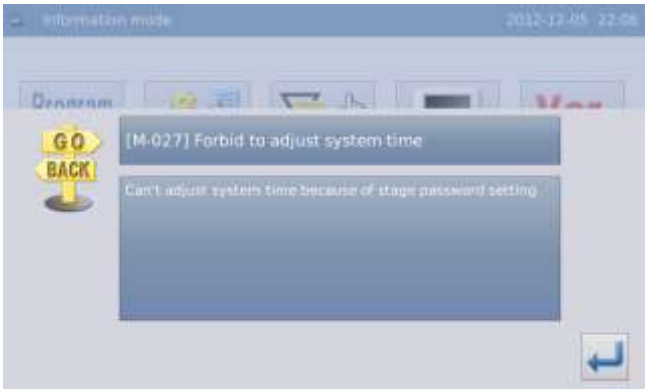
User can also click the display area to shift between hour and minute.

After the setting of date and time, please press  to save it.



4、 Forbid to Change System Time

Once the machine is attached with the periodical passwords, the system will deny the change on the system time. After all the passwords are cleared, the system will unlock the setting of the system time.



3.13.14 Password Mode

- The password mode is used for setting the periodical password and payment date, which the system will ask the user to input for unlocking the machine.
- User needs set the board number carefully at setting the password. The board number is used to manage the password.
- At most 10 periodical passwords can be set.。

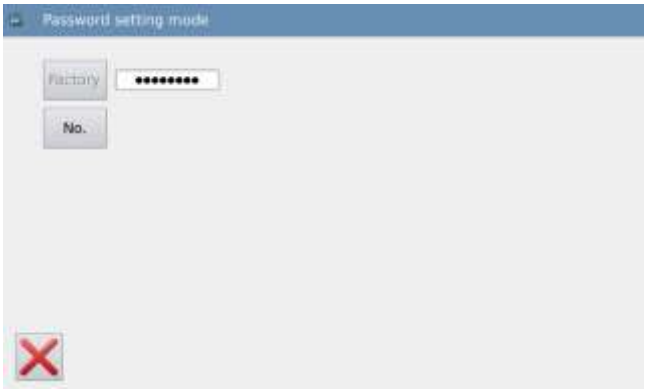
In the information mode interface, press  to activate the interface for inputting the user ID. Input the correct manufacturer ID to have access to the password management mode, where is used to set and manage the periodical password.

① At most 10 different password action times can be set.

② System can display the password information of the manufacturer.

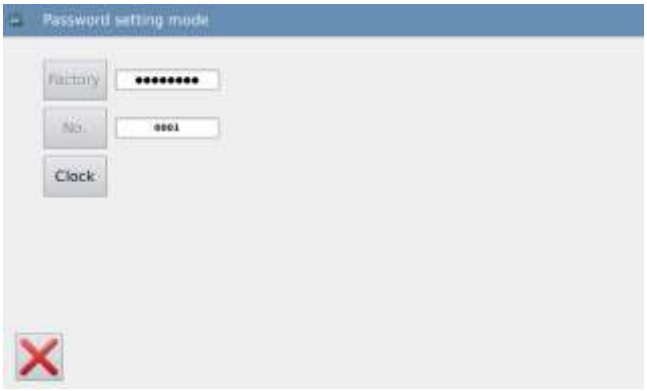
1、 Input Board Number

Press “Board Number” to enter the interface for inputting the board number. The board is formed by four figures; the range is from 0000 to 9999. This can be used for the management of the password by the manufacturer. After inputting the board number, user can press  to finish the operation and return to the previous interface. (At here, we input 0001 as the board number).



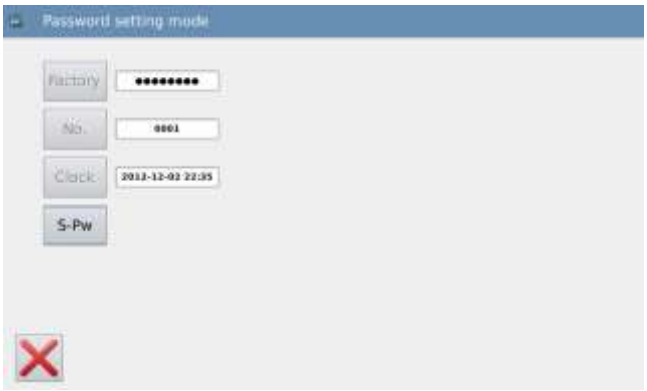
2、 Confirm the System Clock

Press “Clock” to have access to the interface for setting system time and date. For changing the system clock, user needs press  after the modification (Refer to [3.13.13 Date and Time Setting], or press  to quit.



3、 Input the Super Password

Press “Super Password” to have access to the interface for inputting the super password.



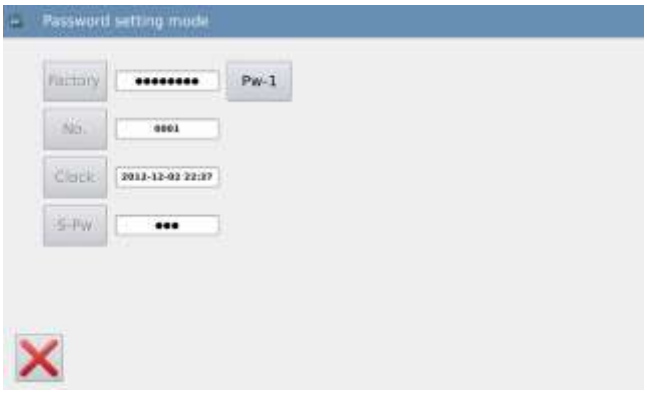
At most 9 figures can be inputted, which are displayed as " • ". After user presses , the system will ask user to input that password again for confirmation.

If the inputted passwords in these two times are different, the system will ask user to input the super password again. After these two inputted passwords are same, user can press to save it and quit.

4、 Input Activation Time and Periodical Password

Input "PW-1" to input the first activation date.

The activation date is the first time that the password is activated. This date shall be later than the system date。



Select the proper date and press to finish the operation. At this moment, the system will turn to password input interface

The input method of the periodical password is same as that of the super password. After the confirmation, user needs press to quit.

5、 Continue Inputting Periodical Password

If user needs input the next activation date and password, he should repeat the operation at above. At most, ten dates and passwords can be inputted.

[Note]: The next date shall be later than the previous one.

6、 Save Password

Input the needed password, and then press  to save the entire information. The system will display "Password Saved Successful".

After confirmation, the system will return to the previous interface.

[Note]: Only when user set one periodical password, can  be displayed.

7、 Clear Password before Activation

Clearing password positively is to delete the password before it activates.

The method for entering the password display interface is same as that of entering the password setting interface

After user input the right manufacturer ID, the system will display the current time and activation dates of periodical passwords, as shown in right figure

Press  to input the current password. The password is cleared in order of from early to latter

At this moment, user can input two passwords. If the inputted password is the current password, the current password will be deleted. If the super password is inputted, the entire passwords will be deleted. If the current password is deleted and the current password is the last password, the system will have no password any more. Press  to finish the operation.

The deactivated password is displayed in red, as shown in right. If all the passwords are deactivated, the system will automatically return to the previous level.

8、 Clear Password at Activation

If the system has the password and that password is not canceled, the password will activate at the set date. At this moment, user has to input the effective password to have the machine to work normally.

