BM15-9820

Round head lock eye - touch screen

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1 Overview

1.1 Overview

9820 series industrial sewing machine computer control system, the main shaft motor is driven by the world's advanced AC servo control technology, which has the characteristics of large torque, high efficiency, stable speed and low noise. The diversified design of the operation panel can meet the supporting requirements of different customers; the system adopts the German-style structure design, which is convenient and quick to install and maintain, and the operation program of the system panel can be quickly upgraded through the U disk, which is convenient for users to continuously improve product performance.

1.2 Function and Indicator Parameters

The functions and parameters of SC511 series CNC AC servo system are shown in Table 1.

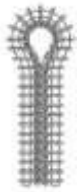
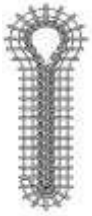
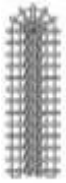
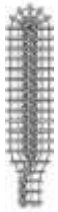
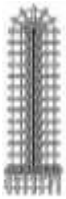
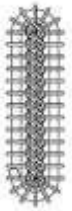
Table 1: Function and parameter comparison table

serial number	Model / project	SC511/MASC511
1	use	Men's, Women's, Casual, Jeans, Pants
2	sewing speed	1000—2500rpm
3	Stitch shape	without seam
		tapered seam
		Straight seam
		round seam
		chrysanthemum eye
4	Lock seam length	Round eyelet 8-42mm, slotted hole 5-50mm
5	Stitch pitch	0.5-2.0mm
6	Stitch width	1.5mm—5.0mm, mechanically adjustable 1.5—4.0mm
7	Conical reinforcement length	0-20mm
8	Presser foot height	Standard 12mm (can go up to 16mm)
9	Start method	Double foot switch or manual switch
10	Feeding method	3-pulse motor for X/Y/Z intermittent feeding
11	The driving method of cutting the upper thread and cutting the bottom thread	Solenoid valve drive
12	Hammer drive	Solenoid valve drive
13	safety devices	Emergency stop switch, head overturn switch and automatic protection function of circuit failure
14	Pattern input and upgrade method	USB stick
15	Operator Panel Supported Languages	Chinese, English
16	Upper shaft motor	Small AC Servo Motor 750W Belt Drive
17	air pressure	Main regulator: 0.5MPa, air hammer pressure regulator: 0.4Mpa
18	rated power	600W
19	Operating	0℃ ～45℃

	temperature range	
20	Use humidity range	35%～85% (no condensation)
21	voltage	AC 220V ± 10%；50/60Hz

※ Product implementation standard: QCYXDK0004—2016 《Computer Control System for Industrial Sewing Machines》.

1.3 Stitch shape

round head keyhole			
			
无加固缝	锥形加固缝	直线加固缝	圆形加固缝
keyhole			
			
无加固缝	锥形加固缝	直线加固缝	圆形加固缝
chrysanthemum eye			
			

1.4 Standardization

The function keys adopt the industry-recognized graphic logo, and the graphic is an international language, which can be recognized by users from all over the world.

1.5 Operation method

Using a true color full touch LCD screen, the interface is more friendly and intuitive, and the operation is more convenient. Refer to the operating instructions for specific operation methods.

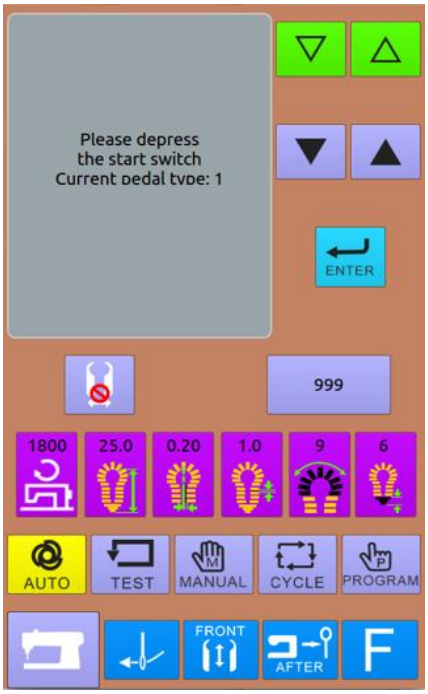
2 Basic operating instructions

2.1 Operation panel description

（Front）

（right side）

2.2 Basic operation



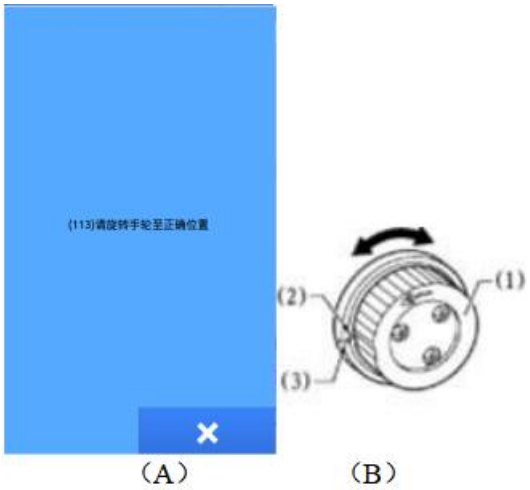
① Turn on the power switch

After turning on the power switch, the pattern data display area of the operation screen displays:

Please step on the start switch

Current pedal type: 1

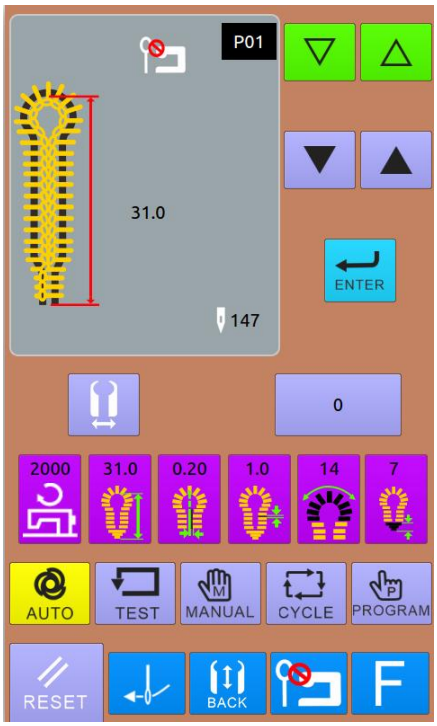
Note: After turning on the power and operating the panel 113, please turn the handwheel (1) in the direction shown in Figure (B), so that the steel mark (2) on the handwheel is consistent with the notch (3).



② Press the start switch

When the right foot pedal switch is depressed, the feed table moves to the position where the fabric is placed. The operation panel displays the standby state of the previous operation mode (any of automatic mode, test feed mode, manual mode, cycle program mode, program mode)

Note: After moving to various modes, the state before starting the next action is called "standby state".



2.3 Setting method of pattern program

Sewing data input interface

The data input interface is shown on the right. For detailed function descriptions, please refer to [Table 1: Button Description Table].

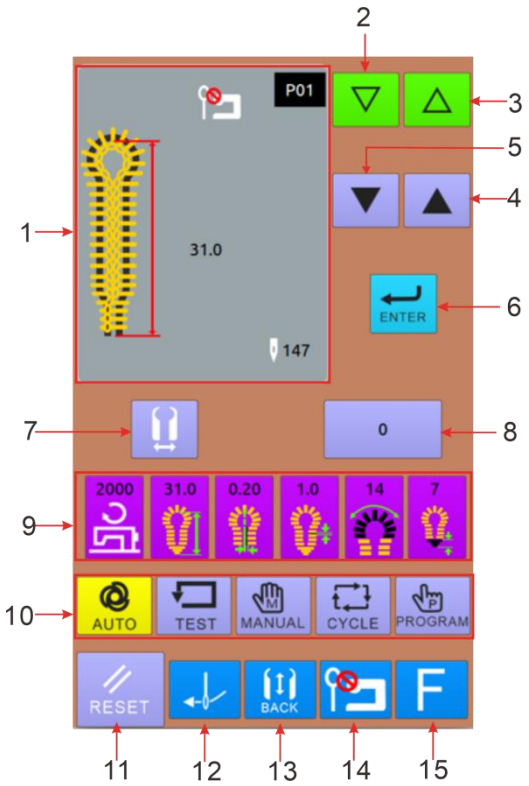
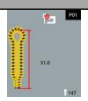


Table 1: Button Description Table：

serial number	icon	Features	Remark
1		Sewing shape display	Display pattern number, pattern shape, pattern length, pattern stitch number, sewing speed and other information
2		Decrease program and parameter number keys	
3		Add program and parameter number keys	
4		Increase parameter content and numeric keys	
5		Decrease parameter content and numeric keys	
6		ENTER key	Check the content of parameters and pattern data
7		Cloth open button：  Cloth prohibition key： 	The default is to enable the stretch fabric. If it is set to be disabled, it will automatically resume after sewing a pattern.
8		Counter value display	

serial number	icon	Features	Remark
9		Shortcut key	You can quickly modify 6 parameters related to patterns
10		Sewing mode key	Switchable to 5 sewing modes: automatic, manual, test feed, cycle, program
11		RESET key	Clear error message display
12		THREAD key	Enter threading mode
13		FRONT key  BACK key 	Swap cloth placement from the "front" or "back" position
14		Knife first key  Back cutter key  No cutter key 	Set the cutter action
14		Parameter management key	Enter parameter setting

Pattern program setting

It is recommended to pre-set the pattern data parameters that are often used before use. In the future use, just select the pattern number to call up the set pattern, which can save the cost of resetting the pattern parameters each time. time.

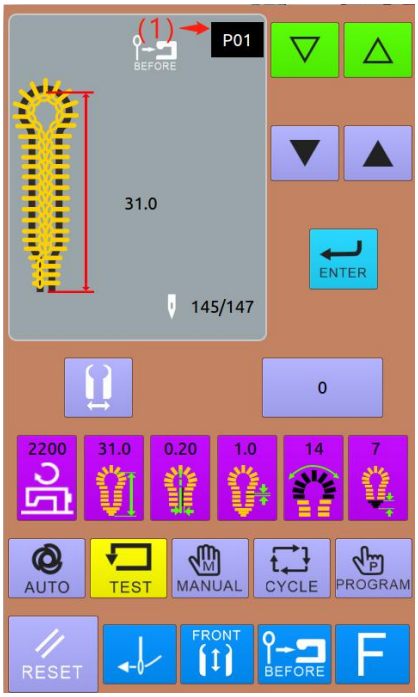
20 pattern program numbers can be registered, and the data parameters of each item can be changed at any time.

When leaving the factory, the pattern program numbers P01~P20 all save the default pattern program content. (Program numbers P01~P20 all have the same content)

① Press the test feed mode button 

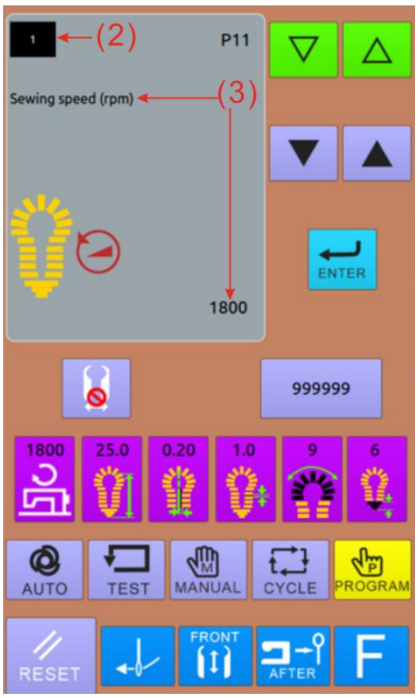
② Select the pattern program number whose content is to be changed P01~P20（1）。

Each time the " △ " key is pressed, the pattern number (1) will be switched in the order of P01→P02→...P20→C1→C2...C9 (press the " ▽ " key to switch in the opposite direction)

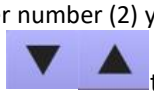


③ Press the program mode key " " 

display the previously selected pattern parameter number (2) and its specific parameter information (3) in the pattern data display area.



④ Press the " " key to select the parameter number (2) you want to change.

⑤ Press  to change the content of parameter (3). The parameter information (3) flashes to indicate that its content has not yet been determined.

