

CONTROL PANEL MANUAL

QF

Electronic industrial eyelet buttonhole
sewing machine



SAFETY INSTRUCTIONS

[1] Safety indications and their meanings

This instruction manual and the indications and symbols that are used on the machine itself are provided in order to ensure safe operation of this machine and to prevent accidents and injury to yourself or other people.

The meanings of these indications and symbols are given below.

Indications



DANGER

The instructions which follow this term indicate situations where failure to follow the instructions may result in death or serious injury.



CAUTION

The instructions which follow this term indicate situations where failure to follow the instructions could cause injury when using the machine or physical damage to equipment and surroundings.

Symbols



..... This symbol (\triangle) indicates something that you should be careful of. The picture inside the triangle indicates the nature of the caution that must be taken.
(For example, the symbol at left means "beware of injury".)



..... This symbol (\otimes) indicates something that you must not do.



..... This symbol (\bullet) indicates something that you must do. The picture inside the circle indicates the nature of the thing that must be done.
(For example, the symbol at left means "you must make the ground connection".)

[2] Notes on safety

DANGER



Wait at least 5 minutes after turning off the power switch and disconnecting the power cord from the wall outlet before opening the cover of the control box. Touching areas where high voltages are present can result in severe injury.

CAUTION

Environmental requirements



Use the sewing machine in an area which is free from sources of strong electrical noise such as electrical line noise or static electric noise. Sources of strong electrical noise may cause problems with correct operation.



Any fluctuations in the power supply voltage should be within $\pm 10\%$ of the rated voltage for the machine. Voltage fluctuations which are greater than this may cause problems with correct operation.



The power supply capacity should be greater than the requirements for the sewing machine's power consumption. Insufficient power supply capacity may cause problems with correct operation.



The pneumatic delivery capability should be greater than the requirements for the sewing machine's total air consumption. Insufficient pneumatic delivery capability may cause problems with correct operation.



The ambient temperature should be within the range of 5°C to 35°C during use. Temperatures which are lower or higher than this may cause problems with correct operation.



The relative humidity should be within the range of 45% to 85% during use, and no dew formation should occur in any devices. Excessively dry or humid environments and dew formation may cause problems with correct operation.



In the event of an electrical storm, turn off the power and disconnect the power cord from the wall outlet. Lightning may cause problems with correct operation.

Installation



Machine installation should only be carried out by a qualified technician.



Contact your Brother dealer or a qualified electrician for any electrical work that may need to be done.



The sewing machine weighs approximately 120 kg. Installation of the sewing machine and adjustment of the table height should be carried out by four or more people.



Do not connect the power cord until installation is complete. If this is not done, the sewing machine may operate if the start switch is pressed by mistake, which could result in serious injury.



Hold the machine head with both hands when tilting it back or returning it to its original position. In addition, do not subject the machine head to extra force while it is tilted back. If this is not observed, the machine head may become unbalanced and fall over (together with the table), and serious injury or damage to the sewing machine may result.



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.



All cords should be secured at least 25 mm away from any moving parts. Furthermore, do not excessively bend the cords or secure them too firmly with staples. If this is not observed, fire or electric shocks may result.



Install belt covers to the machine head.












If using a work table which has casters, the casters should be secured in such a way so that they cannot move.





Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin. If care is not taken, inflammation can result. Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result. Keep the oil out of the reach of children.

CAUTION










Sewing

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>This sewing machine should only be used by operators who have received the necessary training in safe use beforehand.</p> |  <p>If using a work table which has casters, the casters should be secured in such a way so that they cannot move.</p> |
|  <p>The sewing machine should not be used for any applications other than sewing.</p> |  <p>Attach all safety devices before using the sewing machine. If the machine is used without these devices attached, injury may result.</p> |
|  <p>Be sure to wear protective goggles when using the machine.
If goggles are not worn, there is the danger that if a needle breaks, parts of the broken needle may enter your eyes and injury may result.</p> |  <p>Do not touch any of the moving parts or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.</p> |
|  <p>Turn off the power switch at the following times. If this is not done, the sewing machine may operate if the start switch is pressed by mistake, which could result in serious injury.</p> <ul style="list-style-type: none">• When threading the needle• When replacing the needle• When not using the machine and when leaving the machine unattended |  <p>If an error occurs in machine operation, or if abnormal noises or smells are noticed, immediately turn off the power switch. Then contact your nearest Brother dealer or a qualified technician.</p> |
| |  <p>If the machine develops a problem, contact your nearest Brother dealer or a qualified technician.</p> |

Cleaning

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Turn off the power switch before carrying out this operation. If this is not done, the sewing machine may operate if the start switch is pressed by mistake, which could result in serious injury.</p> |  <p>Be sure to wear protective goggles and gloves when handling the lubricating oil, so that it does not get into your eyes or onto your skin.
If care is not taken, inflammation can result.
Furthermore, do not drink the lubricating oil. Diarrhea or vomiting may result.
Keep the oil out of the reach of children.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Maintenance and inspection

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Maintenance and inspection of the sewing machine should only be carried out by a qualified technician.</p> |  <p>Hold the machine head with both hands when tilting it back or returning it to its original position.
In addition, do not subject the machine head to extra force while it is tilted back.
If this is not observed, the machine head may become unbalanced and fall over (together with the table), and serious injury or damage to the sewing machine may result.</p> |
|  <p>Ask your Brother dealer or a qualified electrician to carry out any maintenance and inspection of the electrical system.</p> |  <p>If the power switch and air need to be left on when carrying out some adjustment, be extremely careful to observe all safety precautions.</p> |
|  <p>Turn off the power switch and disconnect the power cord at the following times. If this is not done, the sewing machine may operate if the start switch is pressed by mistake, which could result in serious injury.</p> <ul style="list-style-type: none">• When carrying out inspection, adjustment and maintenance• When replacing consumable parts such as the loopers and knife |  <p>Use only the proper replacement parts as specified by Brother.</p> |
|  <p>Disconnect the air hoses from the air supply and wait for the needle on the pressure gauge to drop to "0" before carrying out inspection, adjustment and repair of any parts which use the pneumatic equipment.</p> |  <p>If any safety devices have been removed, be absolutely sure to re-install them to their original positions and check that they operate correctly before using the machine.</p> |
| |  <p>Any problems in machine operation which result from unauthorized modifications to the machine will not be covered by the warranty.</p> |

[3] Warning labels

The following warning labels appear on the sewing machine.

Please follow the instructions on the labels at all times when using the machine. If the labels have been removed or are difficult to read, please contact your nearest dealer.

1



Do not touch the knife or press any objects against the machine while sewing, as this may result in personal injury or damage to the machine.

2



Be careful not to get your hands caught when returning the machine head to its original position after it has been tilted.

3



Be sure to connect the ground. If the ground connection is not secure, you run a high risk of receiving a serious electric shock, and problems with correct operation may also occur.

4



High temperature warning display

6



Safety devices

Devices such as eye guard, finger guard, needle bar guard, needle guide cover and belt cover

Be careful not to get your hands caught when moving the feed base backward.

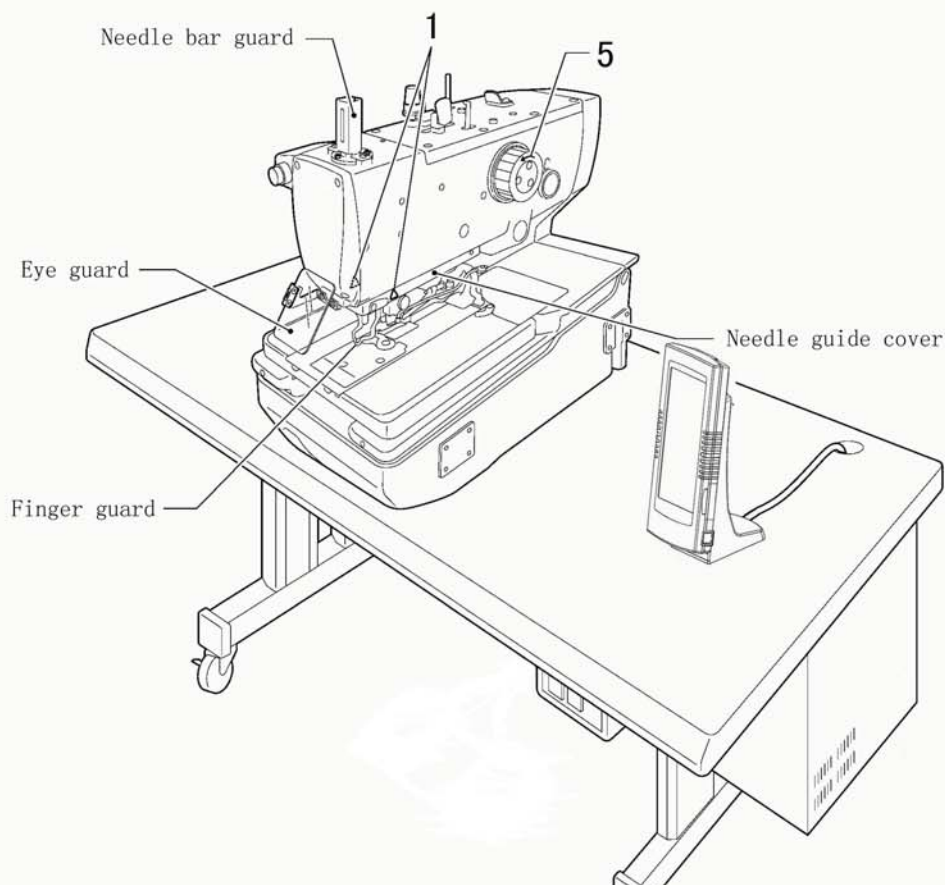
7

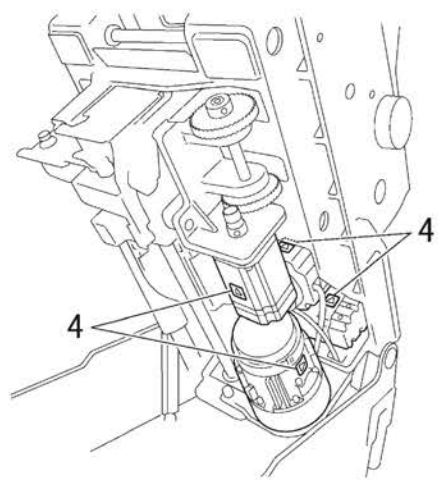
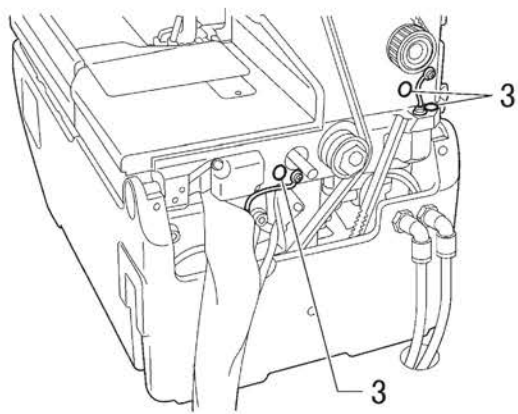
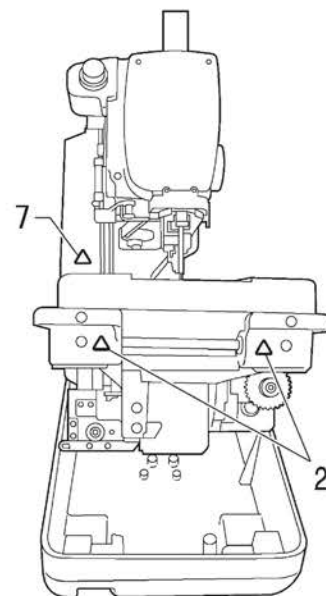
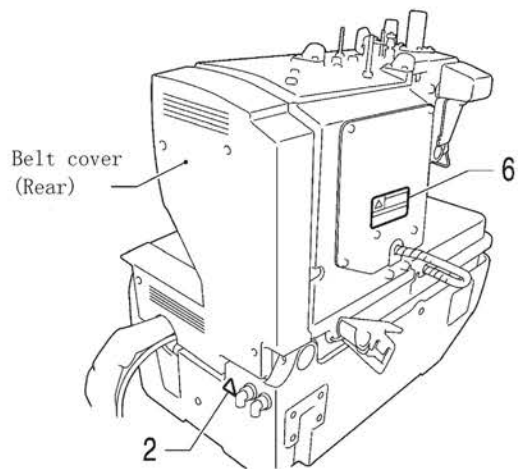


5



Direction of operation





1. Basic Operating Instruction

1-1 Operation Panel



(Front Side)



(Right Side)

- | | |
|-----------------------------|-----------------------------|
| ① Pattern Data Display Area | ② Function Mode Button Area |
| ③ Power Cable | ④ U Disk Port |

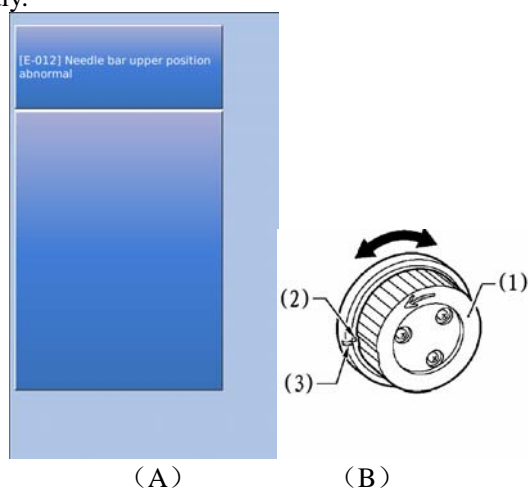
1-2 Basic Operation

① Turn on Power

After user turns on the power, the system will display the contents at below in order at the Pattern Data Display Area:

Welcome to using SC511 Buttonhole Machine
→SC511-00 (01or 02) →Create Data→ Please Start Switch.