The effective passwords include the current password and the super password. If the inputted password is the current password, the current password will be deleted. If the super password is inputted, the entire password will be deleted. If the password is current password and the current password is the last password, the system will have no password any more. If the machine still have other passwords other than the current password, the next password will activate according to the set date

3.13.15 Software Update

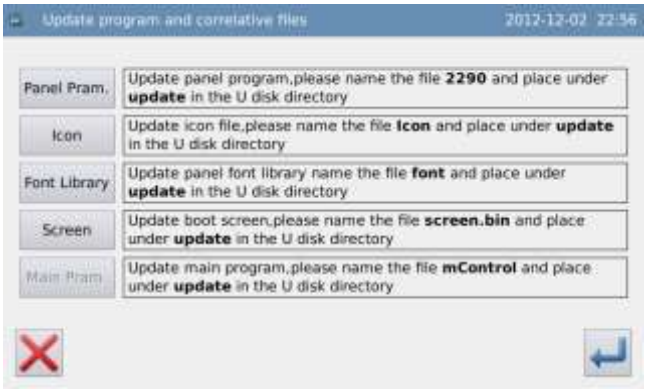
1、Enter Software Update Mode：

In the information mode interface, press  to enter the software update mode.

2、Instruction

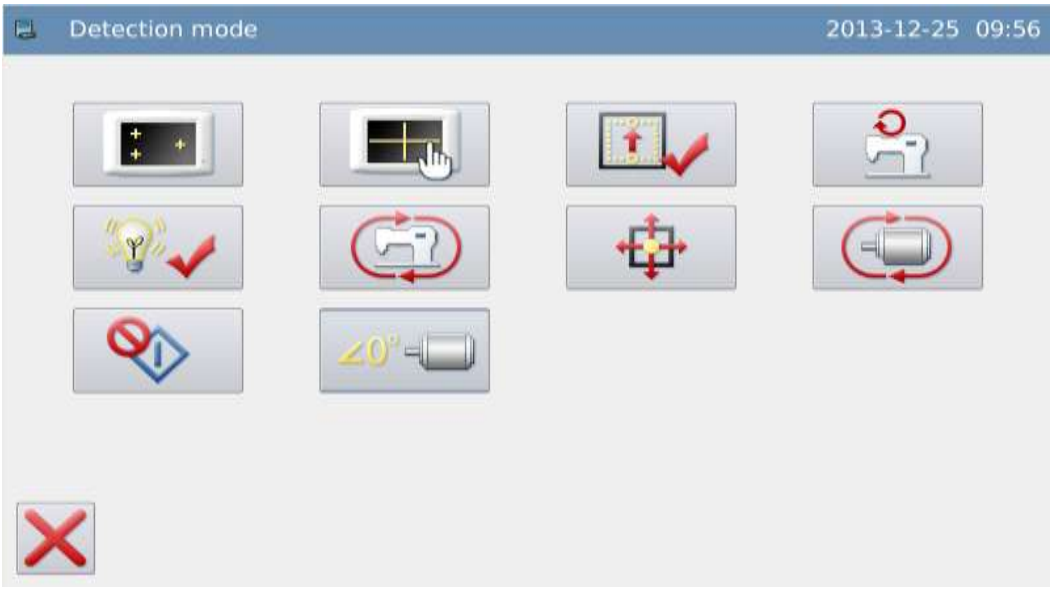
The updating software shall be located in the catalogue “Update” in U disk.

Click the content for update (the content in shadow is the selected), then press  .



3.14 Test Mode

In the information mode interface, press  to have access to the test mode.



Functions:

No.	Functions	Content
A	LCD Test	Test LCD displayer
B	Touching Panel Correction	Correct the touching panel
C	Input Signal Test	Test the input signal of switches and sensors
D	Speed Test	Test the speed of main shaft motor
E	Output Signal Test	Test the output signal of pressers and thread-trimming devices
F	Continuous Running	Set continuous running parameter and enter aging status
G	Swing/ Cloth-feeding Motor Adjustment	Test the origins of swing and cloth-feeding motor
H	Swing Test	Test swing motor individually
I	Quit	Quit test mode and return to main interface
J	Shuttle Adjustment	Adjust the shuttle
K*	Integrated Motor Calibration	Used to calibrate the zero position of the integrated motor

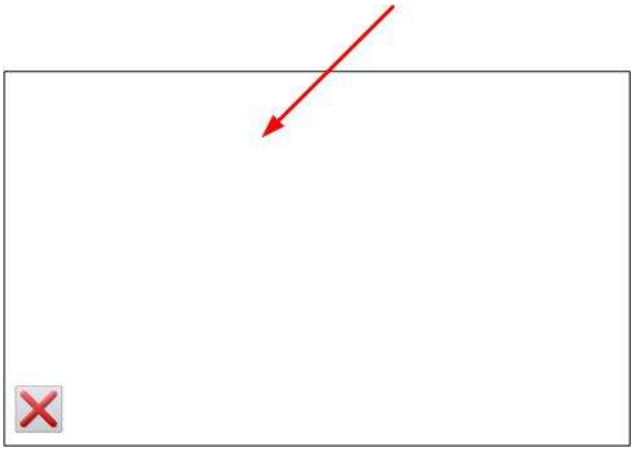
【Note】 When the P3-9 is set as normal motor, K will not be displayed

3.14.1 LCD Test

Function：

In the test mode, press  to activate LCD test function. Click the area other than the  to have LCD screen display white, black, red green and blue so that user can judge whether the LCD screen has problem.

Press  to return to the upper level interface.



3.14.2 Touching Panel Correction

Functions：

In the test mode, press  . At this moment, the system will display “Confirm to enter touching panel correction mode?” Press  to have access to the touching panel correction function.

User has to correct 5 spots. The touching pen is recommended to be used at touching the cross icon on the interface. After the correction, the system will display the result of this operation

[Note]: During the correction, please perform the operation strictly according to the position of the cross icon, or the touching panel may become abnormal after the correction.

3.14.3 Input Signal Test

Function:

In the test mode, press  to enter the Input Signal Test Function.

ON：Activation

OFF：Deactivation

Types of Input Signal：

① Swing Motor（X）

② Feeding Motor（Y）

③ Reverse Sewing Switch

④ Mirror Switch

⑤ Upper Needle Position

⑥ Reverse Sewing Lever (Range:0~1023)

⑦ Pedal (Range: 0~1023)

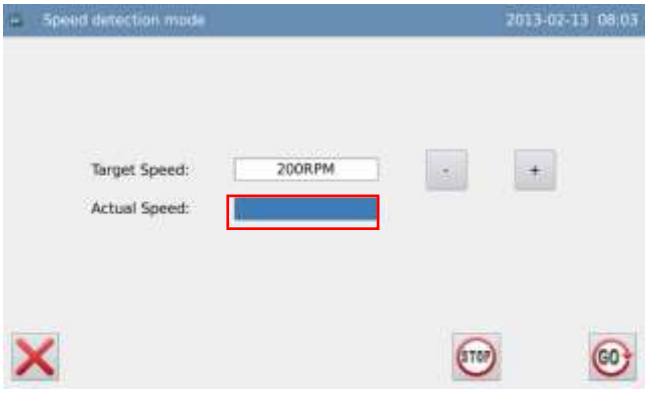
⑧ Main Shaft Angle (Range: 0~359)

Press  to return to the Previous level interface

3.14.4 Main Shaft Speed Test

Functions:

In the test mode, press  to set the main shaft speed test function.



