User´s Manual
(programming)

GARUDAN®

GPS/F-1006
series

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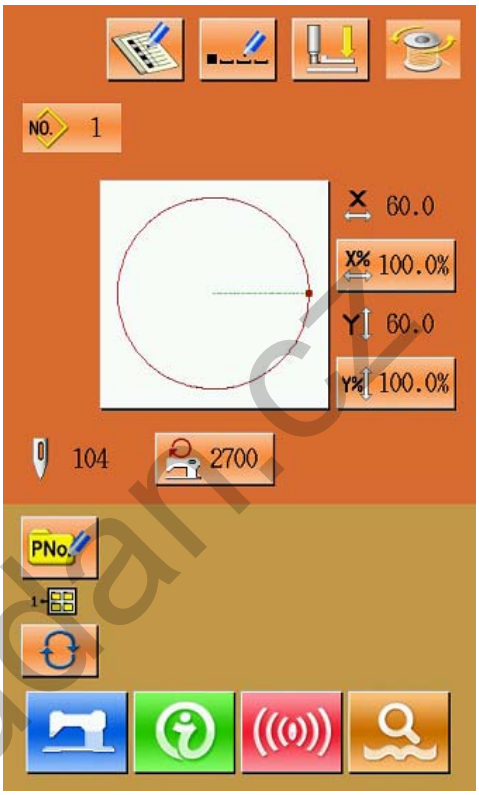
1. Start • End of Input Mode

1-1. Entry to Input Mode

① Turn on the Machine

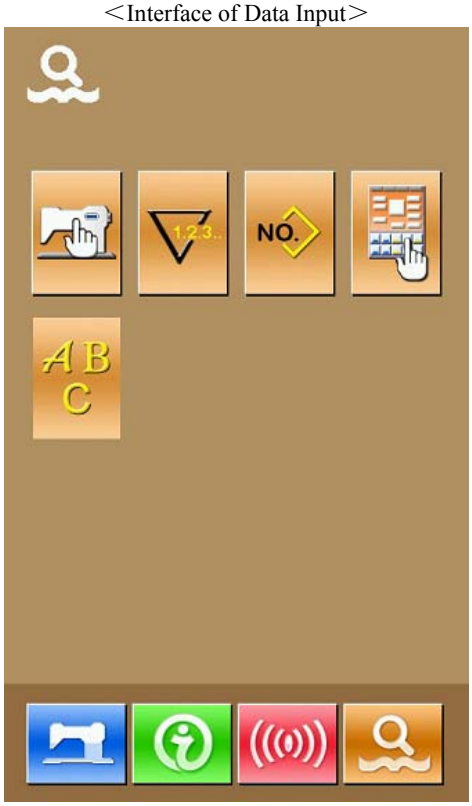
After user turns on the machine, the interface for data input will be displayed.



＜Interface of Data Input＞

② Entry to Mode Interface

Press to shift between the data input interface and the mode selection interface (as shown in right). In the right interface, user can perform some detailed settings and editions.



＜Mode Interface＞

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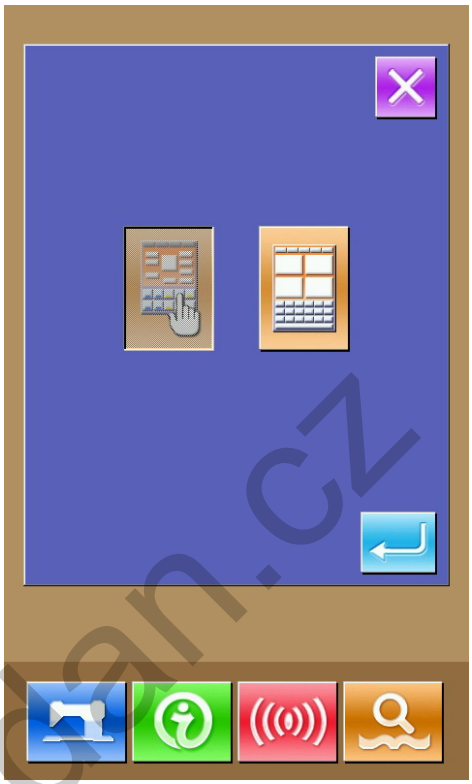
③ Select Input Mode

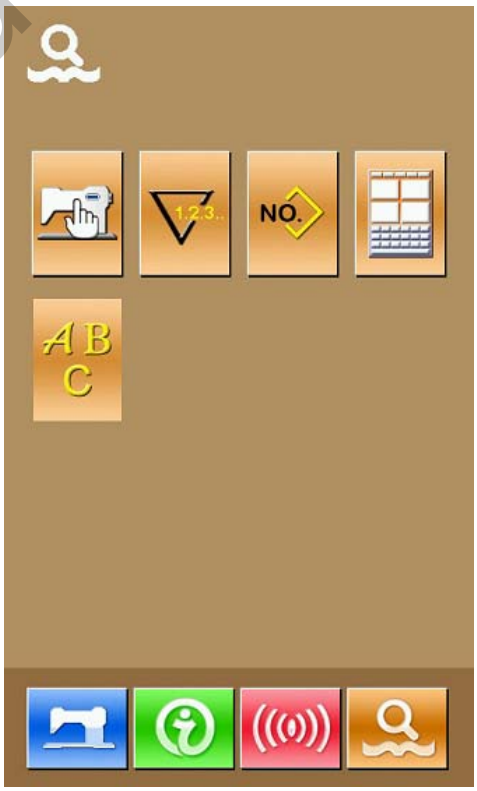
Press to have access to the interface for selecting sewing mode or edition mode (as shown in right).

:Sewing Mode

:Edition Mode

Press and
to return to the mode selection interface.





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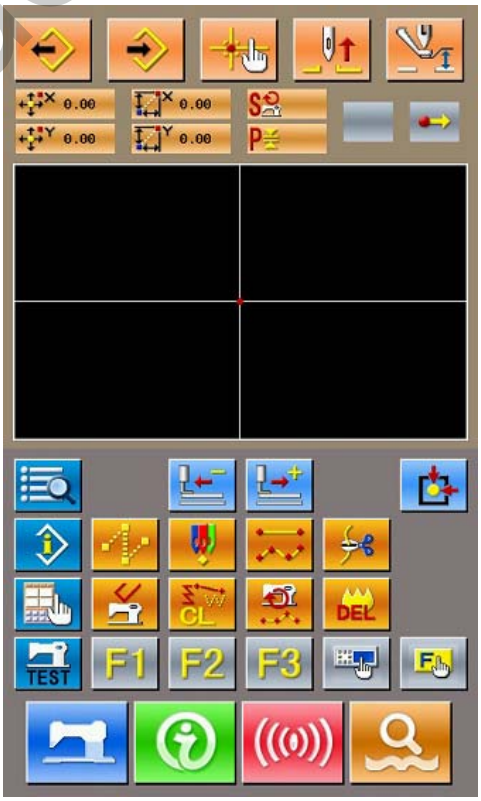
④ Entry to Input Mode

Press again to quit the mode selection interface. At this moment, the system will ask whether to have access to the interface for inputting pattern edition.

Press to have access to the standard interface of new pattern edition. Press to return to the standard interface for editing the previous pattern.



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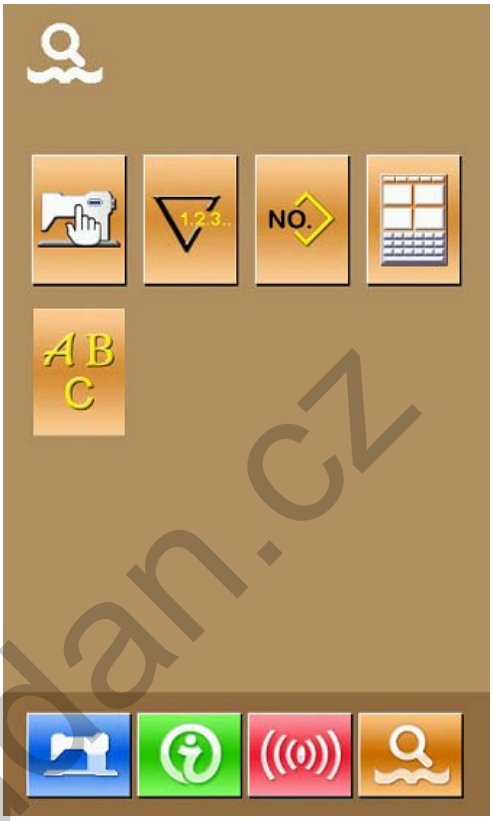
1-2. Return to Common Sewing Mode

① Display of Mode Interface

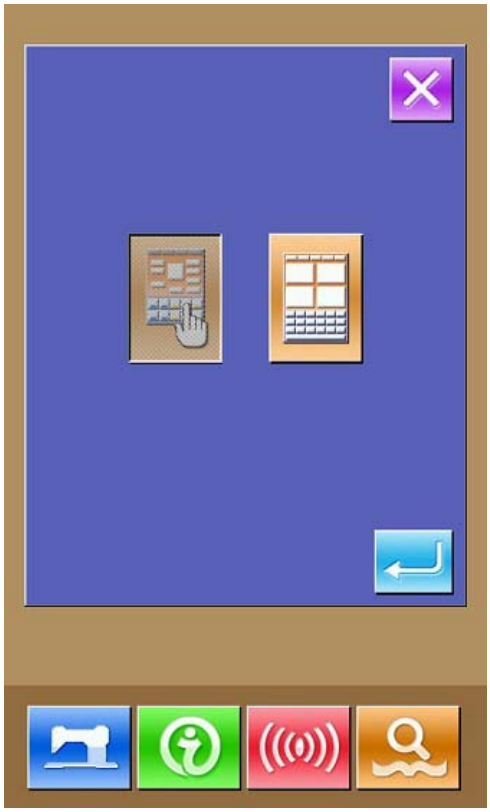
In order to return to common sewing mode from input mode, user shall press at standard interface of pattern edition, thus to display the mode interface.



＜Mode Interface＞

② Select Common Sewing Mode

Press to have access to the interface for selecting the edition mode and sewing mode. Press and to return to the interface for selecting mode.



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③ Have Access to Common Sewing Mode

When user selected the common sewing mode and pressed , the interface for confirming the return to the sewing mode would be displayed

At this time, press to have access to the interface of data input in the common sewing mode.

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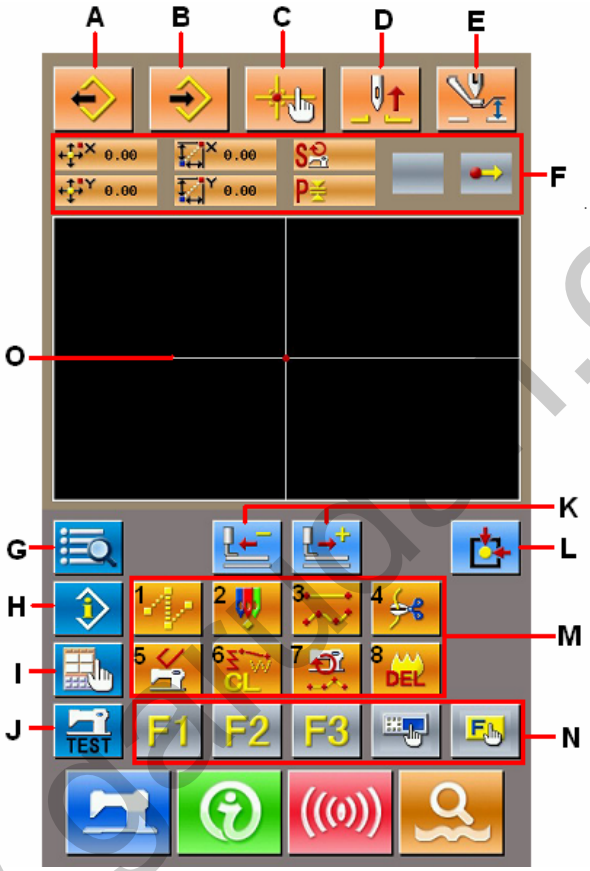
2. Basic Operation·Display

General operation and display in input mode.

2-1. Standard Interface for Input Mode

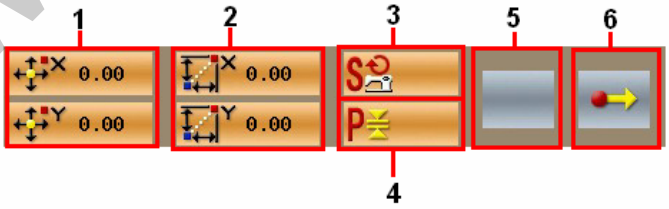
This is the standard interface for input mode



The keys in the standard interface of input mode are shown at below:

No.	Name	Content
A	Load design	Display the interface for loading design
B	Design input	Display the interface for design input
C	Needle entry point inquiry	Quick locate the needle entry point; during the pattern edition, user can input the coordinates directly.
D	Needle-lifting	Make the needle return to the highest point
E	Intermediate presser adjustment	Lift or lower the intermediate presser
F	Information of existing needle position	Display the information of the existing needle position
G	Code list	Display the【Code list】

No.	Name	Content
H	Information	The information interface will display the detailed information of the needle position at present.
I	Display setting	Display the interface for setting
J	Trial sewing	Display the trial sewing interface
K	Forward · backward feeding	Move a stitch from the existing needle position（forward；backward）
L	Return to origin	Make the needle return to the origin from its existing position
M	Function keys	Enable to call the functions on the buttons directly 1 : Jump feed 2 : Point sewing 3 : Normal sewing 4 : Thread-trimming 5 : Release the mechanical control order 6 : Element deletion 7 : Change of sewing speed section 8 : Delete the pattern design edited at present
N	Functional hot-key	User can use Functional Selection • Setting (Functional code 112) to assign the functions needed to each button, thus use these buttons as hot keys. After the assignment, the figure standing up for that function will be displayed on that key.
O	Pattern display area	Display the pattern



No.	Item	Content
1	Absolute coordinate	Absolution coordinate of the existing needle position from its point to origin
2	Relative coordinate	The relative coordinate of the existing needle position.
3	Speed	The sewing speed or the jump feeding speed at existing needle position
4	Pitch	Represent the sewing stitch length of the present element. (when the figure is scaled, the original figure will be displayed)
5	Type of element	The type of the present element. For sewing data, the figures representing elements types (such as jump feed , broken line , curve and so on) will be displayed; for mechanical control orders, the figures standing for

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No.	Item	Content
		the control order type will be displayed (like thread-trimming).
6	Type of needle entry	Represent the types of needle entry position.
		Start point of design: the start position of design (origin).
		Middle point of element: the middle point within the element (neither the top point nor the end point of element)
		Top point,the top point of a broken line.
		End of element: the end position of the element..
		End of design: the end position of design

2-2. Selection of Functions

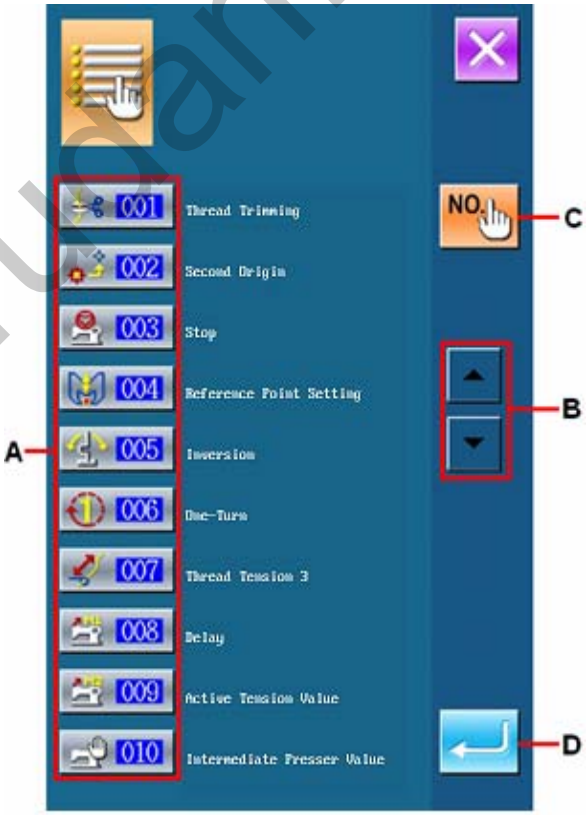
The following is the selection of functions in the input mode.

① **Display of the Code List**

In the standard interface of the input mode, press to have access to the interface of the Code List.

② **Selection of Functions**

Select the needed functions keys in the column A, the selected key will be shown reversely. After pressing Keys B, the column A will be displayed with its order changed.



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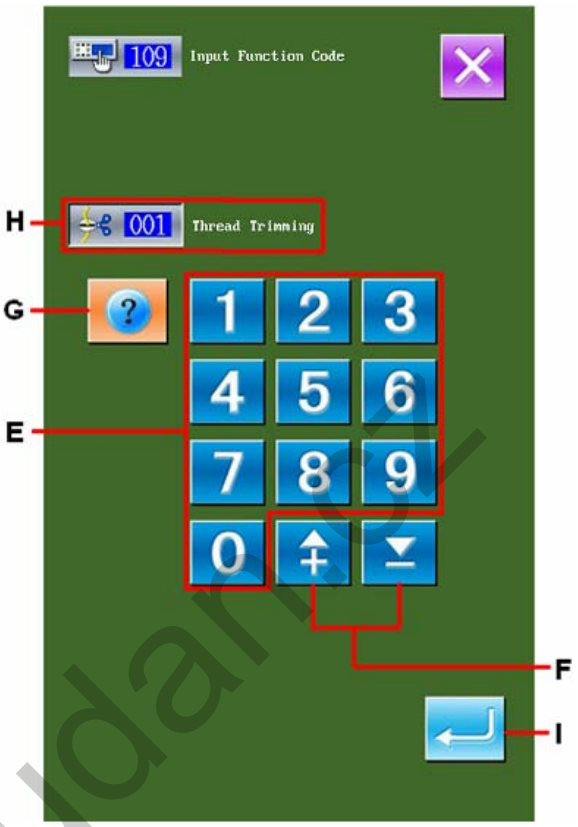
③ Directly Input the Function Code

After user presses the Key C, the interface of function list will be displayed. At this moment, user can input the functional code with the key in area E directly. The user can also select the functional code with +/- Keys (F). After the Help Key (G) was pressed, the relevant information of the inputted functional code will be display in area H.

Input the needed functional code and then press Enter Key (I), the system will return to the Code List.



Confirm the Selection

After user presses the needed functional key and , the setting interface of that function will be displayed. For the interface for settings, please refer to the functions.

2-3. Input Figure

The following is the method for inputting the general figures to make the pattern data

① Input the item for setting

The right picture is the interface after user inputted the set value of the functional setting items.

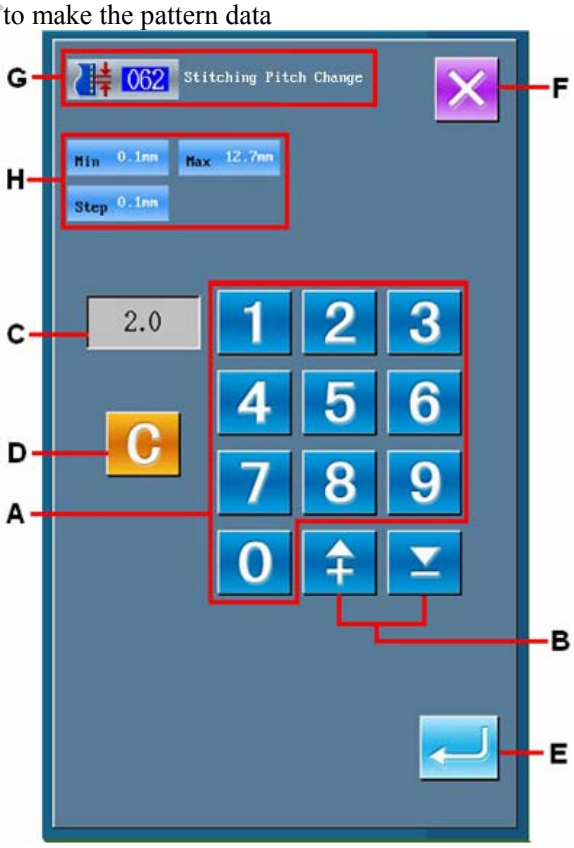
［ i.e.:Change on length of sewing stitch form］

The inputted setting item type is displayed at G; the inputted value is displayed at C.

After pressing figure key A, user is able to change the inputted figures. User can also change the inputted figure with +/- Keys B. The unit and range of change will be displayed at H.

Press E to confirm the inputted value.

Press F to cancel the inputted value.



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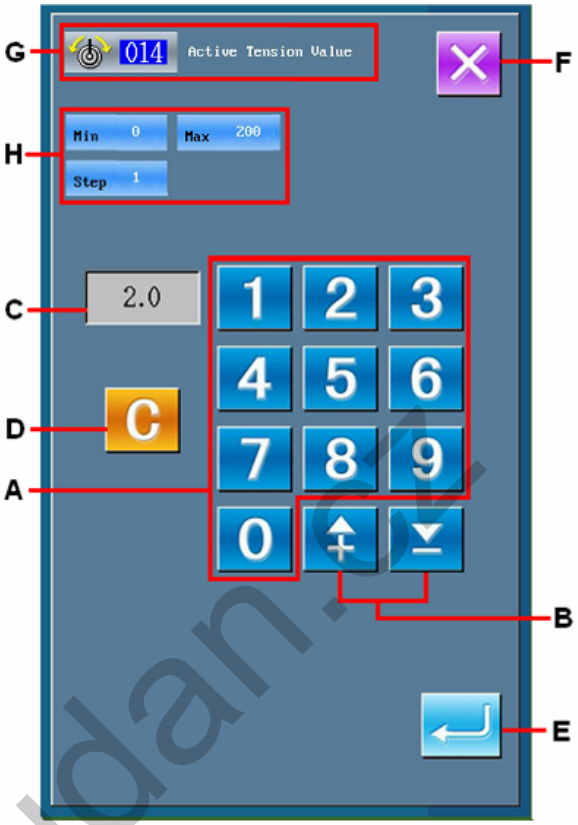
② **Input the parameters of mechanical control order**

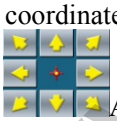
After user input the parameters of mechanical control order, the right interface will be displayed.
The method for inputting is same to that in inputting set value of item. The function code and name of the inputted parameter are displayed at area G.



2-4. Pointed Position

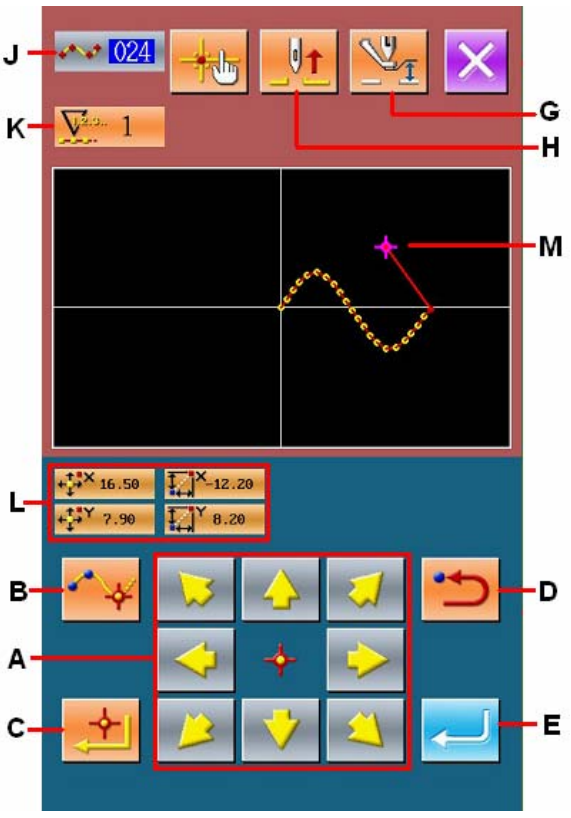
At setting the pointed position of function, the interface at right will be displayed. The selected functional code is displayed at J.

① **Press Keys in area A**

When the needle moves to the existing icon position M, the coordinates of it at L will be updated. Press  A to move the icon.
The Key B is for setting the shape point or needle entry point while C for confirming the settings. The number of the inputted points will be displayed at K.
The display of Key B is depended on the function selected

② **Press Key D to withdraw the movement**

Key D will help you to back to the previous position. If the input point is just confirmed, user can press this key to cancel the confirmation and return to the previous confirmed key.



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③ **Press Key E**

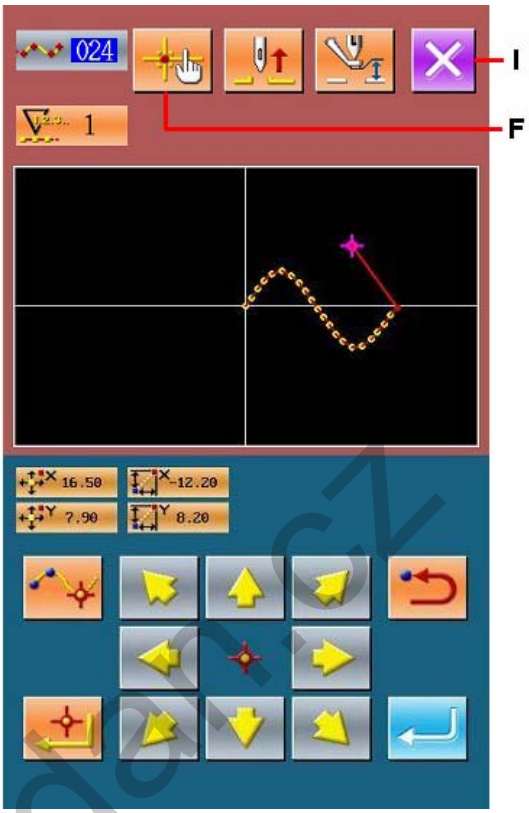
Press E to let the out presser back to the position at the beginning of the input. At this time the system will perform the calculation with the inputted point up to then, and track the created element. Move to the end of element and the data is inserted.

④ **Press Key I**

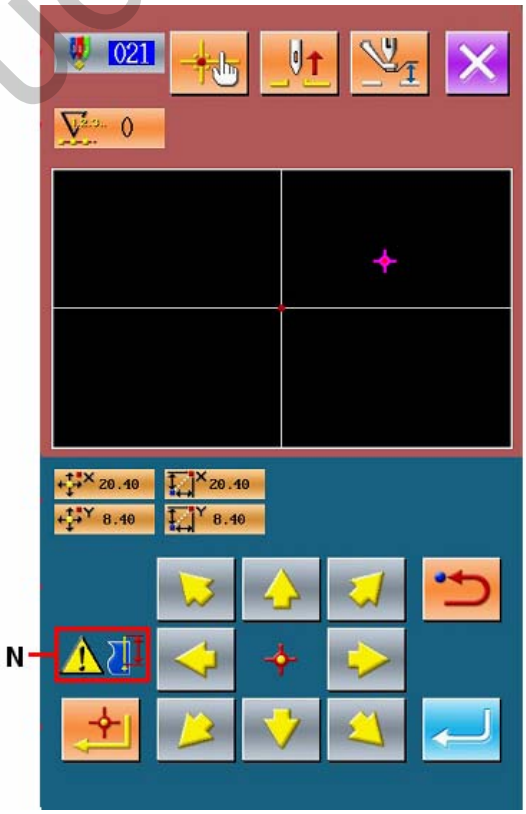
Press I to cancel the data at inputting, and then the system will return to the standard interface.

⑤ **Press F for directly allocating coordinate.**

Then the interface for directly allocating the coordinate will be activated.



If the setting is out of the reasonable range, the warning figure will be displayed on N.



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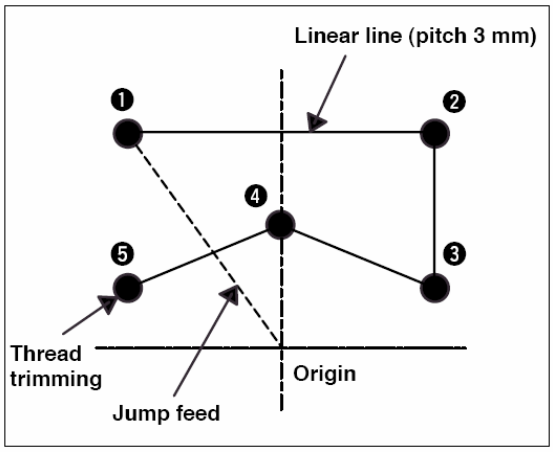
3. Instruction on Operation Order

The followings are the serial operations from inputting to trail sewing. For detailed information, please refer to each item.

3-1. Input of Pattern

Make the pattern below with input functions



Input point:

	X(mm)	Y(mm)
1	-5.0	5.0
2	5.0	5.0
3	5.0	1.0
4	0.0	3.0
5	-5.0	1.0

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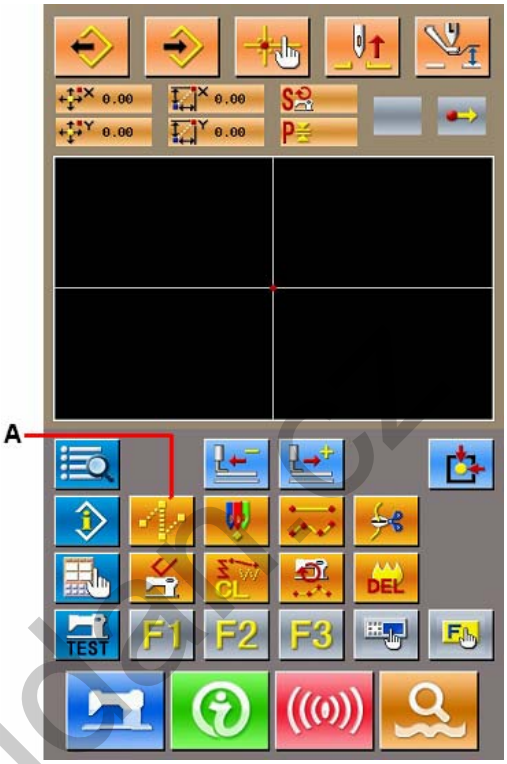
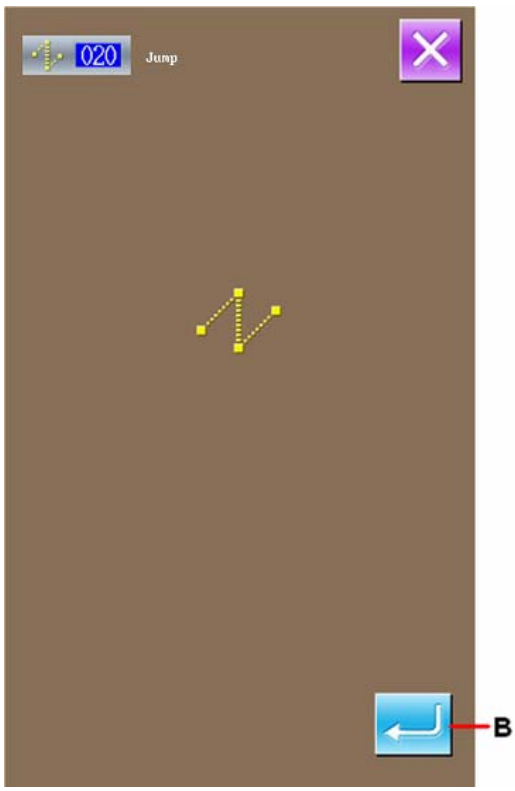
① **Input of Jump Feeding**

Press Key A in the standard interface, so as to have access to the set interface for jump feeding (as shown in right).



In the jump feeding interface, press Key B to have access to the interface for confirming jump feeding position.



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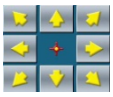
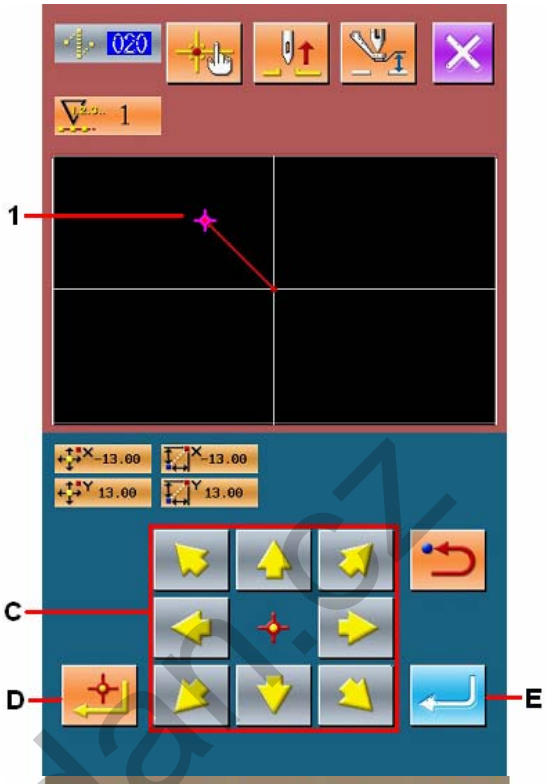
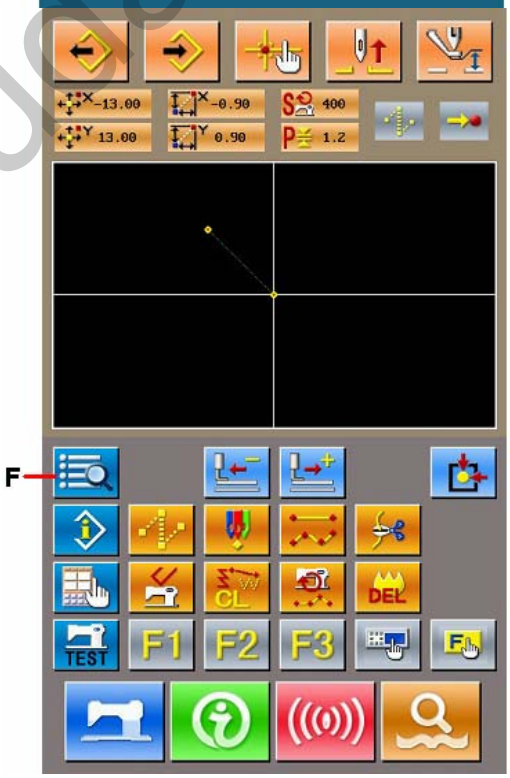
In the interface for confirming the jump feeding position, press  (C) to move the needle to the Position 1, then press Key D and E.



② **Input of Linear Normal Sewing**

In the standard interface, press Key F to have access to the interface of Code List.



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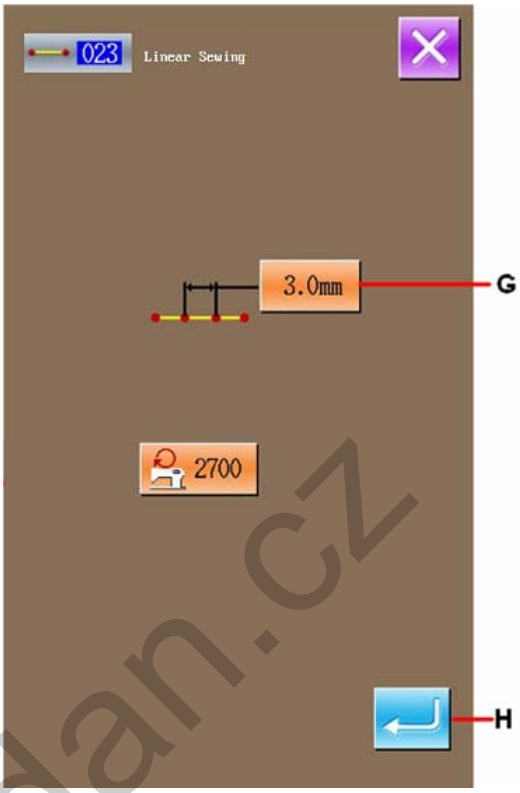
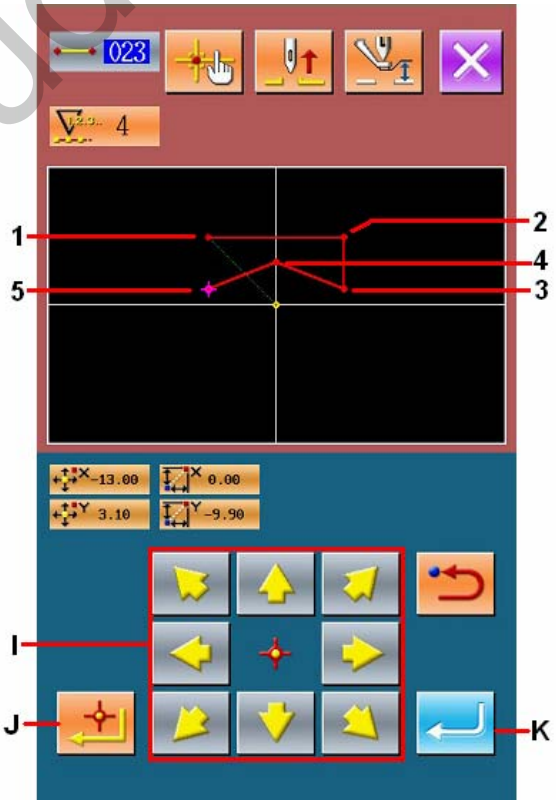
In the interface of code list, select the Linear Normal Sewing (Code 023) then press ENTER.
In the interface for setting linear normal sewing, press Key G to have access to the interface for setting the length of sewing stitch.
Press “ 3 ” and “ 0 ” orderly, and then press the ENTER in the interface for setting the sewing stitch.
Return to the interface for setting the linear normal sewing. In that interface, “3.0mm” will be displayed on the Key G. Please press ENTER (H) at this moment for confirm the sewing stitch length.



In the interface for setting the position of linear normal sewing, please press Keys (I) to move the needle from position 1 to position 2, and then press Key J.
Repeat the above operations until the needle moves to the Position 5 then press ENTER (K). At daily working, user can press K when the icon moves to the last position.



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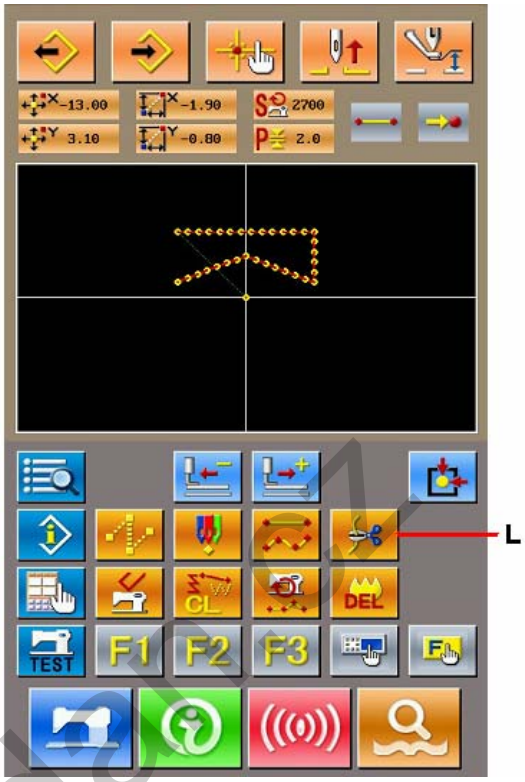
③ Input of Thread-trimming

In the standard interface, press Thread-trimming Key (L) to have access to the confirmation interface of thread-trimming.