⑥ Press the " 

" key to confirm the changed content. The parameter information (3) changes from blinking to non-flashing, indicating that its content has been determined. If you press any one of the ,  , 

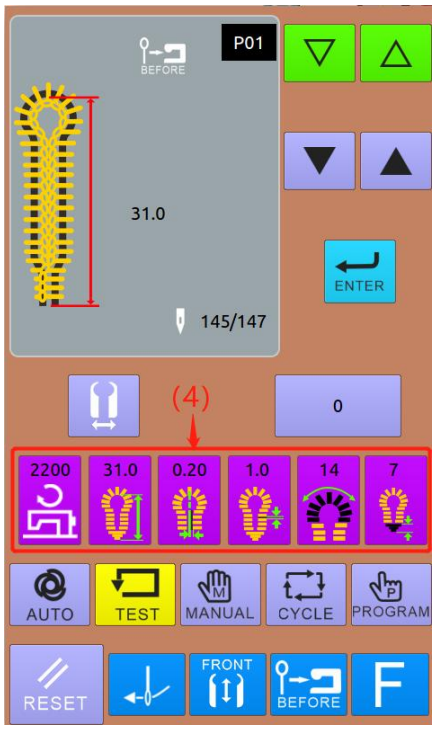
, 

, 

keys instead of pressing the “ 

” key when it is flashing, the changed parameter (3) will be abolished and return to the value before the change.

⑦ Repeat the sequence of steps 4~6 above to change other parameters.



About shortcut keys

In the shortcut key (4), the following 6 parameters that are frequently used are registered.
(5) Sewing speed (parameter No.01)
(6) Buttonhole lock seam length (parameter No.02)
(7) Stitch pitch (parameter No.04)
(8) Number of stitches on the round head (parameter No. 05)
(9) Bartack length (parameter No.06, No.08, No.10)

Note: Set different bar tack styles in parameter No. 40, corresponding to different bar tack length parameters (10).

List of S-class pattern parameters

Depending on the settings of other parameters, the setting values of some parameters may not be changed or may be invalid.

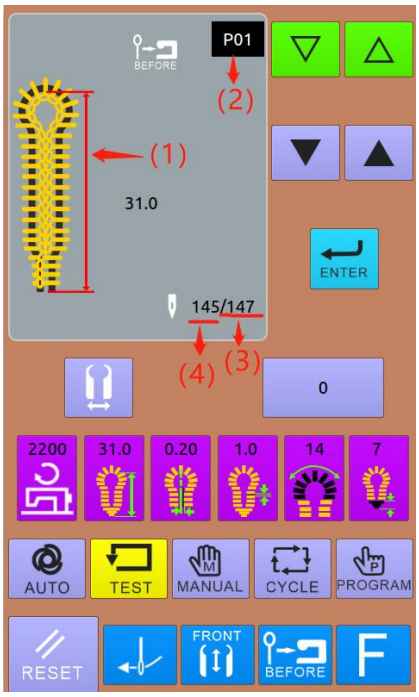
parameter number	set content	Predetermined area	unit	initial value
S01	sewing speed 	1000~2500rpm	100	1800rpm
S02	Buttonhole seam length 	5~50mm	0.5	25mm
S03	Knife interval 	-0.3~0.5mm	0.05	0.2mm
S04	Stitch pitch 	0.5~2.0mm	0.1	1.0mm
S05	Number of needles with round head 	4~20 needle	1	9 needle
S06	Tapered bar tack length 	1~20mm	1	6mm
S07	Offset 	0.5~2.0mm	0.1	1.5mm
S08	Straight seam length 	2.0~6.0mm **(up to 3.0mm on one side)**	0.1	5.0mm
S09	Number of straight bartack stitches 	5~18 needle	1	7 needle
S10	Number of round bartack stitches 	6~18 needle	2	8 needle
S11	Knife shape 	1~6 **(according to different cutter numbers code, choose the appropriate cutter shape)**	1	3
S12	Stitch width correction 	-1.0~1.0mm	0.1	0.0mm
S13	Round head low speed 	-600~0rpm **(The low speed of the round head is based on the setting value of the sewing speed of parameter 01)**	100	0rpm

parameter number	set content	Predetermined area	unit	initial value
S14	Straight bar tacking speed 	1000~2500rpm **(When the sewing speed is slower than the straight bartack speed, the straight bartack speed will be the same as the sewing speed. same speed)**	100	1800rpm
S15	Slow start stitch number 	0~3 needle	1	0 needle
S16	Slow needle up speed 	400~1500rpm **(When the sewing speed is slower than the slow start speed, the slow start speed will be the same as the sewing speed. Sample)**	100	700rpm
S17	Cutter X direction correction 	-0.5~0.5mm	0.05	0.0mm
S18	Knife Y direction correction 	-0.7~0.7mm	0.05	0.0mm
S19	Number of starting seam bartack 	0~4 needle	1	0 needle
S20	Tail seam bartack stitches 	0~4 needle	1	1 needle
S21	X-direction correction 	-1~6	1	0
S22	Y direction correction 	-1~6	1	0
S23	θ 1 correction 	-3~3	1	0
S24	θ 2 correction 	-3~3	1	0
S25	Tapered bar tack height 	20~50	1	20
S26	Bartack width correction 	-1.0~0.0mm	0.1	0.0mm

parameter number	set content	Predetermined area	unit	initial value
S27	Reinforcement seam overlap 	0.0mm~2.0mm	0.1	1.0mm
S28	Bartack X direction correction 	-1.0mm~1.0mm	0.1	0.0mm
S29	Bartack Tilt Correction 	-3~1	1	0
S30	Conical tail overlap 	0~5	1	2
S31	Tail seam bar tack pitcl 	20%~100%	5%	100%
S32	Round knot overlapping stitch count 	1~2 needles (within 45°)	1	1 needle
S33	Needle movement without cutter 	1~2	1	1
S34	Chrysanthemum eye cutter size 	2~5mm	1	2
S35	Chrysanthemum eye needles 	8~100 needle	1	20
S36	Chrysanthemum eye overlapping stitches 	1~5 stitches (within 45°)	1	2
S37	Secondary air hammer 	ON/OFF	1	OFF
S38	Round head size fine-tuning 	-0.5~0.8	0.1	0.0
S39	Double seam enable 	0~1	1	0
S40	bar tack pattern 	1: No back seam 2: Tapered seam 3: Straight seam 4: Round barbed seam 5: chrysanthemum hole	1	2
S41	Combination sewing pattern	0~20	1	0

2.4 Test feed mode to confirm sewing pattern

In the test feed mode, when the upper shaft is stopped, only the feed table operates as in the normal sewing state. Use this mode to easily confirm the positional relationship between the needle and the presser foot



① Press the test feed mode key

After pressing the test feed mode key "TEST", the stitch shape (1), pattern number (2), total stitches (3), remaining stitches (4), etc. of the sewing pattern will be displayed in the sewing data display area.

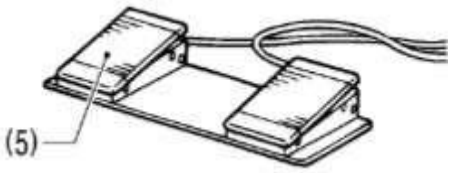
② Select pattern number

Each time the "△" key is pressed, the pattern number (2) will press P01.
The sequence of →P02→…P20→C1→C2…C9…P01 is switched. (Press the ▽ key just the opposite, it is the reverse order)

③ Press the presser foot switch

Double pedal: After pressing the left presser pedal (5), the presser foot is lowered

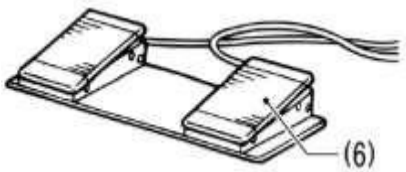
Single pedal: After the pedal is pressed to the next step, the presser foot is lowered



④ Press the start switch

Double pedal: After pressing the right start pedal (6), the feed table will move to the position where sewing starts.

Single pedal: After the pedal is pressed to the second gear position, the cloth feed table will move to the position where sewing starts.



⑤Press the start switch (6) or the " ▼ ▲ " key to start the test feed sewing。

or ▼ ▲

(2 stitches are sewn every time you press it.) (If you keep pressing it, it will sew continuously.)

Note: The number of remaining stitches displayed in the sewing data display area

(4) Reduce 2 stitches each time.

The buzzer will sound when the last stitch is reached.

Test feeding mode, continue to press forward after the feeding is reduced to 1

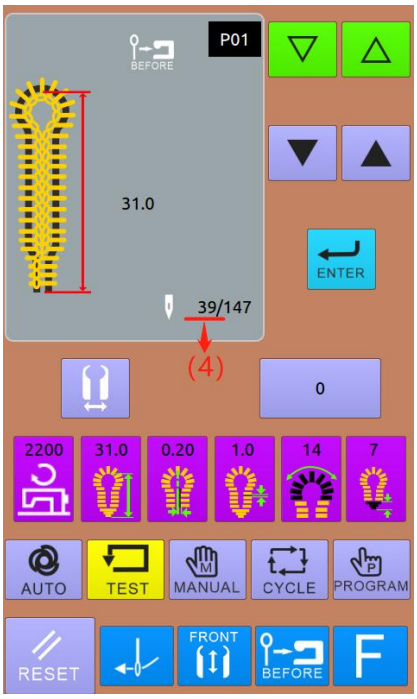
Thread trimming and knife action will be performed.

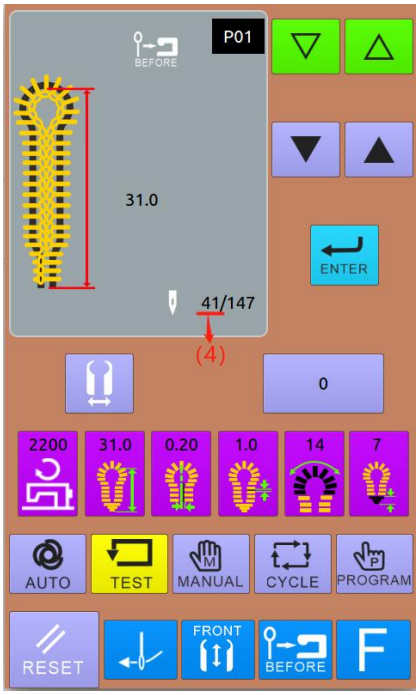
⑥ It is hoped that the cloth feed table will return to the cloth setting position when the test cloth is terminated.

Press the key RESET, the pattern returns to the initial position

⑦ During feeding, when you want to return the feed table to the previous sewing position.

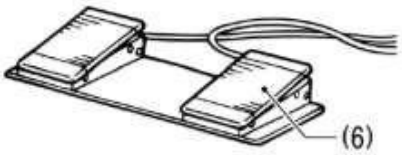
Press the " ▼ " key, and each press will go back 2 stitches. The number of remaining stitches (4) displayed in the sewing data display area is increased by 2 stitches each time.

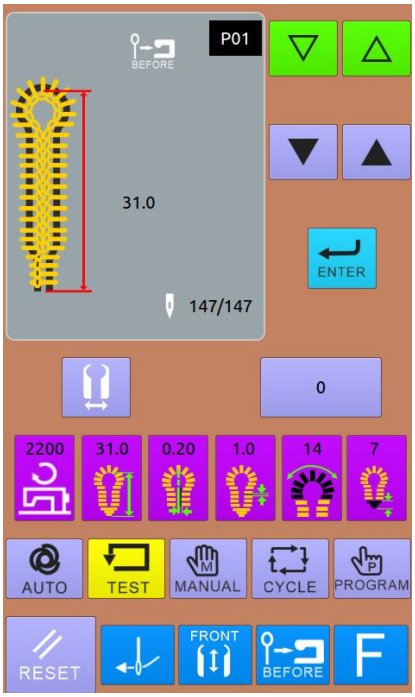




⑧ When the last stitch is reached.

Press the start pedal switch (6) until the number of remaining stitches displayed in the sewing data area becomes 0, the pattern data area will display "Feeding test completed!" Back to the maximum number of stitches.