Use  and  to set the aim speed of main shaft motor. After user presses  , the main shaft motor will rotate in the set speed. At this moment, the actually measured speed will be displayed in the input column of actual speed.

Press  to stop running

Press  to return to the upper level interface.

3.14.5 Output Signal Test

Functions:

In the test mode, press  to activate the output signal test function.

In this interface, user can press output signal button to test the status of output signals of solenoids

Output signals:

①Thread-stirring

②Thread-wiping

③Thread-trimming

④Thread-loosing

⑤Presser

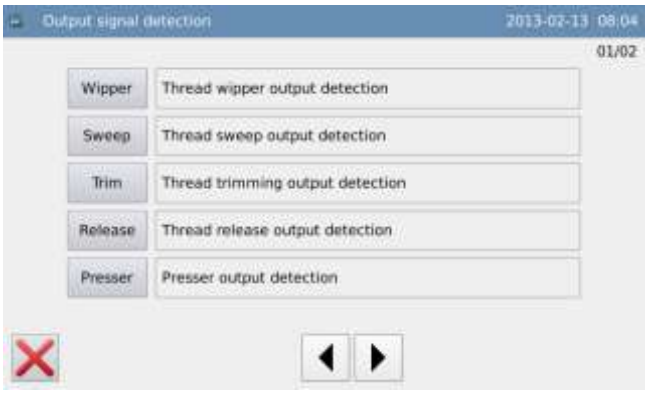
⑥Reverse Sewing

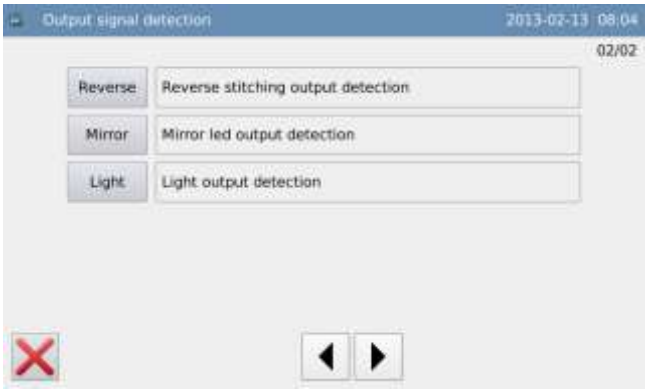
⑦Mirror LED

⑧Light

Press  to return to the upper level interface.

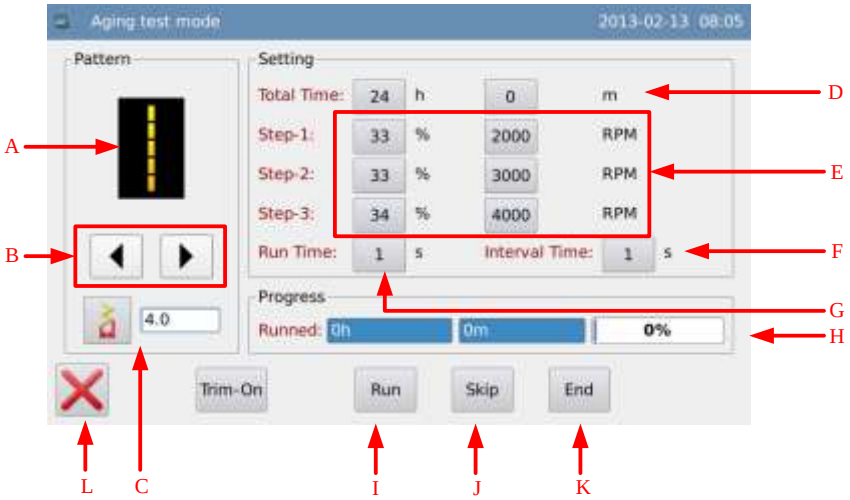
[Note]: The sewing machine will have the actual movement.





3.14.6 Continuous Running

In the test mode, press  to set the continuous running function



Functions：

No.	Function	Content
A	Pattern Display	Display the aging pattern
B	Pattern Selection Key	Select the aging pattern from the 20 basic patterns
C	Display and Setting of Swing Width	Display the swing value. Press it to enter the interface for setting the swing width.
D	Aging Time Setting	Please press SET to input the total time for aging
E	Aging Stage	Press it to set the ratio among stage 1, stage 2 and stage 3 and aging speed.
F	Time Interval	Set the time interval at aging
G	Running Time	Set the running time at aging.
H	Aging Process	Display the aging percentage and time used
I	Running	Press it to start aging. During the aging process, this button is displayed as “Pause”.
J	Skip	Change the aging progress. **[Note] when the machine is running, you cannot change the aging progress.**
K	End	End the aging process manually
L	ESC	Quit the aging process and return to the previous level

3.14.7 Swing/ Cloth-feeding Motor Origin Detection

Function：

In the test mode, press  to activate the function for detecting the swing/ cloth-feeding motor origins.

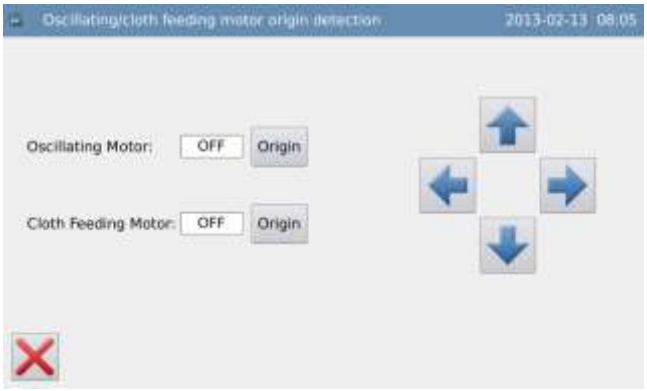
In this interface, moving the XY motor with direction can have system display the real time status of sensors

ON：Sensor Detected

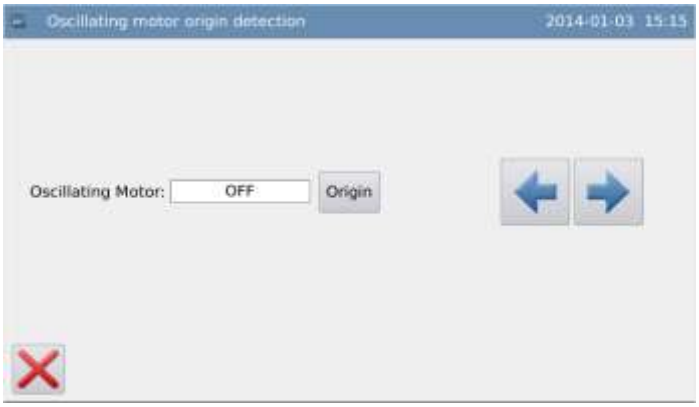
OFF：Sensor Undetected

is used to auto-return of motor. Press  to back to the previous level

[Note]: The sewing machine will have the actual movement.



（dual-stepping model）



（Single Stepping Model.）

3.14.8 Swing Motor Aging

In Test Mode, user can press  to enter the Swing Motor Aging Mode, where user can perform the aging test on the swing motor.

