Computer-controlled,

Lockstitch Buttonholing Machine

INSTRUCTION MANUAL

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1 OPERATION OF THE SEWING MACHINE

【Operation details】:

Turn On the power switch. Data input screen is displayed after turning on the power switch.

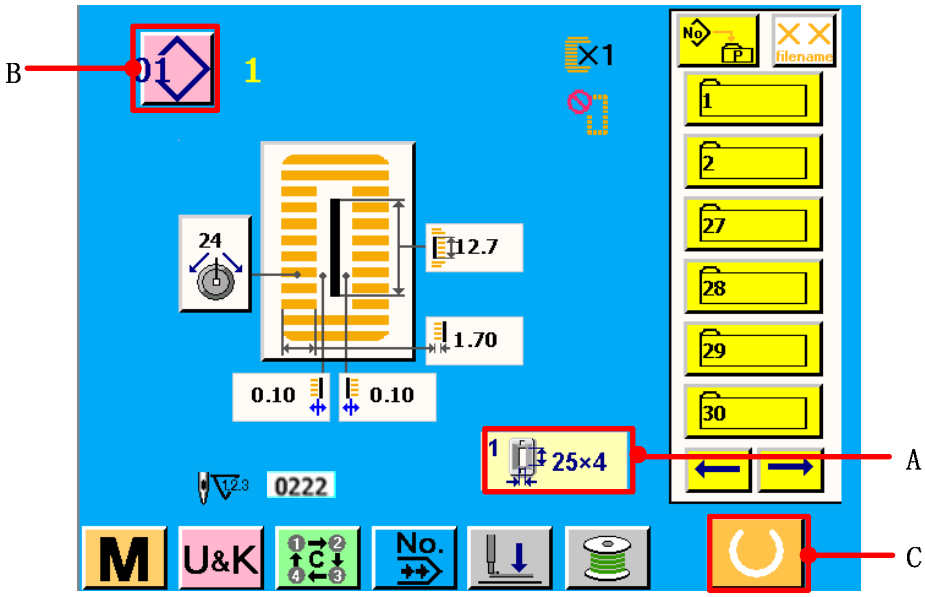

figure 1.1

Select the pattern No. you desire to sew.

Press the button **(B)，the pattern No. change screen is displayed。Please refer to *4.1.1 PERFORMING PATTERN NO. SELECTION.***

Set the sewing machine to sewing possible state.

Press READY button **(C),make preparation for sewing while this screen is displayed. When the sewing is in a possible state, the black-light of LCD display changes to green color.**

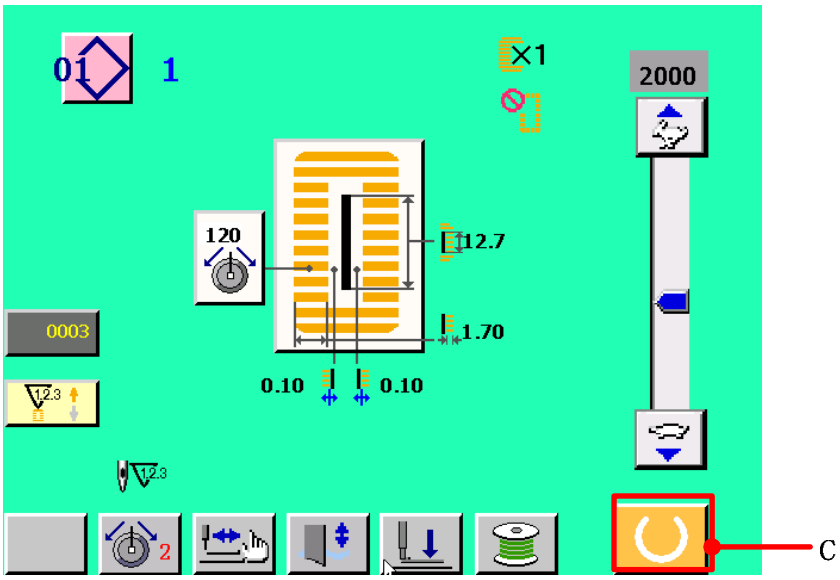

figure 1.2

Start sewing.

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

Check that the presser type **(A) which has been set is the same as that of the presser actually mounted, after turning on the power switch. For checking and setting procedures, refer to *6. SET THE PRESSER TYPE.***

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2 LCD DISPLAY SECTION AT THE TIME OF INDEPENDENT SEWING

After Logo screen is displayed, the system enters the main menu screen automatically.

2.1 Data input screen (Main menu screen)

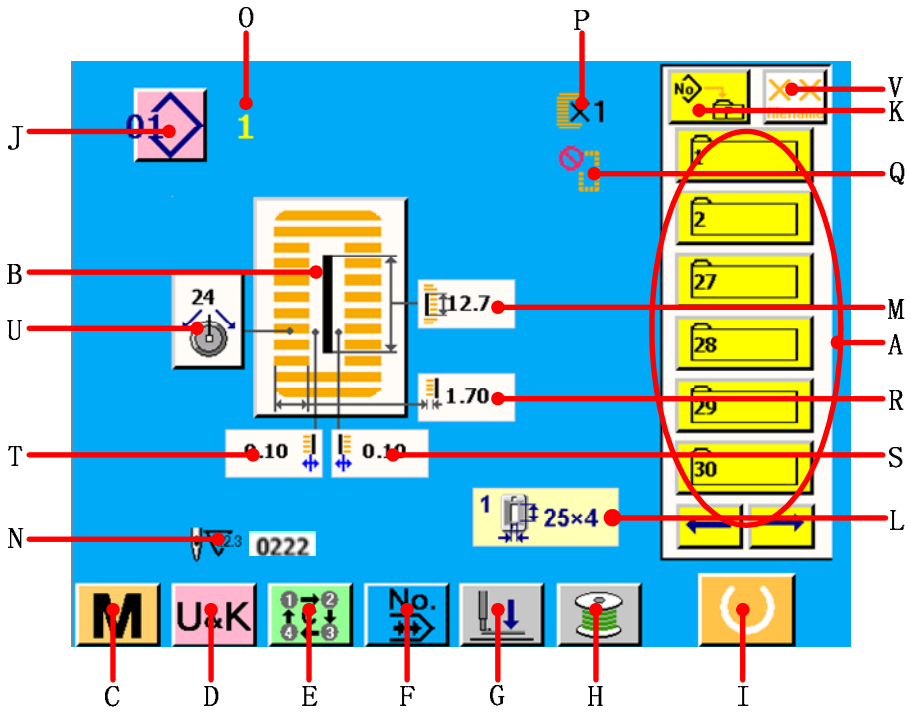


figure 2.1

No.	Button and display	Description
A	Stitching register file display	Six stitching files are displayed each page. Press the back / forward jogging direction button to look over all stitching files.
B	SEWING SHAPE SELECTION button	Sewing shape which is set to the resister file pattern data being selected at present is displayed on this button and when the button is pressed, the sewing shape change screen is displayed.
C	SYSTEM PARAMETER button	The button is pressed , the system parameter setting screen is displayed.
D	USER PARAMETER button	The button is pressed, the user parameter setting screen is displayed.
E	CYCLE STITCHING button	The button is pressed, the cycle stitching screen is displayed.

F	**CONTINUOUS STITCHING button**	**The button is pressed, the continuous stitching screen is displayed.**
G	**PRESSER DOWN button**	**Presser can be lowered and the presser down screen is displayed. To raise the presser, press the presser up button which is displayed in the presser down screen.**
H	**BOBBIN WINDER button**	**Bobbin thread can be wound.**
I	**READY button**	**Press this button, data input screen and sewing screen can be changed.**
J	**PATTERN NEW REGISTER button;** **Pattern No. new register screen display.**	**The button is pressed, the sewing shape selection screen and sewing data user setting screen are displayed. Pattern No. new in stitching register file is displayed.**
K	**FILE MANAGEMENT button**	**The button is pressed, the file management to stitching register files screen is displayed and the files can be copied, renamed, deleted.**
L	**Presser type display**	**The presser type is displayed which is being selected.**
M	**CLOTH CUTTING LENGTH display**	**Cloth cutting length which is set to the pattern data being selected. *Refer to 4.2.***
N	**Pattern file number of total stitches display**	**Pattern number of total stitches which is set to the pattern file being selected.**
O	**Stitching register file display**	**Stitching register file is displayed which is being selected.**
P	**SINGLE/DOUBLE STITCHING display**	**Single/double stitching which is set to the pattern data being selected. *Refer to 4.5.***
Q	**NUMBER OF TIIMES OF BASTING display**	**Number of times of basting which is set to the pattern data being selected. *Refer to 4.5.***
R	**OVEREDGING WIDTH, LEFT display**	**Overedging width, left which is set to the pattern data being selected. *Refer to 4.2.***
S	**KNIFE GROOVE WIDTH, RIGHT display**	**Knife groove width, right which is set to the pattern data being selected. *Refer to 4.2.***
T	**KNIFE GROOVE WIDTH, LEFT display**	**Knife groove width, left which is set to the pattern data being selected. *Refer to 4.2.***
U	**LEFT PARALLEL SECTION display** **NEEDLE THREAD TENSION button**	**Left parallel section tension which is set to the pattern data being selected. *Refer to 11.*** **The button is pressed, the needle thread tension setting screen are displayed. *Refer to 13.***
V	**FILE SORTATION button;** **FILE SORTATION mode display**	**The button is pressed, the file can be sorted by name or time.** **File sortation mode which is being selected is displayed**

2.2 Default screen file

When on main menu screen, if there is no file or selecting file, the system will display the waiting screen on pattern display area as shown on the below screen.

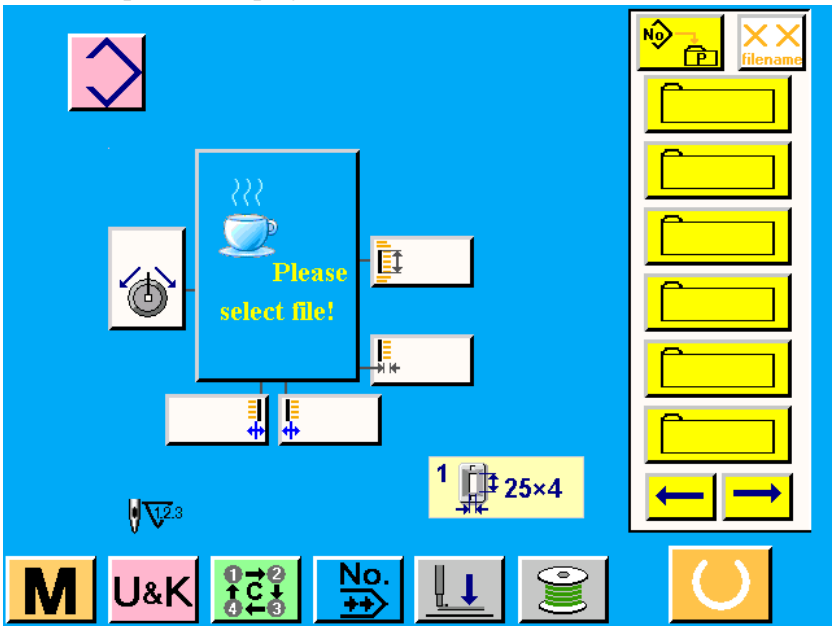


figure 2.2

2.3 Sewing screen

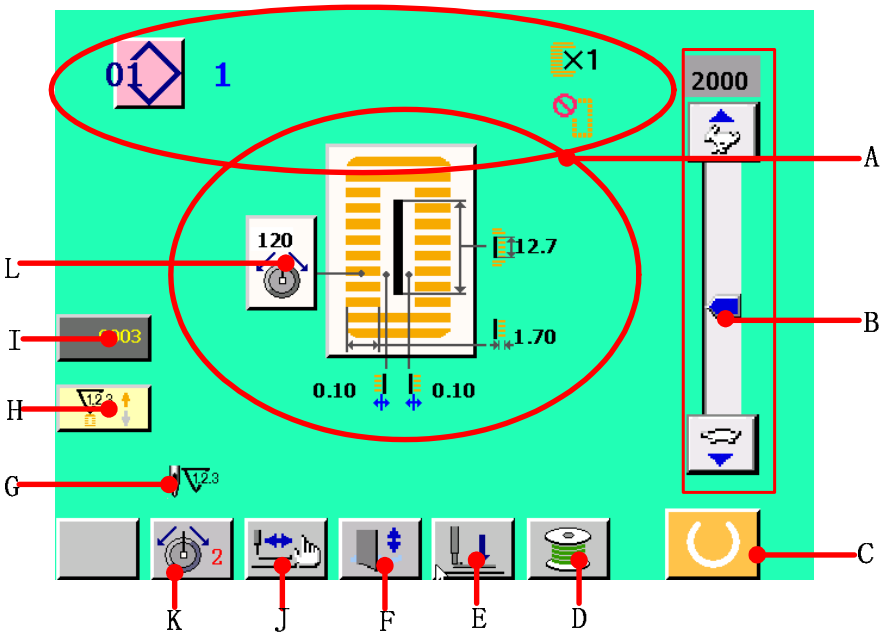


figure 2.3

No.	Button and display	Description
A	SEWING file display	Sewing file's name, shape and data are displayed.
B	SPEED variable resistor	Speed variable resistor is displayed. Press and button, the number of rotation of sewing machine can be changed.
C	READY button	Press this button, data input screen and sewing screen can be changed.
D	BOBBIN WINDER button	Bobbin thread can be wound.
E	PRESSER DOWN button	Presser can be lowered and the presser down screen is displayed. To raise the presser, press the presser up button which is displayed in the presser down screen.
F	KNIFE CANCEL button	Every time this button is pressed, dropping of knife and non-dropping of knife can be changed over alternately.
G	NUMBER OF TOTAL STITCHES display	Number of total stitches of the pattern file during sewing is displayed.
H	UP COUNTER and DOWN COUNTER CHANGE OVER button Up or down counter display	Press this button, the up counter and down counter can be changed; Display of counter which is being selected.
I	COUNTER VALUE CHANGE button Total counter values display	Exiting counter value is displayed on this button. When the button is pressed, the counter value change screen is displayed. *Refer to 8.*
J	STEP STITCHING button	When this button is pressed, the screen of step stitching to check needle entry point and to perform re-sewing is displayed. *Refer to 14.*
K	NEEDLE THREAD TENSION button NEEDLE THREAD TENSION mode display	When this button is pressed, the needle thread tension mode 1 and 2can be changed. The needle thread tension mode 1 or 2 which is being selected is displayed.
L	LEFT PARALLEL SECTION display NEEDLE THREAD TENSION button	Left parallel section tension which is set to the pattern data being selected. *Refer to 11.* The button is pressed, the needle thread tension setting screen are displayed. *Refer to 13.*

3 READING, OPERATING AND MANAGING FILE

3.1 Reading and operating file

【Operation details】:

Select the file in file menu display area A.

If there is not required file in current display area, then use to switch. For example, when select ting No.1 file, you can only press No.1 buttor , the system will open the file automatically.

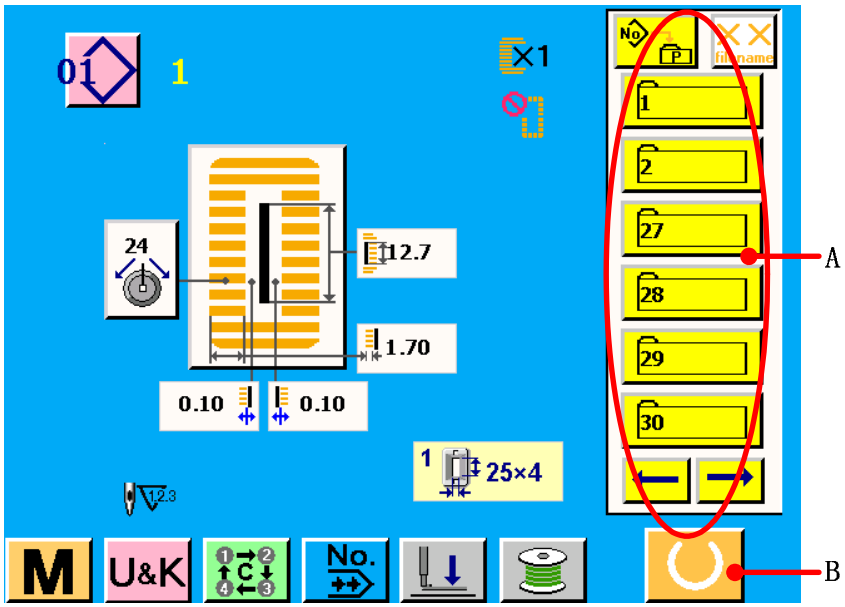


figure 3.1

Press REAY button B, the system enters sewing screen. Set the sewing product to the presser portion, operate the pedal to start the sewing machine, and sewing starts.

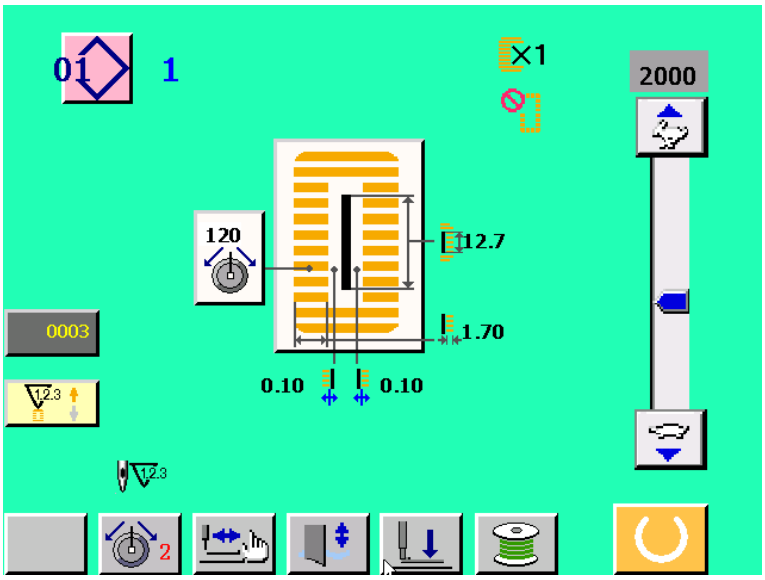


figure 3.2

3.2 Managing file

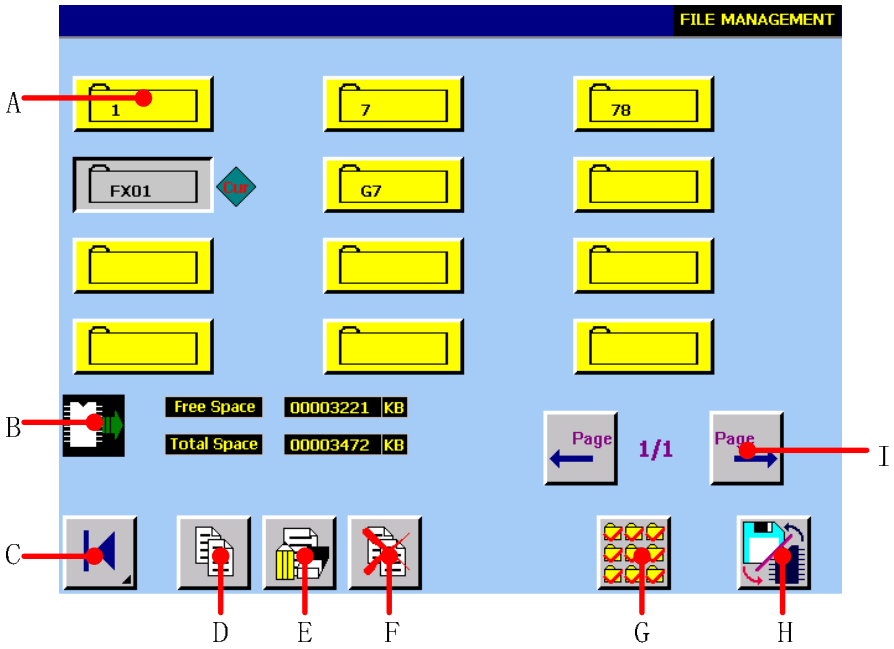
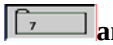


Figure 3.3

A File button。

Press any file, there will be  **and** **sign as figure3.3 shown.**

B Current disk is displayed.(CF card **/eternal disk** **).**

C Return button. Return to the main menu.

D Copy multi-file at the same time.

E Copy or rename the single file.

F Delete file.

G Select all the files in current disk.

H Switch of internal disk (CF card)/ external disk (USB)

I Page up/down button.

3.2.1 Copying multi-file

This function can copy multi-file of local PC.

【Operation details】:

Select file you want to copy as figure 3.4 shown.

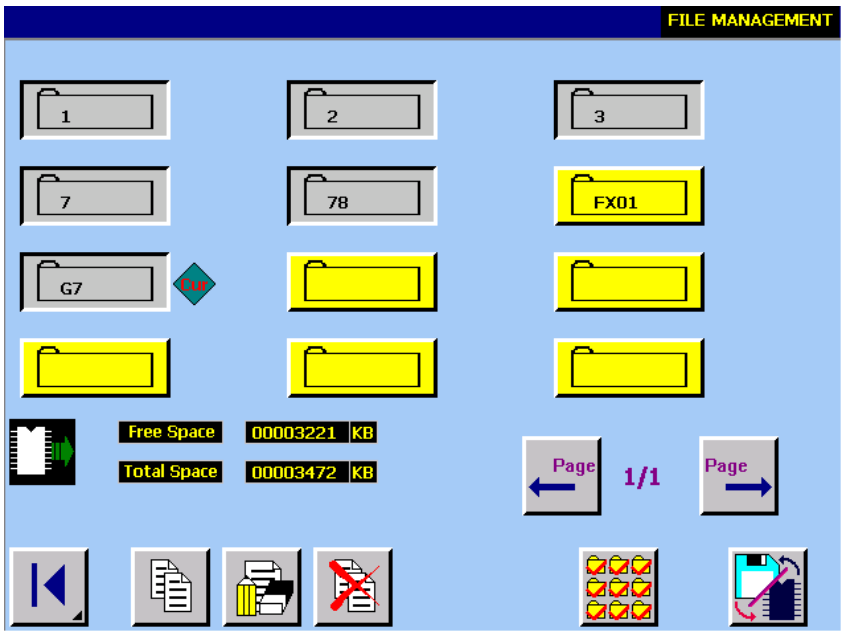


figure 3.4

The No.1, No2, No3, N o7and NoG7 file in screen are selected. (file with).

Press button to enter the <multi-file copy> screen.

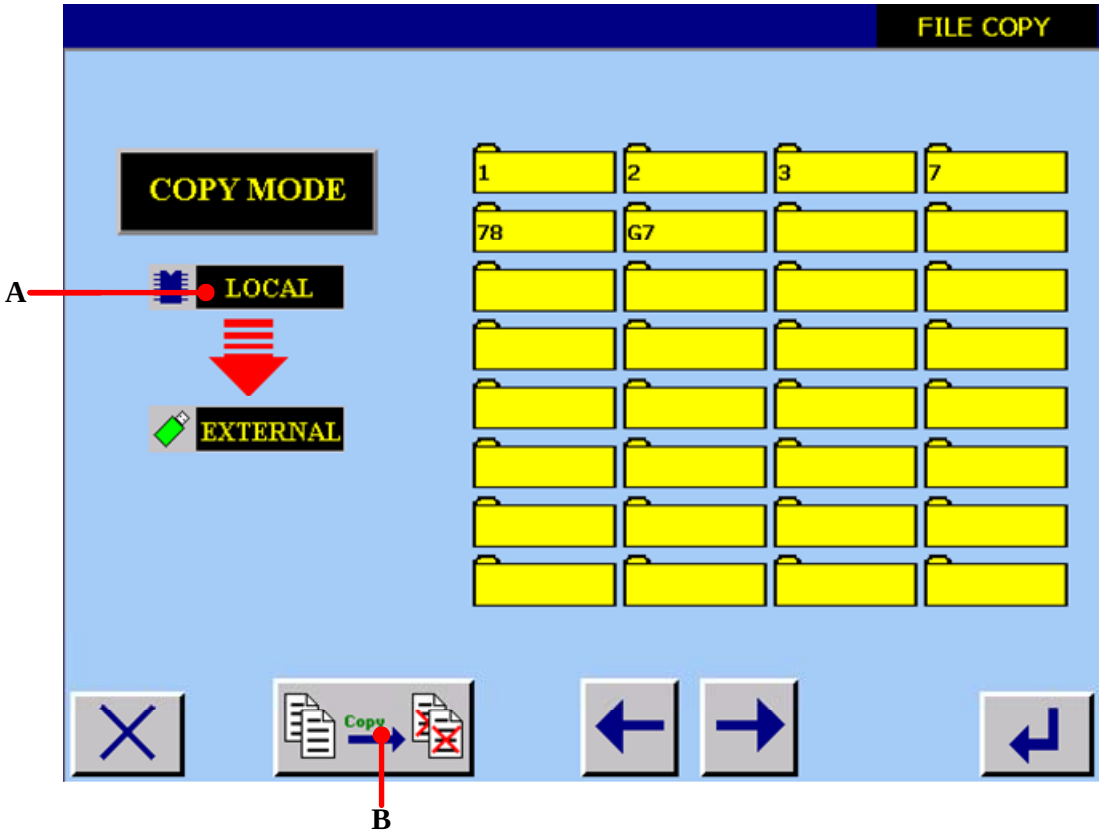


figure 3.5

A Copy mode

If the selected file of the above screen are stored in the internal memory of local PC (sign is the internal memory), the copy mode is suggested as figure3.6 shown in <multi-data copy> screen.

