



# **Industrial Sewing Machine**

**User manual**

Shanghai Powermaxtech Technology INC.

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# 1 SYSTEM START AND STOP

## 1.1 SYSTEM START

Before system starting, please confirm the power linkage. Press the power switch, the system immediately carries out the auto-inspection. After inspection, the screen will display the system Logo illustration.

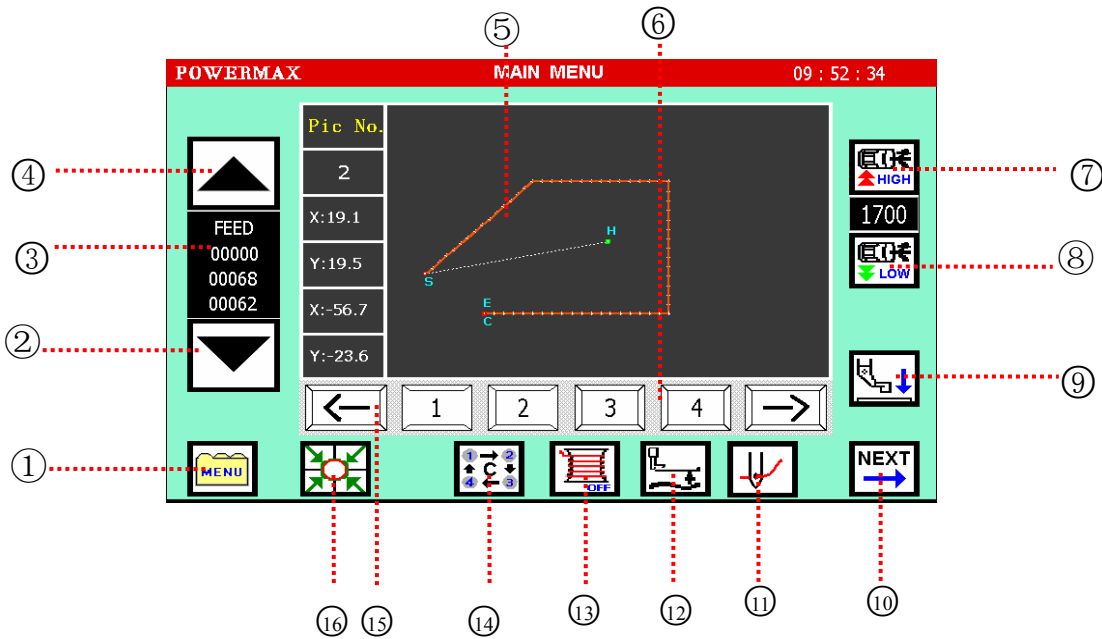
## 1.2 SYSTEM STOP

System shutdown <power off>, the corresponding parameters are automatically saved.

# 2 SYSTEM BASIC SCREEN

After displaying Logo screen, the system enters the main menu screen automatically.

## 2.1 AREA DIVISION OF MAIN MENU



**Figure 1-1 Main Manual Screen**

①Function directory

Touch this button to expand the list of function buttons, choose <Files Management>, <pattern preparation>, <pattern modification>, <Parameter (user parameters)>, <Function (Accessibility)> into the corresponding function.

②Move forward.      ③Sewing state.

④Moving backward.    ⑤Pattern file display area

Used to display the selected pattern file

⑥Pattern file list display 4 pattern file once, touch flip key can flip to see all pattern files.

- ⑦ Enhance the sewing speed to the amount of 100 stitches / minute increments.
- ⑧ Reduce the sewing speed to the amount of 100 stitches / minute amount of decline.
- ⑨ Presser foot rise / fall

Touch this button once, the presser foot drop;  
touch again, the presser foot rise.

- ⑩ Expand to the standard screen 2.
- ⑪ Threading model

- ⑫ Presser foot adjustment key

- ⑬ Winding function

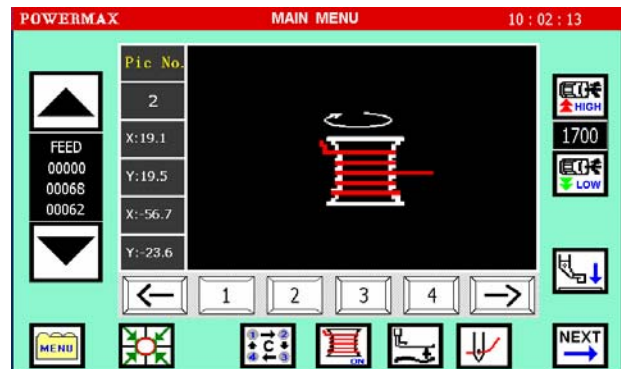
After touching the lower right corner displays ON, the screen displays as the right;  
At this point, the stampede to run  
Automatically pedals, start winding.

- ⑭ Recycling processing


- ⑮ The pattern list flip function.