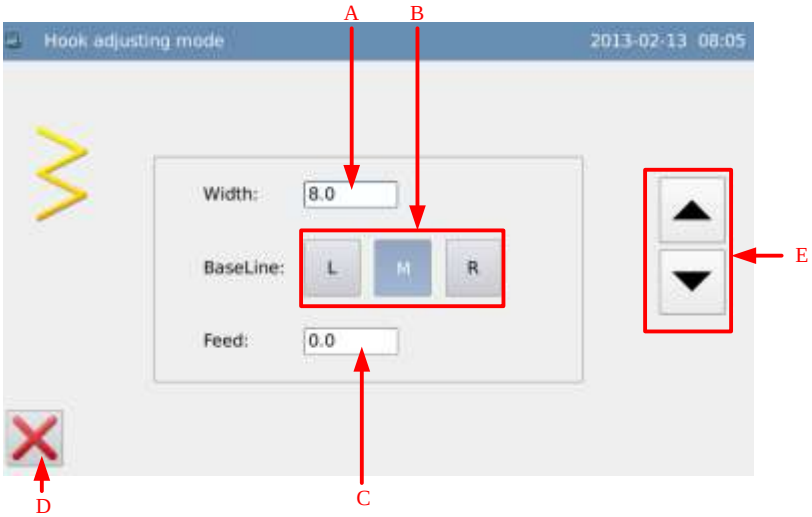
Function List：

No.	Function	Content
A	Set Swing Aging Time	Press “+” and “-” to set the aging time, whose range is at 0~200. Unit: 10ms. When the value is set at 255, the aging will be stopped.
B	Set Stepping Aging Time	Press “+” and “-” to set the aging time, whose range is at 0~200. Unit: 10ms. When the value is set at 255, the aging will be stopped. **【Note】: Single Stepping Model don’t have this parameter.**

C	Stop	Stop Aging
D	Start	Start Aging
E	Quit	Quit Swing Aging Interface

3.14.9 Shuttle Adjustment

In the test mode, pressing  is to enter the shuttle adjustment mode. The tested pattern is the 2-points zigzag at here.



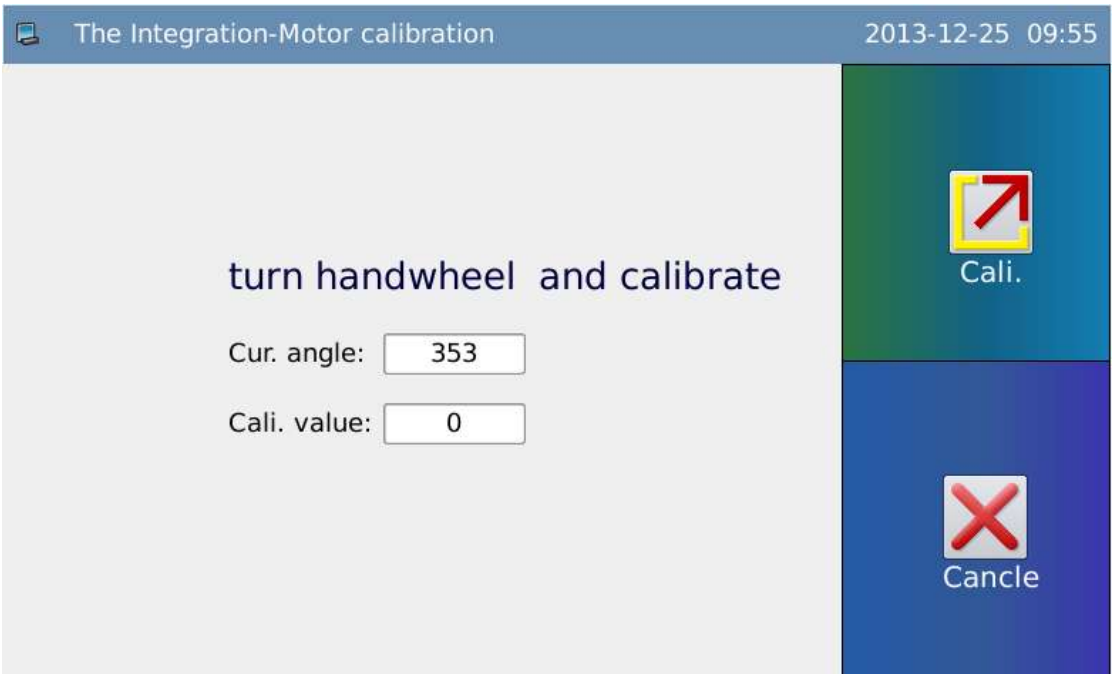
Functions：

No.	Function	Content
A	Swing Width Display	Display the swing width
B	Set base line	Change base line position
C	Cloth-feeding Display	Display the cloth-feeding value【**Note**】**this pattern does not exist at Single Stepping Model**
D	ESC	Quit and return to the previous interface
E	Value Adjustment	Adjust the swing width or cloth feeding amount Clicking the value frame of swing width or cloth-feeding amount is to confirm the value to adjust. Press the arrow to input value.

3.14.10 Integrated Motor Calibration

When the parameter P3-9 (Main Motor Type) is selected as Integrated Motor, user can perform the integrated motor calibration. For normal motorm this function key will not appear.

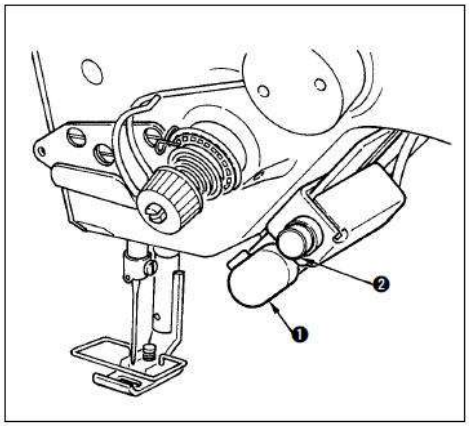
In Test Mode, user can press  to enter the integrated motor calibration mode. User needs to input the password before entering this mode. The calibration of the integrated motor shall be done by the professional technician.



Function List:

No.	Functions	Content
A	Calibration	The calibrated value will be saved at parameter P3-8
B	Quit	Quit without calibration
C	Display of Current Angle and Calibration Value	Display the current angle and calibrated value

3.15 Manual Switches



1） Reverse Feeding Switch ①

After user presses and holds the reverse feeding switch①, the machine will feed the cloth reversely. Release the hand to turn the feeding to normal feeding.

2） Symmetric Sewing Switch②

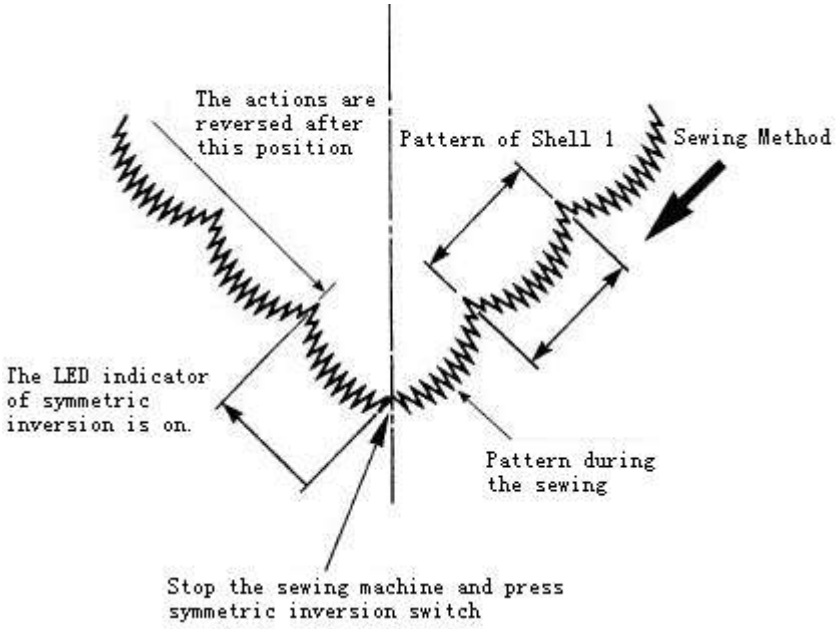
When user selects scallop, random pattern or continuous sewing, this switch will function as symmetric sewing switch

Symmetric Inversion: when machine stops at the middle of sewing, user can press the symmetric

inversion switch to sew the mirror of the pattern.