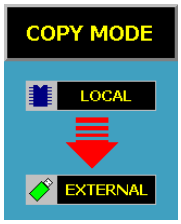


figure 3.6

If the selected file of the above screen are stored in the external memory of local PC (sign is the external memory), the copy mode is suggested as figure3.7 shown in <multi-data copy> screen.

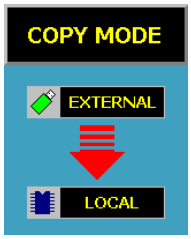


figure 3.7

B Select to cover the homonymic data. That is, obey the whole covering principle.
Select no to cover the homonymic data. That is, when there is homonymic file, the system will not copy; when there is not, the system will copy.

3 Setting is over, press to confirm.

3.2.2 File rename (Copying file)

【Operation details】:

1 On file management screen, one file is selected. As figure3.4 shown, the No. G7 is selected as the current file (sign is the current file). Press button , the Copying file screen is displayed.

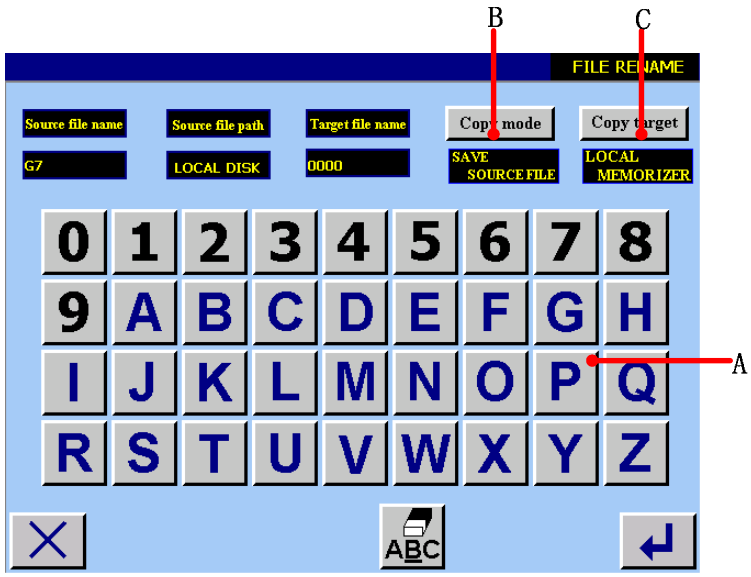


figure 3.8

A Use numerical and alphabetic button to input target data name. That is, input the name of copy file.

B Use to select whether to store the source file or not. If you select storing resource file, the copy function is realized; if you select deleting source file, the rename

function is realized.

C Use Copy target **to select the target disk of copy file. If select local PC memory, system stores the copied file in system internal memory; if select external memory, the system stores the coped file in USB.**

2 Setting is over, press ↵ **to confirm.**

If there is successful operation, the <successful operation> screen will display as figure 3.9 shown.

figure 3.9

If the target file and register file have same name, the screen will display as figure 3.10 shown.

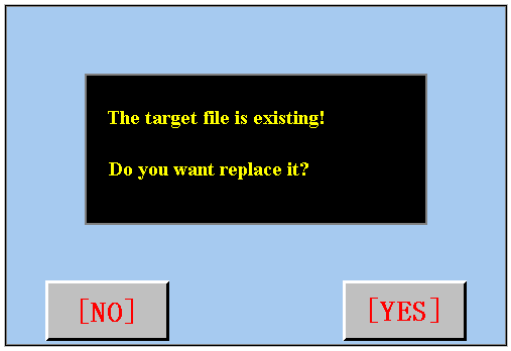


figure 3.10

Press [YES] **button to replace; Press** [NO] **button to return to <file management> screen.**

If there is unsuccessful operation, the <unsuccessful operation> screen will display as figure 3.11 shown.

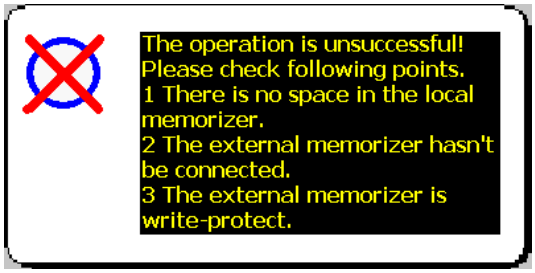


figure 3.11

3.2.3 Deleting file

【Operation details】:

Press the file button s which need to be deleted, it will display as figure 3.12 shown.

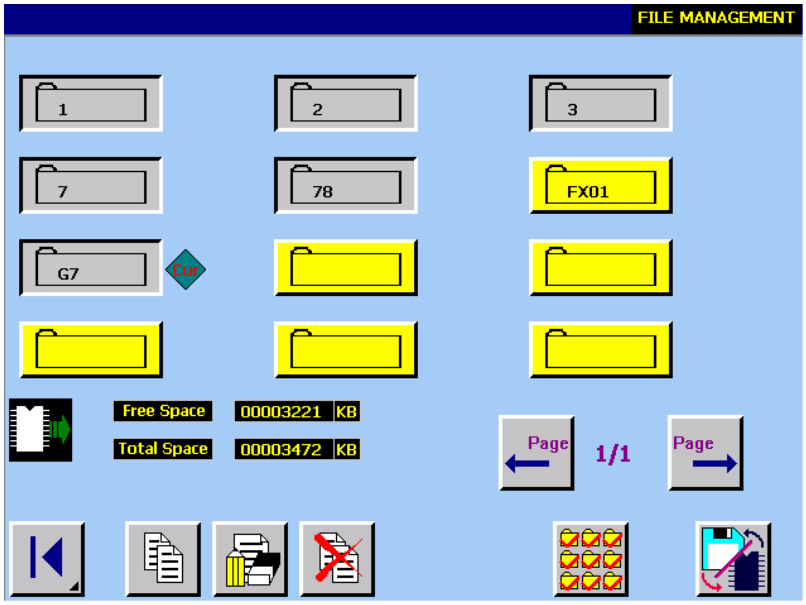
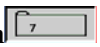


figure 3.12

The No.1, No2, No3, N o7and NoG7 file in screen are selected. (file with  **sign)**

press **button to enter <file deletion> screen.**

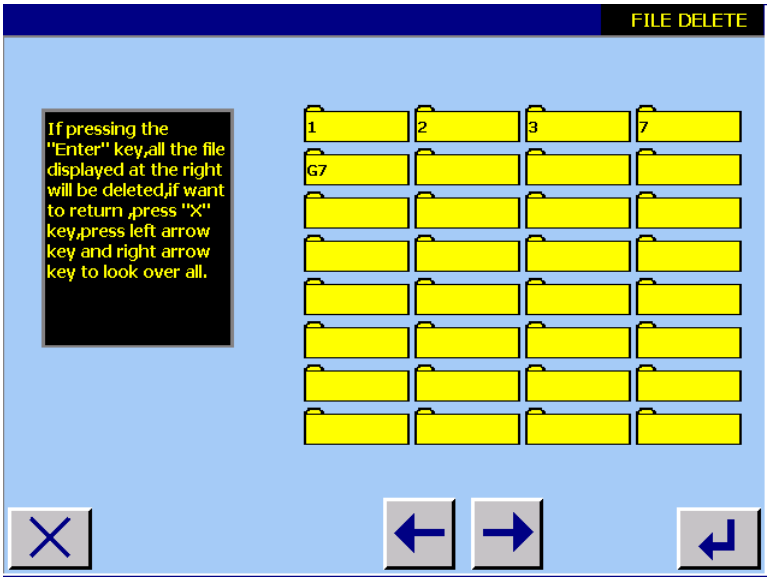


figure 3.13

Press **to set the deletion.**

4 BUILDNG NEW REGISTER FILE

【Operation details】:

1 Changing sewing data:

First, set sewing shape parameter, start sewing parameter, sword parameter and basting parameter according to the sewing shape which you need.

2 File named;

4.1 Changing sewing data

4.1.1 Choosing pattern shape

Press main menu **(J button , as figure 3.1 shown) enters <sewing shape > screen, it is displayed as figure 4.1 shown.**

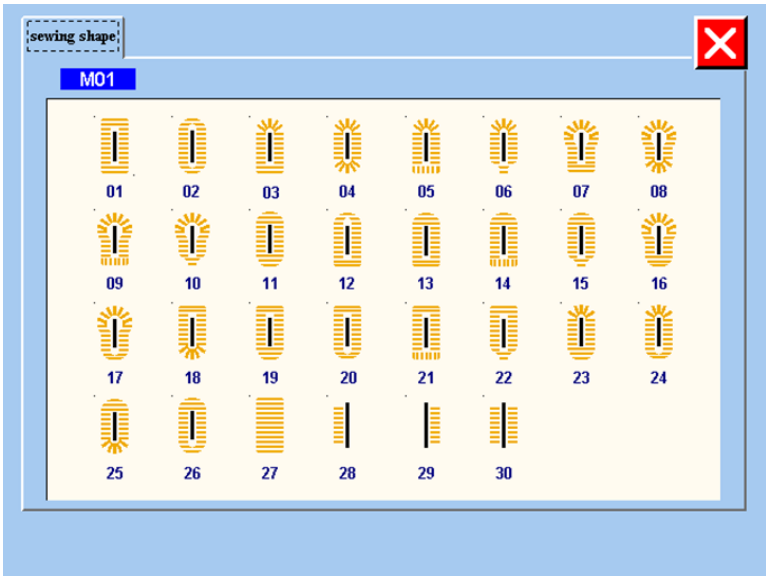


figure 4.1

You can select No.01-No.30, if you want select No.1 file, press No.1 shape, it is displayed as figure 4.2 shown.

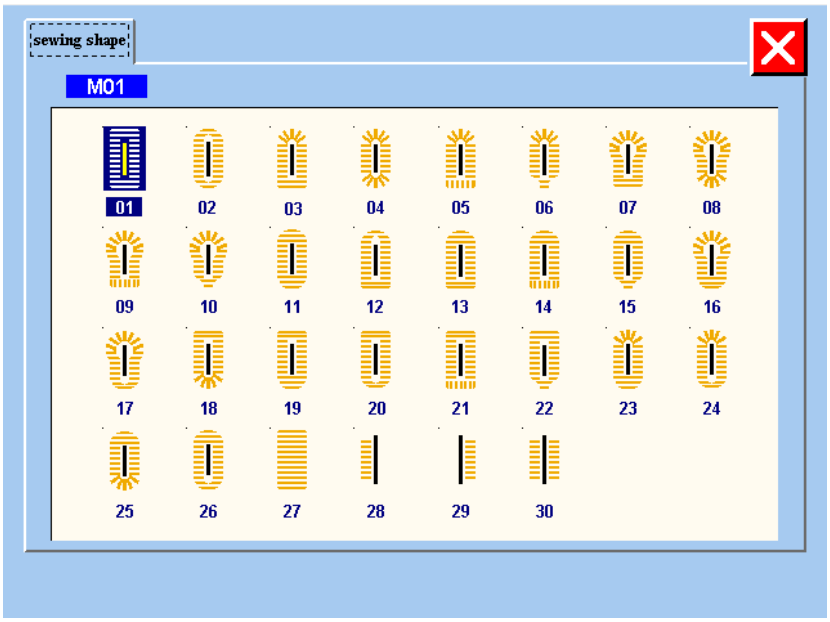


figure 4.2

Then the system enters <shape parameter> screen. it is displayed as figure 4.3 shown.

4.1.2 Setting Shape parameter

The system enters <shape parameter> screen when you select shape in <sewing shape> screen or you press Shape parameter **button in <sewing start/end>、<sword >、< basting>screen.**

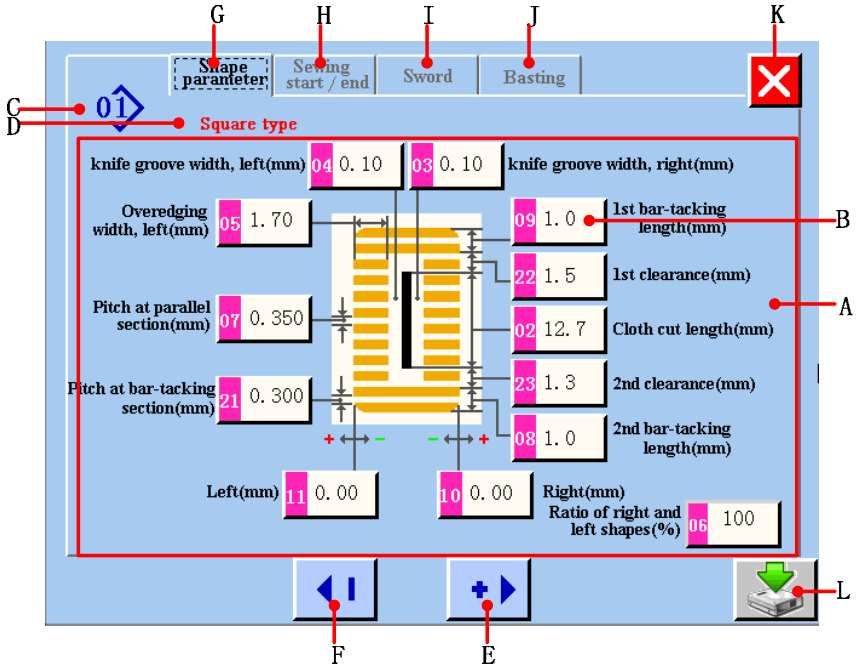


figure 4.3

A Sewing shape parameter display area.

B Sewing shape parameter display and changing button. When you press this button , it will display yellow color 1.0, it shows the parameter which you select want to change. Then you can press E and F button to change this parameter.

C Sewing shape number.

D Sewing shape name.

E Change sewing shape parameter. You can increase the value according to editor unit.

F Change sewing shape parameter. You can decrease the value according to editor unit.

G Set shape parameter button . Press this button , it can enter <shape parameter> screen (refer to figure*4.3*)

H Set sewing start/end parameter button . Press this button , it can enter <sewing start/end parameter> screen (refer to figure*4.4*)

I Set sword parameter button . Press this button , it can enter < sword parameter>screen (refer to figure*4.5*)

J Set basting parameter button . Press this button , it can enter < basting parameter>screen (refer to figure*4.6*)

K Give up parameter changing value in this screen and return to main menu.

L Save parameter changing and build new register file. (refer to figure*4.12*)

4.1.3Setting sewing start/end parameter

The system enters < sewing start/end parameter> screen when you press Sewing start / end button in <shape parameter>、<sword >、< basting>screen.

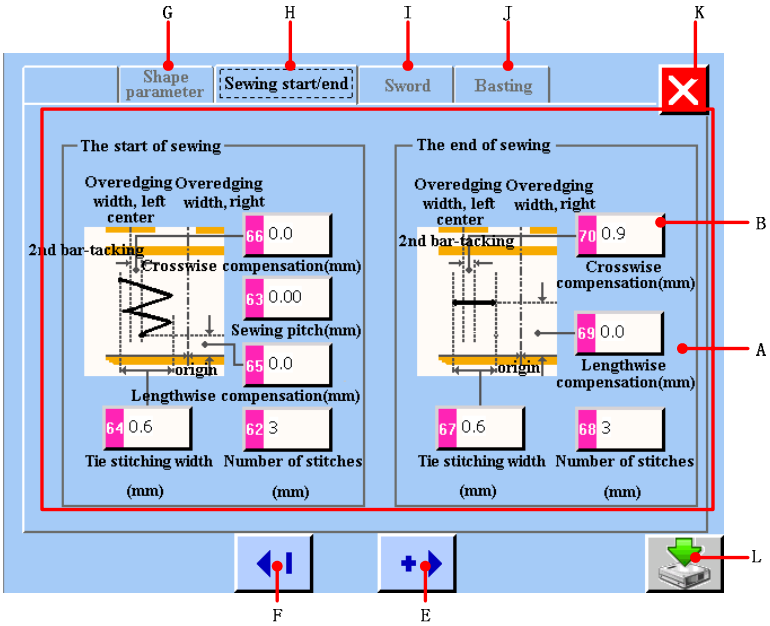


figure 4.4

A Sewing start/end parameter display area.

B Sewing start/end parameter display and changing button. When you press this button , it will display yellow color 99 1.0 , it shows the parameter which you select want to change. Then you can press E and F button to change this parameter.

E Change sewing start/end parameter. You can increase the value according to editor unit.

F Change sewing start/end parameter. You can decrease the value according to editor unit.

G Set shape parameter button . Press this button , it can enter <shape parameter>screen(refer to figure*4.3*)

H Set sewing start/end parameter button . Press this button , it can enter <sewing start/end parameter>screen(refer to figure*4.4*)

I Set sword parameter button . Press this button , it can enter < sword parameter>screen(refer to figure*4.5*)

J Set basting parameter button . Press this button , it can enter < basting parameter>screen(refer to figure*4.6*)

K Give up parameter changing value in this screen and return to main menu.

L Save parameter changing and build new register file. (refer to figure*4.12*)

4.1.4Setting sword parameter

The system enters < sword parameter> screen when you press Sword button in <shape parameter>、< sewing start/end parameter >、< basting>screen.

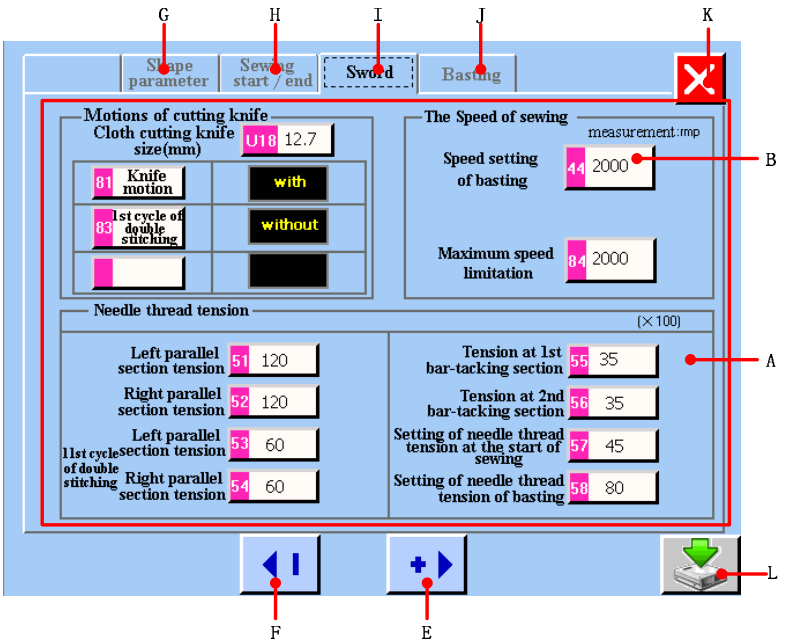


figure 4.5

A Sword parameter display area.

B Sword parameter display and changing button. When you press this button , it will display yellow color 44 20 **, it shows the parameter which you select want to change. Then you can press E and F button to change this parameter.**

E Change sword parameter. You can increase the value according to editor unit.

F Change sword parameter. You can decrease the value according to editor unit.

G Set shape parameter button . Press this button , it can enter <shape parameter>screen(refer to figure*4.3*)

H Set sewing start/end parameter button . Press this button , it can enter <sewing start/end parameter>screen(refer to figure*4.4*)

I Set sword parameter button . Press this button , it can enter < sword parameter>screen(refer to figure*4.5*)

J Set basting parameter button . Press this button , it can enter < basting parameter>screen(refer to figure*4.6*)

K Give up parameter changing value in this screen and return to main menu.

L Save parameter changing and build new register file. (refer to figure*4.12*)

4.1.5 Setting basting parameter

The system enters < basting parameter> screen when you press Basting **button in <shape parameter>、< sewing start/end parameter >、< sword>screen.**

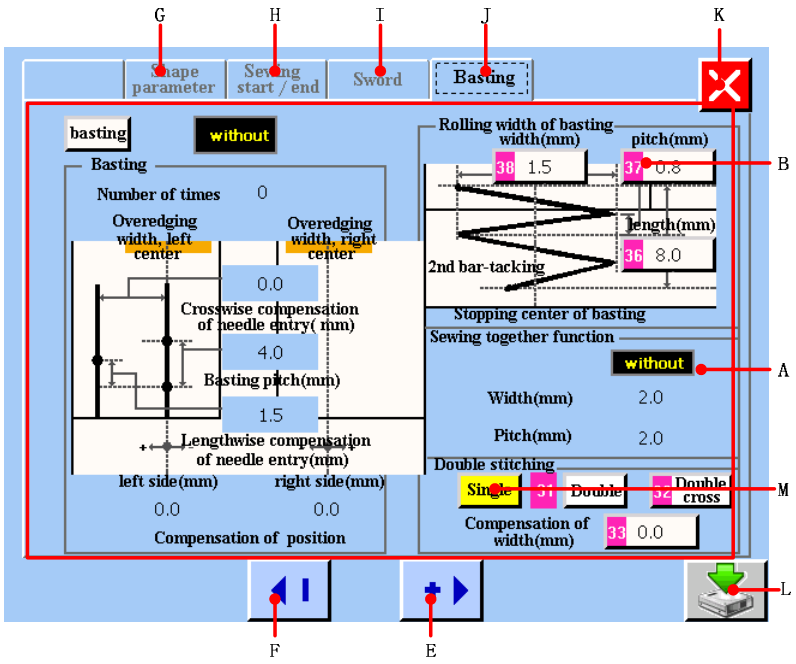
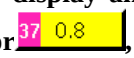


figure 4.6

A Basting parameter display area.

B Basting parameter display and changing button. When you press this button , it will display yellow color 

, it shows the parameter which you select want to change. Then you can press E and F button to change this parameter.

E Change basting parameter. You can increase the value according to editor unit.

F Change basting parameter. You can decrease the value according to editor unit.

G Set shape parameter button . Press this button , it can enter <shape parameter>screen(refer to figure*4.3*)

H Set sewing start/end parameter button . Press this button , it can enter <sewing start/end parameter>screen(refer to figure*4.4*)

I Set sword parameter button . Press this button , it can enter < sword parameter>screen(refer to figure*4.5*)

J Set basting parameter button . Press this button , it can enter < basting parameter>screen(refer to figure*4.6*)

K Give up parameter changing value in this screen and return to main menu.

L Save parameter changing and build new register file. (refer to figure*4.12*)

M Double stitching display area. Single or double stitching button . When the button turns into color, such as

, it shows you select single stitching. It will display

in main menu; if you select double stitching or double cross stitching, It will display

in main menu.

Basting

When you press

button , the basting will switch “with” to “without”. When the basting is shown as

, the <basting>screen is as figure 4.6 shown. When the basting is shown as

, the <basting>screen is as figure 4.7 shown.