Press the Enter Key, and then the machine will trim the thread at position 5.

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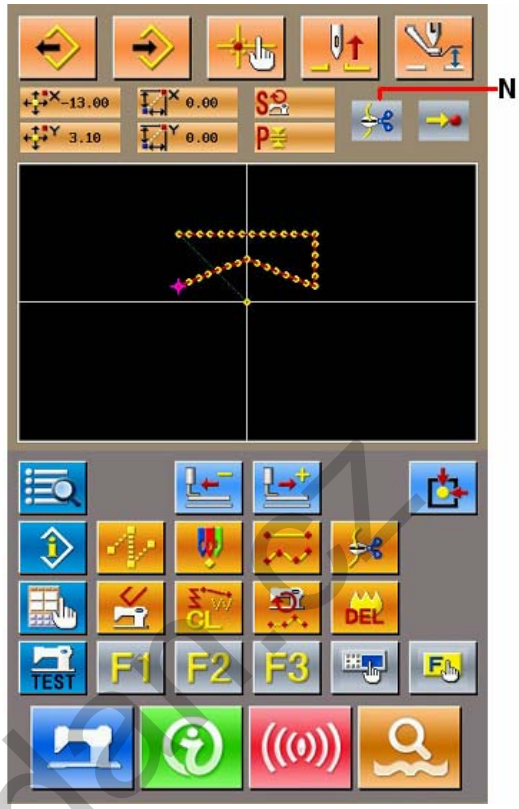
After the above operations, the Key N is displayed on standard interface.

Then the pattern in the right picture is made.



3-2. Trial Sewing

By using the input functions, user can confirm the pattern for sewing according to the pattern made or the data acquired in trial sewing.

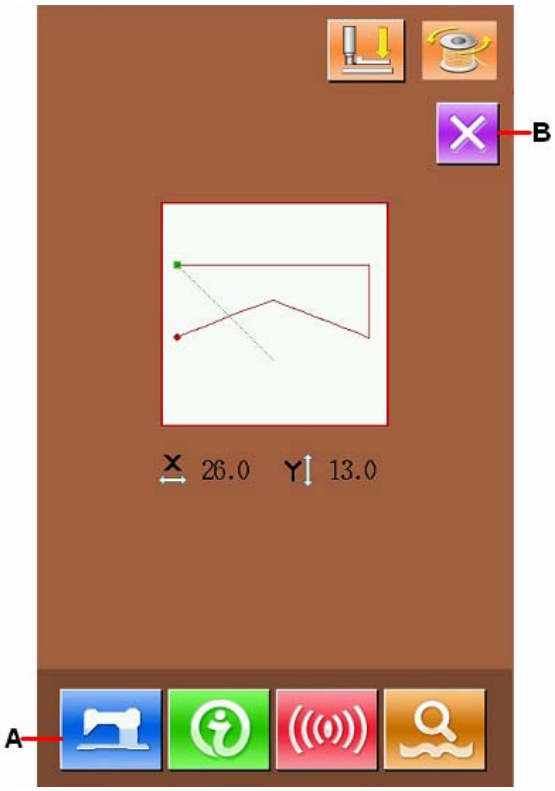
① Display of Interface for Preparing Trial Sewing

Press

in the standard interface to have access to the interface of trial sewing preparation

② Display of Interface for Trial Sewing

Press Key A to have access to the interface of trial sewing. In that interface, user can perform the normal operations on sewing machine; also can he carry out the trial sewing with the pattern data.



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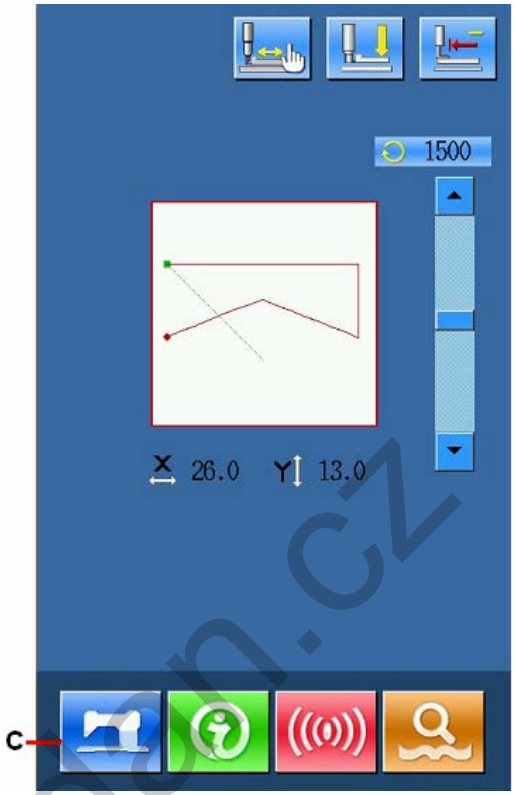
③ Return

In the interface of trial sewing, press Key C to return to the interface of trial sewing preparation, and then press Key B to back to the standard interface of input mode.

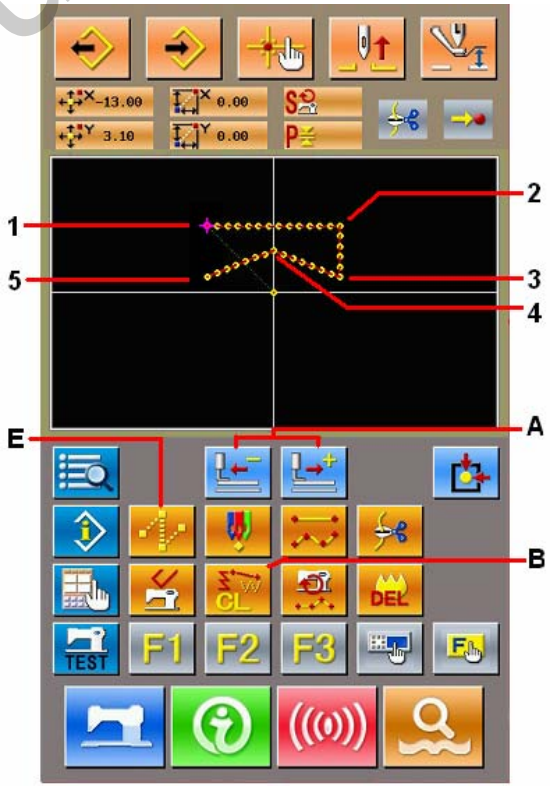


3-3. Correction of Figure

Correct the data made in "3-1 Input of Pattern" (p.13).

① Deletion of Element

With at area A, user can move the needle to position 1 at the midway of the jump feeding.



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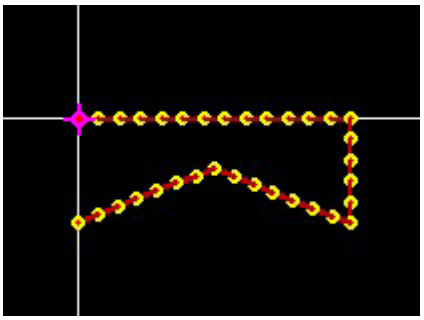
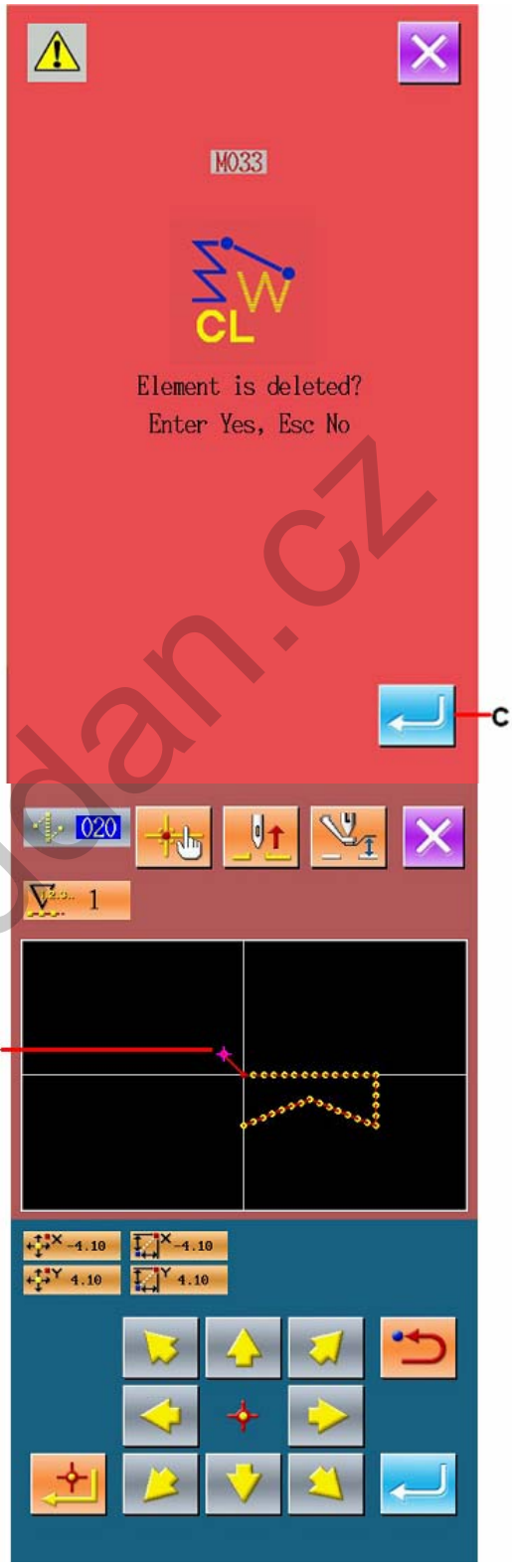
Press Key B at the standard interface, and then press Key C in the interface for confirmation. Then the jump feeding to position 1 is deleted, and the needle returns to the origin.

At this moment, the linear sewing from 1 to 5 begins from the origin.

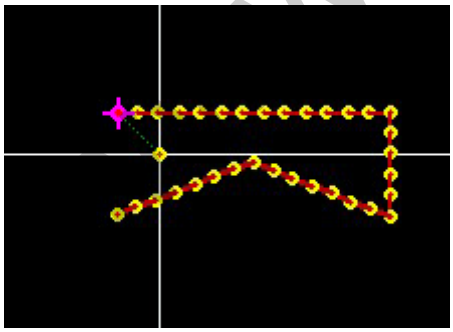




② **Insert of Jump Feeding**

In the standard interface, press Key E to move the needle to D in the position appointment interface, then inserts the jump feeding.

With the display of the picture below, user can confirm that the positions of needles are moved relevantly.



③ **Spot Deletion**

In the standard interface, press Keys at Area A to move the needle to a position.

Select the Absolute Point Deletion (Code 074) in the Functional Code List to have access to its interface.

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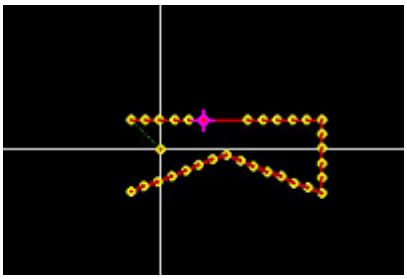
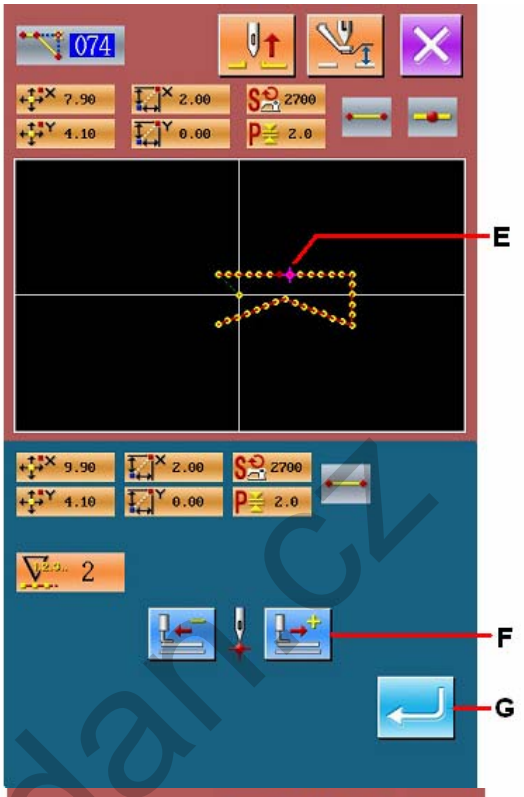
When deleting the needle entry point with even serial number, press F to move the needle within the range of the deleted points for appointment. At here, we just select two needle-entry points. Appoint the needle to position E and then press Key G

You can see from the below picture, the selected points are deleted.



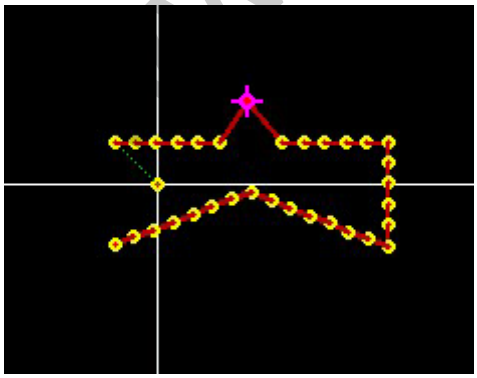


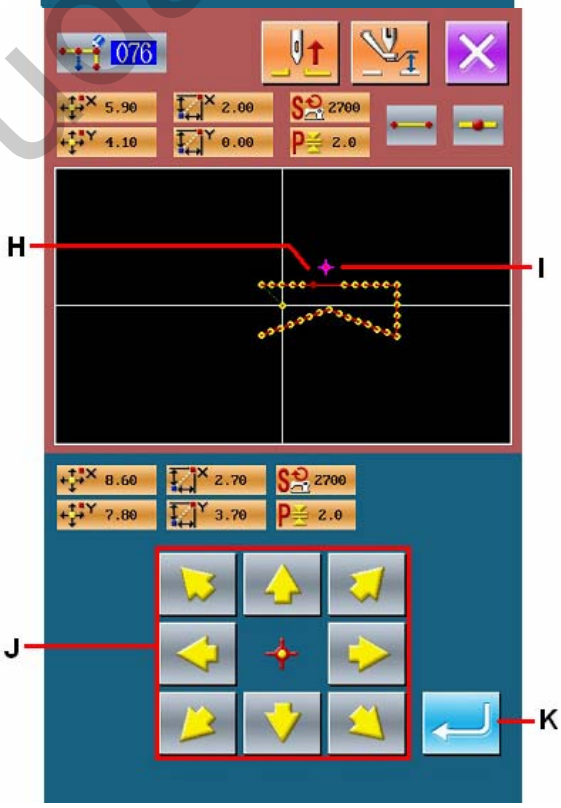
④ **Point Adding**

In the standard interface, press Keys (A) to move the needle to position H, and then select "Absolute Point Adding" (Code 076).

In the position appointment interface, press Keys (J) to move the position to point I(where we would like to add a new point.), then press K for confirmation.

As shown in the picture below the new needle entry point is added.





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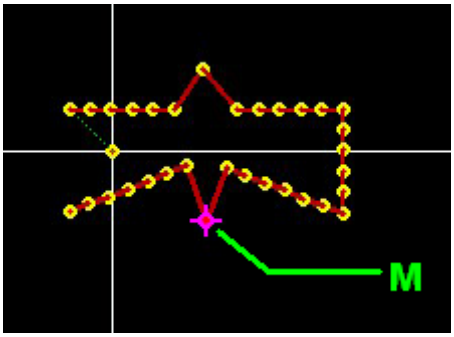
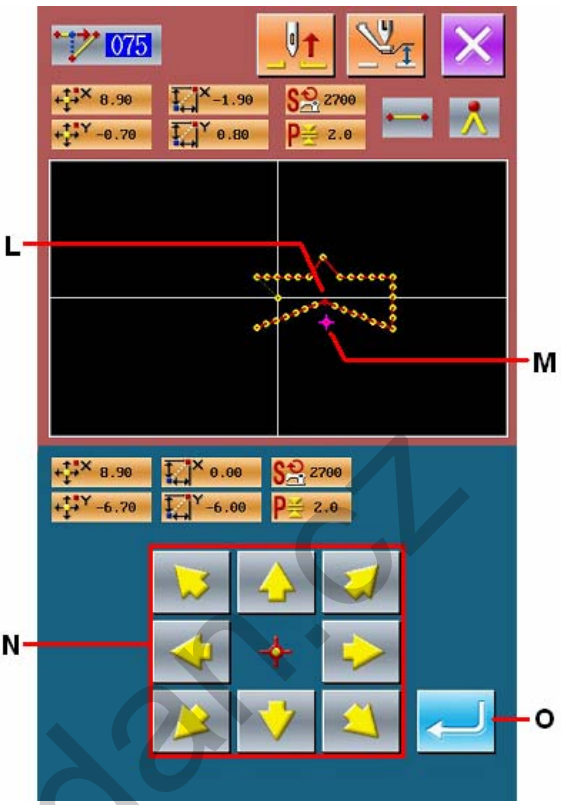
⑤ **Point Move**

Use Keys (A) in the standard interface to move the needle to the position L, and then select "Absolute Point Move" (Code 075).

Use Keys (N) at position appointment interface to move the needle to M, and then press ENTER (O).

As shown in the picture below, the needle entry point is moved.

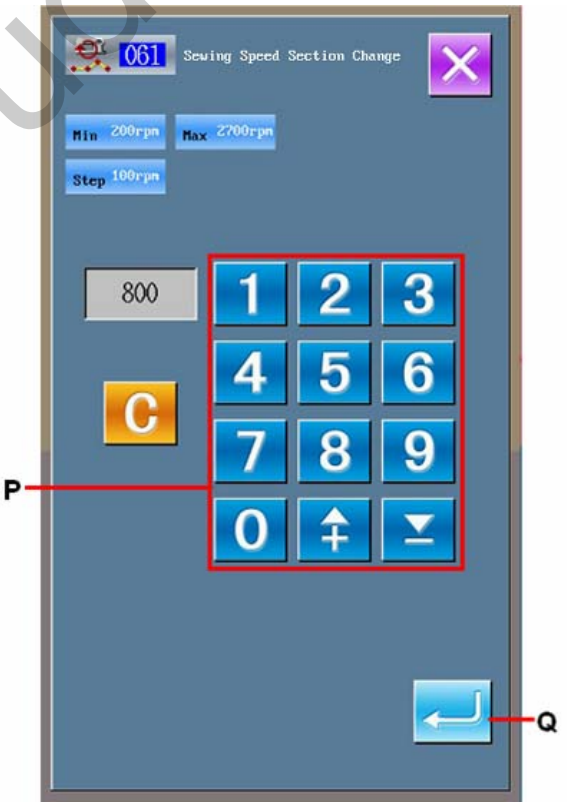




⑥ **Change of Speed**

Move the needle to Position 3 at standard interface, and then select the "Sewing Speed Section Change" (Code 061).

In the interface for inputting the set value, use Number Key (P) to input the speed (i.e. it is set at 800RPM). At last press ENTER (Q) for confirmation.



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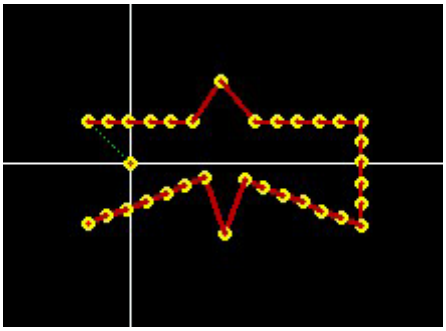
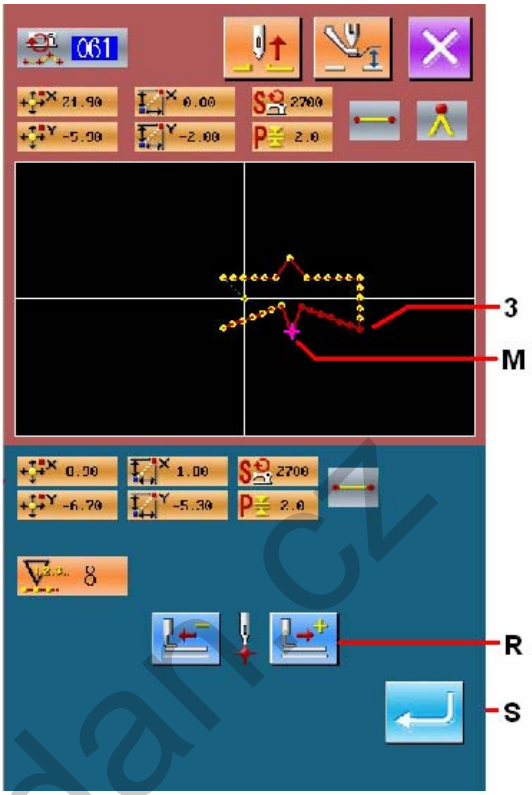
In the position appointment interface, press Feeding Forward Key (R) to move the needle to the Section M, where the speed is wanted changing.

Press ENTER(S) to change the speed within the pointed section and to return to the standard interface.





3-4. Input of Pattern

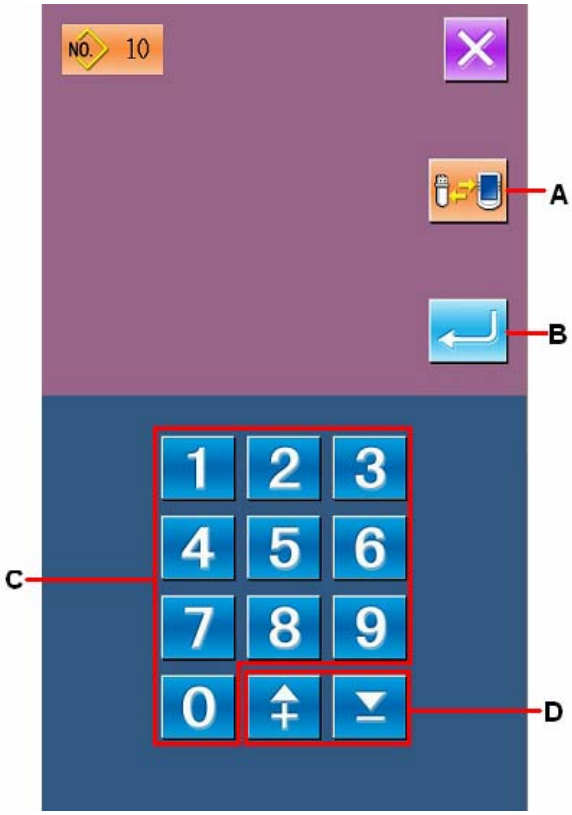
Input the made data of pattern into the U disk or memory.

① **Display of Interface of Pattern Input**

Press the in the standard interface to have access to the interface of pattern input.

② **Interface of Selection on Media**

Press Media Selection Key (A) to have access to the interface for selecting the memory and the U disk.



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③ **Selection of Media for Saving**

Select the media for saving the pattern with the keys at E, and then press ENTER (F) for returning to the pattern input interface.

:Memory of Control Panel

:U Disk

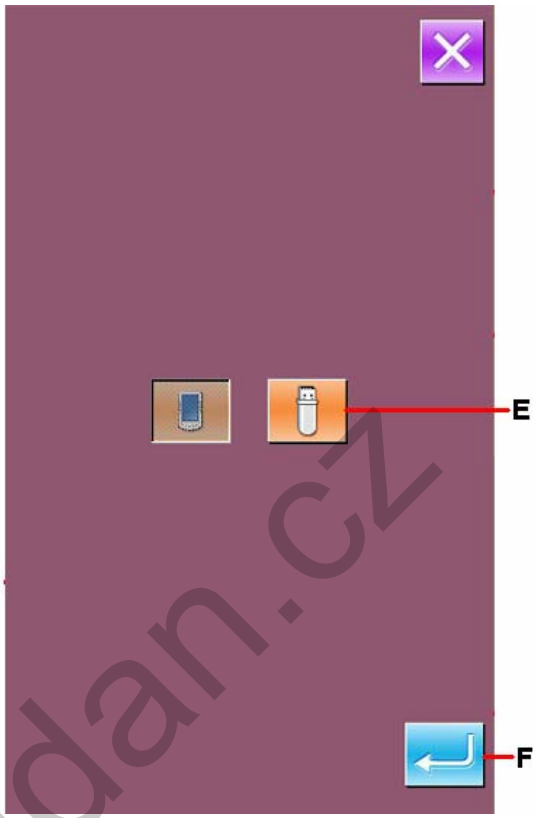
④ **Selection of Pattern Number**

In the interface of pattern input, user can press number keys (C) or +/- Key (D) to select an empty pattern number.

⑤ **Input of Pattern**

Press ENTER B to input the pattern to the selected memory or U disk. After the in the input, the standard interface will be displayed

If the selected pattern number has already existed, the system will hint the user whether to replace it. At this moment, user can press ENTER to confirm the replacement



3-5. Loading Pattern

Load the pattern data in the memory or U disk.

① **Display of Interface for Loading Pattern**

Press in the Load Key in the standard interface to have access to the interface for loading pattern.

② **Selection of the Media**

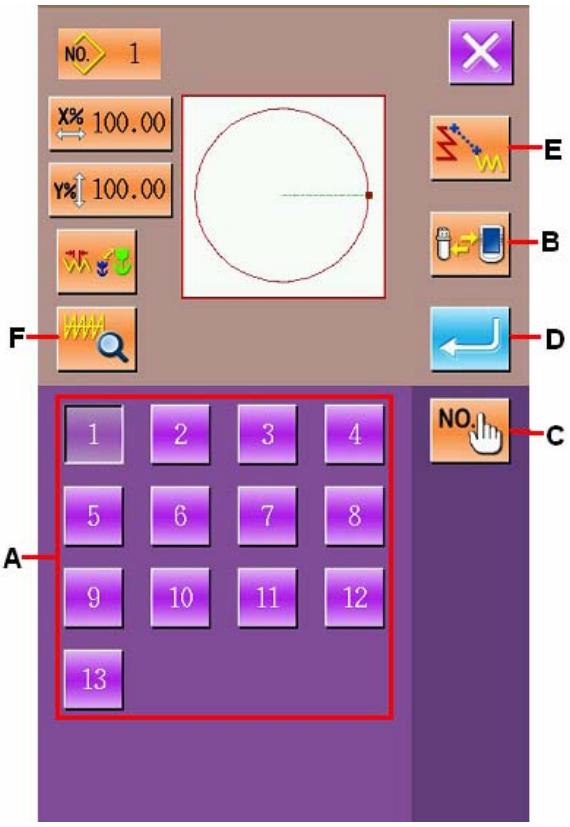
Press Media Selection Key (B) to have access to the interface for selecting the media (memory or U disk). Press to return to the interface for loading the pattern. The existed pattern number will be displayed at area A.

③ **Selection of Pattern**

Select the pattern number that you wish to load. The selected button will be displayed in dark.

④ **Load Pattern**

After pressing ENTER (D), the data of the selected pattern is loaded. After the system loads the pattern, the standard interface will be displayed.



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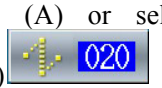
4. Input of Pattern

4-1. Normal Sewing

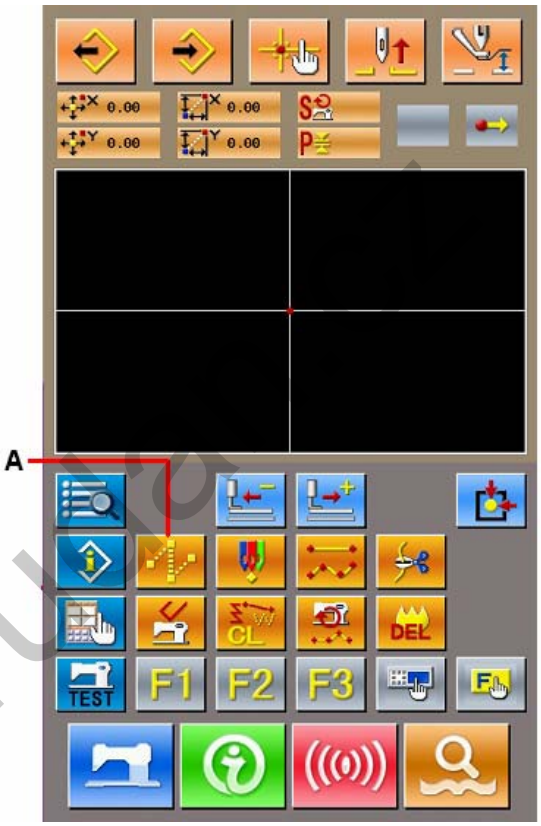
(1) Jump Feed (020)

It is used when the user wants to move the presser to the pointed location with the main-shaft motor remaining still.

① **Display of Interface for Setting Jump Feed**

In the standard interface, press the Jump Feed Key (A) or select the Jump Feed (Code 020) 

at the Code List. After that operation, the interface of jump feed setting is displayed.



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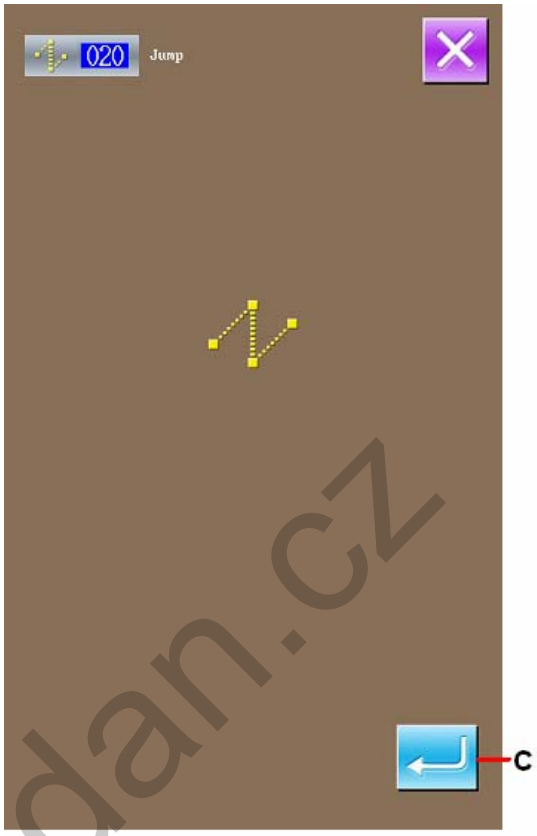
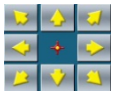
② **Set the Jump Feed**

Press ENTER (C) to have access to the interface of coordinates input.



③ **Move the Needle Position**

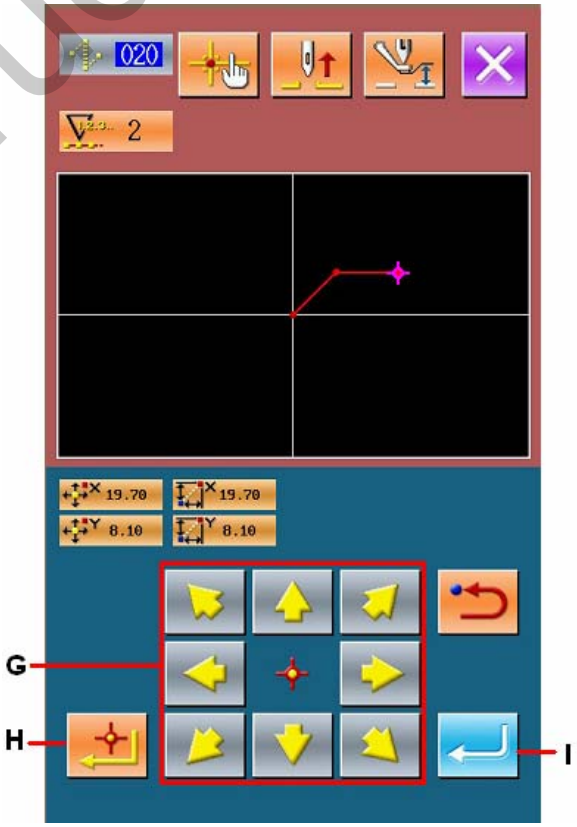
Press the Direction Keys  G in the coordinate input interface, to move the needle in the ordered direction. Hold the direction key to keep the needle moving.

④ **Position of Input**

Move to the pointed position. Press the Point Confirmation Key H to input that position as a shape point.

⑤ **End the Setting of Jump Feed**

Press the ENTER (I) to input the set data and return to the standard interface. Repeat the operations of step 3 and step 4, the set data can also be inputted.



(2) Linear Normal Sewing (023)

After the user fixes a point, the linear connecting that point and the needle position will inputted with the set sewing stitch length.

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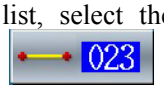
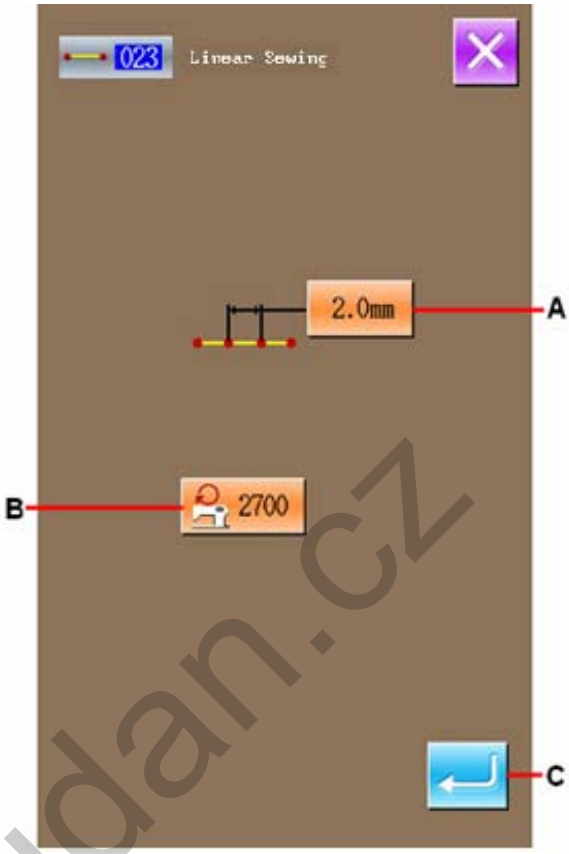
① **Display of Interface for setting the linear normal sewing**

In the interface of code list, select the linear normal sewing (code 023)  to have access to the interface for setting the linear normal sewing.

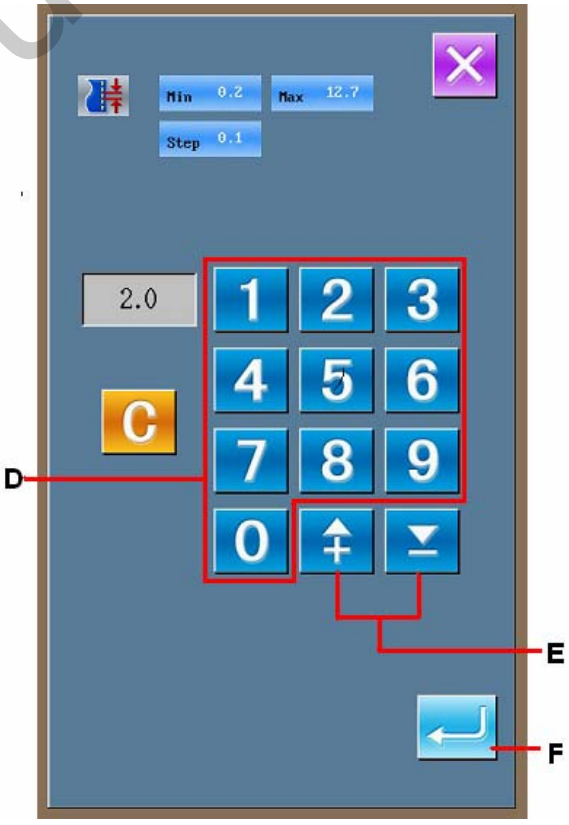


② **Linear Normal Sewing Setting**

In the interface for setting the linear normal sewing, the set length of sewing stitch will be displayed at Area A while the set value of the existing sewing speed will be displayed at Area B

Press the item button, which is wanted changing, to activate the input interface of the set value. In the input interface, user can use Number Keys (D) or +/- Keys (E) to set the value. Press the ENTER (F) to confirm the inputted value and allow the system return to the setting interface of linear normal sewing.

After setting or without needs in changing, user shall press the ENTER (C) in the linear normal sewing setting interface to have access to the coordinate input interface.



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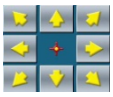
③ **Needle Position Move**

Press the direction key  (G) in the coordinate input interface to move the needle position to the pointed direction. User can also hold the direction key to keep the needle moving in the set direction.

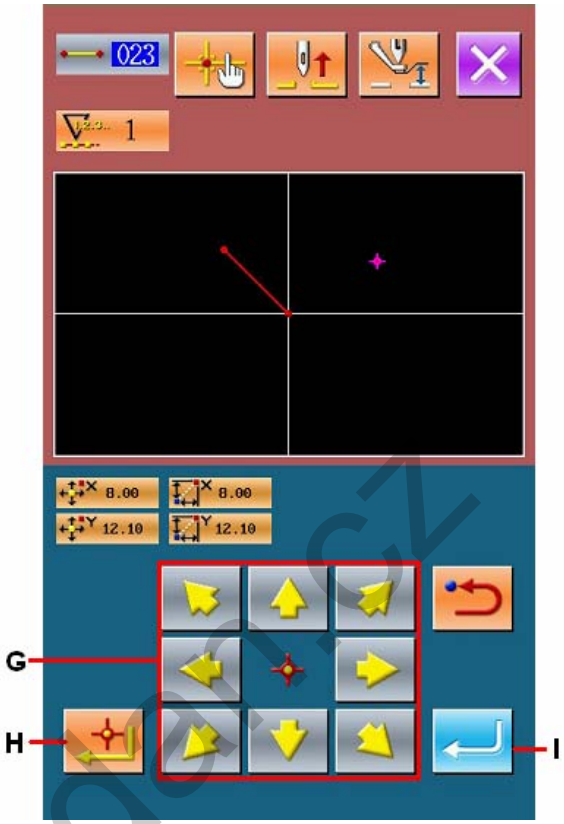
④ **Input Position**

Move to the pointed position and press Confirmation Key (H) to have that position inputted as a shape point (Passing Point).

⑤ **End the Setting of Linear Normal Sewing**

Press the ENTER (I) to input the set value. And the system will return to the standard interface.

User can also input such values by repeating the operation in step 3 and step 4.



(3) Curve Normal Sewing (024)

With this function, user can easily input the smooth curve into system.