Sewing Method：

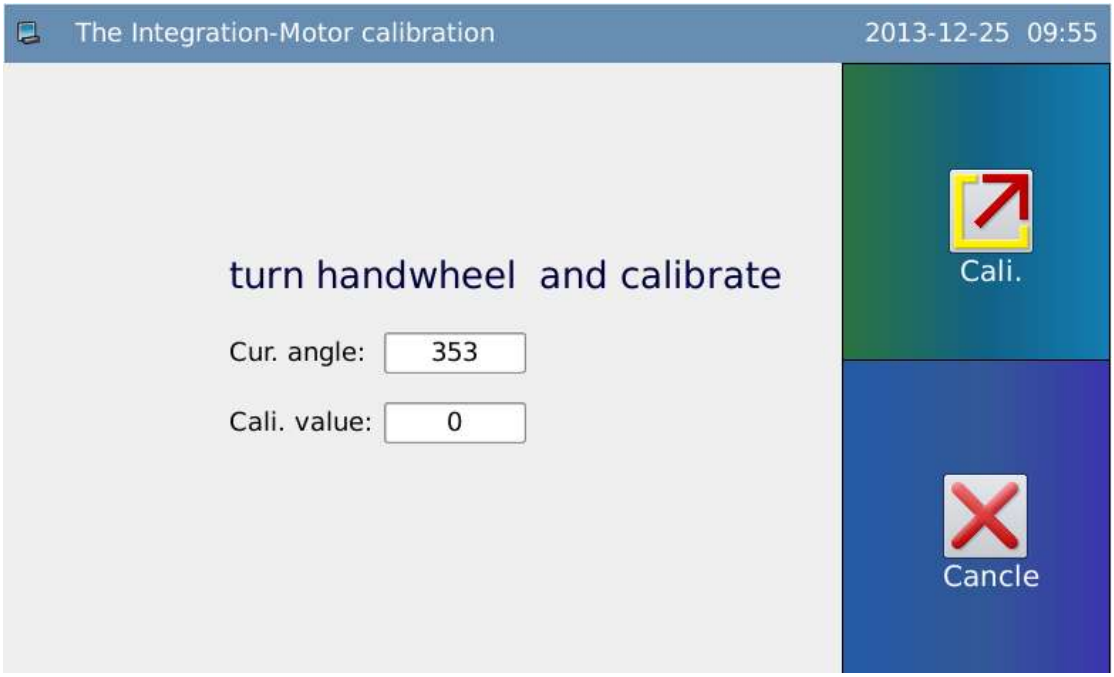
1） During the sewing, stop the machine at the position for symmetric inversion sewing
2） Press the symmetric inversion switch②. After the switch is pressed, the LED will be on. (The switch only functions when machine stops, and it will become useless at running.)
3） Use the machine to do the symmetric inversion sewing.
4） Cut the thread or press the symmetric inversion switch again to end the sewing.



4 Appendix 1

4.1 Instruction for Calibration at Power-on

If the main motor is the integrated motor, the system will acquire the main motor calibration at power-on for first time or restoration of parameter values. The interface for main shaft motor calibration is shown at below:



In this interface, user can perform the main shaft calibration, where the current main shaft angle and the calibrated value can be seen. Please turn the wheel to adjust the main motor angle. For the operation for calibration, please refer to Section 3.14.10

At the operation for first time, user must calibrate the main shaft angle of the integrated motor, or the machine will work abnormally

If the motor you use is not the integrated motor, this interface will not display.

5 Appendix 2

5.1 Warning Information List

Number	Name of Malfunction	Sub-information Content
E-003	Head Tilt	Please turn off power 。
E-004	Main voltage is too low(300V)	Please turn off power and check the system hardware.
E-005	Main voltage is too high(300V)	No
E-007	IPM is over-voltage or over- current	Please turn off power and check the system hardware.
E-008	Voltage of assistant device (24V) is too high	Please turn off power and check the system hardware.
E-009	Voltage of assistant device (24V) is too low	Please turn off power and check the system hardware.
E-013	Encoder is error or unconnected.	Please turn off power and check the system hardware.
E-014	Motor running abnormal	Please turn off power and check the system hardware.
E-015	Exceeds sewing area	Please press Enter to release problem
E-016	Needle rod upper position abnormal	Please turn the wheel to adjust the needle rod position
E-020	Stepping software version error	Please turn off power 。
E-025	X origin detection abnormal	Please turn off power 。
E-026	Y origin detection abnormal	Please turn off power 。
E-027	Presser origin detection abnormal	Please turn off power 。
E-030	Stepping driver communication abnormal	Please turn off power 。
E-031	Stepping motor over-current	Please turn off power 。
E-032	Stepping driver power abnormal	Please turn off power 。
E-034	Abnormal current	Please turn off power 。
E-035	IPM over current frequently 1	Please turn off power 。
E-036	IPM over current frequently 2	Please turn off power 。
E-037	Motor is blocked 1	Please turn off power 。
E-038	Motor is blocked 2	Please turn off power 。
E-039	Motor over speed	Please turn off power 。
E-040	Over current in stop status	Please turn off power 。
E-041	Motor overload	Please turn off power 。
E-042	Bus voltage abnormal	Please turn off power 。
E-044	Head board EEPROM I/O Error	Please turn off power 。
E-045	Component abnormal	Please turn off power 。
E-046	CRC check error	Please turn off power 。
E-047	Data check error	Please turn off power 。
E-048	X check error	Please turn off power 。
E-049	Y check error	Please turn off power 。

Number	Name of Malfunction	Sub-information Content
E-050	MD1 stepping over-current	Please turn off power 。
E-051	MD1 X direction not finish	Please turn off power 。
E-052	MD1 Y direction not finish	Please turn off power 。

5.2 Hint Information List

Number	Name of Malfunction	Sub-information Content
M-001	Trim counter reaches set value	Press Enter
M-002	Bottom thread counter reaches MAX value	Press Enter
M-003	Set value is too large	Please input value within valid range
M-004	Set value is too small	Please input value within valid range
M-005	Save parameter abnormal	Press Enter to restore the default values
M-006	Memory full	Please delete the idle sewing data
M-007	Delete pattern data from memory?	Press ENTER to perform the deletion; Press ESC to quit the operation
M-008	Replace pattern data in memory?	Press ENTER to perform the replacement; Press ESC to quit the operation
M-009	Can not delete pattern data.	The selected sewing data is being used!
M-010	Format memory?	Press ENTER to perform the operation; Press ESC to quit the operation All the patterns within the memory will be deleted
M-011	Operation head not match to machine type	Please check the model and the software version
M-012	Wrong password	Please input again.
M-013	Hardware clock error	The hardware clock has problem, please contact manufacturer for repair.
M-014	Stitch number beyond range	Please reduce stitch number
M-015	Communication error	Abnormal event occurs in the communication between the operation head and the control box!
M-016	Copy the pointed pattern?	Replace the original pattern？ Yes：Enter No：X
M-017	Copy all pattern data?	Press ENTER to perform the operation; Press ESC to quit the operation
M-018	Restore to default setting?	Press ENTER to perform the operation; Press ESC to quit the operation
M-019	USB is pulled out	U disk is pulled out!
M-020	Cannot find pattern data in U disk	–
M-021	No alarm record	–
M-022	Replace needle	Reach set value for needle replacement, please replace needle!
M-023	Replace oil	Reach set value for oil replacement, please replace oil!
M-024	Clean machine	Reach set value for cleaning machine, please clean machine!
M-025	Wrong User ID	Please input again.
M-026	Fail to confirm password	Please input password again
M-027	Cannot change system time	The periodical password is set. Can not change system time.