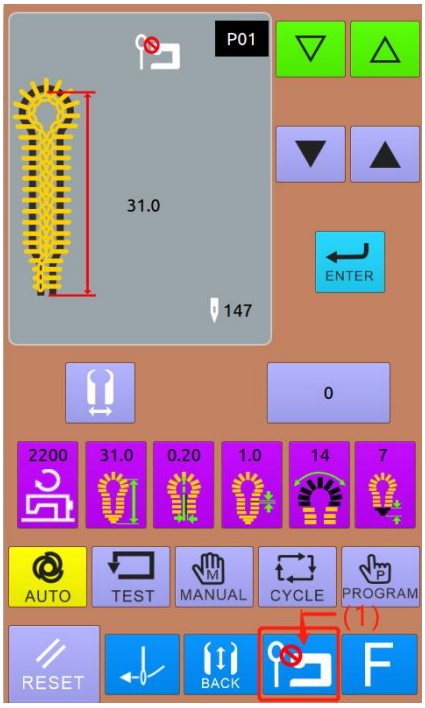


2.5 Switching of knife action

① Without cutter

The cutter action is not performed.

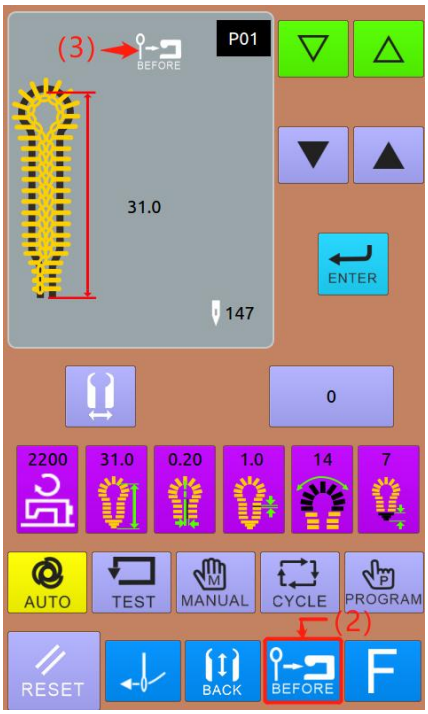
At this time, the interface is displayed as shown on the right, press the cutter mode key to switch to no cutter (1).



② Knife first

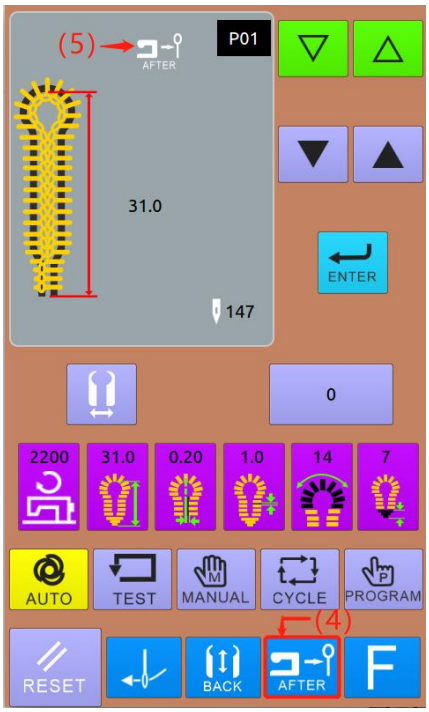
After the cloth cutting operation is performed, the sewing operation is performed.

The interface is as shown on the right, press the cutter mode key to switch to the cutter first (2), at this time, the cutter first mode will be displayed in the sewing data display area (3).



③ Back cutter

After the sewing operation is completed, the cutter operation is performed again. The interface is shown on the right, press the cutter mode key to switch to the rear cutter (4). At this time, the post cutter mode will be displayed in the sewing data display area (5)。



2.6 Switching method of fabric setting position

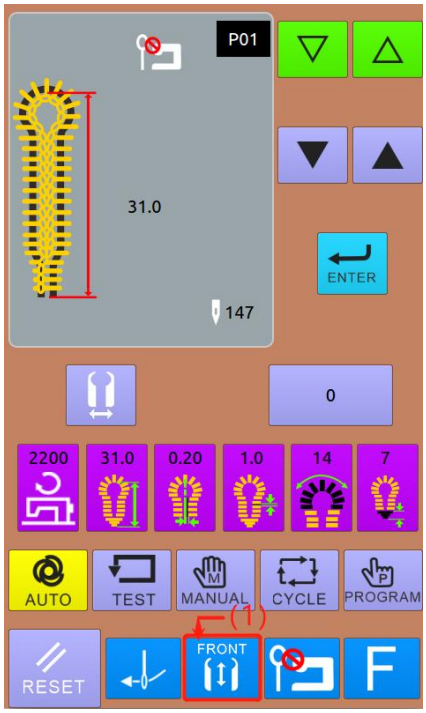
Because the cloth feed table can be moved further forward than the standard cloth setting position, it is easier to set the cloth. The cycle time is shortened especially when using the back cutter。

① To move the feed table to the front

In the standby state of automatic mode, test feeding mode or manual mode, press the feeding position switch button (1) to switch the feeding mode to " 

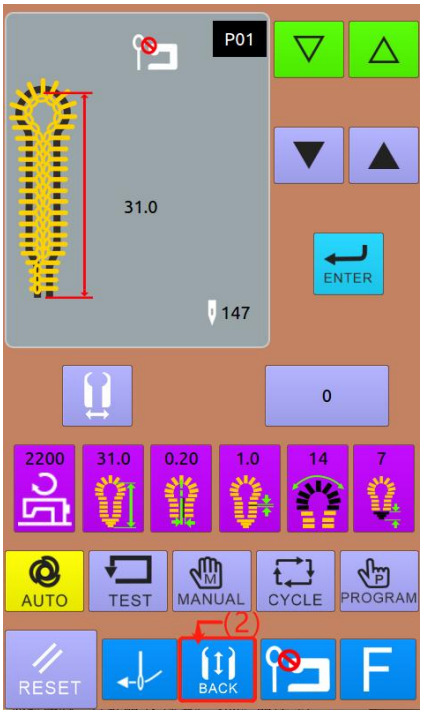
", at this time, the feeding table will move to the front (the start of sewing). s position)

Note: The front position refers to the direction in which the operator is close to himself when facing the machine.



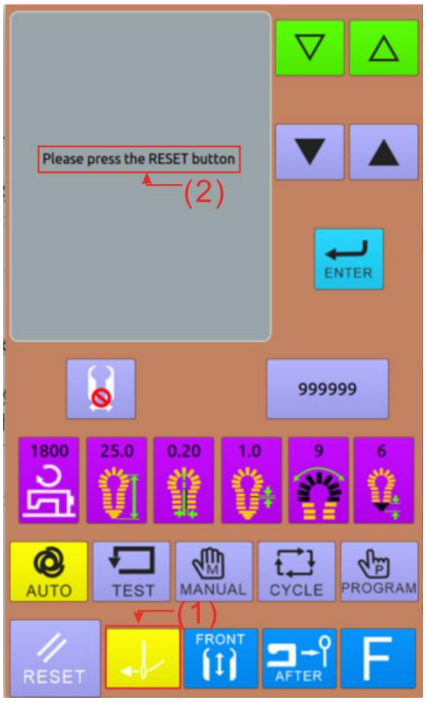
② When moving the feed table to the back (standard fabric setting position)

Press the feed position switch button (2) again, the feed mode is switched to "BACK", and the feed table will return to the back (standard fabric setting position).



2.7 Threading mode

Threading mode is used when threading the upper thread. When switching to the threading mode, the excitation of the XYZ axis stepping motor will be cut off after the Z axis of the needle bar is rotated 180°. At this point, the needle bar and feed table can move freely, making it easy to thread the upper thread.



①Enter threading mode

Press the threading mode button (1) to switch the feeding mode to threading mode in the standby mode of automatic mode, test feeding mode or manual mode. At this time:

1. The pattern data display area will display “Please press the RESET button” (2).
2. The thread tensioner becomes open.
3. The buzzer sounds, the needle bar rotates 180°, and then the excitation of the XYZ axis stepping motor is cut off.

② Thread

After three minutes, the thread tensioner closes automatically。

③Finished threading

④After the upper threading is completed,

press the “ 

” key, the needle bar and the cloth feed table will return to the origin to perform the origin detection, and then return to the fabric setting position. The thread tensioner is closed.

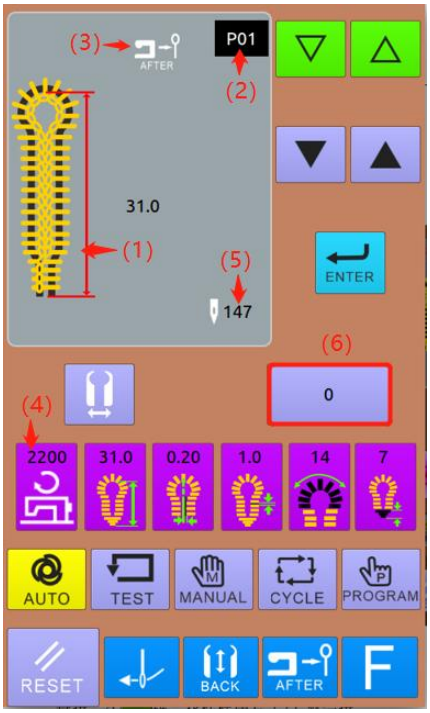
3 Sewing Operation Instructions

3.1 Automatic Mode

- When performing automatic sewing for the first time, be sure to perform trial sewing
- When using SC511 in a low temperature environment, please perform several trial sewing operations to warm up the motor

① Press the auto mode key

After pressing the automatic mode key "AUTO", the shape and length of the sewing stitch will be displayed in the pattern data display area.



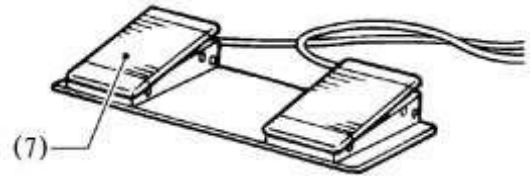
(1) Pattern shape
(2) Pattern number
(3) Cutter action
(4) Sewing speed
(5) The total number of stitches in the current pattern
(6) Production counter

② Press "▽ △" to select the desired pattern program number (2). Each time the "△" key is pressed, the pattern program number (2) will be switched in the order of

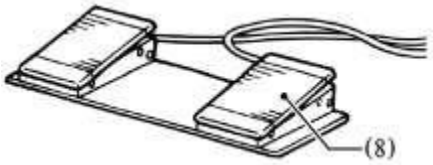
P01→P02→...P20→C1→C2...C9 (press the "▽" key to switch in the opposite direction.)

③ Select the desired cutter motion (no cutter/first cutter/last cutter). Note: Please refer to 【2.5 Switching of Cutter Actions】

④ After placing the fabric to be sewn under the presser foot, depress the presser foot pedal switch (7).



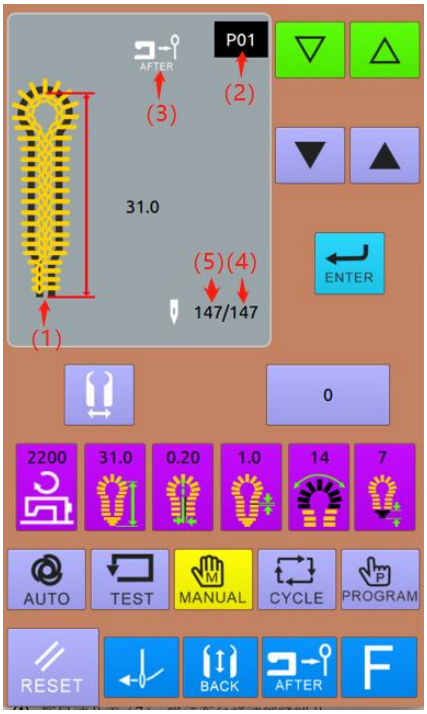
⑤ Press the start pedal switch (8) and sewing starts



⑥ To repeat sewing, repeat steps ④~⑤ above

3.2 Manual mode

In manual mode, turn the handwheel by hand, the feed table can move stitch by stitch. This is convenient for synchronizing adjustment of the yarn splitter.



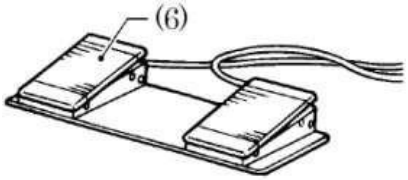
① Press to enter manual mode

In the sewing data display area, the shape of the sewing stitch (1), the pattern program number (2), the knife action (3), the total number of stitches (4), the number of remaining stitches (5), etc. are displayed.

