SC500 Computerized Controller for High Speed Buttonhole Machine

Owner's Manual

Forewords

Thanks for using the Computerized Buttonhole Control System.

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

Contents

1 General Information

1.1 General

SC500 Series Computerized Control System for Sewing Machine is characterized by the advanced technology it adopted. Its main shaft motor features large torque, high efficiency, stable running and low noise by adopting the advanced AC Servo Control Technology; its operating panel can meet various demands from clients in attaching; its structure of system is designed in German style which is easy to repair and install; and its system control software can be updated remotely, providing convenience to client in improving the function of product continuously.

1.2 Functions and Parameter Index

Refer to table 1 for the functions and parameters of SC500 Series computerized AC Servo Control System.

Table 1: Functions and Parameters

Type of controller	SC500 Buttonhole Model
Bar tacking width	5mm（with special specification part: 0.05mm）
Size of cloth cutting knife	6.4~31.8mm（1/4”~11/4”）
Length of Sewing Stitch（Max.）	41mm（When the optional is used：120mm）
Sewing speed	Normal:3600rpm　Max.:4200rpm
Speed control type	Control panel input
Needle	DP×5 # 11J ~# 14J
Needle bar stroke	34.6mm
Take-up lever	chain stitch take-up lever
Shuttle	DP type full autorotation Lubricating oil
Lift of the work clamp	14mm（Random setting） Max. 17mm（When the reverse-rotation needle –up function is used）
Lifter driven type	Pulse motor（1 pedal・2 pedal）
Bobbin thread winder	Built-in the machine head（Only winding during the machine running）
Cloth feeding knife drive system	By a pulse motor
Needle throwing drive system	By a pulse motor
Cloth cutting knife drive system	By the time after time acting solenoid
Sewing stitch type	30 types
Memory patterns no.	99
Data memory medium	U disk
1/2 again switch	Each pattern can be set.
Input Voltage	AC175V~AC265V
Motor	Minitype AC servo motor 400Wdirect driving
Figure measurement	Machine tool width 185mm、Height 364mm、Length 630mm

Machine head weight	55Kg

Machine type specification S：Standard K：Knitting specification

	Presser Foot 1	Presser Foot 2	Presser Foot 3	Presser Foot 5
Width	4mm	5mm	5mm	3-10mm(Random setting)
Length of Sewing Stitch（Max.）	25mm	35mm	41mm	10-120mm（Random setting）

1.3 Standardization

The function keys use the general figures with the meaning agreed in the trade. The figures are the internationalized language that users in each country can recognize it.

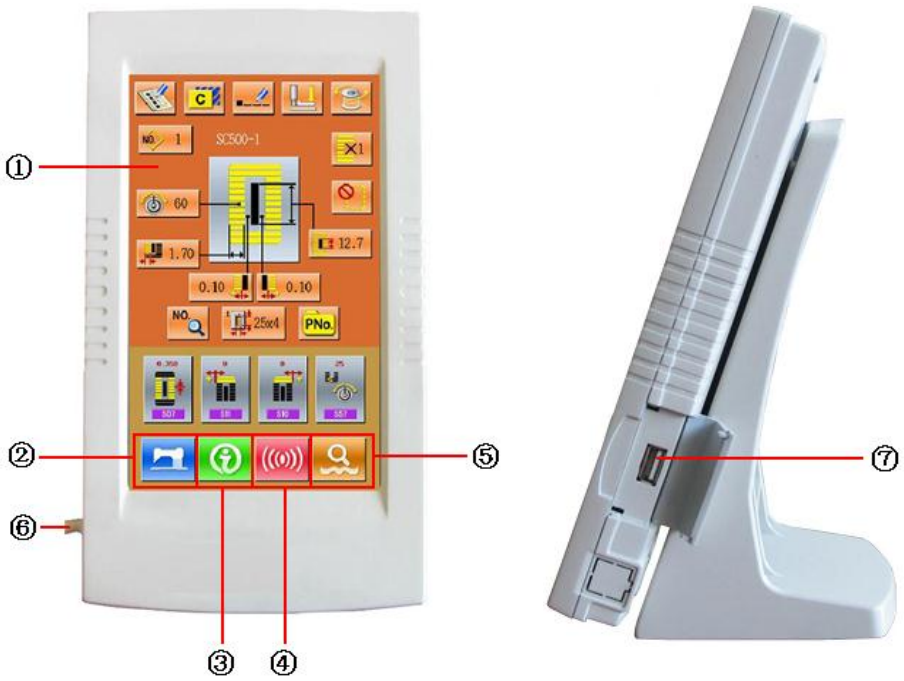
1.4 Operation Method

The function keys include Ready Key, Information Key, Mode Key and Communication Key. For the specific operating method, please take the operating instruction for reference.

2 Operating Instruction

2.1 Name and Description of Each Part on SC500

（Front） （Right Side）



① Touch Panel • LCD Displayer

②  READY key → Changeover of the data input screen and the sewing screen can be performed.

③  INFORMATION key → Changeover of the data input screen and the information screen can be performed

④  COMMUNICATION key → Changeover of the data input screen and the communication screen can be performed.

⑤  MODE key → Changeover of the data input screen and the mode changeover screen which performs various detail settings can be performed

⑥ Connecting cables

⑦ U Disk slot

2.2 Buttons used in common on SC500

The buttons which perform common operations in each screen of SC500 are as follows:

No.	Figure	Functions	Remarks
1		CANCEL Button → Quit interface of setting at present. In case of the data change screen, cancel the data being changed.	
2		ENTER Button → Determine the changed data.	
3		Plus Button → Increase the value of data.	
4		Reduction Button → Decrease the value of data.	
5		Reset Button → Enable the release of error.	
6		Numeral Input Button → Display ten keys and enable input of numerals	

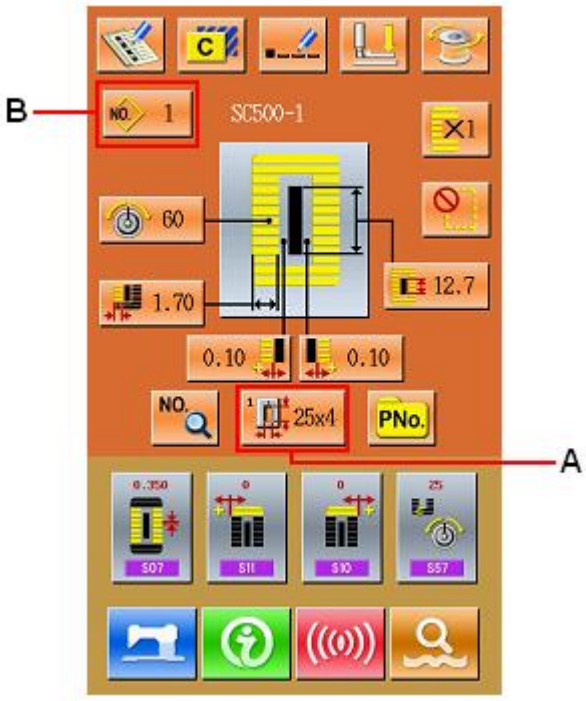
2.3 Basic Operations

① **Turn on the power**

First, make sure that the set presser type (A) is the same as that of the presser actually mounted.

② **Select the wanted pattern No.**

When the power is on, the data input screen is displayed. Pattern No(Button B) which is marked at present is displayed in the A upper section of the screen. Press Button B to select the pattern No. (The unregistered Pattern No. will not be displayed）

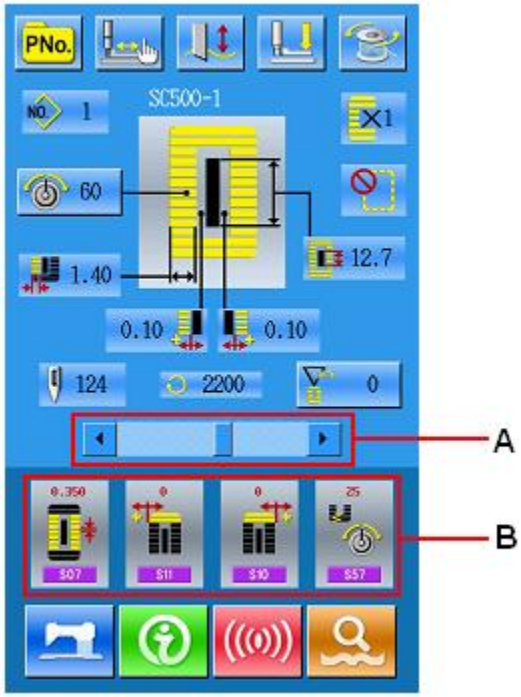


③ **Set machine to sewing possible state**

Press READY key  (C). The back-light of LCD displayer changes to blue color and the machine is ready for sewing. Area A is to set the speed and Area B is to display the customer management.

④ **Start sewing**

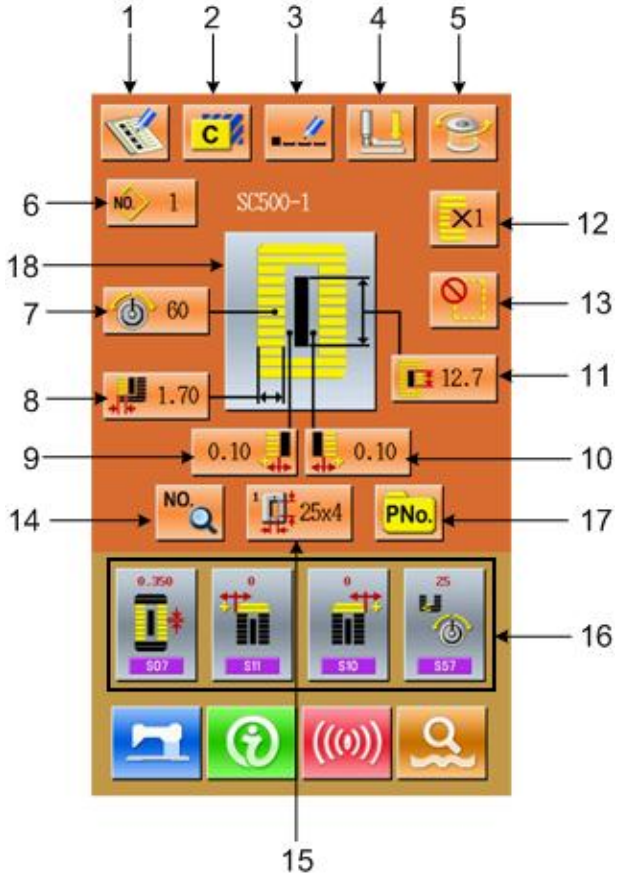
Set the sewing product to the presser portion, operate the pedal to start the sewing machine, and sewing starts.



2.4 Operation of Normal Pattern

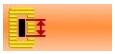
（1）Interface of sewing data input

The interface of data input is shown as the Figure at right. For the detailed functions, please take the Instruction of Function Keys for reference.



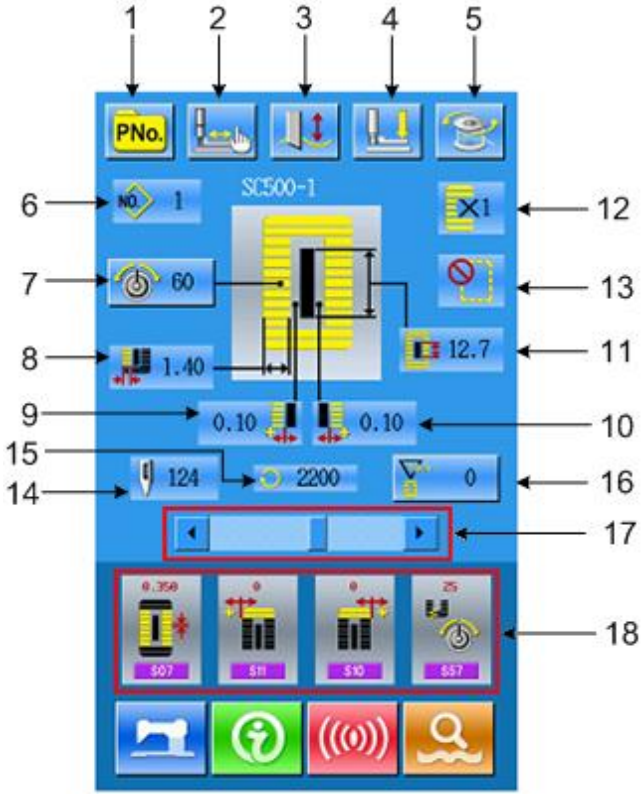
Instruction of Function Keys：

No.	Figure	Function	Remarks
1		Register the Pattern	
2		Copy the Pattern	
3		Name the Pattern	
4		Thread (Lower the presser foot)	The needle Can be changed
5		Winding	
6		Select Pattern	Enter Pattern Selection Interface
7		Set Needle Thread Tension（S51，S52，S55，S56）	S52 and S56 will be influenced by the data switch of sewing.
8	 （  ）	Set/Return to Left Over-edging Width	For the pattern from No.1~ No.26, this button means to set left over-edging width; while for the patterns from No.27~ No.30, this button means to return to the Width Setting.

9		Set Left Width of Knife Groove	Unavailable for Pattern No.27 &No.29
10		Set Right Width of Knife Groove	Unavailable for Pattern No.27 &No.28
11		Length of Cloth Cutting	
12		Set Double Stitching or Single Stitching	Unavailable for Pattern No.27, No.28&No.29
13		Set Numbers of Basting	Unavailable for Pattern No. 30
14		Set Sewing Data	
15		Select Type of Presser foot	
16		Customer management	Set 4 buttons on the main interface for the 4 most frequently used sewing data groups
17		Directly Select Pattern by Number	
18		Display Sewing Pattern	

（2）Interface of Sewing

Press  to enter the Sewing Interface shown as the figure at right. For detailed functions please take the Instruction of Function Keys for reference.

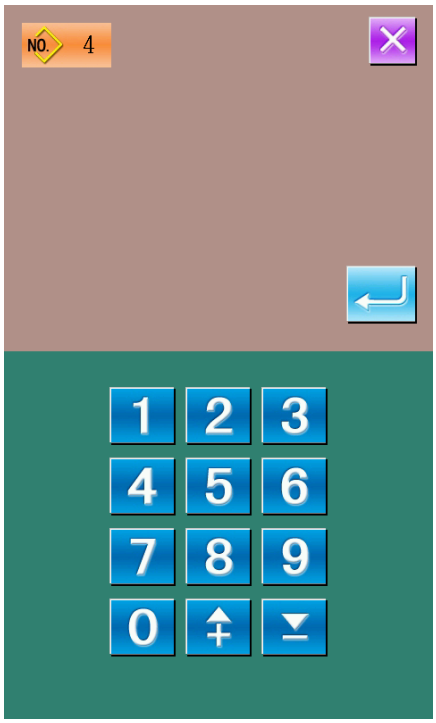


Instruction of Function Key：

No.	Figure	Function	Remarks
1		P Pattern Selection Key	
2		Trial sewing	
3		 ：Knife  ： No Knife	Shift the Knife function
4		Thread （Lower the presser）	
5		Winding	
6		Display the pattern No.	
7		Set Needle Thread Tension	
8		Display Left Over-edging Width	
9		Display Left Width of Knife Groove	
10		Display Right Width of Knife Groove	
11		Display Length of Cloth Cutting	
12		Display single stitching/ double stitching	
13		Display Numbers of Basting	
14		Display the Total Number of stitches	
15		Display the Sewing Speed at present	
16		Display value of counter  ： sewing counter  ： No. of piece counter	
17		Set Speed	
18		Display of Customer Management	

2.5 Pattern Registration

99 normal patterns can be registered for the most. press  to enter the interface of Pattern Registration （shown as the right figure）:



① **Input Pattern No**

Input the number of the pattern via key board. If the pattern number is already existed in the system, the look and relevant information of the registered pattern will be shown on the upper interface. The used number can't be reuse, but by pressing  ,  the unregistered number can be sought.

② **Select the 1st bar-tacking section shape**

After determined the pattern number, user can press  to enter the interface for selecting the 1st bar-tacking shape (as shown in right figure).

③ **Finish the selection of sewing shape**

After user selects the 1st bar-tacking shape, the system will enter the interface of selecting the finish shape (as shown in the right figure).

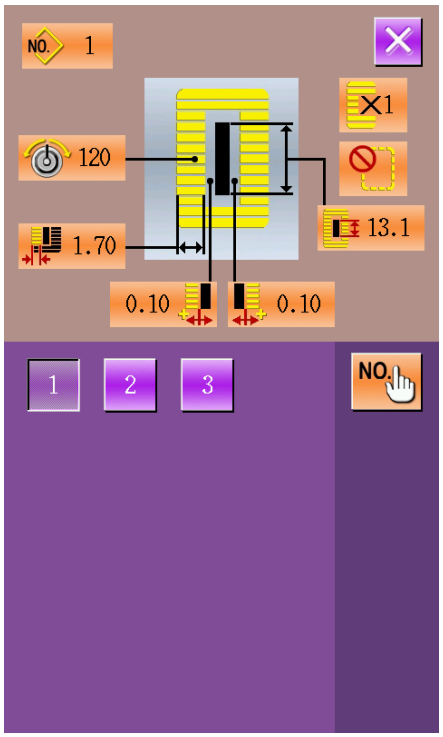
Press  to finish the registration of new pattern and return to the main interface. According to the selected shape for sewing, the initial value of sewing data will be set

Note: The amount of sewing patterns is influenced by the parameter K04, please take the 2.12 Selection of Sewing Shape for reference.

2.6 Copy a Pattern

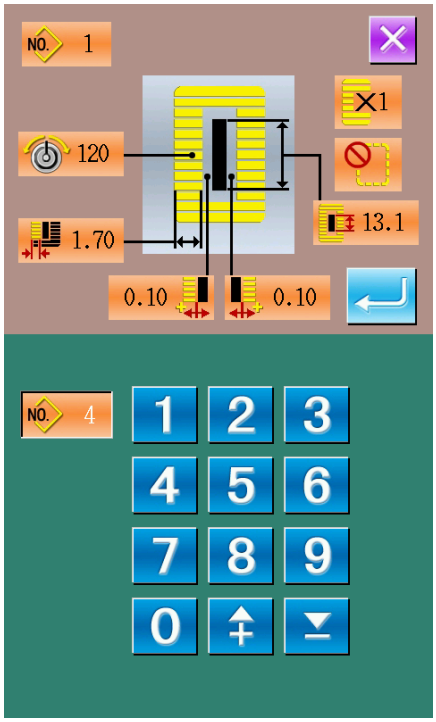
① **select the pattern wanted**

Press  to enter the interface for copying the pattern (as shown in right figure). Among the registered patterns, select the pattern number of the copied one and press  .



② **Input the newly registered pattern number**

In the interface, the upper area displays the shape and relevant sewing data of the copied pattern. The user can select the unregistered pattern number via the numeral keys. The registered pattern number can't be registered again. Press  to finish the operation of copying the pattern.



2.7 Name a Pattern

Press  to enter the interface for naming the pattern (as shown in the right figure), 14 figures can be inputted at the most.

 : Icon Right-moving

 : Icon Left-moving

 : Eraser

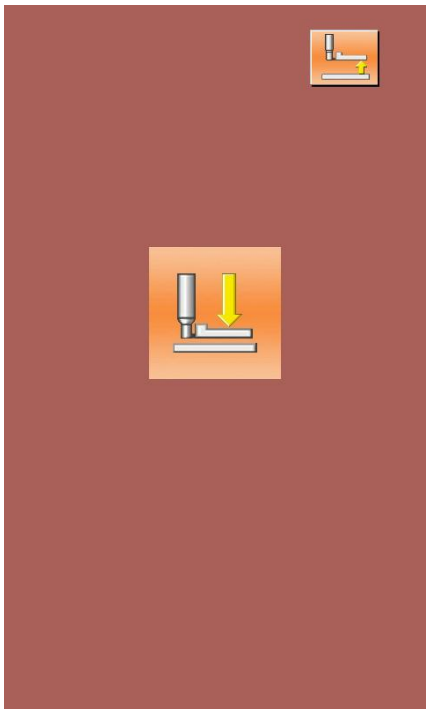
Select the figure wanted, press  to end the operation of naming the pattern. The position of figure can be determined by moving the icon, the Eraser is used to delete the figure.

2.8 Threading

Press  to enter the interface of threading, the presser foot is lowering at this moment, press the Presser Foot Up the presser foot will be up and the screen will return to the main interface too.

 : Presser foot down

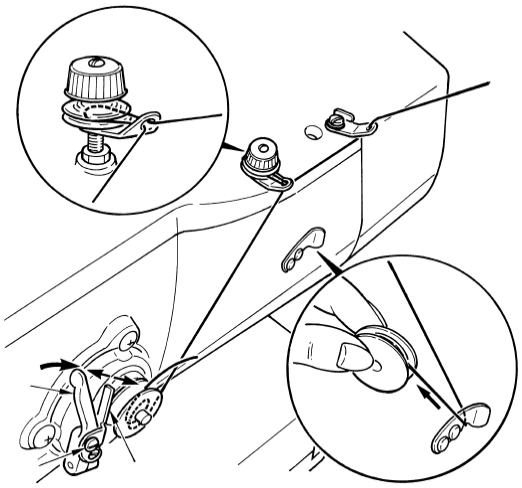
 : Presser foot up



2.9 Winding

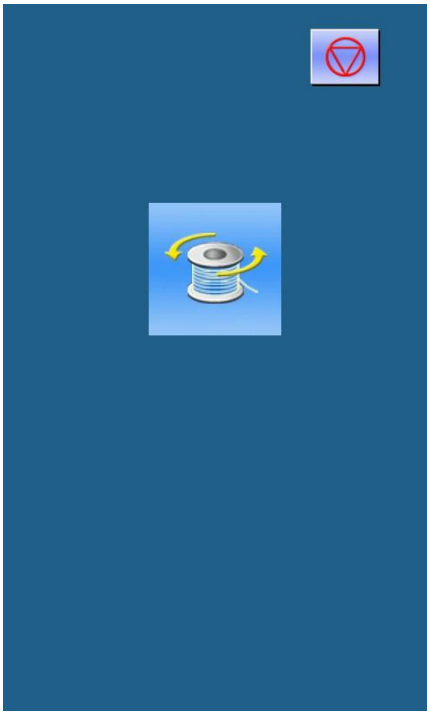
① Set the bobbin

Fit a bobbin fully onto the bobbin winder shaft. Then push the bobbin thread guide in the direction of the arrow mark (as shown in the figure in right).