① **Display of Interface for Setting Curve Normal Sewing**

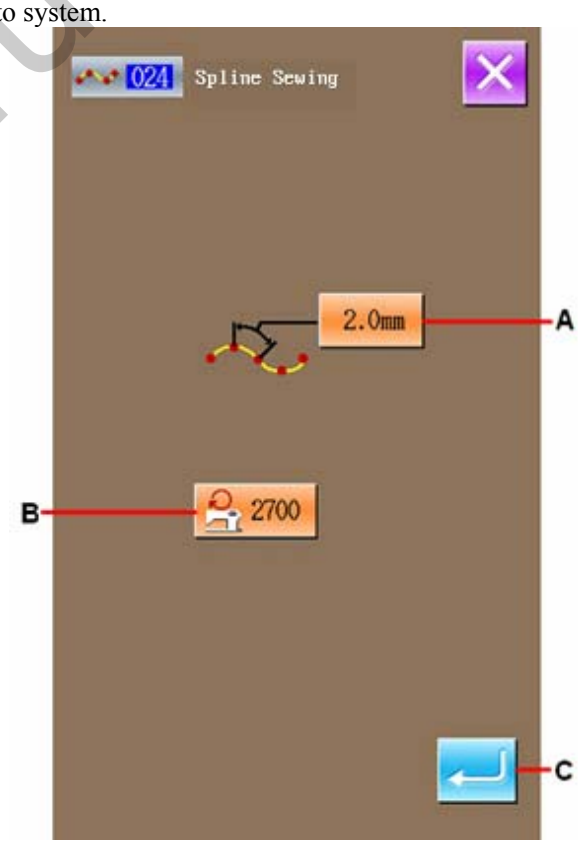
In the interface of code list, select the curve normal sewing (Code024) to activate the interface for setting the curve normal sewing.

② **Setting of Curve Normal Sewing**

In the interface for setting the curve normal sewing, the set value of existing sewing stitch length is displayed at A, while the set value of existing sewing speed is shown on B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods on the sewing speed and the stitch length of the curve normal sewing are same to that of the linear normal sewing.

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (C) is pressed.



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③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key (D) to move the needle in the pointed direction.

④ **Input Position**

Move to the pointed position and press Passing Point Key (E) to have that position inputted as a shape point (Passing Point).

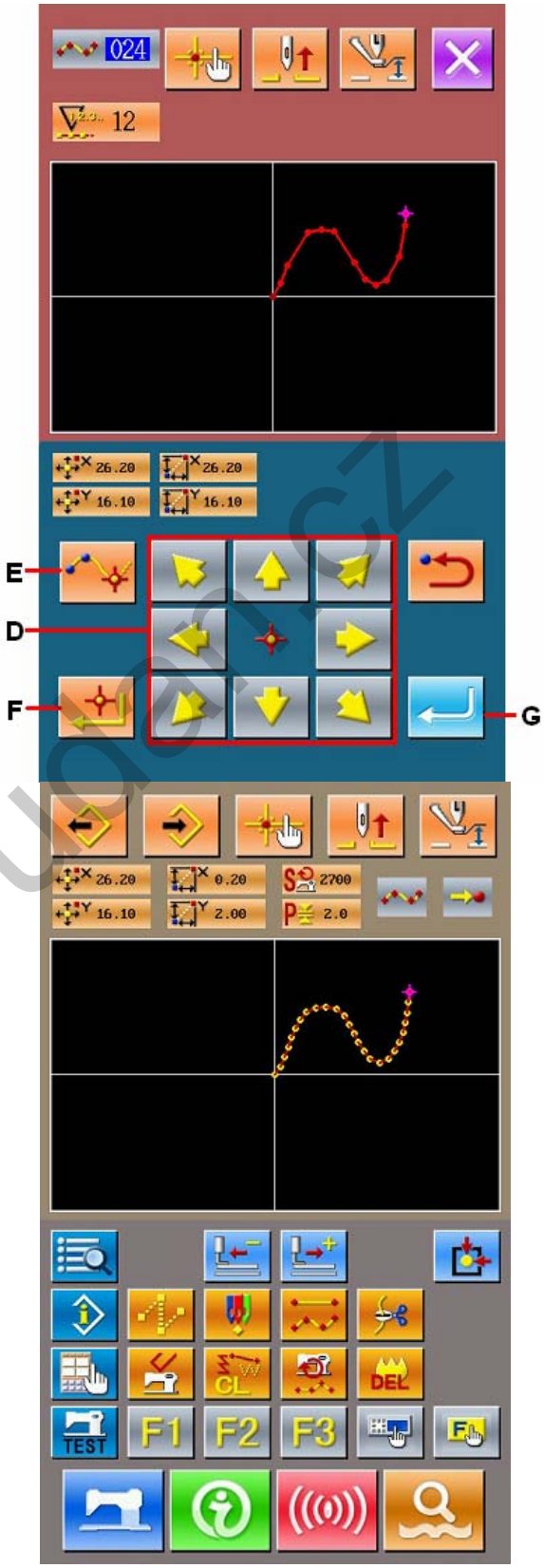
Or press Confirmation Key (F) to input that position as an Angle Point.

For angle point, please refer to the “4-9. About Angle Point”p.57.

⑤ **End the Setting of Curve Normal Sewing**

Press the ENTER (G) to input the set value. And the system will return to the standard interface.

User can also input such values by repeating the operation in step 3 and step 4.



(4) Arc Normal Sewing (025)

After the user fixes two points, the arc connecting that point and the needle position will inputted in the set sewing stitch length. The sewing direction is determined by the input order of the pointed spots.

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① **Display of Interface for Setting Arc normal Sewing**

In the interface of code list, select the arc normal sewing (code 025)

to activate the interface for setting the arc normal sewing.

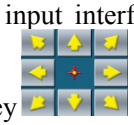
② **Setting of Arc Normal Sewing**

In the interface for setting the arc normal sewing, the set value of existing sewing stitch length is displayed at A, while the set value of existing sewing speed is shown on B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods on the sewing speed and the stitch length of the arc normal sewing are same to that of the linear normal sewing.

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (C) is pressed.

③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key  (D) to move the needle in the pointed direction.

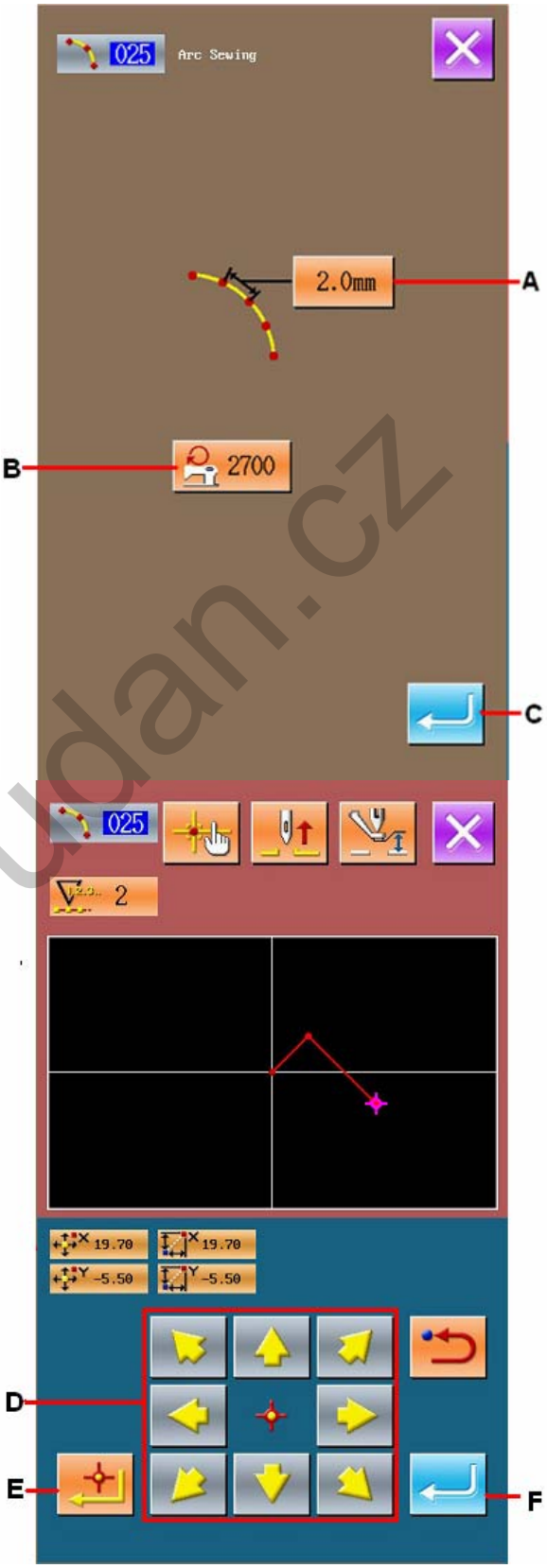
④ **Input Position**

Move to the pointed position and press Point Confirmation Key (E) to have that position inputted as a shape point.

Repeat the operation in step 3 and step 4 to input another 2 points. **Attention:** The number of the inputted points shall be 2! The input will be denied if more than 3 points are inputted.

⑤ **End the Setting of Arc Normal Sewing**

Press the ENTER (F) to input the set value. And the system will return to the standard interface.



(5) Circle Normal Sewing (026)

After the user fixes two points, the arc connecting that point and the needle position will inputted in the set sewing stitch length. The sewing direction is determined by the input order of the pointed spots.

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① **Display of Interface for Setting Circle Normal Sewing**

In the interface of code list, select the circle normal sewing (Code 026) to have access to the interface for setting circle normal sewing.

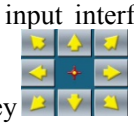
② **Setting of Circle Normal Sewing**

In the interface for setting the circle normal sewing, the set value of existing sewing stitch length is displayed at A, while the set value of existing sewing speed is shown on B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods on the sewing speed and the stitch length of the circle normal sewing are same to that of the linear normal sewing.

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (C) is pressed.

③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key  (D) to move the needle in the pointed direction

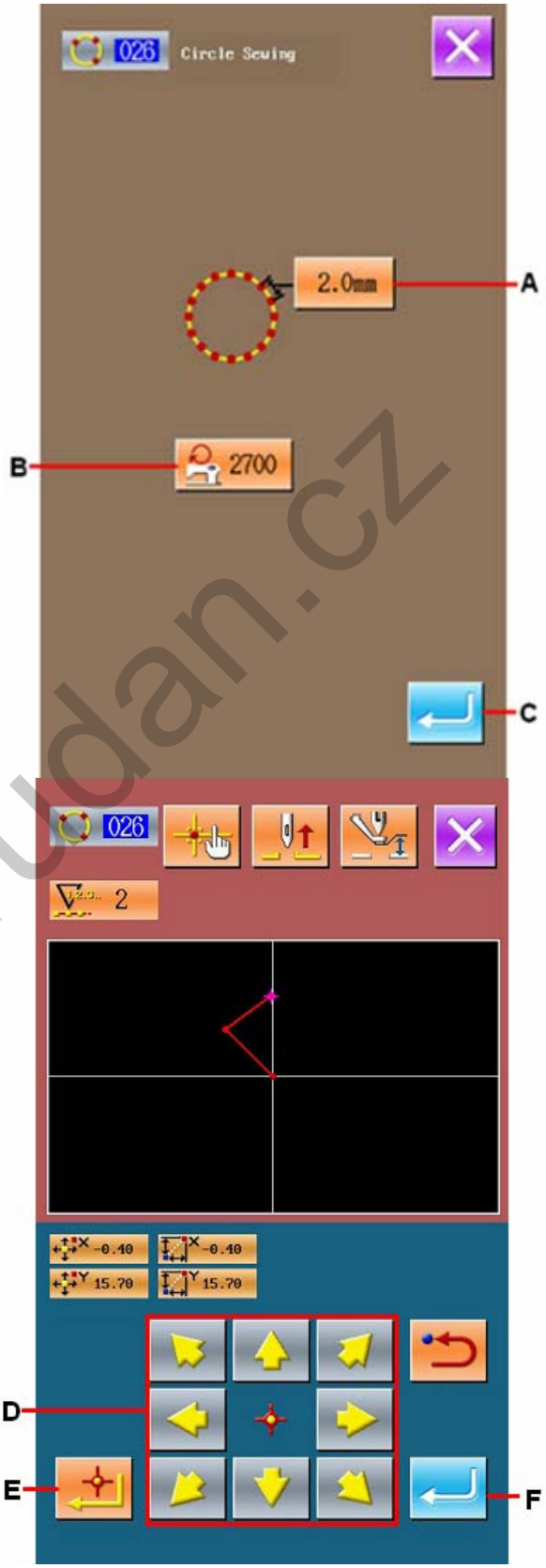
④ **Input Position**

Move to the pointed position and press Point Confirmation Key (E) to have that position inputted as a shape point.

Repeat the operation in step 3 and step 4 to input another 2 points. **Attention:** The number of the inputted points shall be 2! The input will be denied if more than 3 points are inputted.

⑤ **End the Setting of Circle Normal Sewing**

Press the ENTER (F) to input the set value. And the system will return to the standard interface.



(6) Point Sewing (021)

It can be used when user needs input the stitch to the needle entry point one by one directly

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① **Display of Interface for Setting Point Sewing**

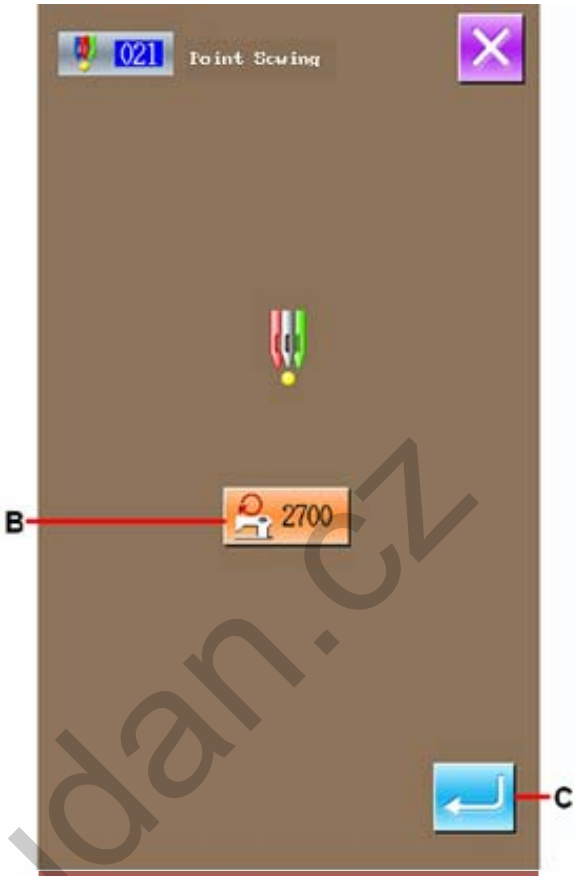
User can select the Point Sewing (code 021) in the interface of code list or press Point Sewing Key in standard interface to have access to the interface for setting point sewing.

② **Setting of Point Sewing**

In the interface for setting the point sewing, the set value of existing sewing speed is shown on B

Press the button of the sewing speed so as to activate the interface for inputting the value. The setting method on the sewing speed of point sewing is same to that of the linear normal sewing.

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (C) is pressed.



③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key (D) to move the needle in the pointed direction.

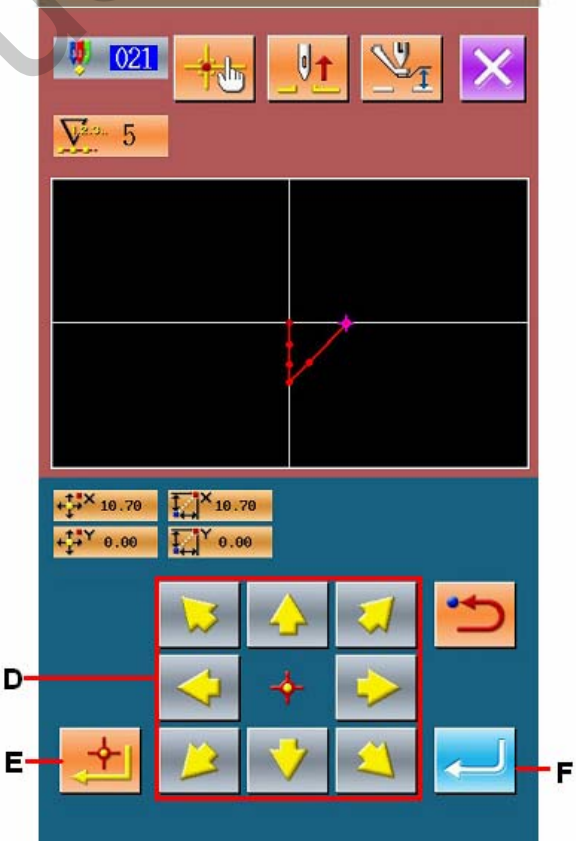
④ **Input Position**

Move to the pointed position and press Passing Point Key (E) to have that position inputted as a needle entry point.

User can also input such position by repeating the operation in step 3 and step 4.

⑤ **End the Setting of Point Sewing**

Press the ENTER (F) to input the set value. And the system will return to the standard interface.



(7) Normal Sewing (022)

The linear normal sewing and the curve normal sewing can be inputted.

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① **Display of Interface for Setting Normal Sewing**

By pressing Normal Sewing Key in the standard interface or selecting normal sewing (code 022)

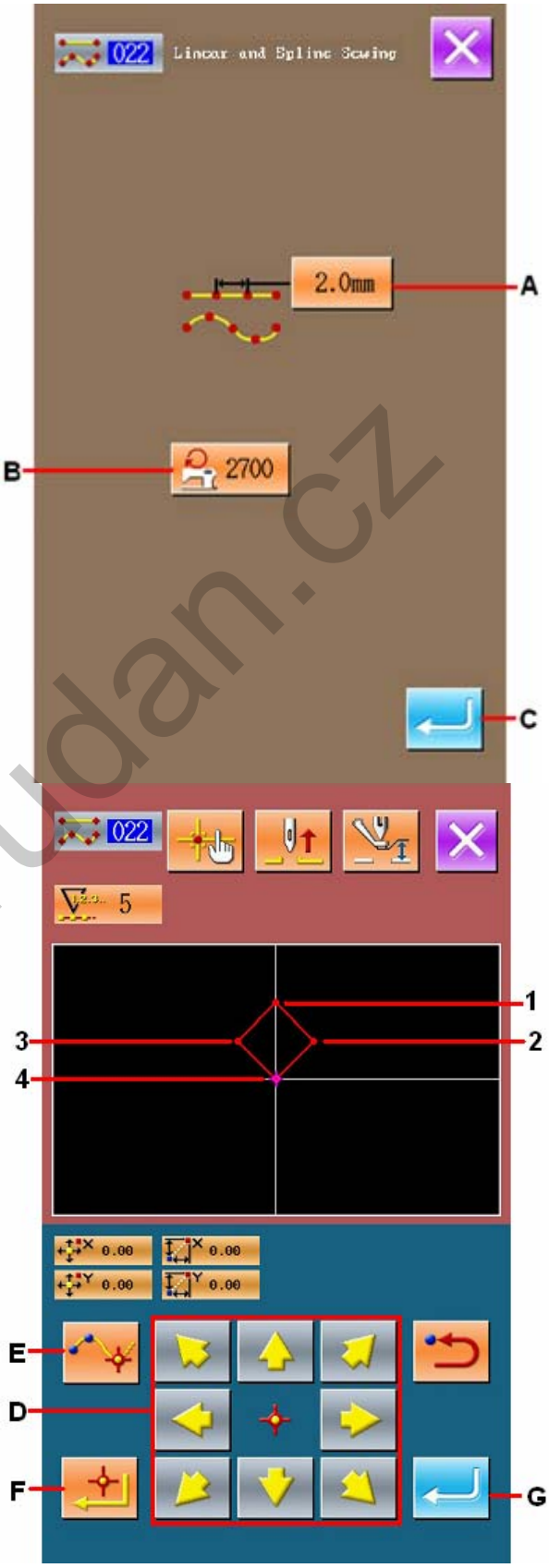
in the code list, user can have access to the interface for setting the normal sewing.

② **Setting of Normal Sewing**

In the interface for setting the normal sewing, the set value of existing sewing stitch length is displayed at A, while the set value of existing sewing speed is shown on B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods on the sewing speed and the stitch length of normal sewing are same to that of the linear normal sewing.

Press ENTER(C) to have access to the interface of coordinate input interface.



③ **Appointed Position**

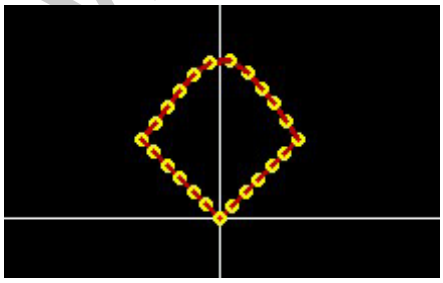
In the coordinate input interface, user can press the Direction Key (D) to move the needle in the pointed direction. Press Point Confirmation Key (F) to input the shape point of linear normal sewing. Press Passing Point Key (E) to have the shaping point of curve normal sewing inputted.

(Please refer to “4-9. About Angle Point”p.57.)

④ **End the Setting of Normal Sewing**

Press the ENTER (G) to input the set value. And the system will return to the standard interface.

For an example, if the points 1, 3 and 4 are fixed, and point 2 is inputted as passing point, the pattern in below picture will be formed.



4-2. Zigzag Sewing(030 ∽ 033)

The zigzag sewing is the input function to create the needle entry points at both sides of the standard line in a twisted stitch form. It is easy to sew the badge on the sport shirt.
There are 4 kinds of zigzag sewing:

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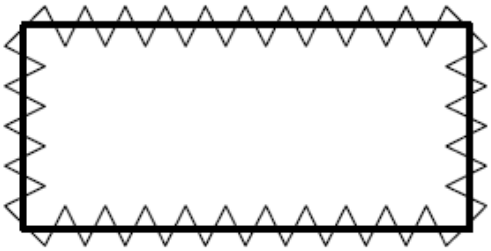
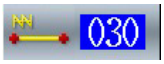
- ✧ Linear Zigzag Sewing（Function Index 029）
- ✧ Curve Zigzag Sewing（Function Index030）
- ✧ Arc Zigzag Sewing（Function Index 031）
- ✧ Circle Zigzag Sewing（Function Index 032）



① **Display of Linear Zigzag Sewing Setting Interface**

In the interface of code list, select linear zigzag sewing (code 030) 

to have access to the interface for setting linear zigzag sewing

② **Setting of Linear Zigzag Sewing**

In the interface for setting the linear zigzag sewing, the set value of existing zigzag pitch is displayed at A; the set value of existing zigzag width is displayed at B; the set value of existing sewing speed is shown on C.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods of each item are same to that in the linear normal sewing.

The Keys D & G will determine the start direction of the standard zigzag sewing, while the Key E & H will decide the start direction of the offset zigzag sewing

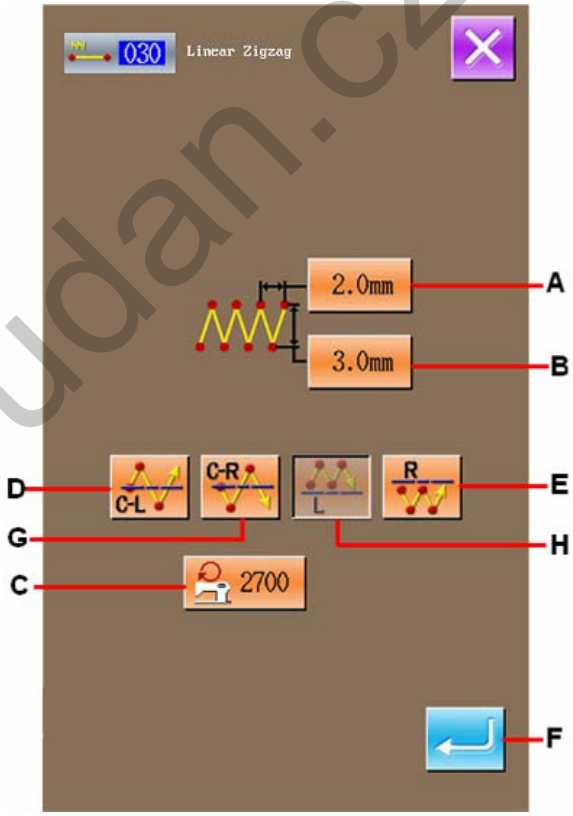
After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (F) is pressed

:Standard Zigzag Sewing Left

:Standard Zigzag Sewing Right

:Offset Zigzag Sewing Left

:Offset Zigzag Sewing Right；



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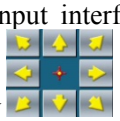
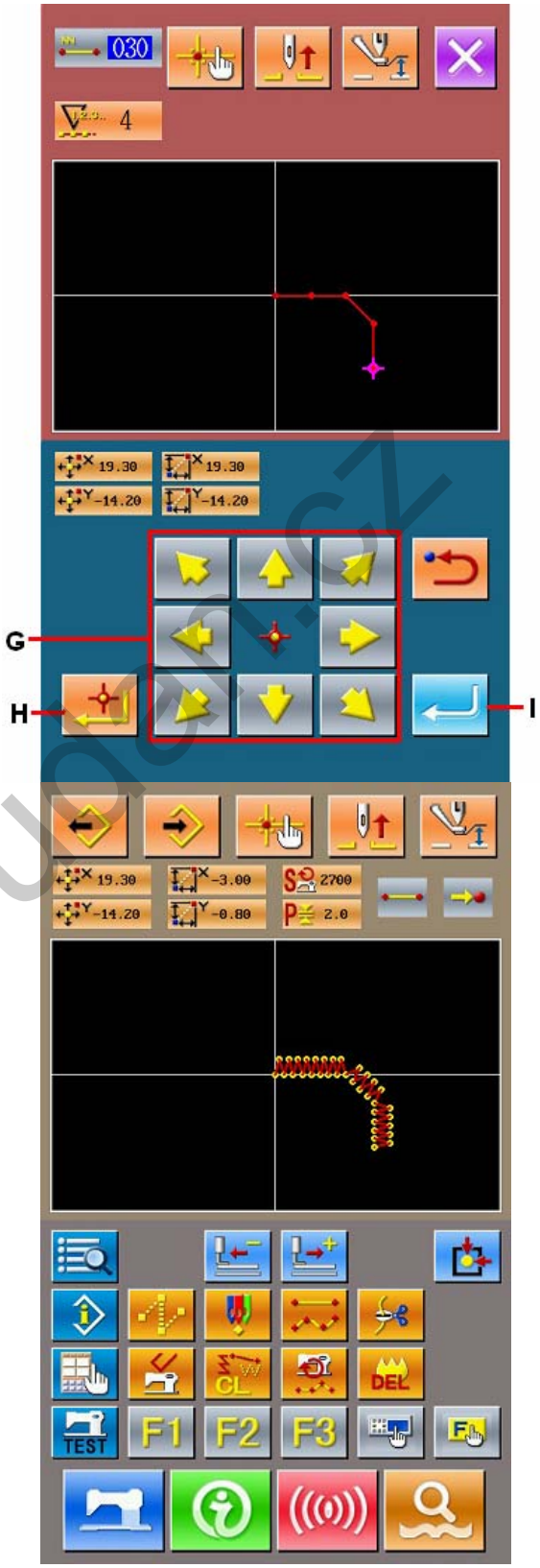
③ Move Needle Position

In the coordinate input interface, user can press the Direction Key  (G) to move the needle in the pointed direction.

④ Input Position

Move to the pointed position and press Point Confirmation Key (H) to have that position inputted as a shape point (passing point).

User can also input such position by repeating the operation in step 3 and step 4.



⑤ End Setting of Linear Zigzag Sewing

Press the ENTER (I) to input the set value. And the system will return to the standard interface.

The setting method of the standard zigzag in other shapes is same to that of the standard linear zigzag.

The coordinate input method of sewing is same to that of the normal sewing.

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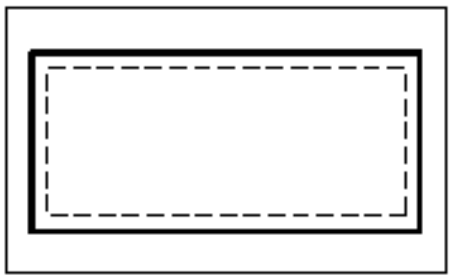
4-3. Offset Sewing (034 ∽ 037)

This function is to create the needle entry points off the standard line in a certain distance.
It is easy to sew the small shapes and the like whose outside circle is the standard line.
There are four kinds of offset sewing



- ✧ Linear offset sewing(Function Index 034）
- ✧ Curve offset sewing（Function Index 035）
- ✧ Arc offset sewing（Function Index 036）
- ✧ Circle offset sewing (Function Index 037）

① **Display of Linear Offset Sewing Setting Interface**

In the interface of code list, select linear offset sewing (code 034)

to have access to the interface for setting linear offset sewing

② **Setting of Linear Offset Sewing**

In the interface for setting the linear offset sewing, the set value of existing sewing stitch length is displayed at A; the set value of existing offset width is displayed at B; the set value of existing sewing speed is shown on C.

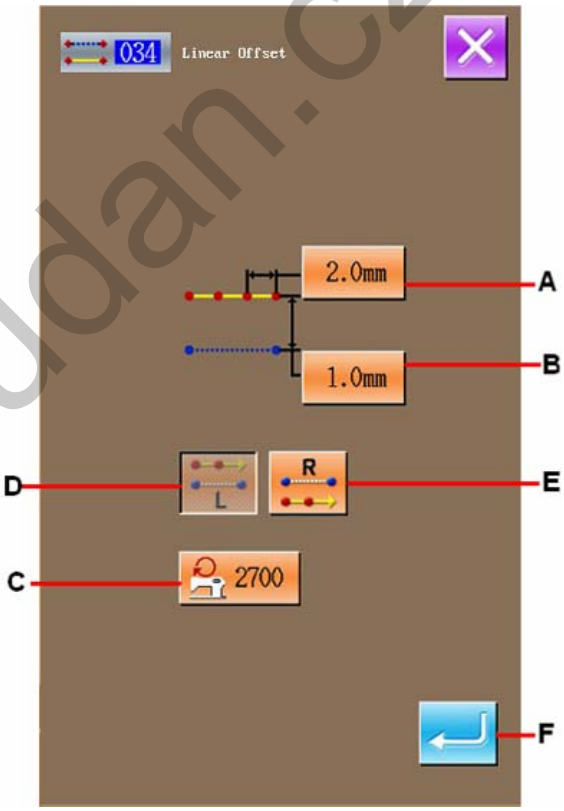
Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods of each item are same to that in the linear normal sewing.

The Keys D & E will determine the direction of the offset sewing. Pressing Key D is to sew forward at left of the standard line, while pressing Key E is to sew forward at the right of the standard line.

:Offset Left Direction

:Offset Right Direction

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (F) is pressed



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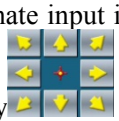
③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key  (G) to move the needle in the pointed direction

④ **Input Position**

Move to the pointed position and press Point Confirmation Key (H) to have that position inputted as a shape point (passing point).

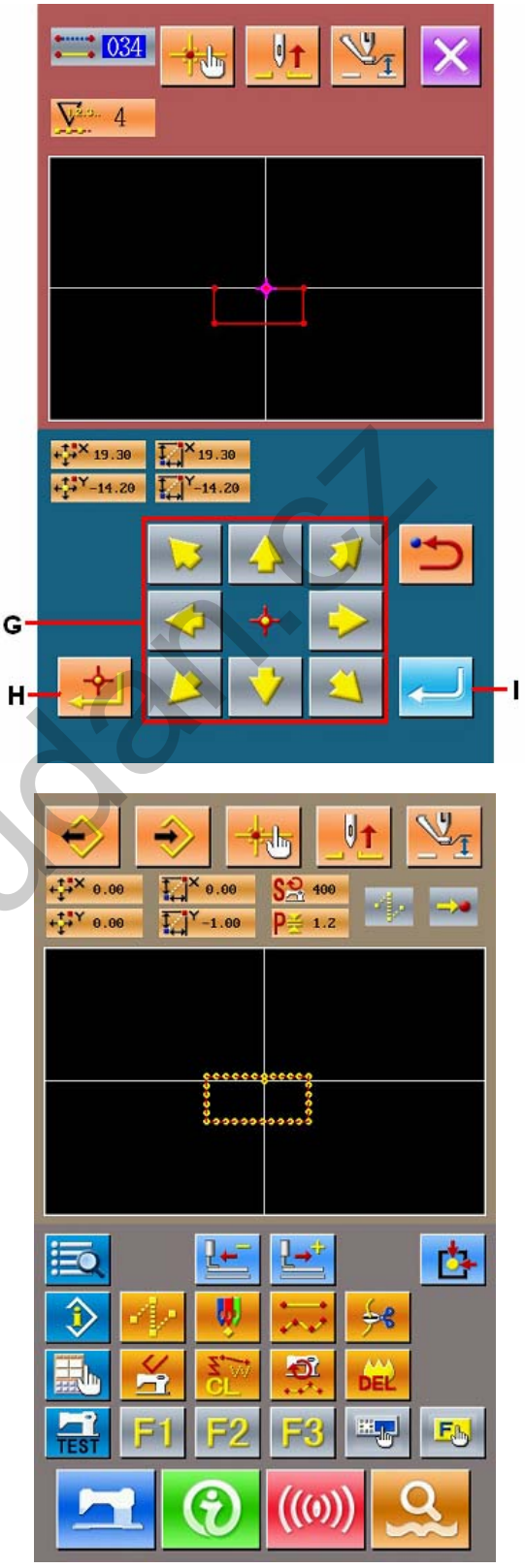
User can also input such point by repeating the operation in step 3 and step 4.

⑤ **End Setting of Linear Offset Sewing**

Press the ENTER (I) to input the set value. And the system will return to the standard interface.

The setting method of the offset sewing in other shapes is same to that of the linear offset sewing.

The coordinate input method of sewing is same to that of the normal sewing.



4-4. Double Sewing

This function is for creating the needle entry point to the point which is separated an optional fixes distance in term of the input reference line.

(1) Linear Double Orderly Sewing (040 ∽ 043)

Create the sewing so that the sewing composed with the input points and that of the offset figure are in the same direction

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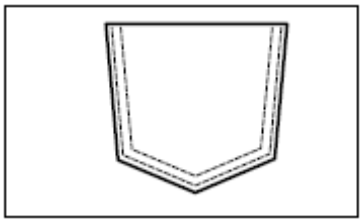
There are four kinds of double orderly sewing.



- ✧ Linear Double Orderly Sewing（Function Index 040）
- ✧ Curve Double Orderly Sewing（Function Index 041）
- ✧ Arc Double Orderly Sewing（Function Index 042）
- ✧ Circle Double Orderly Sewing（Function Index 043）

① **Display of Interface for Setting Linear Double Orderly Sewing**

In the interface of code list, select linear double orderly sewing (code 040)

to have access to the interface for setting linear double orderly sewing.

② **Setting of Linear Double Orderly Sewing**

In the interface for setting the linear double orderly sewing, the set value of existing sewing stitch length is displayed at A; the set value of existing double sewing width is displayed at B; the set value of existing sewing speed is shown on C.

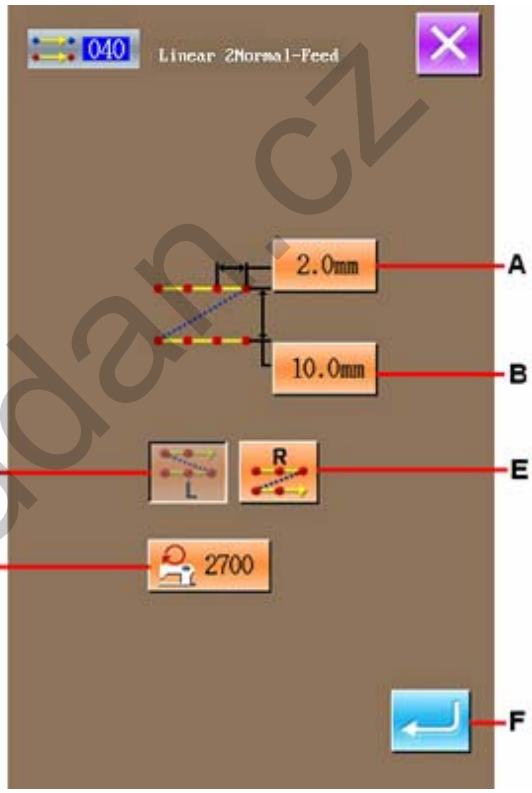
Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods of each item are same to that in the linear normal sewing.

The Keys D & E will determine the direction of the double sewing. Pressing Key D is to sew forward from left, while pressing Key E is to sew forward from right.

Left Double Orderly Sewing

Right Double Orderly Sewing;

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (F) is pressed.



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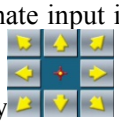
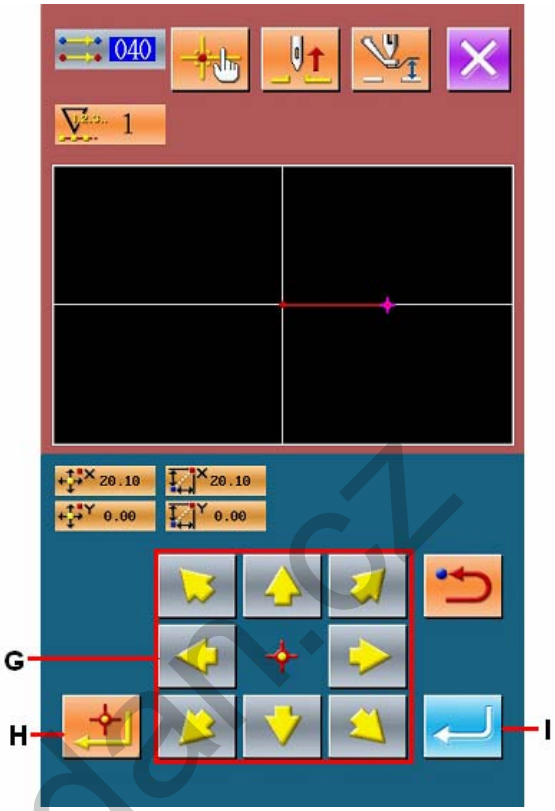
③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key  (G) to move the needle in the pointed direction

④ **Input Position**

Move to the pointed position and press Point Confirmation Key (H) to have that position inputted as a shape point (passing point).

User can also input such point by repeating the operation in step 3 and step 4.



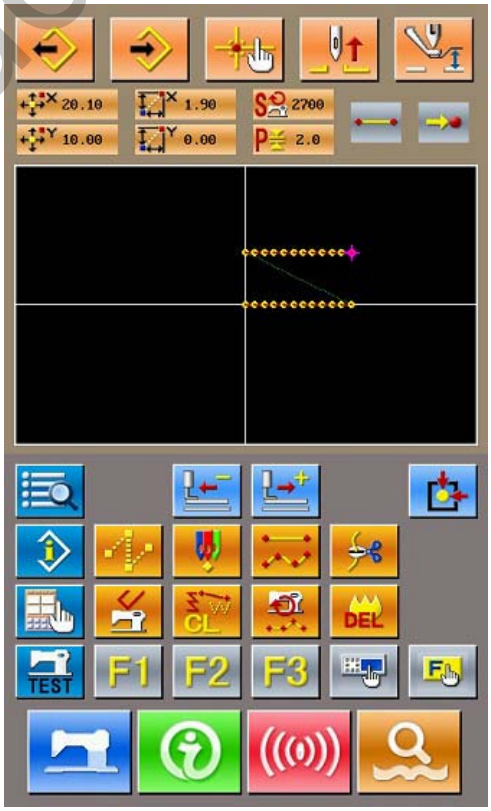
⑤ **End Setting of Linear Double Orderly Sewing**

Press the ENTER (I) to input the set value. And the system will return to the standard interface.

The setting method of the double sewing in other shapes is same to that of the linear double orderly sewing.