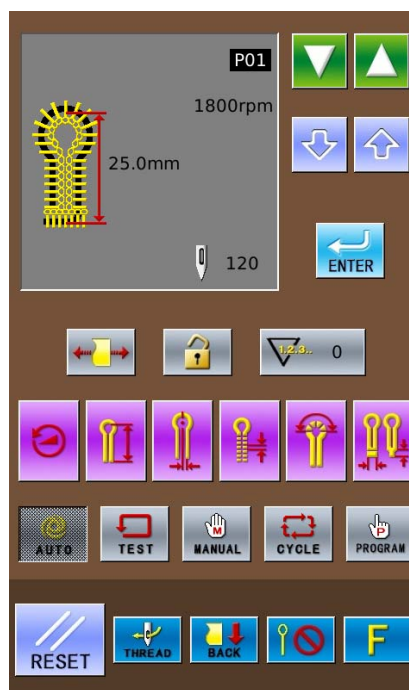
Note: If figure A “EB012” is displayed on the operation panel when user turns on the power supply, please turn the wheel (1) in the directions shown in figure B and make the print (2) face to the gap (3) directly.



② Step Pedal for Start

After user stepped the right pedal for start, the feeding board will move to the position where the cloth is located. In the operation panel, the readiness status of the previous operation mode (it might be Auto Mode, Manual Mode, Test Mode, Cycle Mode or Program Mode) will be displayed.

Note: The “Readiness Status” is the status before the next action when the system moves to a mode.



1-3 Stting Methods of Patten Program

1-3-1 Interface for Inputting Sewing Data

The data input interface is shown In the right figure. For detailed functional instructions, please refer to Table 1: Button Instruction Table.

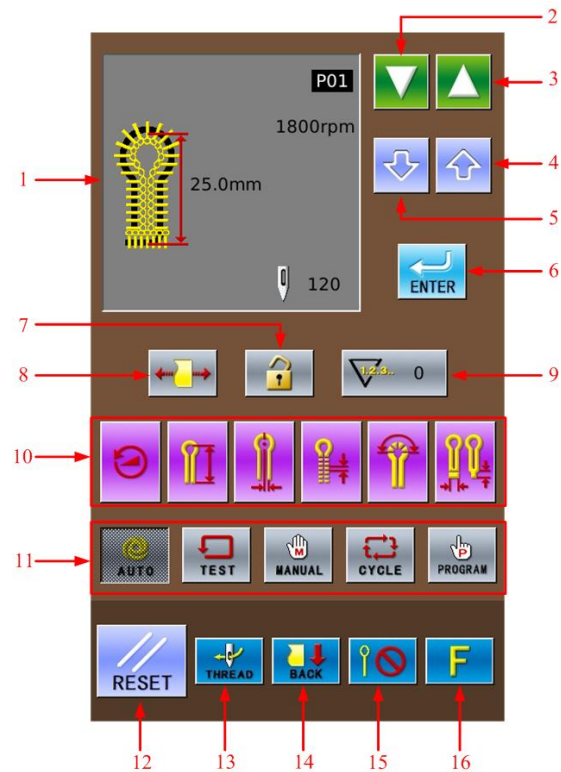













Table 1: Button Instruction Table:

No.	Figure	Functions	Remarks
1		Display of Sewing Shape	Display the pattern number, patter shape, length, stitch number, sewing speed and so on.
2		Decrease Number of Software & Parameter	
3		Increase Number of Software & Parameter	
4		Increase Value & Parameter Content	
5		Decrease Value & Parameter Content	
6		ENTER (Confirmation) Key	Confirm the parameter and the pattern data.
7		Unlock Panel: Lock Panel:	
8		Cloth-tightening Permitted: Forbidden:	The default setting is the Cloth-tightening Permitted. If user sets it as Cloth-tightening Forbidden, this parameter will return to default setting when one pattern is finished.


No.	Figure	Functions	Remarks
9		Display the value in Counter	
10		Hot Keys	Quickly change 6 parameter relating to the pattern
11		Sewing Mode	Five available sewing modes: Auto, Manual, Test, Cycle and Program
12		RESET	Release the display of incorrect information
13		THREAD	Have access to the threading mode
14		FRONT:  BACK: 	Shift the positions of the feeding board. Alternative positions: Front & Back.
15		Cut-before-Sewing:  Cut-after-Sewing:  Non-Cut: 	Set the actions of knife
16		Parameter Management	Have access to parameter setting

1-3-2 Setting of Pattern Program



It is advised to preset the pattern data parameters which are frequently used so that user would only need to select the pattern code to have access to the set pattern in the future usage, thus saves the time for resetting the parameters at each time.

The 20 patterns can be registered at most, whose parameters can be altered at any time.

When leaving the factory, pattern codes from P01 ~P20 save the default pattern program (The patterns from P01 ~ P20 are all the same.)

- ① Press 
- ② Select a pattern code from P01~P20 (1) for changing the content.


Pattern code (1) will change in the following sequence: P01 → P02 → ... P20 → C1→C2...C9, at each pressing

. (press  to change the code in the contrary direction.)

- ③ Press 







The pattern data display area will display the parameter code (2) and the specific parameter information (3) at previous time.

- ④ Press  to select the parameter code (2) .

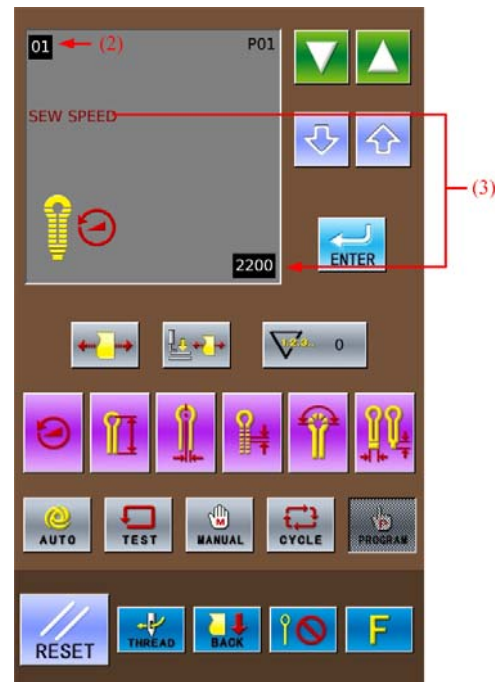
- ⑤ Press  to change the content of parameter(3).

The shining parameter information (3) means the content is uncertain

- ⑥ Press  to confirm the changed content.

If the parameter information is still, that means it has been confirmed. If press any key among , , , ,  instead of  at (3) shining, the changed parameter (3) will be abandoned and return to the original value.

- ⑦ Repeat the operation from 4 to 6 to change other parameters.



1-3-3 About Hot Keys

Among the Hot Keys (4), the following 6 parameters are registered for their frequent usage:

(5) Sewing Speed (Parameter code No.01)

(6) Length of Lockstitch Sewing at Buttonhole (Parameter code No.02)

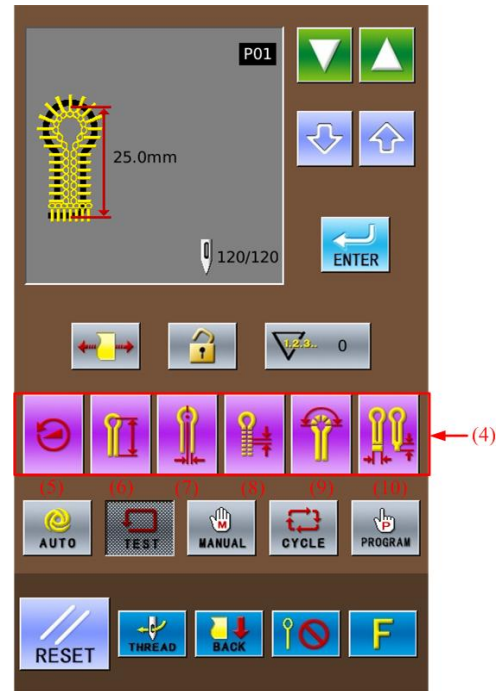
(7) Pitch of Knife (Parameter code No.03)

(8) Distance between Stitch Form (Parameter code No.04)

(9) Stitch Number at Eyelet Part (Parameter code No.05)








(10) Length of Bar-tacking (Parameter code No.06、No.08、No.10)














Note: The different bar-tacking sewing types set in parameter code No.40 are corresponding to the various values of bar-tacking sewing length parameter (10).



















1-3-4 List of Pattern Parameters at S level

According to the set content of other parameters, the default value of some parameters may be unchangeable or invalid.

Parameter Code	Content	Range	Unit	Default Value
S01	Sewing Speed 	1000~2500rpm	100	1800rpm
S02	Length of Lockstitch Sewing at Buttonhole 	16~42mm	0.5	28mm
S03	Pitch of Knife 	-2.5~1mm	0.05	0.2mm
S04	Distance between Stitch Form 	0.5~2.0mm	0.1	1.0mm
S05	Stitch Number at Eyelet Part 	4~20 针	1	9 Stitches
S06	Length of Taper 	1~20mm	1	6mm
S07	Offset 	0.5~2.0mm	0.1	1.5mm

Parameter Code	Content	Range	Unit	Default Value
S08	Length of Linear Bar-tacking 	2.0~6.0mm (Each side at 3.0mm as MAX)	0.1	5.0mm
S09	Stitch Number of Linear Bar-tacking 	5~18 Stitches	1	7 Stitches
S10	Stitch Number of Round Bar-tacking 	5~17 Stitches	1	7 Stitches
S11	Shape of Knife 	1~6 (select the proper knife, according to the different knife code)	1	2
S12	Sewing Width Adjustment 	-1.0~1.0mm	0.1	0.0mm
S13	Eyelet Part Low Speed 	-600~0rpm (This parameter takes the default value of the parameter 01 sewing speed as standard.)	100	0rpm
S14	Speed of Linear Bar-tacking 	1000~2500rpm (if the sewing speed is lower than the linear bar-tacking speed, these two speeds will become equal.)	100	1800rpm
S15	Stitch Number of Slow-start 	0~3 stitches	1	0 stitch
S16	Speed of Slow-start 	400~1500rpm (if the sewing speed is lower than the slow-start speed, these two speed will become equal)	100	700rpm
S17	Knife Adjustment in X Direction 	-0.5~0.5mm	0.05	0.0mm
S18	Knife Adjustment in Y Direction 	-0.7~0.7mm	0.05	0.0mm
S19	Stitch number of bar-tacking at start 	0~4 Stitches	1	0 Stitch
S20	Stitch number of bar-tacking in end 	0~4 Stitches	1	0 Stitch
S21	Adjustment in X Direction	-1~6	1	0