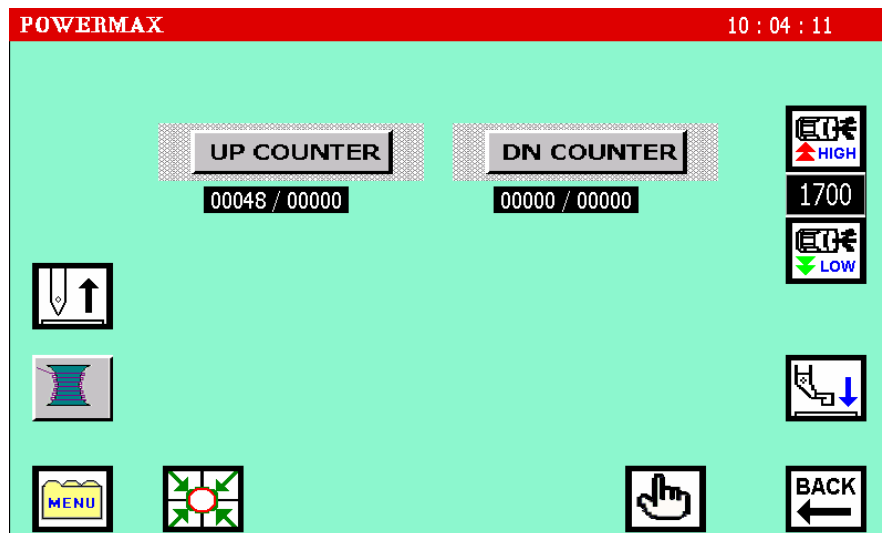
- ⑯ Back to home button

Touch this button can make the running sewing machine needle back to home.(Where home refers to the location in the sewing head mounted photoelectric sensor).

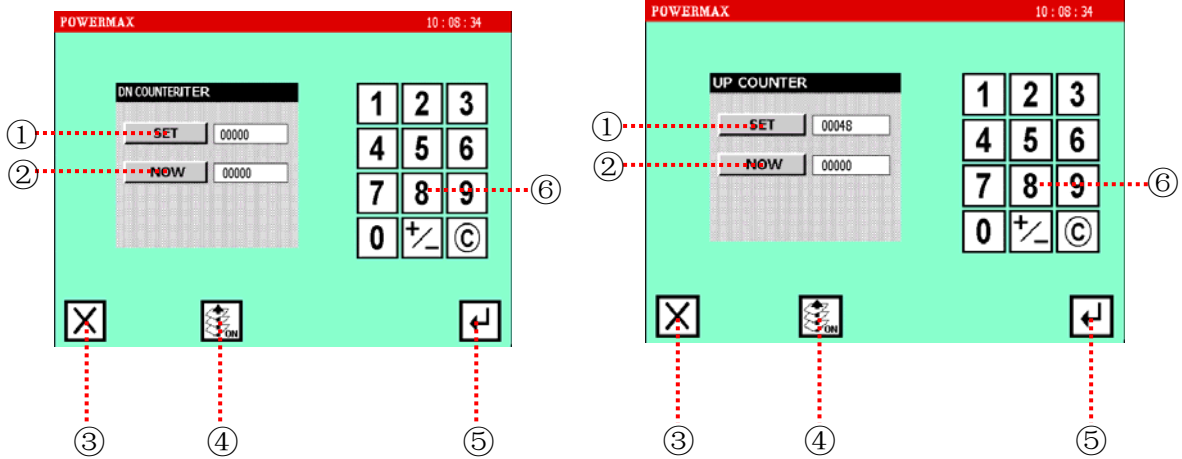





## 2.2 SEWING COUNTAUTOMATIC PROCESSING SCREEN



Touch  in the main menu, You can enter Sewing count the picture as shown below .On this page you can enter the automatic processing status.




In the picture above touch the button of additions counter and subtraction counter respectively to set sewing counting.




① Touch this key to input the initial value in a digital input area, touch  to confirm; If Without input, directly touch  (  Note: If the total number of pieces is zero, the initial value can not be entered, the initial value is not greater than the total number of pieces ) .

② Touch this key you can input the total number of pieces in the digital input area, touch  to confirm; If Without input, directly touch .


③ Return to the main menu 2.

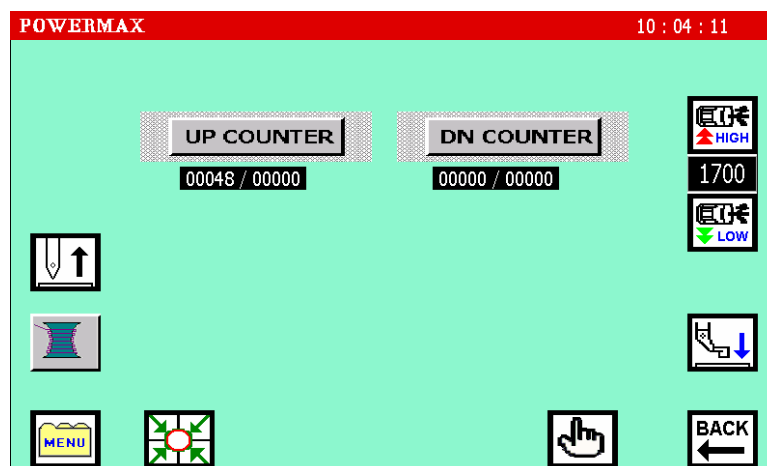
④  Touch this key, set counter invalid / valid.

⑤ Confirm button  
Confirm the value of the input.