② **Display the bobbin winding screen**

Press BOBBIN WINDER button  in the data input screen (orange) or the sewing screen (blue) and the bobbin winding screen will be displayed (as shown in the right figure).



③ **Start bobbin winding**.

Depress the start pedal, and the sewing machine rotates and starts winding bobbin thread。

④ **Stop the sewing machine**

Press STOP button  and the sewing machine stops and returns to the normal mode. Or, depress the start pedal twice during winding bobbin and the sewing machine stops while the bobbin thread winding mode stays as it is. Depress the start pedal again and the bobbin winding starts again. Use this way when winding bobbin thread around plural bobbins.

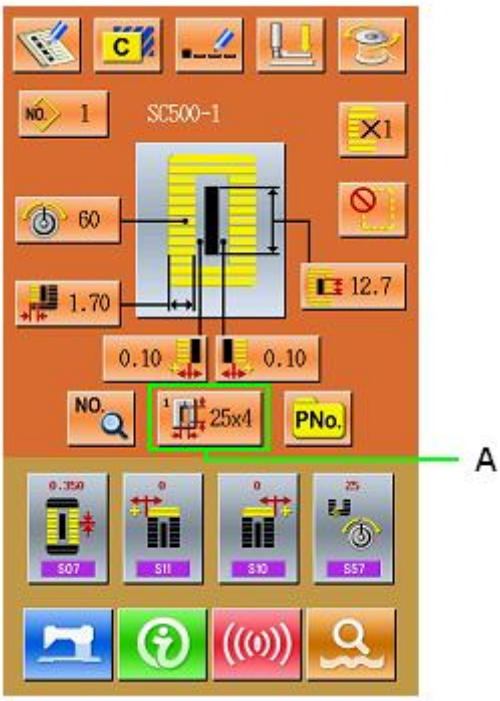
2.10 Select the Type of Presser

① **Display the data input screen**

Only in case of the data input screen (orange), the contents of setting can be changed. In case of the sewing screen (blue), press READY key and display the data input screen.。

② **Call the presser type selection screen**

Press PRESSER TYPE SELECTION button (A) and the presser type selection screen is displayed.（as shown in the figure in right）

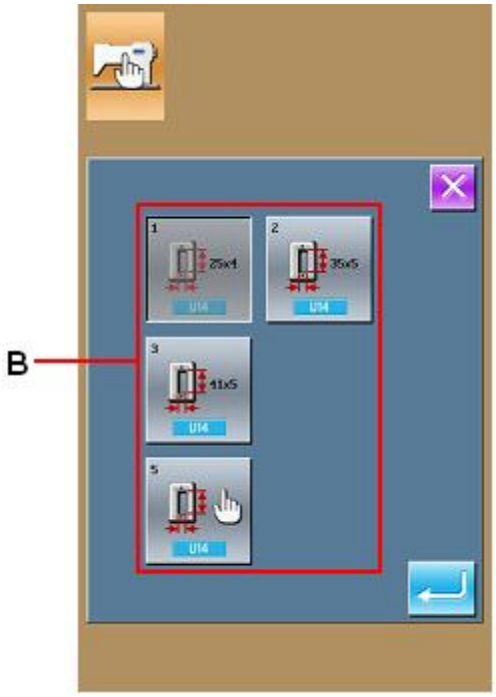


④ **Select the presser type**

Press button (B) of the presser type mounted on the sewing machine. The button pressed is shown in reverse video. Set the presser type referring to Table below.

	Type	Type No. of presser

25x4	Type 1	
35 ×5	Type 2	
41 ×5	Type 3	
	Type 5	—



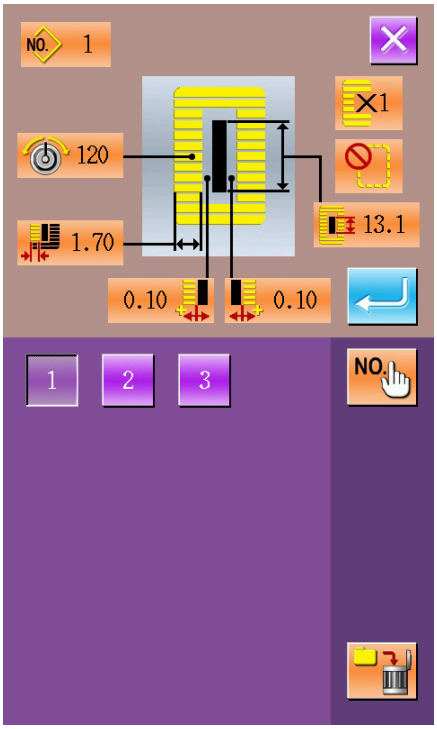
※ Set type 5 when using the presser foot other than type 1 to 3. Change U15 Presser size width and U16 Presser size length of the memory switch (level 1) to adjust to the presser to be used。When using type 5 with stitch width of 6 mm or more and 41 mm or more in length, it is necessary to replace components such as presser arm, feed plate, etc.

④ Determine the presser type

Press ENTER button and the presser type change screen is closed. Then the change has been finished.

2.11 Select a Pattern

Press NO. to enter the interface of pattern selection (as shown in the right figure), the upper area shows the shape and relevant data of the selected pattern while the lower area shows the registered number the pattern.



NO.: Input the number to inquire pattern

: Delete the pattern

① Pattern Selection

Every 20 numbers will be showed in one page, if exceeding, the page-turning key will be displayed in the interface. When the number of the registered pattern is selected, the upper area of the interface will show the details of the pattern. Press to finish the operation of pattern selection.

② Pattern Inquiry

Press  to activate the interface of Pattern Inquiry, input the number of pattern via the numeral keys.

③ **Pattern Deletion**

Select the registered pattern and then press  , the pattern will be deleted. However, the patterns of following three kinds can't be deleted:

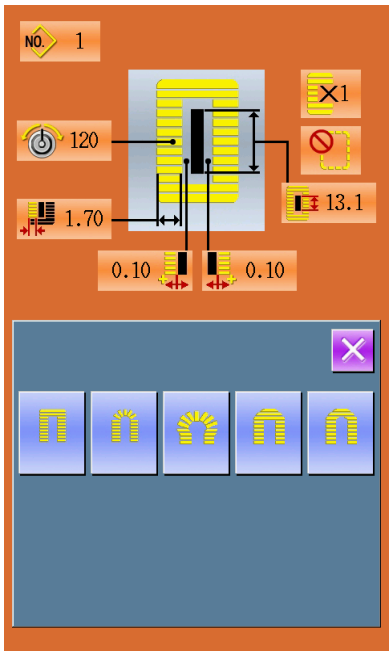
A: Patterns included in continuous stitching

B: Patterns included in cycle stitching

C: Patterns registered in P

2. 12 Selection of Sewing Shape

Press  to enter the interface of selecting the sewing shape.

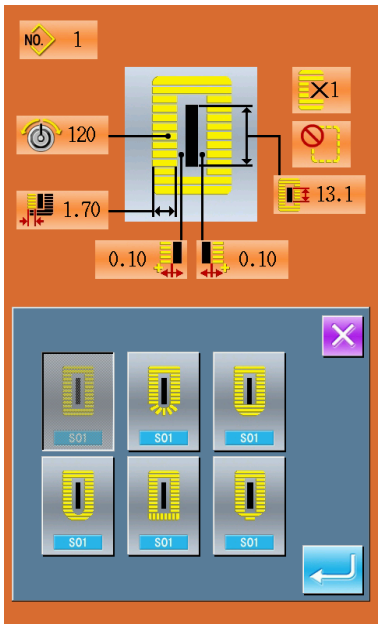


① **Select the 1st bar-tacking section**

The five shapes of 1st bar-tacking section are: Square Type, Radial Type, Eyelet Type, Semi-lunar Type and the Round Type. When the parameter K04 is set to 30 kinds of Sewing Shape, another 4 types of bar-tacking section can be used, which are bar- tacking section sewing, bar-tacking with left cut, bar-tacking with right cut and bar-tacking with middle cut. Select the 1st bar-tacking section to enter the interface for selecting the shape. For the pattern from No.27 ~No.30, the user can press  to end the selection

② **Finish the sewing shape selection**

Select the finishing shape of sewing, press to return to the main interface.



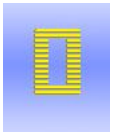
③ **Influence brought by K04**

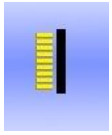
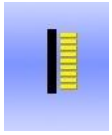
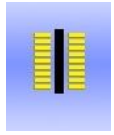
	K04 = 12 shapes	K04 = 20 shapes	K04 = 30 shapes
Square Type	1	1，18，19，20	1，18，19，20，21，22
Radial Type	3，4，5，6	3，4，5，6	3，4，23，24，5，6
Eyelet Type	7，8，9，10	7，8，16，17，9，10	7，8，16，17，9，10
Semi-lunar Type	11	13，11，14，15	13，25，11，26，14，15
Round Type	12，2	12，2	12，2

Remarks 1：The number in the table is the number of pattern

Remark 2：The patterns of No.27, No.28, No.29 and No.30 are available only when the K04 is set to "30 shapes".

④ **Sewing Shape List**

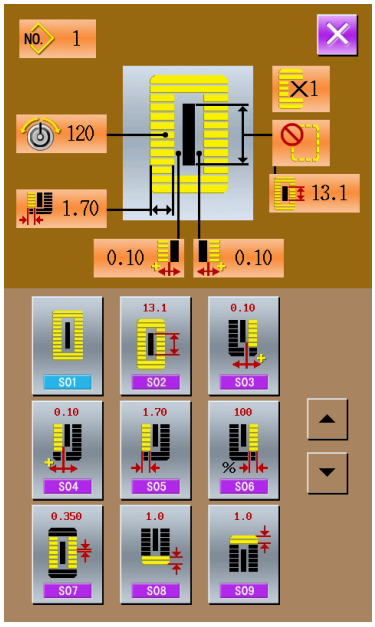
01 Square type 	02 Round type 	03 Radial square type 	04 Radial type 	05 Radial straight bar-tacking type 
06 Radial taper bar-tacking type 	07 Eyelet square type 	08 Eyelet radial type 	09 Eyelet straight bar-tacking type 	10 Eyelet taper bar-tacking type 
11 Semi-lunar type	12 Round square type	13 Semi-lunar square type	14 Semi-lunar straight bar-tacking type	15 Semi-lunar taper bar-tacking type

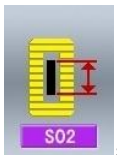
				
16 Eyelet Semi-lunar type 	17 Eyelet round type 	18 Square radial type 	19 Square Semi-lunar type 	20 Square round type 
21 Square straight bar-tacking type 	22 Square taper bar-tacking type 	23 Radial Semi-lunar type 	24 Radial round type 	25 Semi-lunar radial type 
26 Semi-lunar round type 	27 Bar-tacking 	28 Bar-tacking, right cut 	29 Bar-tacking, left cut 	30 Bar-tacking, center cut 

2.13 Set Data for Sewing

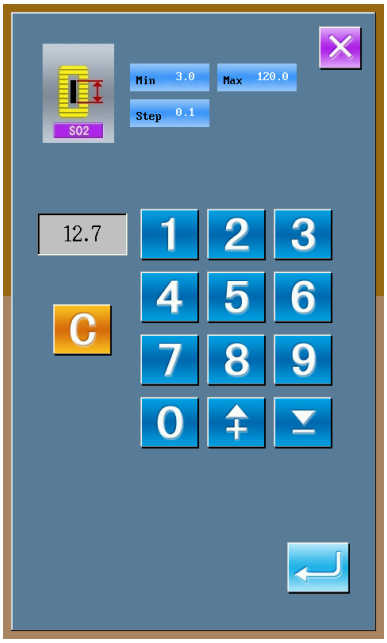
① Modification of the sewing data

Press  to enter the interface of setting sewing (as shown in the figure at right).
Select the sewing data you wish to modify and then enter the setting status. The data with purple as its background is the parameters of data input type, while those with blue background are the parameters of pattern selection type. The following is an example：



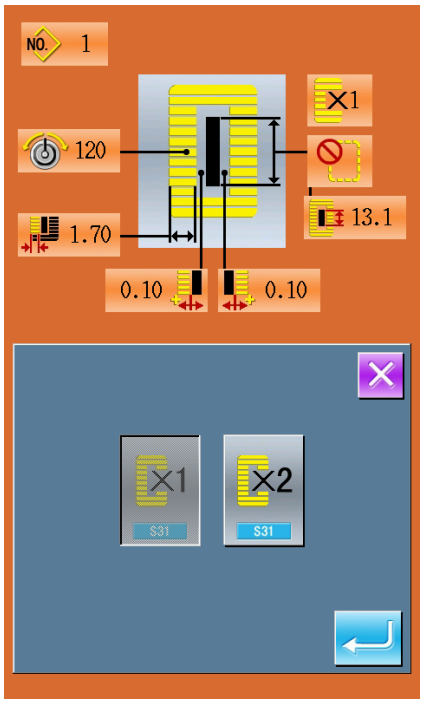
Select 

, to enter the interface (as shown in figure at right)



Select 

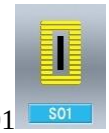
to enter the interface.(as shown in the right figure)

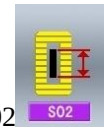
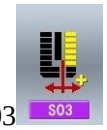
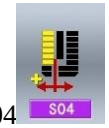
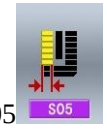
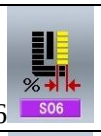
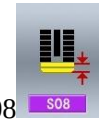
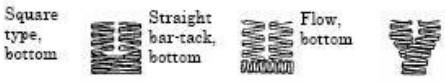
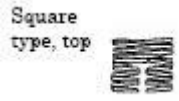
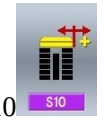


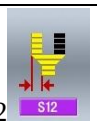
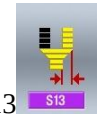
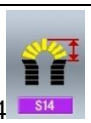
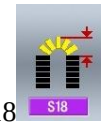
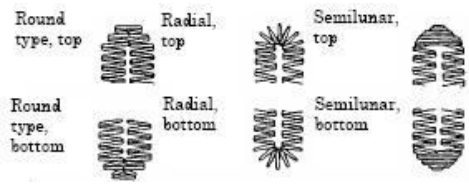
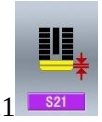
② Data Table of Sewing

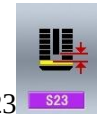
The sewing data is related to the selected shape. Different in shapes, the different in sewing data could be set. Meanwhile the initial value of sewing data might be different as well.

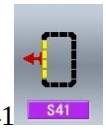
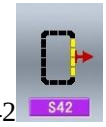
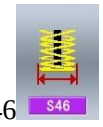
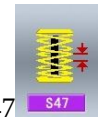
Under the Mode & Status interface, the user can set the access to part sewing data. Moreover some sewing data will also be affected by other data of sewing.

No	Item	Range	Unit	Remarks
S01 	Sewing shape Refer to 2.12 Selection of Sewing Shape	1~30	1	

S02 	Length of cloth cutting This item sets the length of cloth that is cut by cloth cutting knife. However, in case of bar-tack shape (Nos. 27, 28, 29 and 30 of), sewing length is set. By making effective U19 Function of plural motions of cloth cutting knife, make the plural motions of knife by the knife size set in the item U18 Cloth cutting knife size, and the sewing product is cut.	3.0~120.0	0.1mm	
S03 	Knife groove width, right This item sets the clearance between cloth cutting knife and right parallel section.	-2.00~2.00	0.05mm	
S04 	Knife groove width, left This item sets the clearance between cloth cutting knife and left parallel section.	-2.00~2.00	0.05mm	
S05 	Over-edging width, left This item sets the over-edging width of left parallel section.	0.10~5.00	0.05mm	
S06 	Ratio of right and left shapes This item sets enlargement/reduction ratio of right side shape making the knife position as the center	50~150	1%	
S07 	Pitch at parallel section This item sets sewing pitch of left and right parallel sections.	0.200~2.500	0.025mm	
S08 	2nd bar-tacking length This item sets length of bar-tacking on the front side 	0.2~5.0	0.1mm	
S09 	1st bar-tacking length This item sets length of bar-tacking on the rear side 	0.2~5.0	0.1mm	
S10 	Compensation of bar-tacking width, right This item adjusts right side outer shape of bar-tacking section in terms of over-edging section. Both 1st and 2nd bar-tacking can be compensated. 	-1.00~1.00	0.05mm	
S11 	Compensation of bar-tacking width, left This item adjusts left side outer shape of bar-tacking in terms of over-edging section	-1.00~1.00	0.05mm	

S12 	Flow bar-tacking offset, left This item sets length to form bar-tacking section of flow bar-tacking shape.。	0.00~3.00	0.05mm	Remark 1
S13 	Flow bar-tacking offset, right This item sets length to form bar-tacking section of flow bar-tacking shape	0.00~3.00	0.05mm	Remark 1
S14 	Eyelet shape length This item sets upper side length from center of eyelet of eyelet shape.	1.0~10.0	0.1mm	Remark 1
S15 	Number of stitches of eyelet shape This item sets number of stitches in the upper 90 ° of eyelet shape	1~8	1	Remark 1
S16 	Eyelet width This item sets crosswise size of the inside of eyelet shape. Actual needle entry point is the dimension to which S04 Knife groove width, left is added.	1.0~10.0	0.1mm	Remark 1
S17 	Eyelet length This item sets lengthwise size of the inside of eyelet shape.	1.0~10.0	0.1mm	Remark 1
S18 	Round type shape length This item sets upper side length from the center of round type shape. 	1.0~5.0	0.1mm	Remark 1
S19 	Number of stitches of radial shape This item sets number of stitches in the upper 90 ° of radial shape.	1~8	1	Remark 1
S20	Reinforcement of radial shape This item sets with / without reinforcement stitching of radial shape.  : Without  : With			Remark 1 Remark 2
S21 	Pitch at bar-tacking section This item sets sewing pitch of bar-tacking section. 	0.200~2.500	0.025	

S22 	1st clearance This item sets the clearance between 1st bar-tacking and knife groove. This item is applied to all shapes	0.0~4.0	0.1mm	
S23 	2nd clearance This item sets the clearance between 2nd bar-tacking and knife groove. This item is applied to all shapes	0.0~4.0	0.1mm	
S31	Single/double stitching  : Single Stitching  : Double Stitching			
S32	Double stitching cross selection This item selects overlapped stitching or cross stitching at the needle entry of parallel section when setting double stitching  : Double stitching  : Cross stitching			Remark 3
S33 	Compensation of double stitching width This item sets amount to narrow over-edging width of 1st cycle when setting double stitching	0.0~2.0	0.1mm	Remark 3
S34	Number of times of basting This item sets number of times of basting.  : Without Basting  : 1~9 times	0~9	1 次	
S35 	Basting pitch This item sets pitch at the time of performing basting.	1.0~5.0	0.1mm	Remarks 3
S36 	Rolling length of basting This item sets rolling length of needle thread when performing basting.	2.0~20.0	0.1mm	Remarks 3
S37 	Rolling pitch of basting This item sets rolling pitch of needle thread when performing basting.	0.2~5.0	0.1mm	Remarks 3
S38 	Rolling width of basting This item sets rolling width of needle thread when performing basting.	0.0~4.0	0.1mm	Remarks 3
S39 	Lengthwise compensation of needle entry of basting This item sets the amount to move needle entry position back and forth when performing basting more than two cycles	0.0~2.5	0.1mm	Remarks 2 Remarks 3

S40 	Crosswise compensation of needle entry of basting This item sets the amount to move needle entry position to the right or left when performing basting more than two cycles.	0.0~1.0	0.1mm	Remarks 3
S41 	Compensation of left side position of basting This item sets the amount to move the sewing reference position of basting from the center of left over-edging to the right or left.	-2.0~2.0	0.1mm	Remarks 2 Remarks 3
S42 	Compensation of right side position of basting This item sets the amount to move the sewing reference position of basting from the center of right over-edging to the right or left.	-2.0~2.0	0.1mm	Remarks 2 Remarks 3
S44 	Speed setting of basting This item sets speed of basting	400~4200	100rpm	Remarks 3 Remarks 4
S45	Sewing together function This item selects the function when performing sewing together first.  : With sewing together;  :Without sewing together When "With sewing together" is selected: Sewing is performed in the order of sewing together -> basting -> normal sewing.			
S46 	Width of sewing together This item sets sewing width when performing sewing together.	1.0~10.0	0.1mm	Remarks 2 Remarks 3
S47 	Pitch of sewing together This item sets sewing pitch when performing sewing together.	0.2~5.0	0.1mm	Remarks 2 Remarks 3
S51 	Left parallel section tension This item sets needle thread tension at left parallel section.	0~200	1	
S52 	Right parallel section tension This item sets needle thread tension at right parallel section.	0~200	1	Remarks 2
S53 	Left parallel section tension (1st cycle of double stitching) This item sets needle thread tension at left parallel section of 1st cycle at the time of double stitching.	0~200	1	Remarks 2 Remarks 3