Parameter Code	Content	Range	Unit	Default Value
				
S22	Adjustment in Y Direction 	-1~6	1	0
S23	θ1Adjustment 	-3~3	1	0
S24	θ2Adjustment 	-3~3	1	0
S25	Taper Bar-tacking Angle 	-5~5	1	0
S26	Adjustment on Bar-tacking Width 	-1.0~0.0mm	0.1	0.0mm
S27	Coincidence Amount of Bar-tacking 	0.0mm~2.0mm	0.1	1.0mm
S28	Adjustment of Bar-tacking in X Direction 	-1.0mm~1.0mm	0.1	0.0mm
S29	Adjustment of incline angle of Bar-tacking 	-3~1	1	0
S30	Round Head Correction	-25~25	1	0
S31	Pitch of bar-tacking at sewing-end 	20%~100%	5%	100%
S32	Stitch Number of Round coincidence 	1~4 Stitches (45°以内)	1	1 Stitch
S33	Stitch moving when without cutting 	1~2	1	1
S34	Cutting Size of Radial Hole 	2~5mm	1	5
S35	Stitch Number of Radial 	8~100 Stitches	1	24
S36	Coincident Stitch Number of Radial Hole 	1~5 Stitches (In 45°)	1	2
S37	Bar-tacking Pitch	0~30	1	0
S38	Reserved (For future use)			
S39	Pattern Copy	OFF~P01~P20	1	OFF

Parameter Code	Content	Range	Unit	Default Value
S40	Type of Bar-tacking 	1: No Bar-tacking 2: Taper Bar-tacking 3: Linear Bar-tacking 4: Round Bar-tacking 5: Radial Hole	1	5
S41	Double Sewing	0: Forbid 1: Permit	1	0
S42	Adjustment of Round Head	-0.5~0.8	0.1	0
S45	Adjustment of Stitch Form at Joint	-0.2~0.8	0.05	0

1-4 Confirm Pattern under Test Feed Mode

Test Feed Mode is that only cloth-feeding board works normally when the upper shaft keeps still. This mode is used to confirm the positional relation between needle and presser.


① Press Test Key




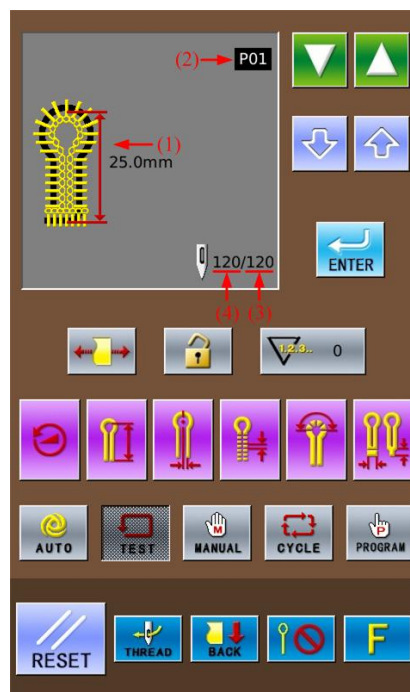
Press **TEST** to display the stitch form (1), pattern code (2), total stitch number (3) and leftover stitch number (4) in the pattern data display area.

② Select the Pattern Code

The pattern code will change in the following sequence: P01 → P02 → ... P20 →

C1→C2...C9...P01 at pressing the .

(Press  to reverse this sequence.)

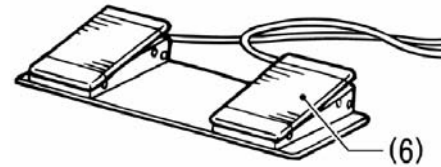
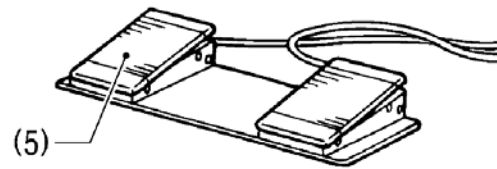


③ **Step Presser Pedal**

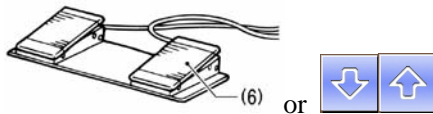
Step the left pedal (5) to lower the presser

④ **Step the Start Pedal**

Step the right pedal (6) to make the cloth-feeding board move to the position of sewing start.



⑤ **Step Pedal (6) or press   to start the sewing under Test Mode.**

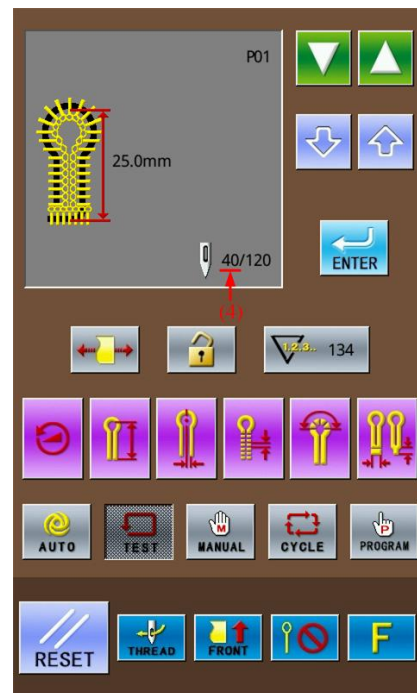


(2 stitches will be sewn at each pressing.)
(Holding for continuous sewing)

Note: the leftover stitch number (4) displayed at the data display area will reduce 2 stitches at each time.

The buzzer will work at the last stitch.

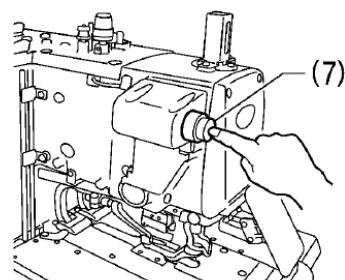
No thread-trimming actions and knife actions in test mode.




⑥ **If user wishes the cloth-feeding board to return to the cloth setting position at the ending of the test:**

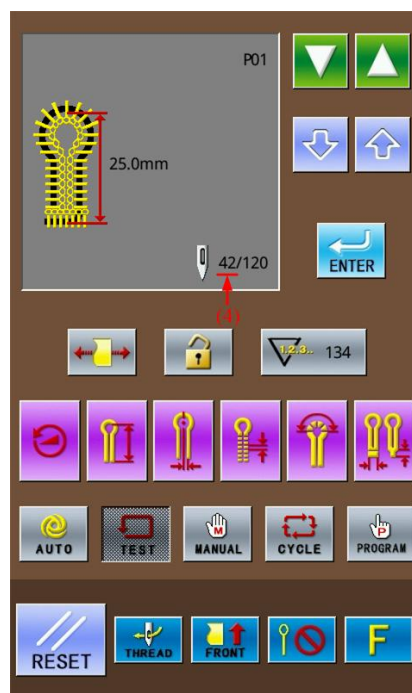
Please press Pause switch (7), and then

press .



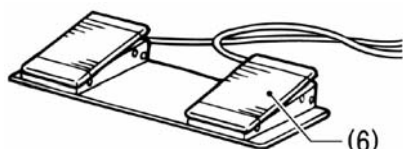
- ⑦ During the cloth-feeding, if user wants cloth-feeding board to return to the former sewing position:

Please press , 2 stitches will be returned at each pressing. The leftover stitch number (4) will add 2 stitches at each time.



⑧ Last Stitch

Step Start Pedal (6) until the leftover stitch number turns to 0 and the cloth-feeding board returns to the position for setting cloth. After that, the pattern data area will display “END OF TEST FEED MODE”.



1-5 Shift of Knife Actions

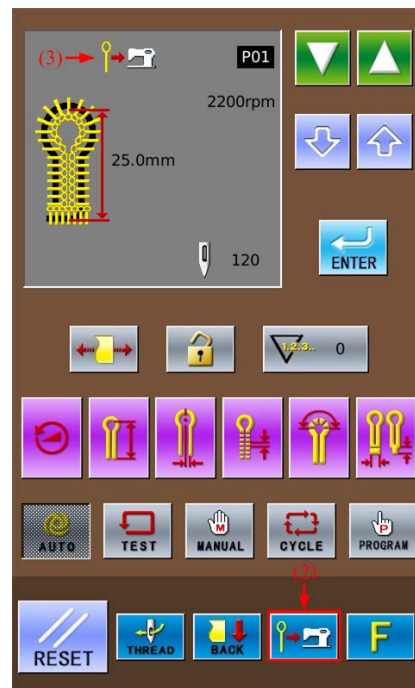
① Non-Cut

No knife action during the sewing. At this time, the interface shows as the picture at right. Press the Knife Mode Key to shift the status to Non-Cut (1).



② Cut-before-Sewing

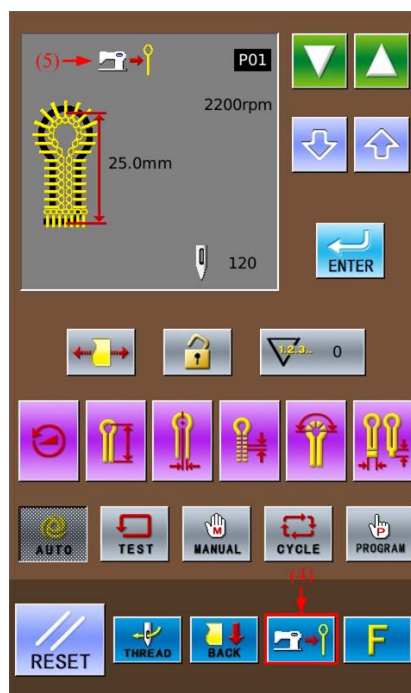
The sewing actions are after the cutting. In the interface shown as the right figure, shift the Knife Mode to the status of Cut-before-Sewing (2). At this time, this mode will be displayed in area (3).



③ Cut-after-Sewing

The sewing actions are before the cutting action. In the interface as shown in right, press Knife Mode Key to shift the status to Cut-after-Sewing (4).

At this time, this mode will be displayed at area (5).



1-6 Method for Shifting Cloth Position

Because this function can move the cloth-feeding board to a position more forward than standard position for setting cloth, it will be easy for setting the cloth. Especially at the status of Cut-after-Sewing, the time of the cycle is shortened.

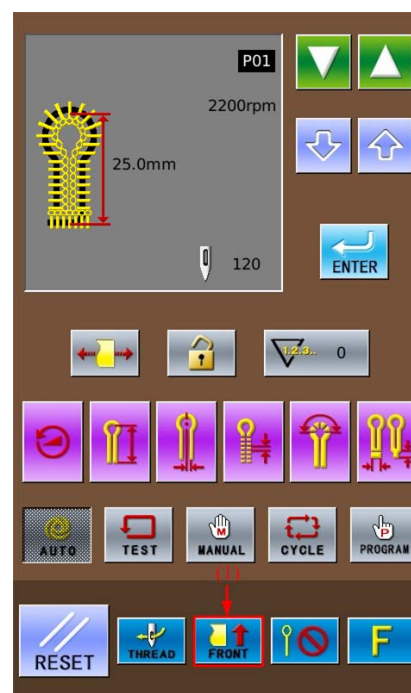
① Move the cloth-feeding board to the front

In the readiness status of Auto mode, Test Feed mode or Manual mode, press Cloth Position Shift Key (1) to change the feeding




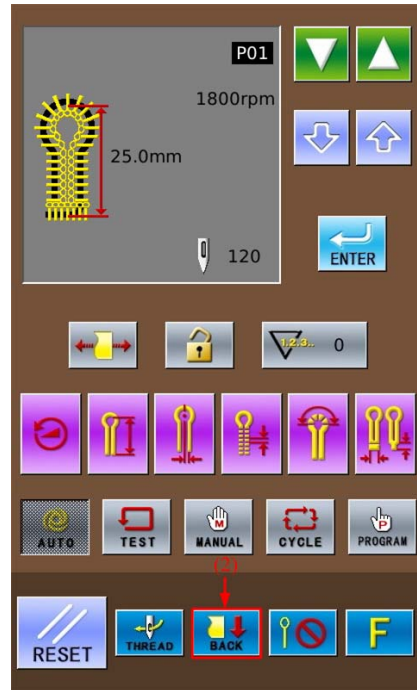
mode to **FRONT**. At this time, the cloth-feeding board will be moved to the Front (position of sewing start).