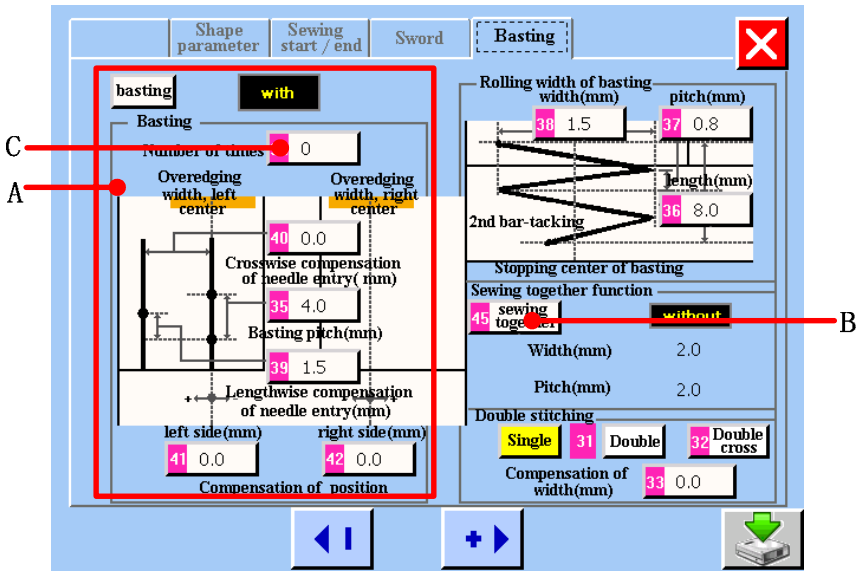


figure 4.7

A Basting parameter display area. When the basting is shown as without, the setting of basting parameter is effect.

B Sewing together button . When the basting is shown as with, the sewing together button is effect, See figure4.7. When the basting is shown as without, the sewing together button is no effect. See figure4.8.

C Number of times of basting button . When the number of times of basting is zero, it will display in main menu; When the number of times of basting is one to eight, it will display （1～8） in main menu.

Sewing together

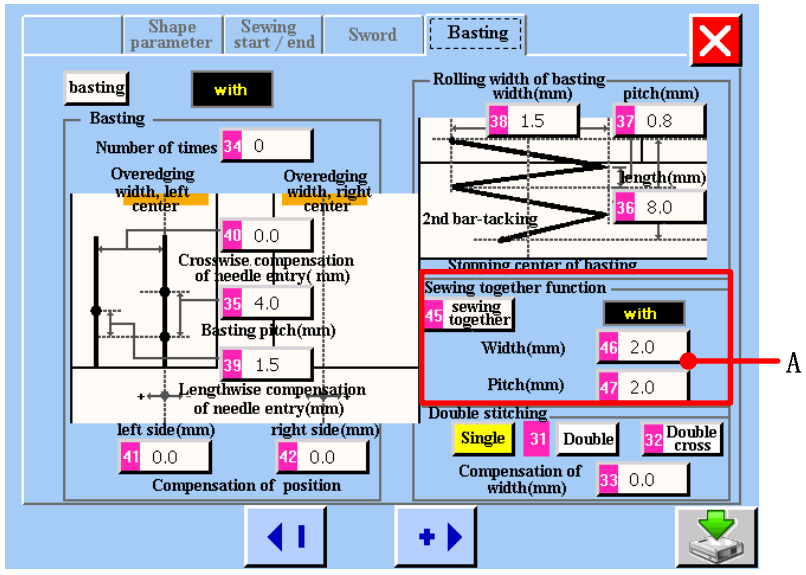


figure 4.8

A Sewing together display area. When the sewing together is shown as with, the setting of sewing together parameter is effect.

4.2 The method of changing sewing data

It can change sewing data in <shape parameter>、< sewing start/end parameter >、< sword> and<basting> screen.

1 Changing the numeral of data item

Icon such as 02 12.7 is put on the data item to change the numeral and the set value can be changed with button which is displayed in the change screen.

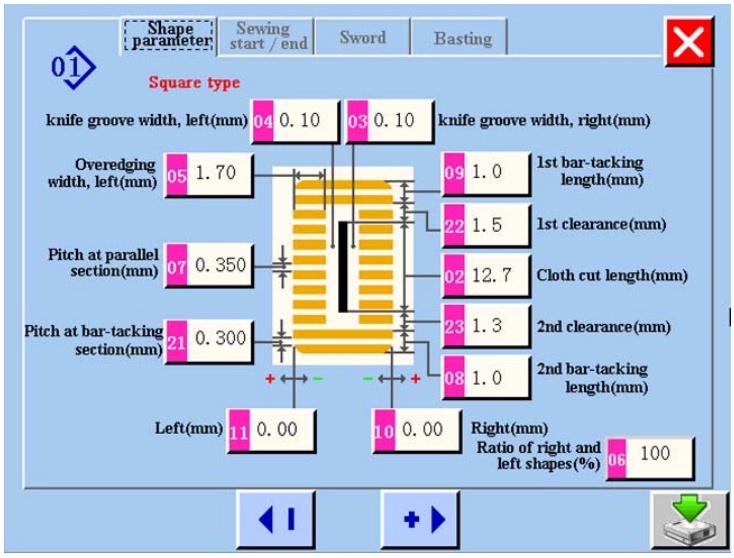


figure 4.9

2 Changing the characters pictograph of data item

Icon such as 32 Double cross is put on the data item to select the characters pictograph and the characters pictograph which is displayed in the change screen can be selected.

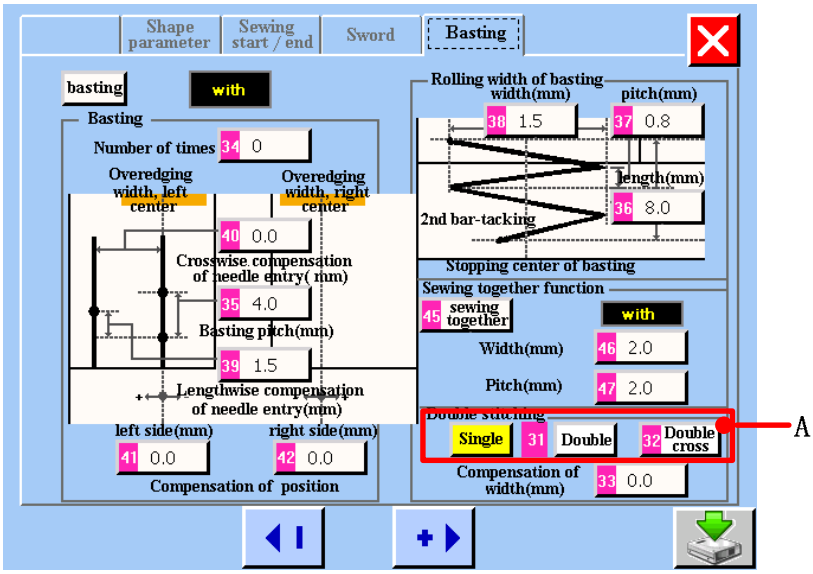


figure 4.10

A: Changing the characters pictograph of data item

③ Display the data with or without

Icon such as basting with is put on the data item to select the data with or without which is displayed in the change screen can be selected.

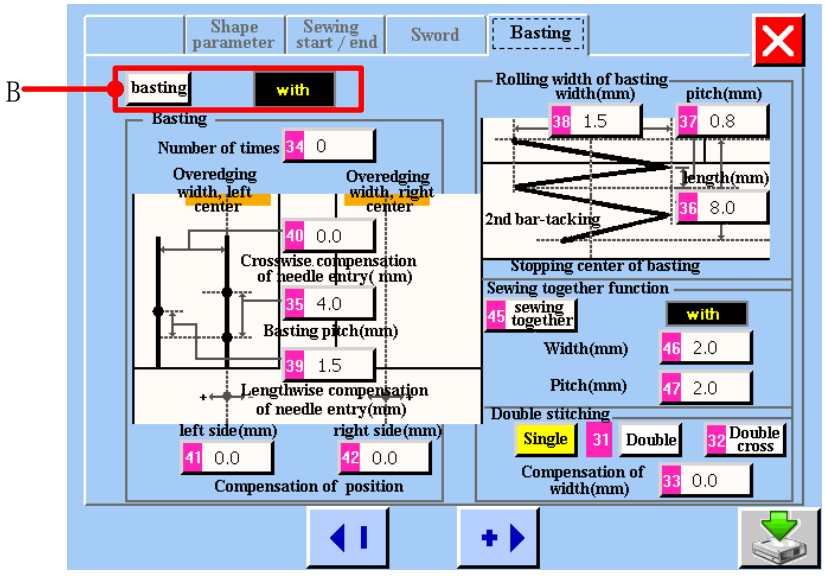


figure 4.11

B: Display the data with or without

4.3 Sewing data list

NO.	Item	Setting range	Edit unit	Remarks
S01	**Sewing shape** This item selects the shape from among the sewing shapes of 30 different kinds which the sewing machine has. **1** ～ **30**	**1 to 30**	**1**	---
S02	**Cloth cut length** This item sets the length of cloth that is cut by cloth cutting knife. However, in case of bar-tack shape (Nos.27, 28, 29and30of S01),sewing length is set. By marking effective U19 Functive of plural motions of cloth cutting knife of memory switch data,make the plural motions of knife size set in the item U18 Cloth cutting knife size, and the sewing product is cut.	**3.0 to 120.0**	**0.1mm**	---
S03	**Knife groove width, right** This item sets the clearance between cloth cutting knife and right parallel section	**-2.00 to 2.00**	**0.05mm**	---
S04	**Knife groove width, left** This item sets the clearance between cloth cutting knife and left parallel section.	**-2.00 to 2.00**	**0.05mm**	---
S05	**Overedging width, left** This item sets the overedging width of left parallel section.	**0.10 to 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 to 150**	**1%**	---
S07	**Pitch at parallel section** This item sets sewing pitch of left and right parallel sections.	**0.200 to 2.500**	**0.025mm**	---
S08	**2nd bar-tacking length** This item sets length of bar-tacking on the front side. Square type, bottom Straight bar-tack, bottom Flow, bottom	**0.2 to 5.0**	**0.1mm**	---
S09	**1st bar-tacking length** This item sets length of bar-tacking on the rear side. Square type, top	**0.2 to 5.0**	**0.1mm**	---

S10	**Compensation of bar-tacking width, right** This item adjusts left side outer shape of **bar-tacking section in terms of overedging section.** Both 1st and 2nd bar-tacking can be compensated. Square type, top Square type, bottom Straight bar-tack, bottom		**-1.00 to 1.00**	**0.05mm**	**---**
S11	**Compensation of bar-tacking width, left** This item adjusts left side outer shape of bar-tacking in terms of overedging section.		**-1.00 to 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 to 3.00**	**0.05mm**	**---**
S13	**Flow bar-tacking offset, right** This item sets length to form bar-tacking section of flow bar-tacking shape.		**0.00 to 3.00**	**0.05mm**	**---**
S14	**Eyelet shape length** This item sets upper side length from center of eyelet of eyelet shape.		**1.0 to 10.0**	**0.1mm**	**---**
S15	**Number of stitches of eyelet shape** This item sets number of stitches in the upper 90° of eyelet shape.		**1 to 8**	**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 to 10.0**	**0.1mm**	**---**
S17	**Eyelet length** This item sets lengthwise size of the inside of eyelet shape.		**1.0 to 10.0**	**0.1mm**	**---**
S18	**Round type shape length** This item sets upper side length from the center of round type shape. Round type, top Radial, top Semilunar, top Round type, bottom Radial, bottom Semilunar, bottom		**1.0 to 5.0**	**0.1mm**	**---**
S19	**Number of stitches of radial shape** This item sets number of stitches in the upper 90° of radial shape.		**1 to 8**	**1**	**---**

S20	**Reinforcement of radial shape** This item sets with / without reinforcement stitching of radial shape. : With : Without	---	---	---
S21	**Pitch at bar-tacking section** This item sets sewing pitch of bar-tacking section. Square type, top Round type, top Semilunar, top Square type, bottom Round type, bottom Semi-lunar, bottom Straight bar-tack, bottom Flow, bottom	**0.200 to 2.500**	**0.025mm**	---
S22	**1st clearance** This item sets the clearance between 1st bar-tacking and knife groove. This item is applied to all shapes.	**0.0 to 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 to 4.0**	**0.1mm**	---
S31	**Single/double stitching** This item selects single or 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. : Overlapped stitching : Cross stitching	---	---	---
S33	**Compensation of double stitching width** This item sets amount to narrow overedging width of 1st cycle when setting double stitching. 	**0.0 to 2.0**	**0.1mm**	---
S34	**Number of times of basting** This item sets number of times of basting. : Without basting : 1 to 9 times	**0 to 9**	**1**	---

S35	**Basting pitch** This item sets pitch at the time of performing basting.	**1.0 to 5.0**	**0.1mm**	**---**
S36	**Rolling length of basting** This item sets rolling length of needle thread when performing basting	**2.0 to 20.0**	**0.1mm**	**---**
S37	**Rolling pitch of basting** This item sets rolling pitch of needle thread when performing basting.	**0.2 to 5.0**	**0.1mm**	**---**
S38	**Rolling width of basting** This item sets rolling width of needle thread when performing basting.	**0.0 to 4.0**	**0.1mm**	**---**
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 to 2.5**	**0.1mm**	**---**
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 to 1.0**	**0.1mm**	**---**
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 overedging to the right or left.	**-2.0 to 2.0**	**0.1mm**	**---**
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 overedging to the right or left.	**-2.0 to 2.0**	**0.1mm**	**---**
S44	**Speed setting of basting** This item sets speed of basting.	**400 to 4200**	**100rpm**	**---**
S45	**Sewing together function** This item selects the function when performing sewing together first. : Without sewing together : With 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 to 10.0**	**0.1mm**	**---**

S47	**Pitch of sewing together** This item sets sewing pitch when performing sewing together.	**0.2 to 5.0**	**0.1mm**	**---**
S51	**Left parallel section tension** This item sets needle thread tension at left parallel section.	**0 to 200**	**1**	**---**
S52	**Right parallel section tension** This item sets needle thread tension at right parallel section.	**0 to 200**	**1**	**---**
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 to 200**	**1**	**---**
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 to 200**	**1**	**---**
S55	**Tension at 1st bar-tacking section** This item sets needle thread tension at 1st bar-tacking section.	**0 to 200**	**1**	**---**
S56	**Tension at 2nd bar-tacking section** This item sets needle thread tension at 2nd bar-tacking section.	**0 to 200**	**1**	**---**
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 to 200**	**1**	**---**
S58	**Setting of needle thread tension of basting** This item sets needle thread tension of basting.	**0 to 200**	**1**	**---**
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 to 5**	**1stitch**	**---**
S60	**ACT timing adjustment at the start of right overedging** This item adjusts needle thread tension output start timing at right overedging section.	**-5 to 5**	**1stitch**	**---**
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 to 5**	**1stitch**	**---**

S62	**Number of stitches of tie stitching at the start of sewing** This item sets number of stitches of tie stitching at the start of sewing.	**0 to 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 to 0.70**	**0.05mm**	**---**
S64	**Tie stitching width at the start of sewing** This item sets tie stitching width at the start of sewing.	**0.0 to 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 to 5.0**	**0.1mm**	**---**
S66	**Crosswise compensation of tie stitching at the start of sewing** This item sets start position of tie stitching in crosswise direction at the start of sewing.	**0.0 to 2.0**	**0.1mm**	**---**
S67	**Tie stitching width at the end of sewing** This item sets tie stitching width at the end of sewing.	**0.1 to 1.5**	**0.1mm**	**---**
S68	**Number of stitches of tie stitching at the end of sewing** This item sets number of stitches of tie stitching at the end of sewing.	**0 to 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 to 5.0**	**0.1mm**	**---**
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 to 2.0**	**0.1mm**	**---**
S81	**Knife motion** This item sets "With/without motion" of normal cloth cutting knife. : Normal knife motion ON : Normal knife motion Off	**---**	**---**	**---**
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 ON : Normal knife motion Off	**---**	**---**	**---**
S84	**Maximum speed limitation** This item sets max. number of revolutions of the sewing machine. The maximum value of data edit is equal to the number of revolutions of K07 Maximum speed limitation of the memory switch data. →Refer to *11.2.*	**400 to 4200**	**100rpm**	**---**

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 to 2.500**	**0.025mm**	**---**
S87	**Width of going** This item sets width of going side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01).	**0.1 to 3.0**	**0.05mm**	**---**
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 to 2.500**	**0.025mm**	**---**
S89	**Width of returning** This item sets width of returning side of bar-tacking shape (Shape Nos. 27, 28, 29 and 30 of S01).	**0.1 to 3.0**	**0.05mm**	**---**

4.4 File named

You can press button to name the file after setting the data in <shape parameter>、<sewing start/end>、<sword>、<basting> screen.

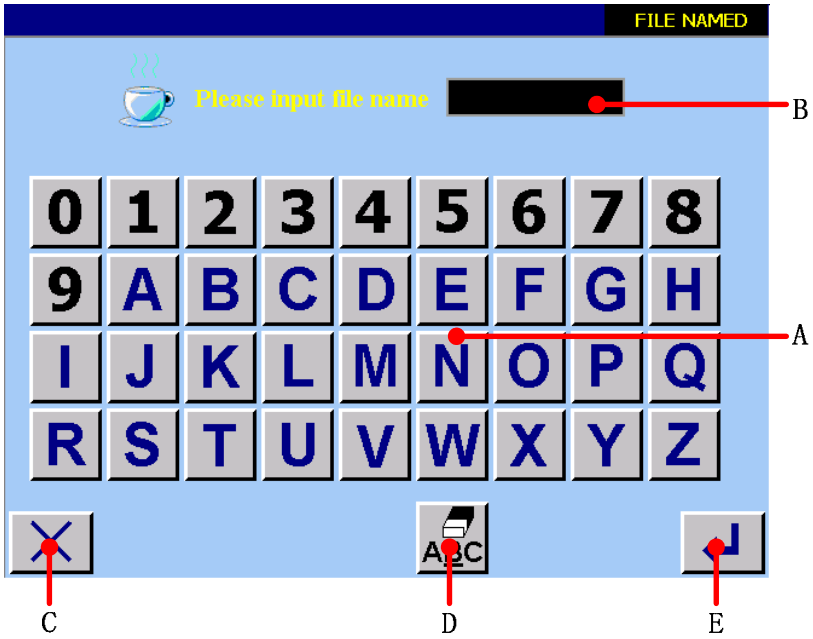


figure 4.12

A Numerical、alphabetic button board.

B Character display area.

C Return to main menu.

D Cancel input button .

E Confirm button . If the target file and register file have different name, the operation is successful. The new file is built. If the target file and register file have same name, the screen will display as figure 4.13 shown.

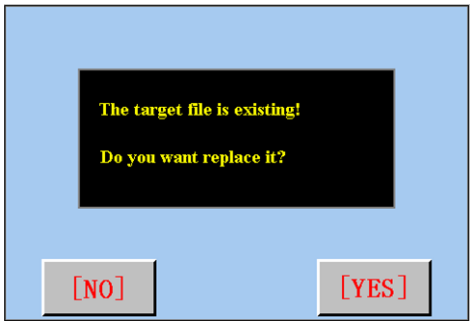


figure 4.13

Press [YES] button to replace; Press [NO] button to return to main menu screen.

Caution : You can only input less than eight characters!

4.5 Changing sewing data of register file

If you want to change sewing data of register file, you can press (B) button in data input screen(main menu screen, See figure2.1.). Then it can enters <shape parameter> screen.

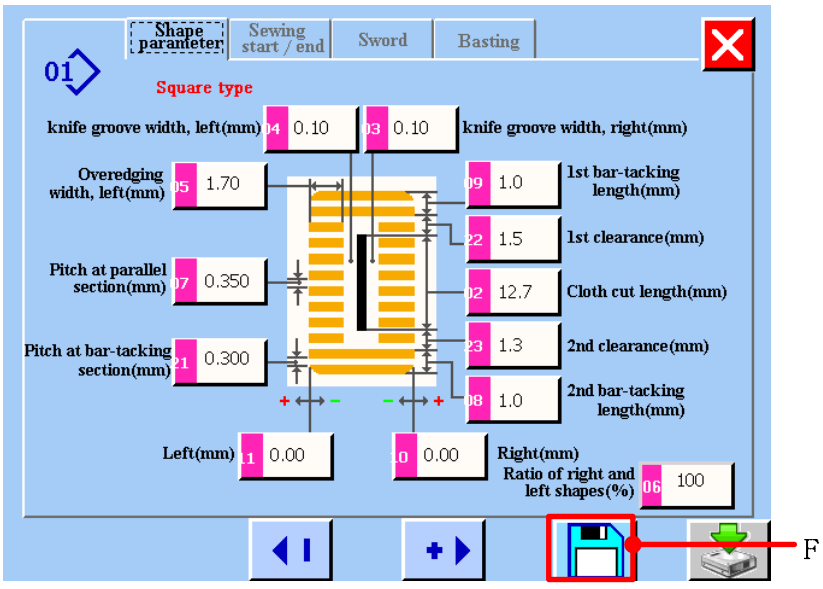


figure 4.14

change sewing data, please refer to *4.1-4.2.*

Press F button (see figure 4.14) to save data after the change has been finished.

And you can change parameter in <sewing start/end>、<sword>、<basting> screen. Press F button (See figure4.14.) to save data after the change has been finished.