The coordinate input method of sewing is same to that of the normal sewing.

Attention:In case of arc or circle, when the width is made larger than the radius of circle, Double Reverse Sewing（Function Index 046）.



(2) Double Reverse Sewing (044 ～ 047)

Create the sewing so that the sewing composed at the input point and that of the offset figure could be in the reverse direction.

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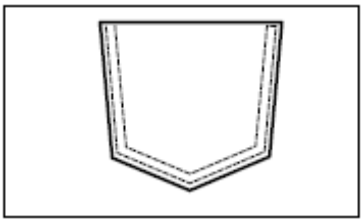
There are 4 kinds of double reverse sewing.



- ✧ Linear Double Reverse Sewing（Function Index 044）
- ✧ Curve Double Reverse Sewing（Function Index 045）
- ✧ Arc Double Reverse Sewing（Function Index 046）
- ✧ Circle Double Reverse Sewing（Function Index 047）

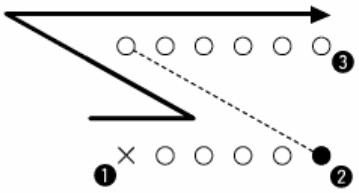
① Display of Interface for Setting Linear Double Reverse Sewing

In the code list interface, select linear double reverse sewing (Code 044)

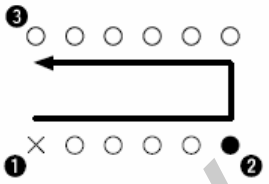
to have access to the interface of the linear double reverse sewing.

The setting method of the double reverse sewing is same to that of the linear double orderly sewing.

Difference between orderly sewing and reverse sewing



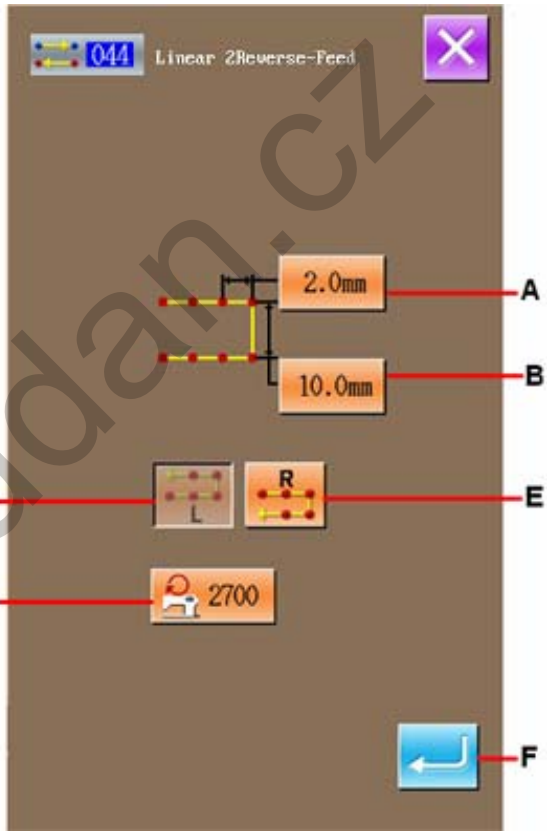
Sewing in case of orderly sewing



Sewing in case of reverse sewing

❶ is inputting point, and ❸ is the last point.

Attention:In case of arc or circle double sewing, if the width of sewing is set larger than the radium of the circle, the created pattern will not be as nice as your have expected.



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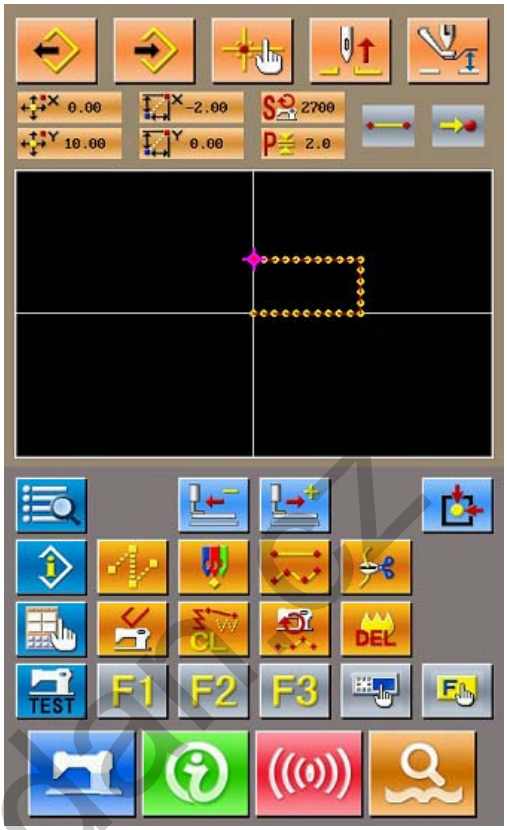

(3) Reverse Sewing (050 ～ 053)

Sewing of the figure composed at the input point and that which returns it reversely are created.
There are four kinds of reverse sewing:

- ✧ Linear Reverse Sewing（Function Index 050）
- ✧ Curve Reverse Sewing（Function Index 051）
- ✧ Arc Reverse Sewing（Function Index 052）
- ✧ Circle Reverse Sewing（Function Index 053）

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① **Display of Interface for Setting Linear Reverse Sewing**

In the interface of the code list, select the linear reverse sewing (code 050)

to activate the interface for setting linear reverse sewing.

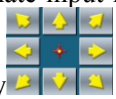
② **Setting of Linear Reverse Sewing**

In the interface for setting the linear double reverse sewing, the set value of existing sewing stitch length is displayed at A; the set value of existing sewing speed is shown on B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. The setting methods on sewing speed and sewing length are same to that in the linear normal sewing.

After the setting (or without need to change), the coordinate input interface will be displayed as long as ENTER (C) is pressed.

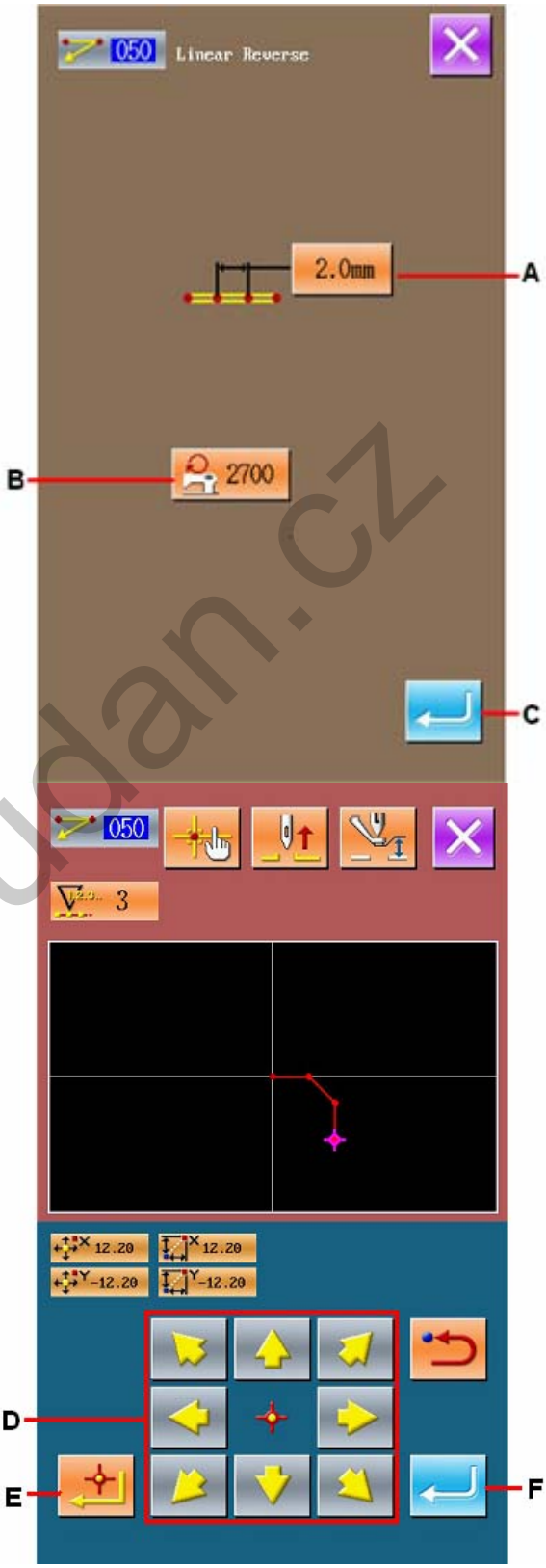
③ **Move Needle Position**

In the coordinate input interface, user can press the Direction Key  (D) to move the needle in the pointed direction.

④ **Input Position**

Move to the pointed position and press Point Confirmation Key (E) to have that position inputted as a shape point (passing point).

User can also input such point by repeating the operation in step 3 and step 4.



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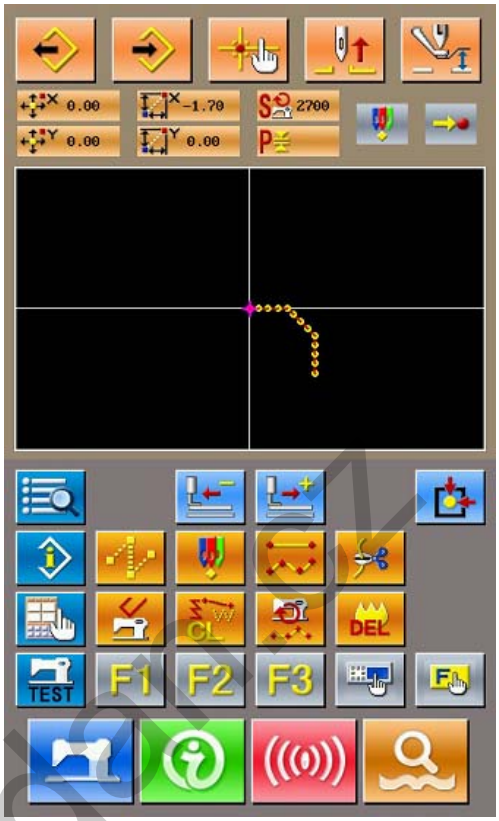
⑤ **End Setting of Linear Reverse Sewing**

Press the ENTER (F) to input the set value. And the system will return to the standard interface.

The setting method of the reverse sewing in other shapes is same to that of the linear reverse sewing.



4-5. Mechanical Control Order

Input various kinds of control order at present point

(1) Thread-trimming（001）

The thread-trimming order can be inserted optionally into the pattern data.

① **Selection of Thread-trimming**

In the interface of code list, select thread-trimming (Code 001)

to activate the interface at right.

② **Input of thread-trimming**

In the right interface, press A to input the thread-trimming, and then the system returns to the standard interface.

(2) The 2nd Origin（002）

Set the 2nd origin between the origin and the start sewing point, so as to determine the needle position before the sewing start. The 2nd origin can only be set in the midway of the jump feeding.

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① **Set the present needle position at the point 1 on the jump feed pattern.**

② **Select the 2nd origin**

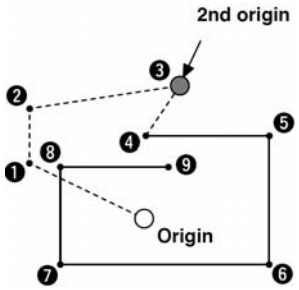
In the interface of code list, select The 2nd Origin (Code 002)

to activate the interface of te right.

③ **Input The 2nd Origin**

In the right interface, press ENTER (A) to input the 2ns origin, and then the system will return to the standard interface.

Explanation: After user sets the point 3 at the following picture as the 2nd origin, the feed will stop at 3 after jump feed of 1 → 2 →3, then the sewing machine will perform the cycle operation from 3 to 9.



Attention:In the case of scaling, the path from the origin to the 2nd origin can't be scaled.

(3) Stop in Midway（003）

Input order to stop machine in midway.

① **Select the Stop in Midway**

In the interface of code list, select the Stop in Midway (code 003)

to activate the interface at right.

② **Specify State of Stop in Midway**

The presser state at stop will be displayed on Presser Status Key B, while the needle position will be displayed on the Needle Position Setting Key C.

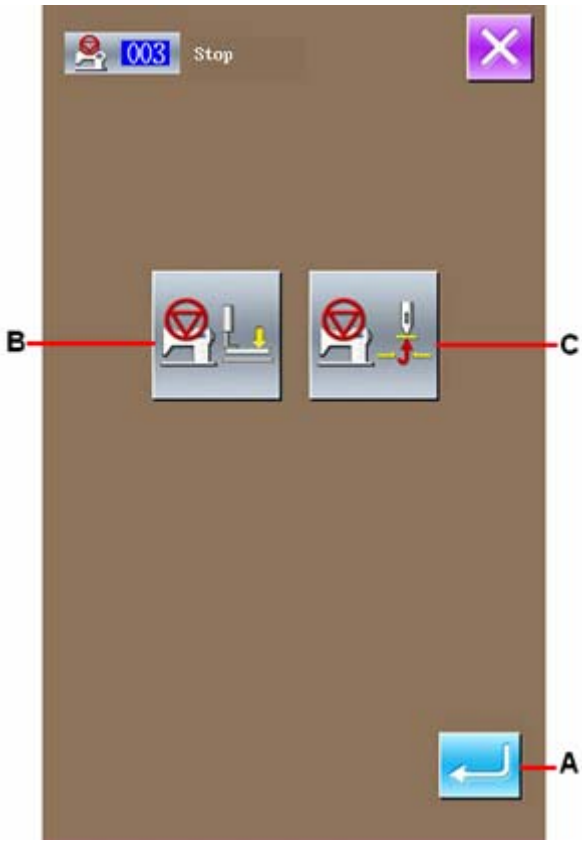
When specifying the statuses, user need to press Key B and C to activate the setting interface.

③ **Input Stop in Midway**

In the right interface, press A to stop inputting the set content, and then the system will return to the standard interface.

Attention:

For stop after trimming, please input in the procedures in Thread-trimming and Stop.



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④ Set Status of Presser

Press Presser Status Setting Key B to activate the interface for setting the presser status.

Select the presser position at stop from the Area D. The selected key will be displayed in dark. Press ENTER Key (E) to input the selected content, and then the system will return to the interface for setting the Stop in Midway.

:Presser lifting position at stop in midway

:Presser lowering position at stop in midway

⑤ Set the Needle Position

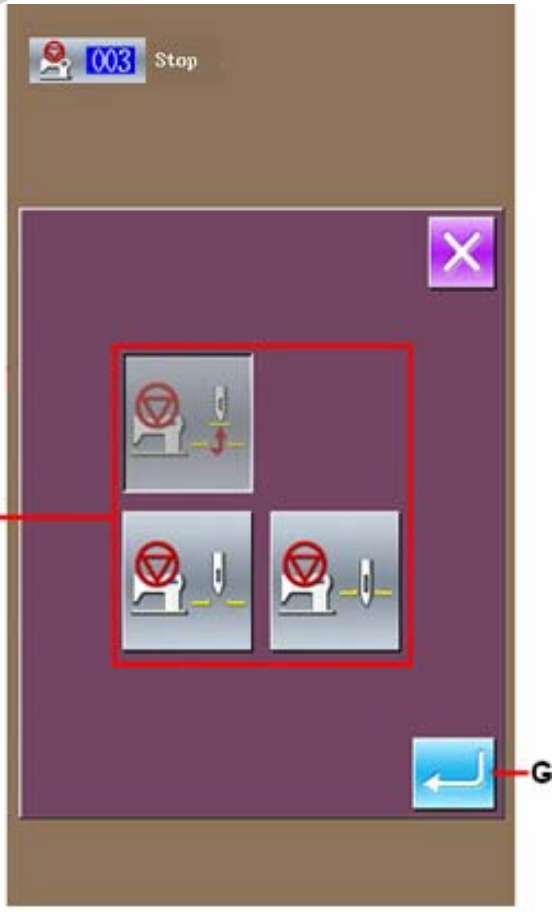
Press Needle Position Setting Key to activate the interface for setting needle position.

Select the needle position at stop from Area F. the selected key will be displayed in dark. Press ENTER (G) to input the selected content, and then the system will return to the interface for setting the stop.

:Stop at Needle Highest Point

:Stop at Needle Up Position

:Stop at Needle Down Position



Attention:

UP position error will be produced at the time of sewing when the needle position is set to DOWN position at the end of sewing or before jump feed. Needle stop is become invalid when the sewing machine is in the stop state, and the needle position does not change.

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(4) Running for A Circle (006)

Input the order to let machine run for a circle.

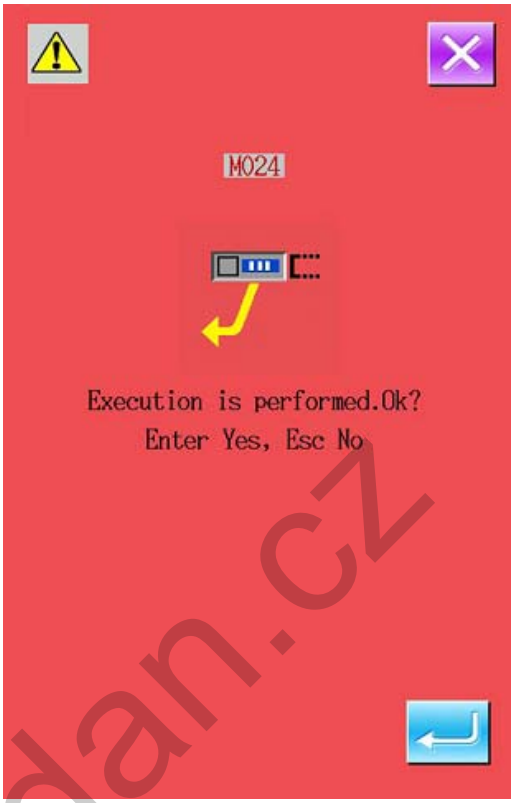
① **Select Running for A Circle**

In the interface of the code list, select Running for A Circle (Code 006)

to activate the interface at right.

② **Input Running for A Circle**

In the interface at right, press ENTER to confirm the sewing machine for running a circle, and then the system will return to the standard interface.



(5) Mark 1(008)

Attach mark to the pattern.

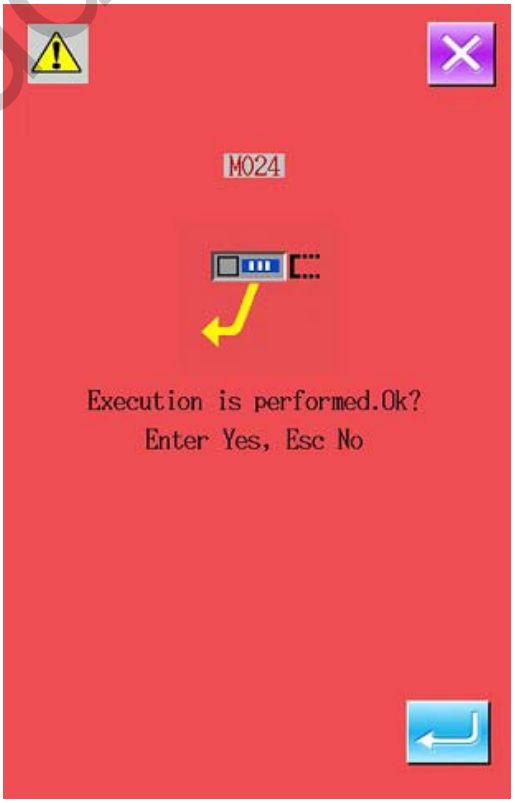
① **Select Mark 1**

In the interface of code list, select the Mark 1 (Code 008)

to activate the interface at right.

② **Input Mark 1**

In the right interface, press ENTER to input the Mark 1 and then the systen will return to the standard interface.



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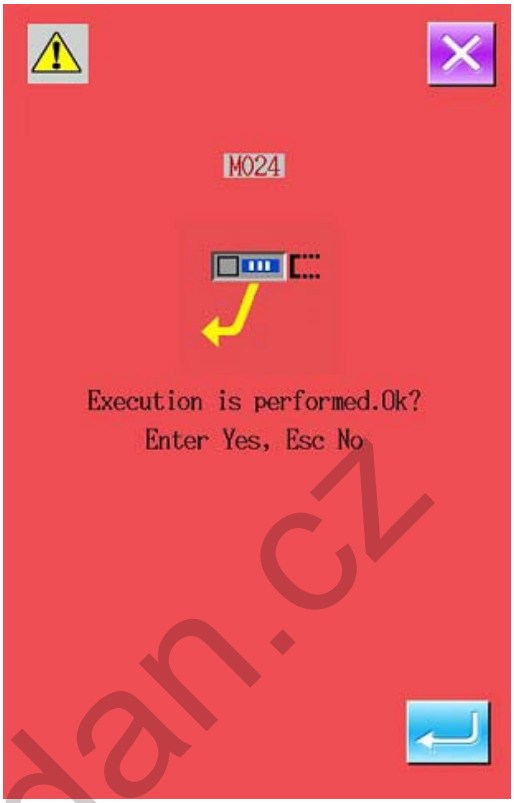
(6) Tension of the 3rd Thread (007)

Input tension of the 3rd thread.



① **Select Tension of the 3rd Thread**

In the interface of the code list, select the Tension of the 3rd Thread (Code 007)

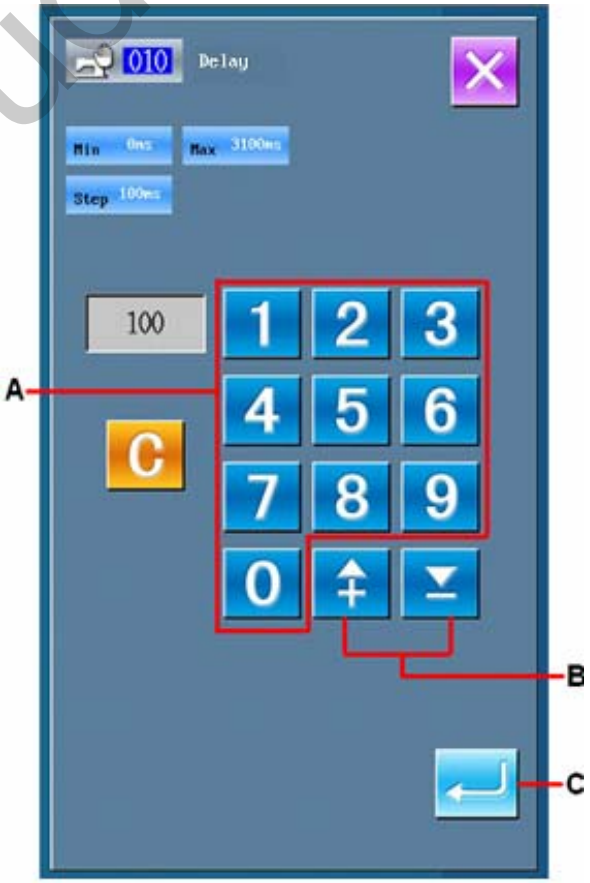
to activate the right interface.

② **Input Tension of the 3rd Thread**

In the right interface, press ENTER to input the tension of the 3rd thread, and then the system willl return to the standard interface.

(7) Delay(010)

To set the external output time.



① **Select Delay**

In the interface of the code list, select delay (Code 010)

to activate the interface at right.

② **Input the Delay Value**

In the right interface, input the delay value with the figure keys (A) or +/- Keys (B). Press to input the value and then the system will return to the standard interface.

(8) Scale the Reference Point (004)

Enable to scale the reference points at any position on the produced pattern. When not setting the scale of reference point, user can scale the origin.

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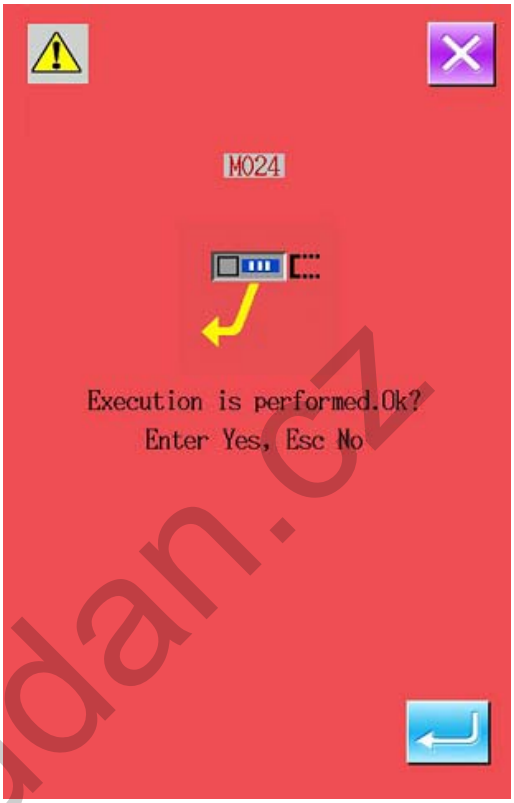
① **Select Scale the Reference Point**

In the interface of code list, select Scale the Reference Point (code 004)

to activate the interface at right.



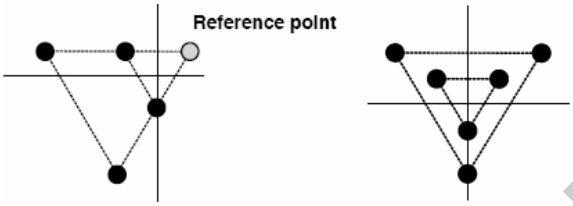
② **Set Scale of Reference Point**

In the right interface, press to input the scale of reference point, and then the system will return to the standard interface.

1. If user input the scale of Reference Point for twice, the last input will take precedence.

2. When performing this function, user can set the present needle position at the reference position which is set in advance.

If user scales the pattern at loading, the pattern will be scaled according to the set reference point. Additionally, the pattern will be scaled according to the scaled reference point at sewing.



(9) Mirror Point (005)

Only after setting the mirror state to the Random Reversal in the setting of press turn (“9-22. Presser Turns Setting” p.93), can the mirror point be inputted.

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① **Select Mirror Point**

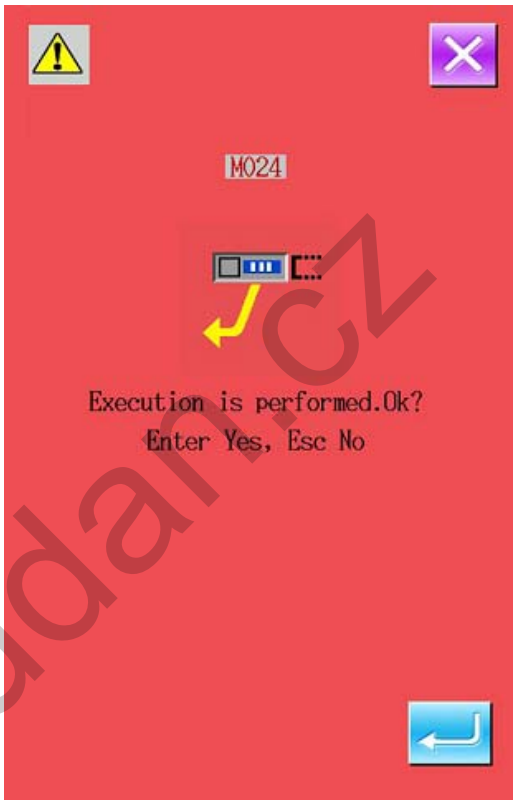
In the interface of the code list, select mirror point (Code 005)

to activate the interface in right.

② **Set Mirror Point**

In the right interface, press and input the mirror point at the present needle position, then the system will return to the standard interface.

After user inputs mirror point in the Position 5 of the picture below, the system will perform the jump feed from origin to position 3, and then carry out the linear sewing in order of 3→4→5(reversal)→6→7→3.



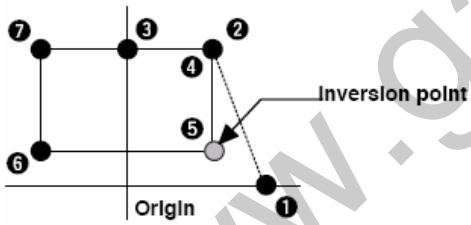
Attention:

1. The mirror clamp of the start sewing is at left, therefore the mirror order in later shall be the repetition of right and left. By the way, the number of the inputted mirror order shall be odd number. If it is inputted at even number, the clamp may crash to the needle at the finish, thus may cause the breakage of needle.

2. No mirror point can be set in the following positions:

(a) The first position after the 2nd origin.

(b) The first position after thread-trimming



(10) Setting of Upper Thread Tension (014)

Set the value of the upper thread tension. This value will keep valid until there is a position for the next thread tension setting order.

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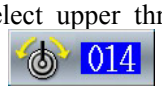
① **Select Upper Thread Tension Setting**

In the interface of code list, select upper thread tension setting (Code 014) 

to activate the right interface.

② **Set Value for Upper Thread Tension**

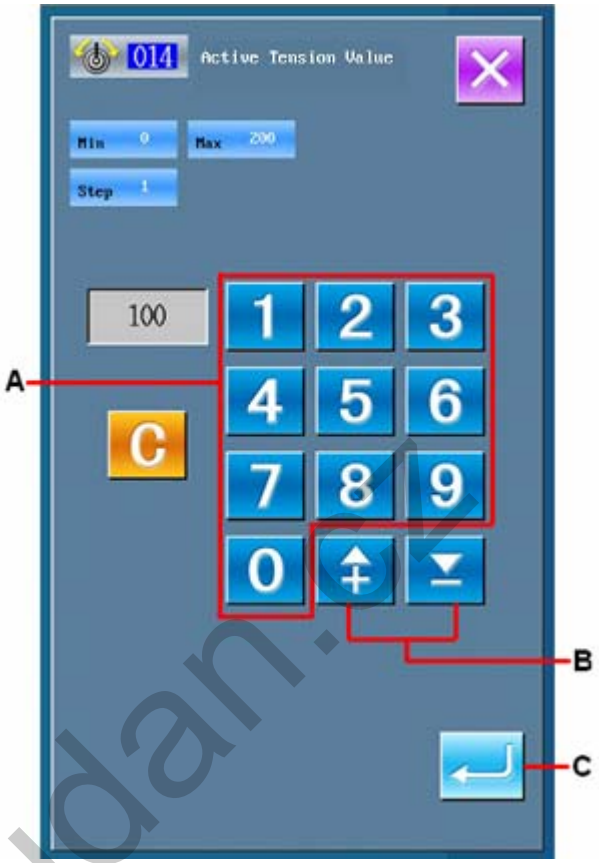
In the right interface, set the upper thread tension value by pressing number keys or ＋/－ keys. After is pressed, the set upper thread tension value is inputted and the system returns to the standard interface.

The value actually inputted as order:

Upper thread tension (No.014) =

Upper thread tension basic value (No.113) + the inputted value (Adjusted value).

If the basic value of the upper thread tension (No.113) is at「50」, and the upper thread tension (No.014) is at「100」, the inputted value (adjusted value) is「50」.



(11) Setting of Intermediate Presser Height (018)

Set the intermediate presser height. This value will be kept valid until there is a position for the next intermediate presser height setting order.

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① **Select the Intermediate Presser Height Setting**

In the interface of code list, select Intermediate Presser Height Setting (Code 018)

to activate the interface in right.

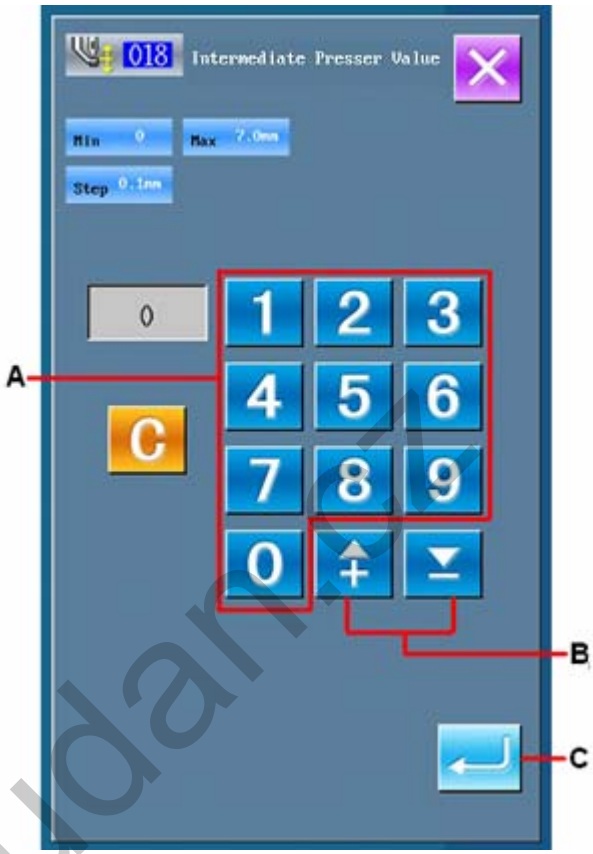
② **Setting of the Intermediate Presser Height**

In the right interface, use number keys or＋/－ keys to set height of intermediate presser. After is pressed, the height of intermediate presser is inputted and the system return to the standard interface.

When the presser at its lowering position, user can press ＋/－ keys (B) to make the presser reach the inputted height.

The value actually inputted as order:

Intermediate presser height setting value (No.018) = Basic value of intermediate presser height (No.115) + inputted value (adjusted value).



1. if the basic value(No.115) is set at「1.0mm」, and the height (No.018)is set at「3.0mm」, the inputted value (adjusted value) shall be「2.0mm」.

2. The maximum of inputted value is 7mm, but it is under the limitation of the actual setting of machine.

(12) Area Division (016)

Input the area division order.

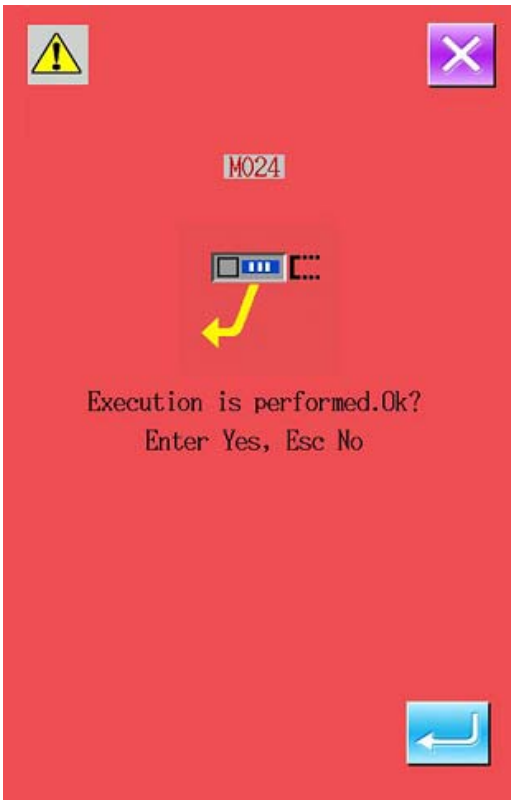
① **Select Area Division**

In the interface of code list, select Area Division (Code 016)

to activate the interface like the one at right.

② **Input Area Division**

In the right interface, press to input the order for Area Division and then the system will return to the standard interface.



(13) Sewing Machine Stop (019)

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Input the order to stop sewing machine.

① **Select Sewing Machine Stop**

Select the Sewing Machine Stop to activate he interface like right.

② **Point Stop Status**

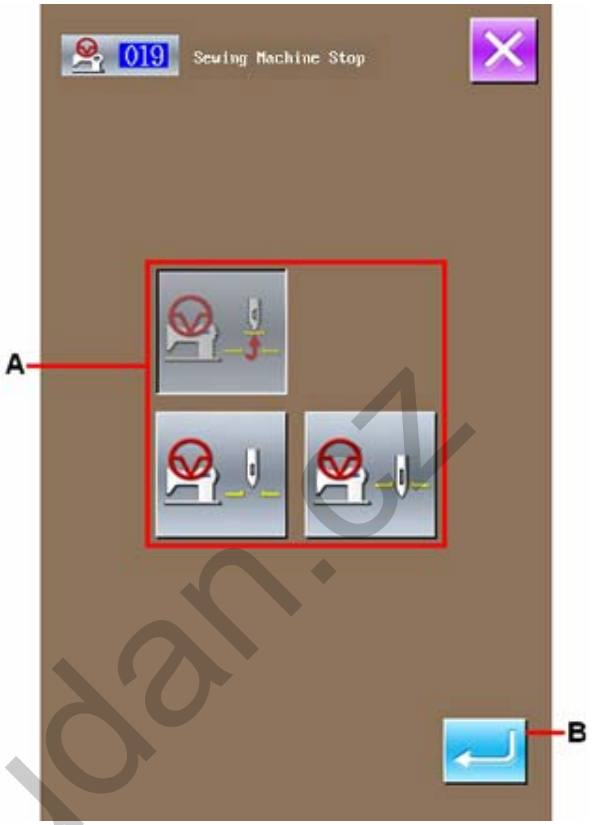
Select the needle position at stop from the area A, the selected key will be displayed in dark.

③ **Input the Sewing Machine Stop Order**

In the right interface, press ENTER to input the order of sewing machine stop. And then the system will return to the standard interface

	Stop position at the highest position
	Needle at up position when machine stops
	Needle at down position when machine stops

Attention:UP position error will be produced at the time of sewing when the needle position is set to DOWN position at the end of sewing or before jump feed. Needle stop is become invalid when the sewing machine is in the stop state, and the needle position does not change.



(14) Deletion of Mechanical Control Order (059)

Delete the mechanical control orders on the present position, such as 2nd origin, stop at midway, thread-trimming, upper thread tension setting value and intermediate presser height setting.

① **Select the Deletion of Mechanical Control Order**

In the interface of the code list, user shall press Deletion of Mechanical Control Order (Code 059) to activate the interface at right

② **Delete the Mechanical Control Order**

In the right interface, press to delete the mechanical control order. And then the system will return to the standard interface.

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（15）Sewing Speed（092）

Input sewing speed.

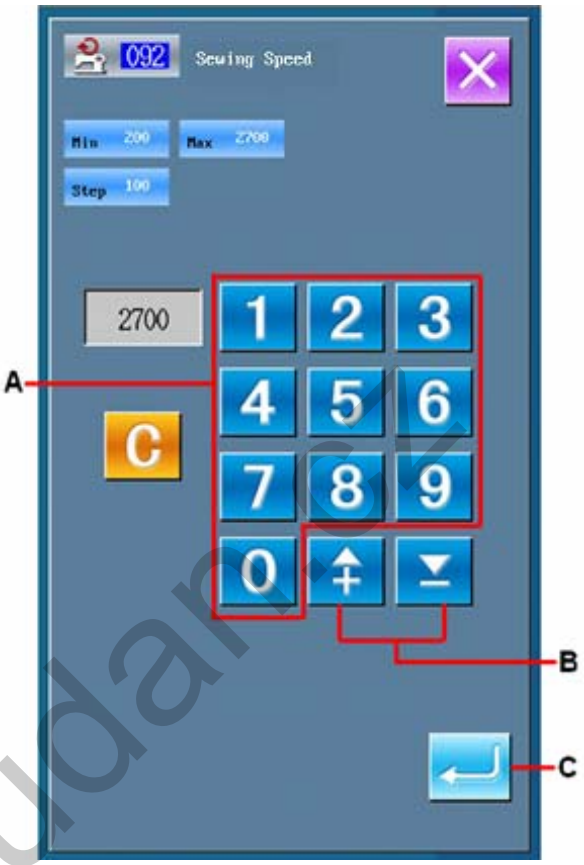
① **Select Sewing Speed**

In the interface of the code list, select the Sewing Speed (code 092)

to activate the interface in right.