⑥ Numeric keys  
 Cancel button.

### 2.3 MANUAL OPERAIONG SCREEN

In the main menu 2 as shown in the below, touch  , You can enter manual mode screen.



① Return to main menu 2.

② Needle moves down.

③ Reduce the sewing speed  
For 100 stitches / minute  
amount of decline.

④ Sewing speed upgrade  
For 100 stitches / minute  
amount of decline.

⑤ Display the coordinates of X direction.

⑥ Display the coordinates of Y direction.

⑦ Display spindle encoder values.

⑧ 8 arrow keys.

Touch this button to run the needle  
in the direction of the arrow.

⑨ Presser foot rise / fall

Touch this button once, the presser foot fall; touch again, the presser foot rise

⑩ Platen lift / drop

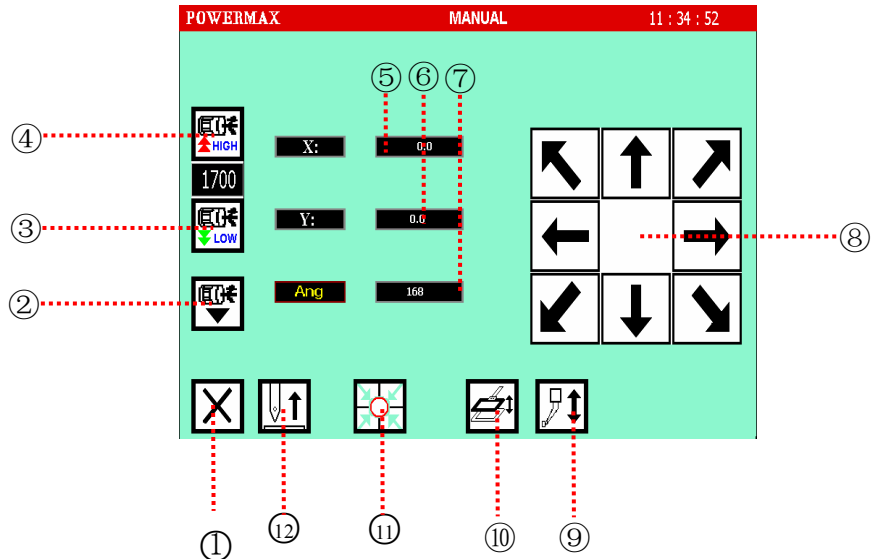
Touch this button once, flapper pressure; Touch again to lift the load plate.

⑪ Back to home button

Touch this button can make the running sewing machine needle back to home.(Where home refers to the location in the sewing head mounted photoelectric sensor).

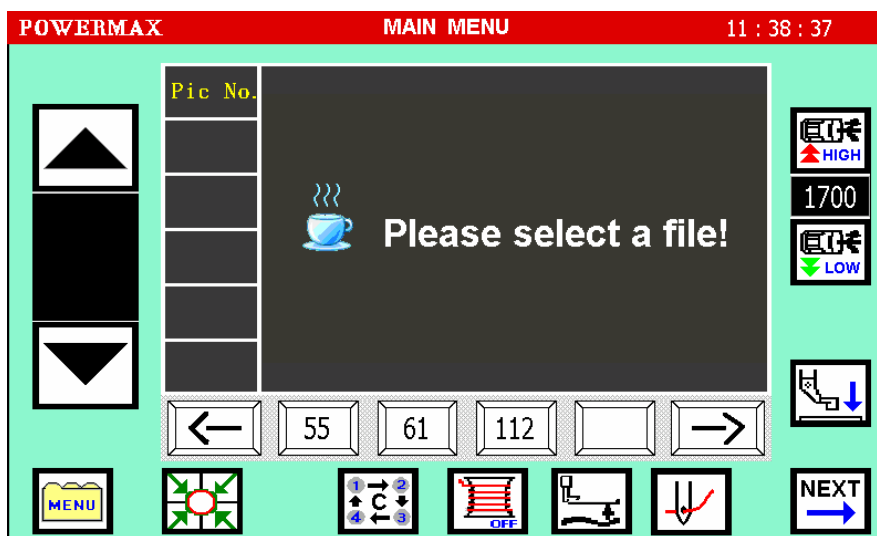
⑫ Needle positioning

Touch this button to stop at the needle positioning.



## 2.4 SEWING PATTERN FILE DEGAULT SCREEN

At the main menu screen, without a pattern file or no pattern file is selected, the system displays the standby pictures in the graphics display area, as shown below:

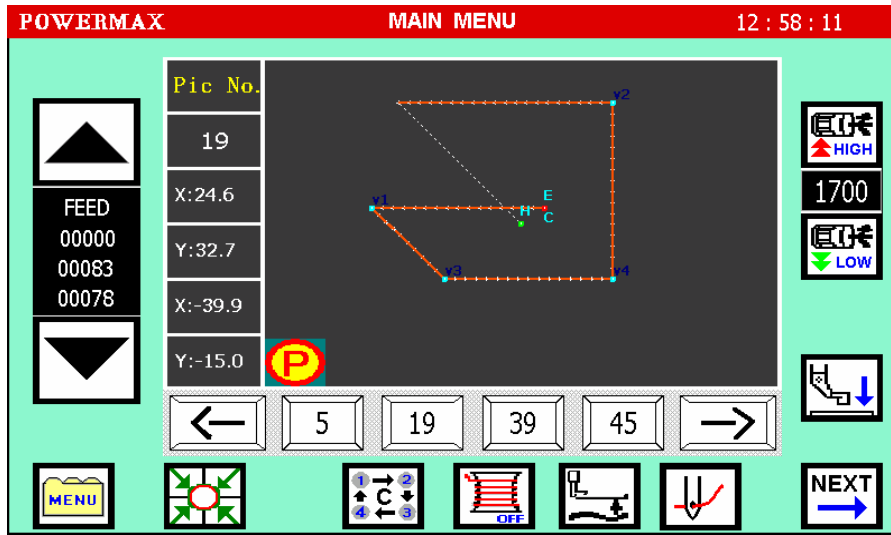




## 2.5 SYSTEM LOCK AND PAUSE FUNCTION

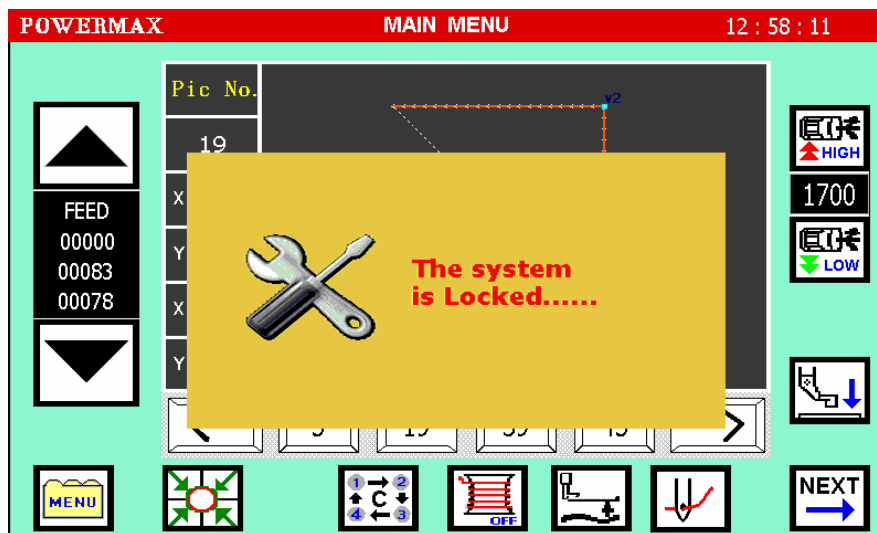
According to user parameters **Parameter** pause parameter **Pause** settings on pause switch type, pressing the pause button on sewing machine head to achieve system Lock or Pause function .

(No.1)When the parameter is set to ordinary switch, press the pause button during automatic operation can be achieved the pause function. Graphical display **P**, as shown below :



According to the parameter **Pause** of suspend parameter settings to achieve the action of after specific pause.


When the parameter is set to auto-lock switch, hit the pause button on any screen locking system operation can be achieved, the system displays the lock screen interface, as shown:



At this point, all operations are locked to protect the machine operator to adjust or repair the security; The recovery operation after the pause button is released.

In the automatic processing, press the pause button, the system appears "PAUSE" and waits trimming operation.

## 2.6 FUNCTION MENU SCREEN

In the main menu screen, Press the key  to open menu screen.

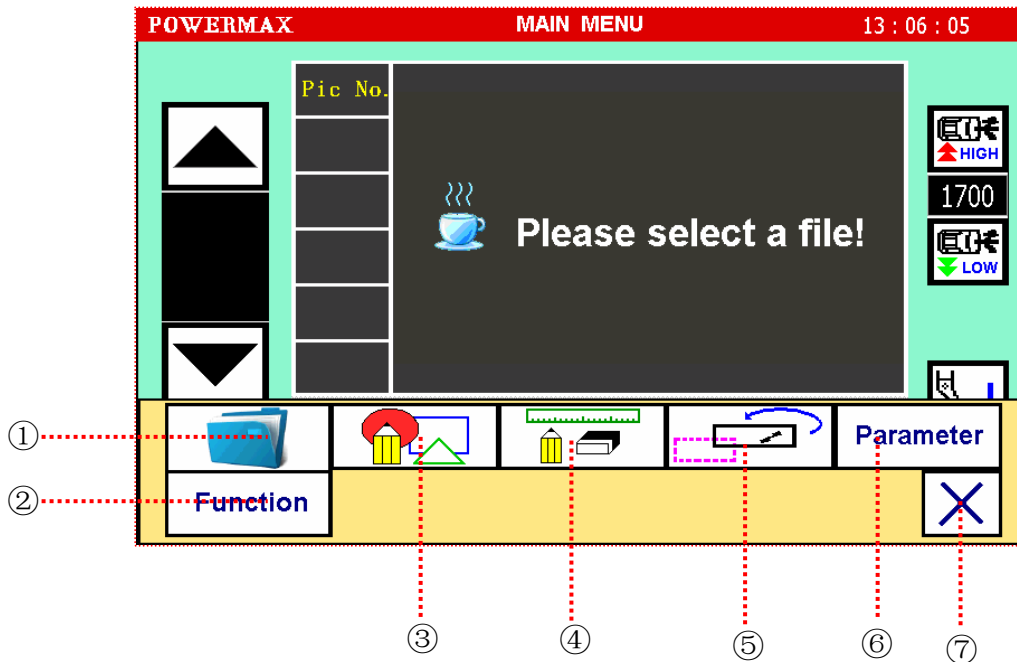


Figure 2-4 Menu Open Screen

- ① Pattern data management
- ② Assistant function
- ③ New pattern file
- ④ Modify pattern file
- ⑤ Pattern file conversion
- ⑥ Parameter settings
- ⑦ Return. Shut down function directory, return to the main menu.