S54 	Right parallel section tension (1st cycle of double stitching) This item sets needle thread tension at right parallel section of 1st cycle at the time of double stitching	0~200	1	Remarks 2 Remarks 3
S55 	Tension at 1st bar-tacking section This item sets needle thread tension at 1st bar-tacking section.	0~200	1	
S56 	Tension at 2nd bar-tacking section This item sets needle thread tension at 2nd bar-tacking section.	0~200	1	Remarks 2
S57 	Setting of needle thread tension at the start of sewing This item sets needle thread tension of tie stitching at the start of sewing.	0~200	1	
S58 	Setting of needle thread tension of basting This item sets needle thread tension of basting.	0~200	1	Remarks 3
S59 	ACT timing adjustment at the start of 1st bar-tacking This item adjusts needle thread tension output start timing at 1st bar-tacking section.	-5~5	1stitch	Remarks 2
S60 	ACT timing adjustment at the start of right over-edging This item adjusts needle thread tension output start timing at right over-edging section.	-5~5	1stitch	Remarks 2
S61 	ACT timing adjustment at the start of 2nd bar-tacking This item adjusts needle thread tension output start timing at 2nd bar-tacking section.	-5~5	1stitch	Remarks 2
S62 	Number of stitches of tie stitching at the start of sewing This item sets number of stitches of ties stitching at the start of sewing.	0~8	1stitch	
S63 	Sewing pitch of tie stitching at the start of sewing This item sets sewing pitch of tie stitching at the start of sewing.	0.00~0.70	0.05mm	Remarks 2
S64 	Tie stitching width at the start of sewing This item sets tie stitching width at the start of sewing.	0.0~3.0	0.1mm	
S65 	Lengthwise compensation of tie stitching at the start of sewing This item sets start position of tie stitching in lengthwise direction at the start of sewing.	0.0~5.0	0.1mm	Remarks 2
S66 	Crosswise compensation of tie stitching at the start of sewing This item sets start position of tie stitching in crosswise	0.0~2.0	0.1mm	Remarks 2

	direction at the start of sewing.			
S67 	Tie stitching width at the end of sewing This item sets tie stitching width at the end of sewing	0.1~1.5	0.1mm	
S68 	Number of stitches of tie stitching at the end of sewing This item sets the number of stitches of tie stitching at the end of sewing.	0~8	1stitch	
S69 	Lengthwise compensation of tie stitching at the end of sewing This item sets start position of tie stitching in lengthwise direction at the end of sewing.	0.0~5.0	0.1mm	Remarks 2
S70 	Crosswise compensation of tie stitching at the end of sewing This item sets start position of tie stitching in crosswise direction at the end of sewing.	0.0~2.0	0.1mm	Remarks 2
S81	Knife motion This item sets "With/without motion" of normal cloth cutting knife.  : Normal knife motion off  : Normal knife motion on			
S83	Knife motion at 1st cycle of double stitching This item sets "With/without motion" of cloth cutting knife at 1st cycle when double stitching is performed  : Normal knife motion off  : Normal knife motion on			Remarks 2 Remarks 3
S84 	Maximum speed limitation This item sets max value of rotations of the sewing machine. The value is limited by the K07(Set maximum speed limitation)	400~4200	100rpm	Remarks 4
S86 	Pitch of going This item sets sewing pitch of going side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01).	0.200~2.500	0.025	Remarks 1
S87 	Width of going This item sets width of going side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01).	0.10~3.00	0.05mm	Remarks 1

S88 	Pitch of returning This item sets sewing pitch of retuning side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01)	0.200~2.500	0.025mm	Remarks 1
S89 	Width of returning This item sets width of returning side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01).	0.10~3.00	0.05mm	Remarks 1

Remark 1：Displayed according to the shape

Remark 2：Displayed when it is set as turning on

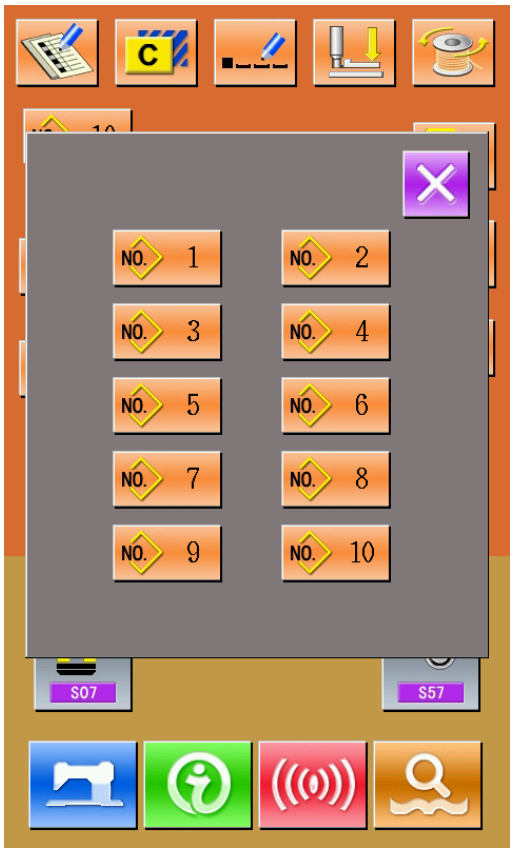
Remark 3：Displayed when the function is selected

Remark 4：The value is limited by the K07 (Set maximum speed limitation)

2.14 Direct Selection of Pattern

The user can register the 10 frequently used patterns to the direct keys for selecting directly, press 

to enter the interface of selecting as shown below.



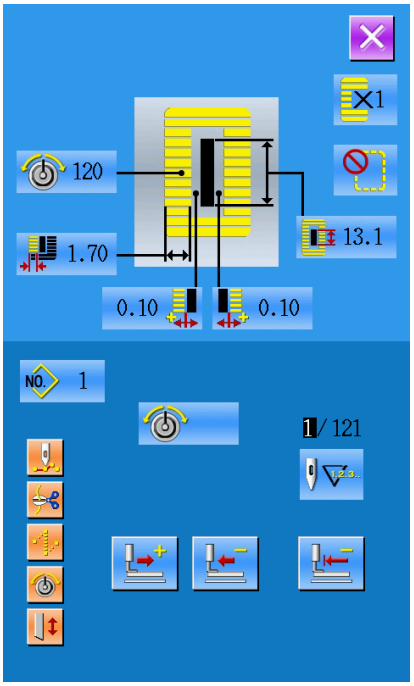
2.15 Trail Sewing

（1）Display the interface of sewing

At data input interface, press  , the background of screen will change to blue, and the system enter the interface of sewing.

（2）Display the interface of trail sewing

At the sewing interface, press  to enter the interface of trail sewing (as shown in the right figure) .



 : Return to origin

 : Backward

 : Forward

 : Thread tension at stitch point

 : Amount of stitches at present/ Total amount

 : Sewing order key

 : Thread trimming order key

 : Jump feed order key

 : Set thread tension

 : Drive Knife key

（3）Begin trail sewing

By using  、  and  to start trail sewing. Under this mode, step on the pedal switch to start the machine for sewing the leftover stitches.

（4）End trial sewing

Press  to quit the interface of trail sewing and return to the sewing interface。

2.16 Set Needle Thread Tension

Change the value of thread tension

① **Display the data input screen**

Only in case of the data input screen (orange) or sewing screen (blue), needle thread tension can be changed. In case of the sewing screen (blue), press READY switch and display the data input screen (orange).

② **Call the needle thread tension change screen**

Press NEEDLE THREAD TENSION button  and the needle thread tension change screen is displayed.

③ **Change the needle thread tension**

Needle thread tension at the parallel section and that at the bar-tacking section can be changed in the needle thread tension change screen. Select 

, 

, 

, 

to set S51，S52，S55，S56, among which the S52 and S56 can be shut down when editing the sewing data under the Mode Status.

④ **Finish the change of needle thread tension**

Press CANCEL button  and the needle thread tension change screen is closed. Then the change has been finished

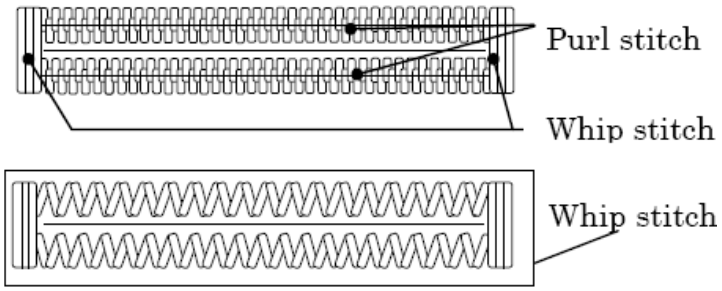
※ **The tension other than that at parallel section and at bar-tacking section。**

Set value of tension at: 1.Parallel section; 2. Bar-tacking section.

	Set value on panel			
		⊕	Initial value	○
Purl stitch	1.Parallel section tension	Crest is lowered	1 2 0	Crest is raised
	2. Bar-tacking tension	Thread tension is decreased.	3 5	Thread tension is increased
Whip stitch	1.Parallel section tension	Thread tension is decreased	6 0	Thread tension is increased
	2. Bar-tacking tension	Thread tension is decreased	6 0	Thread tension is increased

In case of the radial eyelet shape, set the bar-tacking tension first to approximately 120 and make the balance of stitches

Purl stitch and Whip stitch



Purl stitch

When applying higher tension to the needle thread to permit it to pass straight through fabric, the purl stitch is formed by the bobbin thread which is pulled over from both sides to the center line.

Whip stitch

The whip stitch is formed in zigzag showing the needle thread only on top of fabric and the bobbin thread on the bottom

2.17 Operation of Counter

（1）Setting procedure of the counter

① **Display the counter interface**

In the sewing interface, press  (), the interface of counter setting comes out.

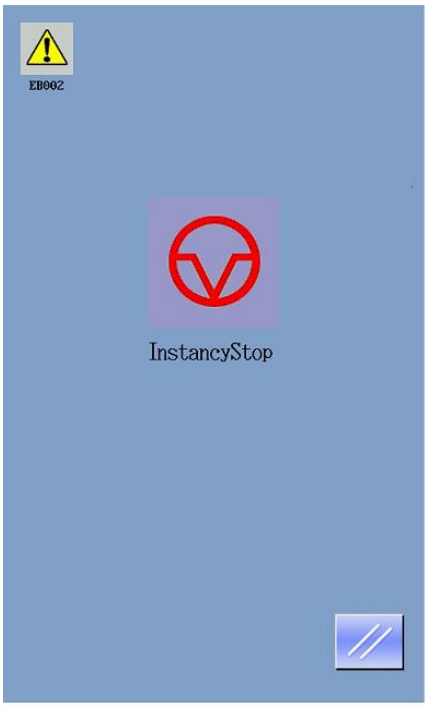
 : sewing counter

 : No. of pieces counter

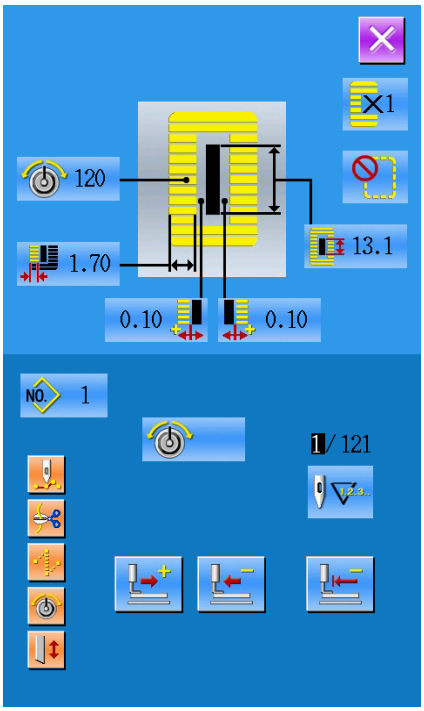
The user can set the type of counter by choosing  and  , and set the value of counter。

2.18 Stop in Emergency

When STOP switch is pressed during sewing, the sewing machine interrupts sewing and stops. The interface is displayed as the figure at right:



Press  to release the error. And the interface of single-step motion comes out (shown as the figure at right)

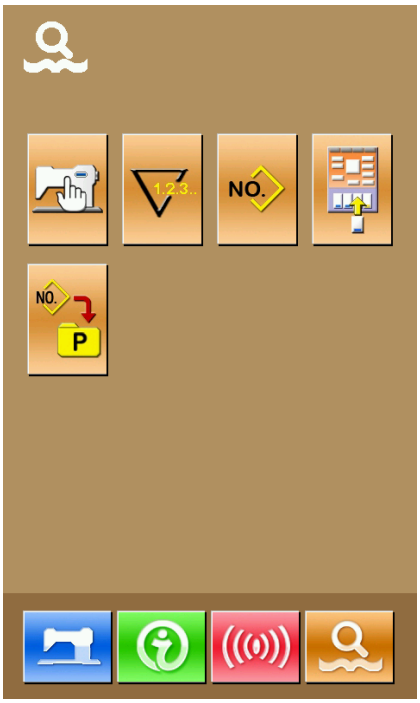


The operation is same as the operations in trail sewing. Depress the pedal and sewing starts again.

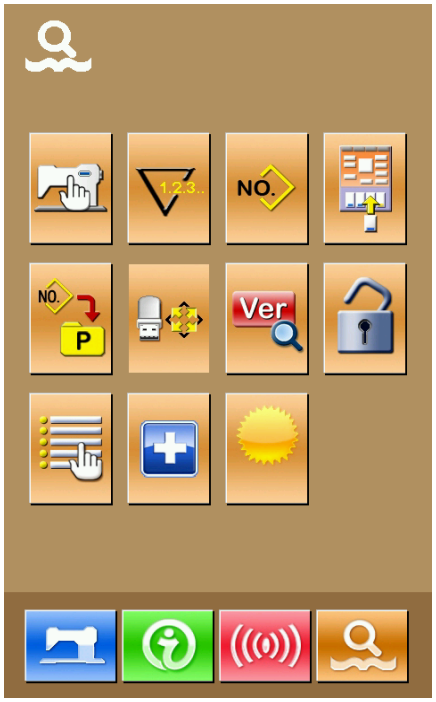
3 Interface of Parameter Setting Mode

Press  to shift the interfaces of Data Input and Mode (as shown in the right figure), and detailed edition and setting can be carried out under this interface.

Hold  for 3 second to enter the Mode Setting Level 2 Interface, while hold for 6 second to Mode Setting Level 3 Interface



Mode Setting Level 1 Interface



Mode Setting Level 2 Interface

Mode Setting Level 3 Interface

3.1 Instruction on Functions

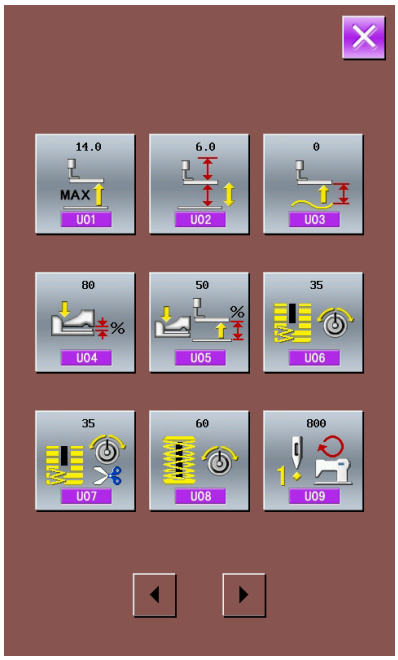
No	Figure	Function	Remarks
1		Set parameters in Level 1	
2		Set counters	
3		Set type of sewing	
4		Set user management items	
5		Set P pattern	
6		Initialize U disk	
7		Inquire software version	
8		Keyboard lock	
9		Edit sewing data	
10		Aging test	

11		Brightness adjustment	
12		Set parameters in Level 2	

3.2 Set Parameter of Level 1

① Operation of parameter setting

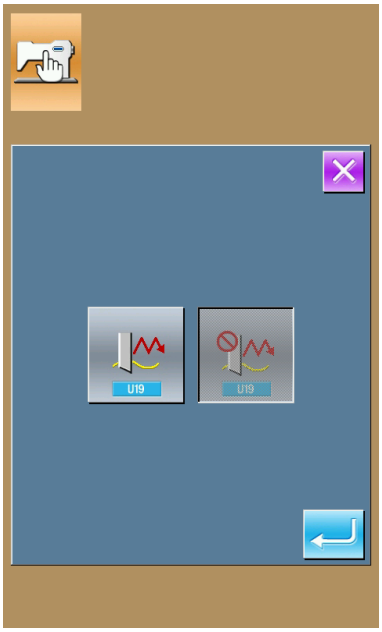
Select  to enter the interface of Level 1 parameter setting (shown as the figure at right).



Select the parameter you wish to modify. The parameters with purple background are the parameters of data input type while the parameters with blue background are the parameters of figure selection type. The following is an example:

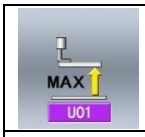
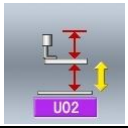
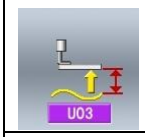
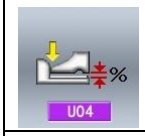
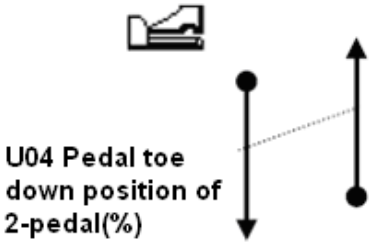
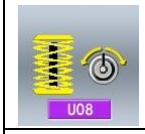
Select  to enter the interface

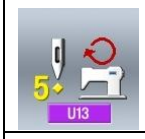
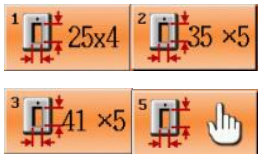
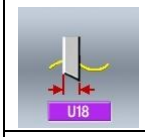
Select  to enter the interface

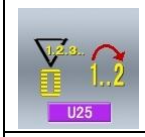


② Table of parameters in level 1

No.	Parameter	Set arrange	Unit in Edit	Initial set
U01	Presser up to maximum position	0~17.0	0.1mm	14.0mm

	Height of maximum position of pedal operation is set.			
U02 	Presser up to intermediate position Height of intermediate position of pedal operation is set.	0~14.0	0.1mm	6.0mm
U03 	Presser lifter cloth setting position Height of cloth setting position of pedal operation is set.	0~14.0	0.1mm	0
U04 	Pedal to down position of 2-pedal (%) Operation feeling at the time of 2-pedal is set.	5~95	1%	80%
U05 	Lifting position of presser foot of 2-pedal Operation feeling at the time of 2-pedal is set 	5~95	1%	50%
U06 	Set Needle thread tension at sewing end	0~200	1	35
U07 	Needle thread tension at thread trimming	0~200	1	35
U08 	Set Needle thread tension of basting for sewing together	0~200	1	60
U09 	Soft-start speed setting 1st stitch	400~4200	100rpm	800rpm
U10 	Soft-start speed setting 2nd stitch	400~4200	100rpm	800rpm
U11	Soft-start speed setting 3rd stitch	400~4200	100rpm	2000rpm

				
U12 	Soft-start speed setting 4th stitch	400~4200	100rpm	3000rpm
U13 	Soft-start speed setting 5th stitch	400~4200	100rpm	4000rpm
U14	Type of presser （Type 1，2，3，5） 			Type 1
U15 	Presser size width (Type 5) When type 5 of U14 Kind of presser is set, input the width.	3.0~10.0	0.1mm	3.0mm
U16 	Presser size width (Type 5) When type 5 of U14 Kind of presser is set, input the length.	10.0~120.0	0.5mm	10.0mm
U17 	Sewing start position (Feeding direction) Sewing start position in terms of presser is set. Set this item when starting position is desired to be shifted due to overlapped section or the like	2.5~110.0	0.1mm	2.5mm
U18 	Cloth cutting knife size	3.0~32.0	0.1mm	32.0mm
U19	Function of plural motions of cloth cutting knife Ineffective/effective  : Ineffective  : Effective			Ineffective
U20	Function of thread breakage detection Ineffective/effective  : Ineffective			Effective

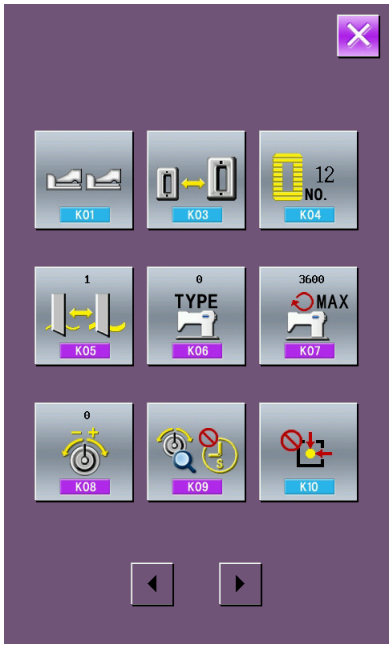
	 : Effective			
U21	Selection of presser position at the time of ON of READY key Set presser foot position when READY key is pressed  : up  : down			Up
U22	Selection of presser position at the time of completion of 1-cycle. Set presser foot position when 1-cycle is completed. （only effective at single pedal type）  : up  : down			Up
U23 	Needle thread trimming release motion start distance Distance from start of sewing to start of trimmer release motion of needle thread trimmer motor is inputted.	0~15.0	0.1mm	1.0mm
U24 	Bobbin thread trimming release motion start distance Distance from start of sewing to start of trimmer release motion of bobbin thread trimmer motor is inputted.	0~15.0	0.1mm	1.5mm
U25 	Counter updating unit update Unit in sewing counter	1~30	1	1
U50	 U50 Buzzer off  U50 Control Panel Voice available			Voice of Control Panel and buzzer available

	 U50 Voice of Control Panel and buzzer available			
U200 	Language setting English and Chinese available.			Chinese

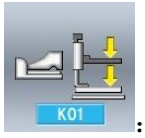
3.3 Set Parameter of Level 2

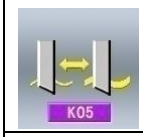
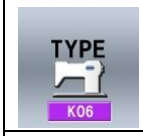
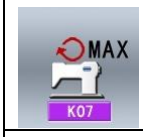
① Operation of parameter setting

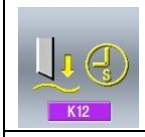
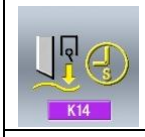
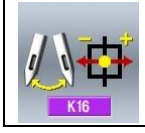
In the interface of Mode Setting Level 3, press  to enter the interface for setting parameters of Level 2 (as shown in the right figure). For the operation methods, please take the description in Set Parameter of Level 1 for reference.