5 SEWING SHAPE LIST

1) Square type	2) Round type	3) Radial square type	4) Radial type	5) Radial straight bar-tacking type
6) Radial taper bar-tacking type	7) Eyelet square type	8) Eyelet radial type	9) Eyelet straight bar-tacking type	10) Eyelet taper bar-tacking type
11) Semilunar type	12) Round square type	13) Semilunar square type	14) Semilunar straight bar-tacking type	15) Semilunar taper bar-tacking type
16) Eyelet semilunar type	17) Eyelet round type	18) Square radial type	19) Square semilunar type	20) Square round type
21) Square straight bar-tacking type	22) Square taper bar-tacking type	23) Radial semilunar type	24) Radial round type	25) Semilunar radial type
26) Semilunar round type	27) Bar-tacking	28) Bar-tacking, right cut	29) Bar-tacking, left cut	30) Bar-tacking, center cut

6 SETTING THE PRESSER TYPE

6.1 Setting procedure of the presser type

Press user parameter button **in the main menu screen and the <user parameter> screen is displayed. See figure6.1.**

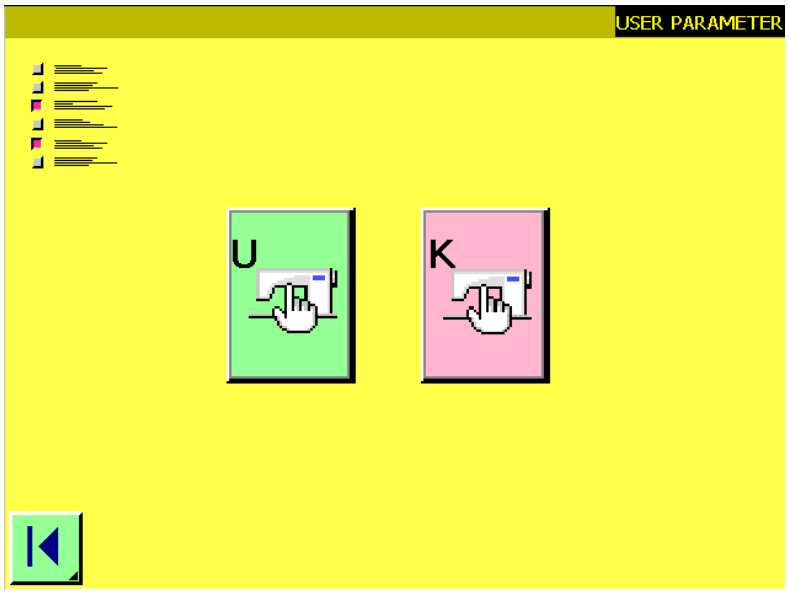


figure 6.1

Press button **and the <user parameter 1> screen is displayed. See figure6.2.**

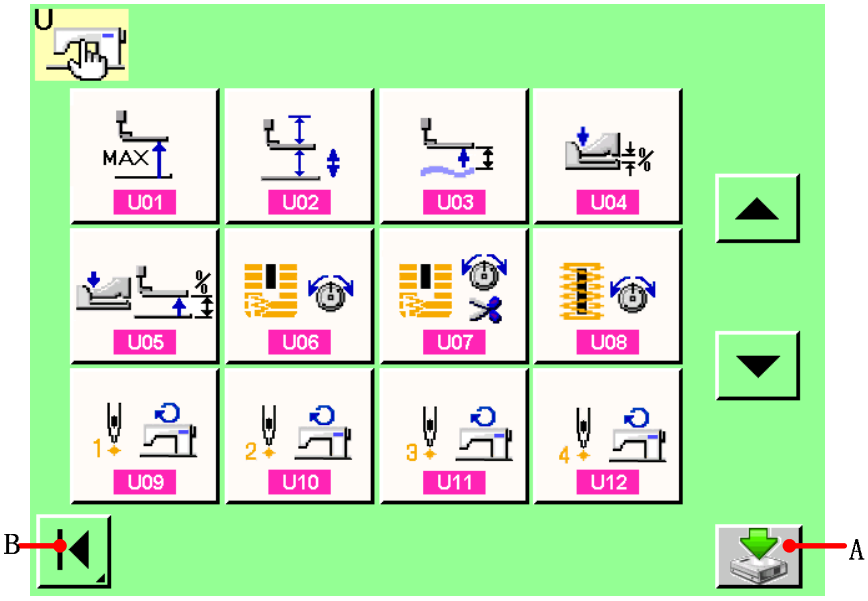


figure 6.2

3 **The presser type selection. Press button** **and the presser type selection screen is displayed. See figure6.3..**

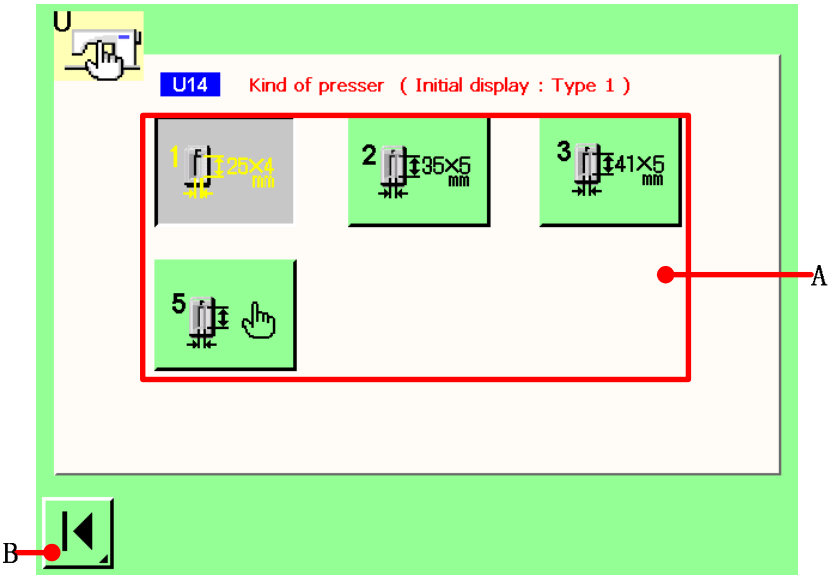


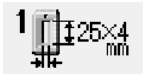
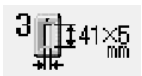
figure 6.3

Press button (A) of the presser type mounted on the sewing machine. The button pressed is shown as **. Set the presser type referring to Table of presser type described later.**

4 **Determine the presser type. Press button B to return the <user parameter 1> screen. If press button A in figure 6.2, the change has been finished. Otherwise, the change has been canceled.**

6.2 Table of presser type

Make the number in the frame of engraved part number of presser foot correspond to the type of presser.

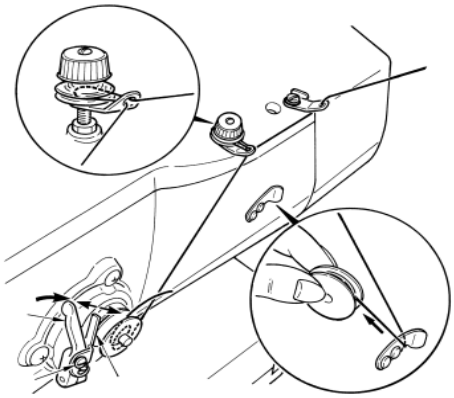
	Type	Part No. of presser foot
	Type 1	
	Type 2	
	Type 3	
	Type 5	

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 user parameter 1 to adjust to the presser to be used. Refer to** *11.1.* **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.**

7 WINDING BOBBIN THREAD

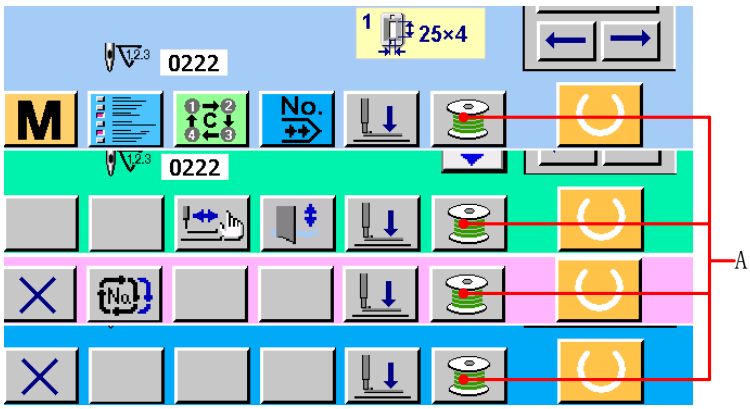
1 **Set the bobbin.**

Fit a bobbin fully onto the bobbin winder shaft. Then push the bobbin thread guide in the direction of the arrow mark.



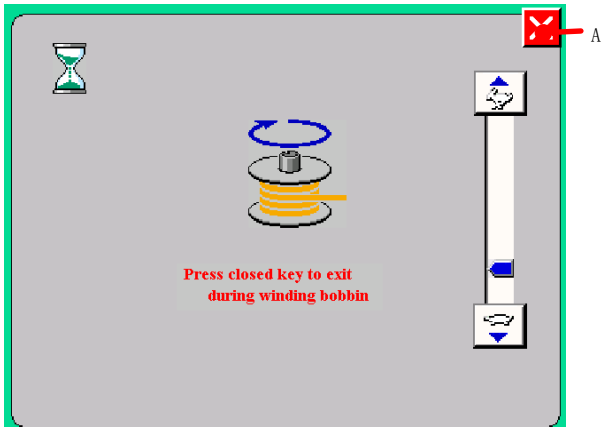
2 **Display the bobbin winding screen.**

Press BOBBIN WINDER button (A) in the data input screen or the sewing screen and the bobbin winding screen is displayed.



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 A 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.

8 USING COUNTER

8.1 Setting procedure of the counter

1 Display the counter setting screen.

Press button (A) in the sewing screen (take INDEPENDENT SEWING for example), the setting of counter screen will display.

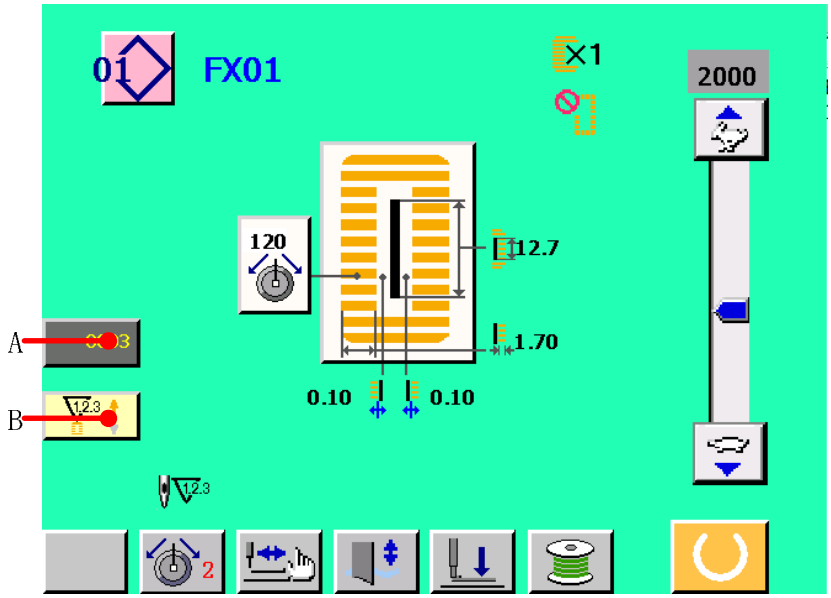


figure 8.1

Press button B to switch the kinds of counters.

2 Selection of kinds of counters

This sewing machine has two kinds of counters, i. e. , sewing counter and No. of pcs. counter. Press SEWING COUNTER KIND SELECTION button (C) or NO. OF PCS. KIND SELECTION button (D) to display the counter kind selection screen. The kinds of the respective counters can be set separately.

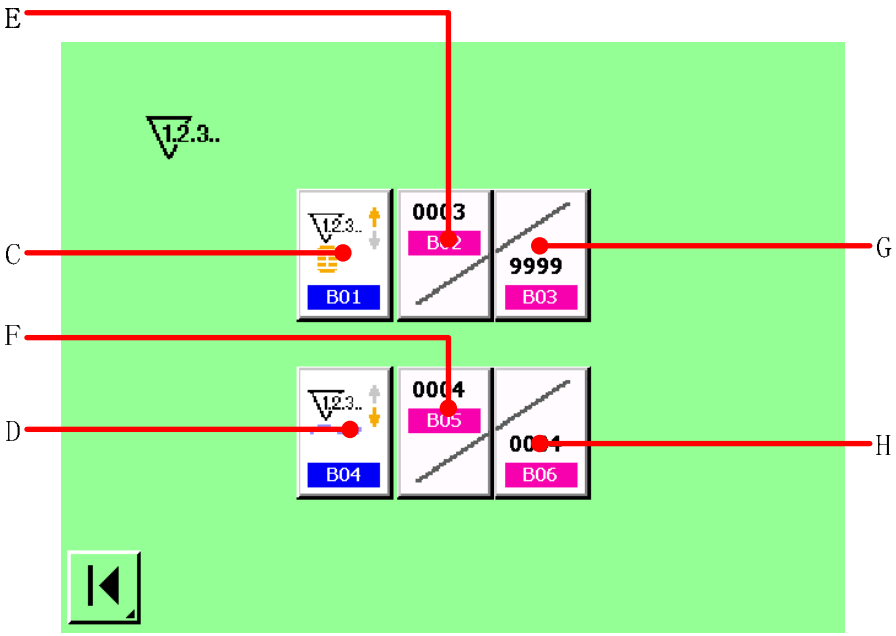


figure 8.2

【 Sewing counter 】

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 count-up screen is displayed.

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 count-up screen is displayed.

Counter not used **:**

【 No. of pcs. counter 】

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 count-up screen is displayed.

DOWN counter **:**

Every time one cycle or one continuous stitching is performed, the existing value is counted down. When the existing value is reached to "0", the count-up screen is displayed.

Counter not used **:**

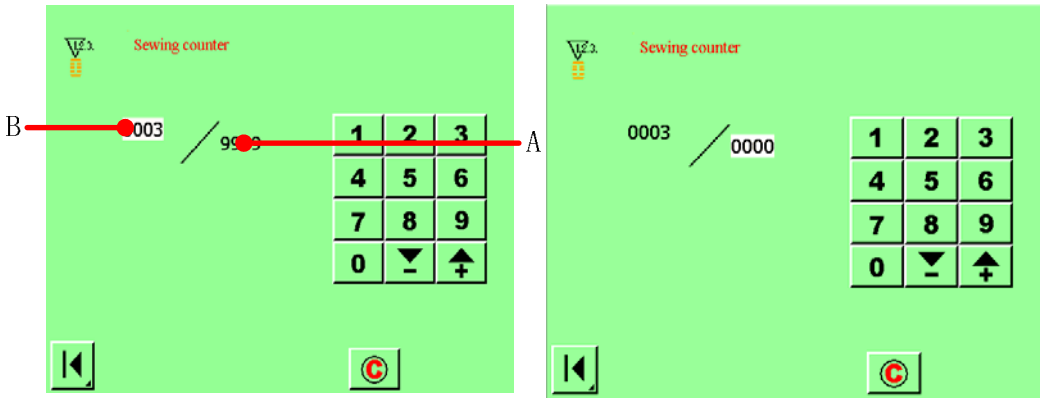
figure 8.3

③ Change of counter set value and existing value

In case of the sewing counter, press button (G) and in case of the No. of pcs. counter, press button (H) and the set value input screen is displayed. Here, input the set value. (See figure8.2.)

A.【 Sewing counter 】

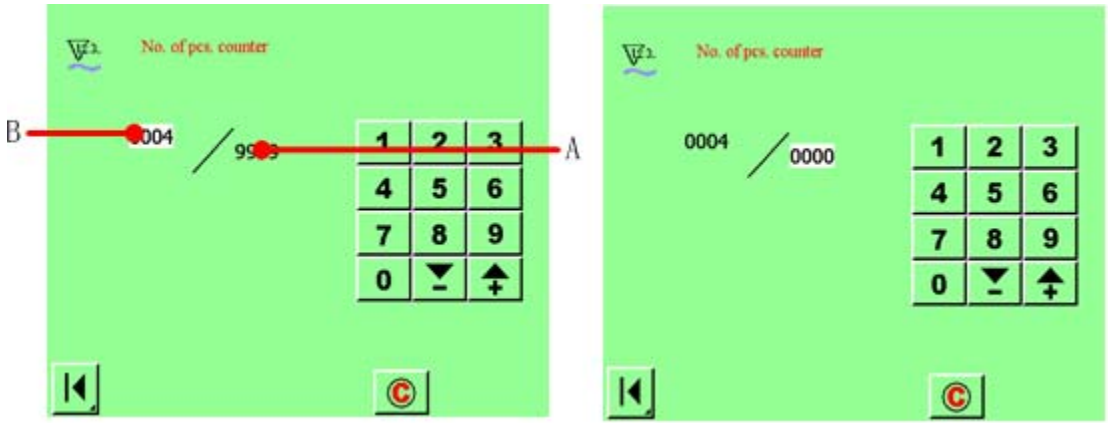
Press area A(counter set value, see figure 8.4(a)), and the set value input screen is displayed. Then , you can change the sewing counter. Also, you can Press area B(counter set value, see figure 8.4(b)), the operation have the same details.



（a） （b）

figure 8.4

B.【 No. of pcs. counter 】



(a) **(b)**

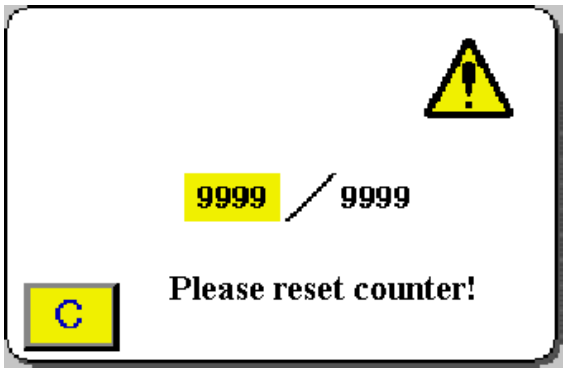
figure 8.5

Press area A(counter set value, see figure 8.5(a)), and the set value input screen is displayed. Then , you can change the No. of pcs. counter. Also, you can Press area B(counter set value, see figure 8.5(b)), the operation have the same details.

8.2 Count-error releasing procedure

【 Sewing 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 resetting counter screen is displayed. Press CLEAR button C to clear the counter.



【No. of pcs. 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 resetting counter screen is displayed. Press CLEAR button C to clear the counter.

9 CONTINUOUS STITCHING

9.1 LCD display section at the time of continuous stitching

This sewing machine can perform the continuous stitching that continuously sew the plural sewing pattern data without lifting the presser. It is possible to install a long presser of as long as 120 mm size and to automatically sew up to as many as 6 shapes in the presser.
In addition, it is possible to register as many as 20 data. Register or copy the data to fill the need for use.
※ It is necessary to change the components from the state at the time of your purchase according to the setting conditions.

9.1.1 Data input screen

Press button F

in the main menu screen, and the <continuous stitching> screen is displayed.

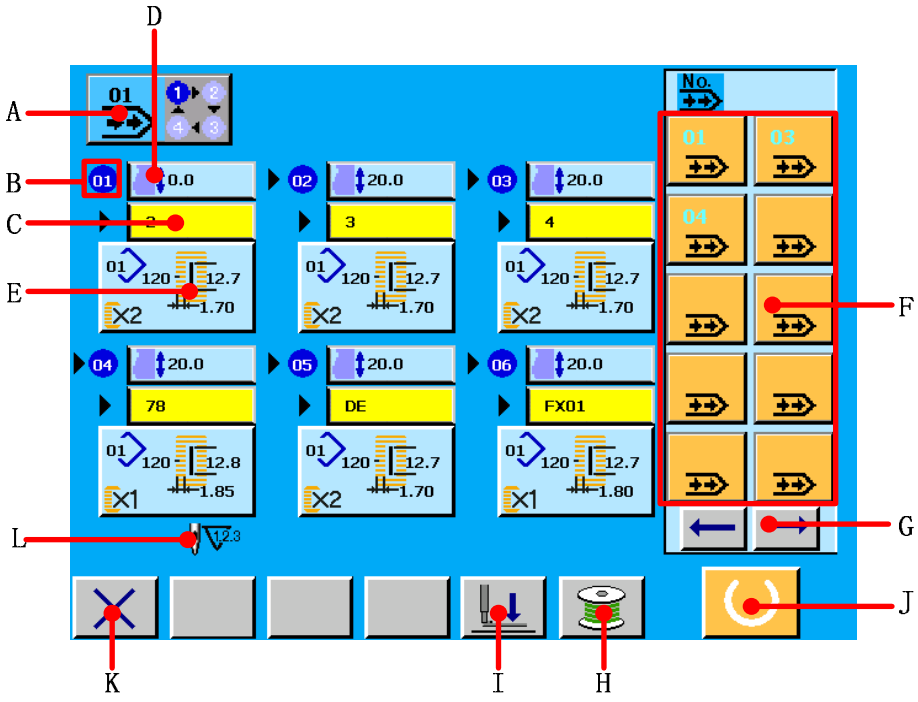


figure 9.1

NO.	Button and display	Description
A	CONTINUOUS STITCHING DATA NEW REGISTER button; Display the selected continuous file	Continuous stitching data new register screen is displayed. And it can display the selected continuous file.
B	SEWING ORDER	Sewing order of continuous stitching data which have been inputted is displayed.
C	PATTERN NO.	Pattern No. which has been inputted is displayed.
D	FEED AMOUNT INPUT button	Cloth feed amount before sewing is displayed.
E	SEWING DATA EDIT button	Sewing data information such as pattern No., shape, cloth cutting length, etc. which have been inputted is displayed.
F	Continuous stitching register file display	Ten continuous stitching files displayed each page. Press the back / forward jogging direction button to look over all continuous stitching files.
G	BACK/FORWORD JOGGING DIRECTION button	Press the back / forward jogging direction button to look over all continuous stitching files.
H	BOBBIN WINER button	Bobbin thread can be wound.
I	PRESSER DOWN button	Presser can be lowered and the knife down screen is displayed. To raise the presser, press the presser up button displayed in the presser down screen.
J	READY button	Press this button, data input screen and sewing screen can be changed.
K	CLOSE SCREEN button	Press this button to return to main menu screen.
L	NUMBER OF TOTAL STITCHES display	Number of total stitches of the continuous stitching data during sewing is displayed.

9.1.2 Sewing screen

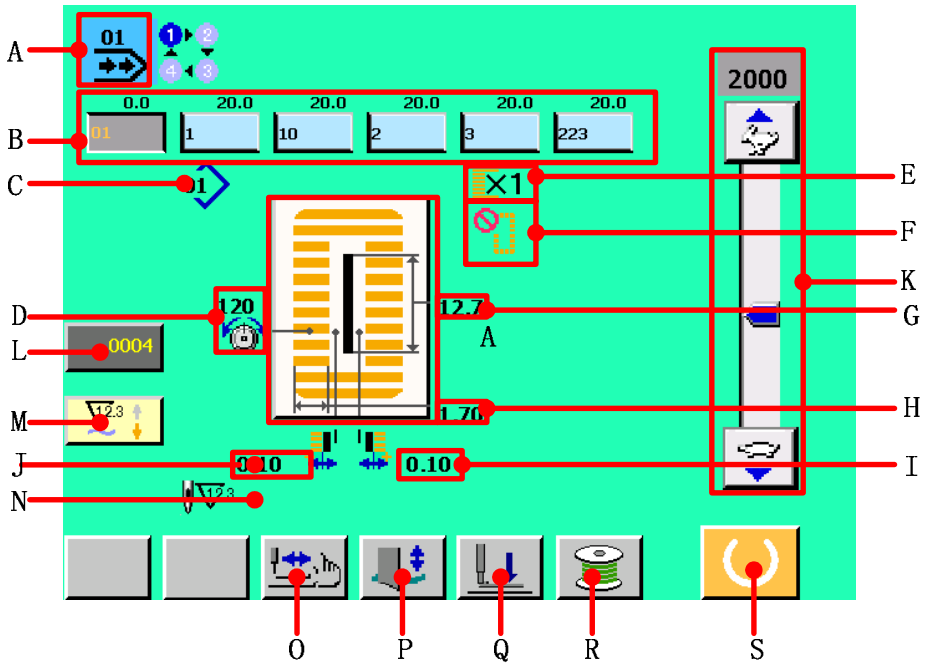


figure 9.2

NO.	Button and display	Description
A	CONTINUOUS STITCHING PATTERN NO. display	Continuous stitching data No. during sewing is displayed.
B	PATTERN NO. display	Pattern No. inputted to continuous stitching data during sewing is displayed. Pattern NO. being sewn at present is displayed in reverse video.
C	Pattern shape NO	Pattern shape No. in continuous stitching data is displayed at present.
D	NEEDLE THREAD TENSION CHANGE button display	Needle thread tension which is set to the pattern data during sewing is displayed.
E	WITH/WITHOUT DOUBLE STITCHING display	With/without double stitching which is set to the pattern data during sewing is displayed.
F	NUMBER OF TIMES OF BASTING display	Number of times of basting which is set to the pattern data during sewing is displayed.
G	CLOTH CUTTING LENGTH display	Cloth cutting length which is set to the pattern data during sewing is displayed.
H	OVEREDGING WIDTH, LEFT display	Overedging width, left which is set to the pattern data during sewing is displayed.