## 3 READING, OPERATING AND MANAGING PATTERN DATA

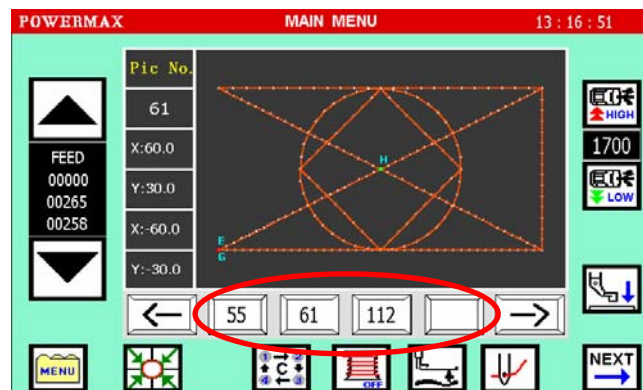
### 3.1 READING AND MANAGING PATTERN DATA

[Operation details]:



Select the data in data menu display area.





If there is not required data in current display area, then use   to switch.

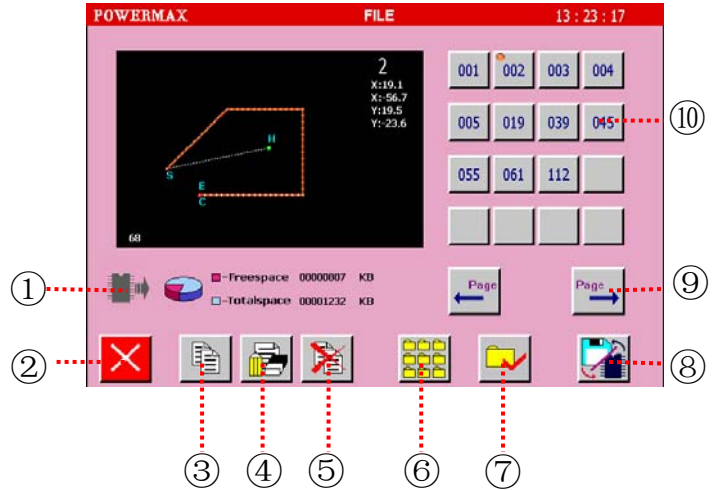
For example, when select No. 61 data, only press No. 11 key, the system will open the data automatically.



### 3.2 MANAGING DATA



Press  key on main menu screen, to expand function directory. Press  key the system will enter the stitching pattern data management screen.

- ① Display the current memory (internal  / external  memory).
- ② Return key. Return to the main menu.
- ③ Copy multi-pattern data at the same time.
- ④ Copy or rename the single data.
- ⑤ Delete data.
- ⑥ Select all the pattern data of the current disk.
- ⑦ Select pattern in multiple
- ⑧ Switch of internal disk (CF card  ) / external disk (USB  ).
- ⑨ Page down.
- ⑩ pattern data keys





#### 3.2.1 COPYING DATA (DATA RENAME)

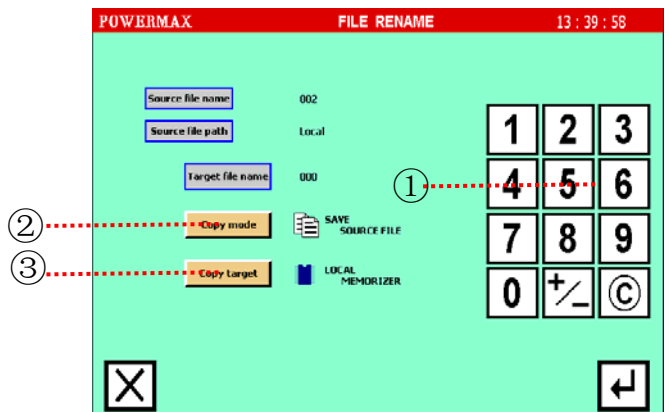
[Operation details]:


① On pattern data management screen, one pattern data is selected. Select the number 002 as shown above for the current file (There is the key  flag indicates the current file). Touch  to enter the screen of copy the file .

① Input the destination file name with the numeric keys. That input the copy generated file name.

② Use  to select whether to store the source data. If store resource data, the copy function is realized; If delete source data, the rename function is realized.

③ Use  to select the target disk of copy data. If select local PC memory, system stores the copied data in system internal memory; If select external memory, the system stores the copied data in U disk.



2 After finishing setting, press  to confirm.

If there is successful operation, the <successful operation> screen will display as shown on the below screen.