Number	Name of Malfunction	Sub-information Content
M-028	Fail to save password file	-
M-029	Fail to load password file	-
M-030	Password saved successfully	-
M-031	Fail to clear all passwords	Cannot delete password file
M-032	Fail to clear password	After the password is cleared, the file input becomes abnormal
M-033	Password file is deleted without authorization	Periodical password is deleted without authorization, please turn off machine
M-034	User ID file damage	-
M-035	Empty input invalid	Please input passwords
M-036	Password not match	Current password is wrong
M-037	New password is different.	Please input new passwords again and confirm it
M-038	Touching panel correction successful	Correction is successful. Please turn off power to restart.
M-039	Clear alarm records?	Are You Sure? Yes：Enter No：X
M-040	Delete the selected file?	Are You Sure? Yes：Enter No：X
M-041	Copy all patterns	Cover the original patterns? Yes：Enter No：X
M-042	Fail to copy file	Please check the space in memory
M-043	Fail to copy file	Please check if the USB disk is pulled!
M-044	Fail to open file	Fail to open file
M-045	Format not match	Formats don’t match, current load denied
M-046	Parameter over range	Parameter is over range. After confirmation, the parameter over range will be restored according to the default parameters!
M-047	Please create catalogue and file	Please create catalogue bakParam in U disk. Name the back-up file as backup.param and copy it to bakParam catalogue!
M-048	File I/O error	File I/O error!
M-049	Please select file	Select the file for input/ output
M-050	File not exist	Cannot find the corresponding file
M-051	Enter touching panel correction mode?	Are You Sure? Yes：Enter No：X
M-052	Clear accumulated running time?	Are You Sure? Yes：Enter No：X
M-053	Clear accumulated trimming times?	Are You Sure? Yes：Enter No：X
M-054	Clear accumulated power-on time?	Are You Sure? Yes：Enter No：X
M-055	Clear accumulated stitch numbers?	Are You Sure? Yes：Enter No：X
M-056	Periodical passwords can’t be same to super password	Please input password again
M-057	Cannot change trim counter	At change, please turn off setting
M-058	Cannot change bottom thread counter	At change, please turn off setting

Number	Name of Malfunction	Sub-information Content
M-059	Not select update item	Please select item for updating. At least select one item
M-060	Some selected update items don't exist.	The item not existing will be cancelled after return.
M-061	Update successful	Update is successful, please restart machine.
M-062	Format U Disk?	Press Enter to perform formatting operation. Press Esc to quit current operation. After formatting, all pattern files will be deleted.
M-063	Can not find U disk	Please insert the U disk for formatting!
M-064	Successful	Current operation is successful!
M-065	Failed	Current operation is failed!
M-066	Cover the pattern with same name in U disk?	Press ENTER to perform the replacement; Press ESC to quit the operation
M-067	Fail to correct touching panel	Please correct it again.
M-068	Restore all the settings?	Are You Sure? Yes：Enter No：X
M-069	Restore the selected item?	Are You Sure? Yes：Enter No：X
M-70	Not select item	Please select one or more parameters
M-71	SRAM initialization	Clear all data in SRAM. Please turn off power and restore the setting of DIP switch.
M-72	Turn off machine, Bye	-
M-73	Parameter recovery successful	Parameter recovery is successful, please restart machine
M-74	Software version saving successful	Software version is saved to the base catalogue of U disk successfully
M-75	Can not find pattern number	Please select pattern again
M-77	Can not register the sewing method of the pattern as pattern number	Please change sewing method.
M-78	Cannot find corresponding pattern file or fail to load pattern	Please select pattern file again.
M-79	Fail to create pattern file	Please select pattern file again
M-80	Parameter value over limits	Please check parameter setting
M-81	Index number over limits	Please select index number again
M-82	Not find registered pattern in memory	Please save a pattern into memory
M-83	Fail to replace the pattern	-
M-84	Cannot delete reverse sewing data	The selected reverse sewing data is being used!
M-85	Format customized pattern?	Press Enter to perform formatting operation. Press Esc to quit current operation. After formatting, all customized pattern files will be deleted!
M-89	Fail to replace current pattern	The copy group contains the current pattern number. Cannot replace current pattern.
M-90	Cannot find pattern file	Fail to perform operation to pattern file. Please select file again
M-91	Pattern data error	The generated pattern data is wrong, not supported by machine. Please check or select file again
M-92	Cannot delete pattern file	This pattern is forbidden to get deleting
M-93	Step error	The selected step cannot find in current operation. Please select again.
M-94	Load VDT file error	System doesn't support this VDT file or the VDT

Number	Name of Malfunction	Sub-information Content
		file is damaged
M-95	Write VDT file error	Fail at writing the VDT file. The number of file is over the max amount supported by system or the file is wrong
M-96	VDT data error	Cannot recognize the VDT data or the VDT file is damaged.
M-97	Can not transfer this pattern	Please confirm pattern
M-98	Format of transferred pattern error	Please confirm pattern
M-99	Data of transferred pattern is too long	Please confirm pattern
M-100	Cannot open the transferred pattern	Please confirm pattern
M-101	Cannot delete front reverse sewing file	File is being used
M-102	Cannot delete back reverse sewing file	File is being used
M-103	Sewing range over left limits	Please check parameter setting
M-104	Sewing range over right limits	Please check parameter setting
M-105	Swing over limits	Please check parameter setting
M-106	Feeding amount over limit	Please check parameter setting
M-107	Scale over limits	Please check parameter setting
M-108	Speed over limits	Please check parameter setting
M-109	Pattern number is full	Please delete the idle sewing data
M-110	Single stitch over length limits	The step length is over 12.7 or below 0.1. Please check pattern data.
M-111	Pattern number exited	Select an empty number
M-112	No pattern quoted in continuous sewing	At least add one pattern.
M-113	Stitch number of quoted patterns in continuous sewing is 0	Please change the pattern stitch number
M-114	Front reverse sewing data invalid	-
M-115	Back reverse sewing data invalid	-
M-116	Front reverse sewing stitch number over limits	-
M-117	Back reverse sewing stitch number over limits	-
M-118	Pattern Number Illegal	Please re-pick a number
M-119	Quoted Pattern Not Existed	Please check memory pattern or re-pick a number
M-120	Verification Failure at Updating Main Control Software	-
M-121	Parameter Loading Failure	Please Contact Factory for Repair!
M-122	Calibration Successful	Calibration Successful, please restart machine
M-123	Main Motor Type Change	The type of main motor is changed. Please restart the machine.
M-124	Mirror Pattern. Operation Error	This is the mirror pattern. Can not perform this operation Please change on the original pattern