I	**KNIFE GROOVE WIDTH, RIGHT display**	**Knife groove width, right which is set to the pattern data during sewing is displayed.**
J	**KNIFE GROOVE WIDTH, LEFT display**	**Knife groove width, left which is set to the pattern data during sewing is displayed.**
K	**SPEED variable resistor**	**Number of rotation of sewing machine can be changed. The number of rotation which is set is displayed.**
L	**COUNTER VALUE CHANGE Button counter value change screen display**	**Existing counter value is displayed on this button. When the button is pressed, the counter value change screen is displayed.**
M	**UP COUNTER and DOWN COUNTER CHANGE OVER button Up or down counter display**	**Press this button, the up counter and down counter can be changed; Display of counter which is being selected.**
N	**NUMBER OF TOTAL STITCHES display**	**Number of total stitches of the continuous stitching data during sewing is displayed.**
O	**STEP STITCHING button**	**When the button is pressed, the step stitching screen to check the needle entry point and to perform re-sewing is displayed.**
P	**KNIFE CANCEL button**	**Every time the button is pressed, dropping/non-dropping knife is changed over alternately.**
Q	**PRESSER DOWN button**	**Presser can be lowered and the knife down screen is displayed. To raise the presser, press the presser up button displayed in the presser down screen.**
R	**BOBBIN WINER button**	**Bobbin thread can be wound.**
S	**READY button**	**Press this button, data input screen and sewing screen can be changed.**

9.2 Performing continuous stitching

9.2.1 Continuous stitching named

Press button A **in data input screen(see figure 9.1), the <continuous stitching file management>screen is displayed(see figure 9.3).**

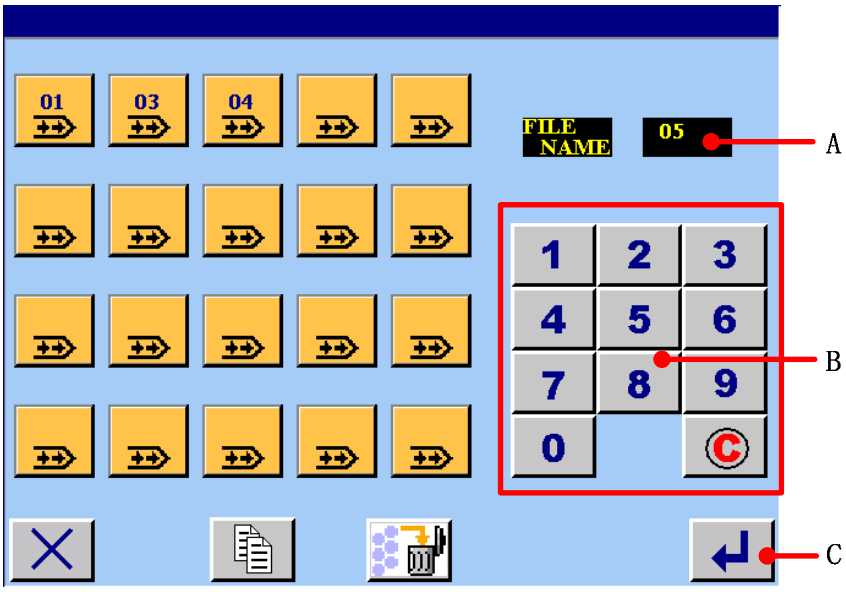


figure 9.3

1 Input number

Press numerical button s B which you need. And the number display in area A. the greatest number is twenty. If you want to cancel it , you can press clear button to clear.

2 Finish inputting number

Press ENTER button C and finish inputting number. Then the inputted number is continuous stitching file's name.

9.2.2 Editing procedure of the continuous stitching data

1 Display the feed amount input screen.

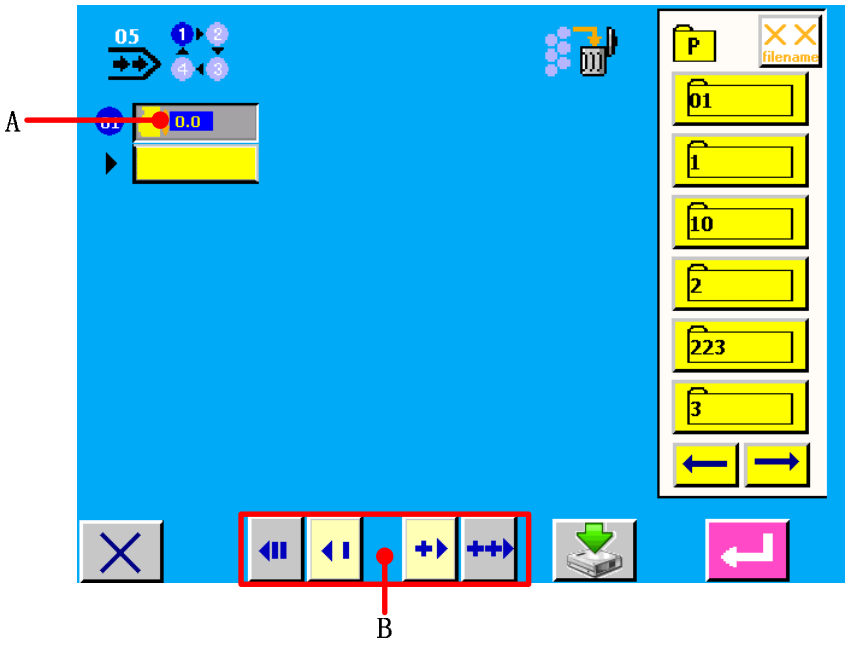
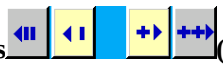
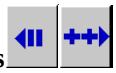
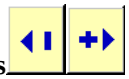


figure 9.4

When FEED AMOUNT button (A) is pressed, the feed amount input screen is displayed.

2 Input the feed amount.

Input the feed amount with plus/minus buttons  (B). Buttons  are fast edition button s. The edition unit is one. Buttons  are slow edition button s. The edition unit is 0.1. Input range changes according to the presser size which has been set.

3 Determine the feed amount and call the pattern No. selection screen.

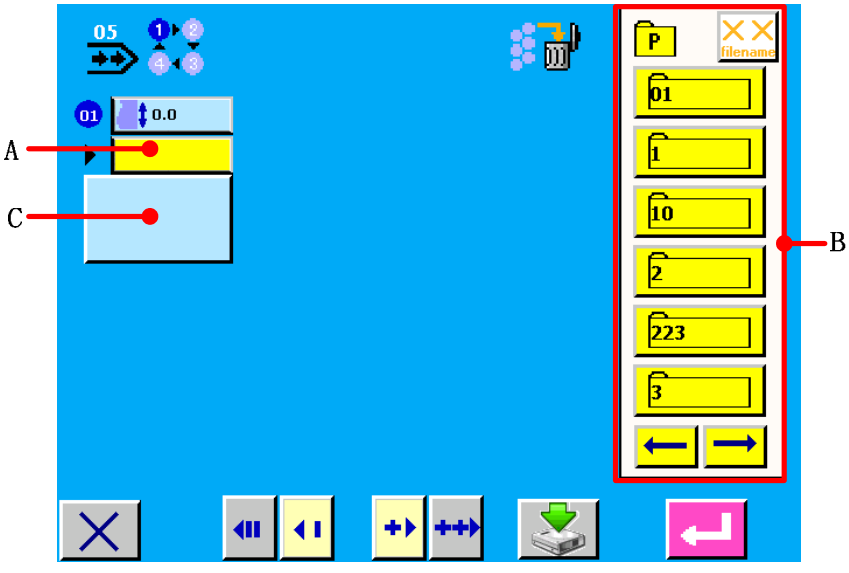


figure 9.5

When pattern No. button (A) is pressed, the feed amount input screen is closed and input has been completed. Pattern shape button is displayed.

4 NO. Select the pattern No.

Press the registered pattern No. buttons in area B(see figure 9.5) and press the pattern No. button you desire to select. Contents of sewing data are displayed in the buttons(see figure 9.6).

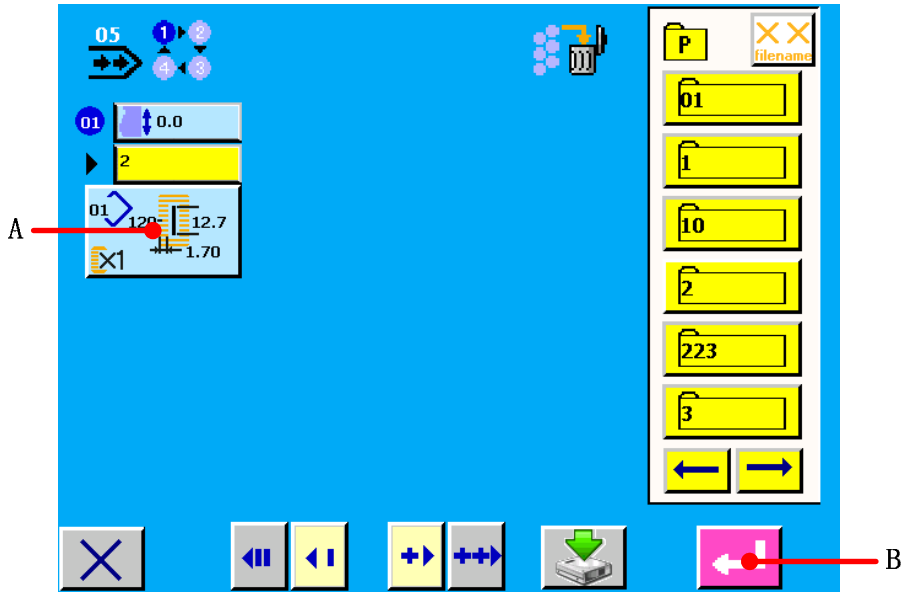


figure 9.6

5 NO. Determine the pattern No.

When ENTER button (B) is pressed, the continuous stitching data No. selection has been completed(see figure 9.7).

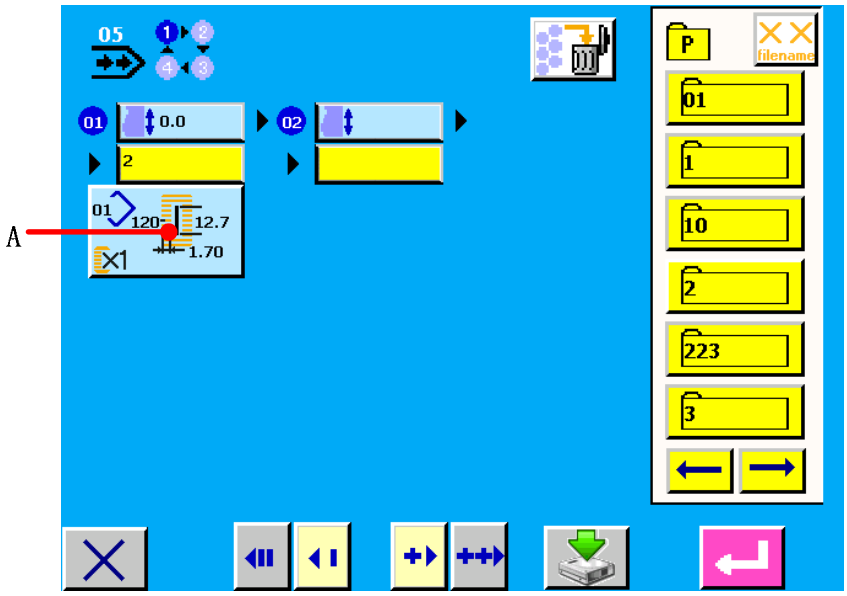
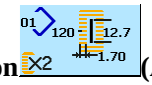


figure 9.7

6 **Edit the sewing data of pattern inputted to continuous stitching data.**

When the pattern No. is selected, the sewing data button  **(A) displayed the contents of the sewing data inputted to the selected pattern No. is displayed. When the button is pressed, the sewing data input screen is displayed.**

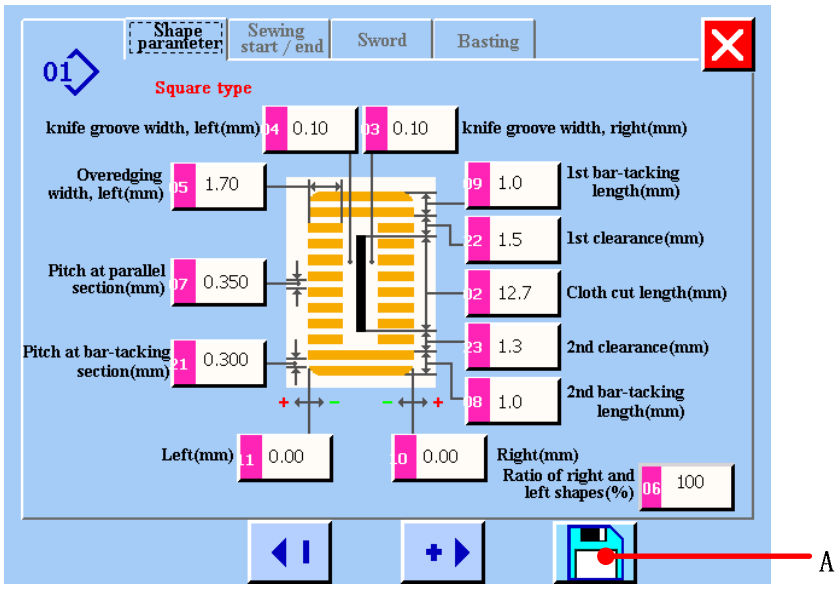


figure 9.8

7 **Select the sewing data to be changed and change the data.**

Refer to *4.1.*

8 Complete data changing

After completing changing data, press button (A) to save changing data. The continuous stitching data editing screen is displayed.

9 .2.3 Saving the continuous stitching file

When editing of continuous stitching data is finished, press button (A) to save the continuous stitching file.

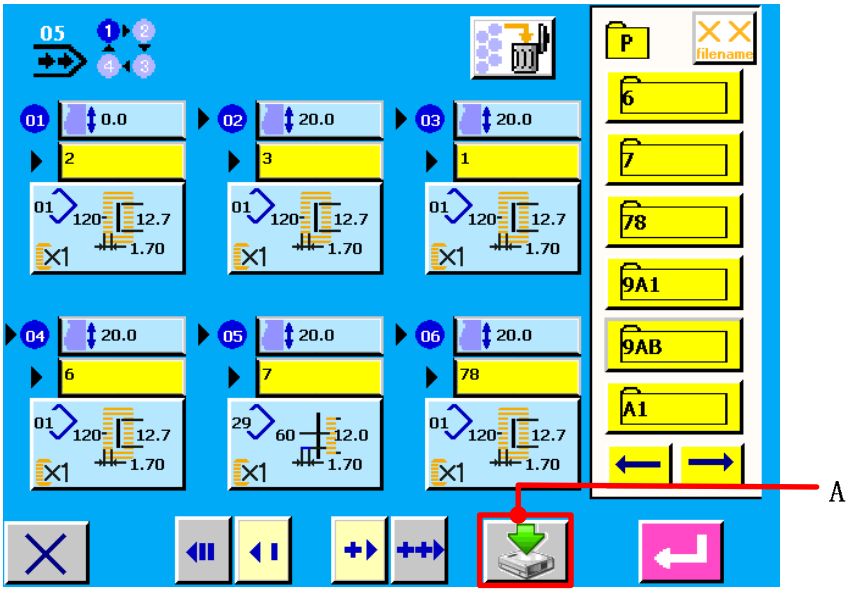


figure 9.9

9.2.4 The continuous stitching file management

Press button A in data input screen(see figure 9.1), the <continuous stitching file management>screen is displayed(see figure 9.10).

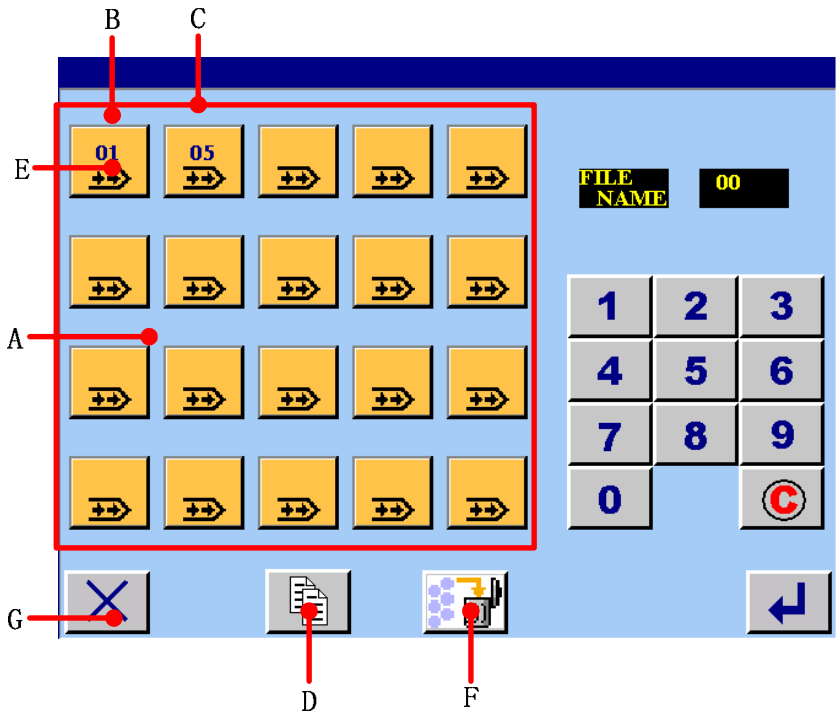


figure 9.10

A Register continuous stitching file display area.

B The selected continuous stitching file, if you press it again, the selected continuous stitching file can cancel it.

C The continuous stitching file which is pressing at present.

D Copy or rename the single continuous stitching file.

E The continuous stitching file button.

Press any file, there will l and sign as figure9.10 shown.

F Delete the register continuous stitching file

G Return button. Return to the data input screen.

（1）Copy or rename the single continuous stitching file.

【Operation details】:

On continuous stitching file management screen, one file is selected. the file is selected as the current file (nd sign is the current file) . Press button (D), the continuous stitching copying file screen is displayed.

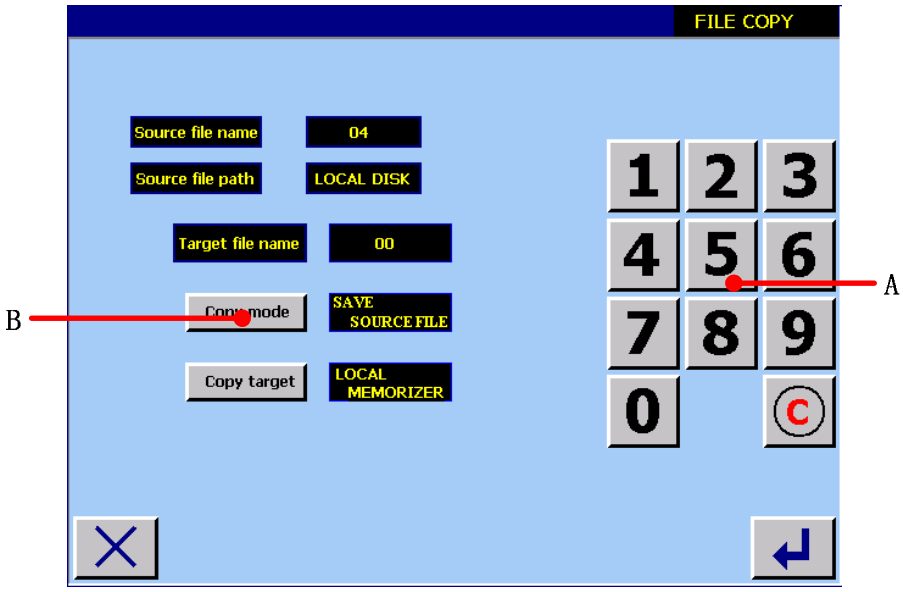


figure 9.11

A Use numerical button to input target data name. That is, input the name of copy file.

B Use Copy mode to select whether to store the source file or not. If you select storing resource file, the copy function is realized; if you select deleting source file, the rename function is realized.

2 Setting is over, press ↵ to confirm.

If there is successful operation, the <successful operation> screen will display as figure 9.12 shown.

figure 9.12

If the target file and register file have same file, the screen will display as figure 9.13 shown.

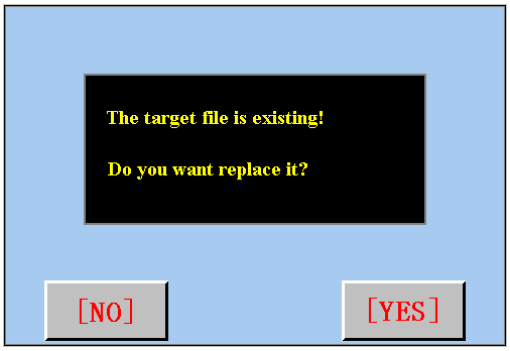


figure 9.13

Press [YES] button to replace; Press [NO] button to return to < continuous stitching file management> screen.

If there is unsuccessful operation, the <unsuccessful operation> screen will display as figure 9.14shown：

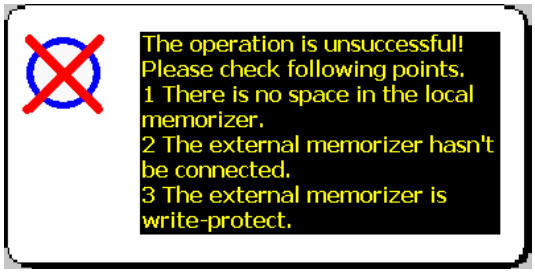


figure 9.14

（2）Deleting continuous stitching file

【Operation details】:

1 Press the register continuous stitching file button s which need to be deleted, it is displayed as figure 9.15 shown.

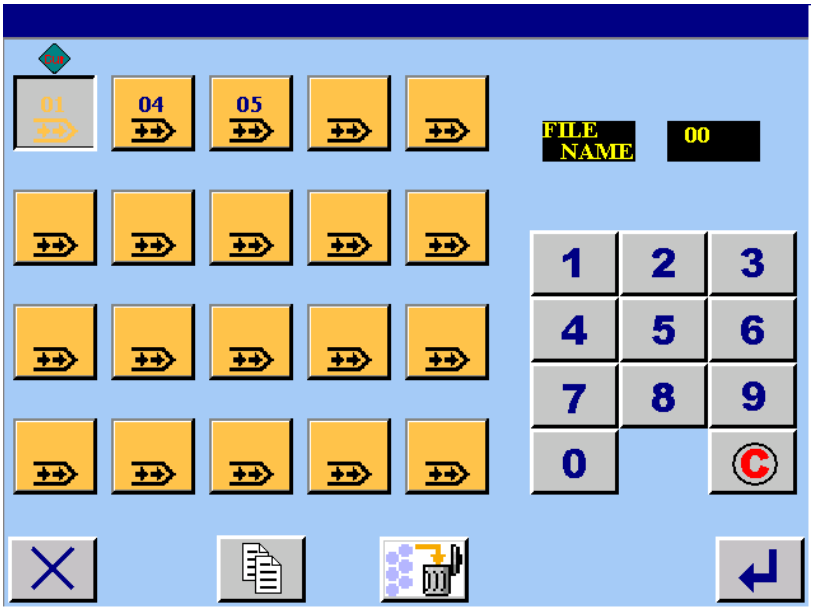


figure 9.15

2 Press button (F) to set the deletion.

10 CYCLE STITCHING

10.1 LCD display section at the time of cycle stitching

This sewing machine can sew the plural sewing pattern data in order in cycle.
As many as 30 patterns can be inputted. Use this function when sewing plural different button holes on the sewing product. In addition, as many as 20 cycles can be registered. Use this function for new creation or copying in case of need.