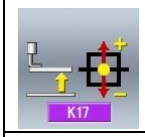
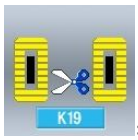
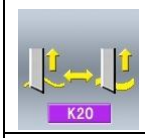
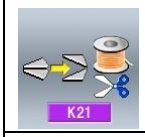
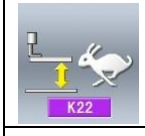


② Table of parameter in level 2

No.	Parameter	Set arrange	Unit in Edit	Initial set
K01	Pedal selection  : 2-pedal  : 1-pedal (Without intermediate position)  : 1-pedal (With intermediate position)			2-pedal

K03	Prohibition on selection of Presser type  ：prohibit to change  ：permit to change			Changes Permitted
K04	Selection on sewing shape level（12/20/30）	If the registered shapes exceed 12 or 20, then the parameter K04 shall not be 12 or 20		12 shapes
K05 	Cloth cutting knife power Set output power of cloth cutting knife	0~3	1	1
K06 	Selection of machine type （0-Standard type，1-Dry Head Type）	0~1	1	0
K07 	Set max. speed limitation When K06 Selection of machine type is set to dry head type, max. speed is automatically limited to 3,300 rpm	400~4200	100rpm	3600rpm
K08 	Compensation of unsteady needle thread tension Output value of needle thread tension is wholly offset and compensated.	-30~30	1	0
K09	Output time of changed needle thread tension value When data related to needle thread tension is changed, the changed value is output only at the set-up time.  ：Output of set-up time  ：Without output	0~20	1s	Without output
K10	Function of origin retrieval each time Origin retrieval is performed after completion of sewing.			No

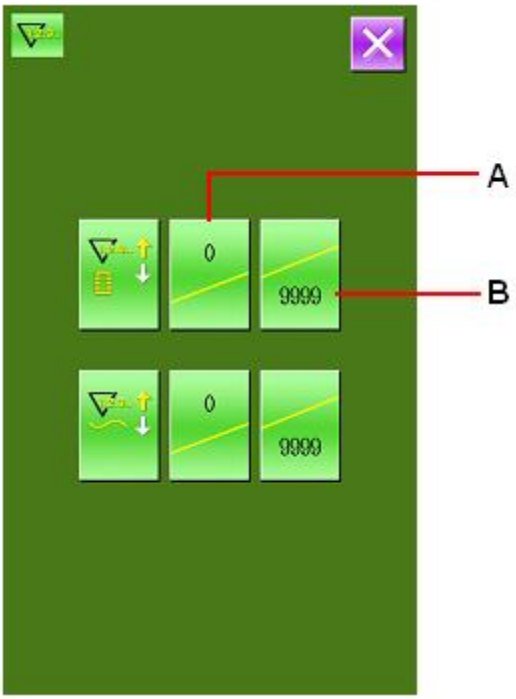
	 : Without  : After the end of sewing  : after the end of cycle			
K11	Needle up by reverse run When U01 Presser lifter maximum position is set to 14.0 mm or more, motion of needle up by reverse run is automatically performed and the machine stops. Prohibition of the motion can be set  : Needle up by reverse running prohibited  : Needle up by reverse running permitted			Effective
K12 	Set knife solenoid lowering time	25~100	5ms	35
K13 	Set knife solenoid lifting time	5~100	5ms	15
K14 	Knife cylinder lowering time (Optional)	5~300	5ms	50
K15 	Y-feed motor origin compensation	-120~400	1pulse （0.025mm）	0
K16 	Needle-rocking motor origin compensation	-10~10	1 pulse （0.05mm）	0

K17 	Presser lifter motor origin compensation	-100~10	1 pulse （0.05mm）	0
K18	Display of direct button  ：Non-displayed  ：Displayed			Non-displayed
K19	Thread trimming on the way in continuous stitching In case of prohibited, jump feed setting becomes invalid, and the registered pattern is sewn at the same position. Then multi-sewing is possible  ：Prohibition  ：Permission			Permission
K20 	Changeover of cloth cutting knife return power This item sets output power at the time of returning the cloth cutting knife.	0~3	1	0
K21 	Release amount of bobbin thread trimmer at the start of sewing this item sets the amount of releasing the bobbin thread trimmer at the start of sewing	1~15	1 pulse	8
K22 	Presser lifter speed selection	1~3	1	1
K190 	Adjustment on sensitivity of button	1~5	1	3

K200 	Restore to original parameters			

3.4 Counter Setting

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

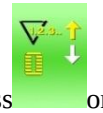


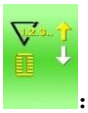
① **Set the existing value and the set value of counter**

A is the existing value of the counter. Press that figure to enter the interface for setting existing value of counter.

B is the set value of the value. When the set value is 0, the counter can only count number and can't send warning. Press that figure to enter the interface for setting set value of counter.

② **Select the type of sewing counter**

Press  or  to enter the interface for selecting counter type.

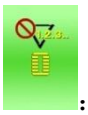
 : **Sewing UP Counter**

Every time the sewing of one shape is performed, the existing value is counted up. When the existing value is equal to the set value, the interface of counter exceed warning will be displayed. Press  the existing value will be restored to 0.

 : **Sewing DOWN counter**

Every time the sewing of one shape is performed, the existing value is counted down. When the existing value is reached to "0", the interface of counter exceed warning will be

displayed. Press, the existing value of counter will be restored to the set value .

 : **Sewing counter off**

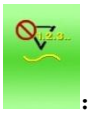
③ **Select the type of No of piece counter**

 : **No of piece UP counter**

Every time one cycle or one continuous stitching is performed, the existing value is counted up. When the existing value is equal to the set value, the interface of counter exceed warning will be displayed. Press to restore the existing value of counter to 0.

 : **No of piece DOWN counter**

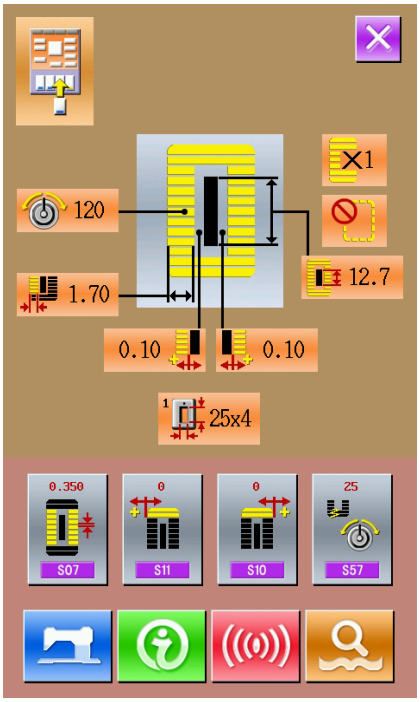
Every time one cycle or one continuous stitching is performed, the existing value is counted up. When the existing value is equal to the set value, the interface of counter exceed warning will be displayed. he existing value of counter will be restored to the set value .

 : **No of piece DOWN counter off**

3.5 Settings on User Management

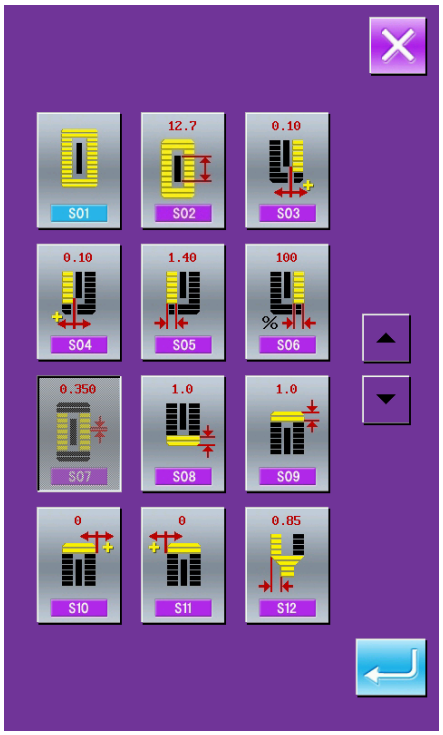
Register parameters which are frequently used to Management button and use them

Press  to enter user management setting interface （shown as the right figure）.



① **Register to Management button**

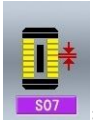
The management buttons can be registered up to four buttons. Four management register buttons are displayed on the screen. When the button located on the position you desire to register is pressed, the sewing data list screen is displayed.(as shown in right figure)



Select the sewing data you wish to register, press  to end the operation of registration. The newly registered sewing data will be displayed on the user management button.

② **Original State of Registration**

The following items have been registered in order (from the left to the right) at the time of your purchase:



: Pitch at parallel section;

: Compensation of bar-tacking width, left

: Compensation of bar-tacking width, right;

: Setting of needle thread tension at the

start

of sewing

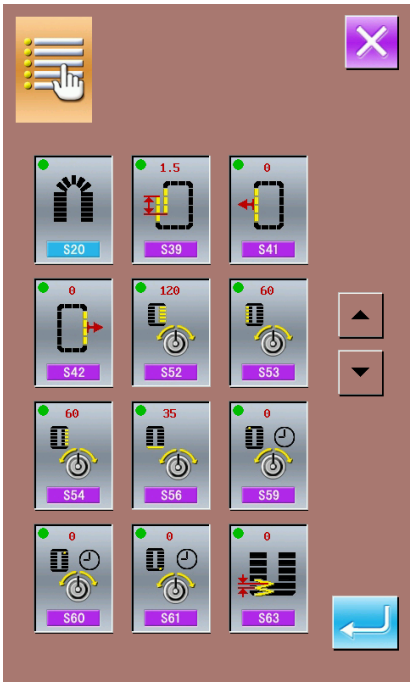
3.6 Edition of Sewing Data

Some sewing data can be set to be opened, press  to enter the interface of sewing data edition interface under the Mode Setting Level 2 (as shown in the right figure).

：sewing data is opened

：sewing data is closed

Select the sewing you wish to edit. When the button is pressed, the interface will be shifted between reverse display/non- display. After pressing  , the user can confirm whether the sewing data item is in state of opening.



3.7 Changing sewing mode

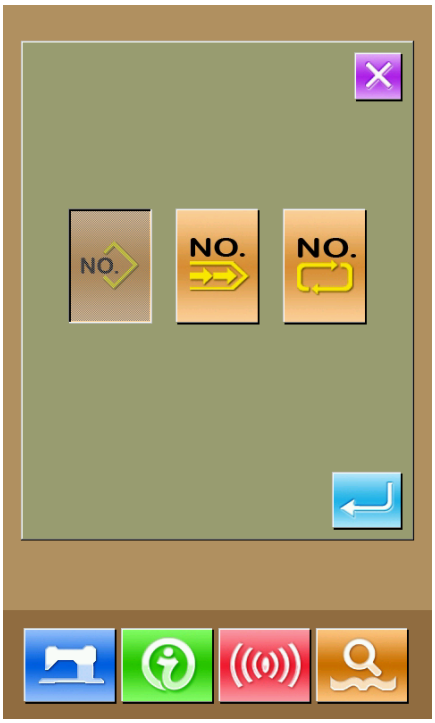
Press  to enter the interface of sewing type selection (as shown in the right figure).

 : normal sewing

 : continuous stitching

 : cycle stitching

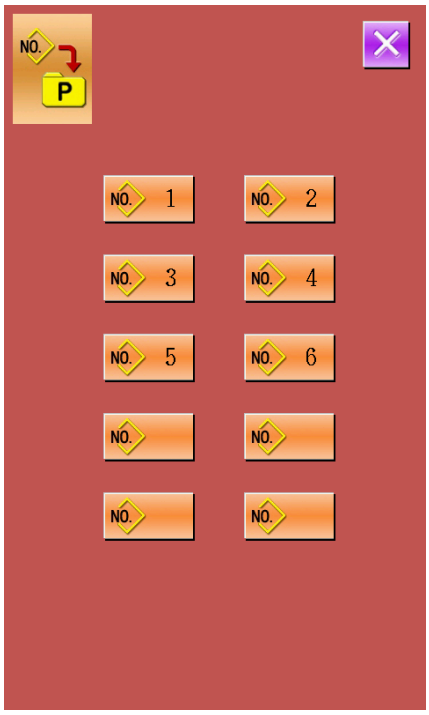
After confirming the sewing type, press  to end the operation. Press  , then the data input interface of the selected sewing type is displayed.



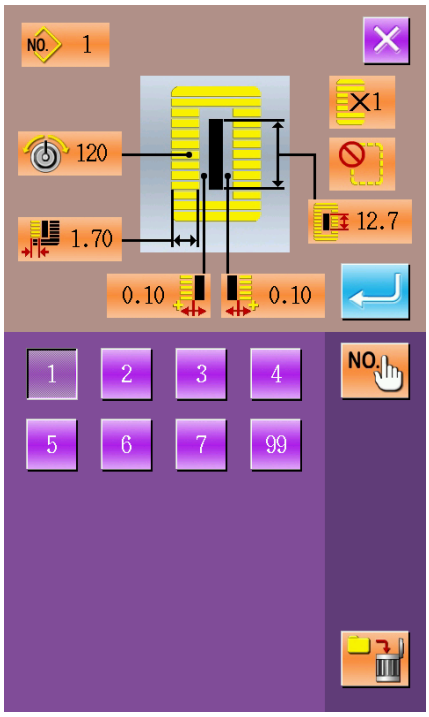
3.8 Register pattern to the direct button

Register the pattern numbers which are frequently used with the direct buttons for use.

Press  to enter the interface of direct button registration (as shown in right figure).



10 pattern numbers can be registered to the direct buttons at most. On 10 displayed direct buttons, the user shall press the button he wishes to register, and then enter the pattern select interface. (as shown in the right figure)



 : Pattern inquiry

 : Delete the existing registered pattern

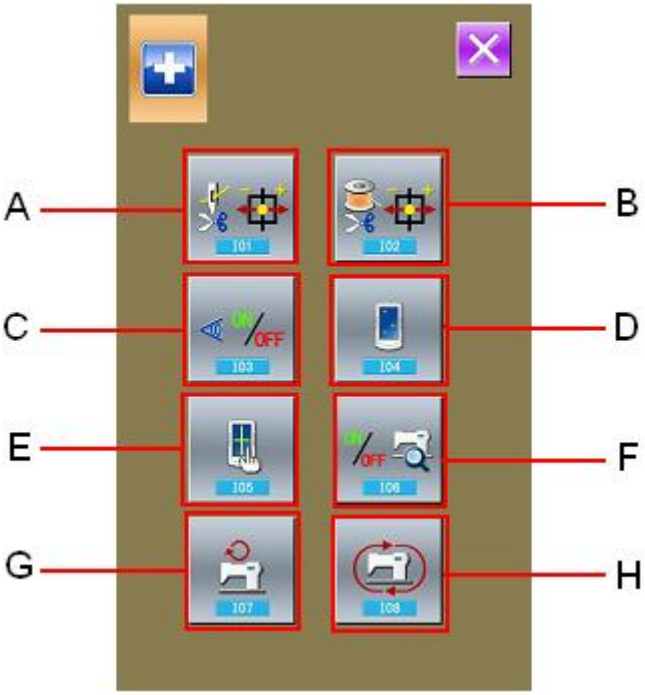
 : confirm the selection

3.9 Inspection Mode

In the Mode Setting Level 2 interface, press  to enter the interface of Inspection Mode (as shown in right）.

The function of each figure is shown as below：

No.	Name
A	I01 upper thread trimming
B	I02 down thread trimming
C	I03 Input inspection
D	I04 inspection of LCD display
E	I05 Correction of touch panel
F	I06 Output Inspection
G	I07 Speed test
H	I08 continuous running



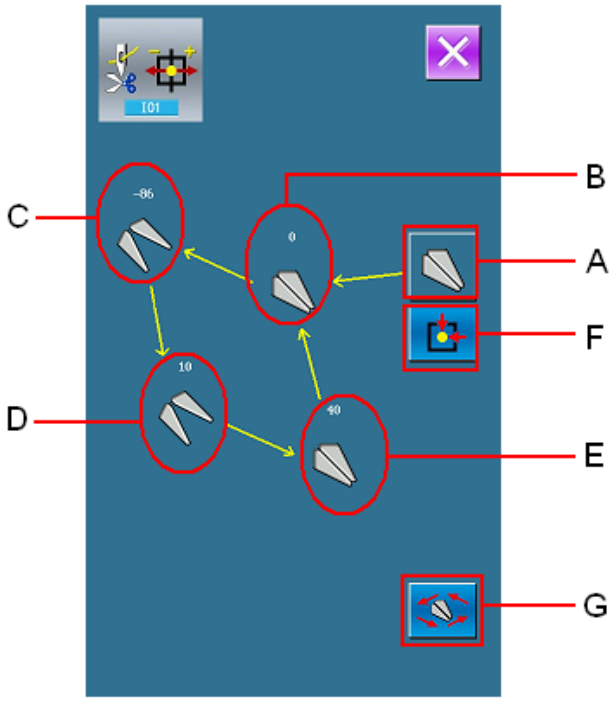
（1）Adjustment of upper thread trimming

① Adjusting method

In the interface of Mode of Inspection, press  （I01 upper thread trimming）to enter the adjustment interface of upper thread trimming（as shown in the right figure）:

Upper thread trimming:

No.	Name	Range	Initial value
A	Origin position		
B	Initial position	-10~10	0
C	Releasing position	-95~-80	-86
D	Position for trimming	0~20	10
E	post-trimming position	30~50	40



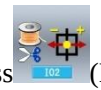
② Select the mode position you wish to adjust

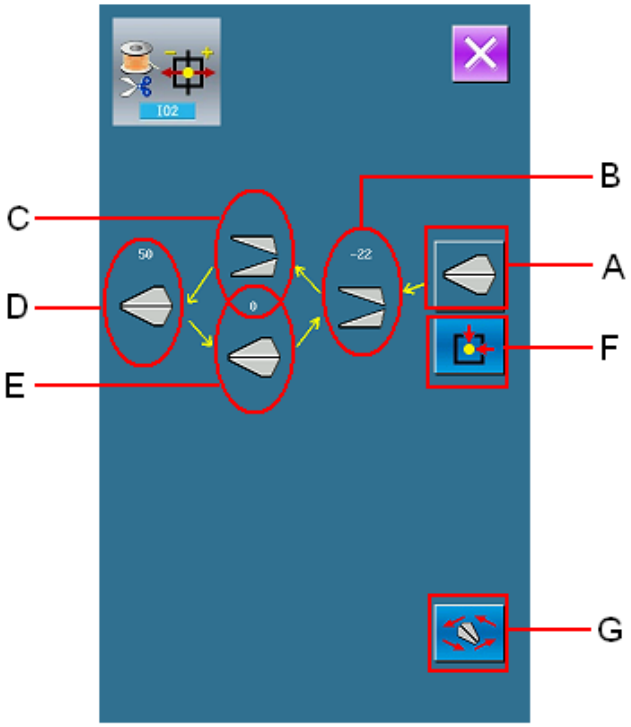
Press  G to select the positions (A, B, C, D) for adjustment, then press the  /  key to adjust the necessary value, at last press  F to return to the origin.,

③ **Press**  to return to the interface Inspection Mode.

（2）Adjustment of down thread trimming

① Adjusting method

Under the Mode Inspection interface, press  (I02 down thread trimming) to enter the adjusting interface of lower thread trimming (as shown in the right figure).



Lower thread trimming：

No.	Name	Range	Initial value
A	**Origin position**		
B	Initial position	-10~10	0
C	Releasing position	-35~-15	-22
D	Position for trimming	-10~10	0
E	post-trimming position	40~60	50

② Select the mode position you wish to adjust

Press  G to select the positions (A, B, C, D) for adjustment, then press the  /  key to adjust the necessary value, at last press  F to return to the origin.。Press  to return to the interface Inspection Mode.

（3）Testing method of inputted signal

Under the interface of Inspection Mode, press  (I03 Input Inspection),to enter the interface of input inspection interface (as shown in right). Users can confirm the input status of each switch and sensor.