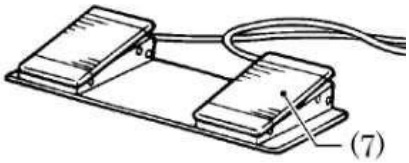
② Press "▽ △" to select the desired pattern program number (2). Each time the "△" key is pressed, the pattern program number (2) will be switched in the order of

P01→P02→...P20→C1→C2...C9 (press the "▽" key to switch in the opposite direction.)

③ Place the sewing material under the presser foot, press the presser foot switch (6), and lower the presser foot



④ Press the start switch (7) to move the feed table to the position where sewing starts. Notice:



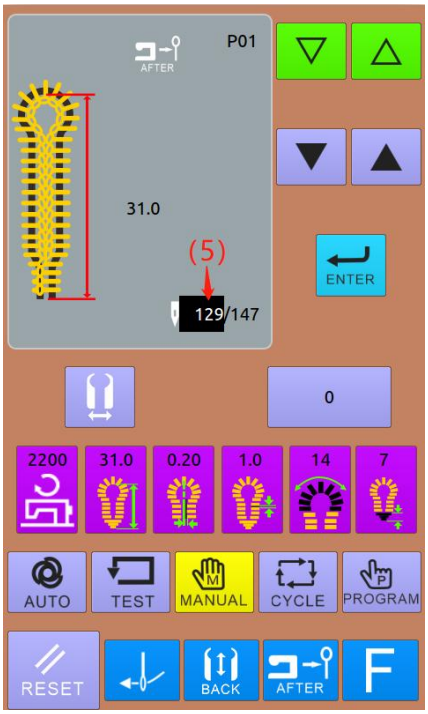
When the knife action is set to "Cut first", be sure to pay attention to safety due to the movement of the cutting hammer.

⚠ 注意	
	**During manual sewing, due to the action of the cutting hammer, please do not put your hand next to the cutting hammer. may cause serious injury。**

.

⑤ Turn the upper shaft handwheel to the left

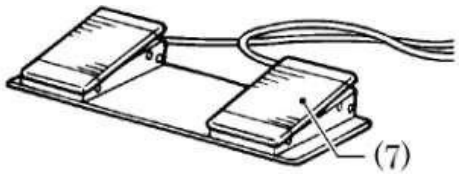
Each time the upper shaft handle rotates one turn, the cloth feed table will move to the sewing position of the next stitch, and every time the upper shaft handle rotates half a turn (needle bar goes up and down once), the remaining stitches displayed in the sewing data display area (5) will reduce 1 stitch. Notice:
If the upper shaft handle is turned in the opposite direction, the feed table will not move.
into the shape of a stitch, please do not turn the handwheel in the opposite direction



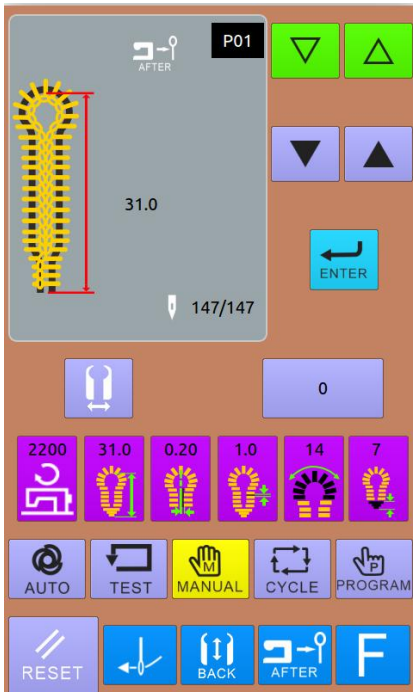
⑥ If you want to stop manual sewing, return the feed table to the

Press the "RESET" key when setting the position.

⑦ When the last stitch is reached, press the "RESET" button, and the feed table returns to the position where the fabric is placed.



Notice:
When the cutter action is set to "rear cutter", be sure to pay attention to safety due to the action of the cutter.



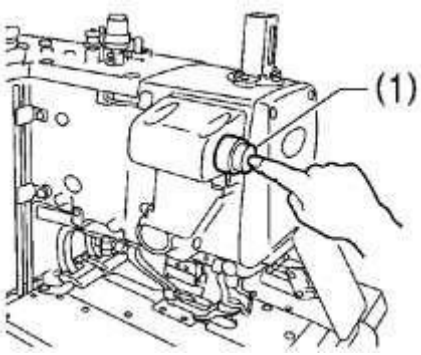
3.3 Pause switch

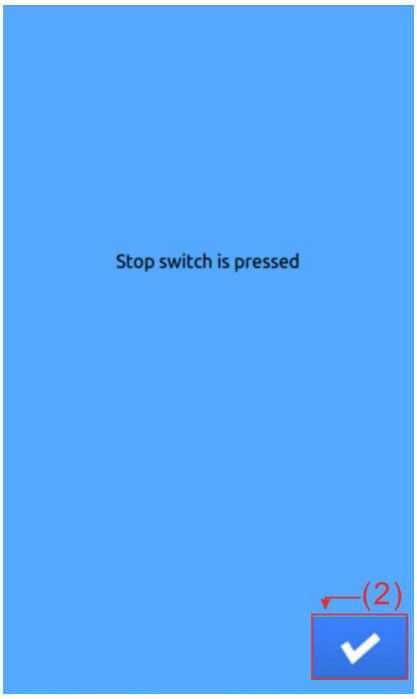
Pause in automatic sewing

The pause switch is generally used to stop the sewing machine in the event of a thread breakage, etc.

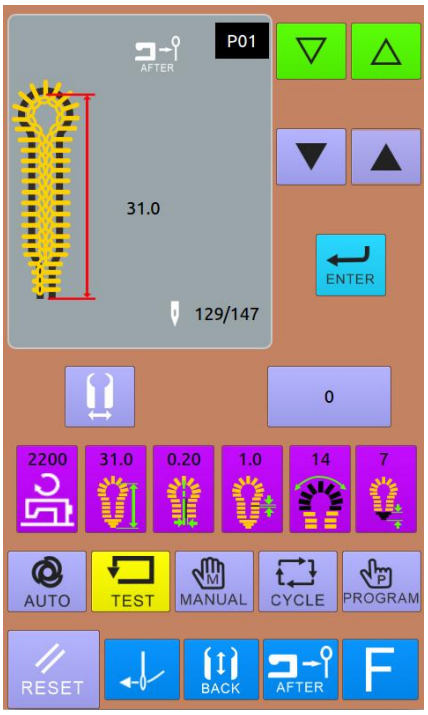
3.3.1 The method of suspension

During sewing, after pressing the pause switch (1), the sewing machine will stop, and the operation panel will prompt "Pause switch is pressed during sewing".





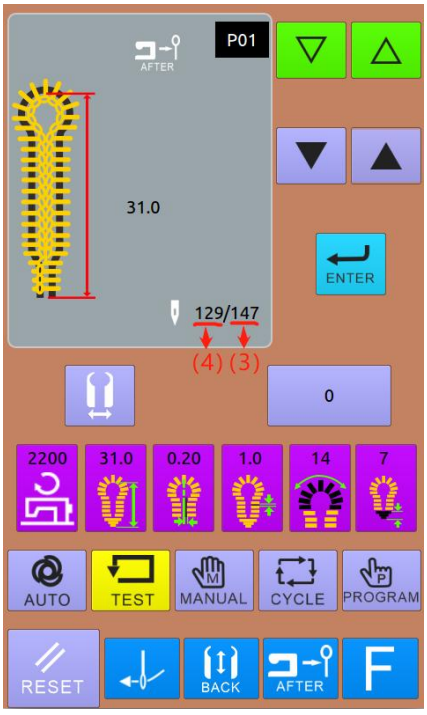
3.3.2 How to cancel the pause (when not continuing sewing)



① Press the reset key (2) when the operation panel prompts "pause switch pressed during sewing".
The operation panel enters the TEST screen, and pressing "▼▲" can perform the forward and backward operation of the number of stitches.

② Press the RESET reset key, the needle bar and the feed table will return to the fabric setting position after the origin detection, and return to the AUTO interface.

3.3.3How to cancel the pause (when continuing sewing)

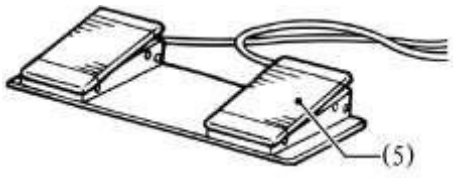


① Press the reset key (2) when the operation panel prompts "pause switch pressed during sewing". The operation panel enters the TEST interface.

② Press the "▲" or "" key, the feed table can move according to the shape of the sewing pattern, so as to determine the position to continue sewing.

Note: Press the "▲" key to advance, and press the "▼" key to reverse. If you keep pressing, it will move forward or backward continuously.

③ After selecting the position to continue sewing, press the button to switch to the sewing mode, press the AUTO start pedal switch (5), and continue to complete the automatic sewing of the current pattern.



3.4 How to use the cycle sewing function

In the individual pattern program (P01~P20), the edited individual patterns can be combined and registered as a "cycle pattern program" for continuous sewing of multiple patterns, which is easy to use.

Cyclic pattern program：

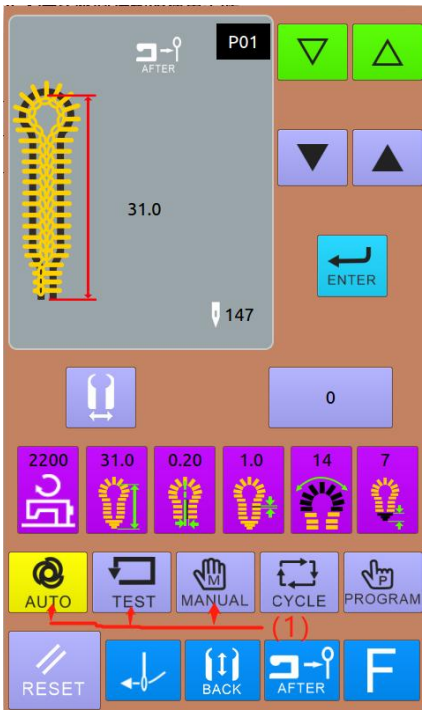
The maximum number of loop patterns can be set	9 (C01~C09)
The maximum number of patterns in a single loop pattern	9 (S1~S9) (the same single P pattern program can be selected multiple times)

Program example：

Select 3 steps for the single pattern program P01 with cutter action, and 1 step for the individual pattern program P03 without cutter action to form a cycle pattern program, set the program as C1 as an example for description。

Setting contents of cycle pattern program C1：

C Pattern step number	S1	S2	S3	S4
Individual pattern number	P01	P01	P01	P03
Knife action	Yes	Yes	Yes	no



① Press the button (1) in the figure on the right to select any sewing mode. (Take automatic mode as an example).

② Press key ▽ △ to select cycle pattern program number C1.

Each time the " △ " key is pressed, the pattern number will be switched in the order of
P01→P02→…P20→C1→C2…C9…P01.

(Pressing the " ▽ " key is just the opposite, it is the reverse order.)

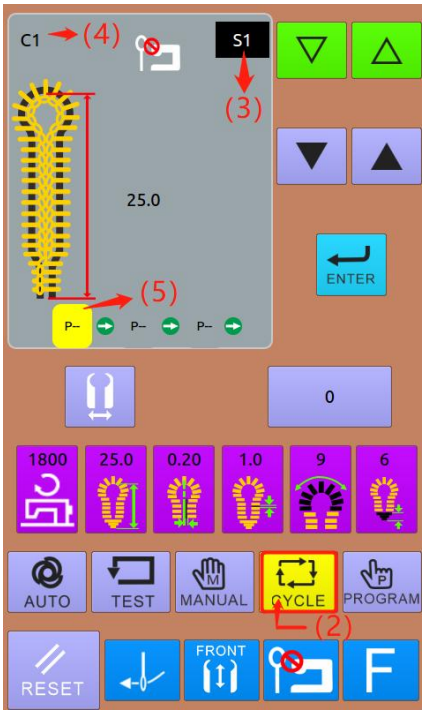
③ Press cycle program mode (2)

In the sewing data display area, it will display:

(3) Step number

(4) Cycle program number

(5) The content of the pattern number set in step number S1.