Note: Front is the position nearer to the operator when he faces to the machine.



- ② **Move cloth-feeding board to backside**
(standard position for setting cloth) Press the Cloth Position Shift Key (2) again

to change the cloth-feeding mode to . At the moment, the cloth-feeding board will return to the backside (the standard position for setting cloth).



1-7 Threading Mode

This mode is used in threading the upper thread. At threading mode, if the Z axis of needle rod turns 180 degree, the excitation of stepping motors on X, Y and Z axis will be cut off. At this time, the needle rod and cloth-feeding board can move freely so as to be easy for threading the upper thread.

- ① **Have access to threading mode**

In the readiness status of Auto mode, Test Feed mode or Manual mode, press Threading Mode Key (1) to shift from cloth-feeding mode to threading mode. At this time:

1. The pattern data display area will have "Threading mode press 'RESET'" (2).
2. The thread-holder goes into open status.
3. The buzzer rings and the needle rod returns for 180°, then the excitation of the stepping motors on X, Y & Z axis will be cut off

- ② **Threading Upper Thread**

After 3 minutes, the thread-holder will be turned off automatically.

- ③ **Finish of Threading Upper Thread**

After threading the upper threads, please



press

When the needle rod and cloth-feeding board are moved to origin for origin test, they will return to the position for setting cloth.

The thread-holder is off.




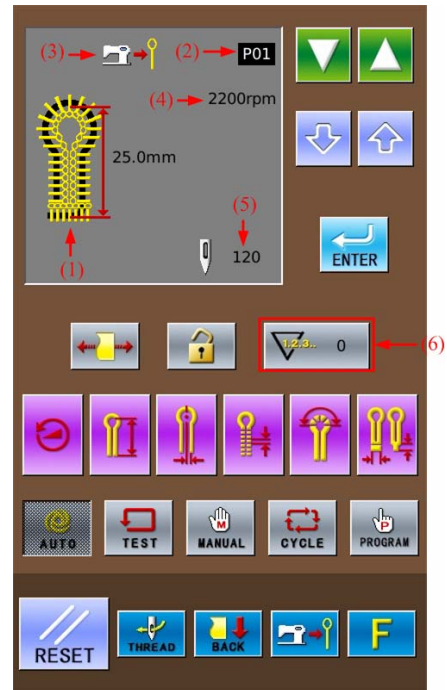
2. Instructions on Sewing Operations




2-1 Auto Mode

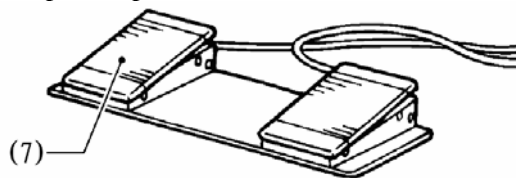
- For the automatic sewing at first time, do please perform the trial sewing.
- When using SC511 in the environment with low temperature, user shall perform the trial sewing for several times, so as to warm up the motor.

① Press Auto Mode Key

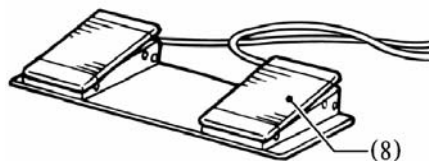
Press  to show the Shape & Length of sewing stitch: Pattern Shape (1), Pattern Code (2), Knife Action (3), Sewing Speed (4) and Total Stitch Number of Existing Pattern (5) at pattern data display area, as well as the Number of Production (6) at Production Counter Key.



- ② Press  to select the wanted pattern code (2). The pattern code will change in the following sequence: P01→P02→...P20→C1→C2...C9 at each pressing on . Press  to change the code in the contrary direction.
- ③ Select the wanted action of knife (Non-Cut/ Cut-before-Sewing/Cut-after-Sewing).
Note: For the detailed shift method of Knife Action, please refer to **【2.5 Shift of Knife Actions】**
- ④ Lay the fabric for sewing under the presser, step the presser pedal (7).



- ⑤ Step the start pedal (8) to start the sewing



- ⑥ For sewing repetition, please repeat the operation in the 4th & 5th steps at above.

2-2 Manual Mode

⚠ Caution



Due to the knife will act during the manual sewing, please keep hand away from the knife. Otherwise the operator may suffer serious injury.

Under manual mode, turn the wheel to move the cloth-feeding board in stitch by stitch. This will simplify the operation in synchronizing adjustment of yarn-divider.



① Press Manual Mode

Shape of Sewing Stitch Form (1), Pattern Code (2), Knife Action (3), Total Stitch Number (4) and Leftover Stitch Number (5) are shown in the sewing data display area.

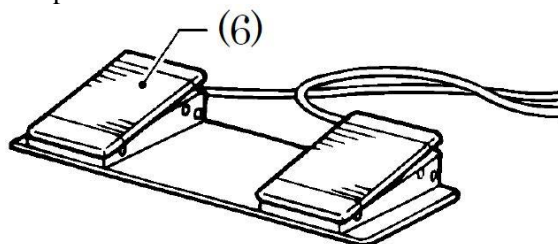


② Press to select the wanted pattern code (2).

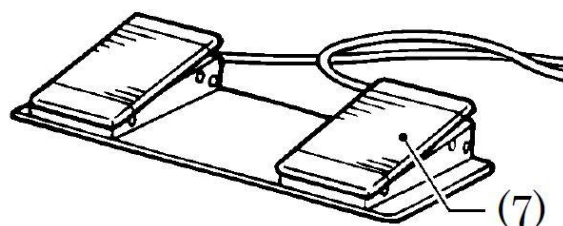
The pattern code (2) will change in the following sequence: P01→P02→... P20→C1

→C2...C9 at each pressing on . (Press  to change the code in contrary direction.)

③ Lay the fabric for sewing under the presser, step the presser pedal (6) to lower the presser.

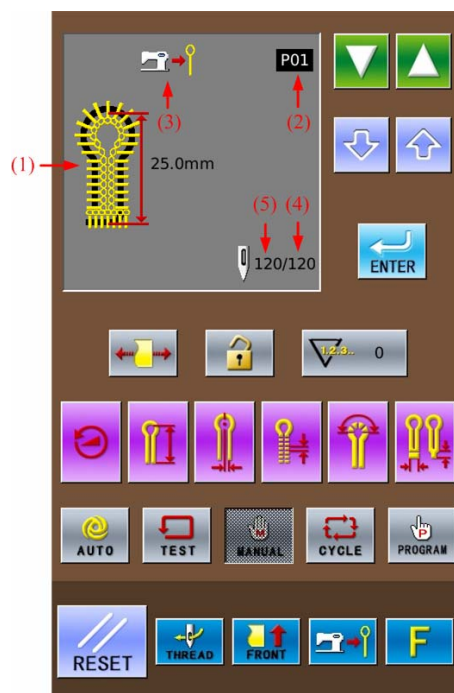


④ Step start pedal (7) to move the cloth-feeding board to the position of sewing start.

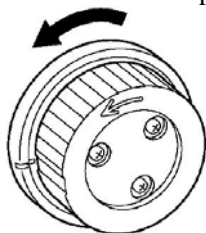


Caution:

When setting the knife action as “Cut-before-Sewing”, the operator shall look out for his hand at knife moving.



⑤ Reverse of Hand-wheel at Upper Axis

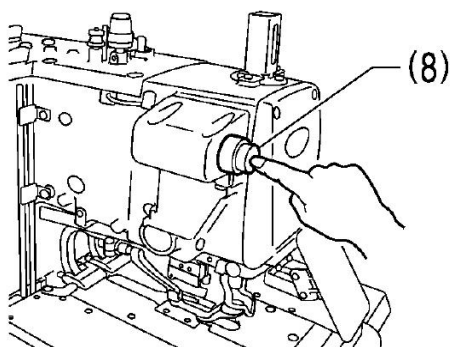


The cloth-feeding board will move to the sewing position of the next stitch at each turning round of upper axis hand-wheel. When the wheel reverses for half a cycle, the leftover stitch number (5) at sewing data display area will reduce 1 stitch


Caution:

If the upper axis hand-wheel turns reversly, the cloth-feeding board will not move the shape with the set stitch form. Please don't turn the wheel reversly.

- ⑥ For stopping the manual sewing, press emergence stop switch (8) when the cloth-feeding board returns to the position for laying cloth



The “Pause Switch Is Pressed In Sewing” is

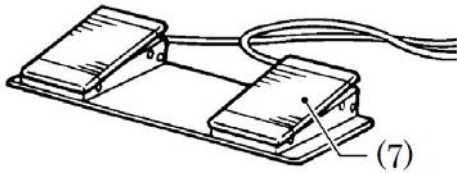
displayed on operation board. Press  to return to sewing interface and then

press .



⑦ At Last Stitch

The needle rod stops at the upper position of needle. Step start pedal (7) at this time.



(Hold it until the cloth-feeding board returns to the position for laying cloth.)

In thread-trimming actions, when the cloth-feeding board returns to the position for laying cloth, the system will hint “END OF MANUAL MODE” in the operation panel.

Caution:

When setting knife action as “Cut-after-Sewing”, user shall look out the action of knife.



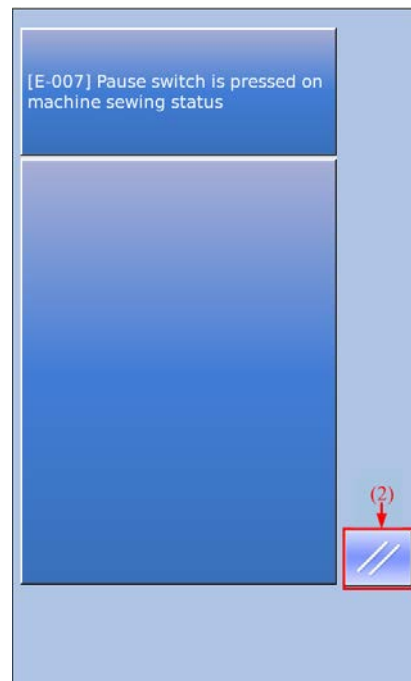
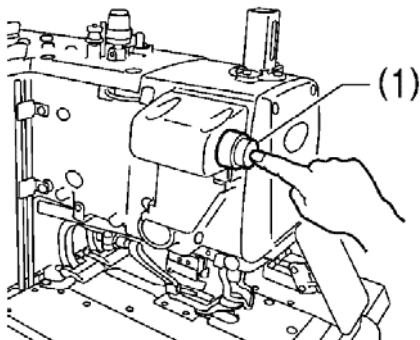
2-3 Pause Switch

Pause in Auto Sewing


The pause switch is generally used for stopping the sewing machine at thread-breakage and other circumstance

2-3-1 Methods for Pausing

During the sewing, press the pause switch (1) to stop the sewing machine, and then the operation panel will hint “InstancyStop Error”.




2-3-2 Method for Releasing Pause (For Stopping the Work)

- ① Press  (2) when the interface displays “InstancyStop Error”.

Then the operation panel will show the sewing interface, and the pattern data display area shows “Press ‘Reset’ or ‘Down’”

- ② Release the error causing the pause.

- ③ Press . After the needle rod and the cloth-feeding board performs the origin test, they will return to the position for setting cloth.





2-3-3 Method for Releasing Pause (For Continuing the Work)



- ① Press RESET button (2) when the interface displays “InstancyStop Error”.


Then the operation panel will show the sewing interface, and the pattern data display area shows “Press ‘Reset’ or ‘Down’”



- ② Release the error causing the pause.

If the upper thread is broken, press  to have access to the threading mode.

- ③ Press  to display the total stitch number of pattern (3) and the leftover stitch number (4) in the pattern data display area.

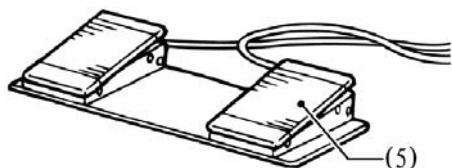
- ④ Press  or  to move the cloth-feeding board according to the shape of pattern so as to confirm the position for continuing the sewing job.