6 Appendix 3

6.1 Installation Size of Control Box

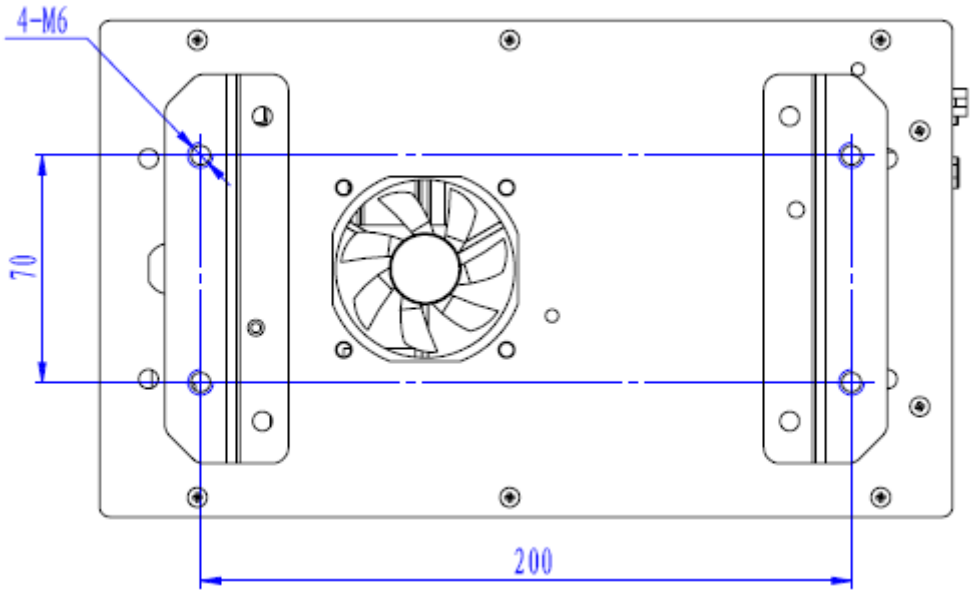


Figure 1 Installation Size (4 Holes)

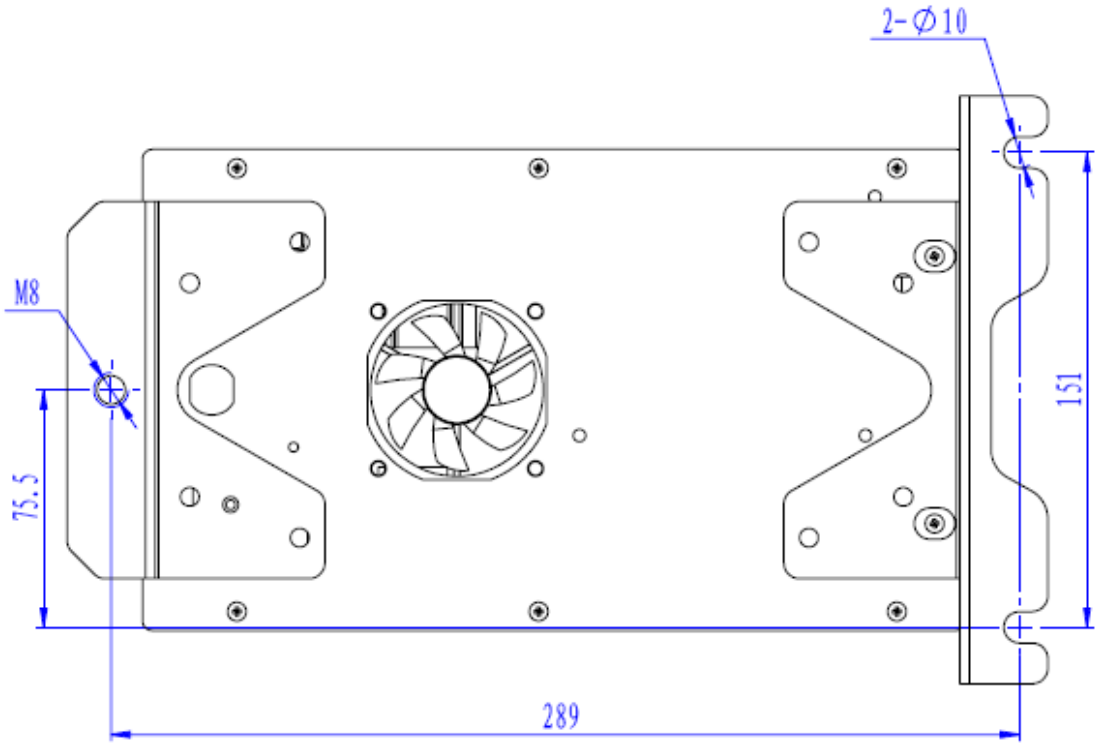
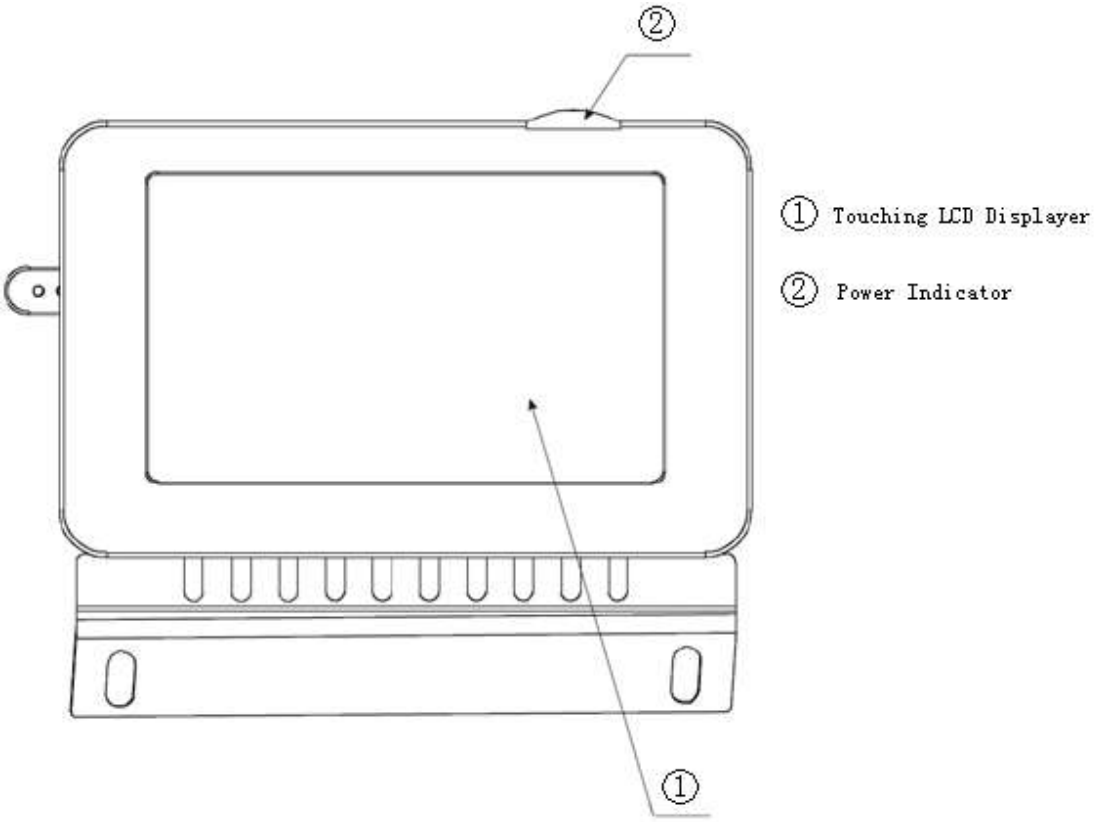
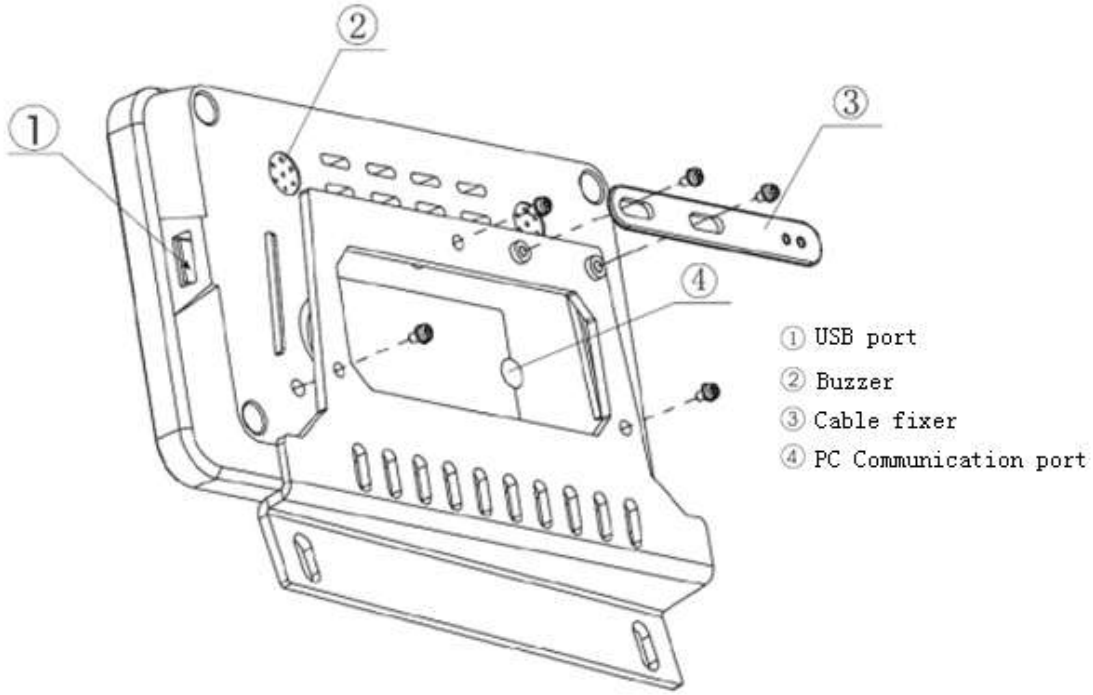