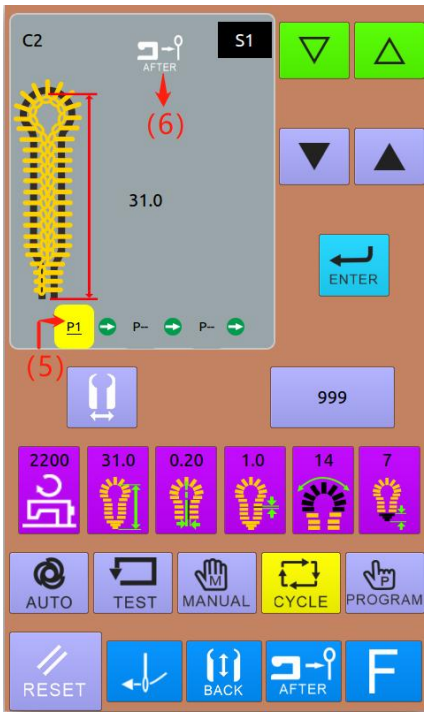
④ Press the " ▼ ▲ " button to set the content (5) of step number S1 to P01.

The "_____" in "P01" means that the knife is in motion, and the knife open display (4) will be displayed in the sewing data display area.

"--" in "P--" means that the pattern is not set. If the current pattern is set to "P--", the content in the subsequent step numbers will be deleted.

⑤ Press the " ENTER " button to confirm the changed content.

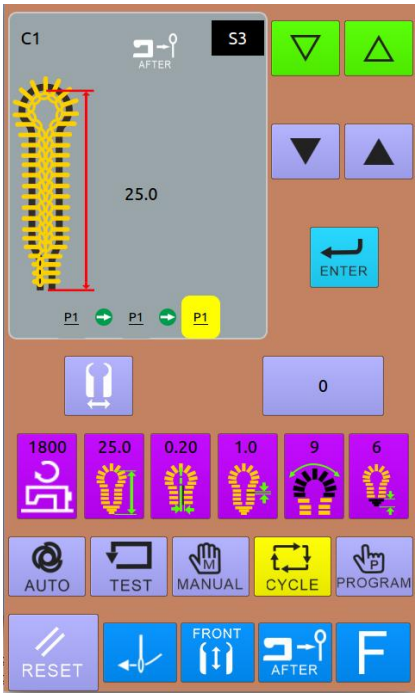
The content (5) of step number S1 will change from blinking to non-flashing.



⑥ Press ▽ △ to change the step number (3) to S2.

⑦ Repeat the above steps 4~5, set the content of step number S2 to the same "P01" as S1, and set the content of step number S3 to the same "P01" as S1.

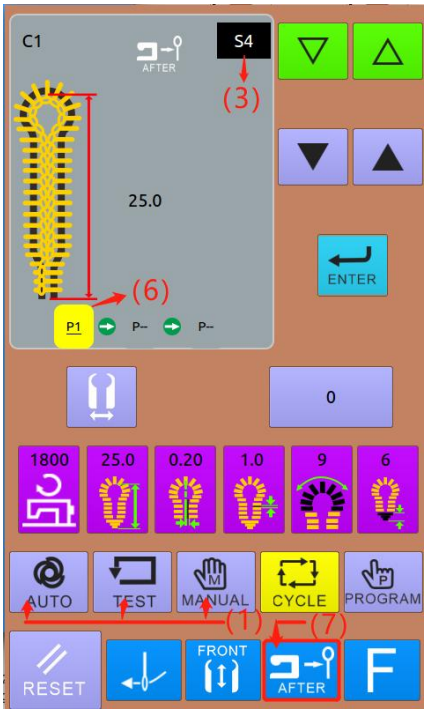
⑧ Press ENTER the button to confirm the changed content.



⑨ Press "▽ △" to change the step number (3) to S4.

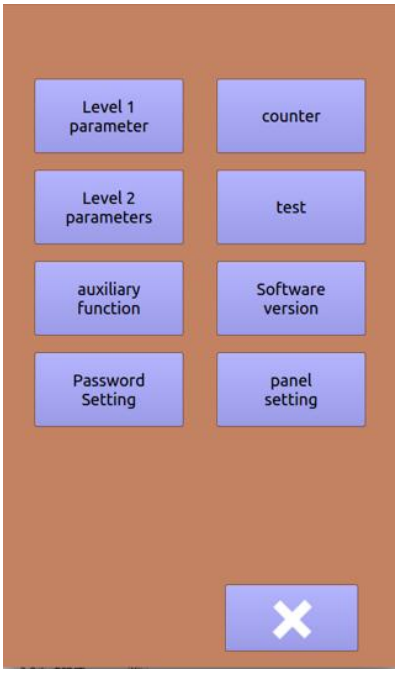
Press the "▼ ▲" key to set the content (6) of step number S4 to P03.
Press the cutter action key (7) to change "P03" at (6) to "P03". (No knife action setting)

⑩ Press "ENTER" key to confirm the changed content.
Press any key in (1) to end the setting of the cycle program mode.
Note: When the cycle program is selected for automatic sewing, for the cutter action, the cutter action can still be changed in the automatic sewing mode. The pattern with cutter action in the C pattern program will use the current cutter action. Mode setting is the same



4 Parameter setting mode interface

In the sewing data input interface, press the " F " key to enter the parameter setting mode interface (as shown in the right figure), and some detailed settings and editing operations can be performed in the parameter mode interface.



set mode

1. First-level parameters

2. Secondary parameters, you need to enter a password to enter

3. Accessibility

4. Encryption settings: perform machine password settings and restore operations

5. Counter

6. Test

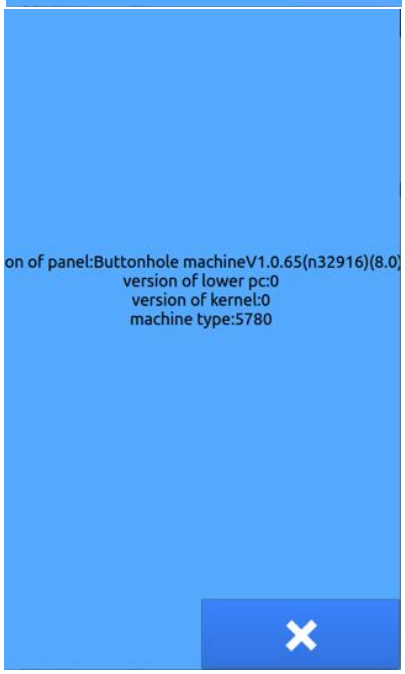
7. Software version

8. Panel Settings

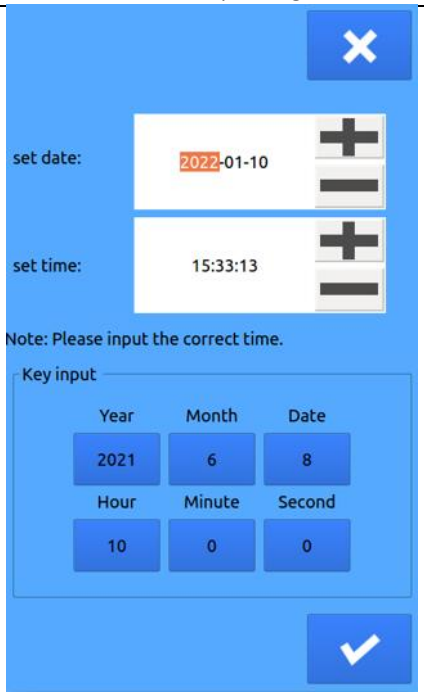
4.1 Software version query

In the setting mode, press "Software version" to enter the software version query interface (as shown on the right)

Press to version enter the version display interface, as shown on the right



Press to setting time enter the time setting interface, as shown on the right



4.2 Parameter setting

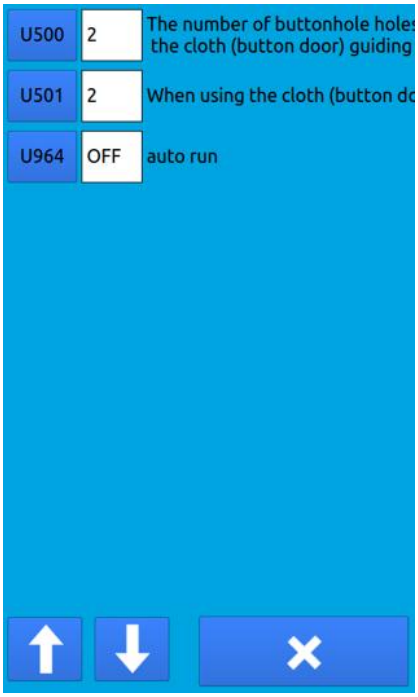
4.2.1How to set parameters

① Enter parameter setting

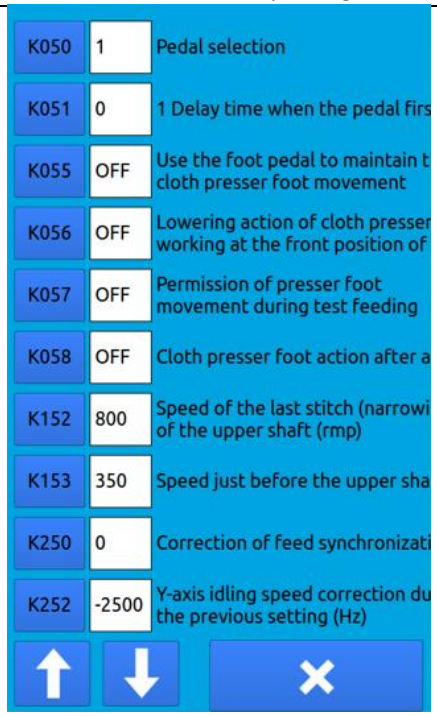
In the setting mode, press the " Level 1 parameter " key to enter the first-level parameter setting interface (as shown on the right).

Press the " ✕ " key to exit the parameter setting interface.

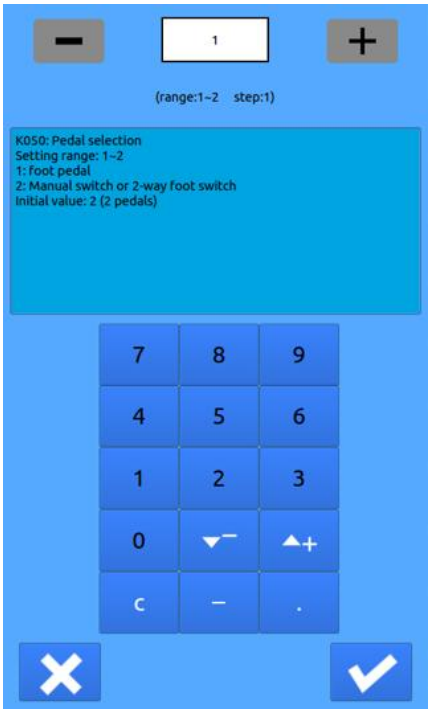
After selecting the parameter you want to modify, enter the setting state. The parameter setting is divided into data input type and selection type. An example is as follows:

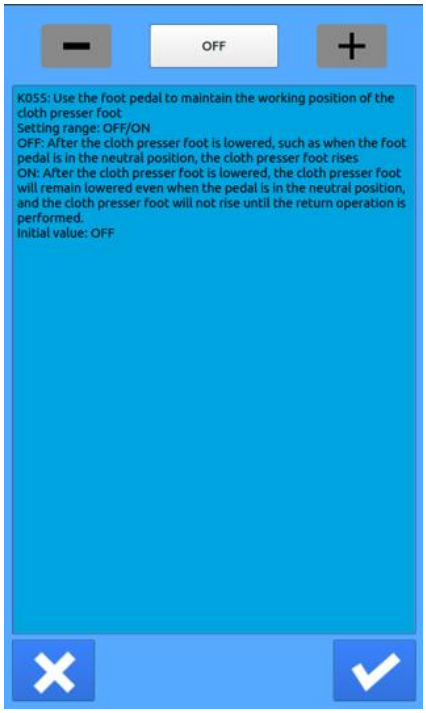


In the setting mode, press the " Level 2 parameters " key to enter the secondary parameter setting interface (as shown on the right).