10.1.1 Data input screen

Press button E **in the main menu screen, and the <cycle stitching> screen is displayed(see figure 10.1).**

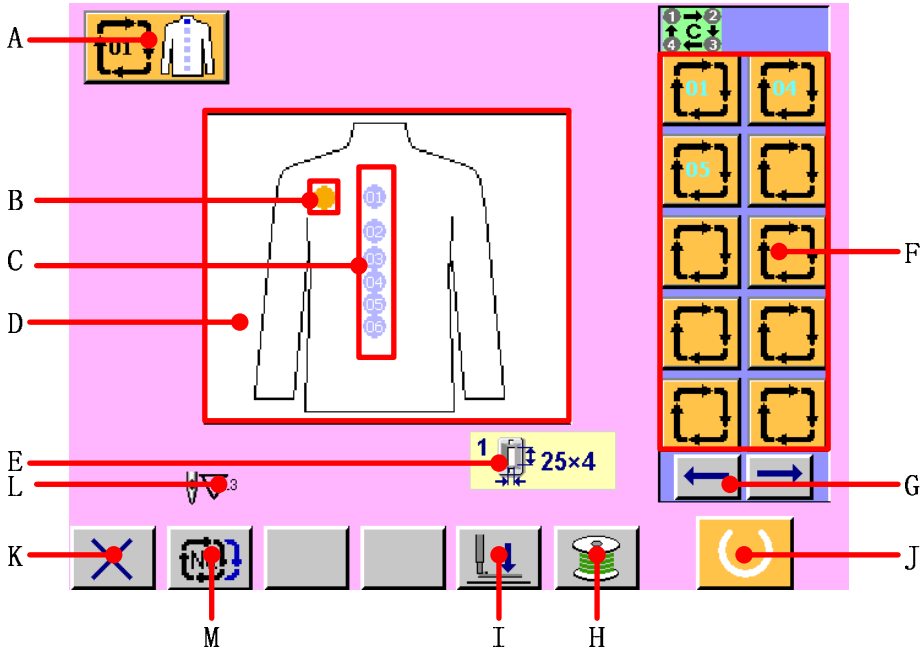


figure 10.1

Table 10.1

No.	Button and display	Description
A	**CYCLE STITCHING DATA NEW REGISTER button;** **Display the selected cycle file**	**Cycle stitching data new register screen is displayed. And it can display the selected cycle file.**
B	**CURSOR display**	**Cursor can move on sewing product with ARROW MARK button and can designate the position on sewing product to input pattern data.**

C	SEWING ORDER display	Sewing order of inputted pattern data is displayed.
D	SEWING PRODUCT display	Image of sewing product is displayed.
E	Presser type display	The presser type is displayed which is being selected.
F	Cycles stitching register file display	Ten continuous stitching files displayed each page. Press the back / forward jogging direction button to look over all cycle stitching files.
G	BACK/FORWORD JOGGING DIRECTION button	Press the back / forward jogging direction button to look over all cycle stitching files.
H	BOBBIN WINER button	Bobbin thread can be wound.
I	PRESSER DOWN button	Presser can be lowered and the knife down screen is displayed. To raise the presser, press the presser up button displayed in the presser down screen.
J	READY button	Press this button, data input screen and sewing screen can be changed.
K	CLOSE SCREEN button	Press this button to return to main menu screen.
L	NUMBER OF TOTAL STITCHES display	Number of total stitches of the cycle stitching data during sewing is displayed.
M	View cycle stitching file	Press this button to view the selected cycle stitching file.

10.1.2 Sewing screen

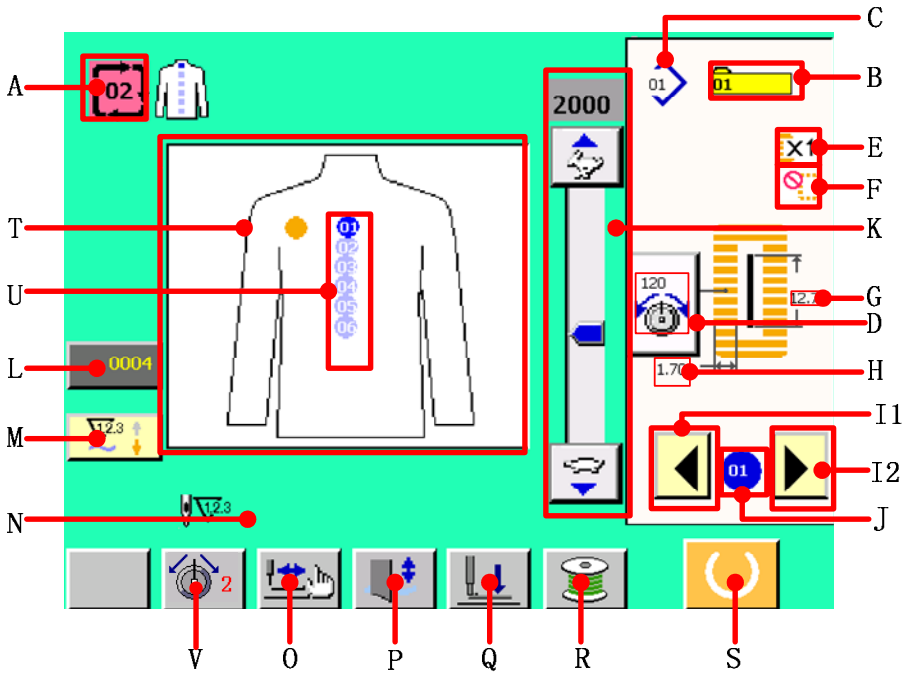


figure 10.2

Table 10.2

No.	Button and display	Description
A	CYCLE STITCHING PATTERN NO. display	Cycle stitching data No. during sewing is displayed.
B	PATTERN NO. display	Pattern No. inputted to cycle stitching data during sewing is displayed. Pattern NO. being sewn at present is displayed in reverse video.
C	Pattern shape NO	Pattern shape No. in cycle stitching data is displayed at present.
D	NEEDLE THREAD TENSION CHANGE button display	Needle thread tension which is set to the pattern data during sewing is displayed.
E	WITH/WITHOUT DOUBLE STITCHING display	With/without double stitching which is set to the pattern data during sewing is displayed.
F	NUMBER OF TIMES OF BASTING display	Number of times of basting which is set to the pattern data during sewing is displayed.
G	CLOTH CUTTING LENGTH display	Cloth cutting length which is set to the pattern data during sewing is displayed.
H	OVEREDGING WIDTH, LEFT display	Overedging width, left which is set to the pattern data during sewing is displayed.
I1	SEWING ORDER RETURN button	Sewing order to be sewn next is returned by one.
I2	SEWING ORDER ADVANCE button	Sewing order to be sewn next is advanced by one.
J	SEWING ORDER DURING SEWING display	Sewing order of pattern data during sewing is displayed.
K	SPEED variable resistor	Number of rotation of sewing machine can be changed. The number of rotation which is set is displayed.
L	COUNTER VALUE CHANGE Button counter value change screen display	Existing counter value is displayed on this button. When the button is pressed, the counter value change screen is displayed.
M	UP COUNTER and DOWN COUNTER CHANGE OVER button Up or down counter display	Press this button, the up counter and down counter can be changed; Display of counter which is being selected.
N	NUMBER OF TOTAL STITCHES display	Number of total stitches of the cycle stitching data during sewing is displayed.

O	STEP STITCHING button	When the button is pressed, the step stitching screen to check the needle entry point and to perform re-sewing is displayed.
P	KNIFE CANCEL button	Every time the button is pressed, dropping/non-dropping knife is changed over alternately.
Q	PRESSER DOWN button	Presser can be lowered and the knife down screen is displayed. To raise the presser, press the presser up button displayed in the presser down screen.
R	BOBBIN WINER button	Bobbin thread can be wound.
S	READY button	Press this button, data input screen and sewing screen can be changed.
T	SEWING PRODUCT display	Image of sewing product is displayed.
U	SEWUNG ORDER display	Sewing order of inputted pattern data is displayed. Pattern data during sewing is displayed in blue color.
V	NEEDLE THREAD TENSION button NEEDLE THREAD TENSION mode display	When this button is pressed, the needle thread tension mode 1 and 2can be changed. The needle thread tension mode 1 and 2 which is being selected is displayed.

10.2 Performing cycle stitching

10.2.1 Cycle stitching named

Press button A in data input screen(see figure 10.1), the <cycle stitching file management>screen is displayed(see figure 10.3).

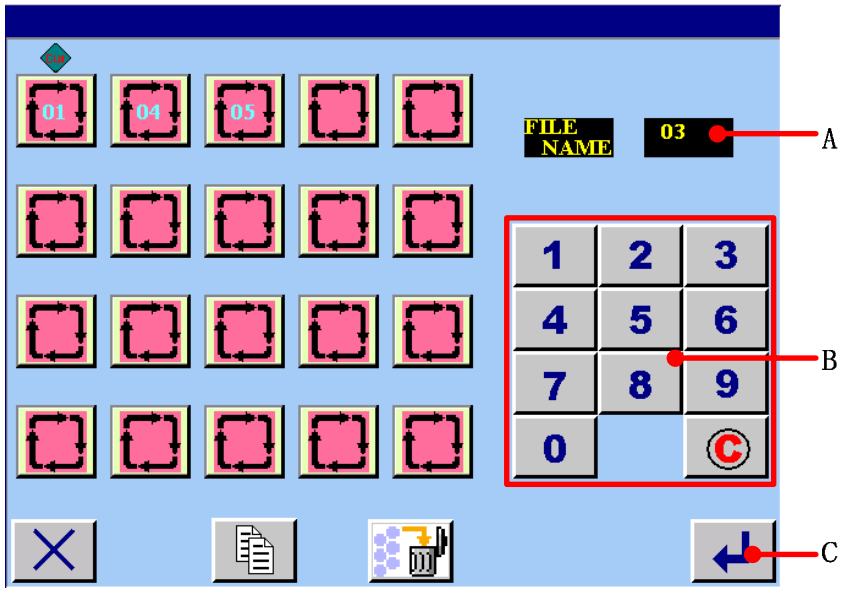


figure 10.3

Input number

Press numerical button s which you need. And the number display in area A. the greatest number is twenty. If you want to cancel it , you can press clear button to clear.

Finish inputting number

Press ENTER button C and finish inputting number. Then the inputted number is continuous stitching file's name.

10.2.2 Editing procedure of the cycle data

Select the image of sewing product to be displayed.

After the new register cycle stitching file is named, the <sewing product selection> screen is displayed.

figure 10.4

Select the sewing product button (A) you desire to display.

Determine the image of the sewing product to be displayed.

When ENTER button（B） is pressed, the selection is determined and the data input screen is displayed.

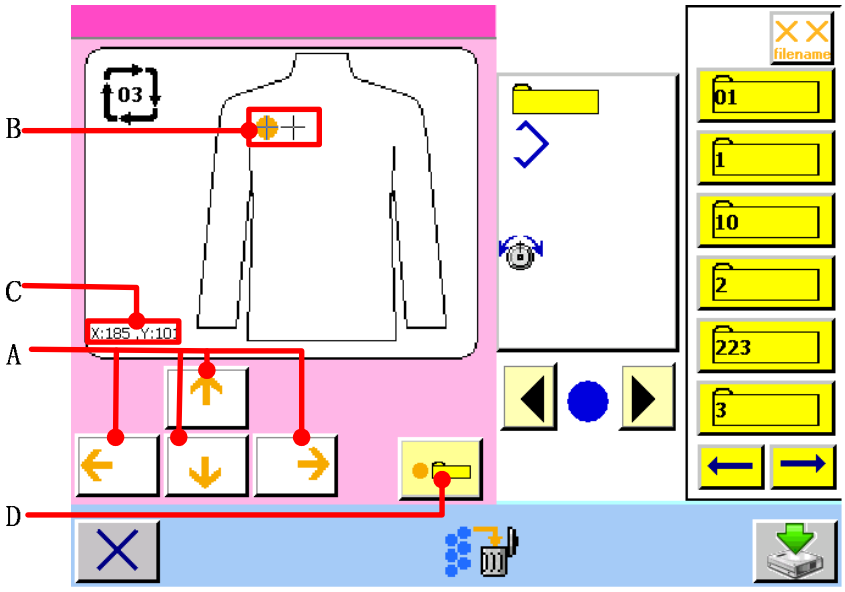


figure 10.5

3 Move the cursor to the position you desire.

Move cursor (B) to the position you desire with arrow mark button (A).When moving arrow mark button (A), the cursor "＋" will display on sewing product. The coordinate of cursor "＋" display in area C. Press button D , the position of cursor "＋" is confirmed.

The sign of 01 will display on the position of cursor "＋".

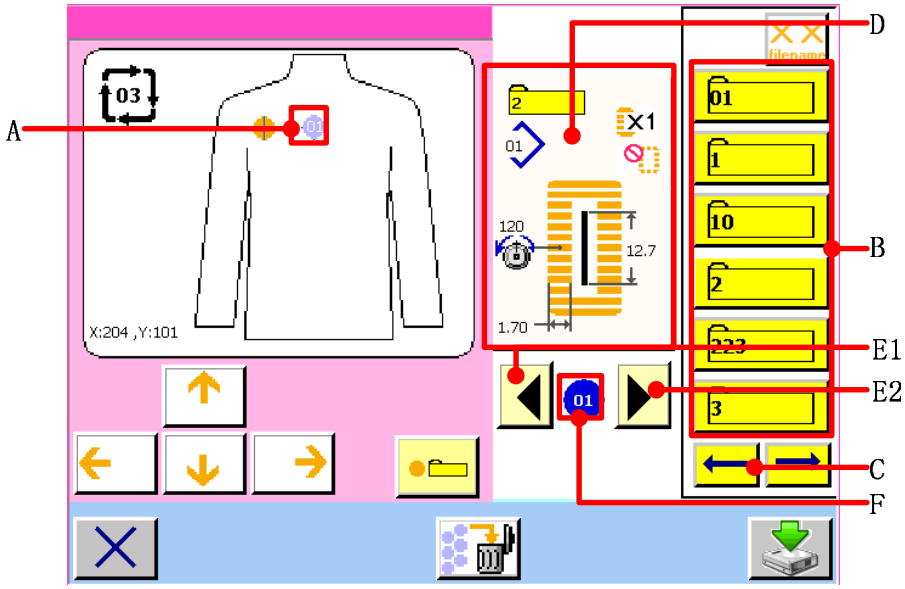


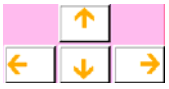
figure 10.6

4 NO. Select the pattern No.

When UP/DOWN SCROOL button (C) is pressed, the registered pattern No.

buttons (E1 and E2) are changed over in order. Contents of the pattern data are displayed in the area D. Here, press the pattern No. button you desire to select.

5 NO. Determine the pattern No.

When button  **is pressed, the pattern No. selection has been completed and the next cursor is moving.**

6 View pattern No. and pattern data

Press UP/DOWN SCROOL button **(E1) and** **(E2) to view the corresponding pattern No. and pattern data. The swung order data display in the blue circle F** **. Contents of the corresponding pattern data are displayed in the area D. You can edit the pattern data which are inputted in cycle stitching data.**

7 Edit the sewing data of pattern inputted to cycle stitching data.

When the pattern No. is selected, the sewing data button **(D) displayed the contents of the sewing data inputted to the selected pattern No. is displayed. When the button is pressed, the sewing data input screen is displayed.**

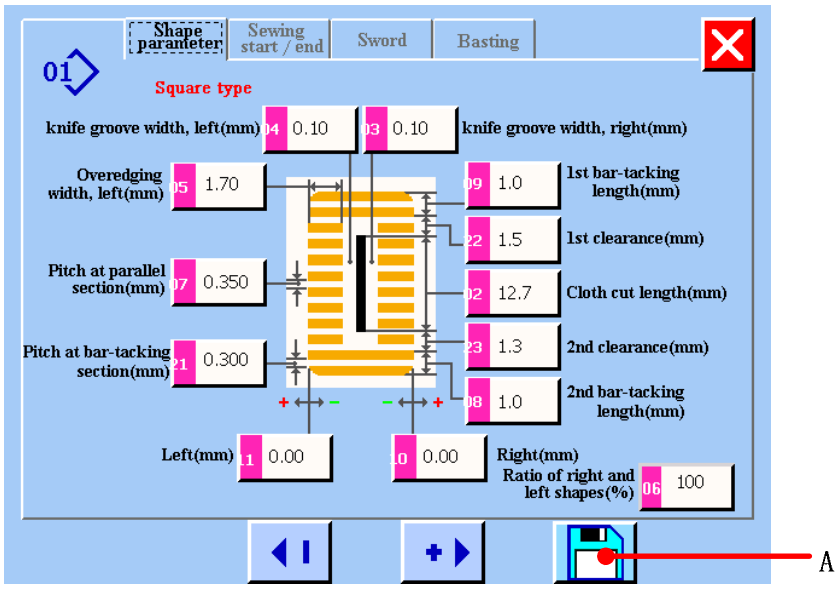


figure 10.7

8 Select the sewing data to be changed and change the data.

Refer to ***4.1.***

9 Complete data changing

After completing changing data, press button (A) to save changing data. The continuous stitching data editing screen is displayed.

10.2.3 Saving the cycle stitching file

When editing of continuous stitching data is finished, press button (A) to save the cycle stitching file.

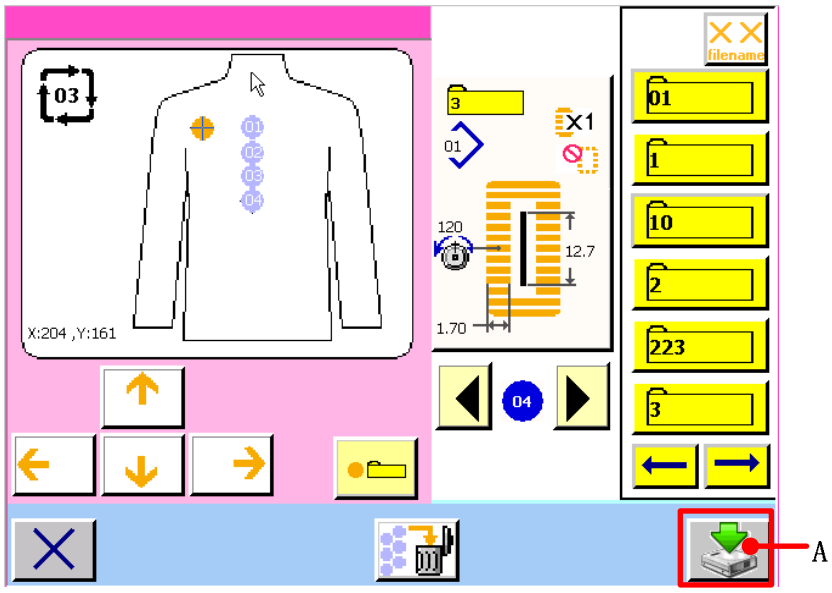


figure 10.8

10.2.4 The cycle stitching file management

Press button A in data input screen(see figure 10.1), the <cycle stitching file management>screen is displayed(see figure 10.9).

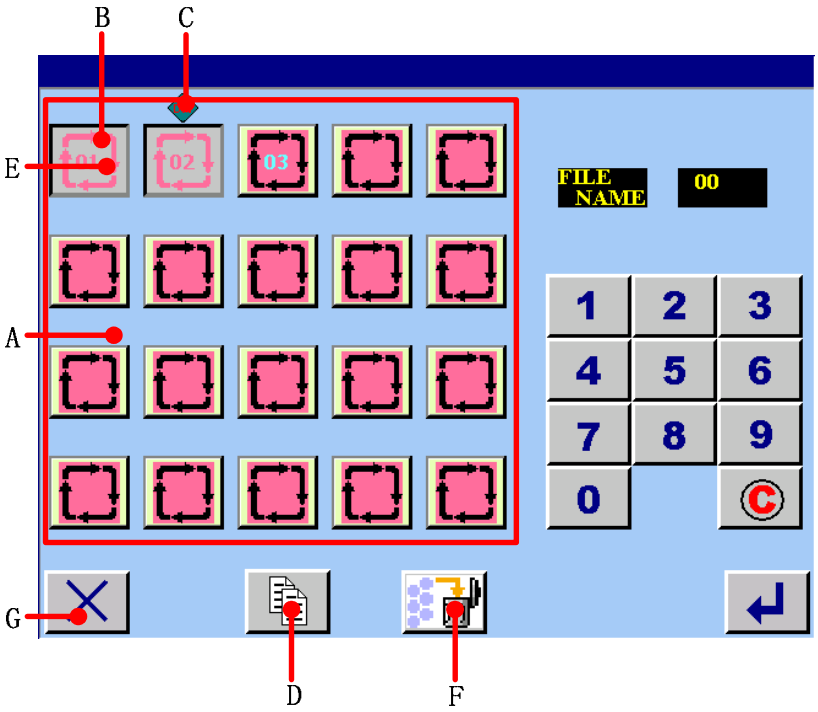


figure 10.9

A Register cycle stitching file display area.

B The selected cycle stitching file, if you press it again, the selected continuous stitching file can cancel it.

C The cycle stitching file which is pressing at present.

D Copy or rename the single cycle stitching file.

E The cycle stitching file button.

Press any file, there will be and sign as figure10. 9 shown.

F Delete the register cycle stitching file

G Return button. Return to the data input screen.

（1）Copy or rename the single cycle stitching file.

【Operation details】:

On cycle stitching file management screen, one file is selected. the file is selected as the current file (and sign is the current file) . Press button (D), the cycle stitching copying file screen is displayed.

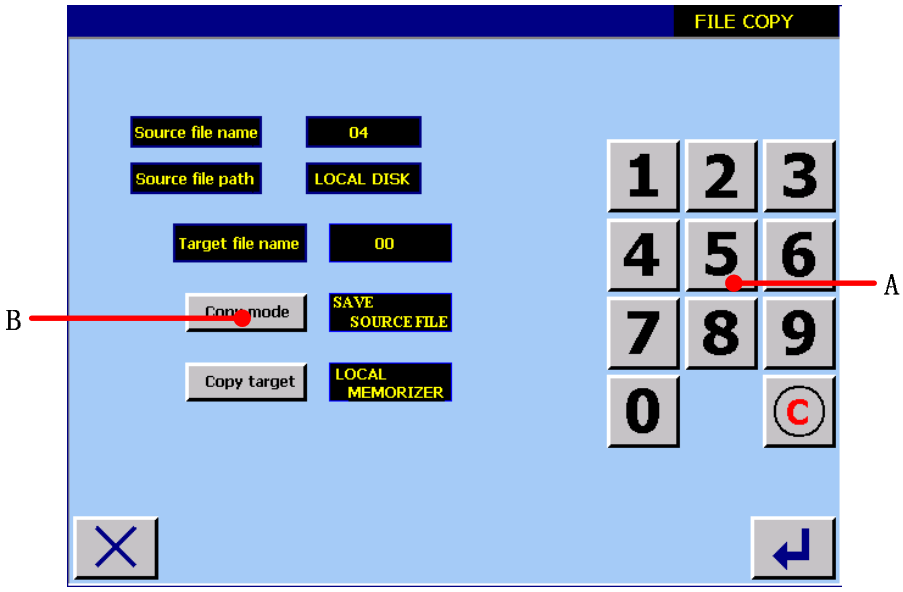


figure 10.10

A Use numerical button to input target data name. That is, input the name of copy file.

B Use Copy mode to select whether to store the source file or not. If you select storing resource file, the copy function is realized; if you select deleting source file, the rename function is realized.

2 Setting is over, press ↵ to confirm.

If there is successful operation, the <successful operation> screen will display as figure 10.11 shown.

figure 10.11

If the target file and register file have same file, the screen will display as figure 10.12 shown.

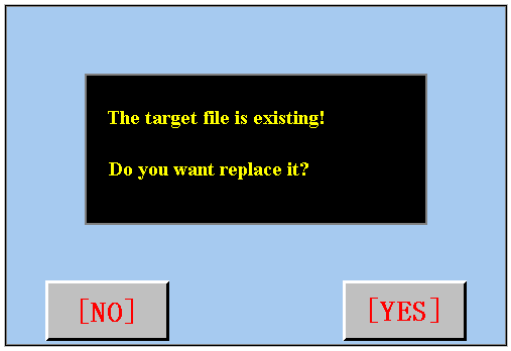


figure 10.12

Press [YES] button to replace; Press [NO] button to return to < continuous stitching file management> screen.