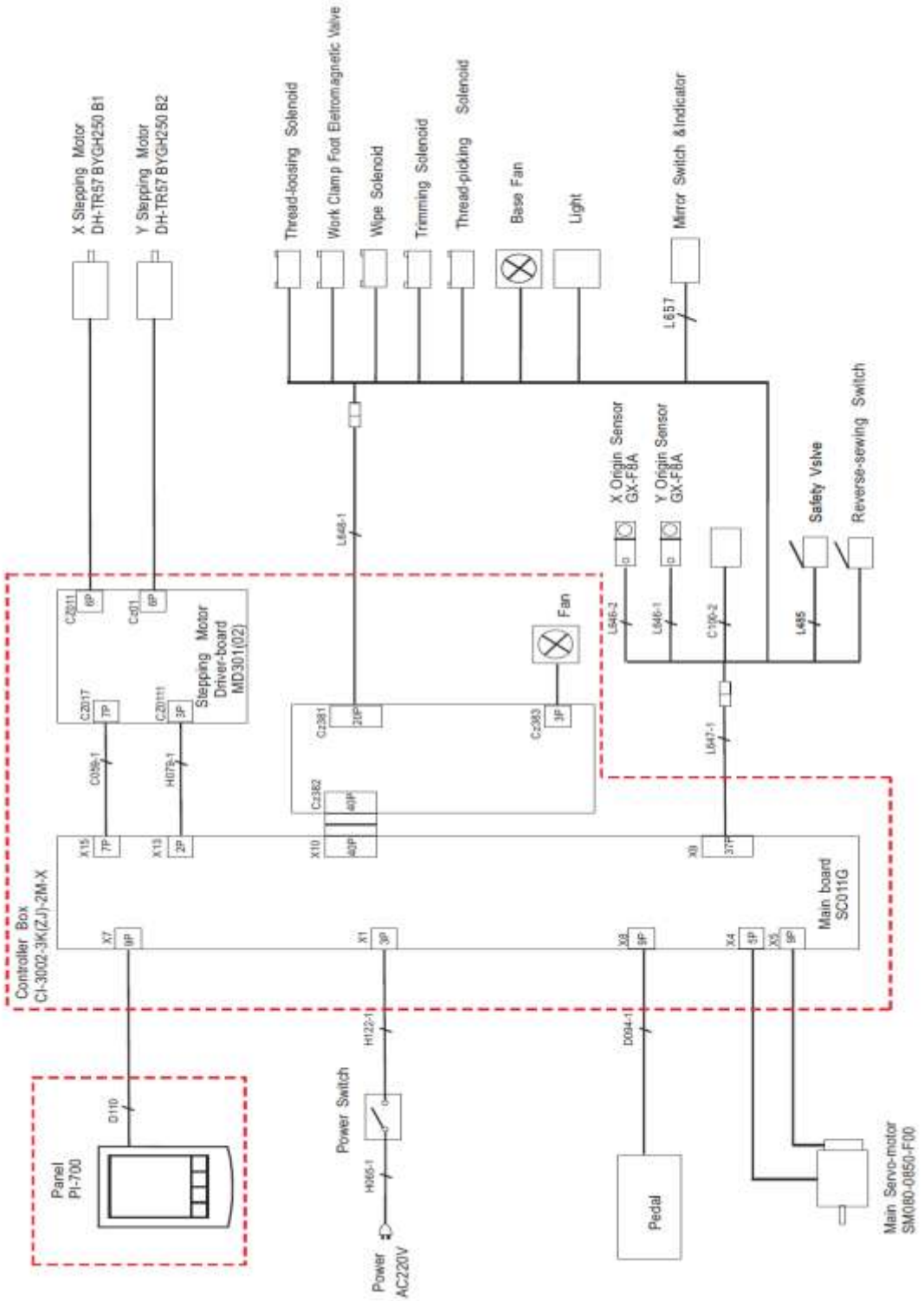
Figure 2 Installation Size (3 Holes)

6.2Installation Size of Touching Panel





6.3 SC300 Diagram



【Note 1】Double stepping model has no reverse sewing solenoid

【Note 2】Single stepping model (with trimming function)has no Y stepping motor, Y origin sensor, reverse sewing lever.

【Note 3】Single stepping model (with trimming function) has no solenoids, Y stepping motor, Y origin sensor, fan, reverse switch and reverse lever.