② **Set Sewing Speed**

In the right interface, set the sewing speed with the number Keys A or +/- Key B. After user presses , the set value will be inputted to the sewing speed column, and then the system will return to the standard interface.



4-6. Automatic Back-tack (064)

Back-tack of Z type or V type with the specified number of stitches is created such as the sewing start, the sewing end, or the both of the elements including the present point.

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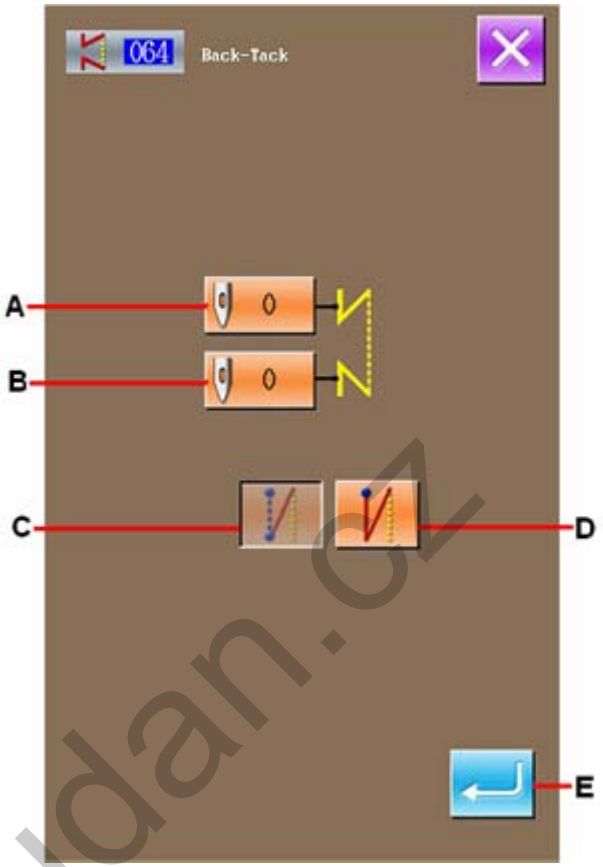
① **Select the Automatic Back-tack**

In the interface of code list, select the Automatic Back-tack (code 064) to activate the interface for setting the automatic back-tack.



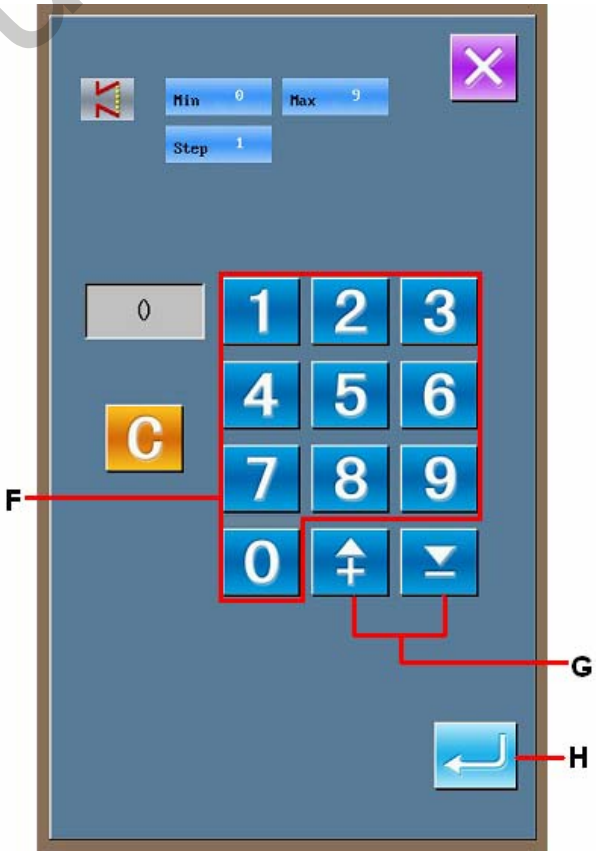
② **Setting of Automatic Back-tack**

In the interface for setting the automatic back-tack, the set stitch number of sewing start is displayed on Key A, while the set stitch number of sewing end is displayed on Key B.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. In the interface for setting stitch number, user can use number Keys (F) or +/-Keys (G) to set the set the stitch number. Press ENTER (H) to input the set stitch number and then the system will return to the interface for setting automatic back-tack

By using the Selection Key (C&D), user can determine the type of the back-tack. The selected type will be displayed in dark. Among these two keys, the Key C is for V type back-tack, while Key D for Z type back-tack

After the setting (or without need to change), the standard interface will be displayed and the back-tack will be edited as long as ENTER (E) is pressed



4-7. Condensation Sewing (065)

The specified number of stitches of the sewing start, sewing end, or the both of the element including the present point is changed to the specified pitch.

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① **Selection of Condensation Sewing**

In the interface of the code list, select condensation sewing (Code 065)

to activate the interface for setting the condensation sewing.

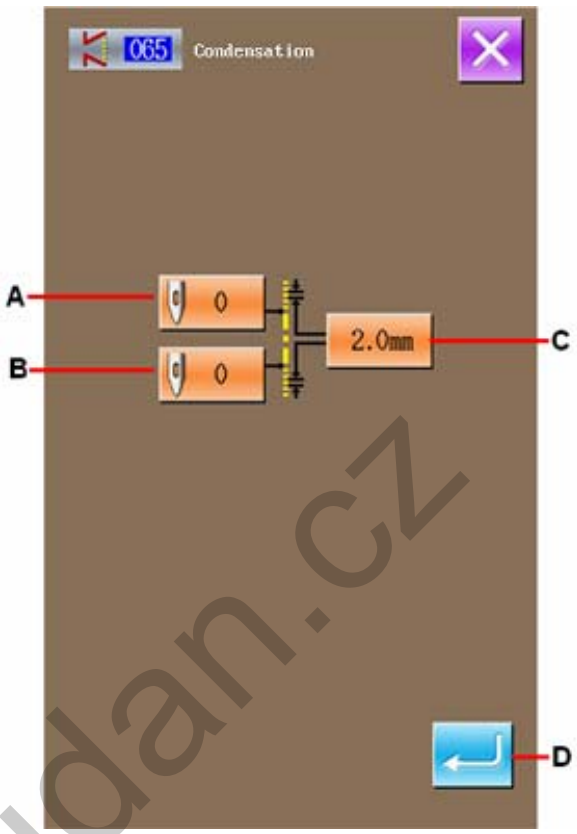
② **Setting of the Condensation Sewing**

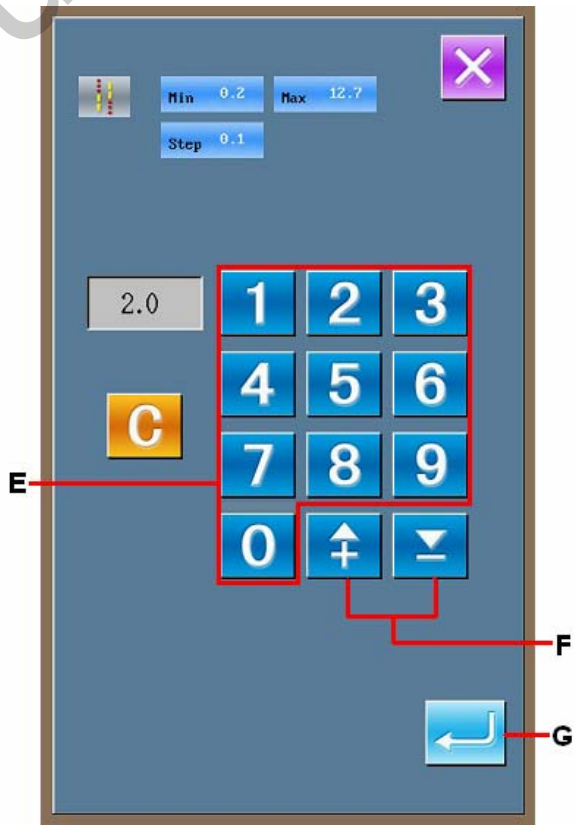
In the interface for setting the condensation sewing, the set stitch number of sewing start is displayed on Key A; the set stitch number of sewing end is displayed on Key B; the set pitch of stitch form is displayed on Key C.

Press the button of the item, which is wanted changing, so as to activate the interface for inputting the set value. In the interface for inputting, user can use number Keys (E) or +/-Keys (F) to set the set the value. Press ENTER (G) to input the set value and then the system will return to the interface for setting condensation sewing.

If the stitch number is set at 0, that part can be set as without condensation sewing

After the setting (or without need to change), the standard interface will be displayed and the condensation sewing will be edited as long as ENTER (D) is pressed.





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4-8. Overlapped Sewing (066)

According to the needle entry position, insert the point sewing data among the present data.

① **Select Overlapped Sewing**

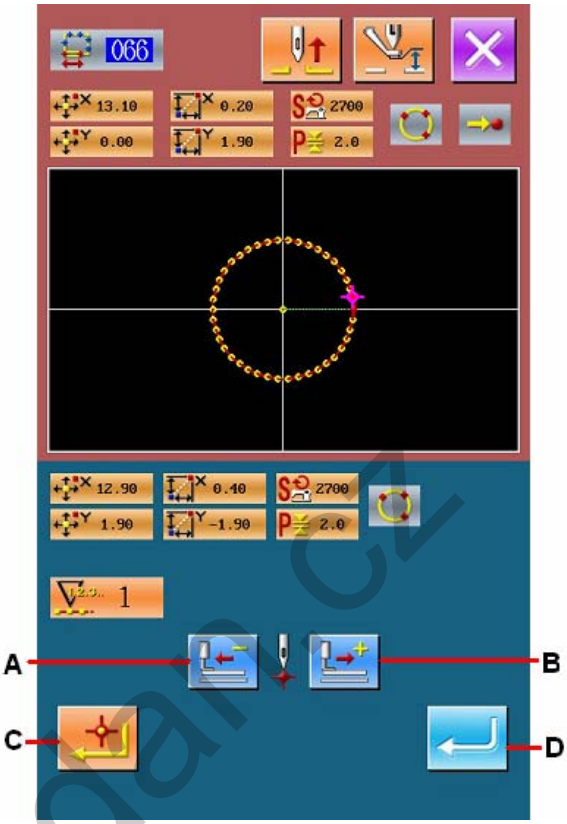
In the interface of code list, select Overlapped Sewing (Code 066)

to activate the interface for setting the overlapped sewing.

② **Setting of Overlapped Sewing**

With the Backward Key (A) and Forward Key (B), user can track the needle entry point. The present needle position is displayed in red; after pressing Key C, user can set that point as the target of the overlapped sewing, which is displayed in red. Press ENTER (D) to set that point as the element of the overlapped sewing, and the system will return to the standard interface.

The overlapped sewing is usually used at the end of a close pattern. For an example, the right graph is a close circle, user shall press backward key (A) to fall back to the stitch position needing overlapped and perform the setting operation.



4-9. About Angle Point (Curve Sewing & Normal Sewing)

Angle point, the point overlapped by two shaping pints in the curve sewing, stands for the end of a curve. In the input of curve, user can determine an angle point by pressing Key C and Key B.

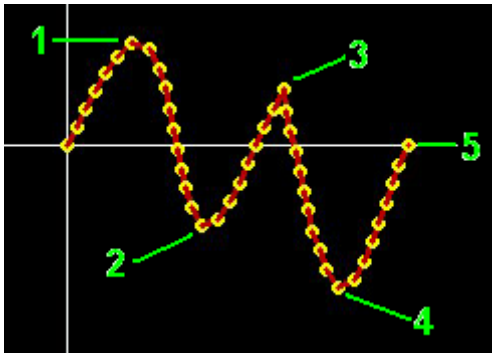
① **Input Angle Point in the Curve Normal Sewing**

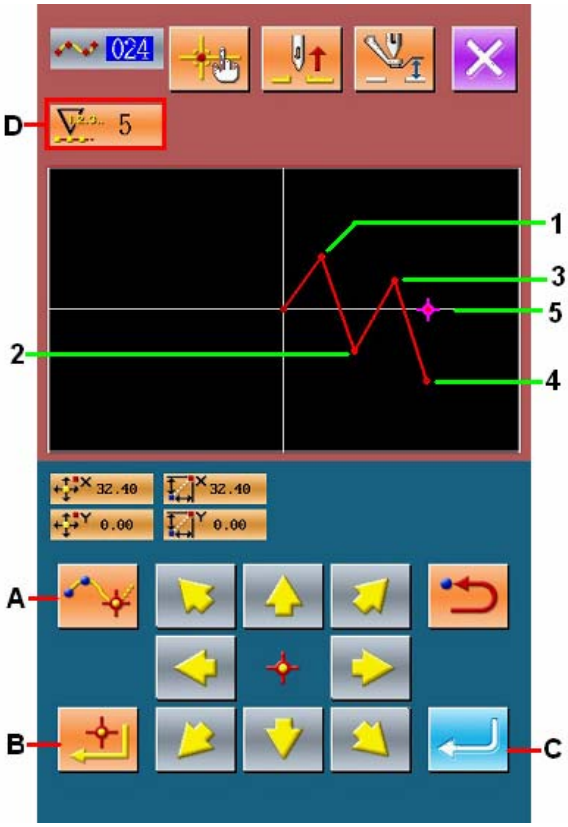
In the interface of code list, select curve normal sewing (Code 024)

to input the coordinate of the curve normal sewing.

Use Key A to input the points 1, 2 and 4; use Key B to input points 3 & 5; use Key C to input point 5. Then the points 3 & 5 are becoming the angle points, and the Key D shall be set at +2.

The result is the picture below. On point 3, which has been inputted as angle point, once the curve is finished, the connection between point 3 and point 5 will turn to new curve (in element level, it's a curve sewing).





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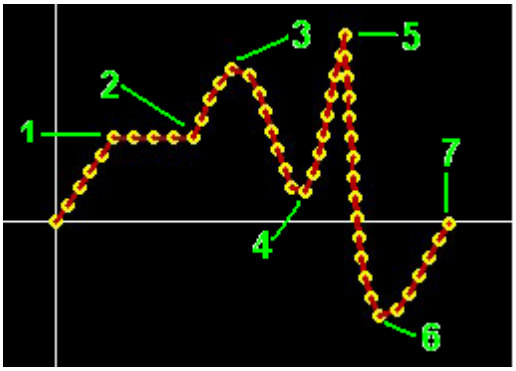
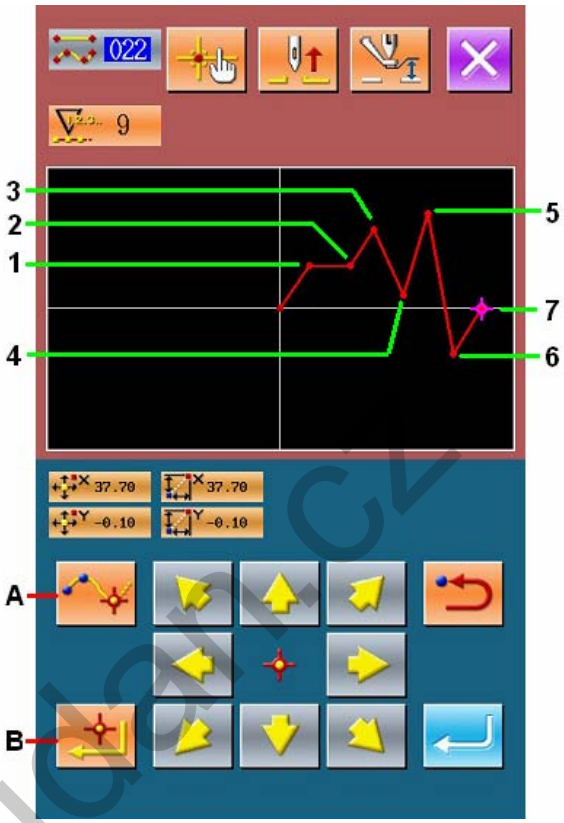
② Input Angle Point in Normal Sewing

At normal sewing, the inputted points are determined by the element type before the point which is under the operation of Key B

Select normal sewing (code 022) ; in coordinate input interface, use Key B to input points 1, 2, 5, and 7, use Key A to input point 3, 4 and 6. At this moment, the point 2 is the normal deciding point (number of shape points +1) since the point that one before point 2 is the linear sewing. And the point 5 &7 are the angle points (number of shape point +2), since the point before the point 5 & 7 is the curve sewing.





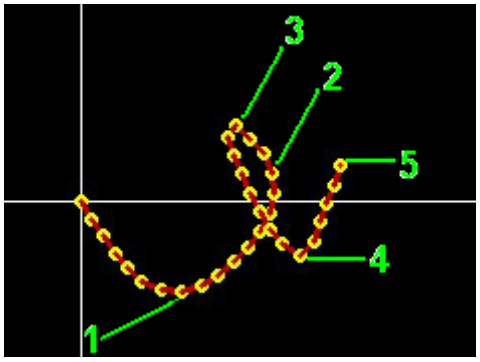
③ Correct Shape Point at Angle Point

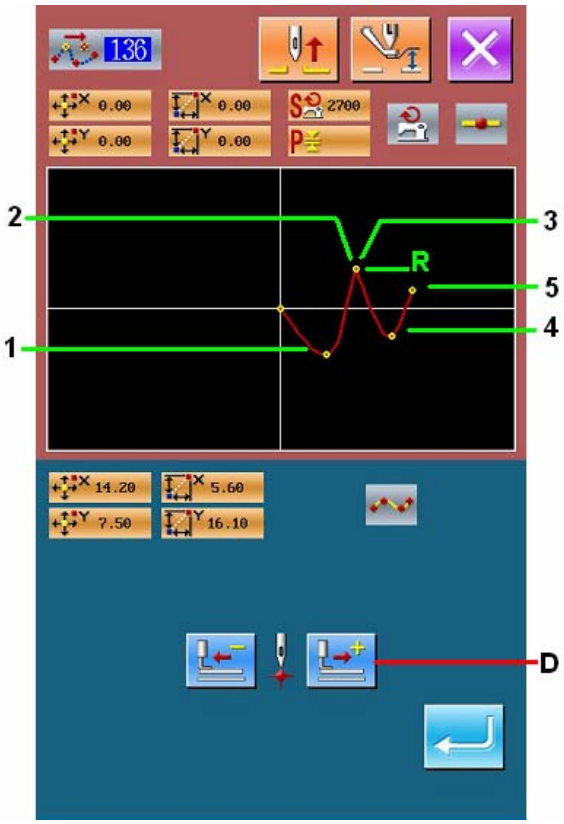
The angle point overlaps 2 shape points; therefore user needs to pay attention when correcting the shape point (“5-8. Correction of Shape Point”p.73)

Select Shape Point Move (Code 136) and then choose the shape point for moving. Press Forward Key D to have access to the selected shape point. After that, angle point (R Point) has two shape points.

After making R point move to S point, user can select the shape point rear 2 or front 3 so as to change the result.

The result when rear 2 is moved





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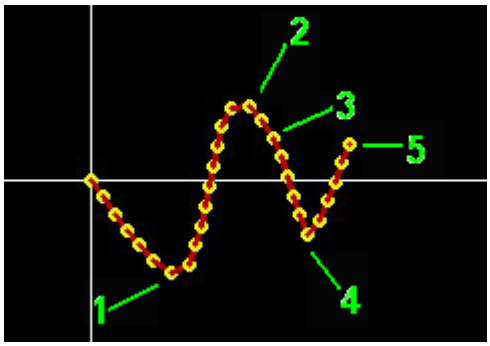
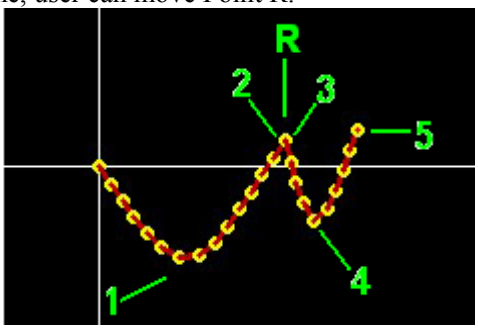
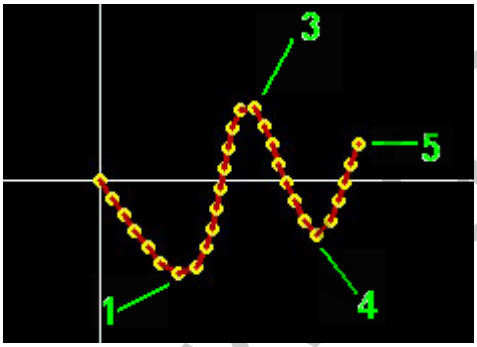
The result when front 3 is moved

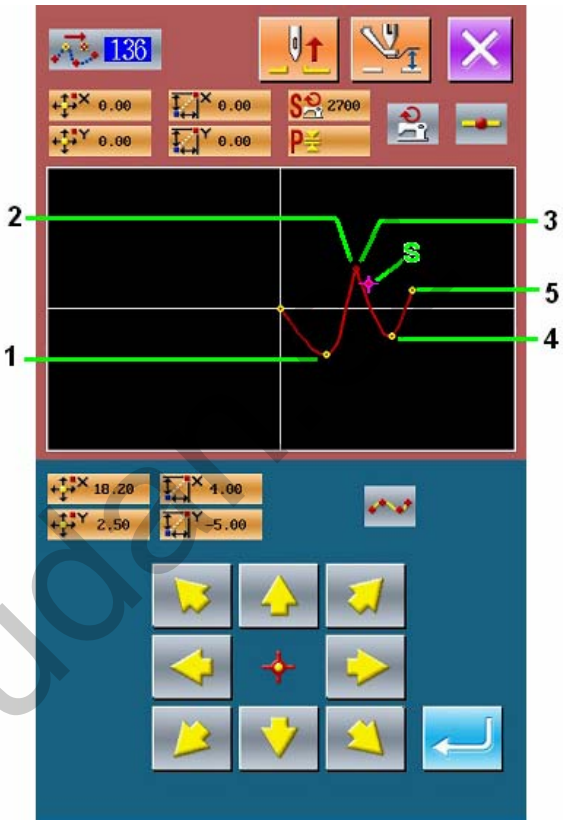


Move the rear 2 and front 3 to a same coordinate. At this time, user can move Point R.



When deleting either rear point 2 or front point 3, the angle point becomes the normal passing point and the pattern become the curve sewing.





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5. Correction of Pattern

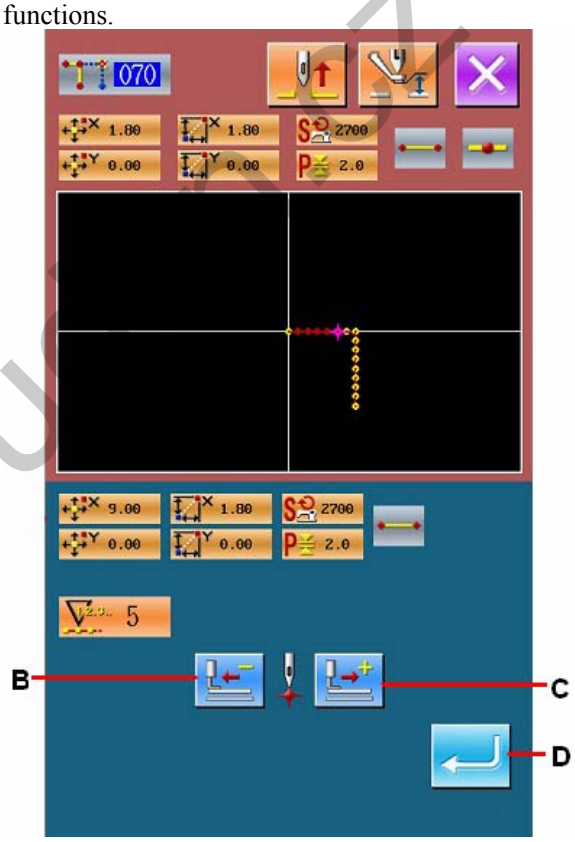
When you perform the correction of pattern, please use or to move the needle to the position for correction.

5-1. Point Correction

(1) Point Deletion (070、074)

The pointed section pattern data is deleted in needle entry point unit. The method of point deletion is divided into Relative Point Deletion and the Absolute Point Deletion according to the movement of the pattern data after the point deletion

The function of point deletion can not only delete the pattern data that is produced with the point sewing functions, but also can delete the data produced with the linear sewing functions.



① **Select the Relative Point Deletion**

In the interface of code list, select and perform the Relative Point Deletion (code 070) .

② **Appoint the Range for Relative Point Deletion**

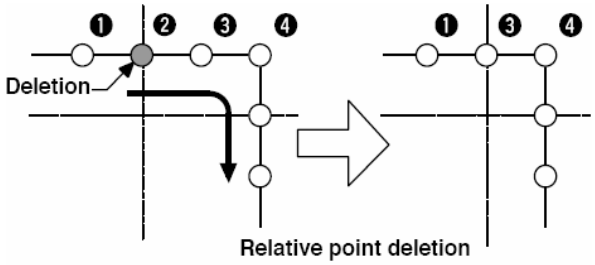
Press Key B or C to move the needle, so as to determine the range of the point deletion. Then press (D) to activate the confirmation interface of the point change.

③ **Confirmation of Point Change**

The confirmation interface of point change is activated when it changes to point sewing. If user continues performing it and press , the point deletion confirmation interface will be displayed.

④ **Explanation of Relative Point Deletion and Absolute Point Deletion**

In case of the relative point deletion, the whole pattern data after the deleted point moves while holding the relation before deletion.



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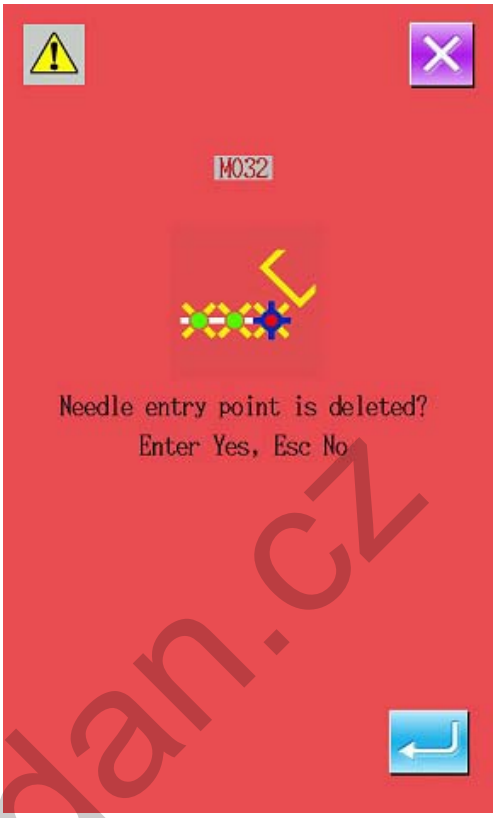
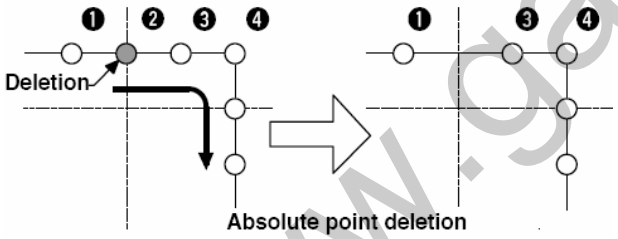
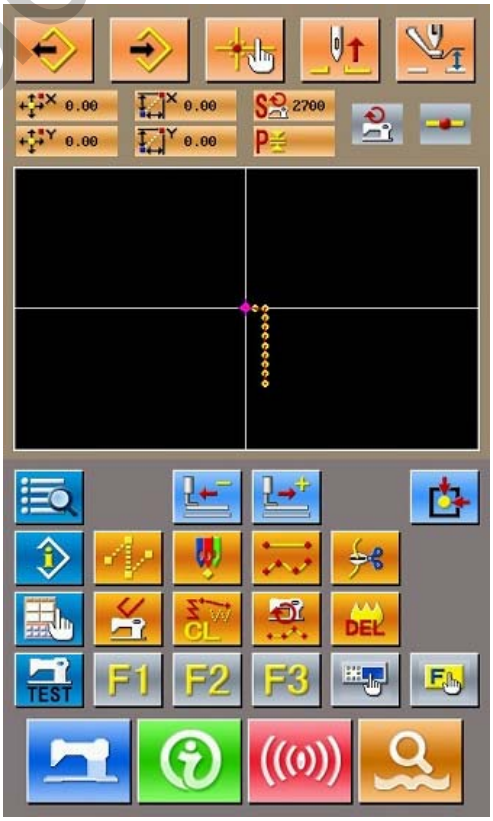


Absolute Point Deletion (Code 074)

. The pattern data after the deleted point does not move.





Attention:

1. After the point deletion, the point pitch shall not exceeds the max sewing stitch form of the sewing machine

2. The result of point deletion may exceed the sewing range as a part of the completed pattern data. So, at this time, please use the correction function to modify the pattern data to the sewing range.

(2) Point Move(071、075)

This function moves the specified needle entry point. There are two methods of Relative Point Move (071) and Absolute Point Move (075), depending on moving of the pattern data after the moved point.

Point Move can not only move the pattern data made via the point sewing input function, but also can move the pattern data which is produced with the linear sewing functions. For pattern data make by linear sewing, it can be

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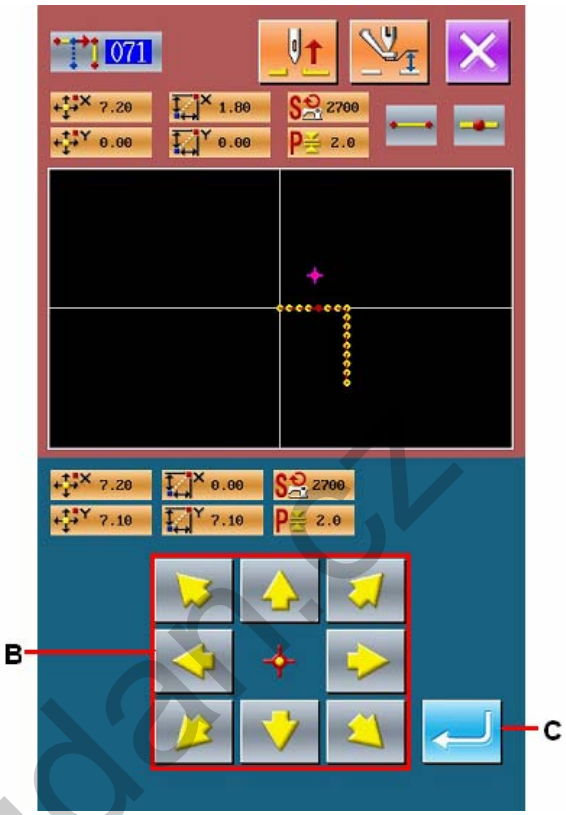
changed into point sewing after performing the point move.

① **Selection of Relative Point Move**

In the interface of code list, select and perform relative point move (code 071)

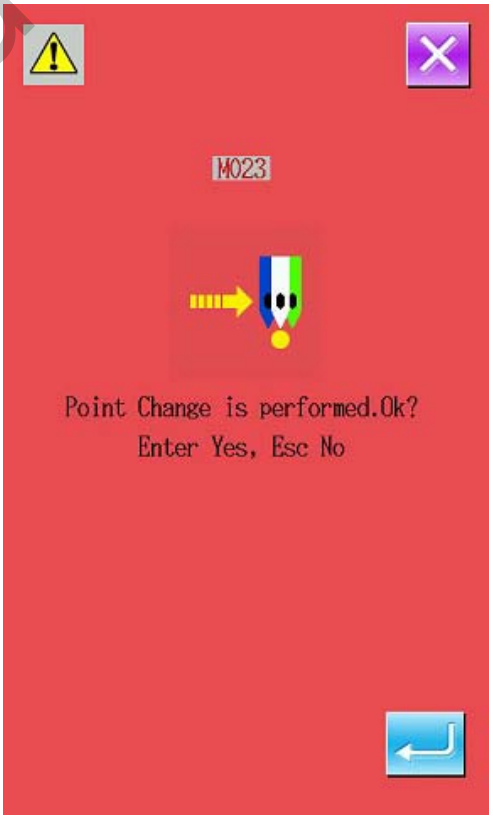
② **Specify the Position of Relative Point Move**

Use direction keys (B) to specify the position of the point move. Press (C) to activate the confirmation interface of the point change.

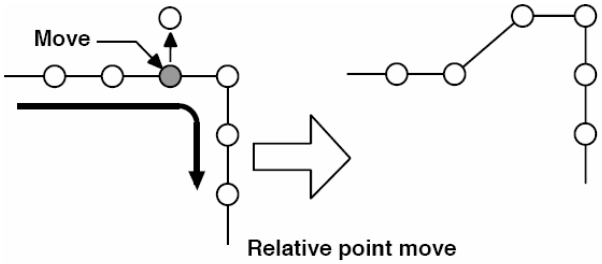


③ **Confirmation of Point Change**

The point change confirmation interface shows that the point change may be changed to the point sewing. In case of continuing, press to perform the point move, and then the system returns the standard interface.



In case of the relative point move, the whole pattern data after the moved point moves while holding the previous relation.



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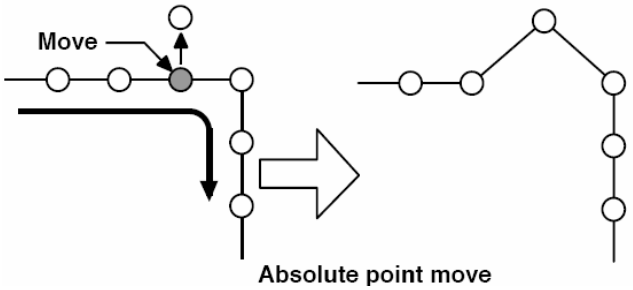
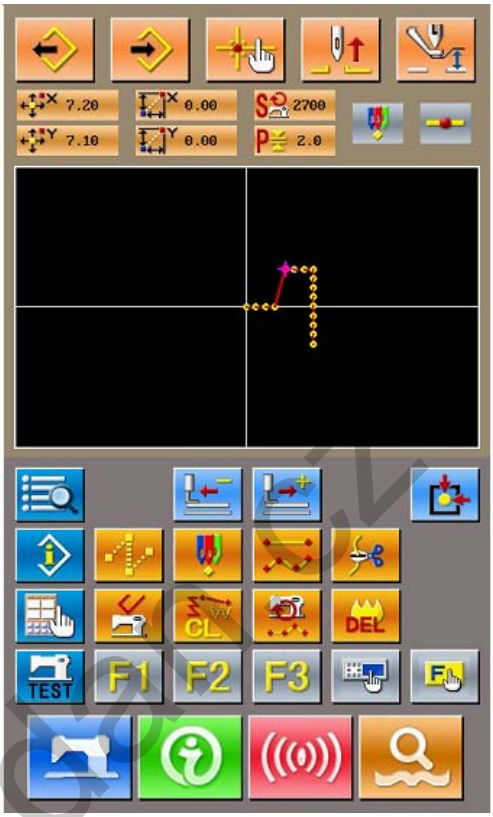
In case of the absolute point move (code 075) , the pattern data after the moved point does not move.





Attention:

1. After the point move, the point pitch shall not exceeds the max sewing stitch form of the sewing machine

2. The result of point move may exceed the sewing range as a part of the completed pattern data. So, at this time, please use the correction function to modify the pattern data to the sewing range.

(3) Point Adding (076)

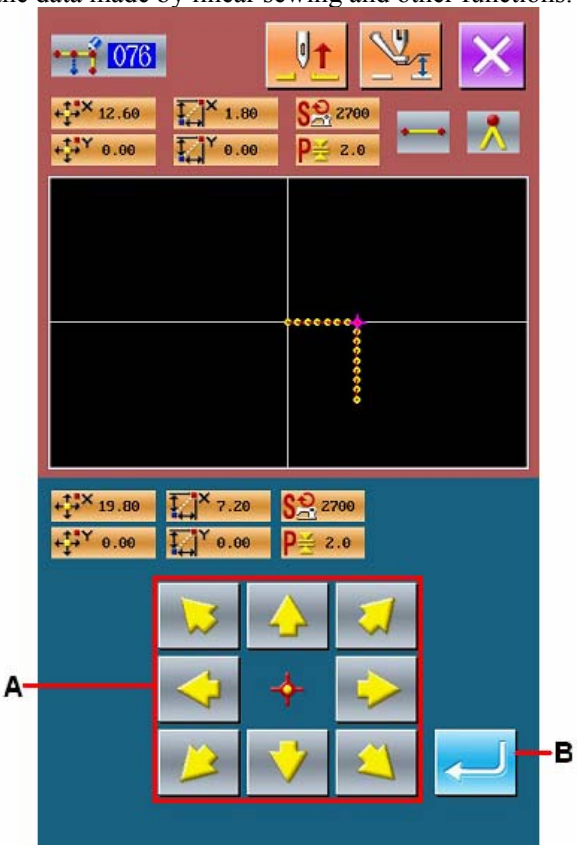
Add point after the pointed needle entry point. The pattern data after the added point keeps still. The point adding can not only add the inputted pattern data, but also can add the data made by linear sewing and other functions.

① **Selection of Relative Point Adding**

In the interface of code list, select and perform the relative point adding (Code 076) .

② **Specify the Position of Absolute Point Move**

Use (A) to specify the position of the point move Press (B) to activate the confirmation interface of the point change.



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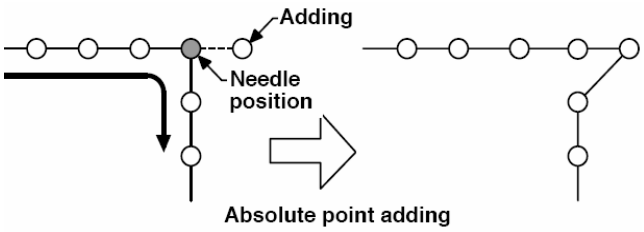
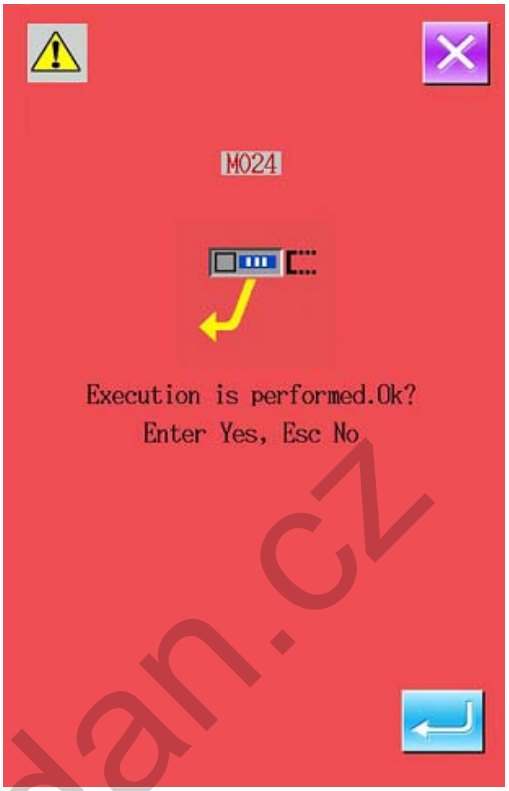


③ **Performance of Adding absolute Point**

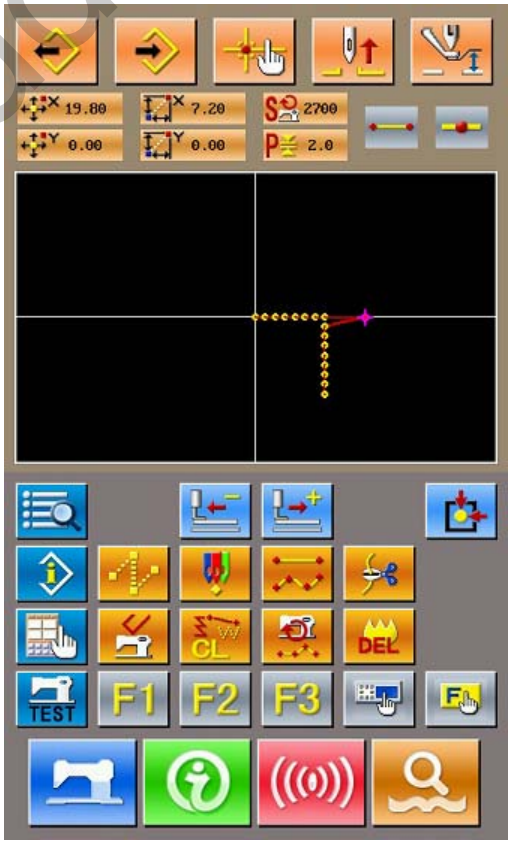
In the confirmation interface of absolute point, press to perform the point adding. And then the system returns to the standard interface.