If the upper thread is broken, please press  to have access to threading mode.

Note: press  to proceed; press  to reverse. Holding means to keep proceeding or reversing.



- ⑤ Select the position for continuing the sewing, step the start pedal (5) to continue the automatic sewing of the existing pattern.



2-4 Usage Instructions on Cyclical Sewing Function

In the single pattern program (P01~P20), system can combine several edited single patterns together and register them into a “Cyclical Pattern Program” for continuous sewing, which is easy for using.

Cyclical Pattern Program:

Max Amount for Cyclical Patterns	9 (C01~C09)
Max Amount of Single Pattern in a Cyclical Pattern	9 (S1~S9) (A single P pattern can be selected for many times)

Example:




We select a single pattern P01 (3 steps, with knife action) and a single pattern P03 (1 step, without knife action) to combine a cyclical pattern, which is set as C1 for example


The set contents of Cyclical Pattern Program C1:

Step Code of C Pattern	S1	S2	S3	S4
Name of Single Pattern	P01	P01	P01	P03
Knife Action	Yes	Yes	Yes	No

- ① Press the keys (1) at the right interface to select sewing mode in random. (Take the auto mode as example.)





- ① Press   to select C1, the pattern number of that cyclical pattern program.
The pattern code will change in the following sequence: P01→P02→...P20→C1→C2...C9...P01 at each pressing on .

(Press  to reverse the sequence.)

- ② Press Cycle Mode Key (2)
The sewing data display area will show the following contents:

- (3) Step Code
- (4) Cyclic Program Code
- (5) Pattern Content Set in S1.




- ③ Press   to set the content of S1 (5) as P01

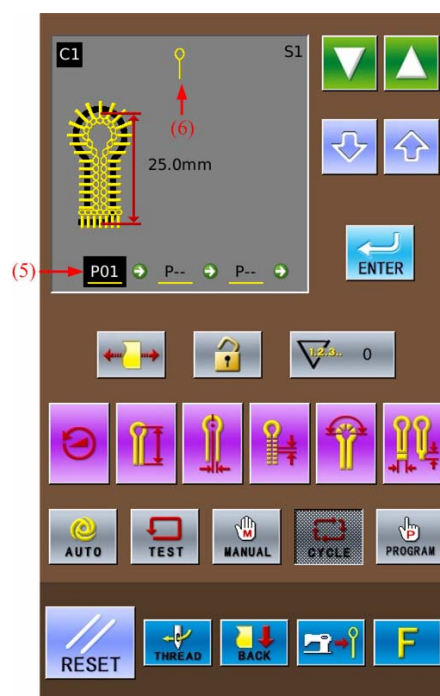
The “_” in “P01” means that this pattern has the knife action, therefore the knife mark (6) is shown in the sewing data display area



“--” in “P--” means the pattern in this step has not been set yet.

If you set the existing pattern as “P--”, the content in the following steps will be deleted.




- ④ Press  to confirm the changed content.

At that time, the content of S1 (5) will not be shining any more.



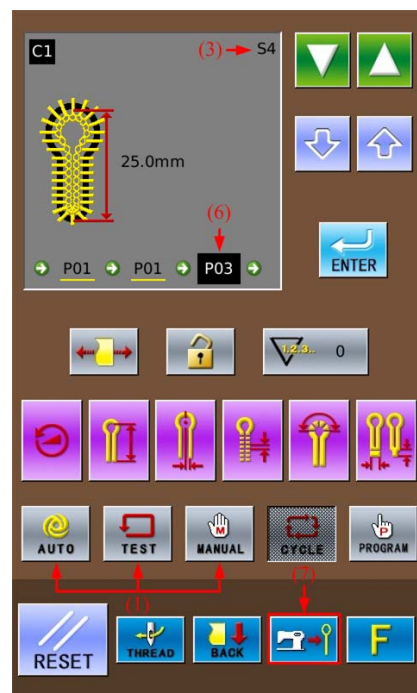
- ⑥ Press  to change the step code (3) to S2.
- ⑦ Repeat the operations in steps 4 & 5 at above to set the content of S2 as “P01”, which is as same as that of S1
Repeat the operations in steps 4 & 5 at above to set the content of S3 as “P01”, which is as same as that of S1
- ⑧ Press  to confirm the changed content.




- ⑨ Press  to change the Step Code (3) to S4.
- Press  to set the content of S4(6) as P03.
- Press Knife Action Key (7) to change the “P03” at (6) to “P03”. (Without Knife Action)
- ⑩ Press  to confirm the changed content.


Press any key in (1) to end the setting in the Cycle Mode

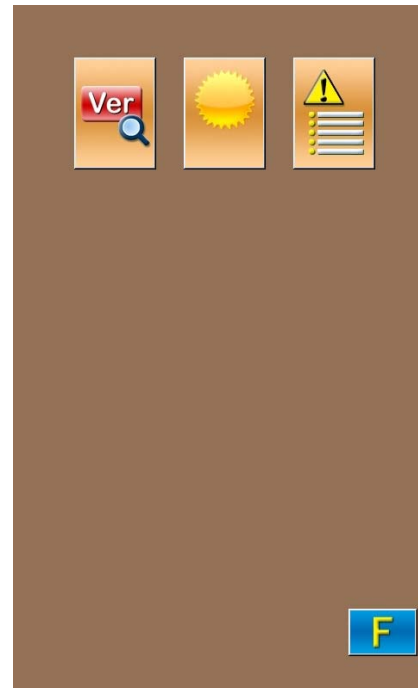
Note: When selecting the cyclical program to perform the automatic sewing, the user can change the knife action in the Auto Mode. And the knife action in the C pattern will be kept same to the knife mode set at present.



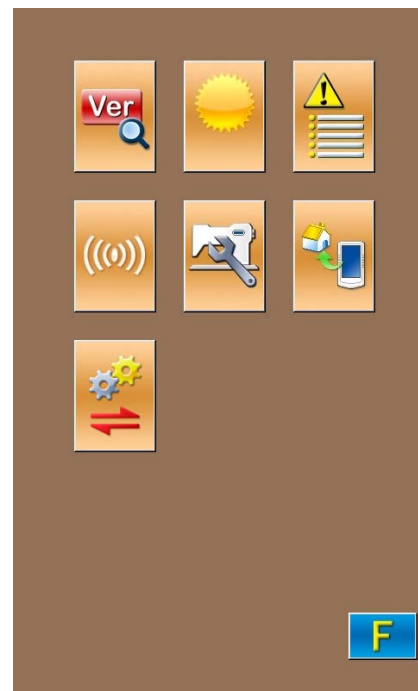
3. Interface of Parameter Setting Mode

In the interface for inputting sewing data, press  to shift the data input interface and parameter setting mode interface (as shown in right). In the interface of parameter mode, user can make some detailed settings and edition operations.

In the interface for inputting sewing data, hold  for 3 seconds, then the system will have access to the setting mode Level 2.










Setting Mode Level 1




Setting Mode Level 2

3-1 Description of Functions


Setting Mode Level 2:

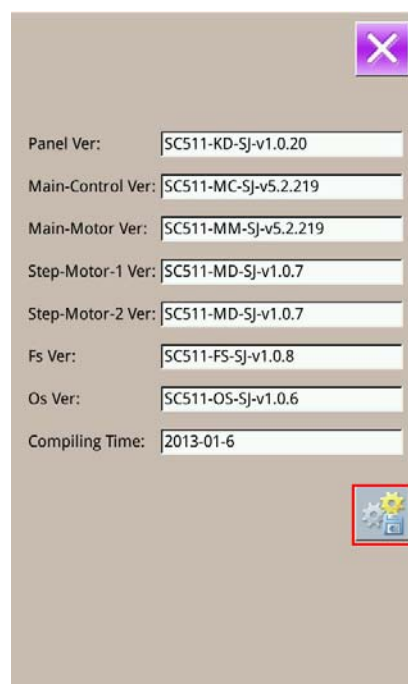
No.	Figure	Functions
1		Inquiry of software version.
2		Lightness adjustment
3		Error information record
4		Communication mode
5		U level parameter
6		Recovery to default setting
7		Parameter back-up & recovery

3-2 Software Version Inquiry

In Level 1 of Setting Mode, press  to have access to the interface for inquiring the software version (as shown in the right figure).

- (1): Version of Operation Penal Program
- (2): Version of Controller Program
- (3): Version of X Axis & Y Axis Stepping Motor Program
- (4): Version of Z Axis Stepping Motor Program
- (5): File System Version
- (6): Operation System Version
- (7): Compiling Time of Panel Program

Press  to output the software version to the base inventory of U disk with name version.png.



Panel Ver: SC511-KD-SJ-v1.0.20

Main-Control Ver: SC511-MC-SJ-v5.2.219

Main-Motor Ver: SC511-MM-SJ-v5.2.219

Step-Motor-1 Ver: SC511-MD-SJ-v1.0.7





Step-Motor-2 Ver: SC511-MD-SJ-v1.0.7

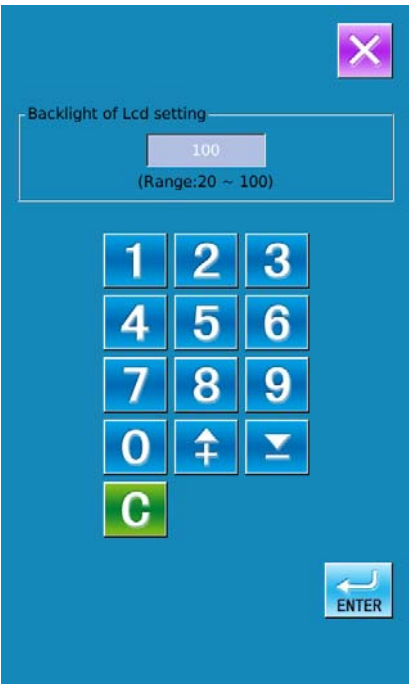
Fs Ver: SC511-FS-SJ-v1.0.8

Os Ver: SC511-OS-SJ-v1.0.6


Compiling Time: 2013-01-6

3-3 Lightness Adjustment


In Level 1 of Setting Mode, press  to have access to the interface of lightness adjustment (as shown in the right figure), whose range is from 20 to 100. User can press  or  to adjust the value and it is also possible to input the value via the number keys. Press  to confirm the input.




3-4 Error Information Record

In Level 1 of Setting Mode, press  to have access to the interface for recording the error information (as shown in right). In the interface, the times of the various kinds of errors and the recent error information will be displayed. The smaller number means the later occurrence.

Additionally, the system will also record the production number at each warning.

User can use  or  to turn the pages for checking more error information.

Press  to clear all the error records.



3-5 Communication Function


The communication mode contains the following functions:

- 1、 Update Panel Software via U Disk;
- 2、 Transfer U Level Parameters between Panel and U disk

3-5-1 Operation Penal Update

① **Have access to the interface of communication function**


Insert U disk, in Level 2 of Setting Mode,


press  to have access to the communication function mode (as shown in the right figure).

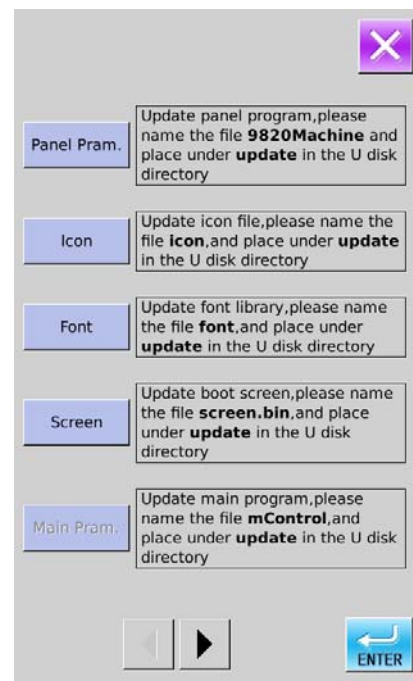
 : Software Update



② **Enter Software Update Interface**

Press  to enter the software update interface (as shown in right), where user can update the software

The updating software is located at 「update」 in U disk. Click the content for update, then please press .



③ **Finish Updating**


After the update, the system will display the hint information. Please restart the machine.