ON： Turned on

OFF：Turned off

A：Amount of pedal pressed

B：Pedal Sensor

C：thread break detect

D：knife sensor

E：turn the head to the sensor

F：Stop

G：Needle-rocking sensor

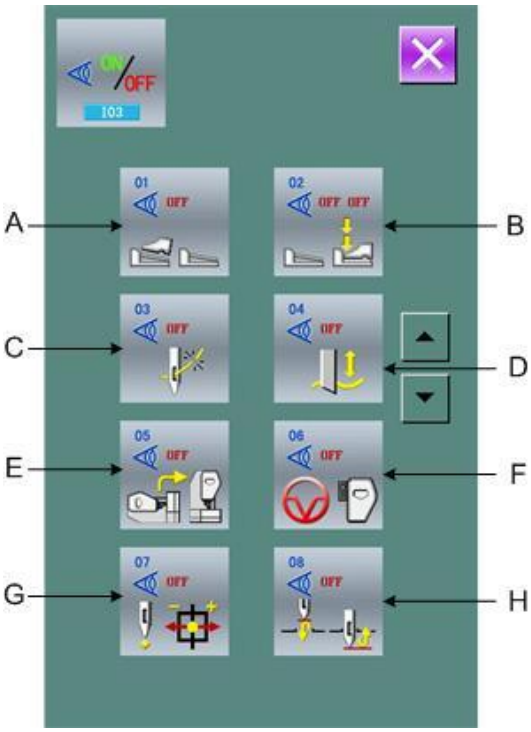
H：semi-lunar sensor of sewing machine

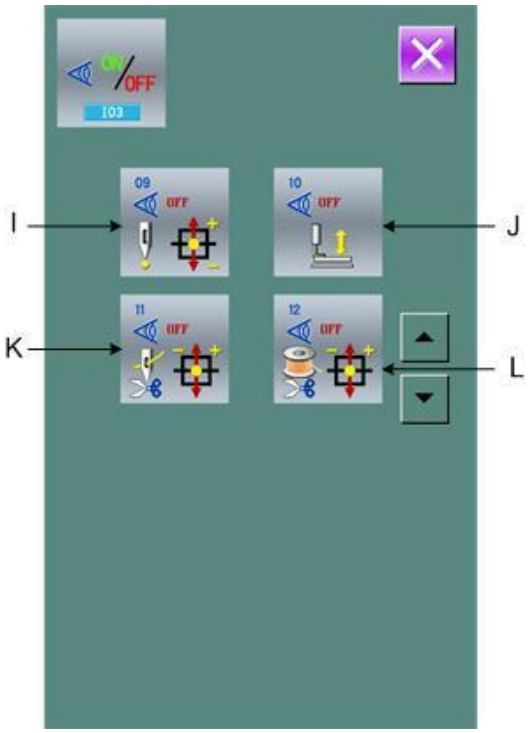
I：Y feeding origin retrieval

J：Presser origin retrieval

K：Thread trimming motor origin retrieval

L：Bottom thread trimming motor origin retrieval





（4）Inspection of LCD Display

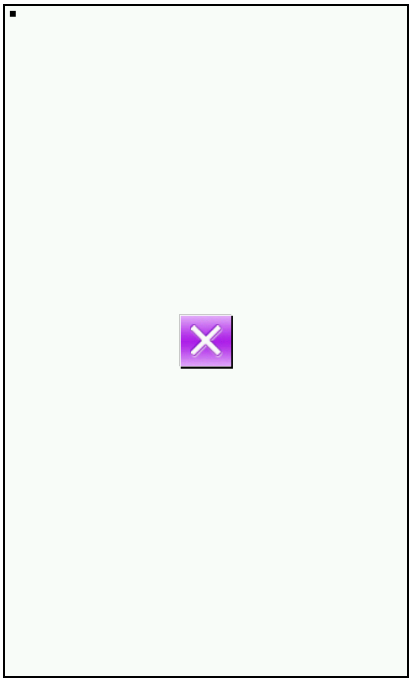
In the interface of Mode Inspection, press 

(I04 Inspection of LCD Display) to enter the interface of LCD Display Inspection (as shown in right figure). Check whether the LCD fades in that status.

（5）Correction of Touch Panel

In the interface of Mode Inspection, Press 

(I05 Correction of Touch Panel) to enter the interface for Touch Panel Correction (as shown in right figure). Because the correction for four spots is needed, the user had better click the black spot on the screen with tools like touch pen. The system will return to the upper interface automatically upon the complete of the correction. If user wishes to cancel the operation, press  to quit.



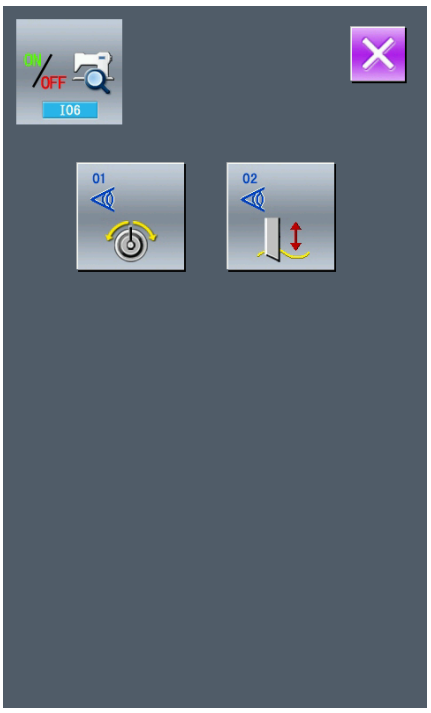
（6）Methods for Output Inspection

In the interface of Mode Inspection, Press  (I06 Output Inspection) to enter the interface of Output Inspection (as shown in the right figure). The output status of the solenoid can be checked under that interface.

 ：thread tension solenoid

 ：knife solenoid

Press  or  to check the output status of the thread tension solenoid or the knife solenoid



（7）Speed Test

① Display of interface for speed test

In the interface of Mode Inspection, Press  （I07speed test） to enter the interface for Speed Test (as shown in right figure). The speed of main shaft motor can be tested in that interface.

② Speed Test Setting

Press  &  to set the speed of the main shaft motor. Press  , then the motor will run at the set speed. At this moment, the actual tested speed is  . Press  to stop the machine.

（8）Continuous Running

① Display the interface for continuous running

In the interface of Mode Inspection, Press  （I08 continuous running）to enter the interface of continuous running (as shown in right figure).

 : Action interval

 : Gusseting origin inspection

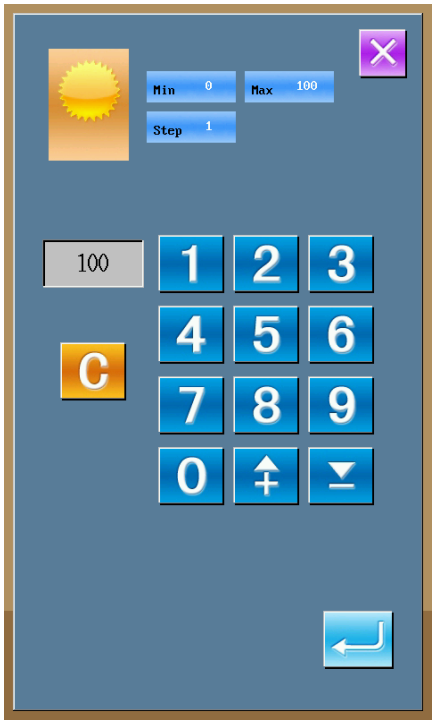
 : Presser foot Up/Down times

② Continuous running setting

Click the setting figures under the interface of Continuous Running to set the Action interval and Gusseting origin inspection. Press  to return to the interface for data input then press  and step the pedal at the same time, the system begin the continuous running. The system can be paused by the pause switch during the continuous running, or step the pedal or use the pause switch to stop the continuous running at the action interval

3.10 Brightness Adjustment

In the Mode Setting Level 2 interface, press  to enter the interface for brightness adjustment (as shown in right figure), the brightness value can be adjusted from 0 to 100 by pressing  or  , it also can be adjusted by inputting the value via keyboard and then pressing  .



3.11 Operation of Keyboard Lock

In the Mode Setting Level 2 interface, press  to enter the interface of Keyboard Lock Setting.

① **Lock the keyboard**

 : Keyboard unlocked

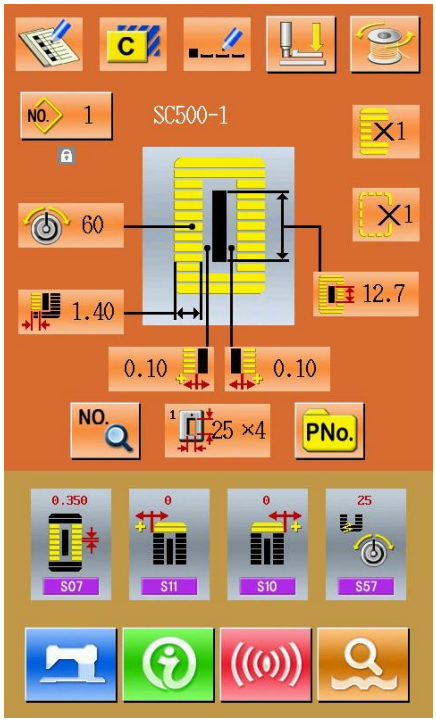
 : keyboard locked

Press  and  to lock the keyboard.

② **Display of locking keyboard status**

Close the interface of parameter setting mode, and return to the data input interface, like right figure. We can see there is a figure to show the locking status  under the pattern number. Only can the available

figures shown under the status of keyboard locking.

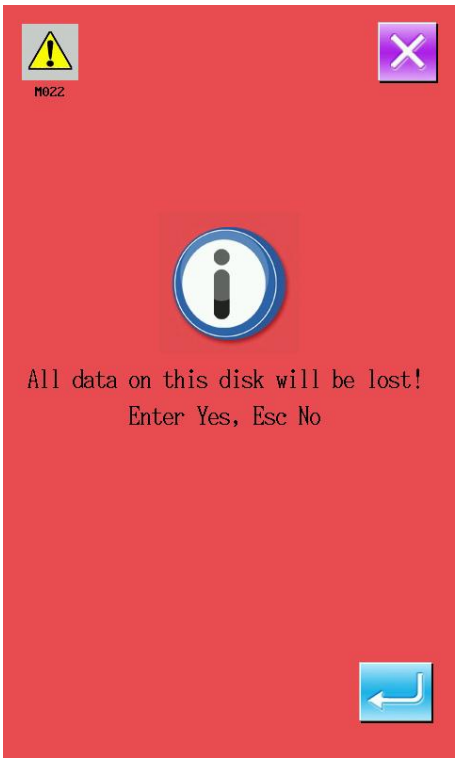


③ Scope of locking keyboard

1．Normal sewing data input interface：
1） Pattern registration
2） Copy pattern
3） Name pattern
4） Customer management
5） Selection of presser
6） Shape and relevant sewing data
2.Normal sewing interface：
1） Counter setting
2） Needle thread tension setting
3.Continuous stitching data input interface：
1） Pattern registration
2） Copy pattern
3） Name pattern
4） Cloth feeding amount
5） Deletion
6） Pattern sewing data
4.Continuous stitching interface：
1） Counter setting
2） Needle thread tension setting
5.Cycle stitching data input interface：
1） Pattern registration
2） Copy pattern
3） Name pattern
4） Delete
5） Delete all
6） Sewing clothes
7）sub pattern registration
6.Cycle stitching interface:
1） Counter setting
2） Needle thread tension setting
7.Parameter setting mode：
1） Parameter Level 1
2） Parameter Level 2
3） P pattern edition
4）Customer management
5）Sewing data edition
6）Inspection mode
7）counter edition

3.12 Initialize U disk

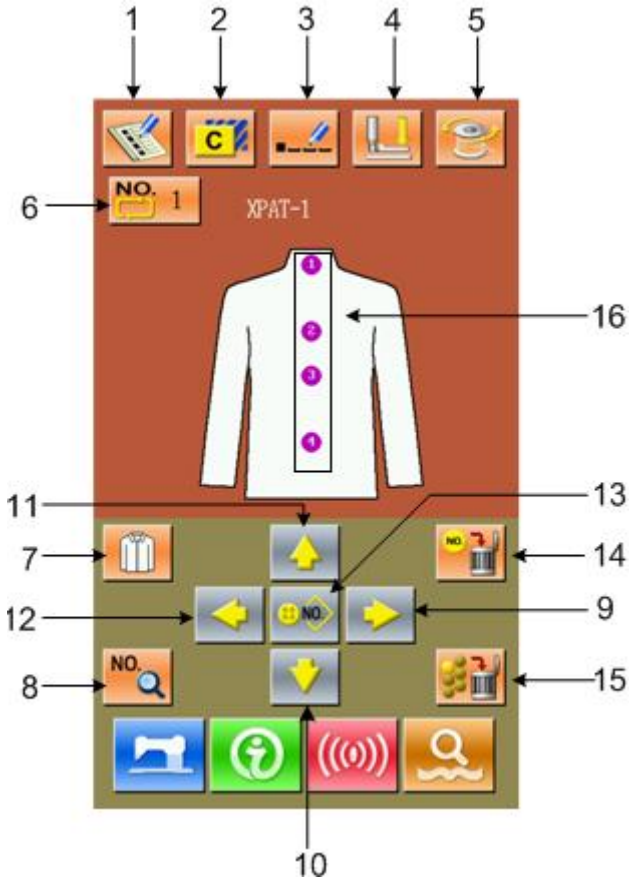
In the Mode Setting Level 2 interface，press  to enter the interface of Initialize U disk.



Press  to delete all datas in U disk.

4 Data of Cycle Stitching Input Interface

This function is to sew the plural sewing pattern data in order in cycle. As many as 30 patterns can be inputted in one cycle stitching, and as many as 20 cycles can be registered.

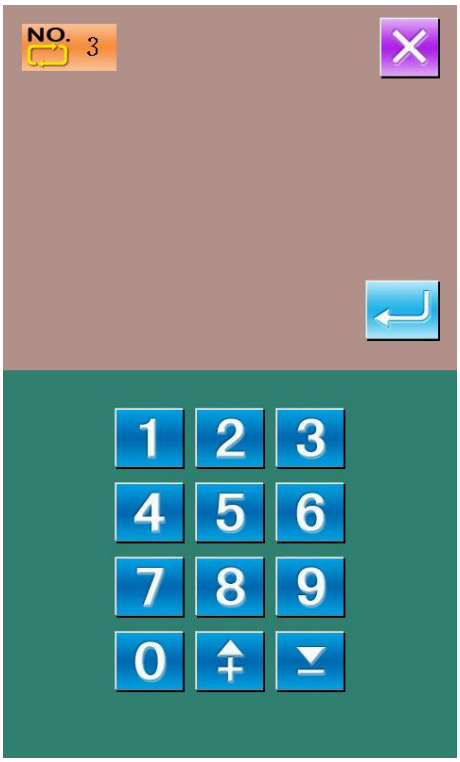


4.1 Instruction on Functions

No	Figure	Functions	Remarks
1		New pattern registration	
2		Copy pattern	
3		Name pattern	
4		Thread	
5		Winding	
6		Select pattern for Cycle stitching	
7		Select clothes for sewing	
8		Modify sewing data	

9~12		Key for moving icon	
13		key for selecting pattern	
14		Key for deleting sub-pattern	Delete the sub-pattern selected by the icon
15		Key for deleting all sub-patterns	Delete the entire sub-pattern in the existing cycle stitching data
16		Sewing order	

4.2 Pattern Registration



Input the pattern number via the keyboard, press  to finish.

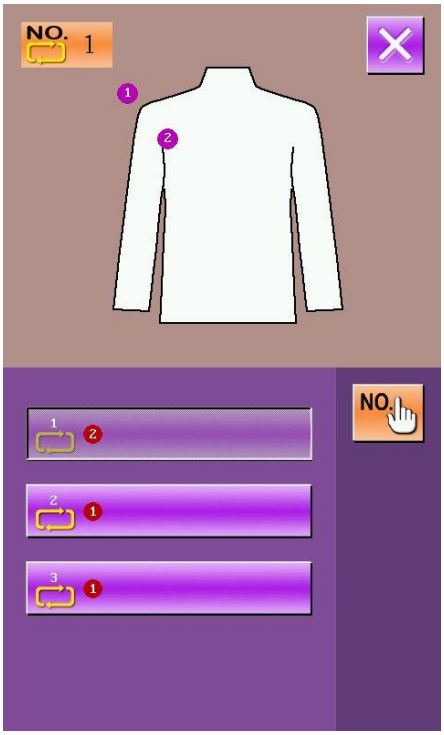
4.3 Copy a Pattern

① **Select the pattern wanted**

Press 

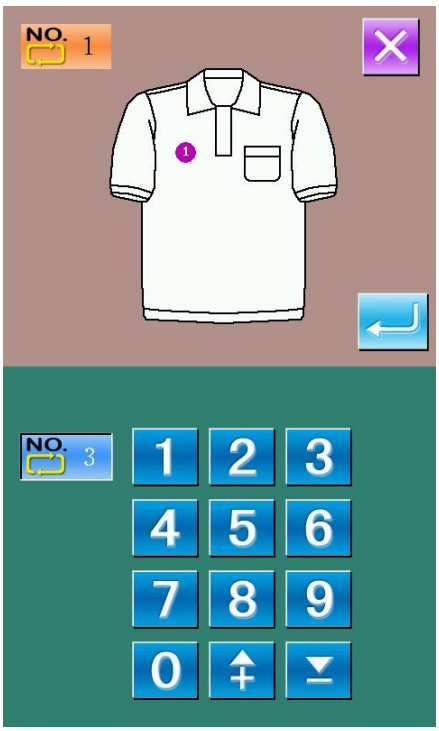
to enter the interface of Pattern Copy (as shown in right figure). Select the wanted pattern amount the registered ones and then press 

.



② **Input the number of the newly registered pattern**

The upper area shows the copied pattern, select a unregistered number for it. **Attention: the registered number can't be registered again**! Press  to finish this operation.



4.4 Select the patterns for cycle stitching

Press 

to enter the interface of selecting the pattern for cycle stitching (as shown in right figure).

The operation is same to the operation of normal pattern selection.

4.5 Edit pattern for cycle stitching

① **Select the pattern**

Press the direction keys  ,  ,  &  to select the position wanted, press 

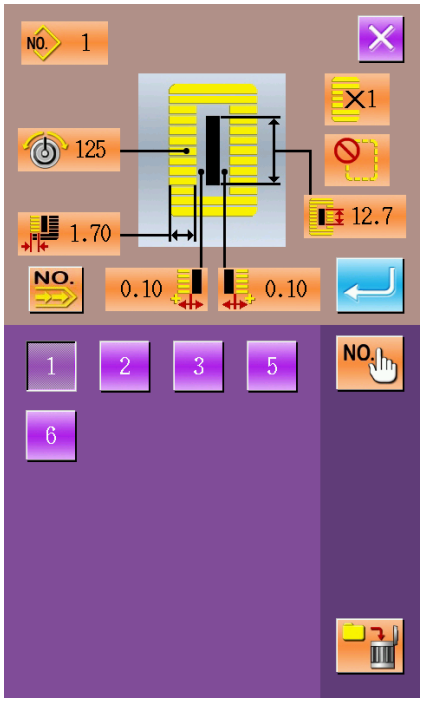
to enter the interface of pattern selection (as shown in right figure).

: Input number to inquire patterns


: Delete the pattern

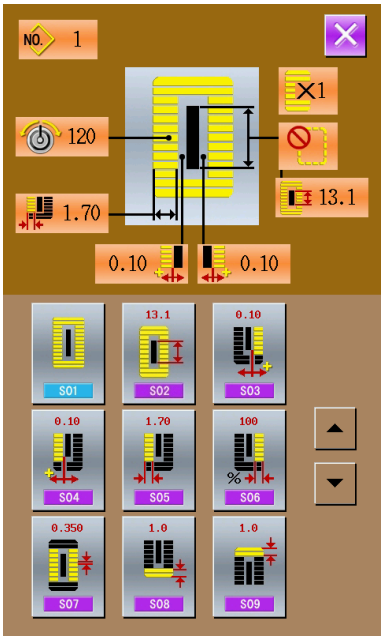
: shift to selection of patterns for continuous stitching

Select the proper pattern and press  to finish

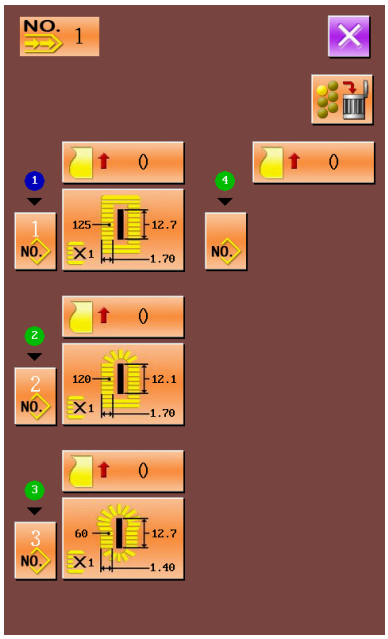


② **Modification in sewing data**

Move the icon to the target pattern, press  to enter the interface for sewing data setting (as shown the figure below).



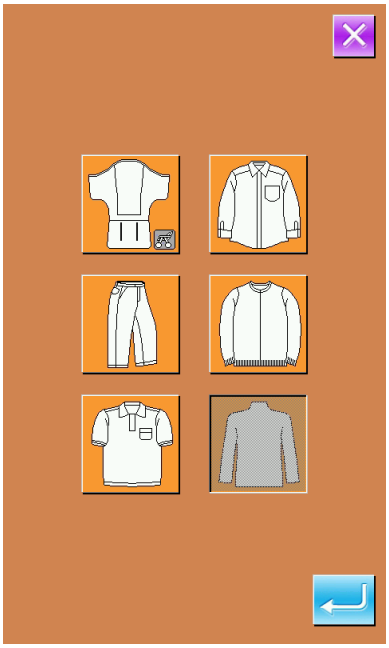
Left figure is the modifications on sewing data of normal pattern. On specific operation, please take the section1.10 sewing data setting for reference.



The right figure is the edition on the data of the continuous stitching. On specific operation, please take the Continuous Stitching Data Input

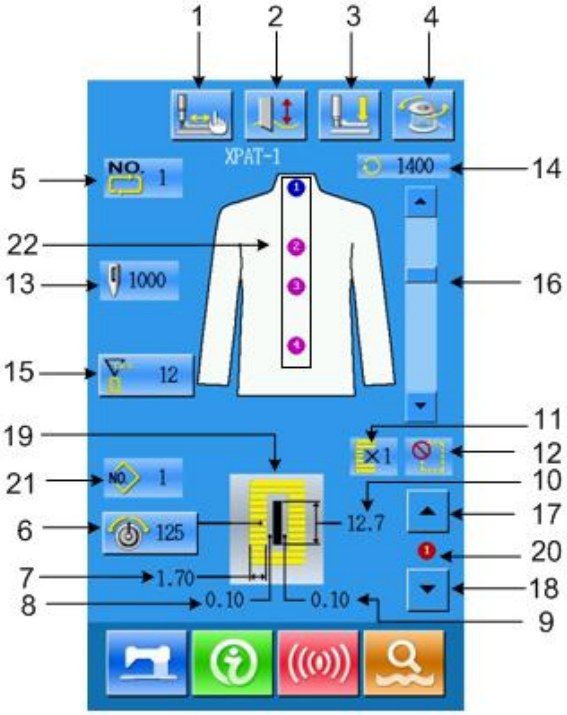
4.6 Change the clothes for sewing

Press  to enter the interface for selecting the clothes for sewing (as shown in right figure).In this section, the user can modify the reference design in the interface of sewing data input.