After selecting the parameter you want to modify, enter the setting state. The parameter setting interface is divided into two types, as shown in the figure below.





4.2.2 First-level parameter table

(No.)	set value	content	initial value
500	Number of holes for round head keyholes when using fabric (button door) guides ※It is displayed when the cloth (button door) guide is effective		2
	2～9	Ability to set the number of holes for the round head keyhole ※If the number of keyhole holes is more than 5, you must purchase the feed rod separately	
501	Placement of the fabric when using the fabric (button door) guide ※It is displayed when the cloth (button door) guide is effective		2
	1	The cloth (button door) is generally placed in the position after sewing on the left side, and the cloth feed bar returns to the left end position.	
	2	Fabric (button door) placement position left/right, cross each other	
964	Automatic running (aging mode), no power saving		OFF
	OFF	OFF	
	ON	ON	

4.1.3 Secondary parameter table

Presser foot device

(No.)	set value	content	initial value
050	How to start the sewing machine ※Cannot copy from CF card		*
		Hand switch or 2 foot switch	
		foot pedal	
051	1 pedal, delay time when cutting knife first (ms) ※Indicated at the time of 1 pedal operation		0
	0～800	At the time of automatic sewing of the pre-cutter, only the air hammer operates with a delay from the set time. Settable in units of 50ms	
052	The working position of the cloth presser foot of the foot pedal ※It is displayed at the time of foot pedal		115
	105～125	If the value is decreased, the amount of stepping of the foot pedal to the position where the presser foot moves will become small.	
053	The starting position of the foot pedal ※It is displayed at the time of foot pedal		155
	135～175	If the value is decreased, the amount of stepping of the foot pedal to the start position will become very small	
054	Presser foot action position of the foot pedal ※It is displayed at the time of foot pedal		75
	65～85	If the value increases, the amount of foot pedal depression to the presser foot action position will become very small.	
055	Use the foot pedal to maintain the action of the presser foot ※It is displayed at the time of foot pedal		OFF
	OFF	After the presser foot is lowered, such as when the foot pedal is in the neutral position, the presser foot is raised	
	ON	After the presser foot is lowered, the presser foot remains lowered even when the foot pedal is in the neutral position, and must be returned. The back presser foot will only rise	

(No.)	set value	content	initial value
056	The lowering action of the presser foot during work at the front of the feed table		OFF
	OFF	After sewing, when the feed table moves to the previous setting position, it continues to move with the presser foot raised.	
	ON	After sewing, when the cloth feed table moves to the previous setting position, the cloth presser foot continues to move while lowering.	
057	Permission for presser foot movement during test feed		OFF
	OFF	Prohibit the lifting of the presser foot during test feeding	
	ON	The presser foot can be raised during the following operations during test feeding (A) Manual switch or 2-way foot switch: Press the cloth presser foot switch (B) When pedaling: return to pedal When the test feed is restarted, the following operations must be performed. The cloth presser foot is lowered. (A) Manual switch or 2-way foot switch: Press the cloth presser foot switch (B) When pedaling: return to pedal	
058	The presser foot moves after automatic sewing作		OFF
	OFF	After automatic sewing is completed, the presser foot rises	
	ON	After automatic sewing is completed, the presser foot remains lowered. To raise the presser foot, perform the following operations (A) Manual switch or 2-way foot switch: Press the cloth presser foot switch (B) When pedaling: return to pedal ※This function becomes invalid if the fabric (button door) guide device is used	

Upper axis control device

(No.)	set value	content	initial value
150	Needle up position stop when paused		ON
	OFF	During a pause, the upper axis is emergency stopped	
	ON	During pause, the upper axis is stopped by the needle up position	
151	Upper axis speed correction（rpm）		0
	-30～30	Can be corrected for the set speed Settable in units of 10rpm	
152	The speed of the last stitch (narrowing) of the upper shaft (rpm)		800
	700～900	The speed of the last stitch can be set Settable in units of 10rpm	
153	The speed of the upper axis just before the stop (rpm)		350
	250～450	The speed just before the stop can be set Settable in units of 10rpm	
154	Current limit value when the upper axis is accelerated		8
	1～8	If the value increases, a large current will flow out during acceleration	
155	Current limit value when the upper axis decelerates		1
	1～8	If the value increases, a large current will flow out during deceleration	
156	Upper axis stop distance (°)		11
	2.5～17.5	If the value increases, the stop control interval will become longer. It can be set in units of 0.5°.	
157	Brake release speed when the upper axis stops		3
	1～5	If the value increases, the brake can be quickly released	

[Notice]
If there is no manufacturer's instruction, please do not arbitrarily change the set value of No. 151 to No. 157

Feed control device

(No.)	set value	content	initial value
250	Correction of feed synchronization (°)		0
	-20～20	If the value decreases, it means that the feed synchronization is advanced. Settable in 2° increments	
251	Automatic deceleration of the upper shaft for the emphasis on feeding		OFF
	OFF	generally	
	ON	Since the 1-needle feeding time is shorter than the normal feeding time, it is possible to prevent the needle from being pulled off when thick fabrics are used. ※The number of revolutions may be limited	
252	Y-axis idle feed speed correction when switched to the previous setting (Hz)		-2500
	-3500～0	If the value decreases, the empty feed speed of the Y axis becomes slower Settable in units of 100Hz	
253	X-axis idling speed correction (Hz)		0
	-300～0	If the value decreases, the empty feed speed of the X axis becomes slower Settable in units of 50Hz	
254	Y-axis idling speed correction (Hz)		0
	-2500～0*1	If the value decreases, the empty feed speed of the Y axis becomes slower Settable in units of 50Hz	
255	θShaft idling speed correction (Hz)		0
	-500～0	If the value decreases, the idling speed of the θ axis becomes slower Settable in units of 50Hz	
256	Origin position detection cycle number		OFF
	OFF	After sewing is completed, the origin position detection is not performed.	
	1～9	Origin position detection is performed every time the specified number of sewing cycles is completed.	
257	X-axis origin position detection speed correction (ms)		0
	0～2.0	If the value increases, the detection speed of the origin position of the X axis becomes slower Settable in units of 0.1ms	
258	Y-axis origin position detection speed correction (ms)		0
	0～2.0	If the value increases, the detection speed of the origin position of the Y axis becomes slower. Settable in units of 0.1ms	
259	θAxis origin position detection speed correction (ms)		0
	0～2.0	If the value increases, the detection speed of the origin position of the θ axis becomes slower Settable in units of 0.1ms	

*1… When the version of the main control program (MN) is 1.0.00, it will be "-1000 ～ 0".

Operation panel device

(No.)	set value	content	initial value
350	Prohibition of program mode		OFF
	OFF	generally	
	ON	Disable entry into program mode Shortcut keys also become invalid	
351	Inhibition of cyclic program mode		OFF
	OFF	generally	
	ON	Inhibit entry into cyclic program mode	
352	Prohibition of counter changes		OFF
	OFF	generally	
	ON	Prohibition of changing product counts	
353	Prohibition of sewing speed editing		OFF
	OFF	generally	
	ON	Change of sewing speed is prohibited (parameter No. 01)	
354	Prohibition of program number editing		OFF
	OFF	generally	
	ON	Prohibition of changing program numbers ※However, the step number of the cycle program can be changed	
355	Prohibition of pre-cut knife change		OFF
	OFF	generally	
	ON	It is forbidden to change the first knife action ※If the state before the prohibition is the case of cutting the knife first, it will automatically change to no cutting knife	
356	Prohibition of rear cutter change		OFF
	OFF	generally	
	ON	Prohibition of cutter operation after change ※If the state before the prohibition is the case of the rear cutter, it will automatically change to no cutter	

program relationship

(No.)	set value	content	initial value
450	Maximum sewing speed (rpm)		2500
	1000～2500	Can limit the maximum sewing speed can be set in units of 100rpm	
451	Maximum number of loop programs		9
	0～9	The number of valid cycle programs can be set ※If the number of cycle programs is not used, it can be set to 0, which is a very convenient function to use.	
452	Product count while looping the program		OFF
	OFF	Product count after every 1 hole is sewn	
	ON	Product count after 1 cycle of sewing	
453	Maximum cutter spacing (mm)		0.5
	0.5～0.8	Set the maximum cutter spacing ※When using 0.8mm, please adjust the needle plate and the dial plate so that there is no interference. (Refer to "7-20. Position adjustment of the cloth clamp")	
454	Maximum straight seam length (mm)		6
	6～9	Sets the length of the maximum straight bartack ※When using 9mm, please adjust the needle plate and the dial plate so that there is no interference. (Refer to "7-20. Position adjustment of the cloth clamp")	
455	Additional zigzag amplitude without cutter (mm)		0
	0～1.0	When using knifeless sewing, the value of the set zigzag amplitude is automatically added. Settable in units of 0.1mm	

device relationship

(No.)	set value	content	initial value
550	Air hammer ON time (ms)		25
	25～200	If the value increases, the contact time between the air hammer and the cutter becomes longer. It can be set in units of 5ms. [Caution] The life of the hammer and cutter will be shortened if the time is set longer than necessary	
551	Identify the height of the hammer origin		160
	150～170	If the reading value of the hammer position sensor is smaller than this value in the standby state, it will become an error number (E650) ※Only valid when there is an air hammer origin error check	
552	Air hammer origin error check		ON
	OFF	Airless Hammer Origin Error Check ※Used when the air hammer position sensor fails	
	ON	There is an air hammer origin error check	
553	Identify the lift position of the air hammer according to time (ms)		OFF
	OFF	Recognize the lifting position of the air hammer according to the air hammer position sensor	
	50～500	Identify the ascending position of the air hammer according to the time Settable in units of 50ms ※Used when the air hammer position sensor fails	
554	Recognition of air hammer drop based on time (ms)		OFF
	OFF	Recognize that the air hammer has descended based on the air hammer position sensor	
	100～500	According to the time to recognize that the air hammer has descended, it can be set in 100ms units ※Used when the air hammer position sensor fails	
555	Increase in residual amount of upper thread (mm)		OFF
	OFF	generally	
	1～3	Since only the timing delay of the upper thread trimming is set, the amount of remaining upper thread after sewing can also be increased compared to the normal situation. Can be set in 1mm increments	
556	Upper thread loosening OFF timing (ms) ※Only displayed for –00 specification and -01 specification		50
	0～100	If the value increases, the upper thread loosening OFF time after the upper thread tangent will be delayed. It can be set in units of 2ms. ※Only valid for -00 specification and -01 specification	
557	Upper thread loosening OFF timing (ms) ※Only indicated for -02 specification		50
	0～100	If the value increases, the upper thread loosening OFF time after the upper thread tangent will be delayed. It can be set in units of 2ms. ※Only valid for -02 specification	
558	The use of the lower thread scissors device is prohibited ※Only displayed for –00 specification and -01 specification		OFF
	OFF	General condition (bottom thread scissor mechanism works)	
	ON	The use of lower thread scissors is prohibited ※Only valid for -00 specification and -01 specification	
559	Bottom thread scissors identified by time OFF (ms) ※Only displayed for –00 specification and -01 specification		OFF
	OFF	Recognize that the lower thread trimmer mechanism is OFF by the lower thread trimmer OFF sensor	
	5～50	Recognition of lower thread scissors by time OFF Settable in units of 5ms ※Use when the lower thread scissors OFF sensor fails ※Only valid for -00 specification and -01 specification	