3-5-2 Input/ Output U Level Parameters

① Display the Communication Interface

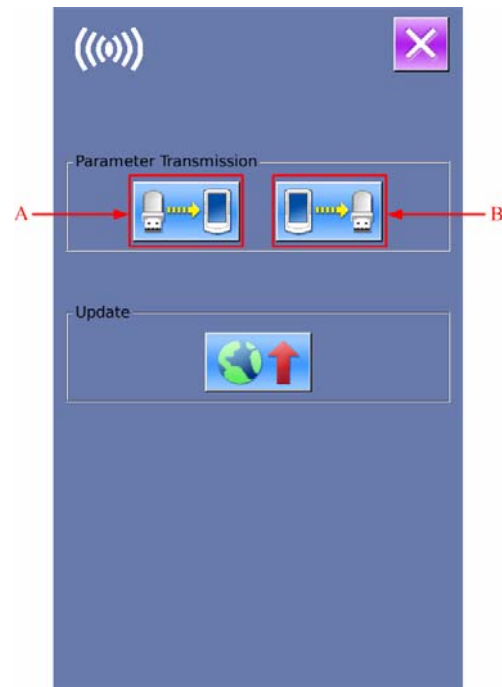
Insert U disk. In the level 2 of Setting Mode,

press  to have access to the Communication function mode


A: Input Parameter from U disk to Panel

B: Output Parameter from Panel to U disk

- ※ When inputting patterns from U disk, user has to save the parameters into the DH_PARA in the U disk with name 9820Param
- ※ When outputting patterns from operation panel, user has to save the parameters into the DH_PARA in the U disk with name 9820Param
- ※ The parameter file is the binary file, which is operated on the control panel. User can not change that file manually on PC, or the file may be damaged





② Press Button A to Input Parameters from U Disk to Operation Panel

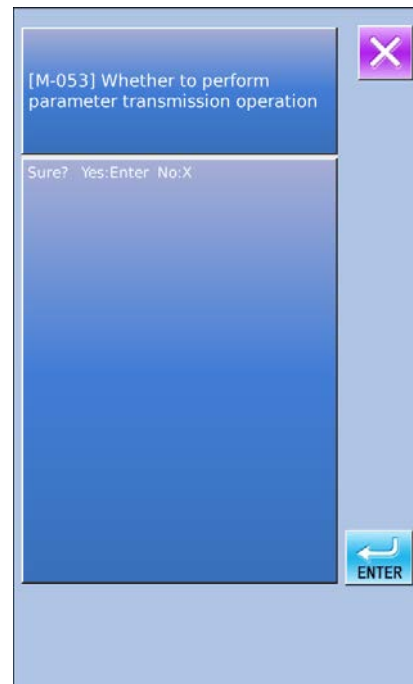
A、Press  to input the parameters and quit

B、Press  to quit directly.



③ **Press Button B to Output Parameters to Operation Panel**


- A、Press  to output parameters from operation panel to U disk and quit
- B、Press  to quit directly




3-6 Parameter Setting

3-6-1 Method for Setting Parameters

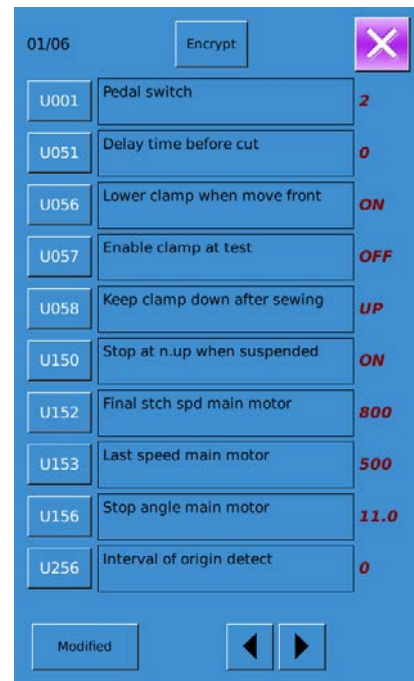
① Have Access to Parameter Setting Interface

In Level 2 of Setting Mode, press  to have access to the interface for setting U level parameters (as shown in right picture).

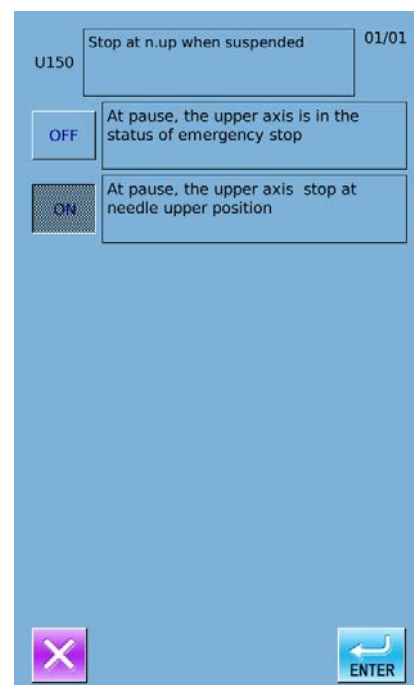
Press  to quit the setting interface

When some parameters are changed, the system will display the “Modified” in the parameter setting interface.

Select the parameter for changing; Then the system will enter the setting status. The parameters are separated as “Data Input Type” and “Selection Type”. Please refer to the example at below:




Input Type




Selection Type

② Parameter Encryption





Press “Encryption” to enter the password input interface.

Press  to clear all the content

Press  to erase one figure at each pressing

Input Password (Rand:7713)

1	2	3	4	5	6
7	8	9	0	A	B
C	D	E	F	G	H
I	J	K	L	M	N
O	P	Q	R	S	T
U	V	W	X	Y	Z


③ Change the Parameter


Input the right password to enter the interface for parameter encryption

A、Select the parameter for encryption

B、Press **【Select All】** to attach password to all the parameters


C、Press **【Reverse】** to select parameter for encryption in reverse way

D、Press  to quit the encrypting function

02/06


U301	Auto mode D.L
U350	Protect edit of program mode
U351	Forbid to enter program mode, the hotkeys are invalid.
U352	Protect edit of prod. counter
U353	Protect edit of sewing spd
U354	Protect edit of program number
U357	Safe switch enable
U358	Atmo presser test enable
U359	Absorb enable
U450	Limit maximum sewing spd

All
Reve.



④Check the changed parameter

A、When parameter is changed, the system will display “Modified” key at parameter setting interface.

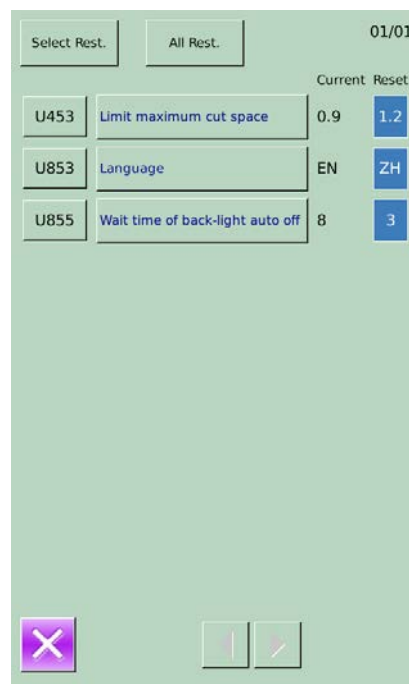
B、In the parameter setting interface, press **【Modified】** to ④ check the changed parameters.

At first, the system will ask user to input the password. For the operation at password input interface, please refer to the “A” at ②. After inputting the right password, user can enter the interface for inquiring changed parameters.

C、Under the interface of changed parameter inquiry, user can find the list containing all the changed parameters with their current value and default value.

In that interface:

- Press **【All Rest】** will restore all the changed parameters to their default values
- Click Parameter Name, like **【Limit maximum cut Space】** and then press **【Select Rest.】** to restore this parameter to the default value. User can select many parameters at here.
- Press Parameter Number, like **【U453】** to enter the parameter setting interface, where user can reset the parameter value.



3-6-2 List of Parameters at U Level

No.	Functions	Description	Range	Changing Step	Default Setting
U001	1 Pedal/2 Pedals Switch	0: Single Pedal (Simulation) 1: Step the start pedal to lower the presser, and the sewing machine starts. 2: Press the presser switch to lower the presser. Then step the start pedal to start the sewing machine.	0~3	1	0
U051	Delay time before cut for 1 Pedal model	For automatic sewing in Cut-before-Sewing mode, this parameter will determine the delay time of knife action after the pedal 1 is stepped	0~800	50ms	0
U056	Lower clamp when move front	0: OFF After sewing, the cloth-feeding	0~1	1	0

No.	Functions	Description	Range	Changing Step	Default Setting
		board moves to the position set before with the presser at up position; the presser keeps up at searching the original 1: ON After sewing, the presser doesn't rise until the cloth-feeding board moves to the position for laying cloth; during the process of searching origin, the presser keeps going down when each axis return to origin. The presser doesn't rise until the frame goes to the position for laying cloth.			
U057	Enable clamp at test	0: OFF The raise of presser is forbidden in test mode 1: ON In Test mode, the following operations can make presser go up: (A): Manual switch type or double pedal type: press presser switch (B): pedal type: return to pedal In restarting the test mode, the following operations have to be done for lowering the presser (A): Manual switch type or double pedal type: press presser switch (B): pedal type: return to pedal	0~1	1	0
U058	Keep clamp down after sewing	0: Up Presser goes up when the automatic sewing is finished 1: Down Presser keeps going down when the automatic sewing is finished. Please perform the following operations when the presser rise: (A): Manual switch type or double pedal type: press presser switch (B): pedal type: return to pedal	0~1	1	0
U152	Final stch spd main shaft	Set speed of the last stitch	700~900	10rpm	800
U153	Last speed main shaft	Set the stop speed	250~600	10rpm	350
U156	Stop angle main shaft	The stop control section will be prolonged when this value goes up.	2.5~17.5	0.5°	11.0
U256	Interval of origin	0: OFF	0~9	1	0


No.	Functions	Description	Range	Changing Step	Default Setting
	detect	Do not detect origin after sewing 1~9: Detect the origin position after sewing in certain times.			
U301	Parameter column in Auto Mode	1: Sewing length 2: Interval	1~2	1	1
U350	Forbid Program Mode	0: OFF General Conditions 1: ON Forbid to enter program mode, the hotkeys are invalid.	0~1	1	0
U351	Forbid Cycle Mode	0: OFF General Conditions 1: ON Forbid to enter cycle mode	0~1	1	0
U352	Forbid to change counter	0: OFF General Conditions 1: ON Forbid to change the value in products counter	0~1	1	0
U353	Forbid to edit sewing speed	0: OFF General Conditions 1: ON Forbid to change the sewing speed	0~1	1	0
U355	Forbid to change Cut-before-Sewing	0: OFF General Conditions 1: ON Forbid to change the action of Cut-before-Sewing (If existing status is Cut-before-Sewing, it will change to Non-cut automatically.)	0~1	1	0
U356	Forbid to change Cut-after-Sewing	0: OFF General Conditions 1: ON Forbid to change the action of Cut-after-Sewing (if existing status is Cut-after-Sewing, it will change to Non-cut automatically)	0~1	1	0
U358	Pressure Measurement	0: OFF Invalid 1: ON Valid	0~1	1	0
U450	Max sewing speed	Set the Max sewing speed	1000~2700	100rpm	2500
U452	Product count for cycle pattern	0: OFF Count after sewing a hole 1: ON Count after sewing a cycle	0~1	1	0
U456	Adjustment of	Set adjustment of needle swing at	-1.0~0.0	0.1mm	0