Attention:

1. After the point adding, the point pitch shall not exceeds the max sewing stitch form of the sewing machine

2. The result of point adding may exceed the sewing range as a part of the completed pattern data. So, at this time, please use the correction function to modify the pattern data to the sewing range



5-2. Correction of Top Point

(1) Deletion of Top Point (072、077)

Delete a top point in the pointed pattern data. Depending on whether the pattern data after the point deletion keep still, the methods of top point deletion are divided into two methods: Relative Top Point Deletion and Absolution Top Point Deletion.

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If the pointed point is the final needle entry point or the needle entry point except the top point, this operation will be denied.

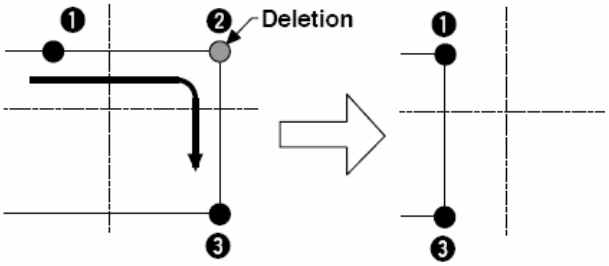
① **Selection of Relative Top Point Deletion**

In the interface of code list, select the relative top point deletion (Code 072)

to activate the confirmation interface of the relative top point.

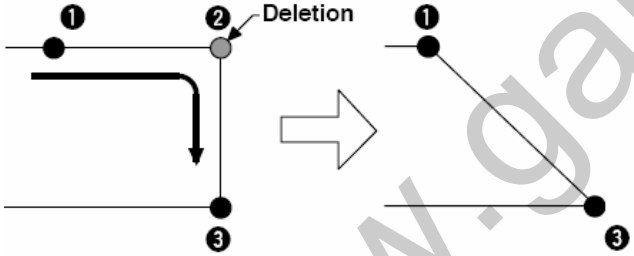
② **Performance of Relative Top Point Deletion**

In the confirmation interface of relative top point, press ENTER Key A to perform the relative top point deletion, then the system returns to the standard interface



Relative vertex deletion

When deleting relative top point, the whole pattern data after the deleted point moves while holding the previous relation before deletion.



Absolute vertex deletion

In case of deleting the absolute top point: in the interface of code list, select and perform the absolute top point deletion (code 077)

. At this time the pattern data after deleted point keep still.

Attention:

The result of point deletion may exceed the sewing range as a part of the completed pattern data. So, at this time, please use the correction function to modify the pattern data to the sewing range.

(2) Top Point Move (073、078)

Move the pointed needle entry point. Depending on whether the pattern data after the point move keep still, the methods of top point move are divided into two methods: Relative Top Point Move and Absolution Top Point Move.

Relative Top Point Move:The pointed point cannot be moved at the needle entry point other than top point.

Absolution Top Point Move:If the pointed point is the final needle entry point or the needle entry point other than the top point, this operation will be denied.

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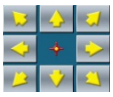
① **Selection of Relative Top Point Move**

In the interface of code list, select and perform the Relative Top Point Move (Code 073)

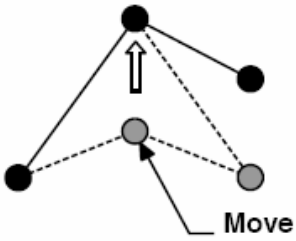
.

② **Specify the position of Relative Top Point Move**

In the specified interface of relative top point move, use  (B) to move the point. Press ENTER (C) to activate the confirmation interface of mechanical control order deletion.

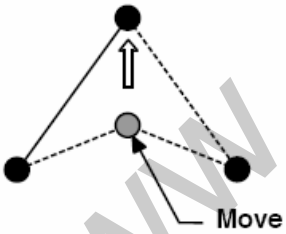
③ **Performance of Top Point Move**

In the confirmation interface of mechanical control order deletion, press ENTER (A) to perform the top point move, and then the system will return to the standard interface.



Relative vertex move

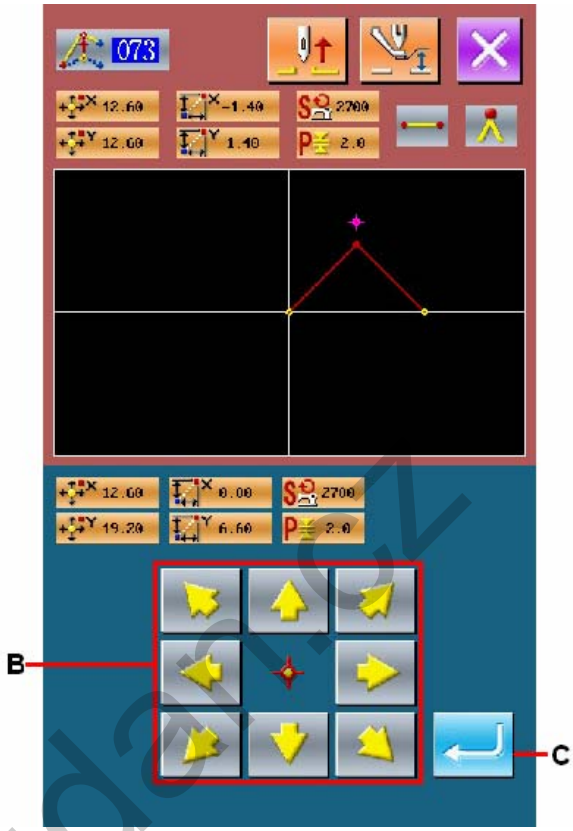
When moving relative top point, the whole pattern data after the moved point moves while holding the previous relation before that movement

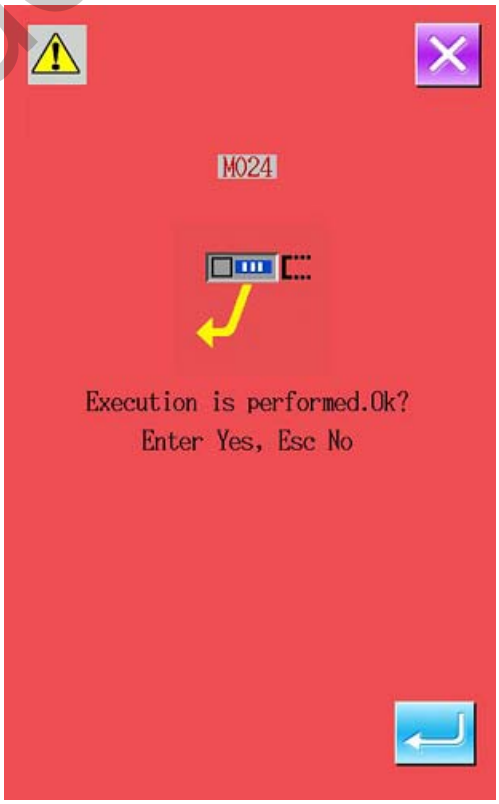


Absolute vertex move

In case of moving the absolute top point: in the interface of code list, select and perform the absolute top point move (code 078). At this time the pattern data after moved point keep still

Attention:The result of point deletion may exceed the sewing range as a part of the completed pattern data. So, at this time, please use the correction function to modify the pattern data to the sewing range





5-3. Element Deletion (063)

Delete the sewing elements and mechanical orders in the unit of element, the element after the deleted element will move forward after the deletion.

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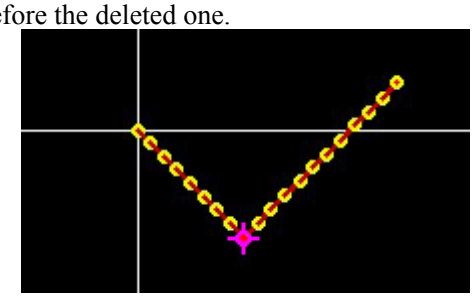
① **Display of Element Deletion Performance Interface**

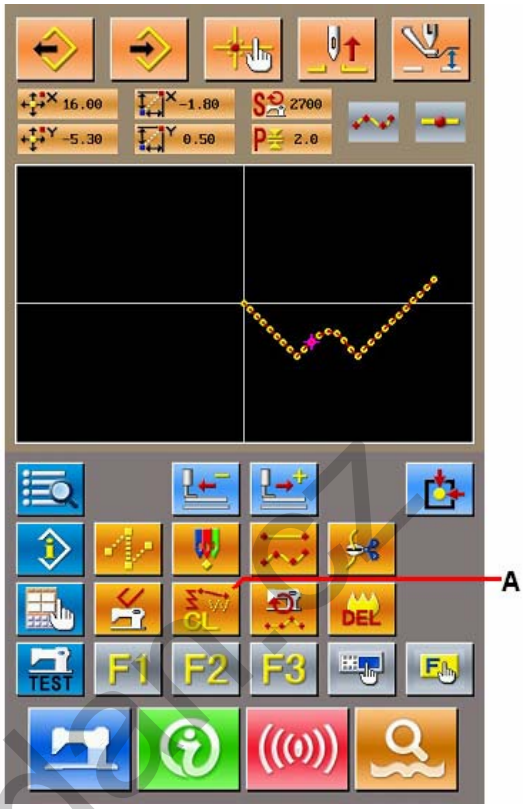
Press element deletion key (A) in the standard interface, or select element deletion (code 063) in the interface of code list to activate the interface of the element deletion performance

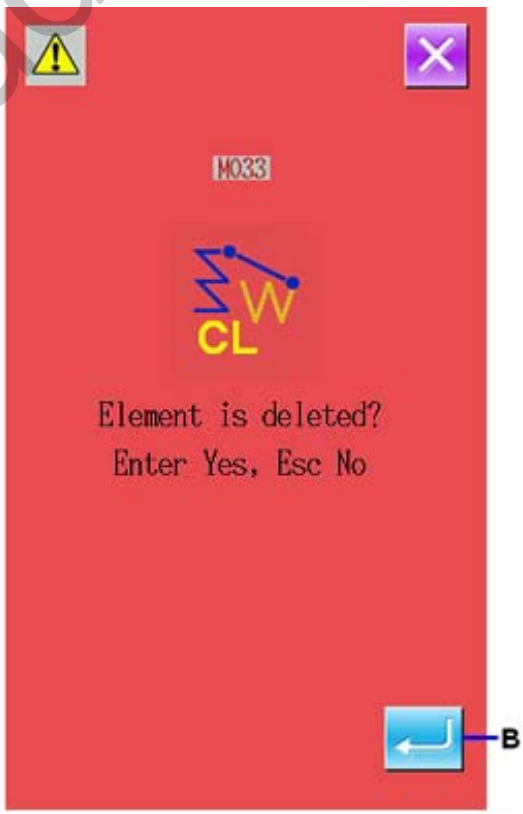
② **Performance of Element Deletion**

Select the Element Deletion (Code 063)

, then Press ENTER B to perform the element deletion. After that the system will return to the standard interface.
If the element belonging to the present needle position is deleted, the pattern data after the deleted element will move forward in a whole, and the needle position is moved to the end of the element before the deleted one.







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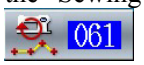
5-4. Sewing Speed Section Change (061)

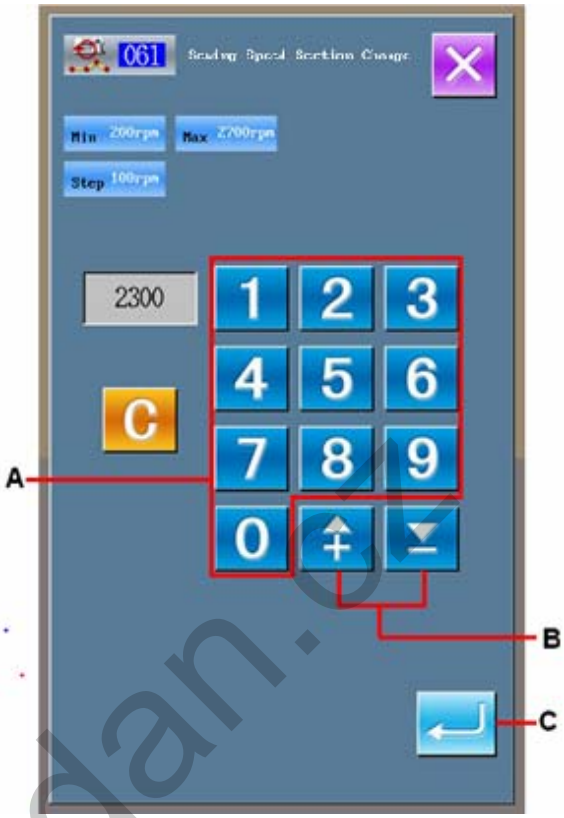
For the element already made, user can change the sewing pitch of the pointed element.

① **Display of Interface for Setting the Sewing Speed Section Change**

Press Sewing Speed Section Change Key in the standard interface, or select the Sewing Speed Section Change (code 061)  in the code list to activate the interface for setting the Sewing Speed Section Change.

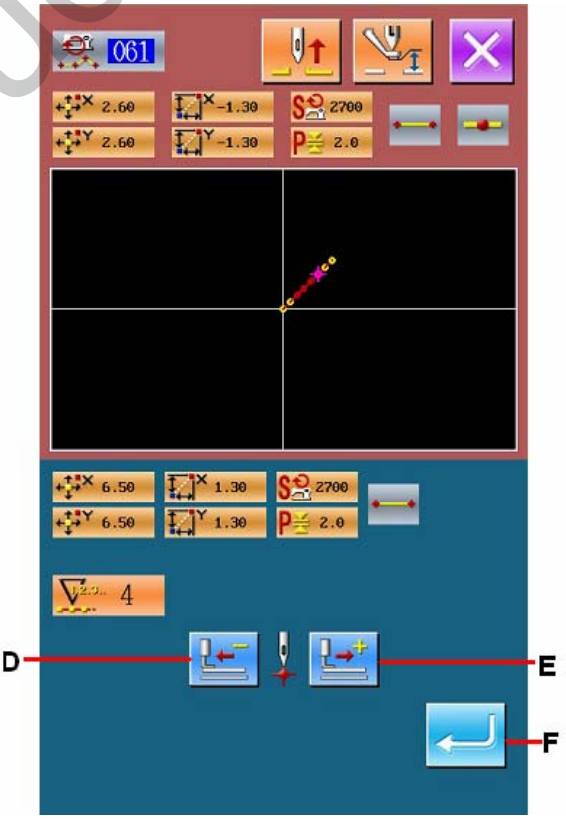
② **Input the Changed Speed**

This is the interface for setting sewing speed section change. User can use number keys (A), +/- Keys (B) to set the changed speed. Press ENTER (C) to display the interface for specifying the sewing speed change range.



③ **Specify the Range of Speed Change**

Press Backward Key D or Forward Key E to track the needle entry point. Press ENTER (F) to change the point speed of the set range. Then the system will return to the standard interface.



5-5. Change Length of Pitch (062)

For the made element, the sewing pitch length of a specified element can be changed.

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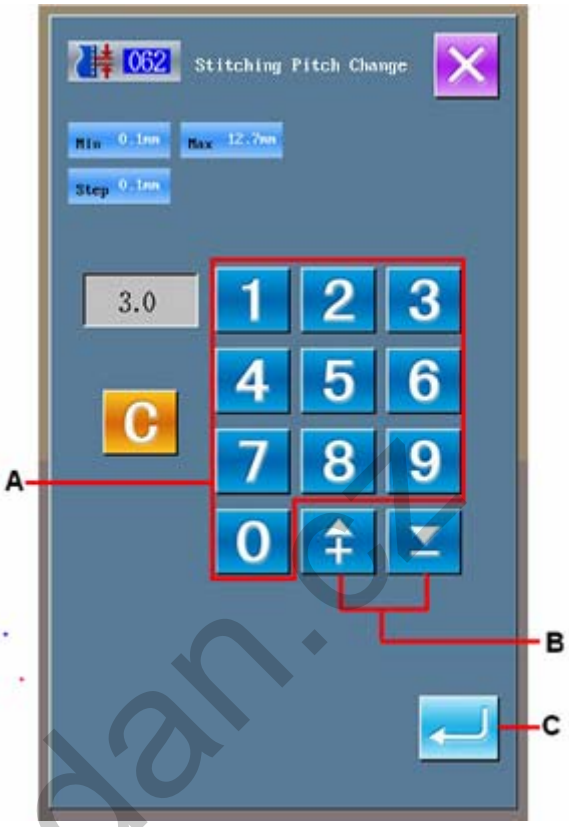
① **Display of Interface for Setting the Pitch Length**

In the interface of code list, select change pitch length (code 062) to activate the interface for setting the pitch length.

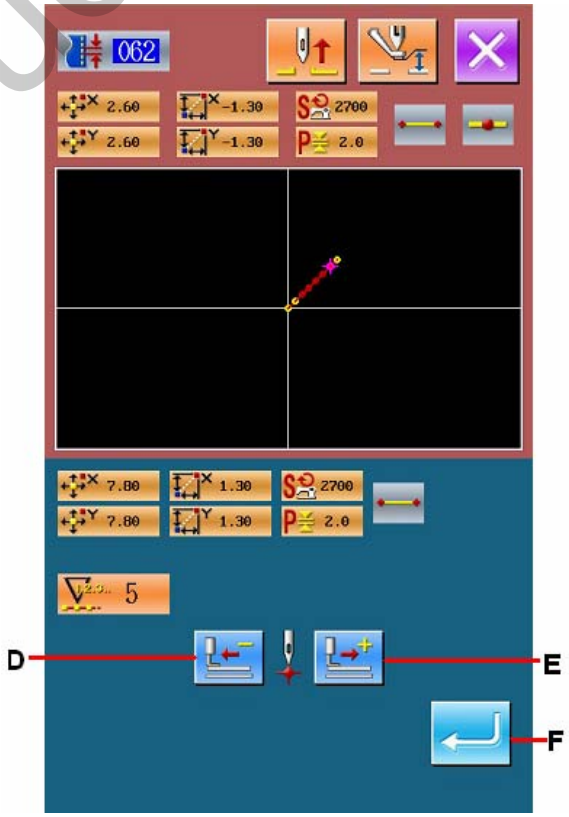
② **In put the Pitch Length**

In the interface of changing pitch length, use number keys (A), +/- Keys (B) to set the changed pitch length. Press ENTER (C) to display the interface for specifying the pitch length change range.



③ **Specify the Range of Pitch Length for Changing**

Press Backward Key D or Forward Key E to track the needle entry point. Press ENTER (F) to change the pitch length of the set range. Then the system will return to the standard interface.



5-6. Symmetry

Make a pattern symmetrical to the made one. This function is effective to the whole pattern with the existing needle position at the standard. When operating this function, user shall set the existing needle position to the standard position.

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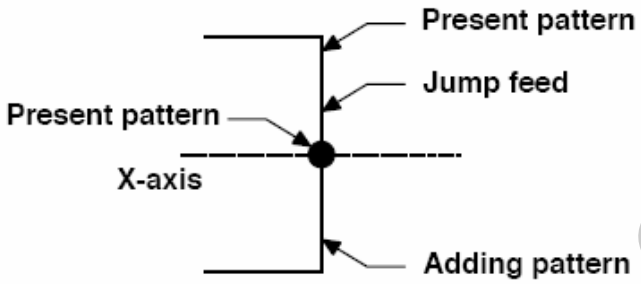
(1) X Axis Symmetry (082)

Create the pattern symmetrical to the X axis passing the present needle position. The present pattern is kept, and the symmetrical pattern is added after it.

① **Performance of X Axis Symmetry**

In the interface of code list, select the X Axis Symmetry (code 082)

to activate the confirmation interface. Press ENTER A in confirmation interface to perform the X axis symmetry.



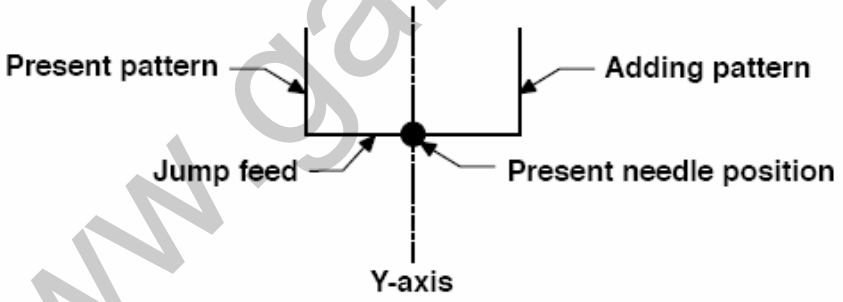
(2) Y Axis Symmetry (083)

Create the pattern symmetrical to the Y axis passing the present needle position. The present pattern is kept, and the symmetrical pattern is added after it.

① **Performance of Y Axis Symmetry**

In the interface of code list, select the Y Axis Symmetry (code 083)

to activate the confirmation interface. Press ENTER A in confirmation interface to perform the Y axis symmetry.



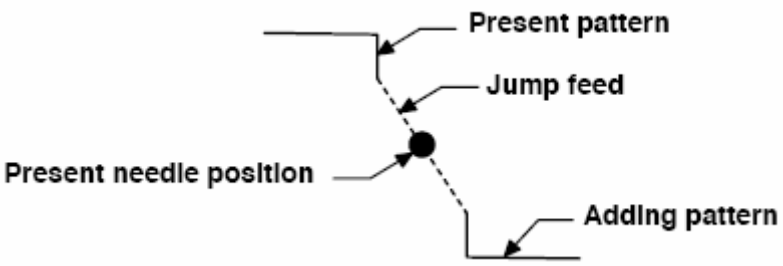
(3) Point Symmetry (084)

Create the pattern symmetrical to the present needle position. The present pattern is kept, and the created symmetrical pattern will be added after it.

① **Performance of Point Symmetry**

In the interface of code list, select the Point Symmetry (code 084)

to activate the confirmation interface. Press ENTER in confirmation interface to perform the point symmetry.



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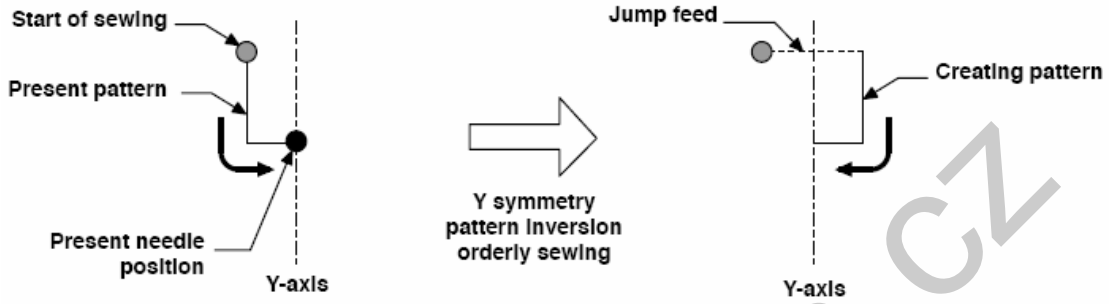
(4) Y Symmetry Pattern Inversion Orderly Sewing (098)

Create the pattern symmetrical to the Y axis passing the present needle position. The present pattern is deleted, and the jump feed is added up to the top of the symmetrical pattern.

① **Performance of Y Symmetry Pattern Inversion Orderly Sewing**

In the interface of code list, select the Y Symmetry Pattern Inversion Orderly Sewing (code 098)

and press ENTER at confirmation interface to perform the Y Symmetry Pattern Inversion Orderly Sewing.



5-7. Correction of Shape Point

Perform the correction on the shape point of element that contains the present point.

(1)Shape Point Adding (135)

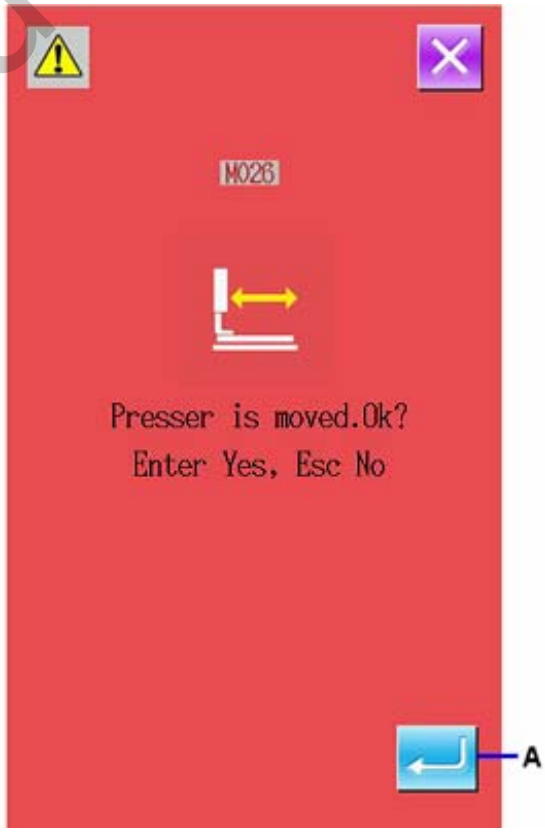
Add shape point.

① **Selection of Shape Point Adding**

In the interface of code list, select shape point adding (code 135)

to activate the confirmation interface of the presser move.

Press ENTER A to move the presser to the first shape point. At this moment, the specifying interface of the shape point is displayed.



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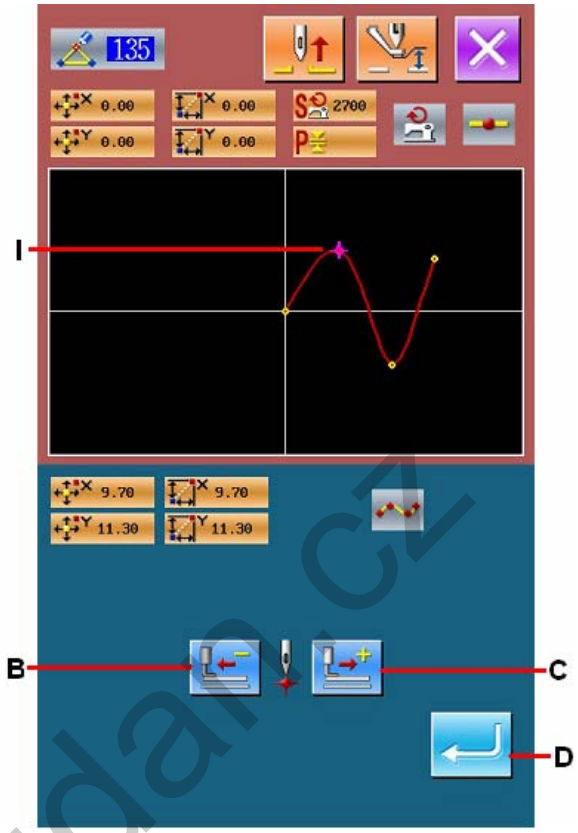
② **Specify the Shape Point**

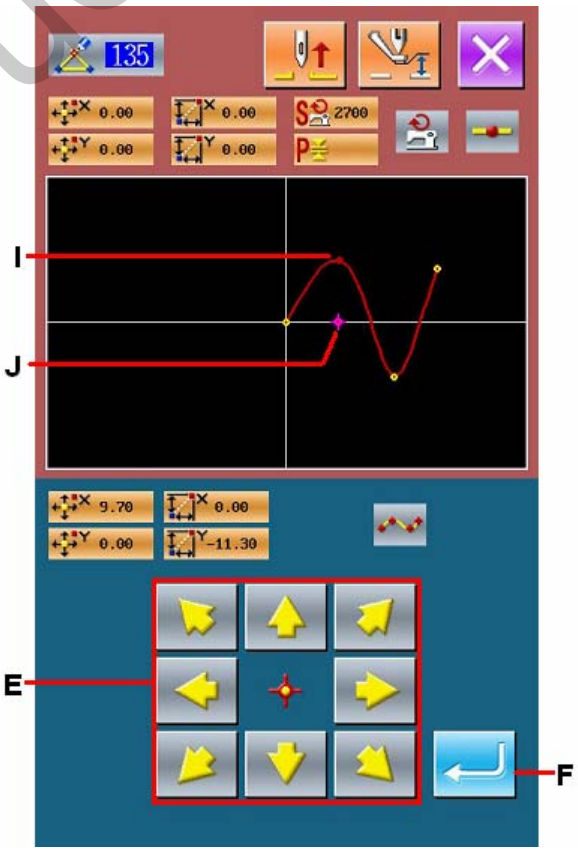
Use Backward Key B and Forward Key C to specify the position for adding shape point. The new shape point will be added after the shape point specified here. The specified shape point is in red (I).

Select the shape point, press ENTER(D) to activate the interface for specifying the shape point position.



③ **Specify the Adding Position**

Use direction key (E) to move icon (J) for specifying the symmetrical position of the added shape point. And then press ENTER (F) for confirmation.



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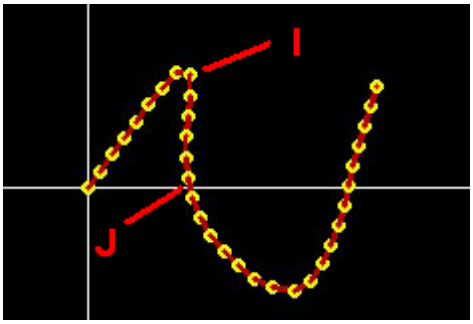
④ **Delete the Mechanical Control Order**

The confirmation interface is displayed, therefore, if the mechanical control order in the midway of the element can be deleted, the shape point adding will be performed after the ENTER (G) is pressed. After that operation, the system will return to the standard interface.

The picture below is the example of adding shape point J after shape point I



(2) Shape Point Move (136)

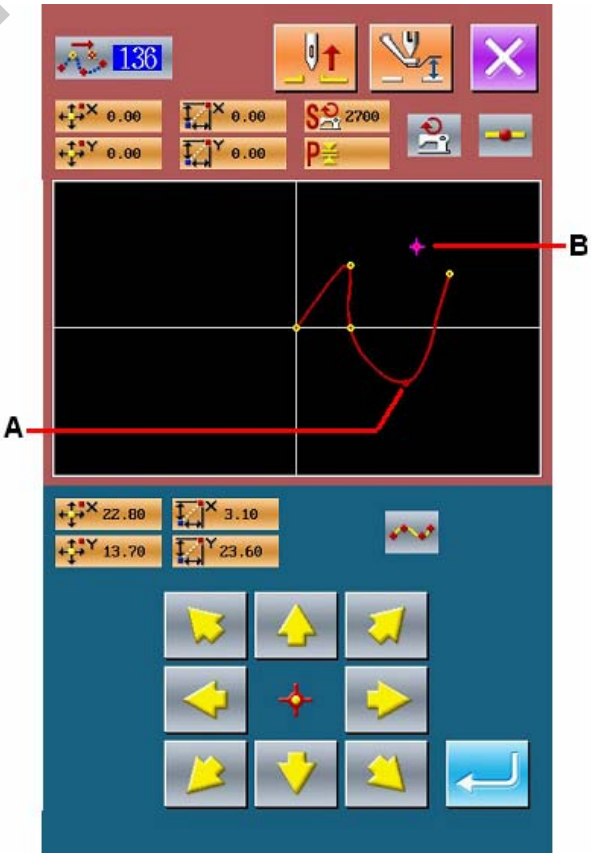
Move shape point.

① **Selection of Shape Point Move**

In the interface of code list, select and perform Shape Point Move (code 136)

The operational procedure for shape point move is same to that in "5-7. (1) Shape Point Adding" p.73. After the confirmation of presser move, user shall select the shape point for moving, and specify the position of moving destination in the position specifying interface. After specifying the position and confirming the mechanical control order, the shape point move is performed

The following picture is the example to move shape point A to B.



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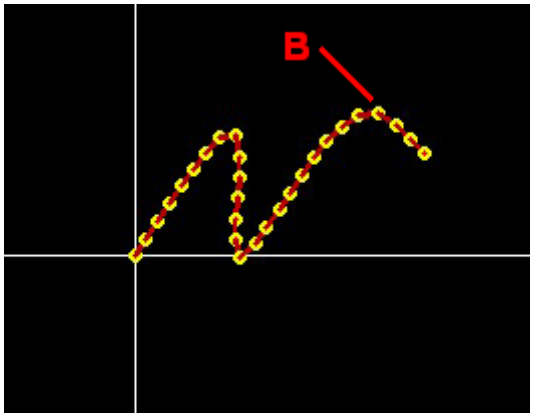

(3) Shape Point Deletion (137)

Delete the shape point.

① **Selection of the Shape Point Deletion**

In the interface of code list, select Shape Point Deletion (code 137)

to avtivate the confirmation interface of presser move

Press ENTER (A) to move the presser. After that, the shape specifying interface is displayed.

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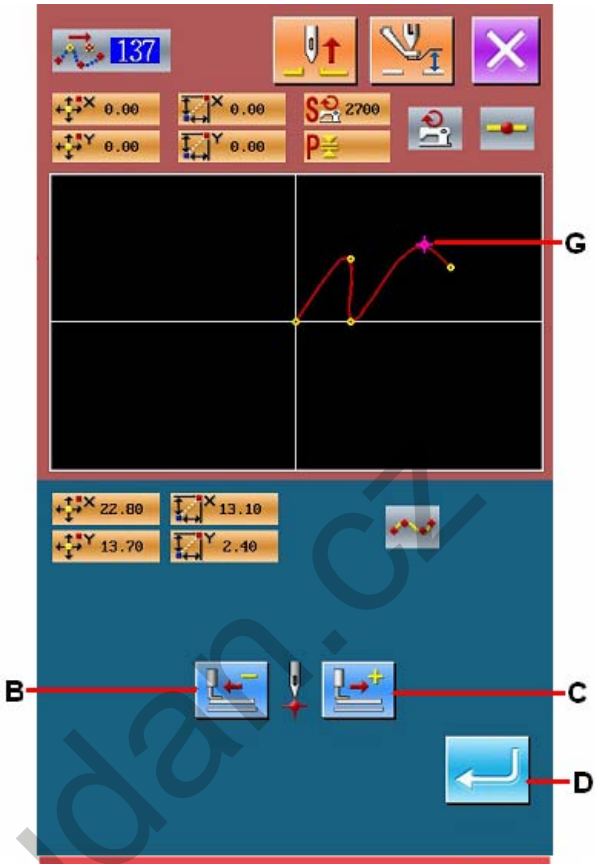
② **Specify the Shape Point**

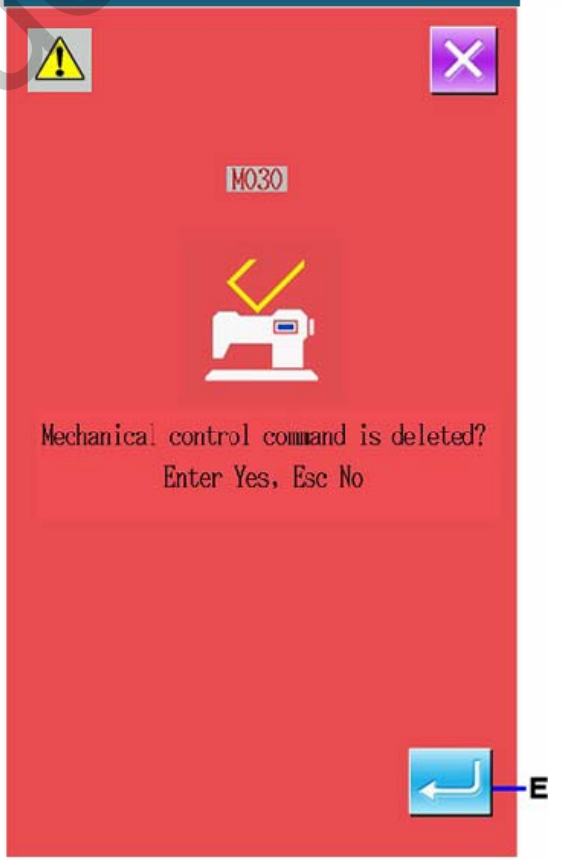
Use Backward Key (B) and Forward Key (C) to specify the shape point for deletion.

Select the shape point and press ENTER (D).



③ **Delete the Mechanical Control Order**

The confirmation interface is displayed. Therefore, if the mechanical control order in the midway of the element can be deleted; please press ENTER (E).



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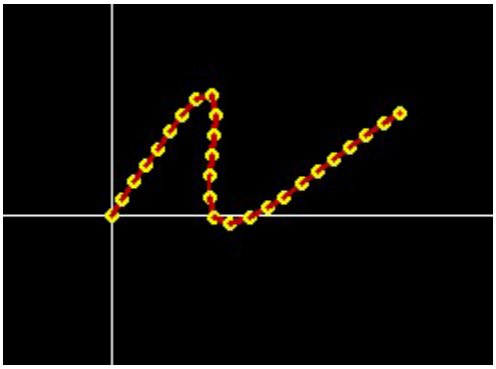
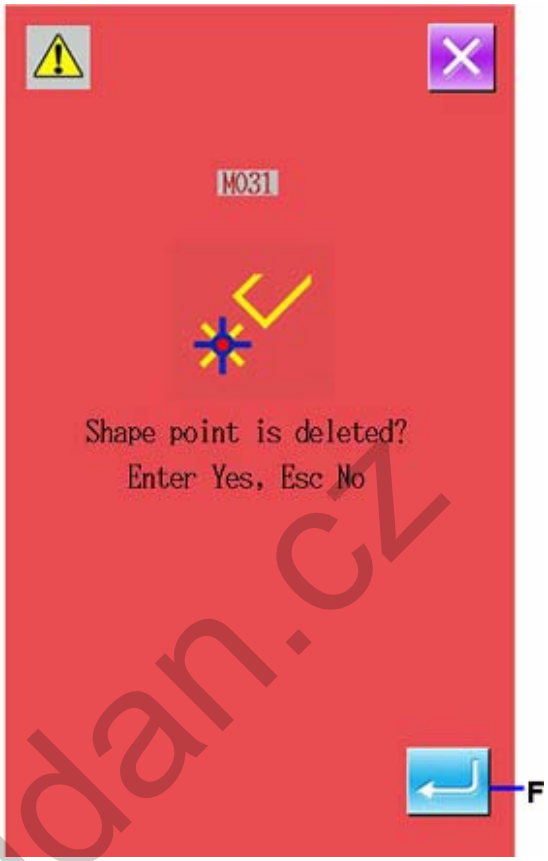
④ **Performance of Shape Point Deletion**

In the confirmation interface of Shape Point Deletion, please press ENTER F to perform the deletion of the shape point. After that, the system returns to the standard interface.