If there is unsuccessful operation, the <unsuccessful operation> screen will display as shown on the below screen.



The operator may fail several reasons the system prompt, troubleshooting, re-operation.



**注** :

When the copy destination disk selected as U disk, all operations are completed , and displaying <operation succeeds screen> or <operation failed screen> and then returning to the main menu, after all these time removing the U disk, or there will be likely to cause the system to crash!

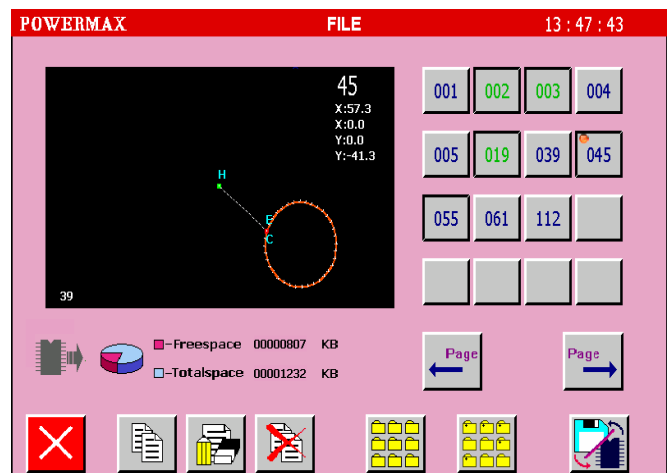
### 3.2.2 COPYING MULTI-DATA


This function can copy multiple pattern files of local PC.


1 Select the data you want to copy. Pressing


, after it turn into ,you can perform multiple choice task.

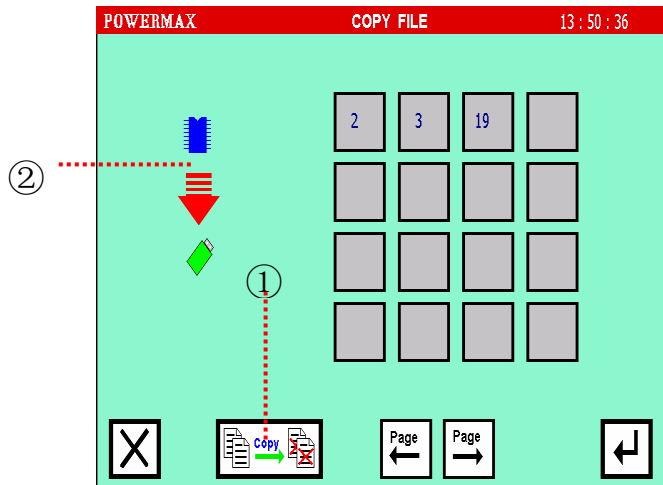
The No. 002, No. 003, NO.019, No. 023 data in green are selected.



2 Press  key to enter the <multi-data copy> screen.


①  — — Select to cover the homonymic file. That is, obey the whole covering principle.

 — — Select no to cover the homonymic data. That is, when there is homonymic file, the system will not copy; when there is not, the system will copy.

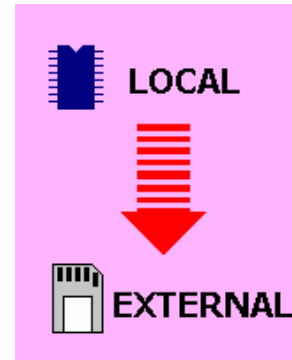



② Copy direction

· The figure selected file is in the native built-in memory

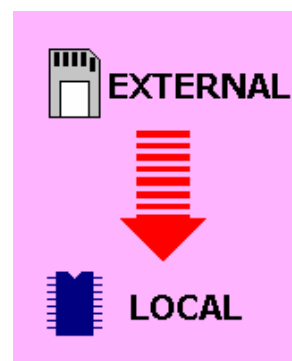
( expressed built-ister),


Copy the direction in the <copy multiple files> displayed on the screen as shown on the right:



• If the image above is selected in the external memory file ( represent the external ister),

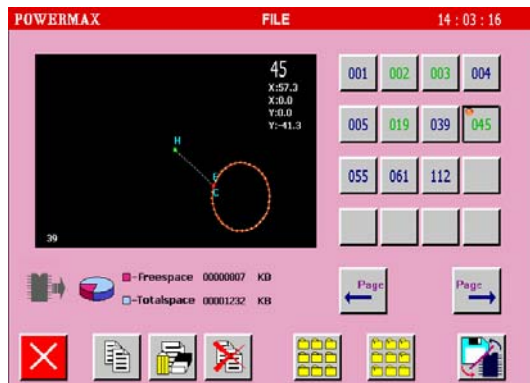
In the <copy multiple files> direction of the display screen shown at right:




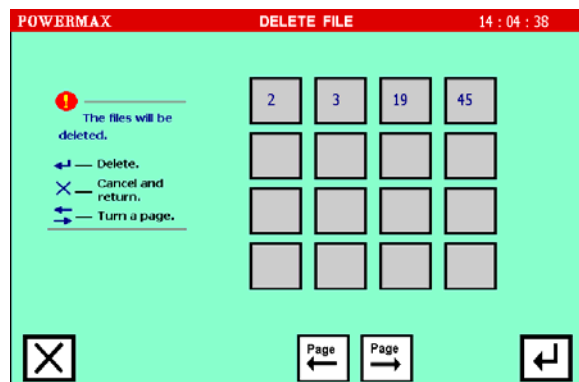
3 After finishing setting, touch  to confirm.