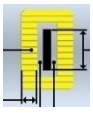
5 Interface for Cycle Stitching

Press  to enter the sewing interface (as shown in the follow figure).



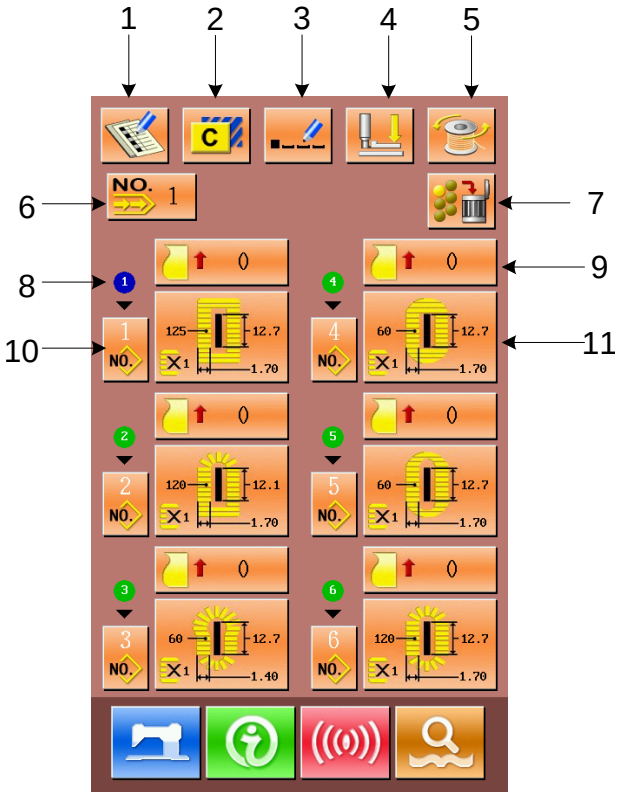
5.1 Instruction on Functions

No.	Figure	Functions	Remarks
1		Trail sewing	
2		Knife function	Shift the Knife function

3		Thread （lower the presser）	
4		Winding	
5		Pattern number display	
6		Needle thread tension setting	
7		Display Left Over-edging Width	
8		Display Left Width of Knife Groove	
9		Display Right Width of Knife Groove	
10		Display Length of Cloth Cutting	
11		Display single stitching/ double stitching	
12		Display Numbers of Basting	
13		Display the Total Number of stitches	
14		Display the Sewing Speed at present	
15		Display value of counter  ： sewing counter  ： No. of piece counter	
16		Speed setting	
17		Sewing Order Reverse	Sewing in opposite sequence
18		Sewing Order Advance	Sequential sewing
19		Display the sewing shape	
20		Sewing order No.	
21		Sewing serial Pattern number display	
22		Sewing order	

6 Interface for Continuous Stitching Data Input

Without lifting the presser it is able to sew up to as many as 6 shapes continuously. As many as 20 continuous stitching patterns can be registered.



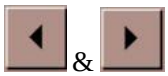
6.1 Instruction on Functions

No.	Figure	Function	Remarks
1		New pattern registration	
2		Copy pattern	
3		Name pattern	
4		Thread	
5		Winding	
6		Select pattern for Continuous stitching	
7		Key for deleting all sub-patterns	Delete the entire sub-pattern in the existing continuous stitching data
8		Sewing order	
9		Clothes Feeding Amount Input Key	
10		Sub-pattern Select Key	

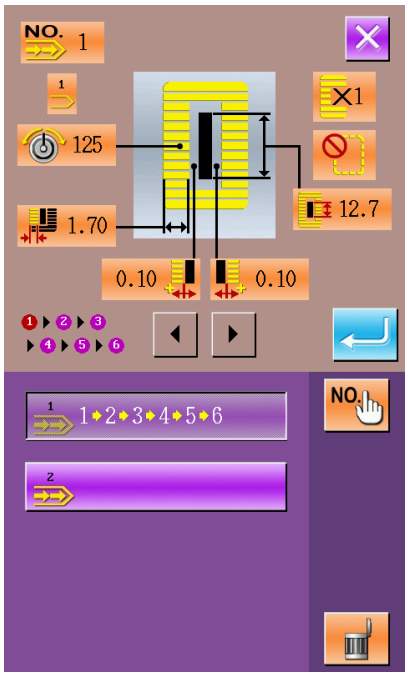
11		Sewing data edition	

6.2 Select Pattern for Continuous Stitching

Press  to enter the interface for selecting the pattern (as shown in right figure).

Press  to look up the information of the registered patterns in continuous stitching.

Select the proper pattern, then press  to finish.



6.3 Pattern Edition for Continuous Stitching

① **Feed amount setting**

Press  in Figure 1 below to enter the interface for setting feed amount (as shown in the Figure 2).

Figure 2

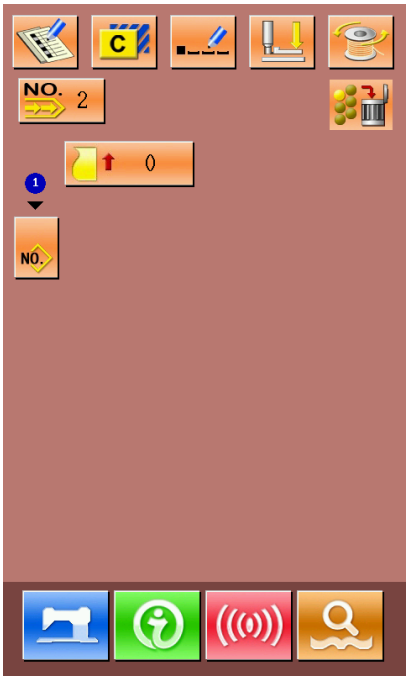
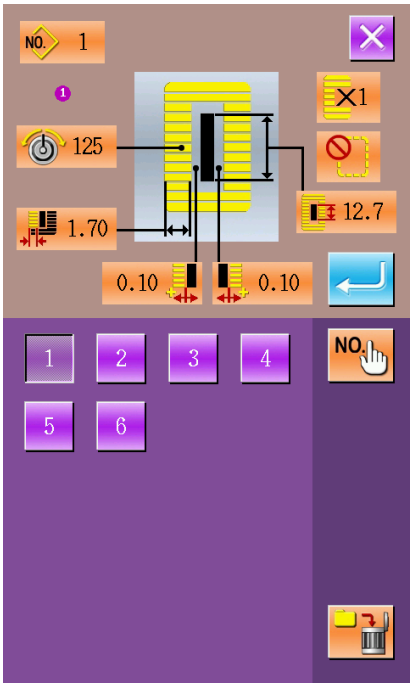


Figure 1

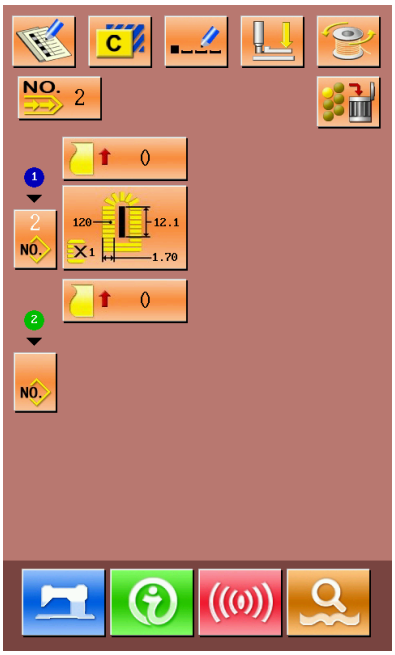
③ **Select pattern**

Press 

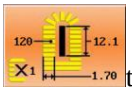
to enter the interface for selecting pattern (as shown in right figure).



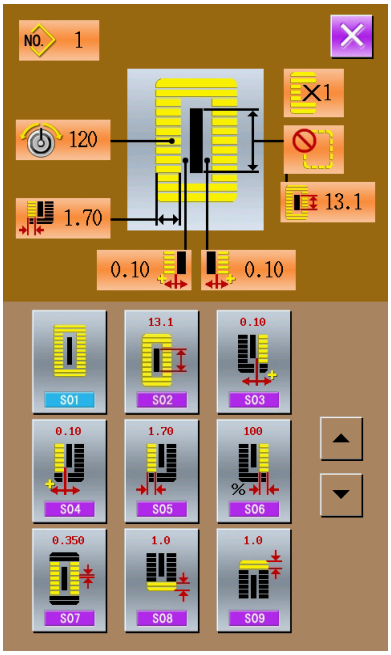
Select the proper pattern, press  for confirmation and press  to delete the present pattern.



④ **Modification on sewing data**

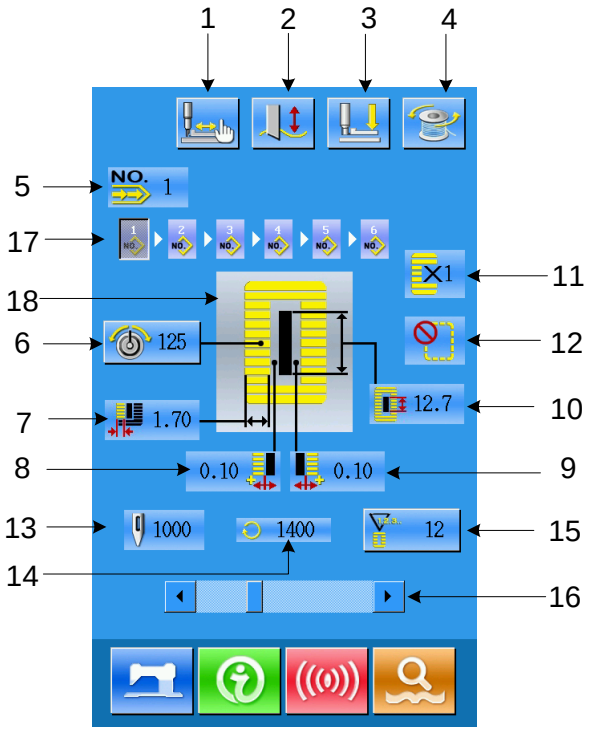
Press 

to enter the interface for setting sewing data (as shown in the right figure).



7 Interface for Continuous Stitching

Press  to enter the interface for sewing (as shown in right figure).



7.1 Instruction on Functions

No.	Figures	Functions	Remarks
1		Trail sewing	
2		Knife function	Shift knife functions
3		Thread （lower the presser）	
4		Winding	
5		Pattern number display	
6		Needle thread tension setting	
7		Display Left Over-edging Width	
8		Display Left Width of Knife Groove	
9		Display Right Width of Knife Groove	

10		Display Length of Cloth Cutting	
11		Display single stitching/ double stitching	
12		Display Numbers of Basting	
13		Display the Total Number of stitches	
14		Display the Sewing Speed at present	
15		Display value of counter  : sewing counter  : No. of piece counter	
16		Speed setting	
17		Pattern number inputted into continuous stitching data	
18		Sewing shape display	

8 Communication Function

Communication function enables users to download the sewing data created with other sewing machines, creation of sewing data and sewing data created by pattern-making software to the sewing machine. In addition, the function enables the user to upload the aforementioned data to the U disk or personal computer.

8.1 Handling Possible Data

Handling possible sewing data are two kinds below. The respective data formats are as described below:

Data Name		Extension	Content of Data
Vector format data		*. V D T	Data of needle entry points
Parameter		*. E P D	Sewing shape created by the sewing machine

In case of saving the data into U disk, save the data in file folder DH_PAT, or the system will unable to read the file.

8.2 Take-in of the Data

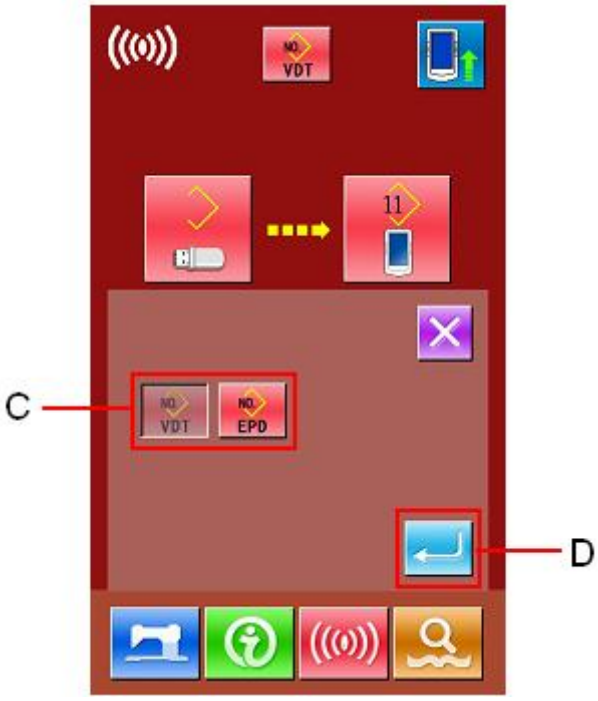
① **Display the communication interface**

Press Communication Key (A) in the data input interface, then the communication interface will be displayed

② **Select the type of data**

Press data selection key (B), then the interface of data display is shown.

Select data type key (C) according to the type of communication. The selected key is displayed in reverse video.



③ **Determine the kind of data**

Press Confirmation Key (D), close the interface for selecting data type to finish the selection of data type.

④ **Select the communication methods**

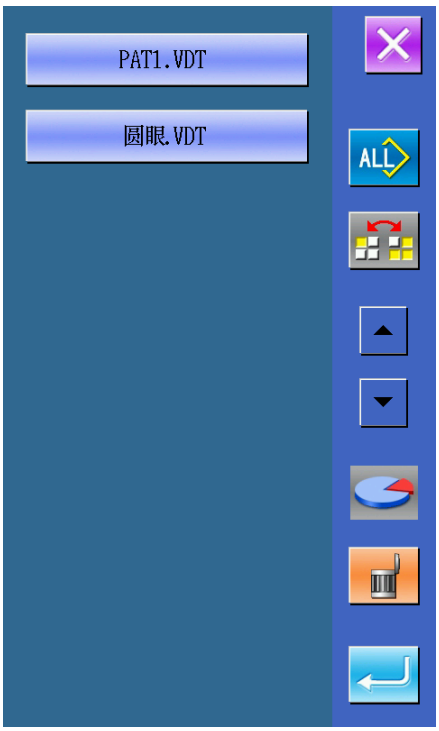
There are two communication method as described below:

 : Data written from U Disk to panel

 : Data written from panel to U disk

Press the communication key according to your wishes

⑤ **Operation of writing data from U Disk to panel**



（1）Select pattern from U disk

Press  to enter the interface for selecting pattern from U disk. Select the data file you want to input.

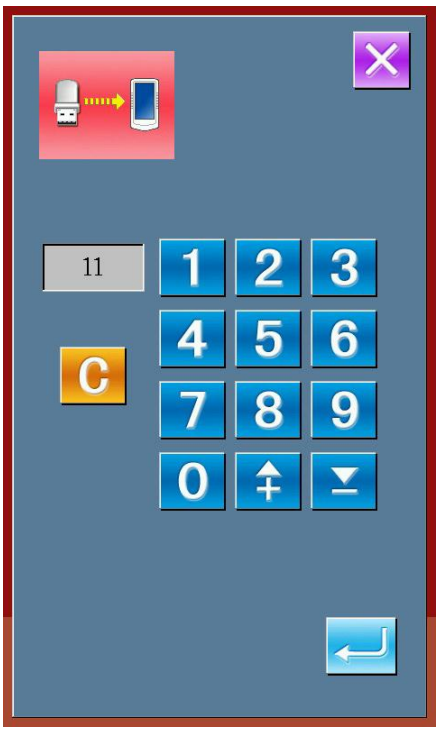
: Select all


: Reserve video


: Deletion


: Rest room (unavailable at present)

Select the pattern you want to input, press  to return to the interface of upper level.



（2）Confirm the memory number

Number above 

is the empty pattern number, choose one as you like.

Attention: When copying several patterns from the U Disk at one time, user can not set the memory number. The copied pattern will be saved into the empty number automatically.

The copied pattern can not cover the existed patterns (this pattern may be quoted in Continuous Stitching, Cycle Stitching and P patterns).

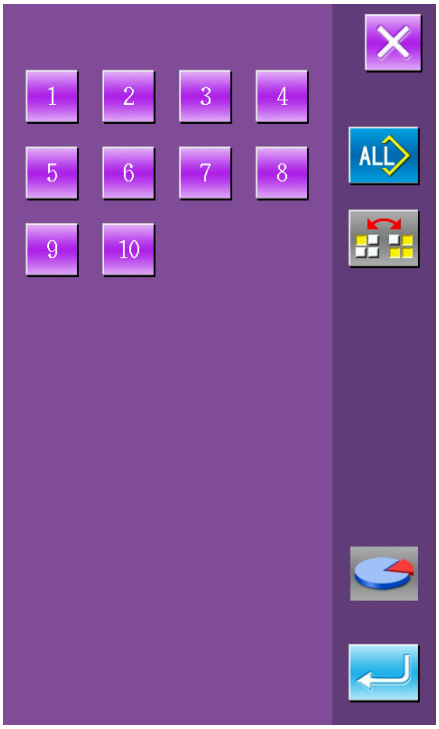
（3）Start Communication

Press Communication Key (L) to begin data communication. After the communication, the system will return to the interface of communication.

⑥ Operation of writing data from panel to U Disk

Press to carry out the Operation of writing data from panel to U Disk.

（1）Select pattern from memory



Press to enter the interface for selecting pattern from memory. Select the data file you want to input.

: select all

: reverse video

: delete

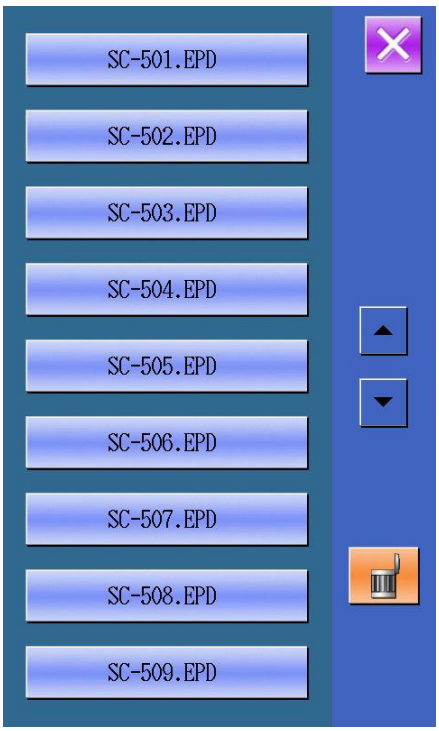
: rest memory (unavailable at present)

Select the pattern you want to input, press to return to the interface of upper level.。

（2）Start communication

Press Communication Key  (L) to begin data communication. After the communication, the system will return to the interface of communication.

The pattern copied to U Disk will be named as SC-5xx.EDP or SC-5xx.VDT. The “xx” is the number of pattern in memory.



（3）U Disk pattern deletion

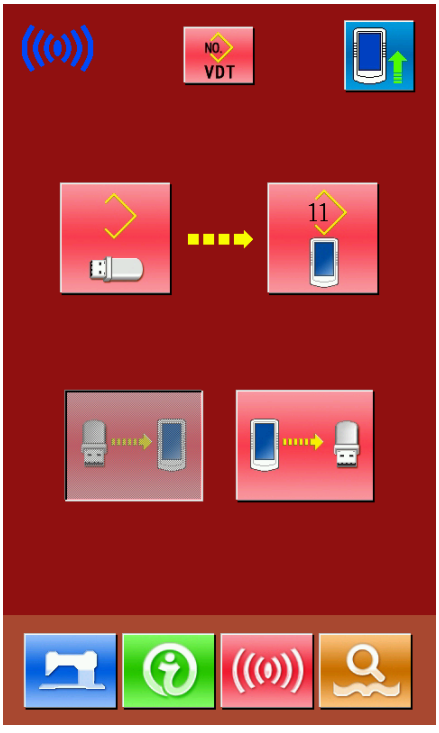
Before the communication, the user can delete the patterns in U Disk. Press  to enter the interface of U Disk Pattern Display, then press  to delete the patterns.

If the pattern with the same number is existing in the U Disk, the system will ask user whether to replace the existing pattern.

8.3 Instruction for Updating

① Display interface of communication

In the interface of sewing data, press  and wait for 3 sec, the system will enter the update status(as shown in right figure), and the figure in upper right will become blue.



② **Select type of updating**

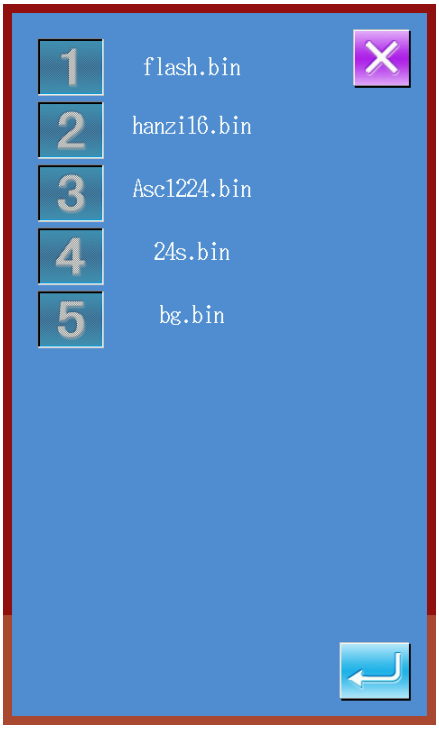
Press  to enter the selecting status of communication, then press  , at last press  for confirmation.

 ：Panel update key

④ **Select the update file**

Press  to choose the updating file, press  to confirm

Press  to start updating. After the updating, repower the machine to finish the update.



9 Information Function

There are two functions in the information function as below.