The following picture is the example that has shape point G deleted.





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6. Pattern Operation

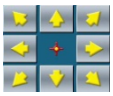
6-1. Copy Pattern (086)

Enable to copy 10 created patterns at most.

① **Select Pattern Copy**

In the interface of code list, select Pattern Copy (code 086) to activate the interface for specifying the pattern copy position.

② **Specify the Target for Pattern Copy**

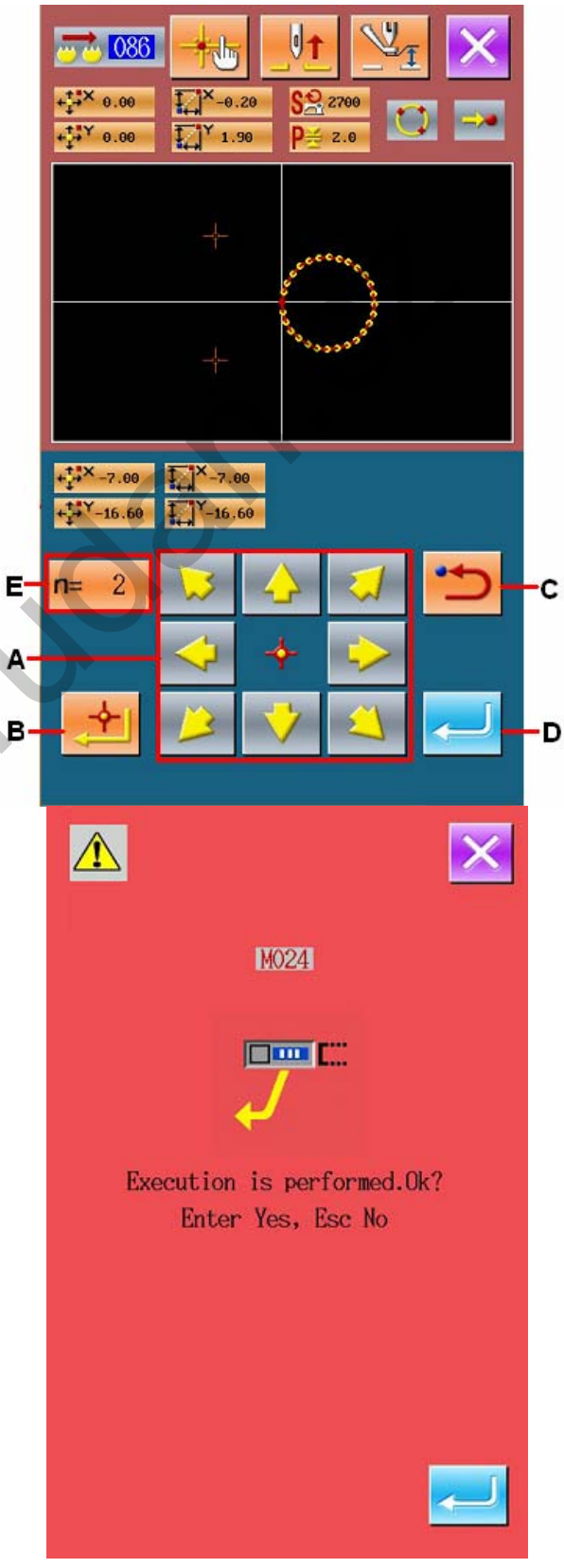
Use  (A) to adjust the icon to the position where user want the pattern to be copied.

③ **Decide the Copy Position of Pattern**

Press Key B to set that point as copy position.

④ **Perform the Pattern Copy**

Press the ENTER (D) to activate the interface for confirmation.



⑤ **In the confirmation interface of pattern copy, user can press to copy the pattern and let the system return to the standard interface**

1. The operations of step 2 and 3 can be repeated for 10 times at most. The number of pieces inputted will be displayed on E.

2. When performing the operation of step 4, user can press Key C to delete the inputted copy point before ENTER is pressed.

3. This function is to copy the whole pattern with the present needle position as the reference. The jump feed shall be inserted before the swing start of the copied pattern.

Attention:

If the present point is the jump feed point before the sewing start, the copy operation will be denied.

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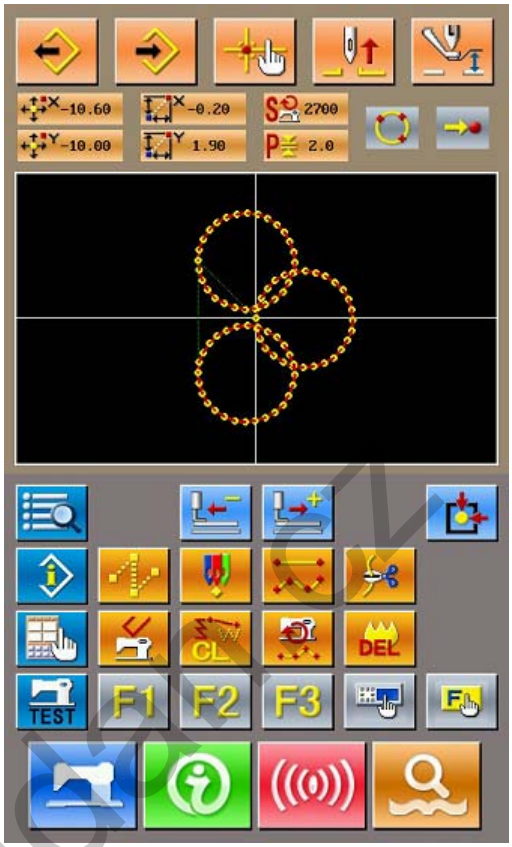


6-2. Pattern Move (085)

Parallel movement of the created pattern
Move the pattern from the existing position to the target position.

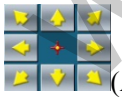
① **Move to the Reference Position**

In the standard interface, use Forward Key and Backspace Key to move the present point to the reference position that is wanted.

② **Select the Pattern Move**

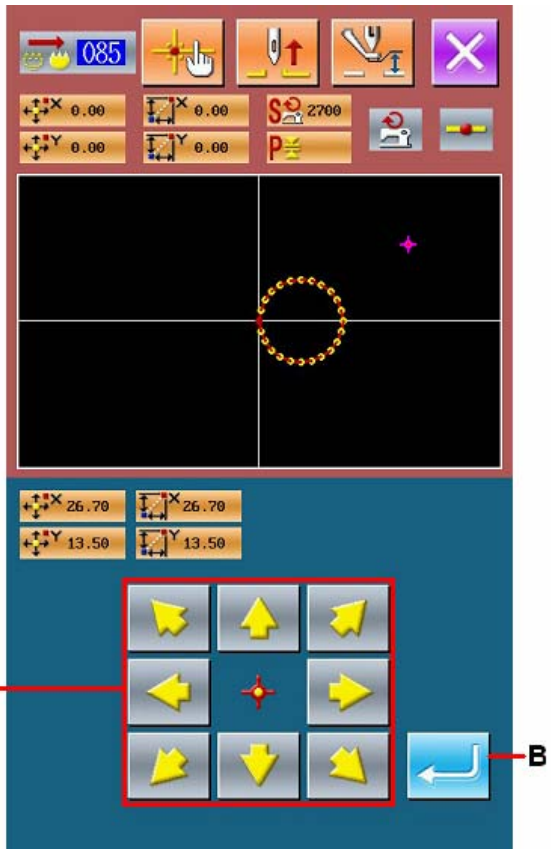
In the interface of code list, select pattern move (code 085) to activate the interface for specifying the position of pattern move.

③ **Specify the Position of Pattern Move**

Use  (A) to move the pointed move position to the wishes position.

④ **Performance of Pattern Move**

Press ENTER (B) to activate the confirmation interface



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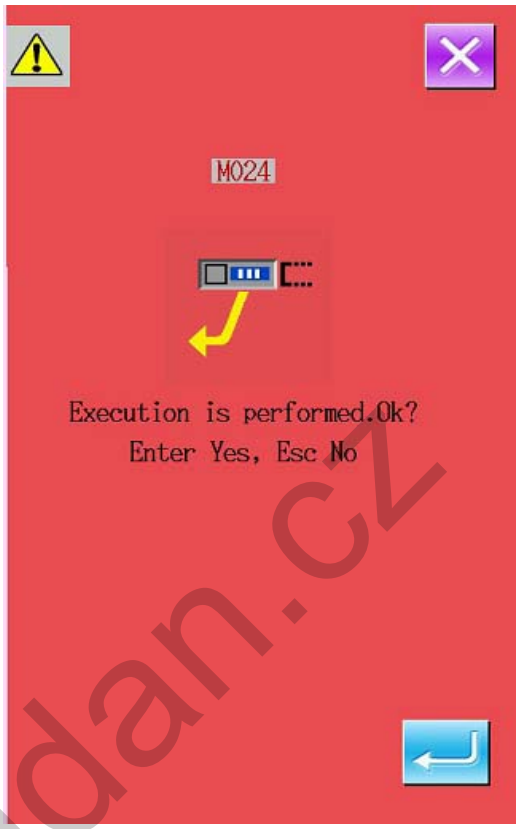
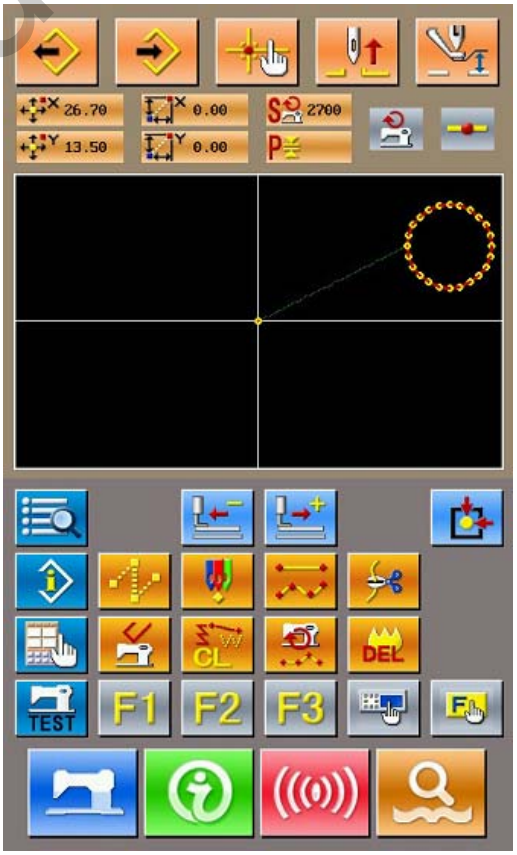
⑤ **In the confirmation interface of pattern move, user can press** **to move the pattern and let the system return to the standard interface.**

1. This function is to move the whole pattern with the present needle position as the reference. The jump feed data shall be inserted before the swing start of the moved pattern
2. When the present point is at the origin, this function is unavailable.





6-3. Pattern Deletion (087)

Delete the entire created pattern data.

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① **Select the Pattern Deletion**

In the interface of code list, select the pattern deletion (code 087) to activate the confirmation interface of pattern deletion.

② **Performance of Pattern Deletion**

Press to perform the pattern deletion, and then the system returns to the standard interface. The entire inputted pattern data will be deleted. The feed needle point will also be move and the needle position return to the origin.

Attention:

1. The deleted pattern data can't be recovered.
2. When you have downloaded pattern data to U disk for remaking the new patterns, or loaded other data from U disk, please use this function to delete the pattern data temporarily

When loading pattern without delete the pattern, the pattern will be added after the present needle position of the created pattern.

6-4. Pattern Load

Load the pattern data.

(1) Load Pattern Data

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① **Select Load Pattern**

In the standard interface, press to activate the interface of pattern load.

② **Select the Pattern for Loading**

The existed pattern number will be shown at area A. Select the wanted number (the selected will be displayed in dark).When there are more than 20 patterns in storage, the Page Key will be displayed. Press that key to change the pattern shown at Area A.

Instruction:

1、Press Pattern Information Key (F) to activate the preview interface of pattern. Press to return to the pattern load interface.

2、press Key E to select whether to delete the jump feed up to the sewing at the time of pattern data reading. The present setting statue is displayed on the jump feed load key. And the setting is changed over alternately at each pressing.

:jump feed load

:jump feed cancellation

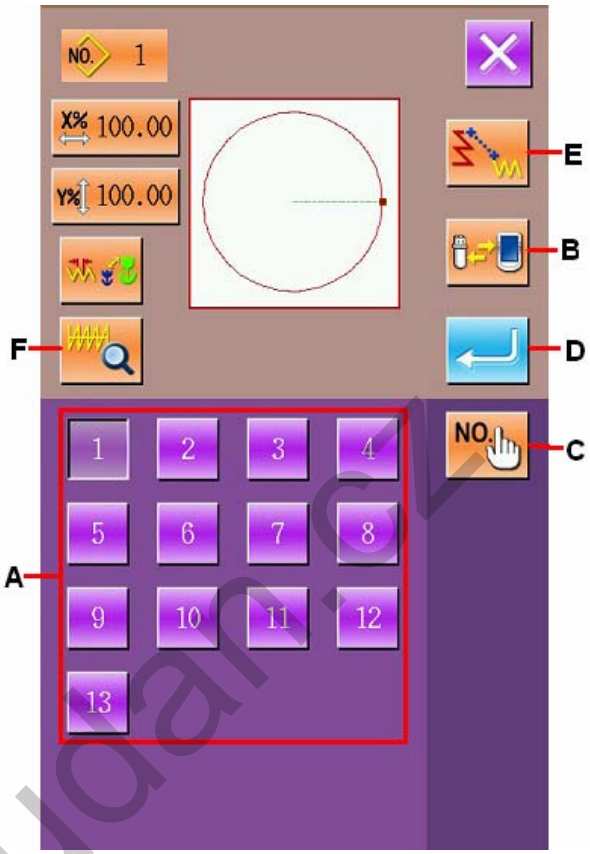
③ **Specify Direct Pattern Number**

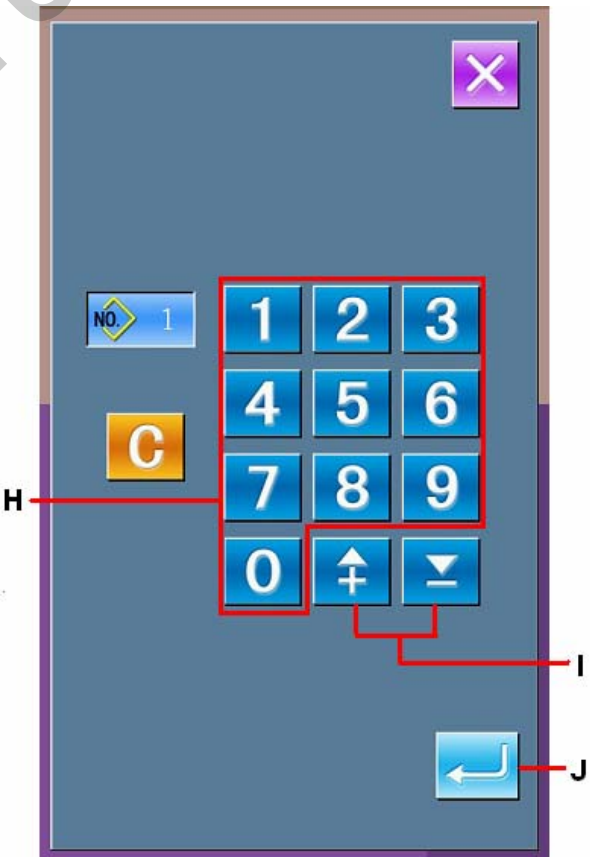
Select Pattern Number Specifying Key (C) to activate the interface for specifying the pattern number. Use Number Keys (H) or +/- Keys (I) to input the pattern number. Press +/- to input the pattern number next to the pattern being inputted right now.

Press ENTER (J) to return the load interface under the status that the inputted pattern number is selected.

④ **Performance of the Pattern Load**

Press ENTER (D) to load the selected pattern data and the system returns to the standard interface.





(2) Set the Scaling Rate

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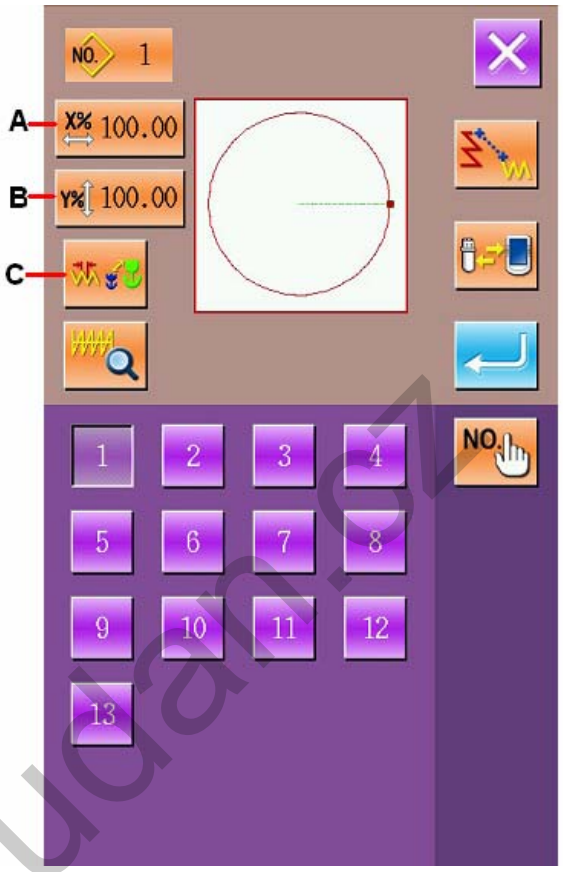
Set the scaling rate in advance, so as to load the scaled patterns.

① **Set the Scaling Rate in X Axis**

Press X Scaling Rate Setting Key A to display the interface for setting the Scaling Rate in X axis
The set value of the existing X scaling rate is displayed on that key.

② **Input the X Scaling Rate**

Use number keys (D) or +/- keys (E) to input the scaling rate. The step of change is 0.01% at each pressing on +/- keys
Press ENTER (F) to confirm the inputted value, and then the system return to the pattern load interface.



③ **Set the Scaling Rate in Y Axis**

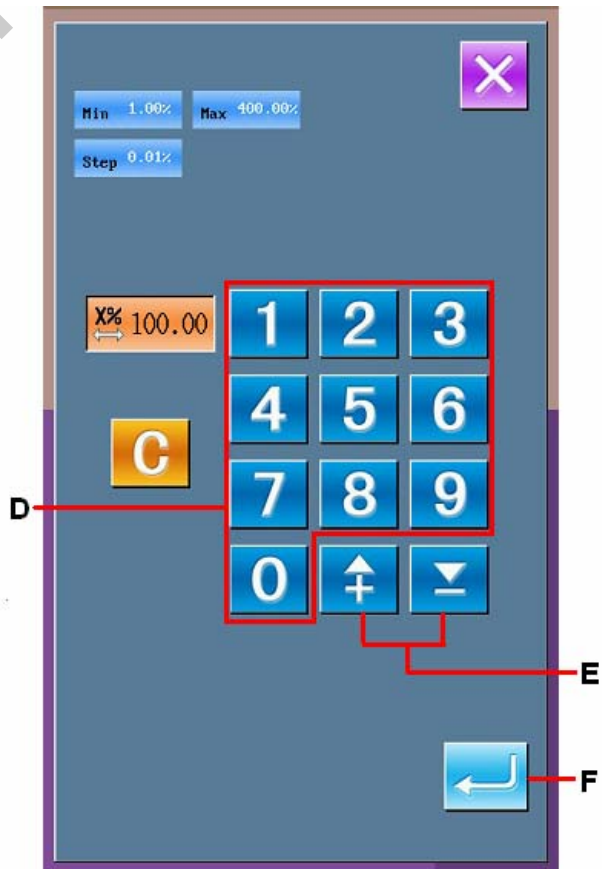
Press Y Scaling Rate Setting Key B to display the interface for setting the Scaling Rate in Y axis
The set value of the existing Y scaling rate is displayed on that key..

④ **Method for Setting the Scale**

For the method of scale, either stitch length increase/decrease or number of stitches increase/decrease can be selected
The present setting status is displayed on the method f selection Key (C). When button C is pressed, the figure on it will be altered.
On method selection key, the scale method selected at present is displayed.

:Increase or decrease the stitch number

:Increase or decrease of stitch form length



1. At point sewing, after setting the increase or decrease of the stitch number, the sewing stitch form length will also be scaled
2. After scaling rate is set on circle, arc or the scaling in x/y is repeated, the original shape of pattern may be unable to be remained due to the sewing is changed to point sewing. The reason of it is that the stitch number is changed

(3) Load Pattern Data in Memory or U Disk

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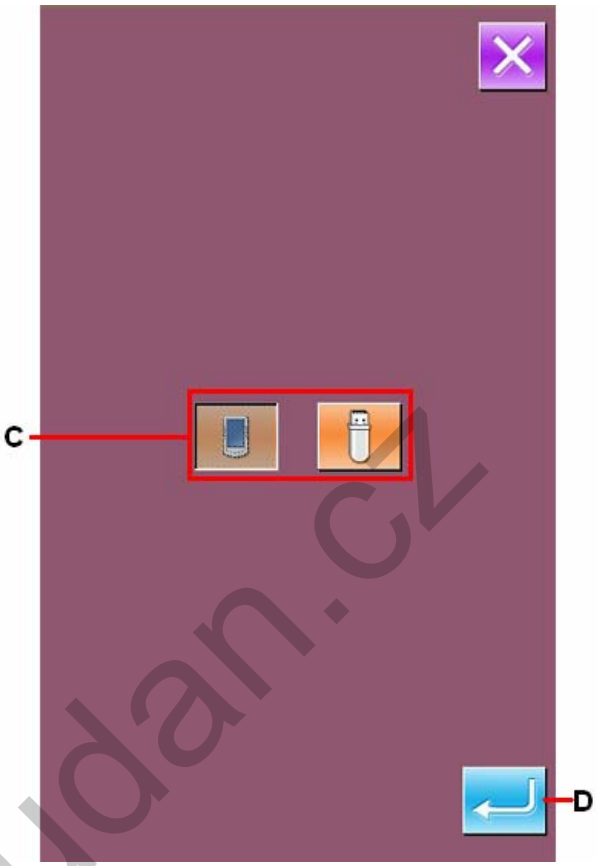
Press Media Selection Key (B) to activate the interface for setting the target media.
Select the pattern loading source (from memory or from the U Disk) at area C, the selected item is displayed in dark.
Press ENTER (D) to confirm the selection, then the system will return to the pattern load interface.



6-5. Pattern Input

Input the pattern data.

（1）Input Pattern Data

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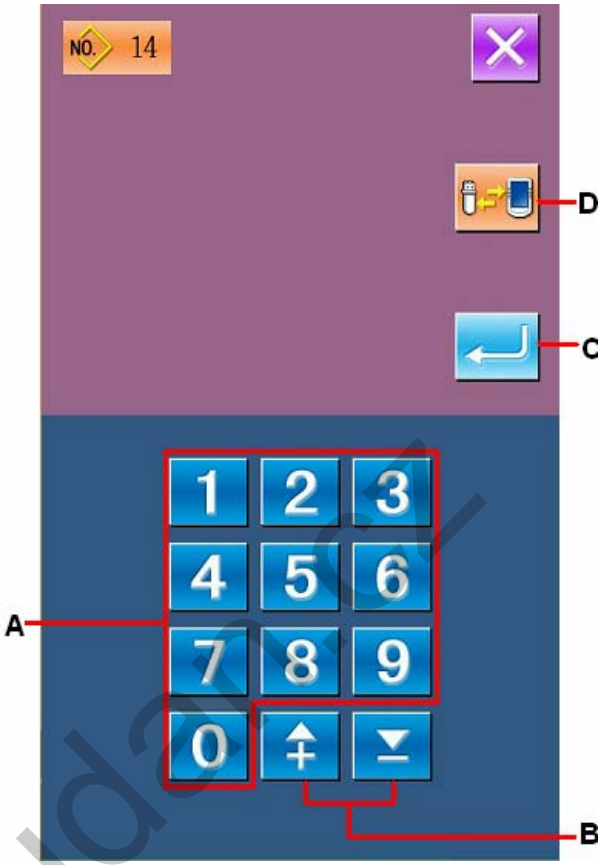
① **Select the Pattern Writing**

In the standard interface, press to display the pattern input interface.

② **Specify the Pattern Number**

Use Number keys (A) or +/- Keys (B) to specify the pattern number for input. Press +/- Key, the empty number will be displayed in order.

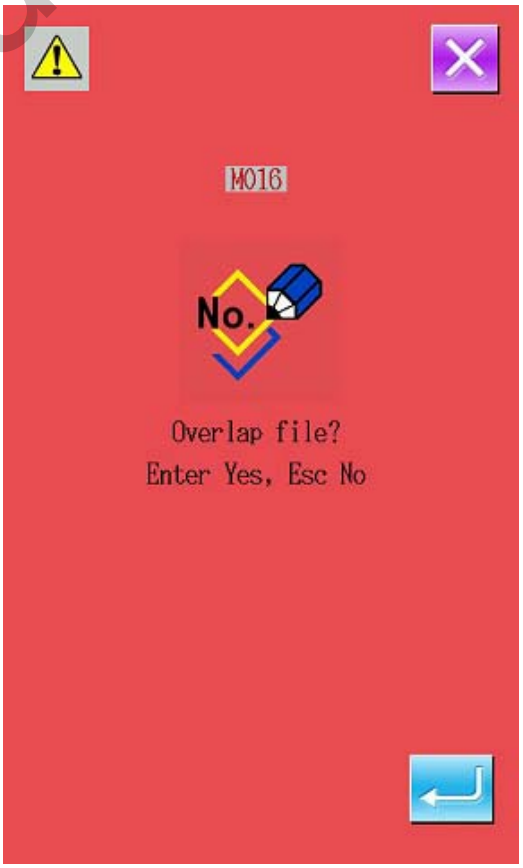


③ **Perform the Pattern Input**

Press ENTER C to input the pattern data created in the inputted number, then the system returns the standard interface.

If the pattern data with the specified pattern number is existed, the interface for confirming the replacement will be displayed. Press to perform the patter input.

Press media selection key (D) to activate the interface for setting the media. At this moment, you can select the media as the input target.



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If there is no jump feed order before the pattern end or the jump feed, pressing ENTER C will activate the confirmation interface of the auto-trimming. Press **to select the insertion for thread-threading or press** **for not trimming.**

Select either a key in above to perform the pattern input.

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7. Initialize (090) U Disk

Initialize the U disk.

① **Display of Interface for U Disk Initialization**

In the interface of code list, select Initialization (Code 090) to display the interface of initialization.

② **Start the Initialization of U Disk**

Insert the U disk that needs initializing to the U disk slot. Then press to start the initialization.

After the initialization, the system will return to the standard interface.

Attention:

After the initialization, the entire data in the U disk will be deleted. And it is impossible to recover to the former status.

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8. Trial Sewing

Use the loaded data or the input function to sew the pattern in trial or to confirm the shape.

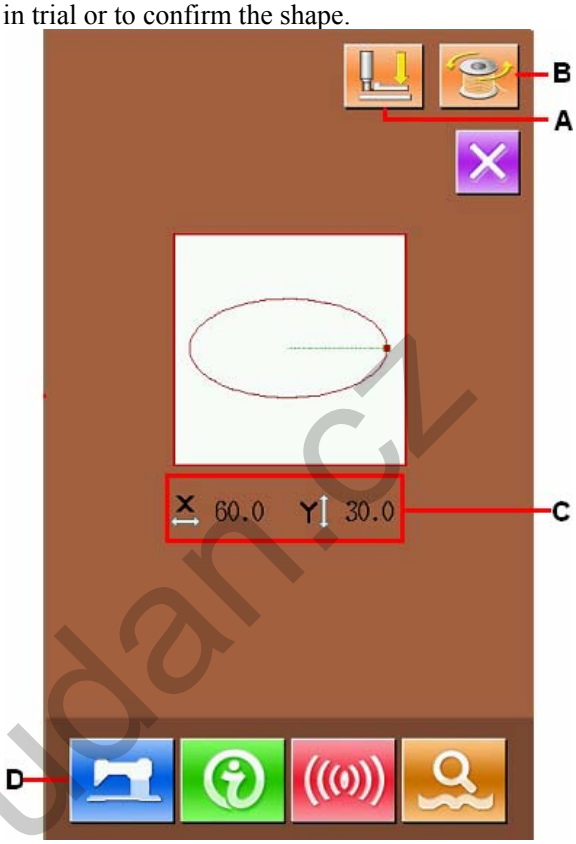
① **Display of Trial Sewing Interface**

In the standard interface, press

to activate the interface of trial sewing preparation
In section C, the pattern range in X and Y directions are displayed.

② **Display of the Interface for Trial Sewing**

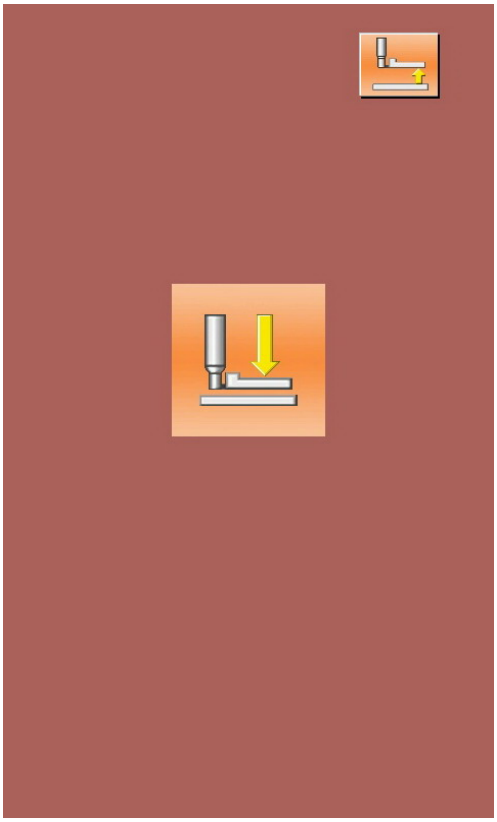
Press Ready Key (D) to activate the interface for trial sewing.



③ **Preparation of the Trial Sewing**

(a) Press Presser Adjustment Setting Key (A) to activate the interface for setting the adjustment of the presser.

Press to return to the trial sewing preparation interface.



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(b) Press Thread-winding Key (B) to display the interface of thread-winding

Press the pedal to start the sewing machine, and machine begins to wind the thread. Press to stop the sewing machine. And then the system returns to the trial sewing preparation interface.

For thread-winding, the operation of winding thread will be unavailable, unless is pressed.

In the case where the thread trimming order doesn't exist in the end of pattern and before jump feed, the confirmation interface of the automatic thread-trimming insertion is displayed after pressing Ready Key. Press to insert the thread-trimming, while press to deny the insertion. The inputted data will replace the present pattern data of sewing machine.

When either key is pressed (no matter or), the trial sewing preparation interface will be displayed.

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④ **Performance of the Trial Sewing**

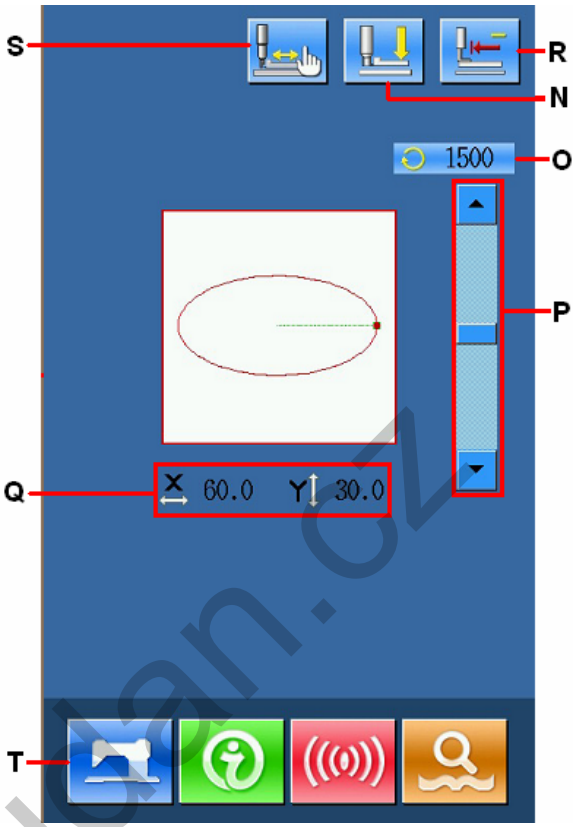
To perform the trial sewing by using the ordinary operation of sewing machine and stepping on the pedal. In Section Q, the range of X and Y direction is displayed.

⑤ **Performance of Setting the Trial Sewing**

（a）The sewing speed is displayed at section O. By using the Speed Adjustment P, the user can adjust the speed.

（b）Press R to let the presser back to the position of sewing start.

（C）Press S to have access to the interface of the presser adjustment.



⑥ **Confirmation of the Pattern Shape**

Press Single Step Trial Sewing Key (S) to display the confirmation interface of the shape. Step the pedal to lower the presser, then press Forward /Backward Keys U to move the needle position.

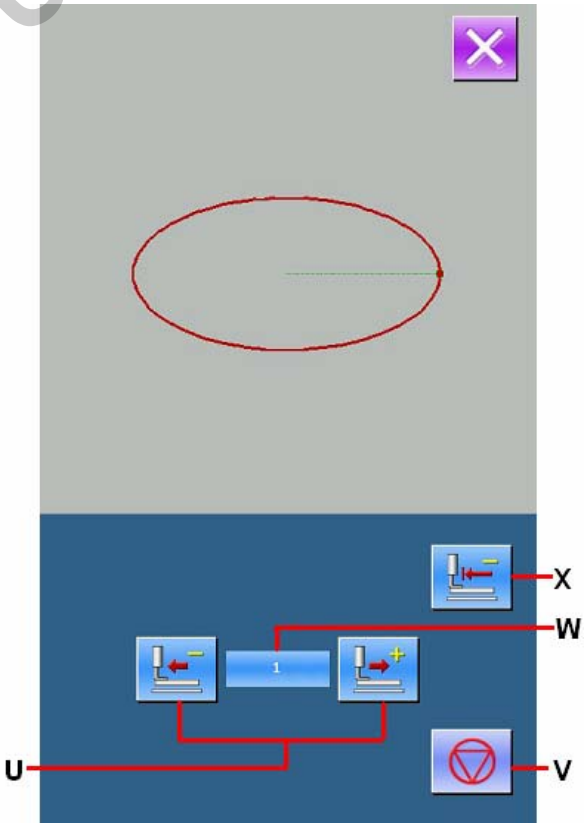
Press Automatic Move Stop Key (V) to stop the automatic move.

In Section W, the stitch number form the sewing start point is displayed.

Press Return To Origin Key (X) to move from the present needle position to the sewing start point, and the system will return to the trial sewing interface.

⑦ **Return to Trial Sewing Preparation Interface**

Press Ready Key to return to the Trial Sewing Preparation Interface.



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9. Setting Function

9-1. Presser Inversion Setting (091)

Set the inversion of presser.

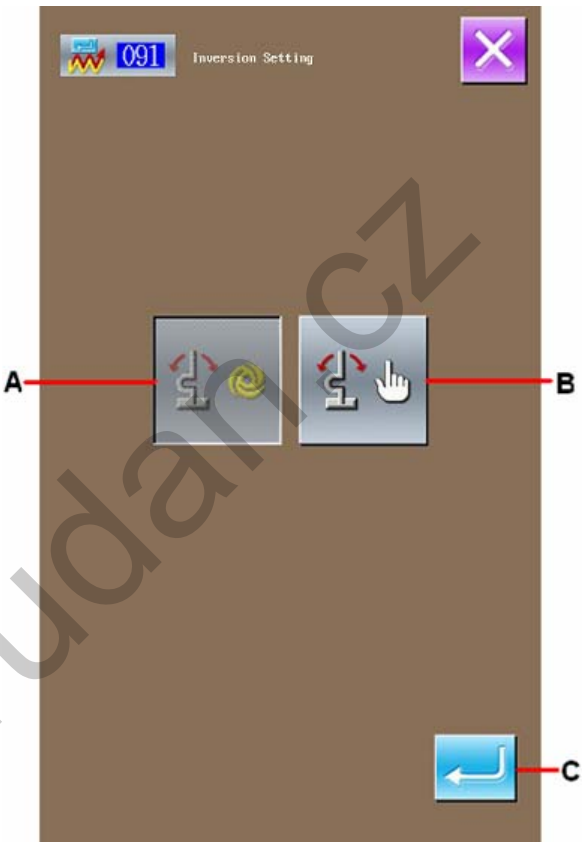
① **Display of Interface for Setting Inversion**

In the interface of code list, select the Inversion Setting (Code 091)

to activate the interface of inversion setting.

② **Select the Method for Inversion**

About the action of the presser inversion, user can select the automatic inversion or the random inversion. The selected key will be displayed in dark. Press (C) to set the selection as effective and then return to the standard interface.



Attention:

The setting of the presser inversion can only be accessible when there is no pattern inputted.

9-2. Set the Reference Value of Upper Thread Tension (113)

Set the reference value of upper thread tension.

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① **Display of the Interface for Setting the Reference Value of Upper Thread Tension**

In the interface of code list, select the Reference Value of Upper Thread Tension (code 113) to display the interface for setting the reference value of upper thread tension.

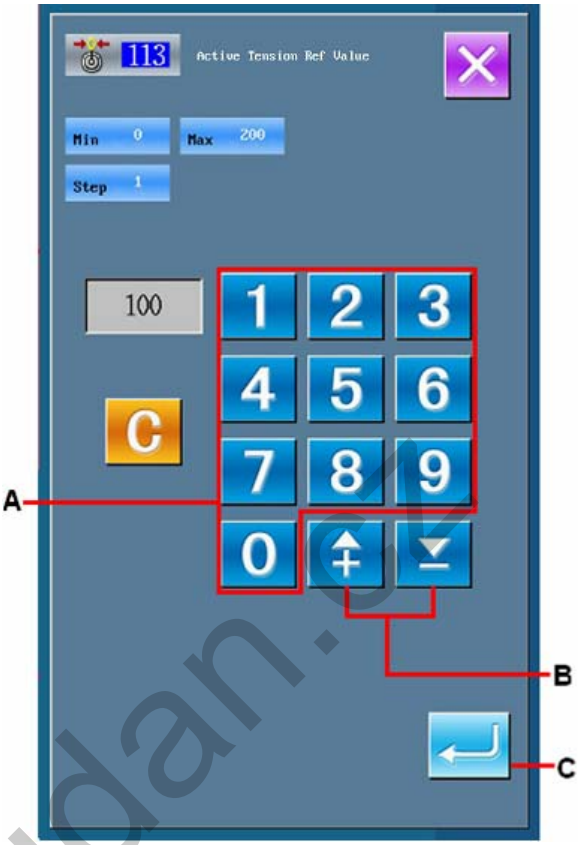
② **Set the Reference Value of Upper Thread Tension**

In the interface for setting the reference value of upper thread tension, user can use number key A to input the figure directly or use +/- Keys to change the value.