(No.)	set value	content	initial value
560	Bottom thread trimming time (ms) ※Only indicated for -02 specification		0
	0～100	If the value increases, the lower thread trimming time will be delayed. It can be set in units of 5ms. ※Only valid for -02 specification	
561	Upper thread breakage detection sensor (optional) ※Cannot copy from CF card		OFF
	OFF	The upper thread disconnection detection sensor is invalid	
	ON	The upper thread disconnection detection sensor is effective	
562	Upper thread breakage detection induction start number of stitches ※Indicated when the upper thread disconnection detection sensor is valid		5
	1～9	The upper thread breakage detection starts after the set number of stitches is sewn.	
563	Upper thread breakage judgment needle number (or needle)		4
	2～7	When the set number of stitches is turned on, the upper thread breakage error occurs when the continuous thread breakage signal is ON.	
564	Upper thread tension device (optional device) ※Cannot copy from CF card		OFF
	OFF	The upper thread clamping device is invalid	
	ON	The upper thread clamping device is effective	
565	Correction of closing time of upper thread clamp (mm) ※Indicated when the upper thread tensioner is effective		0
	-10～10	If the value increases, the clamping time of the noodle thread will be delayed Can be set in 1mm increments	
566	Round head in-line switching device (optional device) ※Cannot copy from CF card		OFF
	OFF	The round head in-line switching device is invalid	
	ON	The round head in-line switching device is effective ・When the program of the inline hole is selected, the sub-air hammer descends ・The cloth setting position automatically becomes the front setting	
567	Sensor exhaled program number according to a shaped hole ※ The round head is in a controlled device.		OFF
	OFF	generally	
	1～20	Under a graphic hole sensor, when there is no fabric, when the set program number is exhaled, the deputy angle hammer is lowered.	
568	The program number that the secondary air hammer must descend ※It is displayed when the round head in-line switching device is valid		OFF
	OFF	generally	
	1～20	When executing the programmed program number, the sub-air hammer will definitely drop ※It is not affected by the state of the slotted hole sensor and the content of the program (the shape of the cutter)	
569	Error checking based on slotted hole sensor ※It is displayed when the round head in-line switching device is valid		OFF
	OFF	no error checking	
	ON	with error checking It will be an error (E942) in the following cases (A) When there is fabric under the sensor, the in-line hole program sewing is performed (B) Under the sensor, when there is no material, the round hole program sewing is performed	

(No.)	set value	content	initial value
570	Secondary air hammer ON time (ms) ※It is displayed when the round head in-line switching device is valid		5
	5～100	If the value increases, the contact time between the auxiliary air hammer and the cutter will become longer. It can be set in units of 5ms. [Caution] The life of the sub-air hammer and cutter will be shortened if the time is set longer than necessary	
571	No cutter action due to slotted hole sensor		OFF
	OFF	generally	
	ON	When sewing with no fabric under the in-line hole sensor, no matter whether it is set on the operation panel or not The cutter action is set to no cutter setting	
572	Fabric (button door) guide device (optional device) ※Cannot copy from CF card		OFF
	OFF	Cloth (button door) guide device is invalid	
	ON	Cloth (button door) guide device is effective	

※ When No. 567 and No. 568 are set at the same time, only No. 567 is effective
※ When No. 567 and No. 569 are set at the same time, only No. 567 is effective
※ When No. 568 and No. 569 are set at the same time, both are valid at the same time
※ When No. 567, No. 568 and No. 569 are set at the same time, only No. 567 is valid

Troubleshooting

(No.)	set value	content	initial value
650	Time until the beep stops (seconds)		OFF
	OFF	The buzzer keeps beeping from the occurrence of the fault until the fault is removed	
	5～15	When a fault occurs, the buzzer automatically stops beeping after a set time, and the buzzer can be set in units of 5 seconds	
651	Pulse motor excitation state when a fault that cannot be repaired occurs		OFF
	OFF	When a fault that cannot be repaired occurs, turn off the excitation of the pulse motor (OFF)	
	ON	When a fault that cannot be repaired occurs, the pulse motor continues to be energized (ON)	
652	Confirm the failure by the stop of the BOX fan ※Currently, there is no BOX fan		OFF
	OFF	There is no fault confirmed by the stop of the BOX fan	
	ON	It is confirmed that there is a malfunction by the stop of the BOX fan	

Assembly and Repair

(No.)	set value	content	initial value
750	Continuous sewing is allowed		OFF
	OFF	generally	
	ON	Continuous sewing is allowed Continuous sewing is possible if the start switch is kept pressed	
751	Continuous sewing interval (ms) ※It is indicated when continuous sewing is allowed		1000
	0～2500	Ability to set continuous sewing intervals Settable in units of 100ms	
752	Cutter X position correction (mm) ※Cannot copy from CF card		*
	-0.50～0.50	The set value for all programs is added as the cutter X position correction. Settable in units of 0.05mm	

Specifications and Applicable Countries

(No.)	set value	content	initial value
850	Sewing Machine Head Specifications ※Cannot copy from CF card [Note] Please meet the specifications of the machine head		*
	-00	set-00 specification	
	-01	set-01 specification	
	-02	set-02 specification	
851	Cloth presser foot size ※Only indicated for -02 specification ※Cannot copy from CF card [Note] Please conform to the specifications of the presser foot		*
	L1422	Setting L1422 Specifications The setting range of the sewing length is between 14 and 22 mm	
	L1826	Set L1826 Specifications The setting range of the sewing length is between 18 and 26 mm	
	L2230	Setting L2230 Specifications The setting range of sewing length is between 22 and 30mm	
	L2634	Set L2634 Specifications The setting range of the sewing length is between 26 and 34 mm	
	L3442	Set L3442 Specifications Sewing length can be set within a range of 34 to 42 mm	
852	Chrysanthemum eye presser ※Only displayed for -00 specification or -01 specification ※Cannot copy from CF card [Note] Please conform to the specifications of the presser foot		*
	OFF	Use a normal (except chrysanthemum eye) cloth presser foot	
	ON	Use chrysanthemum eye presser During the program, the displayed parameters are dedicated to the chrysanthemum eye	
853	language used ※Cannot copy from CF card		*
	English Chinese		
854	Correction of sewing return point Correction of sewing fold and return point (mm)		OFF
	OFF	generally	
	6	A slotted hole can also be formed with a round hole cutter At this time, the sewing return point is 6mm ahead of the normal situation. In addition, the maximum sewing length of the in-line hole is 6mm smaller than normal ※It becomes effective when sewing a slotted hole	

4.3 Panel Settings

4.4 Reset

In the setting mode, press auxiliary function the key to enter the auxiliary function interface, as shown on the right:

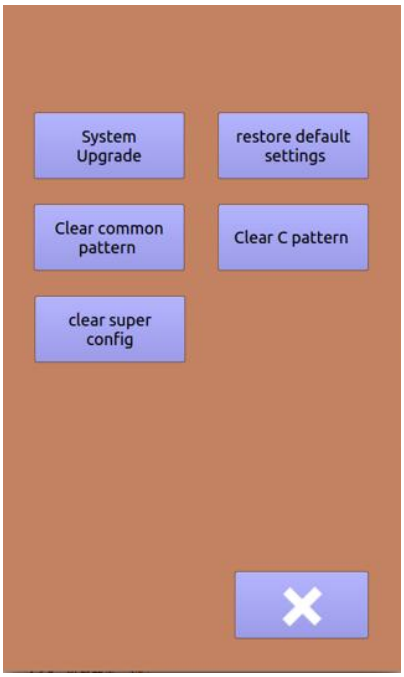
Can choose:

(1) Restore factory settings: the machine parameters are restored to the factory state

(2) Clear common patterns: P1~P20 patterns are restored to default values

(3) Clear C pattern: All C patterns are cleared

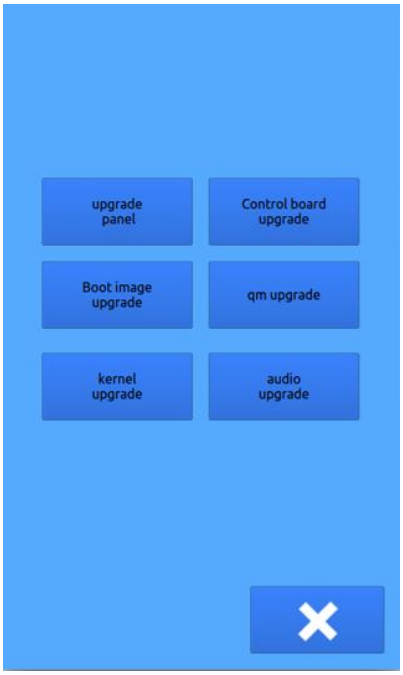
(4) Clear super configuration: internal parameter recovery



4.5 System upgrade

In the setting mode, press the " auxiliary function "->" System Upgrade " button in turn to enter the upgrade interface as shown on the right:

can choose:



1）Panel upgrade: Before the upgrade, you need to copy the new version of the program panel, wxpanel file and qm folder to the main directory of the U disk, insert the U disk into the panel, and then go through "Menu" --> "Auxiliary Settings" --> "System Upgrade" Enter the system upgrade interface, click the " 

" button to upgrade, after the upgrade is successful, a "successful, please restart" prompt will appear, just restart.

2）Control board upgrade: Before the upgrade, you need to copy the NC9820A.bin file of the new version of the program to the main directory of the U disk. Other operations are similar to panel upgrades.

3）Kernel upgrade: Before upgrading, you need to copy the conprog.bin file of the new version of the program to the main directory of the U disk. Other operations are similar to panel upgrade.

4）Translation file upgrade: Before upgrading, you need to copy the qm folder of the new version of the program to the main directory of the U disk. Other operations are similar to panel upgrade.

5）Boot image upgrade: Before upgrading, you need to copy the new version of the program logo.jpg file to the main directory of the U disk. Other operations are similar to panel upgrade.

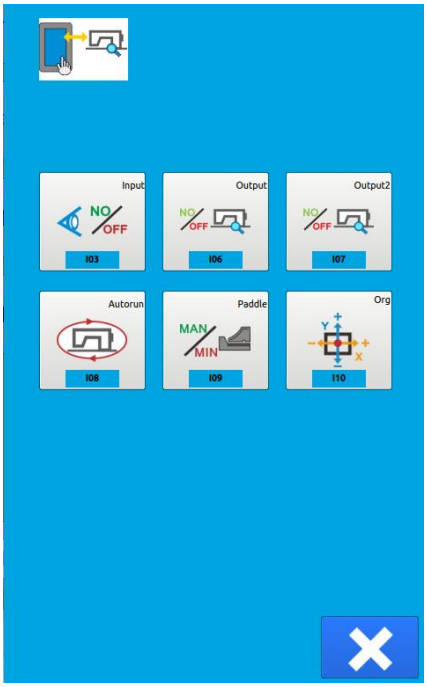
6）Sound upgrade: Before upgrading, you need to copy the wxaudio folder of the new version of the program to the main directory of the U disk. Other operations are similar to panel upgrade.

4.6 Testing

Test: In the setting mode, press 

the button to enter the test interface

I03: Check sensor
I06: Output action detection
I07: Output port detection
I08: Aging Mode
I09: Single Pedal Calibration
I10: Origin adjustment



4.6.1 Input test

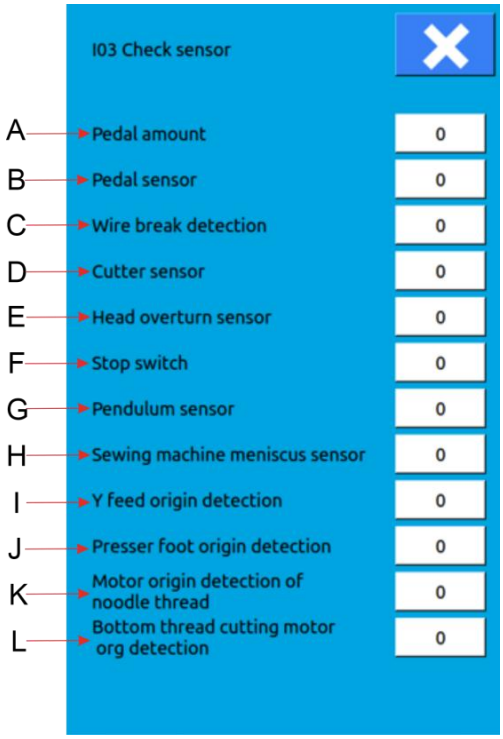
Press 

the (I03 input detection) key in the detection mode interface

Enter the input detection interface (as shown on the right), under this interface

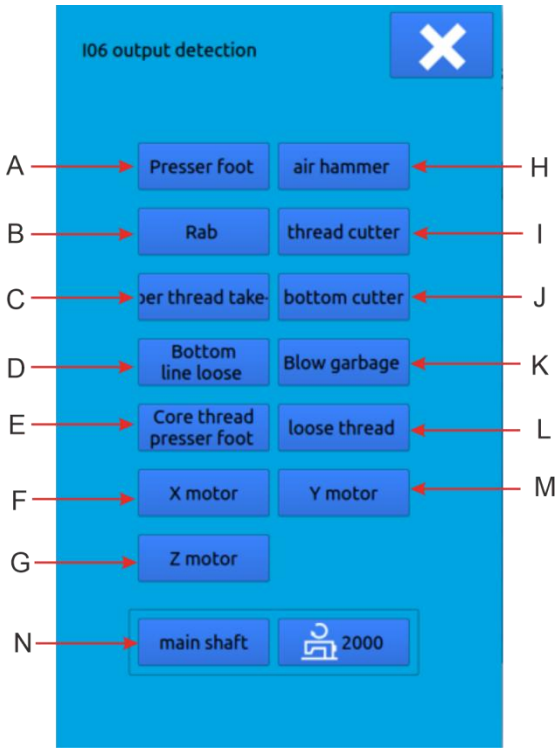
The input status of various switches and sensors can be checked.