### 3.2.3 DELETING DATA

- 1 Press the data keys which need to be deleted. As the right:  
The No. 002, No. 003, NO.019, No. 045 data(in green)are selected.



- 2 Press  key to enter <data deletion> screen.



- 3 Touch  to confirm deletion.



## 4 SEWING PATTERN PREPARATION (A VERSION OF) OPERATING PROCEDURES

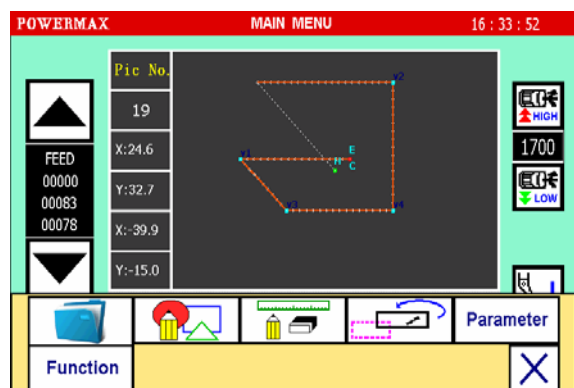
### 4.1 PATTERN PREPARATION PROCESS

- 1 Select the appropriate size of the graphic pattern, flat on the press frame, stampede the pedal of platen to make platen depressed.


**注** :

When using the platen, please note the location of the finger not on the plate, it is likely to cause injury.

- 2 Press  key on main menu screen, touch  enter the stitch length and speed settings screen.



③ Touch numeric keys to enter the required stitch length .

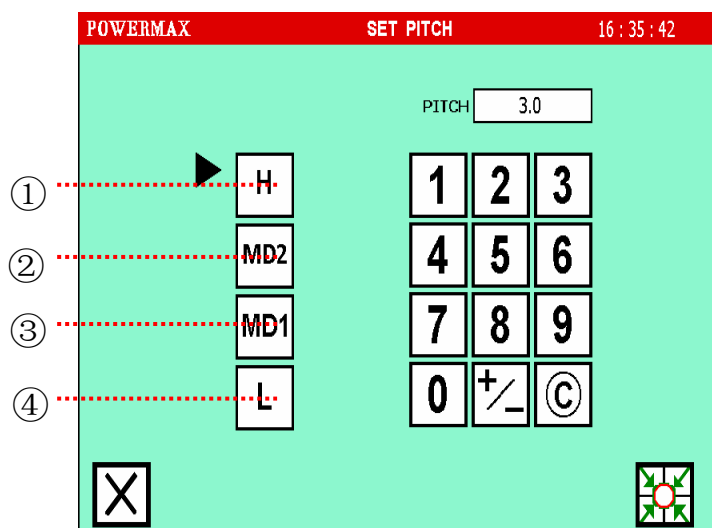
Then touch  to enter the pattern setting screen.

①High speed. Speed is set for high speed when sewing pattern.

②Middle-high speed. Speed is set for middle-high speed when sewing pattern.

③ Middle-low speed. Speed is set for middle-low speed when sewing pattern.

④Low speed. Speed is set for low speed when sewing pattern.



④ After entering the pattern setting screen, touch the arrow keys to set pattern(pattern in detail the various methods of setting, please see 5 kinds of sewing data entry)

①Input methods setting key (see 5.1).

You can choose the input methods to send feed、 points、 lines、 arcs、 circles such as polygons and curves.

②Additional function input (see 5.1.7)

You can choose to add secondary origin、 cut lines. Needle pause、 accessibility pause and wait for the next needle auxiliary press frame.

③Presser foot adjustment key

④Jog-pattern making mode

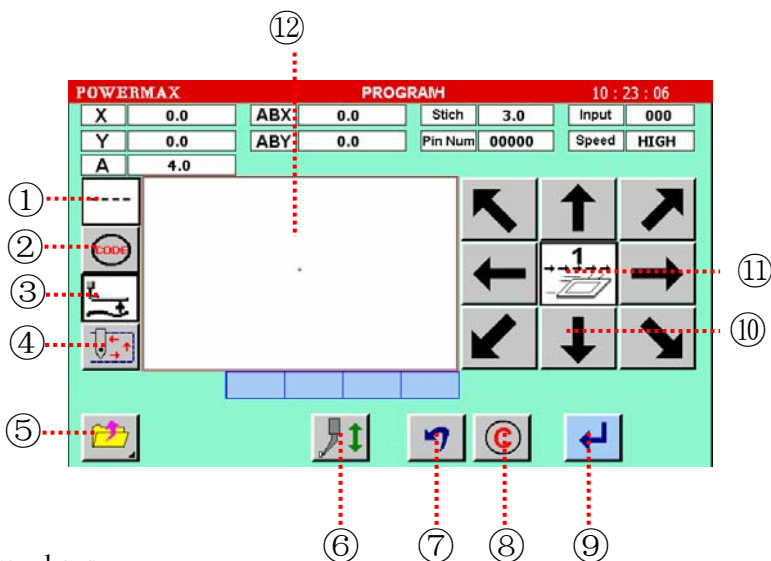
⑤Expand the additional directories of pattern setting

⑥Presser foot rise / fall

Touch this button once, the presser foot drop; touch again, the presser foot rise.