No.	Functions	Description	Range	Changing Step	Default Setting
	needle swing at start	sewing start			
U550	Time for air-hammer ON	The larger value, the longer contact time between air-hammer and knife will become.	25~200	5ms	25
U551	Air-hammer origin height	In readiness status, Error code E650 will be activated when the value of air-hammer position sensor is smaller than this value. (only effective when the air-hammer origin error detection is turned on)	150~170	1	160
U553	Determine air-hammer rise position by time	0: OFF According to position of air-hammer to detect the lowering of air-hammer 50~500: Detect the lowering of air-hammer according to time (used when the air-hammer position sensor is down)	0~500	10	100
U554	Determined air-hammer lowering by time	0: OFF Determine the position of air-hammer for lowering. 50~500: Detect the lowering of the air-hammer according to time (used when the air-hammer position sensor is down.)	0~500	10	200
U555	Increase of leftover upper thread	0: OFF General Conditions 1~3: Because only the sequence delay of trimming upper thread is set, the leftover upper thread may be increase after sewing.	0~12	1mm	0
U556	Time for loosening upper thread	The larger value, the longer the time for loosening upper thread after thread-trimming.	0~100	2ms	50
U557	Upper thread-loosening Off Sequence	0~100: the larger value is, the later the thread-loosening OFF time after trimming will be.	0~100	2ms	50
U558	Forbid to use bottom thread trimmer device	0: OFF General Conditions (Bottom thread trimmer device is activated) 1: ON Forbid to use bottom thread trimmer device	0~1	1	0
U559	Neglect of bottom thread knife sensor and counter	0: OFF Detect the bottom thread knife device is off according to the OFF sensor of bottom thread trimmer 5~50: Detect the bottom thread knife device is off according to	0~50	5ms	30

No.	Functions	Description	Range	Changing Step	Default Setting
		time. Set this parameter with a step at 5ms			
U560	Bottom thread-trimming time	0~100: the larger value is, the later the thread-trimming time will be.	0~100	5	50
U561	Upper thread-breakage sensor	0: OFF Device Invalid 1: ON Device Valid	0~1	1	0
U562	Start stitch number before upper thread-breakage sensor	1~9: Sew the set stitches before the upper thread-breakage detection.	1~9	1	5
U563	Upper thread-breakage judging stitch number	2~7 : When the thread-breakage signal turns ON at the set stitches , the Error of thread-breakage will be activated.	2~7	1	4
U564	Upper thread-catching device	0: OFF Device Invalid 1: ON Device Valid	0~1	1	0
U565	Upper thread-catching close time correction	-10~10: the larger value is, the later the upper thread-catching will be	-10~10	1	0
U576	Upper thread-catching open time	5~20ms: set in unit of 1ms	5~20	1	10
U577	Frame-moving Method	0~5: select different frame-moving method	0~5	1	4
U578	Frame-moving adjustment 1	-50~50: Adjust the XY frame-moving angle	-50~100	1	0
U579	Z axis frame-moving adjustment	-50~50: Adjust Z axis frame-moving angle	-50~50	1	0
U580	Upper thread taking-up time	0~200: Start time adjustment of upper thread taking-up	0~200	5	0
U581	Upper thread tension adjustment	0~250: Adjust upper thread solenoid current	0~250	5	230
U586	Fast moving time adjustment	Adjust fast frame-moving time	-90~100	10	0
U752	Adjustment of X position on knife	The set value is the adjustment of X position on knife, which will be added into entire pattern program.	-0.50~0.50	0.05mm	0.3
U850	Sewing machine head configuration	0: -00 Set configuration as -00 1: -01 Set configuration as -01 2: -02 Set configuration as -02	0~2	1	2
U852	Radial Hole Presser	0: OFF Use general presser (except that	0~1	1	0

No.	Functions	Description	Range	Changing Step	Default Setting
		of radial hole) 1: ON Use the special program for radial hole presser. The displayed is the special parameter for radial hole.			
U853	Language	0: Chinese 1: English	0~1	1	0
U854	Back light auto Off	0: OFF No auto off 1: ON Auto off	0~1	1	0
U855	Backlight auto off wait time	Set the waiting time of the backlight auto off	1~9	1 Min	3
U856	Button display style	0: Sty1 Style 1 1: Sty2 Style 2	0~1	1	0
U857	Voice Volume	30~63: adjust the volume of voice	30~63	1	50
U858	Password setting effective	0: Invalid 1: Valid	0~1	1	0
U910	Sewing board position adjustment	Adjust the position of sewing board	-100~100	1	0
U912	Main motor type	0: 360 wire motor 1: 256 wire motor	0~1	1	0
U913	DIP1	Temporary adjusting parameter (reserved)	-100~100	1	0
U914	DIP2	Temporary adjusting parameter (reserved)	-100~100	1	0

3-7 Initialization of Parameters

- ① In level 2 of setting mode, press  to have access to interface of parameter initialization, as shown in right:

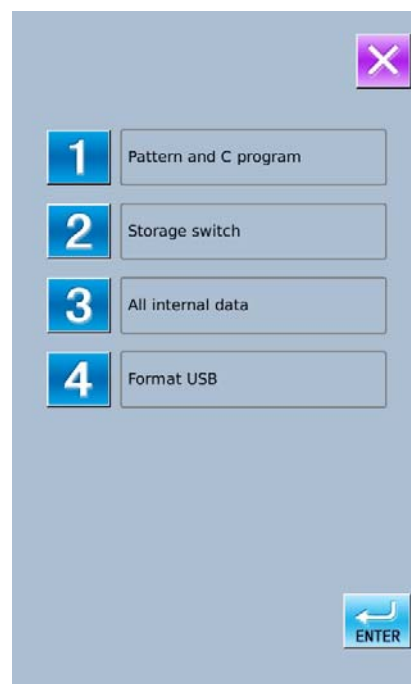
可以选择:


User can select:


- (1) LEVEL1: Para. And C Program (Level S pattern parameter and C pattern cycle program)
- (2) LEVEL2: Storage Data (Including U level parameters)
- (3) LEVEL3: All Internal Data
- (4) LEVEL4: Initialize U disk

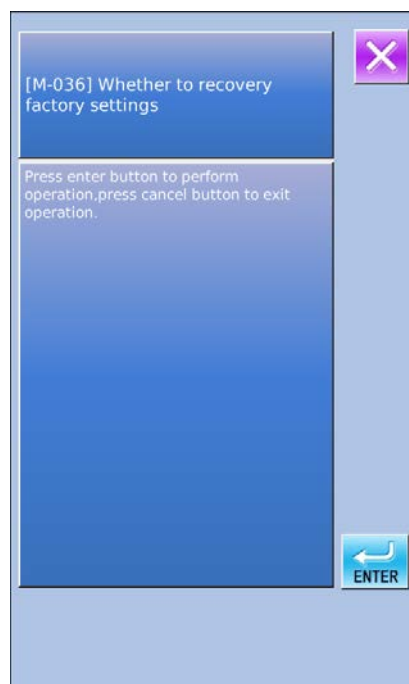
The detailed initialization content is at below:

Level, Content & Clear of Initialization			
	LEVEL1	LEVEL2	LEVEL3
Program Content	Default value	—	Default value
Cycle program	Clear	—	Clear
Storage switch	—	Default value	Default value
Program code	1	—	1
Parameter code	1	—	1
Production counter	—	—	0
Mode	Program	—	Program
Position for locating cloth	Built-in	—	Built-in
Knife action	OFF	—	OFF



- ② Select the parameter for initialization, then press  for confirmation.


The right interface will be displayed on the screen, press  to initialize the parameter.



3-8 Parameter Back-up & Recovery

User can save 8 groups of U level parameter for future use.


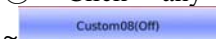


In setting mode level 2, press  to enter the interface of parameter back-up & restoration, as shown in right:

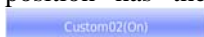
Clear: Clear all the customized parameters that are saved.

Save: Save current parameters

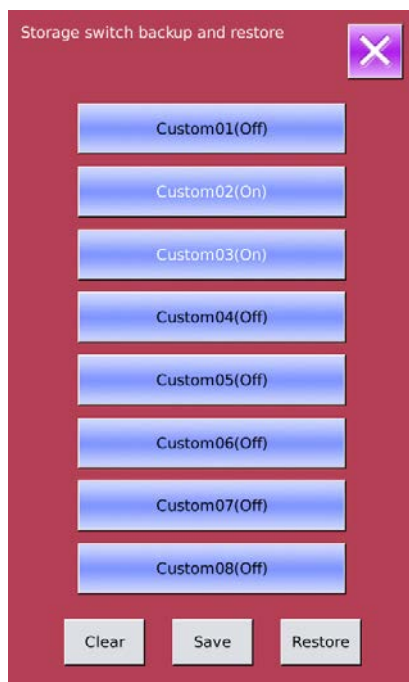
Restore: Restore the current parameters

- ① Click any key among  ~  to set the position for saving the parameter. And then press 「 Save 」 to save that parameter.

- ② Check the content on 「Custom xx (On/Off)」 . If 「 On 」 is displayed in bracket, that means this position has the user parameter, for an example



- ③ Select the button with parameters, press 「 Restore 」 to reload the corresponding parameter values
④ Press 「 Clear 」 to delete all the saved parameters



4. Appendix 1

4-1. Hint List

No.	Name	Content
M-001	Set value too large	Please input value within range
M-002	Set value too small	Please input value within range
M-003	Parameter save error	Press Enter to recover default setting
M-004	Communication error	Communication error between operation panel and control box
M-005	Operation head not match to control box	Please check the model and the software version
M-006	Clock error	The hardware clock is down, please contact manufacturer for repair
M-007	Wrong password	Input again
M-008	Wrong user ID	Input again
M-009	Fail to confirm password	Input password again
M-010	Can not change system time	Periodical password has been set, can not change system time
M-011	Password file input error	
M-012	Password file load error	
M-013	Password save successful	
M-014	Clear all password failed	Can not delete password file
M-015	Fail to clear password	After clearance of password, the input of file has problem
M-016	Password file is deleted without authorization	Password file is deleted without authorization, please turn off machine
M-017	Can not input blank	Input password again
M-018	Current password not match	Input current password again
M-019	New password not match	Input new password again
M-020	Periodical password is same to super password error	Input password again
M-021	Enter touching panel correction mode	Are You Sure? Yes: enter No: X
M-022	Correction successful	Correction is successful, please restart machine
M-023	Correction failed	Please perform correction again
M-024	SRAM initialization	Clear all the data within SRAM, please turn off machine and restore the DIP switch
M-025	Turning off	
M-026	No warning record	
M-027	Clear warning record	Are You Sure? Yes: enter No: X

No.	Name	Content
M-028	USB is pulled out	USB is pulled out
M-029	Save software version successful	Software version is saved to the root directory of U disk
M-030	Counter at set value	Press ENTER to release it
M-031	Over sewing range	Please make sure the pattern is within the sewing range
M-032	Stitch number over range	Please reduce patter stitch number
M-033	Load default patterns	No pattern in memory, please load default patterns
M-034	Pattern data error	Current pattern data error, it will be replaced by default patterns
M-035	Pattern information file open failed	Restore to default pattern configuration
M-036	Restore to default setting	Press Enter to perform operation; Press ESC to quit
M-037	Parameter recovery successfully	Successful recovery of parameter. Please restart machine
M-038	Restore all the settings	Are You Sure? Yes: enter No: X
M-039	Restore the selected items	Are You Sure? Yes: enter No: X
M-040	Not select an item	Please select one or several parameters
M-041	Successful	Current operation is successful
M-042	Failed	Current operation is failed
M-043	Initialize U disk	Press Enter to perform operation; Press ESC to quit. The initialization will delete all the files in U disk
M-044	Initialize memory	Press Enter to perform operation; Press ESC to quit. The initialization will delete all the files in memory
M-045	Please turn off machine	Current operation is finished, please restart machine
M-046	Not select update item	Please select at least one item for update
M-047	Selected item for update is not existed	If the item has no update file, the system will cancel the selection. If user wants to update the rest, please confirm again
M-048	Update successful	Update successful, please restart machine
M-049	Copy failed	Check the room of memory
M-050	Copy failed,	Check whether the U disk is pulled out
M-051	Not select update item	Please select at least one item for update
M-052	File I/O error	File I/O error
M-053	Parameter transfer	Are You Sure? Yes: enter No: X
M-054	Pattern-designing data error	

No.	Name	Content
M-055	Cyclic sewing pattern open error	Pattern file has mistake
M-056	Open file failed	Open file failed
M-057	Clear all customized parameters	Are You Sure? Yes: enter No: X
M-058	Over set range	

4-2. Malfunctions Settlement

Malfunction	Reasons	Solutions
Thread-breakage	Thread-tension is so high.	Adjust the thread-tension to proper level
	The needle is not properly installed.	Install the needle in the right direction
	Compared to needle, the thread is so thick.	Select the thread fitting to the needle
	The needle doesn't match to the bend needle.	Adjust the pitch between the needle land bend needle, as well as the height of needle rod, bend needle and yarn divider.
	There is damage or rags on needle, bend needle, yarn divider, winding plate or thread rail.	Polish or replace the rough parts.
	Threading method is wrong.	Thread correctly.
Needle-jumping	The upper thread tension is too large or too small.	Adjust the upper thread tension to a proper level
	The needle tip is broken or crooked.	Replace for a new needle
	The interval between needle and bend needle tip is incorrect.	Adjust the interval between the needle and bend needle tip to a proper level.
	The needle, bend needle and yarn divider don't match to each other.	Adjust the relationships among these three.
	The needle and needle stand are not adjusted properly.	Properly adjust the needle stand.
	The bend needle tip is blunt.	Polish it or replace it.
	The needle is not properly installed.	Install the needle in right direction.
	The needle is too thin.	Select needles fit the sewing conditions
Needle-breakage	The needle is crooked	Replace a new needle
	The needle, bend needle and yarn divider don't match to each other	Adjust the relationships among these three.
	The needle and needle stand are not adjusted properly.	Properly adjust the needle stand.