Press ENTER (C) to confirm the set value and the system will return to the standard interface.

Attention:

After changing the reference value of upper thread tension, the whole tension of the pattern is changed.



9-3. Set the Reference Value of Intermediate Presser Height (115)

Set the reference value of intermediate presser height.

① **Display of the Interface for Setting the Reference Value of Intermediate Presser Height**

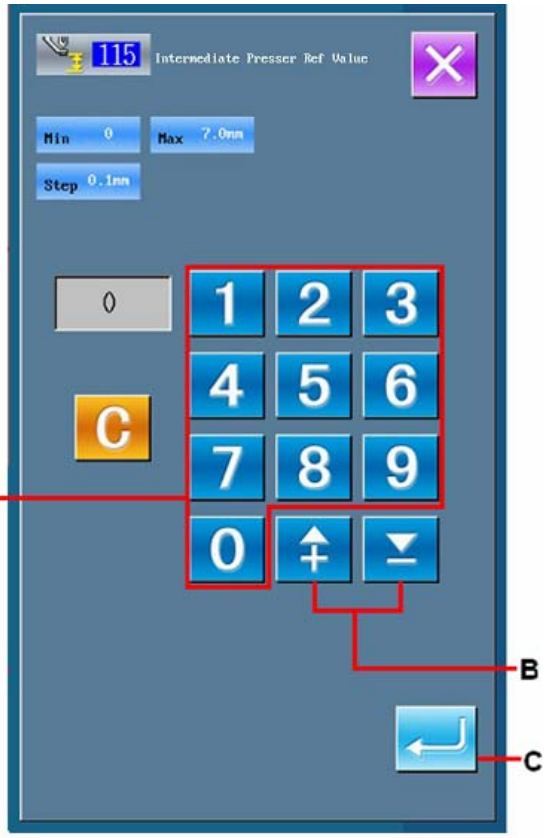
In the interface of code list, select the Reference Value of Intermediate Presser Height (code 115) to activate the interface for setting the reference value of intermediate presser height.

② Set the Reference Value of Intermediate Presser Height

In the interface for Setting the Reference Value of Intermediate Presser Height, user can use number key A to input the figure directly or use +/- Keys to change the value.

Press (C) to confirm the set value and the system will return to the standard interface.

After changing the reference value of intermediate presser height, the intermediate presser height of the entire presser will be changed.



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10. Select Ending Method (110)

Set the tracking at the end of the input.

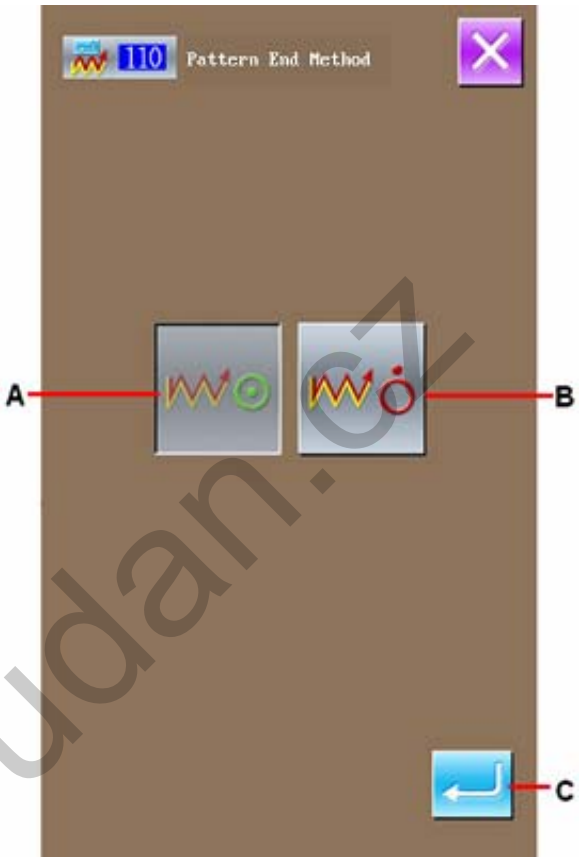
① **Display Interface for Selecting the End Method**

In the interface of code list, select the ending method selection (code 110)

to activate the interface for selecting the end method.

② **Select the Ending Method**

When the pattern input is finished, select return to needle entry point of sewing element in each single stitch one by one (As shown in A) or the Ending (B). The selected is shown in dark. Press ENTER (C) to confirm the selection, and then the system will return to the standard interface.



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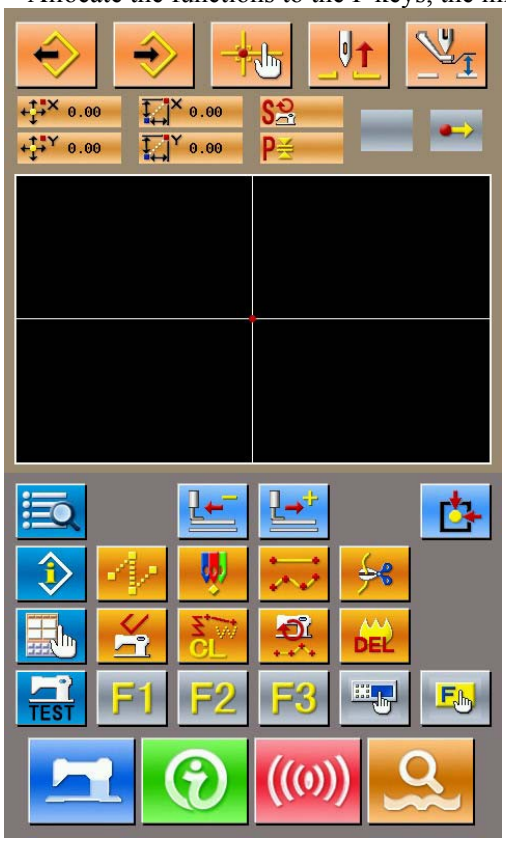
11. Allocate Functions to F1~F5 Keys (112)

Allocate the functions to the F keys, the initial display interface is shown as below:



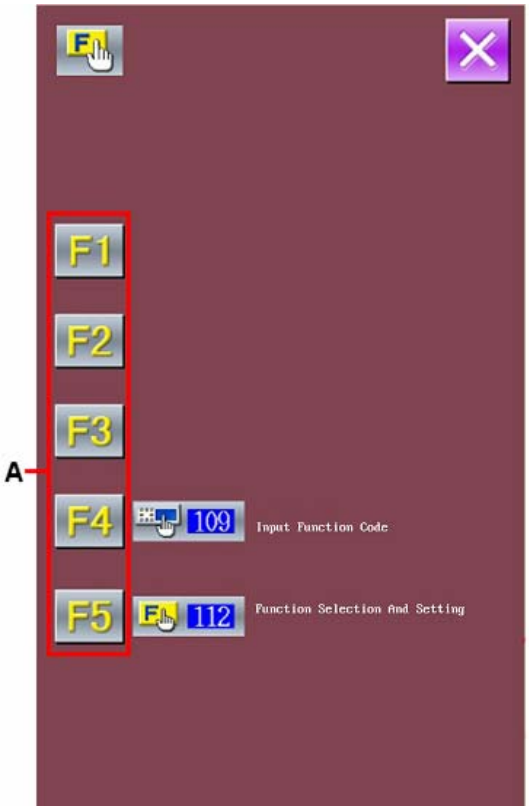
＜Initial Display Interface＞

① **Display Interface of Function Selection/Setting**

In the interface of code list, select Function Selection/Setting (Code 112) F1 112 to activate the interface of function selection/setting interface.

② **Select the Key for Allocating the Functions**

Press the wanted keys among F1 ~ F5 to activate the interface of Code List (B).



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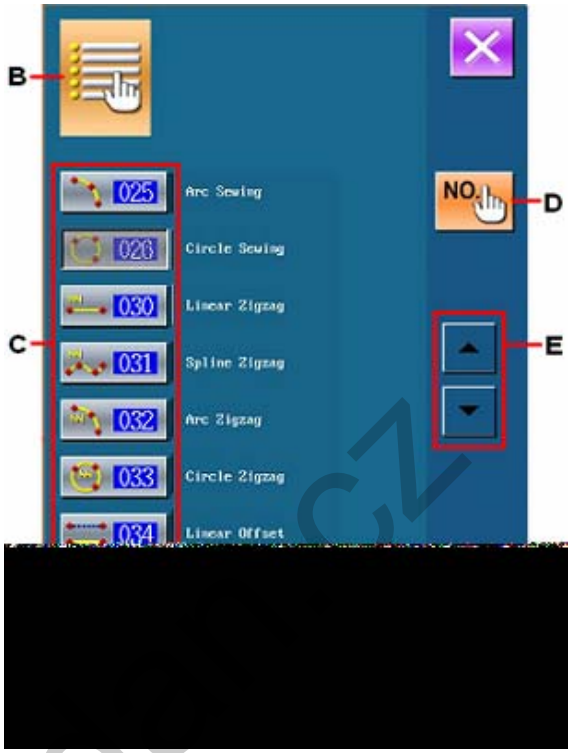
③ Select the Functions for Allocation

Select the function code, which is wanted allocating to the F keys, in the code list; or press the Code Input Key (D) and input the code in the code input interface. Press the Page Key E to change the displayed code list.

Select the function and press ENTER (F) to return to the interface of function selection/setting.

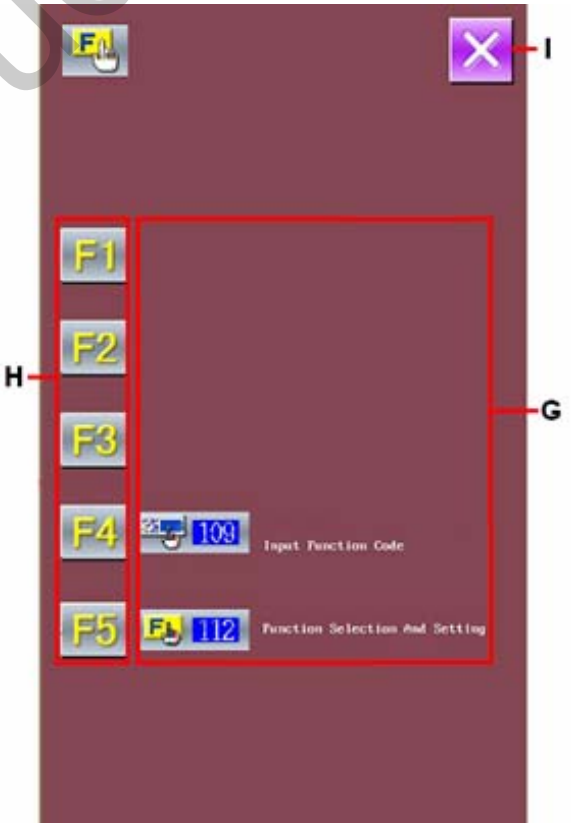


④ The Display of the Allocated Functions

The F keys holding the allocated function will show their functions (along with code) at G section.

At this time, to assign the function to the next F keys after pressing F1 ~ F5.

Press Key (I) to return to the standard interface.



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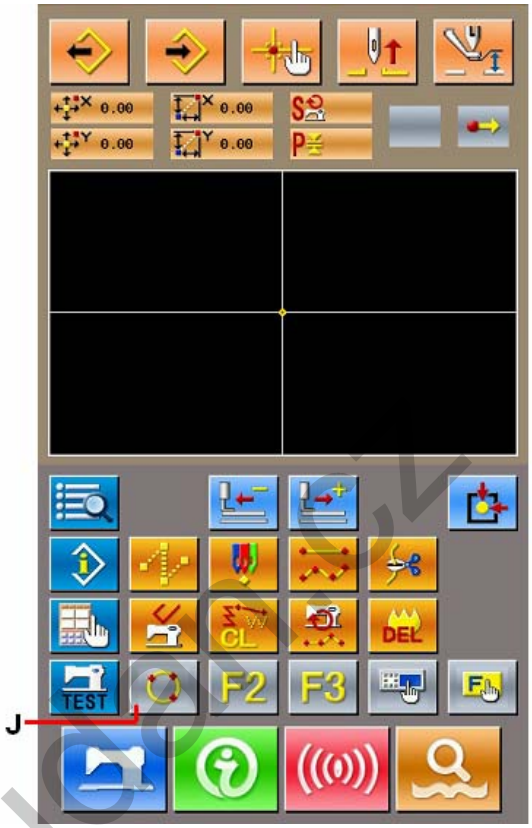
⑤ **Use F Key**

The F keys that have been allocated with functions will be display its assigned function like Key J. Press that key, the assigned function can be performed directly.



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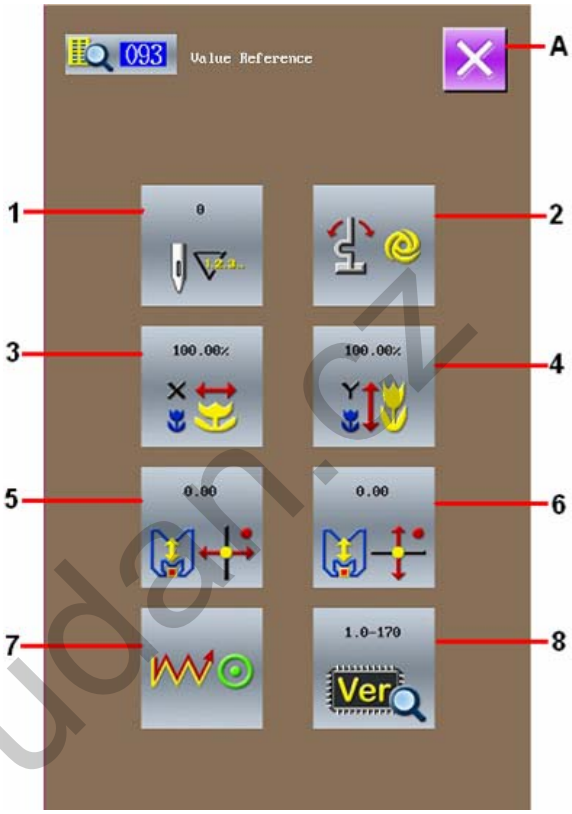
12. Display of Detail Information on Set Value (093)

Confirm the set content of the pattern data.

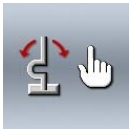
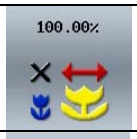
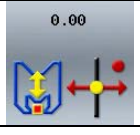
① **Display of the Setting Value Reference**

In the interface of code list, select the Setting Value Reference (code 093) to display the interface of the Setting Value Reference

Press Key A to return to the standard interface.



Contents in Setting Value Reference Interface

Number	Content	Display
1	Total Stitch Number	
2	Inversion Setting	Automatic inversion  Random Inversion
3	X Enlargement Rate	
4	Y Enlargement Rate	
5	Scaled Reference Point Coordinate X Axis	

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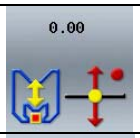
6	Scaled Reference Point Coordinate Y Axis	
7	Track Setting	Tracking No Tracking
8	Version	

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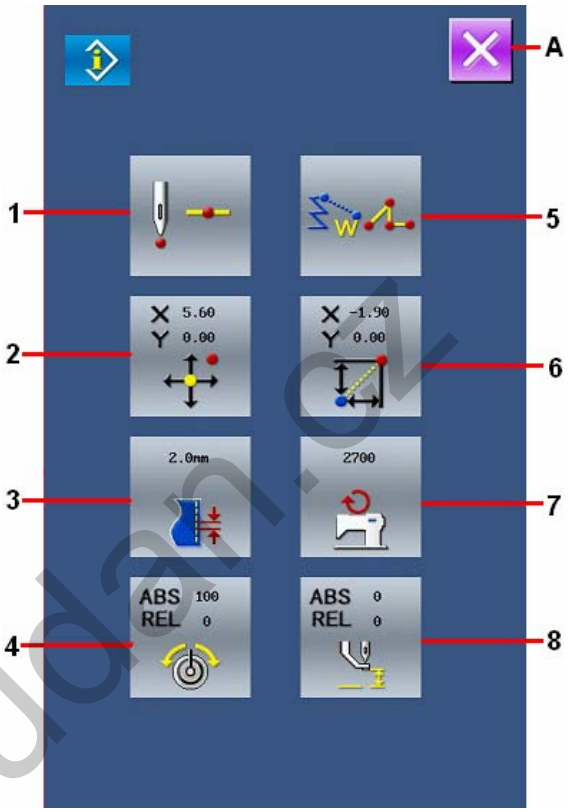
13. Display of Detail Information on Present Needle Position

Confirm the detailed information of the present needle position.

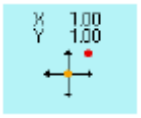
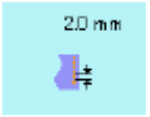
① **Display of Interface for Showing Pattern Content**

In the standard interface, press Pattern Content Display Key to activate the interface for showing the detailed information of pattern content.

Press Key A to return to the standard interface



Contents in Pattern Content Display Interface

No.	Content	Display
1	Display on the type of needle entry at present needle position	Start of pattern Midway of Pattern Top Point End of Element End of Pattern
2	Absolute coordinate of present needle position	
3	The elements pitch including the present needle position.	
4	The thread tension at present needle position (absolute value, relative value)	The actual actions of sewing machine turn to the value of ABS. Because the inputting orders of the reference value and the set value might be displayed as "-", the action of sewing machine at this time is "0".

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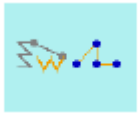
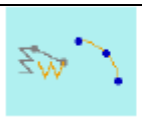
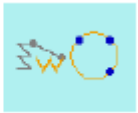
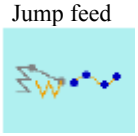
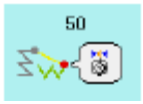
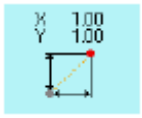
5	Display the element type at the present needle position. In case of the mechanical control order the type of order will be displayed.	Jump feed Point Sewing  Polygonal  Arc  Circle  Curve  Mechanical Control Order (i.e.:Thread Tension)
6	Display the relative coordinate of the present needle position	
7	Display of the sewing speed or the jump speed at the present needle position	Sewing Speed Jump Feed Speed
8	Display of the intermediate presser height at the present needle position	The actual actions of sewing machine turn to the value of ABS. Because the inputting orders of the reference value and the set value might be displayed as “-”, the action of sewing machine at this time is “0”.

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14. Settings of Display

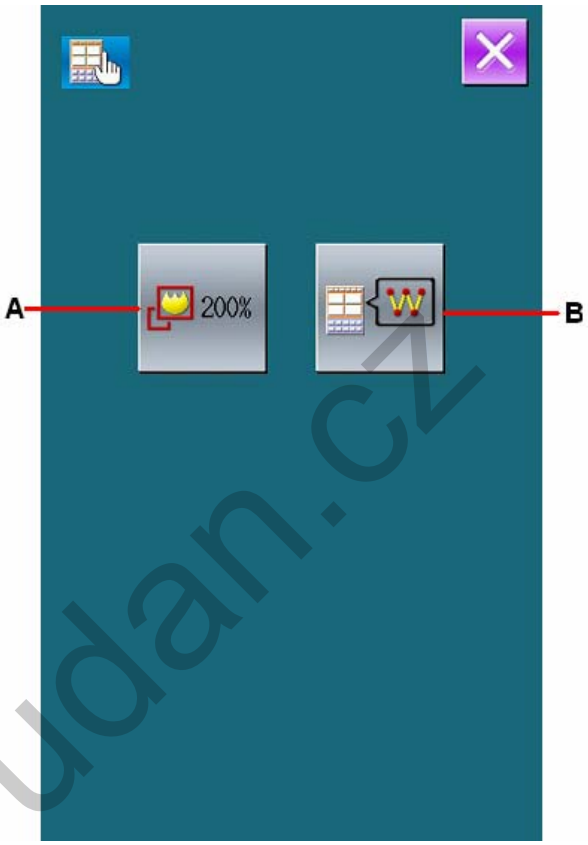
Set the interface display.

① **Show the Interface for Setting the Display**

In the standard interface, press to activate the interface for setting the display.

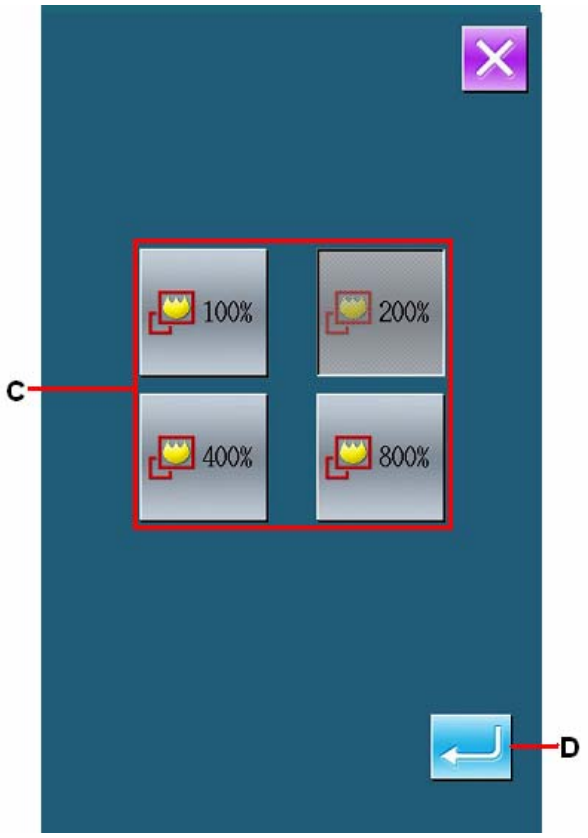
Press Key A or Key B to have access to the interface for setting the display method. The setting contents selected by now are displayed on the keys.

Press to return to the standard interface.



② **Zoom Setting**

In the interface of display setting, press Zoom Setting Key A to have the Zoom Setting interface displayed. Select the magnification that you want from the Zoom Amount Key C. the selected key is displaced in Dark. Press ENTER (D) to return to the interface of the display setting.



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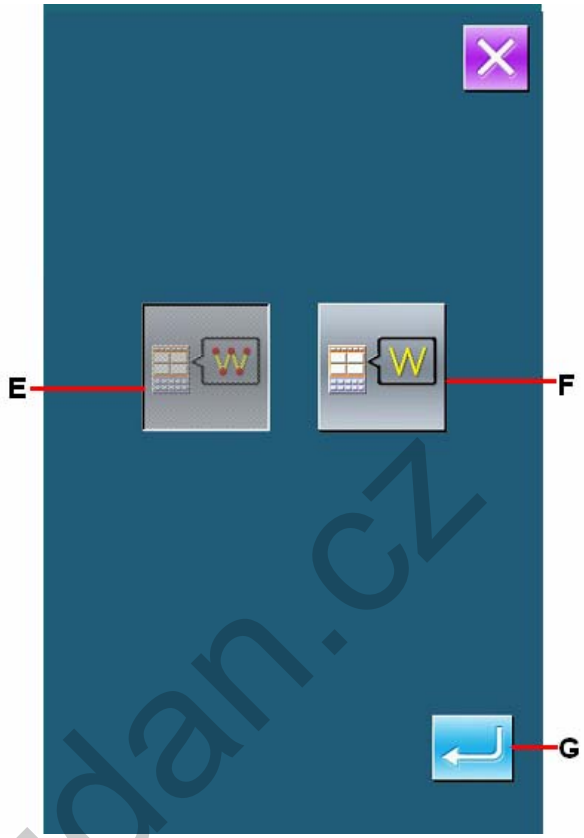
③ Setting of Needle Entry Point Display

In the display setting interface, press Needle Entry point Display Setting Key B to activate the interface for setting the display of needle entry point. In this interface, user can select Key E (Display the needle entry point) or Key F (Don't display the needle entry point). After pressing ENTER (G), the system will return to the interface displaying the content for setting screen.



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15. Element Forward·Element Backward (130、131)

Move the needle position forward or backward in the unit of element.

（1） Selection of Element Forward

In the interface of code list, select Element Forward (Code 130)

to move the needle position to the end position of the element containing the present needle position. When the present needle position is the end position of the element, the needle position will be moved to the end position of the next element.

（2） Selection of Element Backward

In the interface of code list, select Element Backward (Code 131)

to move the needle position to the start position of the element containing the present needle position. When the present needle position is the start position of the element, the needle position will be move to the top position of the previous pattern

Attention: The moves among each element are in linear; therefore it is unable to move in case of encountering the obstacle items.

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16. About Direct Indication of Touching Interface

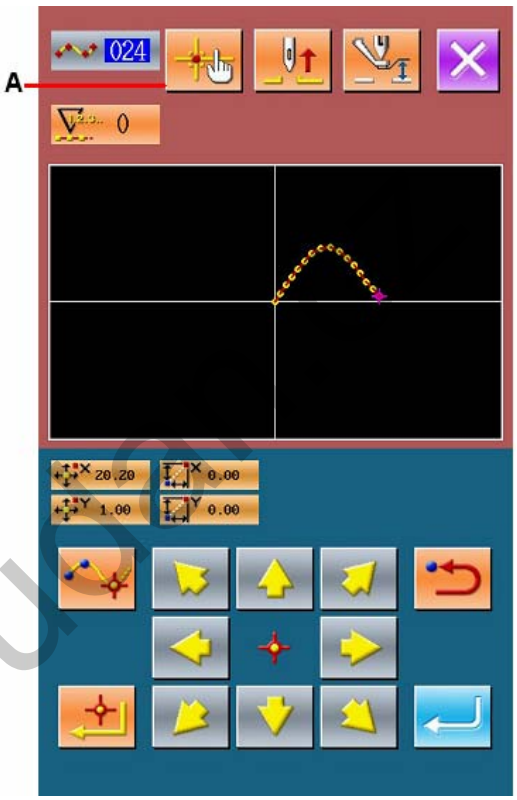
When editing the pattern, user can use the interface to directly point the position.
For the direct indication of coordinate, there are coordinate indication interface and the needle entry point indication interface, according to the difference of the instructed content.

16-1. Direct Indication of Coordinate

Touch the interface to directly indicate the coordinates.

① **Display of Coordinate Indication Interface**

In the input interface of the pattern edition, press Indication Key (A) to display the coordinate indication interface.

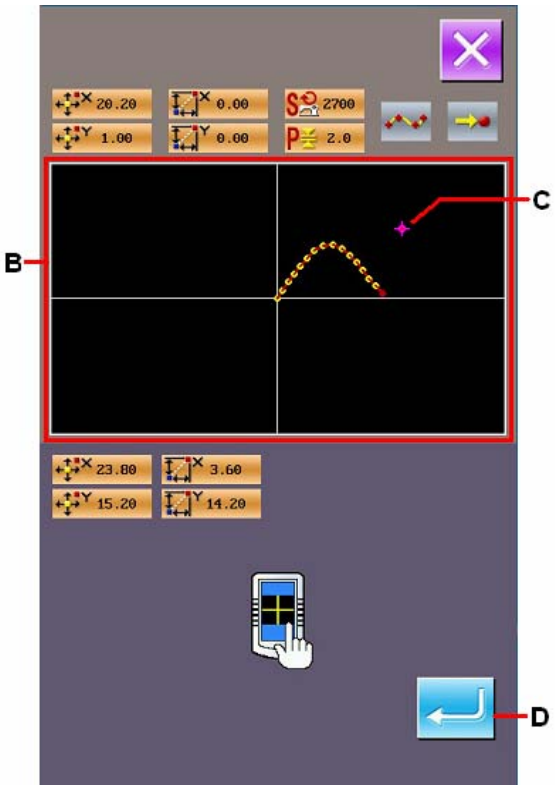


② **Indicate the Coordinates**

In the interface of coordination indication, press pattern display area (B). The Cross icon (C) is displayed at the position you pressed.

③ **Confirm the Coordinate**

Move the icon to the position wanted. Press ENTER (D) to display the confirmation interface of presser move.



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④ **Move the Presser**

In the confirmation interface of presser move, press ENTER (E) to move the presser to the in the position of the icon, then the system returns to the interface for specifying the position.

Attention: The move of presser is in linear, so it is unable to move in case of encountering the obstacle items.

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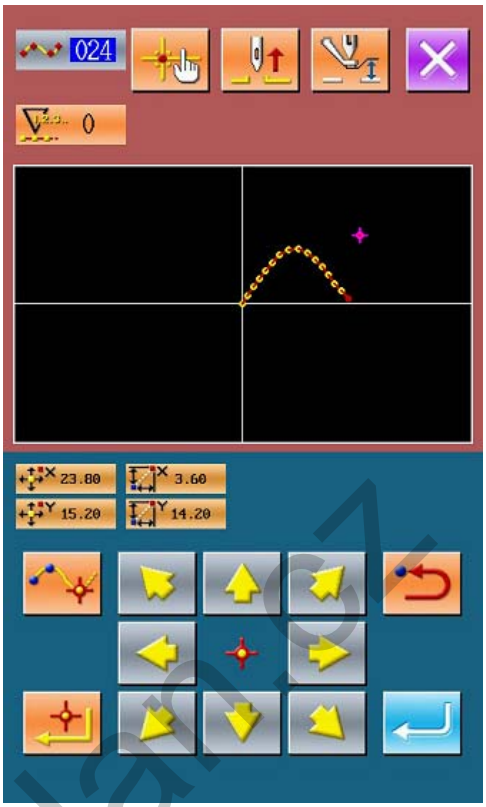

16-2. Direct Indication of Needle Entry Point

Determine the needle entry position directly.

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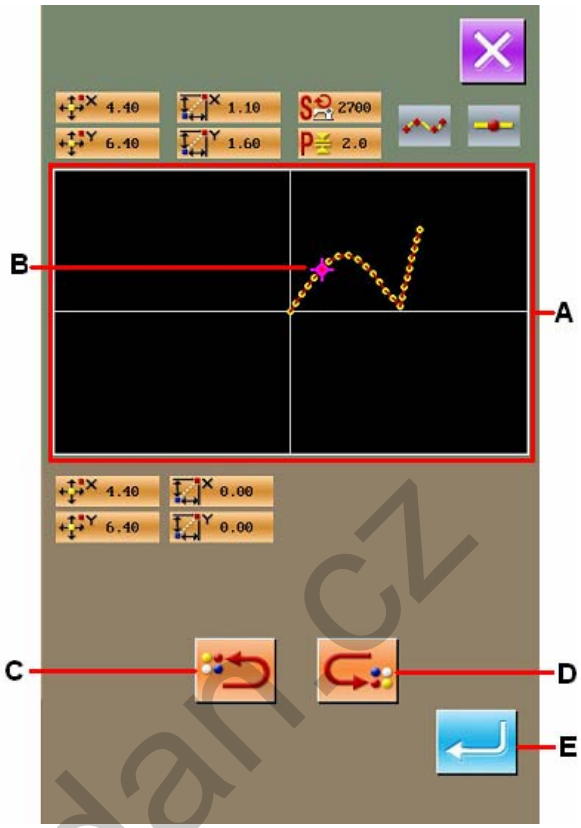
① **Display of interface for indicating the needle entry point·shape point.**

In the standard interface, press to activate the interface for indicating the needle entry point.

② **Inquiry the Needle Entry Point**

Press Search Backward Key C and Search Forward Key D to search the needle entry point from B point quickly.



③ **Decide the Needle Entry Point**

Press ENTER (E) to activate the confirmation interface of presser move. At this time, press to move the presser to the needle entry point specified by the icon.

If no needle entry point is selected, the will become invalid.

Attention: The move of presser is in linear, so it is unable to move in case of encountering the obstacle items.

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17. Select the Displayed Function Code

Enable to select the displayed function code in the interface of code list.

① **Display the Selection Interface of Code List**

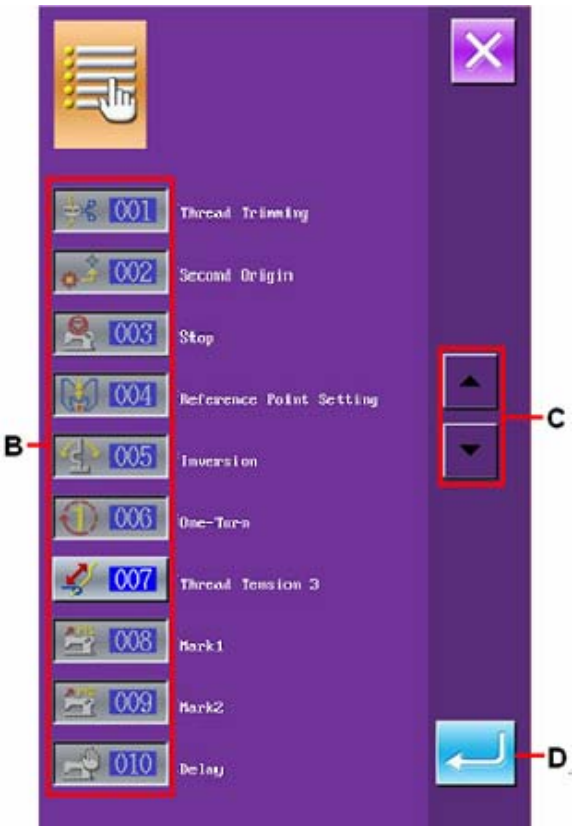
In the interface of input mode, hold for 6 seconds to have access to the interface of setting mode Level 3.

Press the Key (A) to activate the interface of the code list.

② **Select the Displayed Function Code**

In the B section of code list selection interface, the function code keys will be displayed. The available functions are shown in dark while the functions shown in bright are unavailable.

Use Page Key C to display the other content of B section.
Press ENTER (D) to return to the mode interface



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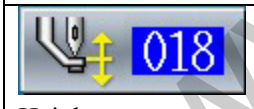
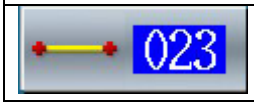
18. Codes of Function

The following is the code list.

Code	Functions
Thread-trimming	Input the order for thread-trimming
The 2nd Origin	Set the 2nd origin.
Stop in Midway	Input the order for stop in midway
Scale the Reference Point	Set the reference point of scaling
Mirror Point	Input the mirror order
Running for A Circle	Input order to let sewing machine run for a circle
Tension of the 3rd Thread	ON/OFF the 3rd thread tension
Mark 1	Make mark 1
Delay	Input the order for delay.
Setting of Upper Thread Tension	Set the upper thread tension
Area Division	Input the order for dividing area
 Setting of Intermediate Presser Height	Set intermediate presser height
Sewing Machine Stop	Input the order for stopping the sewing machine
Jump Feed	Create the sewing data of empty feed.
Point Sewing	Create the sewing data of point sewing
Normal Sewing	Create the sewing data of linear・curve sewing
 Linear Normal Sewing	Create the sewing data of linear sewing

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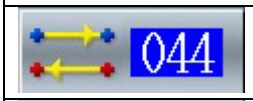
Curve Normal Sewing	Create the sewing data of curve sewing
Arc Normal Sewing	Create the sewing data of arc sewing
Circle Normal Sewing	Create the sewing data of circle sewing
Linear Zigzag Sewing	Create the sewing data of linear zigzag sewing
Curve Zigzag Sewing	Create the sewing data of the curve zigzag sewing
Arc Zigzag Sewing	Create the sewing data of arc zigzag sewing
Circle Zigzag Sewing	Create the sewing data of circle zigzag sewing
Linear Offset Sewing	Create linear offset sewing
Curve Offset Sewing	Create sewing data of curve offset sewing
Arc Offset Sewing	Create sewing data of arc offset sewing.
Circle Offset Sewing	Create sewing data of circle offset sewing
Linear Double Orderly Sewing	Create sewing data of linear double orderly sewing
Curve Double Orderly Sewing	Create sewing data of curve double orderly sewing
Arc Double Orderly Sewing	Create sewing data of arc double orderly sewing
Circle Double Orderly Sewing	Create sewing data of circle double orderly sewing
 Linear Double Reverse Sewing	Create sewing data of linear double reverse sewing
Curve Double Reverse Sewing	Create sewing data of curve double reverse sewing
Arc Double Reverse Sewing	Create sewing data of arc double reverse sewing
Circle Double Reverse Sewing	Create sewing data of circle double reverse sewing

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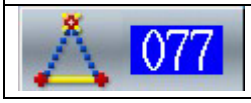
Linear Reverse Sewing	Create sewing data of linear reverse sewing
Curve Reverse Sewing	Create sewing data of curve reverse sewing
Arc Reverse Sewing	Create sewing data of arc reverse sewing
Circle Reverse Sewing	Create sewing data of circle reverse sewing
Deletion of Mechanical Control Order	Delete the mechanical control order
Sewing Speed Section Change	Change the speed of the created sewing data
Change Length of Pitch	Change the sewing pitch of the created sewing data
Element Deletion	Delete the created data in unit of element
Automatic Bar-tack	Make bar-tack sewing data
Condensation Sewing	Make sewing data of condensation sewing
Overlapped Sewing	Make sewing data of overlap sewing
Relative Point Deletion	Delete the needle entry point, the data afterward shall move
Relative Point Move	Move the needle entry point, the data afterward shall move.
Relative Top Point Deletion	Delete the top point of linear, the data afterward shall move
Relative Top Point Move	Move the top point of linear, the data afterward shall move
Absolute Point Deletion	Delete the needle entry point, the data afterward shall keep still.
Absolute Point Move	Move the needle entry point, the data afterward shall keep still.
Absolute Point Adding	Add the needle entry point; the data afterward shall keep still.
 Absolute Top Point Deletion	Delete the top point of linear, the data afterward shall keep still

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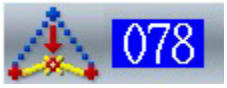
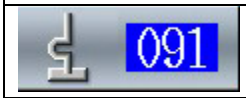
 Absolute Top Point Move	Move the top point of linear, the data afterward shall keep still
X Axis Symmetry	Add pattern symmetrical to the X Axis passing needle position
Y Axis Symmetry	Add pattern symmetrical to the Y Axis passing needle position
Point Symmetry	Add the pattern symmetrical to the present needle position.
Pattern Move	Move the position of pattern
Copy Pattern	Copy the pattern for sewing.
Pattern Deletion	Delete the pattern data
Initialization	Initialize the U disk
 Presser Inversion Setting	Set the inversion
Sewing Speed	Input the sewing speed.
Setting Value Reference	Display the set values of the pattern data
Y Symmetry Pattern Inversion Orderly Sewing	Add an inversed pattern symmetrical to the Y Axis passing needle position
Function Code Input	Input the function code.
Ending Method Selection	Set whether to track data after finish /performance.
Function Selection. Setting	Allocate functions to F keys
Reference Value of Upper Thread Tension	Set reference value of upper thread tension
Reference Value of Intermediate Presser Height	Set reference value of intermediate presser height
Element Forward	Move the needle position to the end position of the element containing the present needle position; in case of end position, the needle position will move to the end position of the next element.

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Element Backward	Move the needle position to the start position of the element containing the present needle position; in case of start position, the needle position will move to the start position of the next element.
Shape Point Adding	Add shape point.
Shape Point Move	Move shape point
Shape Point Deletion	Delete shape point

—END—

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