If there is unsuccessful operation, the <unsuccessful operation> screen will display as figure 10.13shown：

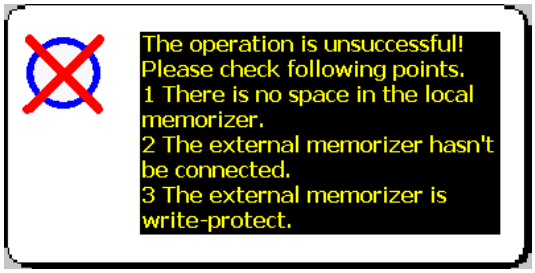


figure 10.13

（2）Deleting cycle stitching file

【Operation details】:

1 Press the register continuous stitching file button s which need to be deleted, it will display as figure 10.14 shown.

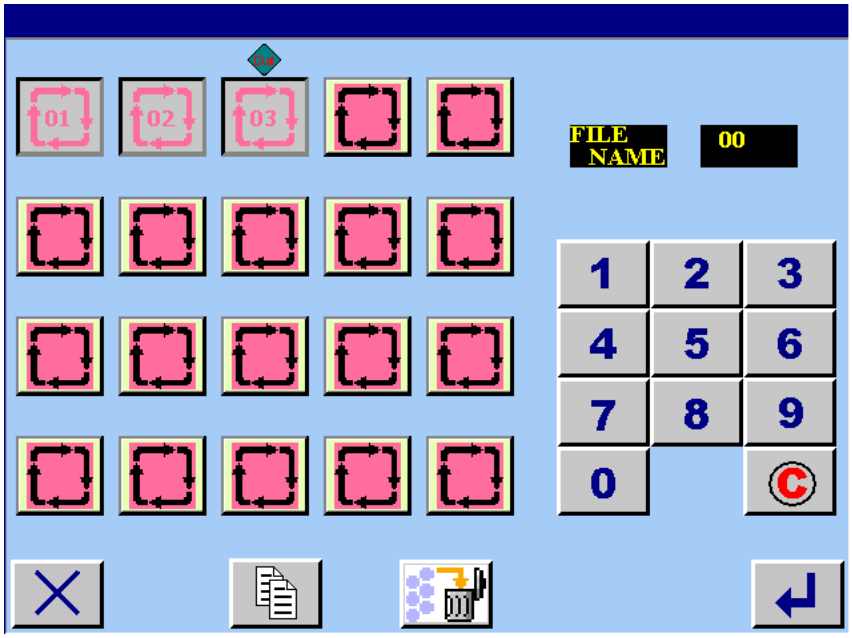


figure 10.14

② Press button (F) to set the deletion.

10.2.5 Viewing cycle stitching file

Press button in data input screen, the <cycle stitching file viewing> screen is displayed (see figure 10.15).

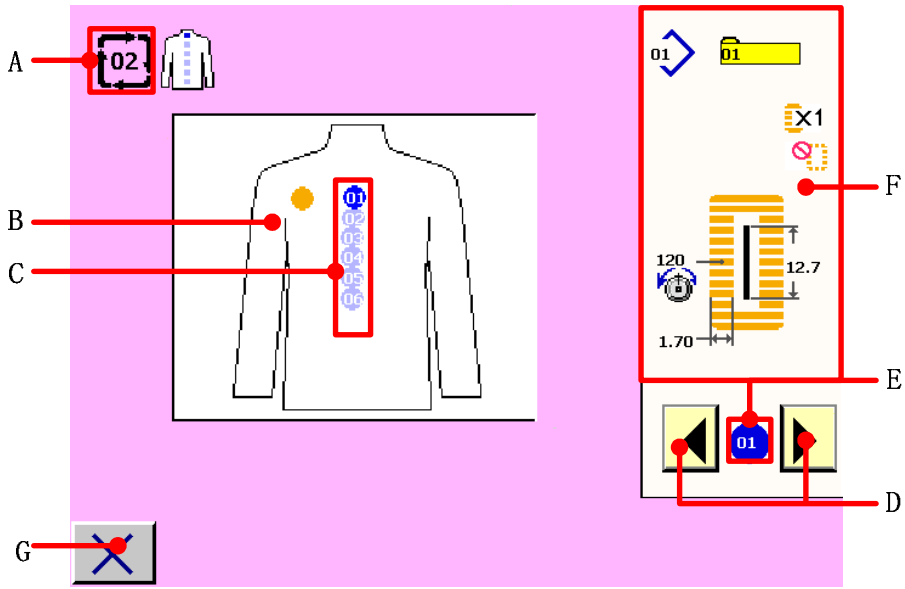


figure 10.15

A: Cycle stitching data No. during viewing is displayed.

B: **Image of sewing product is displayed.**

C: **Sewing order of inputted pattern data is displayed. Pattern data during sewing is displayed in blue color.**

D: **Press UP/DOWN SCROOL button** **and** **to view the corresponding pattern No. and pattern data. The swing data which is being viewed display in area C by blue circle. The swung order data display in the blue circle E**

. Contents of the corresponding pattern data are displayed in the area F.

E: **Swing data which is being viewed is displayed**

F: **Pattern NO. and pattern NO. data are display**

G： **Close button.**

11 CHANGING USER PARAMETER DATA

11.1 Changing procedure of user parameter data

【Operation details】:

1 Press user parameter button in main menu screen and the <user parameter> screen is displayed as figure 11.1 shown.

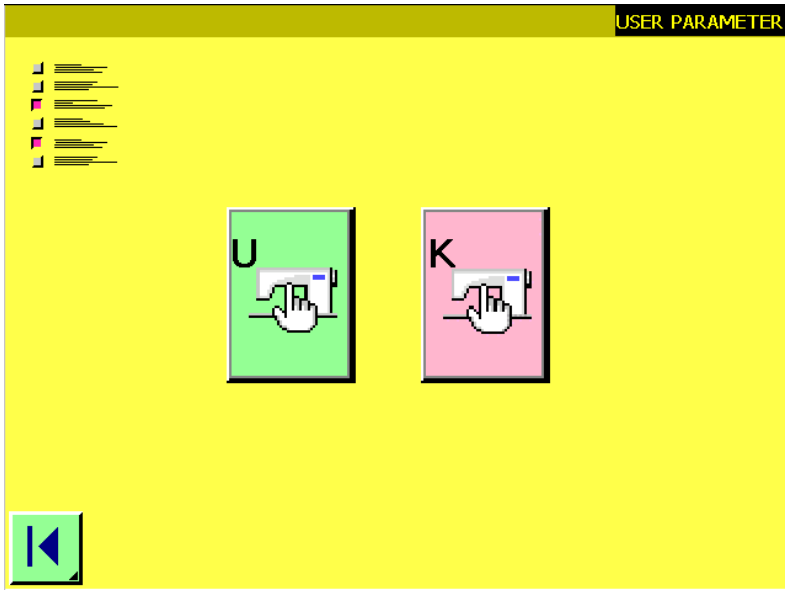


figure 11.1

2 Press button and the <user parameter 1> screen is displayed. Press button and the <user parameter 2> screen is displayed. See figure11.2.

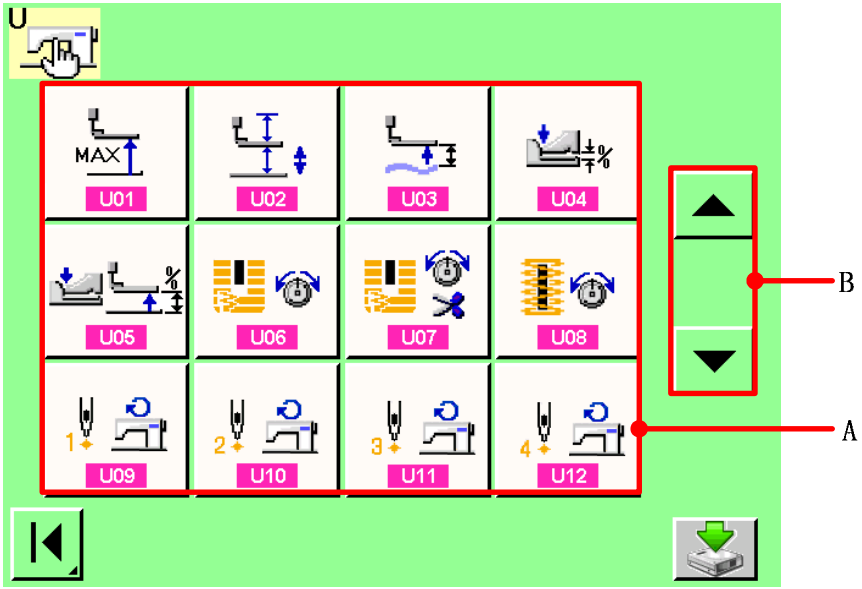


figure 11.2

③ Select the user parameter button you desire to change.

Press UP/DOWN SCROOL button (B) and select the data item button (A) you desire to change.

④ Change the user parameter data.

There are data items to change numerals and those to select pictographs in the user parameter data.

No. in pink color such as U01 is put on the data items to change numerals and the set value can be changed with numerical button board displayed in the change screen.

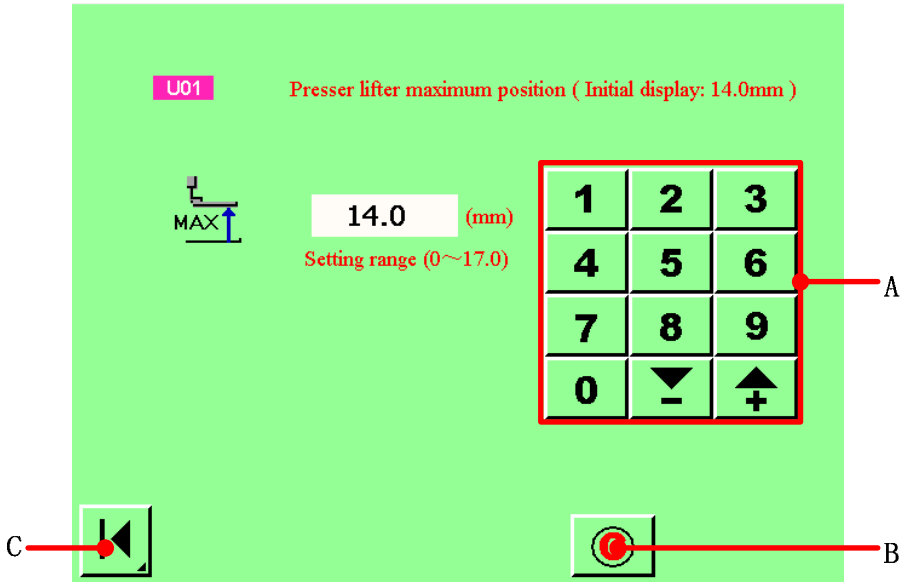


figure 11.3

A: numerical button board

B： Clear button .

C： Return button

No. in blue color such as U19 is put on the data items to select pictographs and the pictographs displayed in the change screen can be selected.

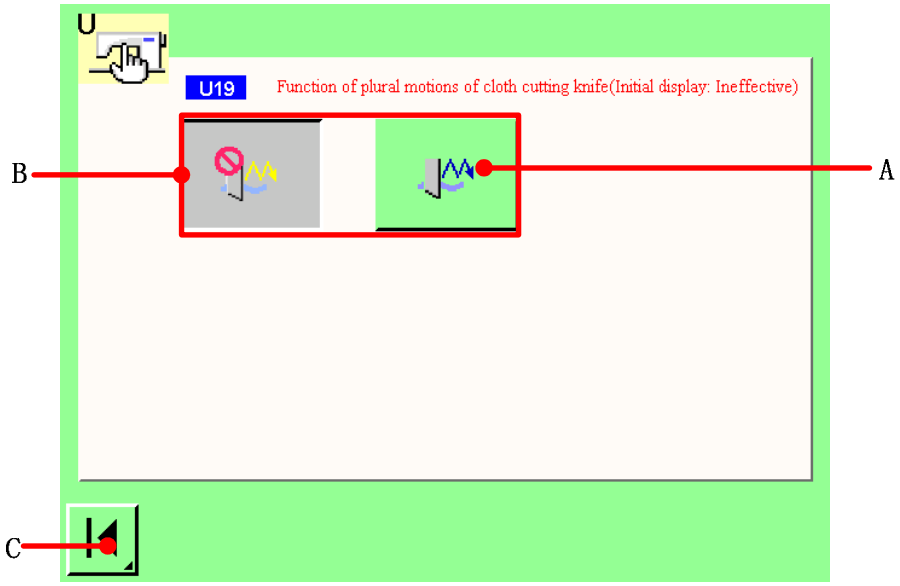


figure 11.4

A: The selected data items
B: Data items
C: Return button

5 Confirm the changing of user parameter data

When the changing of user parameter data is completed, press C button to return to the <user parameter1>screen.

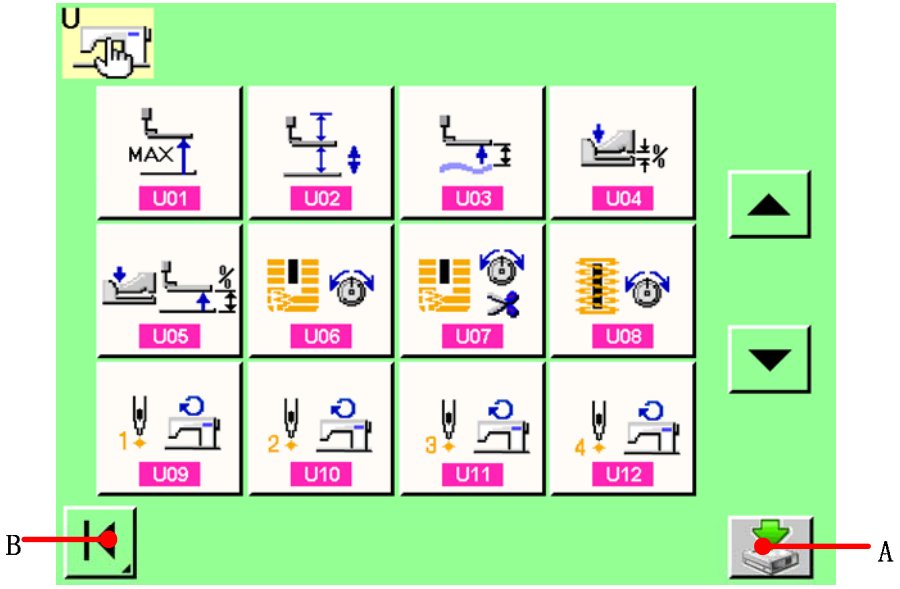


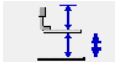
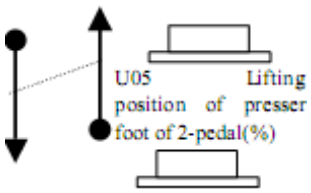
figure 11.5

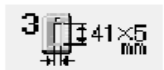
Press save button **(A) to confirm the changing of user parameter data. Press return button** **(B) to return to the < user parameter > screen.**

11.2 User parameter data list

【User parameter1】

☆User parameter1 data are the motion data that the sewing machine has in common and the data that operate on all sewing patterns in common.

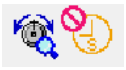
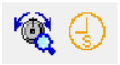
NO.	Item	Setting range	Edit unit	Initial display
U01	**Presser lifter maximum position** Height of maximum position of pedal operation is set.	**0 to 17.0**	**0.1mm**	**14.0mm**
U02	**Presser lifter intermediate position** Height of intermediate position of pedal operation is set. 	**0 to 14.0**	**0.1mm**	**6.0mm**
U03	**Presser lifter cloth setting position** Height of cloth setting position of pedal operation is set.	**0 to14.0**	**0.1mm**	**0.0mm**
U04	**Pedal toe down position of 2-pedal(%)** Operation feeling at the time of 2-pedal is set. For the details, refer to the item below.	**5 to 95**	**1%**	**80%**
U05	**Lifting position of presser foot of 2-pedal** Operation feeling at the time of 2-pedal is set. Pedal toe down amount Presser lifting amount U04 Pedal toe down position of 2-pedal(%) 	**5 to 95**	**1%**	**50%**
U06	**Needle thread tension at sewing end setting**	**0 to 200**	**1**	**35**
U07	**Needle thread tension at thread trimming**	**0 to 200**	**1**	**35**
U08	**Needle thread tension of basting for sewing together setting**	**0 to 200**	**1**	**60**

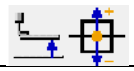
U09	**Soft-start speed setting 1st stitch**	**400 to 4200**	**100rpm**	**800rpm**
U10	**Soft-start speed setting 2st stitch**	**400 to 4200**	**100rpm**	**800rpm**
U11	**Soft-start speed setting 3st stitch**	**400 to 4200**	**100rpm**	**2000rpm**
U12	**Soft-start speed setting 4st stitch**	**400 to 4200**	**100rpm**	**3000rpm**
U13	**Soft-start speed setting 5st stitch**	**400 to 4200**	**100rpm**	**4000rpm**
U14	**Kind of presser** Set the kind of the presser. →Refer to 6. 	—	—	**Type 1**
U15	**Presser size width (Type 5)** When type 5 of U14 Kind of presser is set, input the width of the presser.	**3.0 to 10.0**	**0.1mm**	**3.0mm**
U16	**Presser size length (Type 5)** When type 5 of U14 Kind of presser is set, input the length of the presser.	**10.0 to120.0**	**0.5mm**	**10.0mm**
U17	**Sewing start position (Feed direction)** Sewing start position in terms of presser is set. Set this item when start position is desired to be shifted due to overlapped section or the like.	**2.5 to 110.0**	**0.1mm**	**2.5mm**
U18	**Cloth cutting knife size** Input knife size used.	**3.0 to 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 button (Up/Down)** Presser foot position when READY button is pressed is set. : Presser up : Presser down	—	—	**Presser UP**
U22	**Selection of presser position at the time of completion of 1-cycle (Up/Down)** Presser foot position when 1-cycle is completed is set. :Presser up :Presser down	—	—	**Presser 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 to 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 to 15.0**	**0.1mm**	**1.5mm**
U25	**Counter updating unit** Unit to update sewing counter is set. 	**1 to 30**	**1**	**1**
U26	**Number of total stitching with/without** : with : without	—	—	**without**

【User parameter12】

NO.	Item	Setting range	Edit unit	Initial display
K01	**Pedal selection** Pedal type is set. : 2-pedal : 1-pedal (Without intermediate position) : 1-pedal (With intermediate position)	—	—	**2-pedal**
K02	**Parameter setting change Permitted/Prohibited** Prohibition of change of sewing data and memory switch data is set. : Change permitted : Change prohibited	—	—	**Change permitted**
K03	**Function of prohibition of selection of kind of presser Permitted/Prohibited** Prohibition of change of U14 Kind of presser is set. Change permitted Change prohibited	—	—	**Change permitted**
K04	**Sewing shape selection level** Number of sewing shapes which can be sewn can be increased. (Max. 30 shapes) : 12 shapes : 20 shapes : 30 shapes	—	—	**12 shapes**
K05	**Cloth cutting knife power** Output power of cloth cutting knife is set. 0 : Min. power → 3 : Max. power	**0 to 3**	**1**	**1**
K06	**Selection of machine type** Type of sewing machine head is set. 0 : Standard type 1 : Dry head type	**0 to 1**	**1**	**0(Standard type)**
K07	**Max. speed limitation speed setting** Max. speed of sewing machine can be limited. When K06 Selection of machine type is set to dry head type, max. speed is automatically limited to 3,300 rpm. 	**400 to 4200**	**100rpm**	**3600rpm**

K08	**Compensation of unsteady needle thread tension** Output value of needle thread tension is wholly offset and compensated.	**-30 to 30**	**1**	**0**
K09	**Output time of needle thread tension changed value** When data related to needle thread tension is changed, the changed value is output as long as the set-up time.  : Without output  : Output of set-up time	**0 to 20**	**1s**	**0s**
K10	**Function of origin retrieval each time** Origin retrieval is performed after completion of sewing. : Without : After end of sewing : After end of cycle	**—**	**—**	**Without output**
K11	**Needle up by reverse run Effective/ Ineffective** 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 run prohibited : Needle up by reverse run permitted	**—**	**—**	**Permitted**
K12	**Knife solenoid lowering time setting**	**25 to 100**	**5ms**	**35**
K13	**Knife solenoid lifting time setting**	**5 to 100**	**5ms**	**15**
K14	**KNIFE CYLINDER LOWERING TIME (OPTIONAL)**	**5 to 300**	**5ms**	**50**
K15	**Y-feed motor origin compensation**	**-120 to 400**	**1 pulse (0.025mm)**	**0**

K16	**Needle-rocking motor origin compensation**	**-10 to 10**	**1 pulse (0.05mm)**	**0**
K17	**Presser lifter motor origin compensation** 	**-100 to 10**	**1 pulse (0.05mm)**	**0**
K18	**Display/Non-display of direct button** : Display : Non-display	**—**	**—**	**Non-display**
K19	**Thread trimming on the way in continuous stitching Permitted/ Prohibited.** : Permitted : Prohibit	**—**	**—**	**Permitted**
K20	**Changeover of cloth cutting knife return power** This item sets output power at the time of returning the cloth cutting knife.	**0 to 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.	**0 to 15**	**1 pulse**	**8**
K22	**Presser lifter speed selection** This item sets presser lifter speed.	**1 to 3**	**—**	**2**
K23	**LCD closed automatically without operating Touch screen Permitted /Prohibited** : Change permitted : Change prohibited	**—**	**—**	**Permitted**
K51	**Needle thread trimmer adjusting mode**	**—**	**—**	**—**
K52	**Bobbin thread trimmer adjusting mode**	**—**	**—**	**—**
K53	**Input state test**	**—**	**—**	**—**

12 EXPLANATION OF PLURAL MOTIONS OF KNIFE

This sewing machine can automatically actuate the knife plural times and sew a buttonhole larger than the size of knife by setting the size of knife attached from the operation panel. Set and use this function when sewing various sewing shapes without replacing the knife.

【Operation details】

① user parameter button in the main menu screen and display the <user parameter> screen. See figure12.1.

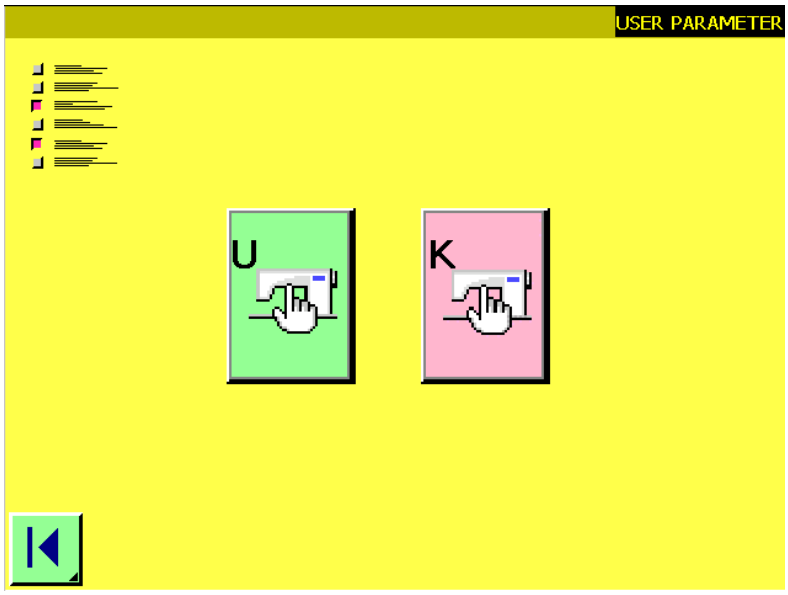
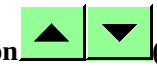
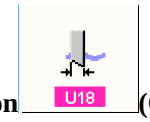


figure 12.1

**②Press button and the <user parameter 1> screen is displayed. Press UP/DOWN SCROOL button  (B) and select U18 Cloth cutting knife size button 

(C). The cloth cutting knife size input screen is displayed.**

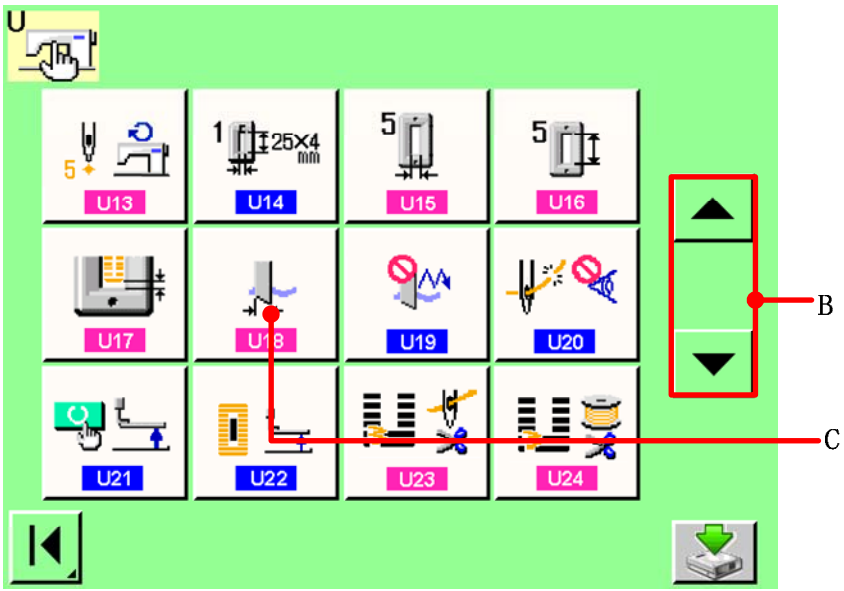
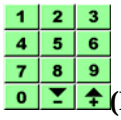


figure 12.2

3 Input the cloth cutting knife size.

Press numerical button board buttons  **(D) and input the size of knife attached.**

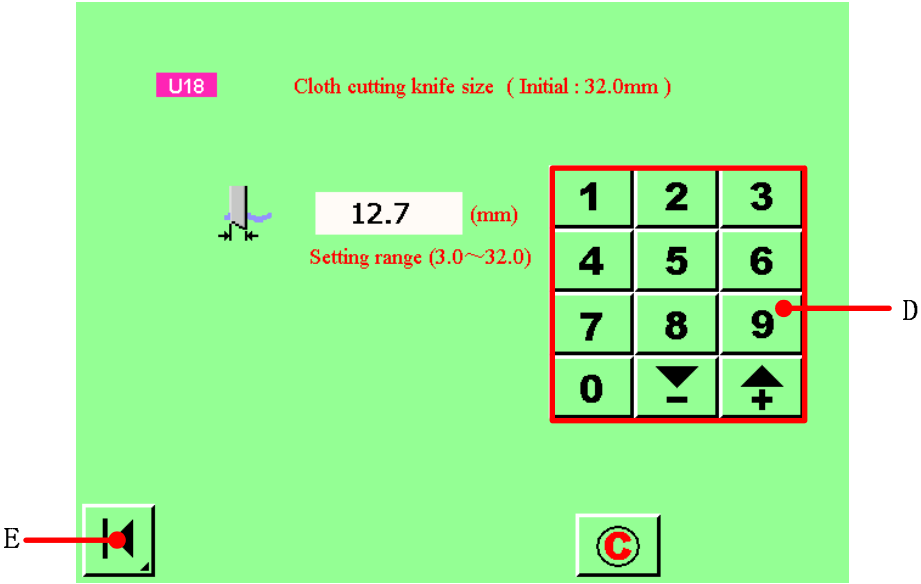


figure 12.3

4 Determine the cloth cutting knife size

When the changing of user parameter data is completed, press C button . The cloth cutting knife size input screen is closed and the input has been completed. Then the screen return to the <user parameter1>screen..