	The needle is too thin.	Select needles fit the sewing conditions
Upper thread is not cut off.	The upper knife is not so sharp	Replace a new upper knife
	The pressure is too low to let upper knife cut to bottom.	Adjust the pressure
	The upper knife can't catch the upper thread.	Install a upper thread bend needle, and cut the tread at the stitch before the last one
	At the last stitch, the upper knife can't catch the upper thread due to the needle-jumping	Refer to "Needle-jumping", try to avoid the needle from jumping
	The position of upper knife is improper	Adjust the position of upper knife
Bottom thread is not cut off.	The knife is not so sharp.	Replace a new knife.
	The pressure is too low to let upper knife cut to bottom	Adjust the pressure
	The position of knife is improper	Adjust the position of the knife and thread-scanning
	The pressure on knife for trimming bottom thread is too low	Adjust to a proper knife pressure level
Stitch-missing at sewing start	Can't hold bottom thread.	Adjust the bottom thread holder (configuration 01) or bottom thread pressing board (configuration 02)
	The leftover part of the upper thread after trimming is too short.	Adjust the assistant thread holder.
	The release upper thread is far from sufficient.	Adjust the amount of released upper thread.
Cutting function abnormal	Low pressure on cutting device	Adjust the pressure to a proper level
	Knife doesn't properly contact to the cutting hammer	Polish the surface of cutting hammer
	The knife is not so sharp.	Replace a new knife.
Low thread density	The tension of upper thread is so strong or so weak	Adjust the upper thread tension to a proper level.
	The tension of bottom thread is so strong or so weak	Adjust the bottom thread tension to a proper level.
	The strength and stroke of take-up spring are improper.	Adjust the strength and stroke of take-up spring.

4-3. Alarm Information List

Malfunction code	Name of Malfunction	Method for Settlement
System Malfunction		
E-001	IPM over-voltage or over-current	Turn off machine and check the device as below: 1、 Check the input voltage; 2、 Initialize the main motor again; 3、 Check the load at the main-shaft and the blockage at the mechanism; 4、 Check the main motor; 5、 Check the mother board.
E-002	Supplementary device (24V) over-voltage	Turn off machine and check the device as below: 1、 Check the short connection at control cable of solenoid valve; 2、 Check the condition of expansion board
E-003	Supplementary device (24V) low-voltage	Turn off machine and check the device as below: 1、 Check the condition of expansion board
E-004	EEPROM Error	Turn off machine and check the device as below: 1、 Check the installation of head board; 2、 Check the connection of X9 cable.
E-005	Motor running error	Turn off machine and check the device as below: 1、 Check the load at the main-shaft and the blockage at the mechanism; 2、 Check the main motor; 3、 Initialize the main motor again; 4、 Check the mother board
Special Malfunction		
E-006	Press Pause key at ready status	Release pause switch
E-007	Press Pause key at ready sewing	Press RESET key
E-008	Pause Key bad connection	Turn off machine and check the device as below: 1、 Check the installation of pause switch; 2、 Check the connection of the pause cable.
E-009	Start Switch is held or bad connection at start switch	Release the start switch or turn off machine. And check the connection of start switch
E-010	Presser Switch is held or bad connection at presser switch	Release the start switch or turn off machine. And check the connection of presser switch
E-011	Machine head is tilted.	Turn off machine and check the device as below: 1、 Check the installation of safe switch; 2、 Check the connection of the safe switch cable.
E-012	Needle bar upper position abnormal	Turn the wheel to the upper position
E-013	Synchronization signal	Turn off machine and check the device as below:

Malfunction code	Name of Malfunction	Method for Settlement
	detector connection error	1、 Check the connection of main motor cable 2、 Check the main motor
E-014	Can not find X feeding motor origin. X feeding motor abnormal or bad connection at X origin sensor	Turn off machine and check the device as below: 1、 Check the connection of the cable at X motor sensor; 2、 Check the X sensor and its signal; 3、 Check the X motor and its movement; 4、 Check the stepping driving board
E-015	Can not find Y feeding motor origin. Y feeding motor abnormal or bad connection at Y origin sensor	Turn off machine and check the device as below: 1、 Check the connection of the cable at Y motor sensor; 2、 Check the Y sensor and its signal 3、 Check the Y motor and its movement; 4、 Check the stepping driving board
E-016	Can not find θ feeding motor origin. θ feeding motor abnormal or bad connection at θ origin sensor	Turn off machine and check the device as below: 1、 Check the connection of the cable at Z motor sensor; 2、 Check the Z sensor and its signal; 3、 Check the Z motor and its movement; 4、 Check the stepping driving board
E-017	IPM Over-current	Turn off machine and check the device as below: 1、 Check the input voltage; 2、 Initialize the main motor again; 3、 Check the load at the main-shaft and the blockage at the mechanism; 4、 Check the main motor; 5、 Check the mother board。
E-018	IPM Over-current	Turn off machine and check the device as below: 1、 Check the input voltage; 2、 Initialize the main motor again; 3、 Check the load at the main-shaft and the blockage at the mechanism; 3、 Check the main motor; 5、 Check the mother board。
E-019	Program version of main controller or motor error.	Turn off machine. Please update the main control software again.
E-020	Upper thread-breakage	Press RESET
E-021	Bottom thread-trimming device not work or bottom thread-trimming sensor abnormal	Turn off machine and check the device as below: 1、 Check the installation of the bottom thread-trimming device 2、 Check the pressure; 3、 Check the installation and the working

Malfunction code	Name of Malfunction	Method for Settlement
		<p>condition of the bottom thread-trimming detection sensor;</p> <p>4、 Check the cables on the bottom thread-trimming sensor</p> <p>5、 Change the parameter U558 and U559 to deactivate the bottom thread-trimming device or sensor</p>
E-022	Hammer is lowered or hammer position sensor is abnormal	<p>Turn off machine and check the device as below:</p> <p>1、 Check the installation of the hammer and the blockage at mechanism;</p> <p>2、 Check the pressure;</p> <p>3、 Check the installation and working condition of the hammer sensor;</p> <p>4、 Check the connection of the cable on the hammer sensor;</p> <p>5、 Change the parameter U552, U553 and U554 to deactivate the detection sensor.</p>
E-023	Hammer is not lowered or hammer position sensor is abnormal	<p>Turn off machine and check the device as below:</p> <p>1、 Check the installation of the hammer and the blockage at mechanism;</p> <p>2、 Check the pressure;</p> <p>3、 Check the installation and working condition of the hammer sensor; ;</p> <p>4、 Check the connection of the cable on the hammer sensor;</p> <p>5、 Change the parameter U552, U553 and U554 to deactivate the detection sensor</p>
E-024	Power over-voltage	<p>Turn off machine and check the device as below:</p> <p>1、 Check the power supply. Make sure it is stable;</p> <p>2、 Check the mother board.</p>
E-025	Stepping motor over-voltage	<p>Turn off machine and check the device as below:</p> <p>1、 Check all the stepping motors.</p> <p>2、 Check the stepping boards and mother boards.</p>
E-026	Power low-voltage	<p>Turn off machine and check the device as below:</p> <p>1、 Check the power supply. Make sure it is stable;</p> <p>2、 Check the mother board.</p>
E-027	Stepping motor over-current	<p>Turn off machine and check the device as below:</p> <p>1、 Check the stepping motor;</p> <p>2、 Check the stepping boards.</p>
E-028	Fan not work	<p>Turn off machine and check the device as below:</p> <p>1、 Check the installation of the cooling fan;</p> <p>2、 Check the connection of cables on cooling fan.</p>


Malfunction code	Name of Malfunction	Method for Settlement
E-029	Hammer can not go down	Turn off machine to increase the knife pressure
E-030	Stepping board communication abnormal	Turn off machine and check the device as below: 1、 Check the connection between the stepping communication board and the mother board; 2、 Check the stepping board.
E-031	X motor running abnormal	Turn off machine and check the device as below: 1、 Check the communication cable of stepping board 2、 Check the stepping driving board
E-032	Y motor running abnormal	Turn off machine and check the device as below: 1、 Check the communication cable of stepping board 2、 Check the stepping driving board
E-033	Cloth board over--range	Turn off machine and check the device as below: 1、 Check the range of parameter. Make sure the pattern parameters are not over the range of presser; 2、 Check the cable connection between the operation panel and the main control box.
E-034	Z motor running abnormal	Turn off machine and check the device as below: 1、 Check the connection of communication cable on stepping board; 2、 Check the stepping driving board
E-035	Motor close loop abnormal	Turn off machine and check the device as below: 1、 Check the load at the main-shaft and the blockage at the mechanism; 2、 Check the connection of main-shaft motor cable; 3、 Check the main motor。
E-036	Main-shaft 0 position signal error	Turn off machine and check the device as below: 1、 Check the connection of main-shaft motor cable; 2、 Check the main motor; 3、 Check the mother board。
E-037	Main-shaft encoder error	Turn off machine and check the device as below: 1、 Check the connection of main-shaft motor cable; 2、 Check the mother board。
E-038	Main-shaft stop abnormal	Turn off machine and check the device as below: 1、 Check the installation and load of mechanism; 2、 Check the main motor。
E-039	Sewing stop abnormal	Turn off machine and check the device as below:

Malfunction code	Name of Malfunction	Method for Settlement
		1、 Check the connection of emergency stop switch
E-040	SPI communication busy	Turn off machine and check the device as below: 1、 Check the cable connection between the stepping board and main controller; 2、 Check the stepping board
E-041	Stitch signal error	Turn off machine and check the device as below: 1、 Check the installation of main shaft; 2、 Check the installation of upper needle sensor; 3、 Check the cable connection and the working condition of upper needle sensor.
E-042	X motor busy	Turn off machine and check the device as below: 1、 Check the cable connection between the stepping board and main controller; 2、 Check the stepping driving board;
E-043	Y motor busy	Turn off machine and check the device as below: 1、 Check the cable connection between the stepping board and main controller; 2、 Check the stepping driving board;
E-044	Z motor busy	Turn off machine and check the device as below: 1、 Check the cable connection between the stepping board and main controller; 2、 Check the stepping driving board;
E-045	Pattern stitch number error	Turn off machine and check the device as below: 1、 Check the setting of pattern parameters; 2、 Check the cable connection between panel and main control box.
E-046	Main-shaft speed abnormal	Turn off machine and check the device as below: 1、 Check the cable connection of main-shaft motor; 2、 Check the main motor; 3、 Initialize the main motor again.
E-047	No encryption device	Turn off machine. Update the program again.
E-048	Wrong password 1	Turn off machine. Update the program again.
E-049	Wrong password 2	Turn off machine. Update the program again.
E-050	Low pressure	Turn off machine and check the device as below: 1、 Check the installation of air pressure test switch 2、 Check the cable connection of air pressure test switch; 3、 Check the working condition of valve. Make sure the valve switch opens normally

NOTES

[illegible]

Dealer:

The Texi logo is located in the top right corner of the slide. It consists of a stylized purple icon of a person with arms raised, followed by the word "texi" in a lowercase, italicized, purple serif font.