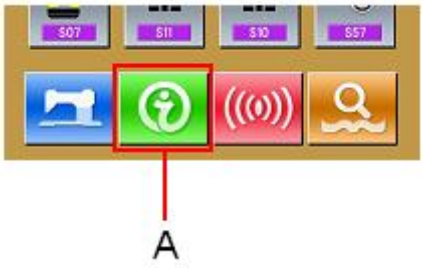
1）Oil replacement time, needle replacement time, cleaning time, etc. are designated and the warning notice is performed when the designated time has passed;

2）Speed can be checked at a glance and the target achieving consciousness as a group is increased as well by the function to display the target output and the actual output.

9.1 Checking the Repair and Inspection Information

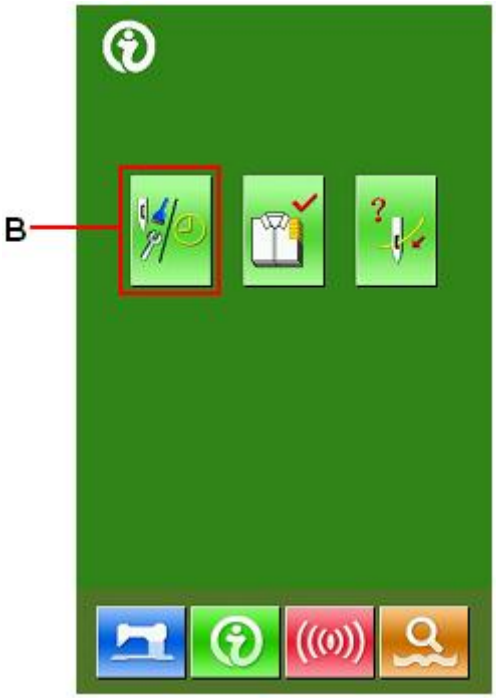
① Display the information interface

Press the information key (A) at switch seal Section in the data input screen, the interface of information will be displayed.



② Display the repair and inspection interface

Press repair and inspection information interface display key  in the information screen.



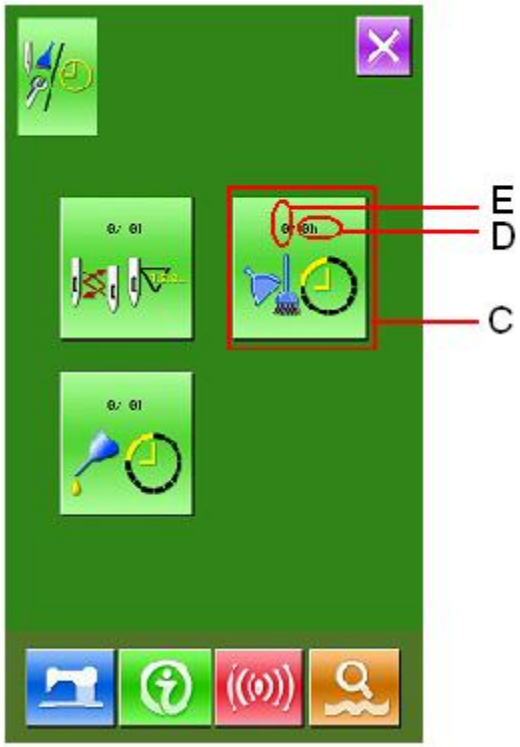
Information on the following three items is displayed in the repair and inspection information screen.

 : Needle replacement (1,000 stitches)

 : Cleaning time (hour)

 : Oil replacement time (hour)

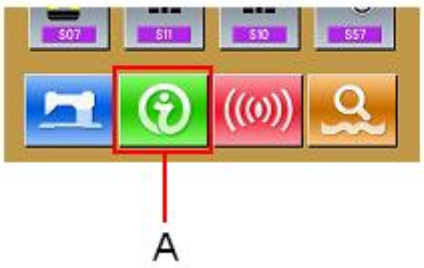
The interval to inform of the inspection for each item in key (C) is shown at D, and remaining time up to the replacement is displayed at E. In addition, remaining time up to the replacement can be cleared.



9.2 Input the Maintenance and Repair Time

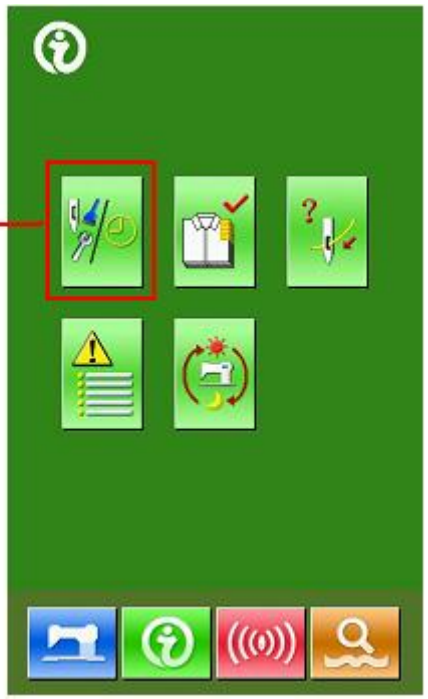
① Display the information screen (maintenance personnel level

In the data input screen, hold the information key (A) for 3 second, the interface of information (maintenance level) will be displaced. In the interface, 5 keys are displayed.



② **Display the maintenance and repair interface.**

Press maintenance and repair key （B）in the information interface.



※ In the interface of maintenance level, there are two keys at the lower side, whose descriptions are as followed:

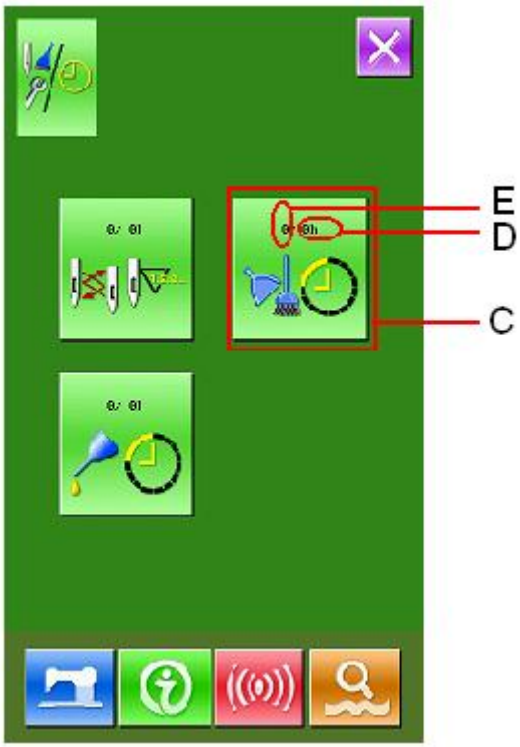
: Warning Record

: Running Record

❸The same information as that in the normal maintenance and inspection interface is displayed in the maintenance and repair information interface.

Press the key （C）to change the time for maintenance as you wish.

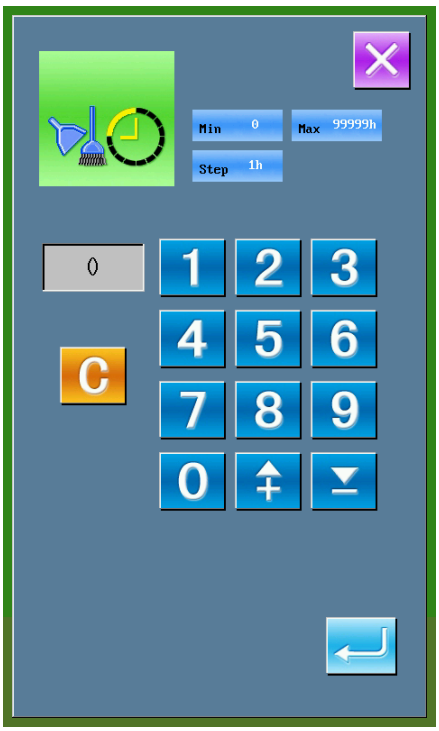
Press to set the time for cleaning.



④ **Set item for maintenance and repair**

Set the set value of the maintenance & repair item at 0, the system will stop the function of maintenance and repair.

Input the set value of the maintenance and repair item, via the numeral keyboard, and then press  for confirmation.



9.3 Method to Release the Warning

When the designated inspection time is reached, the warning interface is coming out. Press  to release the warning. Before releasing the maintenance and repair time, the information warning interface will come out upon the complete of each stitch.

The following are the warning code for each item.

- Needle Replacement：M012
- Cleaning Time：M013
- Oil Replacement Time：M014

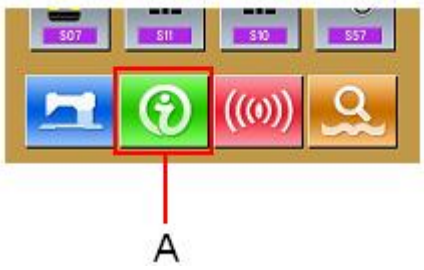
9.4 Information of Production Control

In the production control interface, the system can display the number of production from the start to present and the number of production target, as long as receiving the start order. There are two ways to enter the interface of production control as below:

9. 4. 1 Via Information Interface

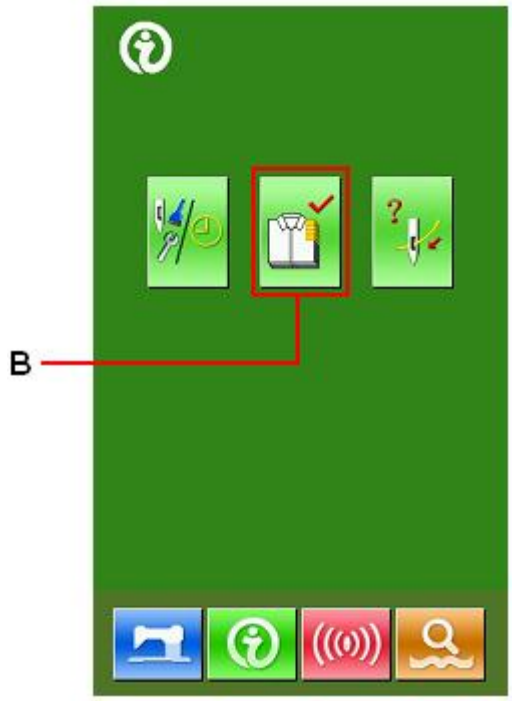
① **Display of information interface**

Press the Information Key (A) locating at the switch part in the data input interface, then the system will display the information interface.

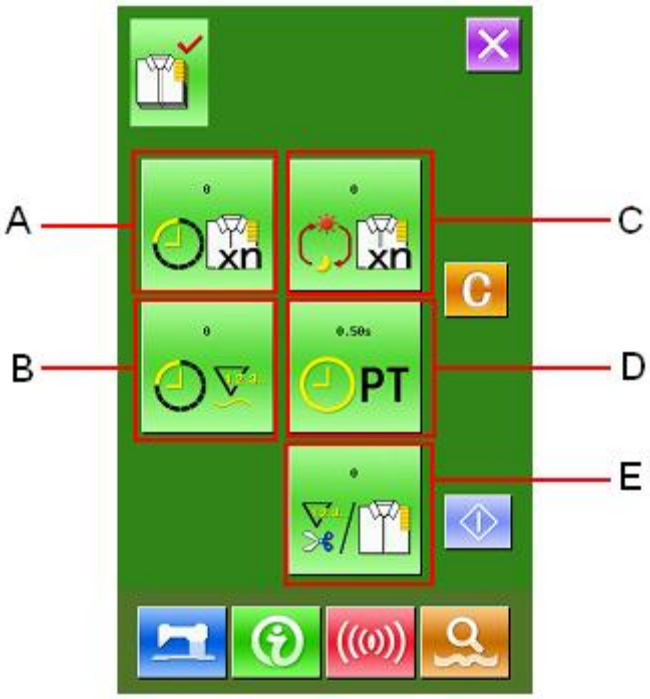


③ **Display of production control interface**

Press the production control interface display key (B) in the information interface to enter the interface of production control (as shown in right figure).



There are five items displayed on the interface of production control as below:



A：**Target value at present**

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

B：**Actual value**

The number of the finished pieces is displayed automatically.

C：**Final target value**

Set the number of products of the final target.

D：**Pitch time**

Time (second) needed for setting one progress.

E：**Number of thread trimming**

Set the number of thread trimming in one progress. The number of thread trimming is related to the calculation of the actual value.

If the number of thread trimming is set as 1, the actual value will be calculated at every progress. If the number of

thread trimming is set as 2, the actual value will be calculated at every two progresses. The rest is done in the same manner. If the number of thread trimming is set as 0, no calculation will be carried out.

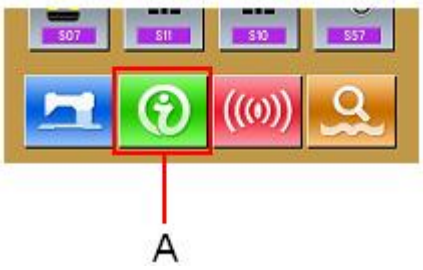
9. 4. 2 Via Sewing Interface

① Display of sewing interface

Press the Ready Key  in the data input interface to show the sewing interface.

② Display of production control interface

Press Information Key (A) in the sewing interface to enter the interface of production control.

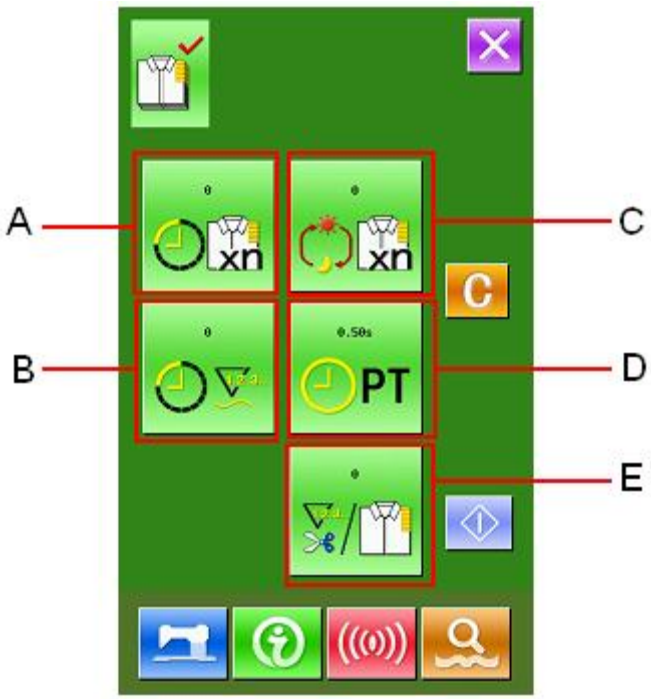


The contents displayed and functions are the same to the description in 9.4.1.

9.5 Information of Production Control Setting

① Display of production control interface

To enter the interface of production control, please take section 9.4 for reference.



④ **Input value of final target**

At first, please input the number of production target pieces in the process to which sewing is performed from now on.

Press the Final Target Value Key 

(C) to enter the interface of final target value. Press the numeral keys or the plus button and reduction button to input the figure you want, and then press  for confirmation.

⑤ **Input pitch time**

Then please input the pitch time needed in one process. Press the Pitch Time Key 

(D) in the former page to enter the interface for inputting the pitch time. Press the numeral keys or the plus button and reduction button to input the figure you want, and then press  for confirmation.

⑥ **Input the number of thread trimming**

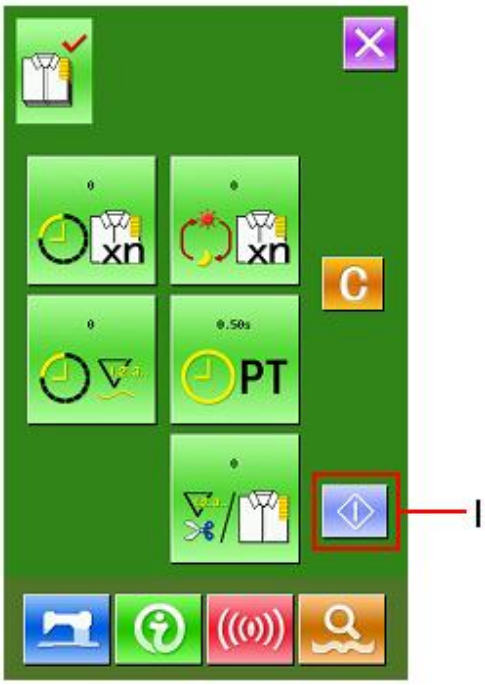
Then, please input the average number of thread trimming in one process. Press the Number of Thread Trimming Key (E) to enter the interface for inputting number of thread trimming.
Press the numeral keys or the plus button and reduction button to input the figure you want, and then press for confirmation.

⑦ **Start to count number of production pieces**

Press (I)to start counting the number of the production pieces.

Present target value: Press the to start counting.

Actual value: Enter the production control interface to start counting via the sewing interface.



⑧ **Stop counting**

Under the counting status, the Stop Key is displayed. Press the Stop Key to stop counting. After the counter stops, the Counting Key is displayed at the position of the Stop Key. If needing to continue counting, please press the Counting Key. The counted value will not be cleared until the Clear Key is pressed.

⑨ **Clear the counted value**

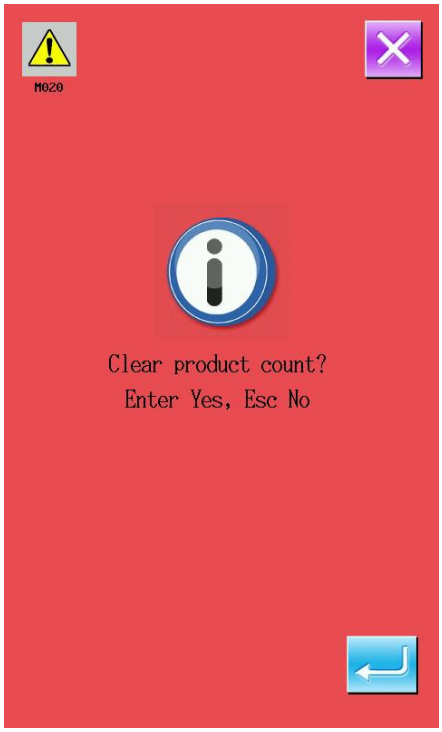
When clearing the counted value, make sure the counter is stopped, and then press Clear Key C.

The present target value and the actual value can be cleared.

（Note：The Clear Key can only be displayed at he counter stopping.）

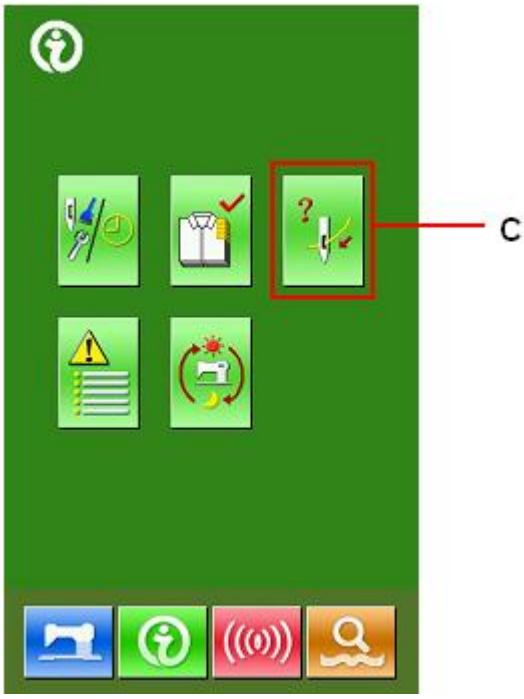
Press the Clear Key C to enter the interface for confirming the clearing.

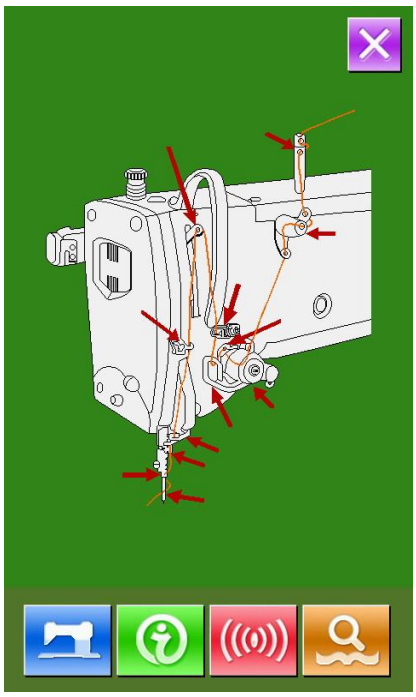
In the interface of clearing confirmation, press the to confirm the clearing.



9.6 Display the Threading Diagram

In the interface of maintenance level, after pressing the threading key（C），the needle threading diagram is displayed. Observe it when performing threading.





9.7 Warning Record

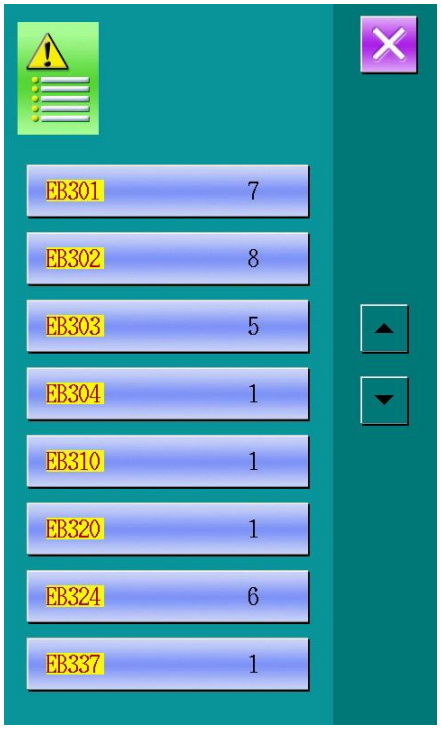
In the interface of maintenance level, press the  to inquire the warning records.

For example , 

, EB301 is the problem code，7 is the times of warning.

Press 

to check the details of the warning.