A: pedal amount
B: Pedal sensor
C: disconnection detection
D: Cutter sensor
E: nose tip over sensor
F: stop switch
G: Oscillating hand sensor
H: Sewing machine meniscus sensor
I: Y Feed origin detection
J: Presser foot origin detection
K: Detection of the origin of the upper thread trimming motor
L: Detection of the origin of the lower thread trimming motor



4.6.2 Output motion detection

Press the (I06 output action detection) key in the detection mode interface to enter the output detection interface (as shown in the right figure),



The output states that can be detected in this interface include:

A: Drop the presser foot

B: Rab

C: Upper thread take-up B

D: Bottom thread loose

E: Core wire presser

F: X feed motor

G: Z motor

H: air hammer

I: Noodle trimming

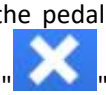
J: Cut the bottom thread

K: blowing garbage

L: upper thread loosening

M: Y feed motor

N: Upper shaft motor (speed can be set)

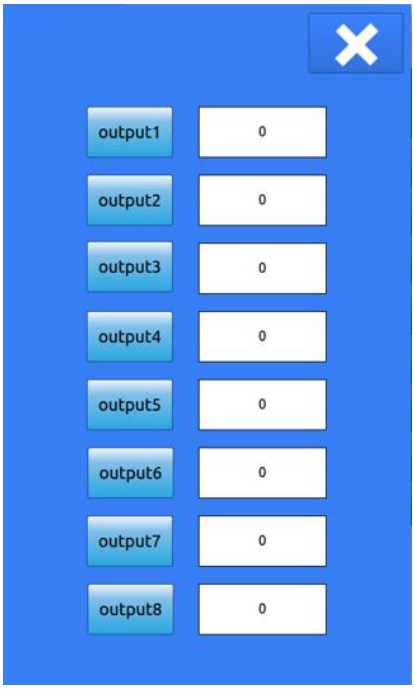
When pressing A~N, step on the pedal to test the corresponding action, and press "  " to exit the output detection interface

※ Note that the sewing machine has corresponding actions.

4.6.3 Output port detection

In the detection mode interface, press the 

(I07 output port detection) key to enter the output detection interface (as shown on the right), which is used to test the output port corresponding to the valve port, the motor output 1~output 8, and the corresponding output port action.



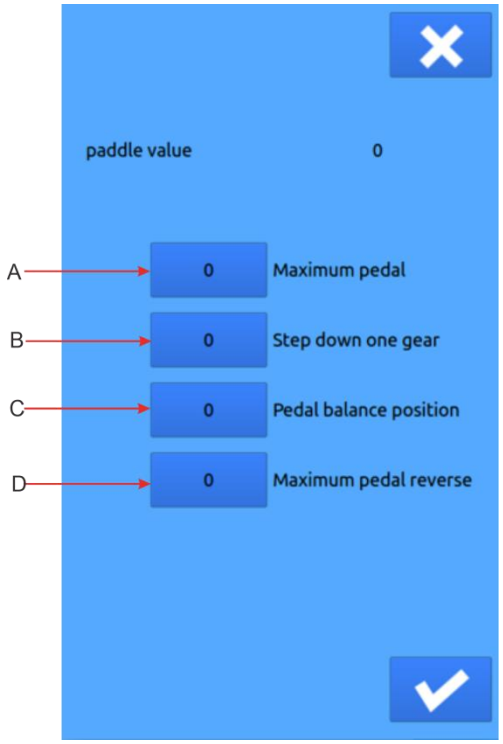
4.6.4 Pedal Calibration

① **Press the I09 key** 

to enter the pedal calibration interface。

② **The analog pedal calibration interface is shown on the right**

A: The maximum amount of pedal depression
B: Step down the pedal for one gear
C: Balance position with pedal released
D: The maximum amount of pedal reverse



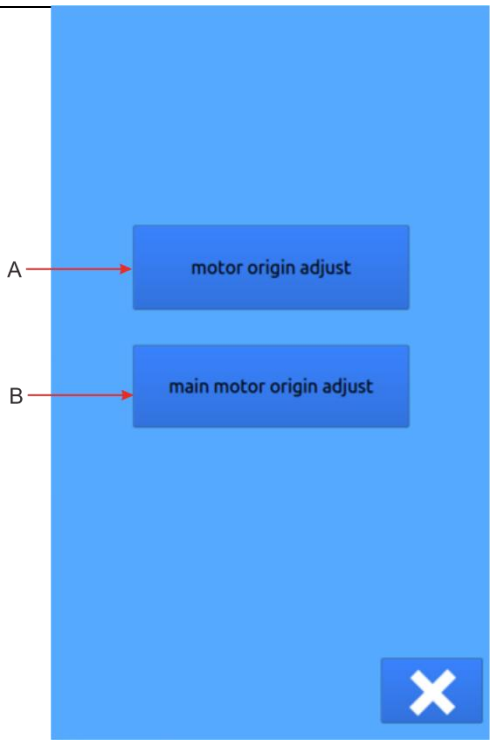
③ **Pedal Calibration Method：**

1. Press button A to make it in the pressed state, step on the pedal to the maximum amount, press it, and save the current pedal input value;
2. Press the button B to put the state, step on the board to a position, press  , save the current pedal input value
3. Pressing the button C to place the button in the presser, release the pedal to put the pedal in a balanced state, press again  , save the current pedal input value;
4. The button D makes the button in a pressed state, the pedal pour The maximum state is pressed again  , save the current pedal input value.
5. After saving the four pedal input values, The pedal calibration completion button  exits the current interface.

4.6.5 Original adjustment

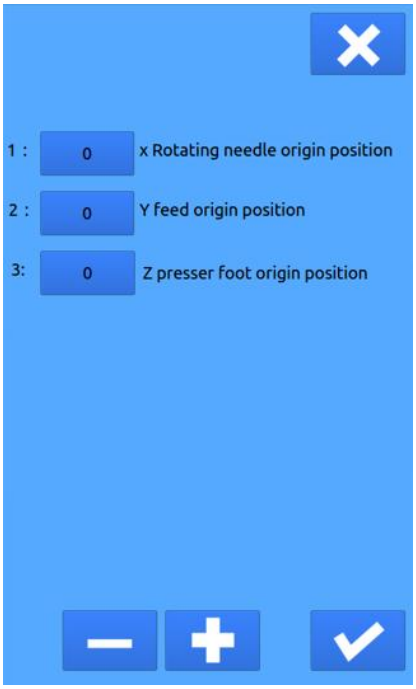
Press the I10 

key to enter the origin adjustment interface, as shown.

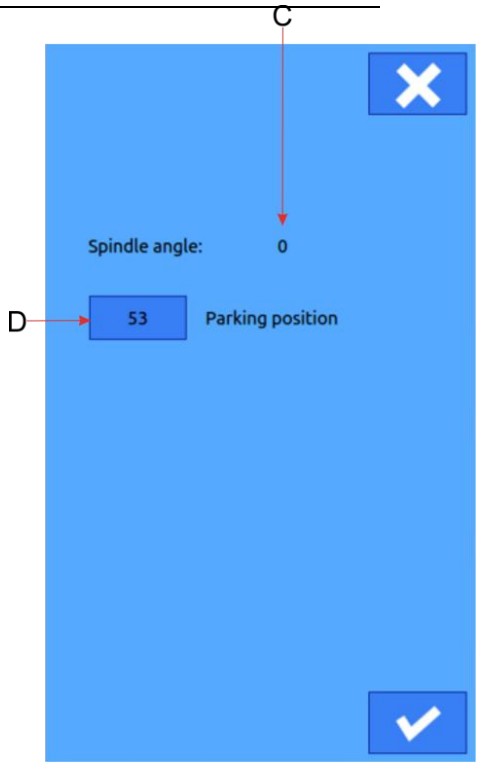


1. Motor origin adjustment

Press the A button to enter the motor origin adjustment interface, as shown, press the 1/2/3/4 button (make the button in the prescription), press "  " "  " button to adjust the origin of the X / Y / Z motor Location, click "  " (Press button to turn it up), save the current adjustment value, click "  " button to exit.



1. Spindle origin adjustment



Press the B button to enter the main shaft origin adjustment interface, as shown.

C: Current spindle angle display value

(If the display value is 65535 or -1, press the spindle in the direction of the handwheel arrow until the value of 0 ~ 360 is displayed)

D: Parking angle value stored in the head memory

Spindle origin adjustment method: When turning the value between the spindle display value of 0 to 360, pressing the needle rod to stop position, press the D button (the button is in the prescription), "  " The button saves the value displayed by the current C position, that is, the spindle parking position, press the "  " button to exit.

※5. Error table

error code	Cause and treatment method
E200	The origin of the X pulse motor cannot be detected. The X direction position sensor is abnormal, or the X encoder is in contact with the X encoder.
E203	X The motor current is too large. X Motor failure or motor control circuit board fault.
E207	The X motor cannot be moved. X-direction pressed card dead; X motor encoder or X motor failure;
E208	X Motor is out of control. X motor encoder failure.
E210	Y can't find the origin. The Y direction position sensor is abnormal, or the X encoder contact is in contact.
E213	The y motor current is too large. Y motor failure or motor control circuit board fault.
E217	The Y motor cannot move. Y direction press capping; Y motor encoder or X motor failure;
E218	Y motor is out of control. Y motor encoder fault.

error code	Cause and treatment method
E300	The Z motor cannot find the origin. Motor mounting position is incorrect, or the Z motor encoder is poor contact.
E303	The Z motor current is too large. Motor failure or motor control circuit board fault.
E307	The Z motor cannot move. Z card death; encoder or motor failure;
E308	Z Motor is out of control. Motor encoder fault.

error code	Cause and treatment method
E410	The communication error between the motherboard and the control board motherboard is detected. Turn off the power and access the power again.
E420	The storage tool is not inserted. Press the RESET button to troubleshoot errors.
E421	Due to incorrect data content, or no data. Press the RESET button to troubleshoot errors. Confirm that the data is stored in the storage tool.
E422	An error occurred while reading the storage tool information. Press the RESET button to troubleshoot errors. Confirm the data within the storage tool.
E424	The storage tool is insufficient. Press the RESET button to troubleshoot errors. Use other storage tools.
E425	An error occurred while writing a storage tool. Press the RESET button to troubleshoot errors. Please use the specified storage tool. Confirm that whether it is forbidden to write, or if there is space.
E427	The pattern registered in the loop program is deleted. Press the RESET button to troubleshoot errors. Re-register the loop program, add a model.
E428	Set the model in the program to be deleted. Press the RESET button to troubleshoot errors. Reset the program and add a pattern.
E440	Motherboard data storage exception.

	Turn off the power and re-access the power.

error code	Cause and treatment method
E600	The surface line is broken. Press the RESET button to troubleshoot errors. Move the presser foot after pressing the key_step_back key to continue sewing.
E700	The power supply voltage is abnormal. Turn off the power to confirm the input voltage.
E701	The main motor drive voltage of the sewing machine has increased. Cut off the power to confirm the voltage
E705	The power supply voltage decreases. Turn off the power to confirm the input voltage.
E710	Sewing hostess detects abnormal current. Turn off the power to confirm whether the sewing machine has an exception.
E711	The pulse motor detects an abnormal current. Cut the power supply and confirm whether the operation of the presser foot / button clip occurs.

internal error	E901 \ E902 \ E903 \ E904 \ E905 \ E911 \ E912 \ E913 \ E820 \ E821 \ E822 \ E850 Check if all ground wires in the chassis are reliable.