5 **Select U19 Function of plural motions of cloth cutting knife button.**

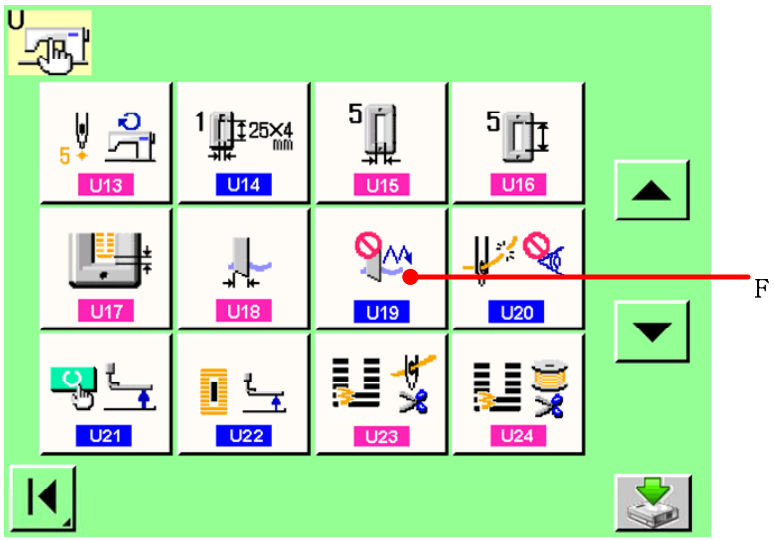


figure 12.4

Press UP/DOWN SCROOL button and select U19 Function of plural motions of cloth cutting knife button U19 (F). The function of plural motions of cloth cutting knife selection screen is displayed.

6 **Make effective the function of plural motions of cloth cutting knife.**

Select the effective button (G).

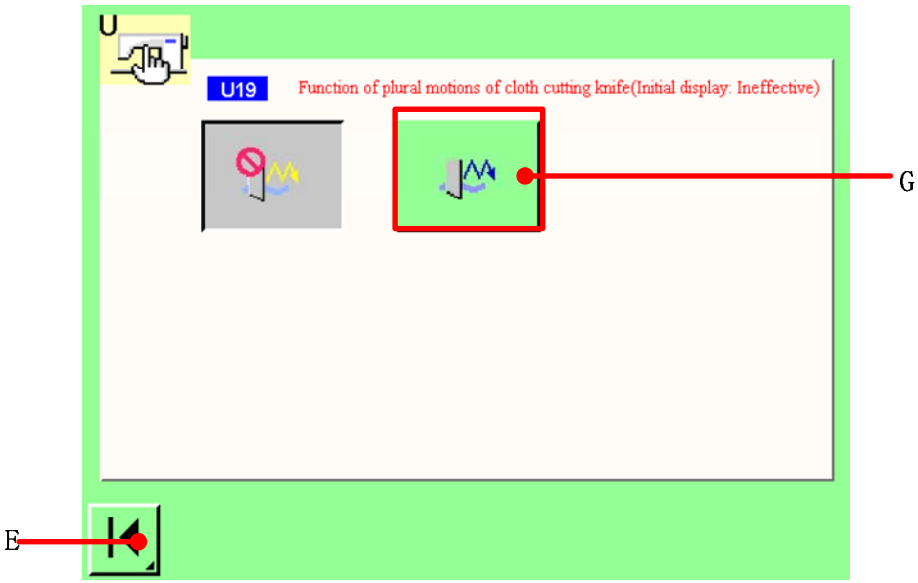


figure 12.5

Complete setting the function of plural motions of cloth cutting knife.

When return button (E) is pressed, the function of plural motions of cloth cutting knife screen is closed and the selection of the function of plural motions of cloth cutting knife has been completed. Then the screen returns to the user parameter1 screen.

Determine the cloth cutting knife size and the function of plural motions of cloth cutting knife.

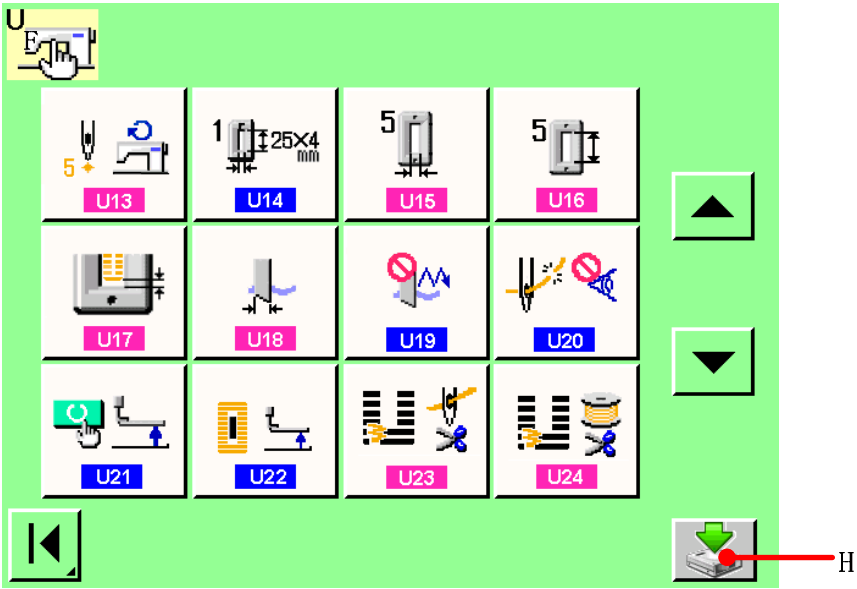


figure 12.6

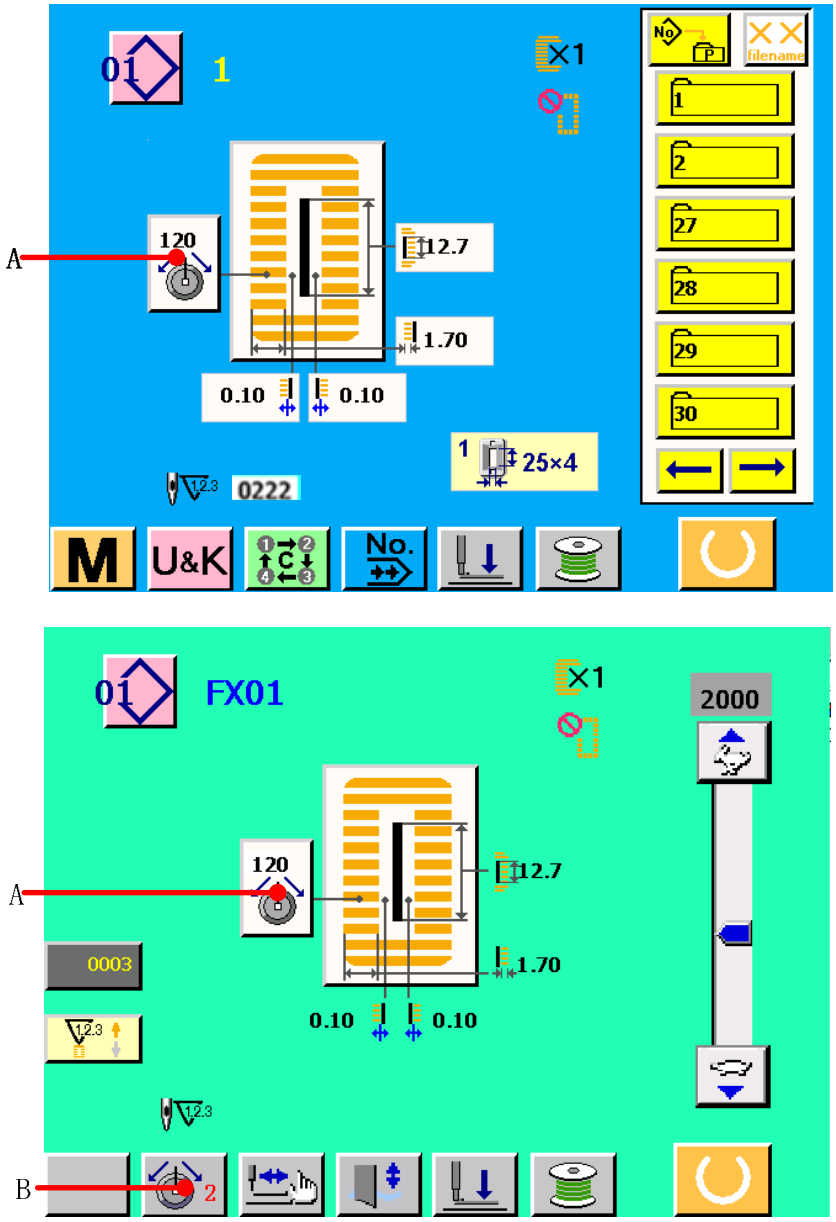
Press save button (H) to confirm the cloth cutting knife size and the function ata of plural motions of cloth cutting knife.

13 CHANGING NEEDLE THREAD TENSION

This sewing machine has two needle thread tension mode. You can change them separately.

【Operation details】:

Press button A in data input screen、independent sewing screen and cycle sewing screen. The changing of needle thread tension screen is displayed(see figure 13.1).



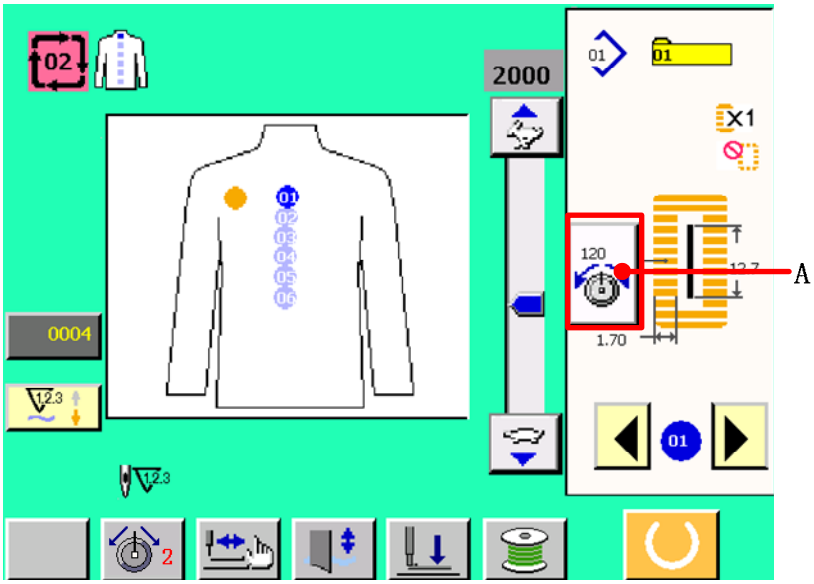


figure 13.1

2 Changing needle thread tension

Press button A to select the mode of needle thread tension which you desire. Then you can press button B、C or D to change the needle thread tension values.

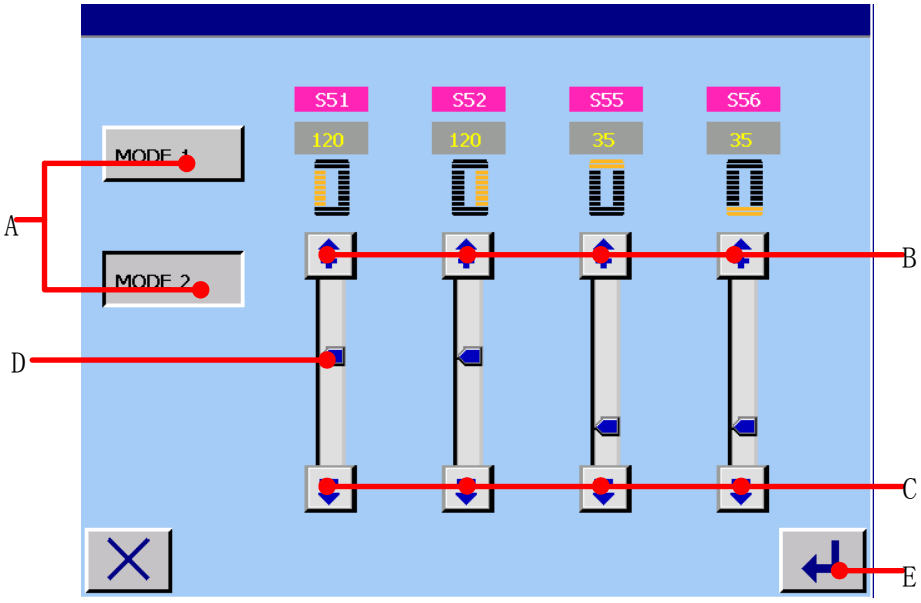


figure 13.2

A: Press button A to select the mode of needle thread tension.

B: Increase the parameter value of needle thread tension according to edit unit.

C: Decrease the parameter value of needle thread tension according to edit unit.

D: Move this button to the position you desire, this function can change the parameter value of needle thread tension quickly.

③ Press button E to save the changing of the parameter value of needle thread tension. The parameter S51of needle thread tension mode 1 or mode 2 will be displayed in data input screen and sewing screen.(see figure 13.1)

14 PERFORMING RE-SEWING

When STOP switch (A) is pressed during sewing, the sewing machine interrupts sewing and stops. The re-swing screen is displayed.

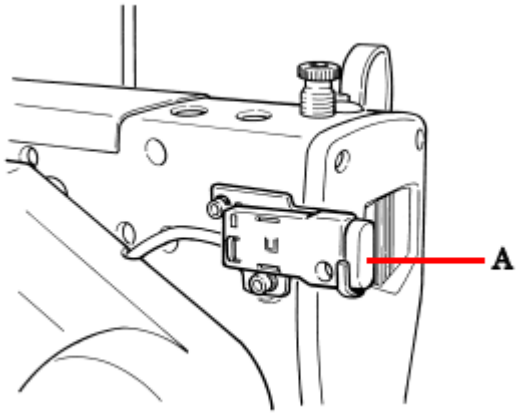


figure 14.1

14.1 To continue performing sewing from some point in sewing

【Operation details】:

Press BACKWARD button (C), and the presser returns stitch by stitch. Press FORWARD button (D), and the presser advances stitch by stitch. Return the presser to the re-sewing position.

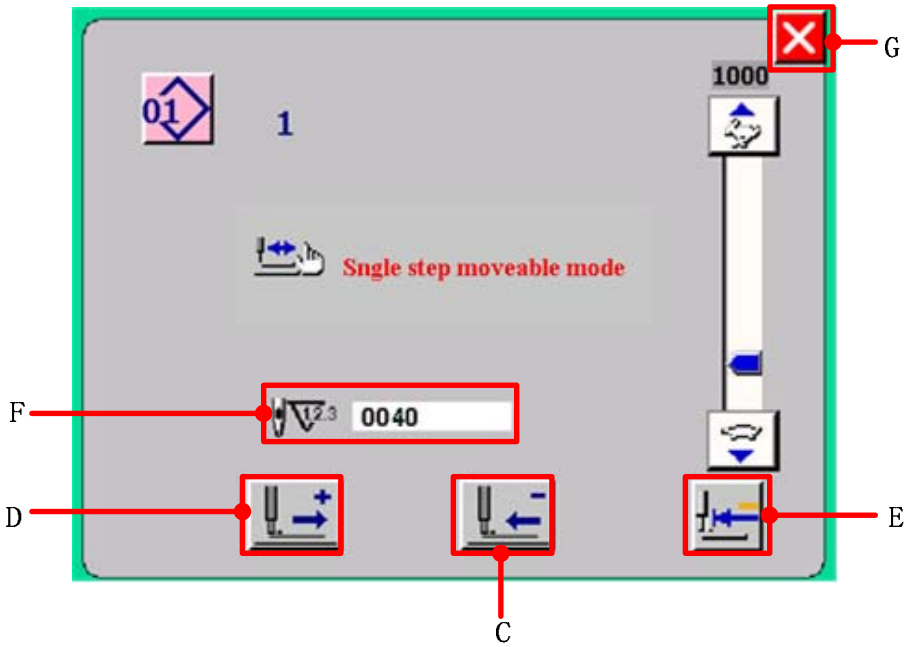


figure 14.2

Start sewing again

Depress the right side pedal and sewing starts again.

14.2 To perform sewing from the start

Press INITIAL POSITION TRAVEL button (E) and the presser returns to the sewing product setting position (start position). Press CANCEL button (G)to close the screen and the presser returns to the sewing product setting position (start position).

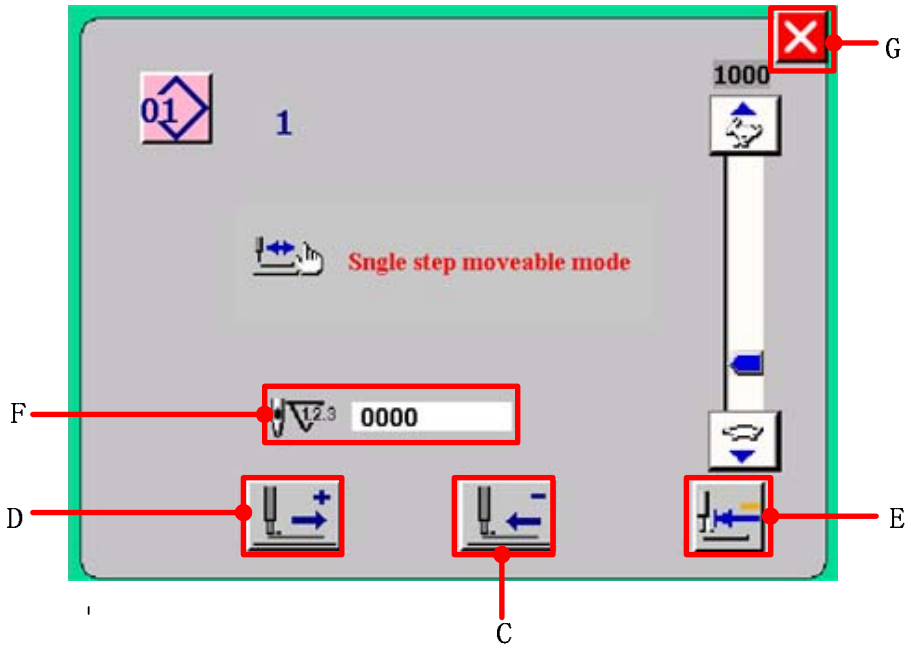


figure 14.3

F: The existing number of stitches

Perform again the sewing work from the start.

When the right pedal is depressed, sewing starts again.

15 ERROR CODE LIST

Error code		Description of error	How to recover	Place of recovery
E023		Detection of step-out of presser lifting motor When step-out of motor is detected at the time when presser lifting motor passes origin sensor or starts operation.	Press closed button to return.	Main menu screen
E302		Confirmation of tilt of machine head When tilt of machine head sensor is OFF.	Press closed button to return. Possible to re-start after resetting	Main menu screen
E304		Cloth cutting knife sensor error	Press closed button to return. Possible to re-start after resetting	—
E489		Knife size error When knife size is larger than cloth cutting knife size.	Press closed button to return.	Sewing data input screen S02 U18
E495		Presser size error (Width direction : right only) When stitching data exceeds the size of right only of width direction of presser.	Press closed button to return.	Sewing data input screen S03 S05 S06
E496		Presser size error (Width direction : left only) When stitching data exceeds the size of left only of width direction of presser.	Press closed button to return.	Sewing data input screen S04 S05
E498		Presser size error (Width direction : right and left) When stitching data exceeds the size of both right and left of width direction of presser.	Press closed button to return.	Sewing data input screen S03 S04 S05 S06
E499		Presser size error (Length direction : rear) When stitching data exceeds the size of rear of length direction of presser.	Press closed button to return.	Sewing data input screen S02
E501		Alarm of Oversteps the X- axis area limit	Press closed button to return.	Main menu screen
E502		Alarm of Oversteps the Y- axis area limit	Press closed button to return.	Main menu screen
E503		Error of the needle thread trimmer's home position	Press closed button to return.	Main menu screen

E504		**Error of the bobbin thread trimmer's home position**	**Press closed button to return.**	**Main menu screen**
E505		**The presser's home position is not found**	**Press closed button to return.**	**Main menu screen**
E506		**Error of the Principal axis's home position**	**Press closed button to return.**	**Main menu screen**
E507		**Alarm of X-axis returning home position**	**Press closed button to return.**	**Main menu screen**
E508		**Alarm of Y-axis returning home position**	**Press closed button to return.**	**Main menu screen**
E509		**Error of X-axis direction data**	**Press closed button to return.**	**Previous screen**
E510		**Error of Y-axis direction data**	**Press closed button to return.**	**Previous screen**
E511		**Error of communication of control card**	**Press closed button to return.** **Possible to re-start after resetting**	**Previous screen**
E512		**Y-axis direction data is negative**	**Press closed button to return.** **Please note the data and communicate manufacturer**	**—**
E600		**Error of Eyelet width** **When eyelet width is larger than eyelet length**	**Press closed button to return.**	**Sewing data input screen** S16 S17
E735		**Alarm of Principal axis's drive**	**Press closed button to return.** **Possible to re-start after resetting**	**—**
E736		**Detection of step-out of Principal axis's coder**	**Press closed button to return** **Possible to re-start after resetting**	**—**
E915		**Error of communication of host computer writing** **When abnormality occurs in communication.**	**Press closed button to return.** **Possible to re-start after resetting**	**—**
E916		**Error of slave computer's data** **When abnormality occurs in communication.**	**Press closed button to return.** **Possible to re-start after resetting**	**—**
E917		**Defeat of initializing of communication** **When abnormality occurs in communication.**	**Press closed button to return.** **Possible to re-start after resetting**	**—**
E999		**When cloth cutting knife does not return; When cloth cutting knife does not return after the lapse of predetermined time.**	**Press closed button to return.** **Possible to re-start after resetting**	**—**