9.8 Running Record

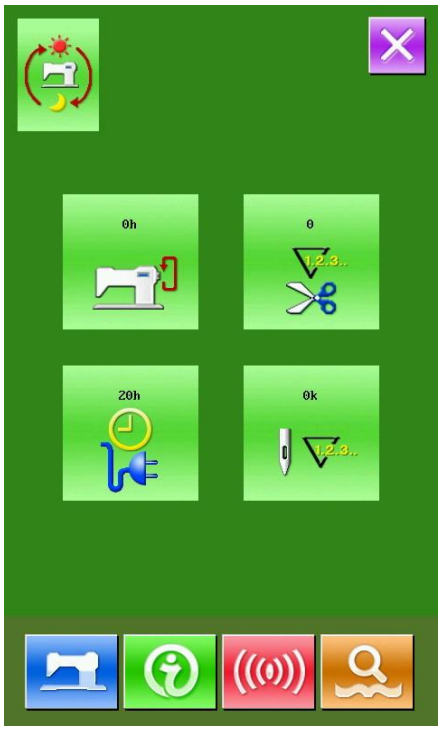
In the interface of maintenance level, press  to check the running information of the machine.

 : Accumulated running time（Hour）

 : Accumulated times for thread trimming

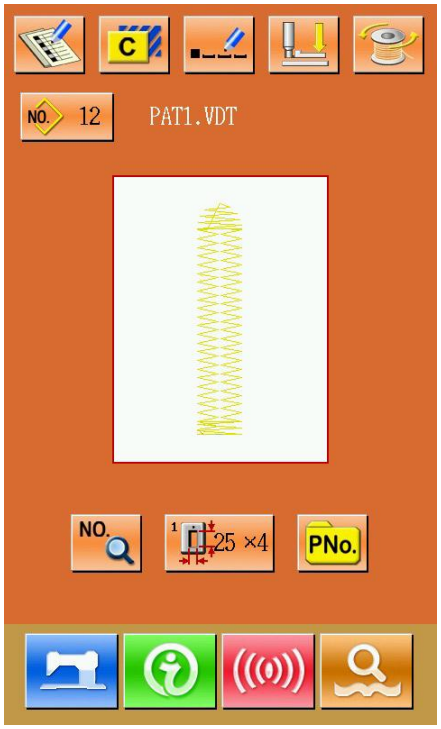
 : Accumulated time of power-on (Hour)

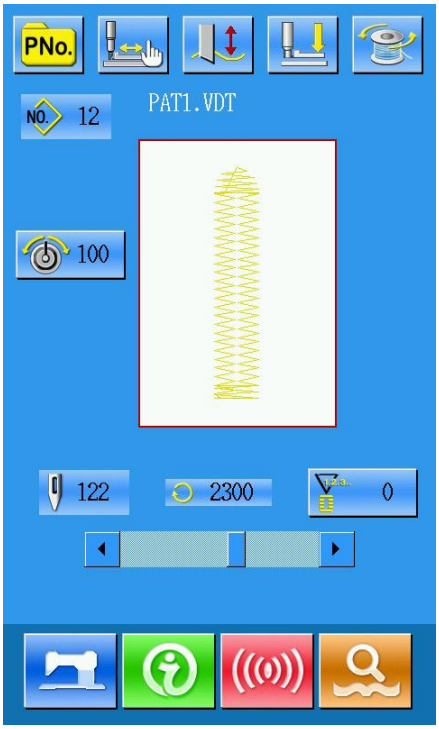
 : Accumulated number of stitch（1000stitch as a unit）



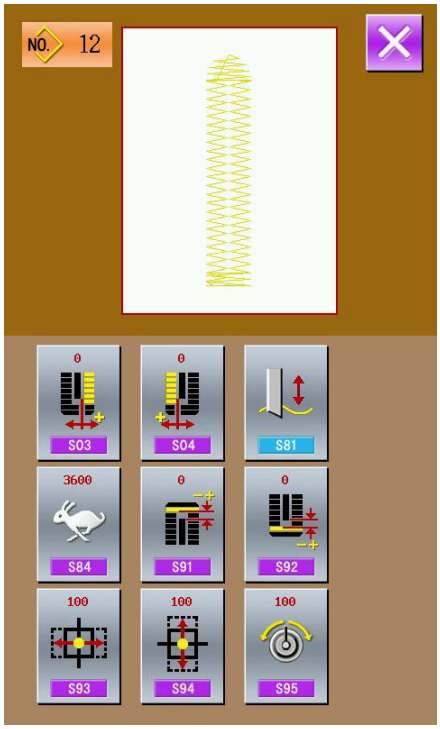
10 Operation of VDT Pattern

The patterns in VDT Type can be generated by using the pattern-making software. After the pattern was inputted into the memory from the U Disk, the interfaces of data input and sewing are displayed as below:

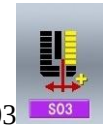
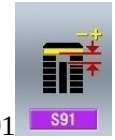
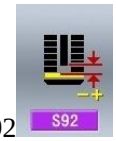




Press  to enter the interface for setting the sewing data (as shown in right figure):



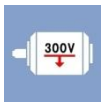
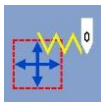
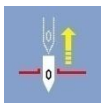
Data Table for Sewing VDT Patterns:

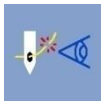
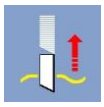
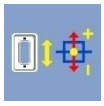
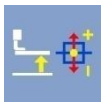
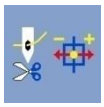
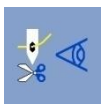
No.	Items	range	Unit	Initial value
S03 	Knife groove width, right This item sets the clearance between cloth cutting knife and right parallel section.	-2.00~2.00	0.05mm	0
S04 	Knife groove width, left This item sets the clearance between cloth cutting knife and left parallel section.	-2.00~2.00	0.05mm	0
S81	Knife motion This item sets "With/without motion" of normal cloth cutting knife.  : Normal knife motion off  : Normal knife motion on			Normal knife motion on
S84 	Maximum speed limitation This item sets max value of rotations of the sewing machine. The value is limited by the K07(Set maximum speed limitation)	400~4200	100rpm	Parameter K07
S91 	1st clearance compensation	-9~9	1stitch	0
S92 	2nd clearance compensation	-9~9	1stitch	0
S93 	Increase/decrease ratio (X direction)	20~200	1%	100
S94 	Increase/decrease ratio (Y direction)	20~200	1%	100

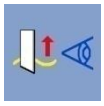
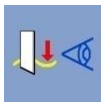
S95 	Tension reference value	0~200	1	100

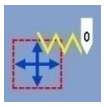
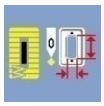
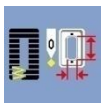
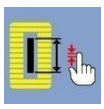
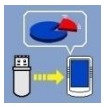
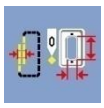
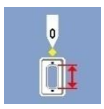
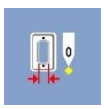
11 Appendix

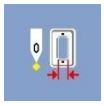
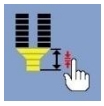
11.1 Warning List

Warning No.	Warning Display	Name of Problem	How to recover
EB001		Pedal not at intermediate Position.	Self-recovery
EB002		Emergency stop	Press 
EB004		Main voltage（300V）too low	Turn off the machine
EB005		Main voltage（300V）too high	Self-recovery
EB007		IPM over-voltage or over-current	Turn off the machine
EB008		Supplementary device voltage（24V）Error	Turn off the machine
EB013		Encoder error or unconnected	Turn off the machine
EB014		Motor running error	Turn off the machine
EB015		Over sewing range	Turn off the machine
EB016		Needle-rod upper position error	Press 

EB017		Thread break detector error	Press 
EB018		Knife position error	Turn off the machine
EB019		Emergency stop switch not at proper position	Self-recovery
EB020		Confirmation of tilt of machine head	Turn off the machine
EB024		Panel is connected to the machine other than supposed	Turn off the machine
EB025		X origin detect error	Turn off the machine
EB026		Y origin detect error	Turn off the machine
EB027		Presser origin detect error	Turn off the machine
EB028		Upper thread trimming origin detect error	Turn off the machine
EB029		Under thread trimming origin detect error	Turn off the machine
EB030		Step driver communication error	Turn off the machine
EB031		Step motor over-current	Turn off the machine
EB032		Step driver power supply error	Turn off the machine
EB035		Upper thread trimming motor error	Press 
EB036		Under thread trimming motor error	Press 

EB037		Knife can’t return	Press
EB038		Knife sensor error	Press
EP301		Non-exist the pattern	Press
EP302		Pattern file data error	Press
EP303		No pattern in memory	Press
EP304		Can’t delete existing pattern	Press
EP305		Capacity of memory is too low.	Press
EP306		Delete the last pattern	Press
EP307		Communication error	Turn off the machine
EP308		Order error	Turn off the machine
EP309		Pattern has existed	Press
EP310		Non-exist the pattern number	Press
EP311		Parameter error	Press
EP312		Sewing counter full	Press
EP313		No of piece counter full	Press

EP314		Failure to read update file from U Disk	Press
EP315		Calculation over sewing area	Press
EP316		Tie stitching presser size error at sewing end	Press
EP317		Tie stitching presser size error at sewing start	Press
EP318		Initialization error	Press
EP319		Prohibit to input	Press
EP320		Knife size error	Press
EP321		Non-agreement of system version	Turn off the machine
EP322		File size too large	Press
EP323		Read error	Press
EP324		Write error	Press
EP325		Basting presser size error	Press
EP326		Presser size error (Width)	Press
EP327		Presser size error (Front)	Press
EP328		Presser size error (Right)	Press

EP329		Presser size error (Left)	Press
EP330		Presser size error (Left &Right)	Press
EP331		Eyelet knife length error	Press
EP332		Eyelet shape length error	Press
EP333		Calculation error	Press
EP334		Flow bar-tacking compensation error	Press
EP335		Failure in software update	Turn off the machine
EP336		Low battery	Press
EP337		Non-exist the pattern data	Press

11.2 Hint List

No.	Name of Hint
M001	Hint of Pattern Deletion
M002	Hint of U Disk Insertion
M003	Can Not Found Pattern Data In U Disk
M004	Hint of Copy All the Patterns From U Disk to Panel
M005	Hint of Write All the Patterns From Panel to U Disk

M006	Hint of Turn-off Need
M007	Hint of Over Set Range
M008	Hint of All Sub-pattern Deletion
M009	Hint of Restore Original Setting
M010	Hint of Sub-pattern Deletion
M011	Hint of Power-off after Successful Update
M012	Hint of Needle Replacement
M013	Hint of Cleaning Time
M014	Hint of Oil Replacement
M015	Hint of File Deletion
M016	Hint of File Replacement
M017	Hint of Clearing Value of Needle Replacement Counter
M018	Hint of Clearing Value of Oil Replacement Counter
M019	Hint of Clearing Value of Cleaning Time Counter
M020	Hint of Clearing Value of Production Control Counter
M021	Hint of No Warning Note
M022	Hint of Initialize U Disk

11.3 Original Data List

The following is the original data list.

No	Item	Unit														
S01	Sewing shape	mm															
S02	Cloth Cut Length	mm	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
S03	Knife Groove Right Width	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
S04	Knife Groove Left Width	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
S05	Left Over-edging Width	mm	1.70	1.70	1.70	1.70	1.70	1.70	1.40	1.40	1.40	1.40	1.70	1.70	1.70	1.70	1.70
S06	Ratio of Right and Left Shapes	%	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
S07	Pitch at parallel section	mm	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
S08	2nd bar-tacking length	mm	1.0	—	1.0	—	1.5	3.0	1.0	—	1.5	3.0		1.0	1.0	1.5	3.0
S09	1st bar-tacking length	mm	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S10	Compensation of bar-tacking width, right	mm	0	—	0	—	0	—	0	—	0	—	—	0	0	0	—
S11	Compensation of bar-tacking width, left	mm	0	—	0	—	0	—	0	—	0	—	—	0	0	0	—
S12	Flow bar-tacking offset, left	mm	—	—	—	—	—	0.85	—	—	—	0.85	—	—	—	—	0.85
S13	Flow bar-tacking offset, right	mm	—	—	—	—	—	0.85	—	—	—	0.85	—	—	—	—	0.85
S14	Eyelet shape length	mm	—	—	—	—	—	—	2.0	2.0	2.0	2.0	—	—	—	—	—
S15	Number of stitches of eyelet shape	Stitch	—	—	—	—	—	—	3	3	3	3	—	—	—	—	—
S16	Eyelet width	mm	—	—	—	—	—	—	1.0	1.0	1.0	1.0	—	—	—	—	—
S17	Eyelet width	mm	—	—	—	—	—	—	3.0	3.0	3.0	3.0	—	—	—	—	—
S18	Eyelet length	mm	—	2.0	2.0	2.0	2.0	2.0	—	2.0	—	—	2.0	2.0	2.0	2.0	2.0
S19	Number of stitches of radial shape	Stitch	—	—	3	3	3	3	—	3	—	—	—	—	—	—	—
S20	Reinforcement of radial shape, with/without	—	—	—	Without	Without	Without	Without	—	Without	—	—	—	—	—	—	—
S21	Pitch at bar-tacking section	mm	0.30	0.30	0.30	-	0.30	0.30	0.30	-	0.30	0.30	0.25	0.30	0.25	0.25	0.25
S22	1st clearance	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
S23	2nd clearance	mm	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
S31	Single/double stitching	—	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single

S32	Double stitching cross selection	—	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<
S33	Compensation of double stitching width	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S34	Number of times of basting	Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S35	Speed of basting	mm	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
S36	Rolling length of basting	mm	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
S37	Rolling pitch of basting	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
S38	Rolling width of basting	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
S39	Lengthwise compensation of needle entry of basting	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
S40	Crosswise compensation of needle entry of basting	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S41	Compensation of left side position of basting	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S42	Compensation of right side position of basting	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S44	Speed setting of basting	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
S45	Sewing together function with/without	—	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without
S46	Width of sewing together	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
S47	Pitch of sewing together	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
S51	Left parallel section tension	—	120	60	120	120	120	120	60	60	60	60	60	60	60	60	60
S52	Right parallel section tension	—	120	60	120	120	120	120	60	60	60	60	60	60	60	60	60
S53	Left parallel section tension (1st cycle of double stitching)	—	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
S54	Right parallel	—	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

	section tension (1st cycle of double stitching)																
S55	Tension at 1st bar-tacking section	—	35	60	120	35	35	35	60	60	60	60	60	60	60	60	60
S56	Tension at 1st bar-tacking section	—	35	60	35	35	35	35	60	60	60	60	60	60	60	60	60
S57	Setting of needle thread tension at the start of sewing	—	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
S58	Setting of needle thread tension of basting	—	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
S59	ACT timing adjustment at the start of 1st bar-tacking	Stitch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S60	ACT timing adjustment at the start of right over-edging	Stitch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S61	ACT timing adjustment at the start of 2nd bar-tacking	Stitch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S62	Number of stitches of tie stitching at the start of sewing	Stitch	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
S63	Sewing pitch of tie stitching at the start of sewing	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S64	Tie stitching width at the start of sewing	mm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
S65	Lengthwise compensation of tie stitching at the start of sewing	mm	0	1.5	0	1.5	0	0	0	1.5	0	0	1.5	0	0	0	0
S66	Crosswise compensation of tie stitching at the start of sewing	mm	0	0	0	0	0	0.7	0	0	0	0.7	0	0	0	0	0.7
S67	Tie stitching width at the end of sewing	mm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
S68	Number of stitches	Stitch	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

	of tie stitching at the end of sewing															
S69	Lengthwise compensation of tie stitching at the end of sewing	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S70	Crosswise compensation of tie stitching at the end of sewing	mm	0.9	0.9	0.9	0.9	0	0.7	0.9	0.9	0	0.7	0.9	0.9	0.9	0	0.7
S81	Knife motion with/without	—	With	With	With	With	With	With	With	With	With	With	With	With	With	With	With
S83	Knife motion at 1st cycle of double stitching, with/without	—	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without
S84	Maximum speed limitation	mm	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
S86	Pitch of going	mm															
S87	Width of going	mm															
S88	Pitch of returning	mm															
S89	Width of returning	mm															

No	Item	Unit															
S01	Sewing shape	mm	 16	 17	 18	 19	 20	 21	 22	 23	 24	 25	 26	 27	 28	 29	 30
S02	Cloth Cut Length	mm	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	13	19.1	19.1	19.1
S03	Knife Groove Right Width	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	—	—	0.10	0.10
S04	Knife Groove Left Width	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	—	0.10	—	0.10
S05	Left Over-edging Width	mm	1.40	1.40	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	—	—	—	—
S06	Ratio of Right and Left Shapes	%	100	100	100	100	100	100	100	100	100	100	100	—	—	—	—
S07	Pitch at parallel section	mm	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	—	—	—	—
S08	2nd bar-tacking length	mm	—	—	—	—	—	1.5	3.0	—	—	—	—	—	—	—	—
S09	1st bar-tacking length	mm	—	—	1.0	1.0	1.0	1.0	1.0	—	—	—	—	—	—	—	—
S10	Compensation of bar-tacking width, right	mm	—	—	0	0	0	0	0	—	—	—	—	—	—	—	—

S11	Compensation of bar-tacking width, left	mm	—	—	0	0	0	0	0	—	—	—	—	—	—	—	—
S12	Flow bar-tacking offset, left	mm	—	—	—	—	—	—	0.85	—	—	—	—	—	—	—	—
S13	Flow bar-tacking offset, right	mm	—	—	—	—	—	—	0.85	—	—	—	—	—	—	—	—
S14	Eyelet shape length	mm	2.0	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—
S15	Number of stitches of eyelet shape	Stitch	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—
S16	Eyelet width	mm	1.0	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—
S17	Eyelet width	mm	3.0	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—
S18	Eyelet length	mm	2.0	2.0	2.0	2.0	2.0	—	—	2.0	2.0	2.0	2.0	—	—	—	—
S19	Number of stitches of radial shape	Stitch	—	—	3	—	—	—	—	3	3	3	—	—	—	—	—
S20	Reinforcement of radial shape, with/without	—	—	—	Without	—	—	—	—	Without	Without	Without	—	—	—	—	—
S21	Pitch at bar-tacking section	mm	0.25	0.30	0.30	0.25	0.30	0.30	0.30	0.25	0.30	0.25	0.25	—	—	—	—
S22	1st clearance	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	—	2.0	2.0	2.0
S23	2nd clearance	mm	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	—	2.0	2.0	2.0
S31	Single/double stitching	—	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	—	—	—	Single
S32	Double stitching cross selection	—	<	<	<	<	<	<	<	<	<	<	<	—	—	—	<
S33	Compensation of double stitching width	mm	0	0	0	0	0	0	0	0	0	0	0	—	—	—	—
S34	Number of times of basting	Time	0	0	0	0	0	0	0	0	0	0	0	3	2	2	—
S35	Speed of basting	mm	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	—
S36	Rolling length of basting	mm	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	—
S37	Rolling pitch of basting	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	—
S38	Rolling width of basting	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	—
S39	Lengthwise compensation of needle entry of basting	mm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	—
S40	Crosswise compensation of needle entry of	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—

	basting															
S41	Compensation of left side position of basting	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—
S42	Compensation of right side position of basting	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—
S44	Speed setting of basting	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	—
S45	Sewing together function with/without	—	Without	Without	Without	Without	Without	Without	Without	Without	Without	Without t	—	—	—	—	—
S46	Width of sewing together	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	—	—	—	—	—
S47	Pitch of sewing together	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	—	—	—	—	—
S51	Left parallel section tension	—	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
S52	Right parallel section tension	—	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
S53	Left parallel section tension (1st cycle of double stitching)	—	60	60	60	60	60	60	60	60	60	60	60	—	—	—	—
S54	Right parallel section tension (1st cycle of double stitching)	—	60	60	60	60	60	60	60	60	60	60	60	—	—	—	—
S55	Tension at 1st bar-tacking section	—	60	60	60	60	60	60	60	60	60	60	60	—	—	—	—
S56	Tension at 1st bar-tacking section	—	60	60	60	60	60	60	60	60	60	60	60	—	—	—	—
S57	Setting of needle thread tension at the start of sewing	—	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
S58	Setting of needle thread tension of basting	—	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
S59	ACT timing adjustment at the start of 1st bar-tacking	Stitch	0	0	0	0	0	0	0	0	0	0	0	—	—	—	—
S60	ACT timing adjustment at the start of right	Stitch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	over-edging																
S61	ACT timing adjustment at the start of 2nd bar-tacking	Stitch	0	0	0	0	0	0	0	0	0	0	0	—	—	—	—
S62	Number of stitches of tie stitching at the start of sewing	Stitch	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
S63	Sewing pitch of tie stitching at the start of sewing	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S64	Tie stitching width at the start of sewing	mm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
S65	Lengthwise compensation of tie stitching at the start of sewing	mm	1.5	1.5	1.5	1.5	1.5	0	0	1.5	1.5	1.5	1.5	0	0	0	0
S66	Crosswise compensation of tie stitching at the start of sewing	mm	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0	0
S67	Tie stitching width at the end of sewing	mm	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
S68	Number of stitches of tie stitching at the end of sewing	Stitch	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
S69	Lengthwise compensation of tie stitching at the end of sewing	mm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S70	Crosswise compensation of tie stitching at the end of sewing	mm	0.9	0.9	0.9	0.9	0.9	0	0.7	0.9	0.9	0.9	0.9	0	0	0	0
S81	Knife motion with/without	—	With	With	With	With	With	With	With	With	With	With	With	—	With	With	With
S83	Knife motion at 1st cycle of double stitching, with/without	—	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	13	19.1	19.1	19.1
S84	Maximum speed limitation	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	—	—	0.10	0.10
S86	Pitch of going	mm	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	—	0.10	—	0.10
S87	Width of going	mm	1.40	1.40	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	—	—	—	—

S88	Pitch of returning	mm	100	100	100	100	100	100	100	100	100	100	100	—	—	—	—
S89	Width of returning	mm	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	—	—	—	—

——The End——