⑦Delete the displacement of the former is not yet confirmed.

⑧Delete the period pattern has been




⑩ Arrow keys

⑪Make changes to the speed (velocity value set in the user parameters)

 low speed     middle speed     high speed

⑫Display pattern area

Display the pattern that has been generated according to the confirmed trace.

5 After the pattern is generated, you can enter jogging to verify the correctness of the pattern (Touch the key  of image above) .

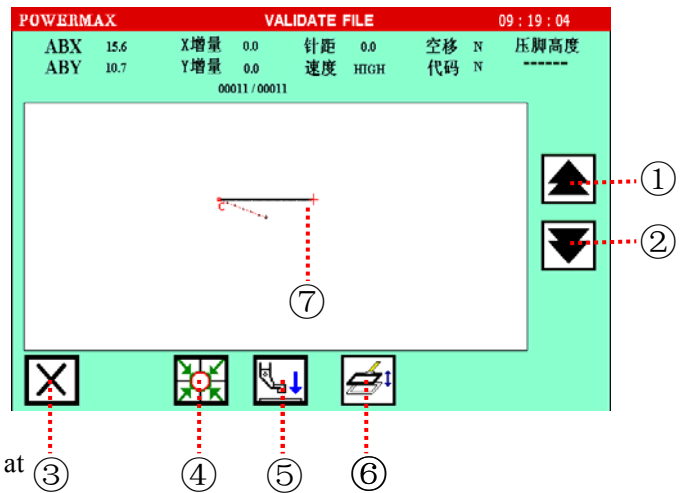
①Jogging forward

After pressing, lifting and implementing running forward one stitch

②Jogging backward

After pressing, lifting and implementing running backward one stitch

③Return to the preparing pattern screen.



**注** : After the verification is complete, the screen at the same time return to the screen of pattern preparing, the system automatically moves to finalize the location of the pattern. Note the placement of the hand or materials at this time, in order to avoid injury.

④Back to home button


Touch this button can make the running sewing machine needle back to home.(Where home refers to the location in the sewing head mounted photoelectric sensor).

⑤Presser foot rise / fall.

⑥Plate lift / drop.

Touch this button once, flapper pressure; Touch again to lift the load plate.

⑦+ Indicates the current position of the needle running.

6 After determining the pattern has been completed, please remember saving. Touch  , expand the pattern preparing additional directories.

①Return to the pattern preparing screen , continue preparing pattern.

②Needle rise / fall.

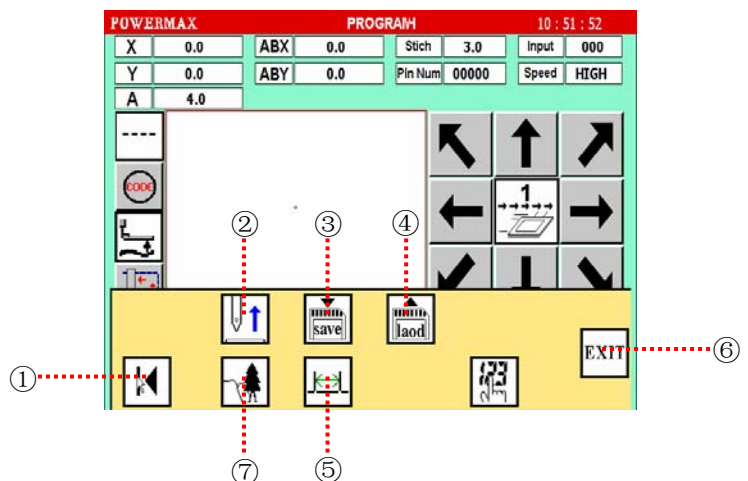
③Save pattern file.

④Bring up the existing pattern file.


⑤Modify the stitch length of next block pattern.

⑥EXIT. Exit pattern preparing, return to the main menu.


⑦Viewing patterns.





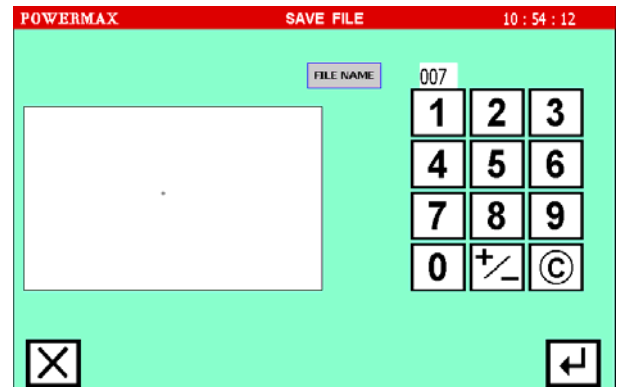
7 In the Mood for preparation of additional directory, touch  ,enter pattern saved pages.

Displayed on the screen is the first unoccupied file number.


You can touch  to save a good preparation file directly.

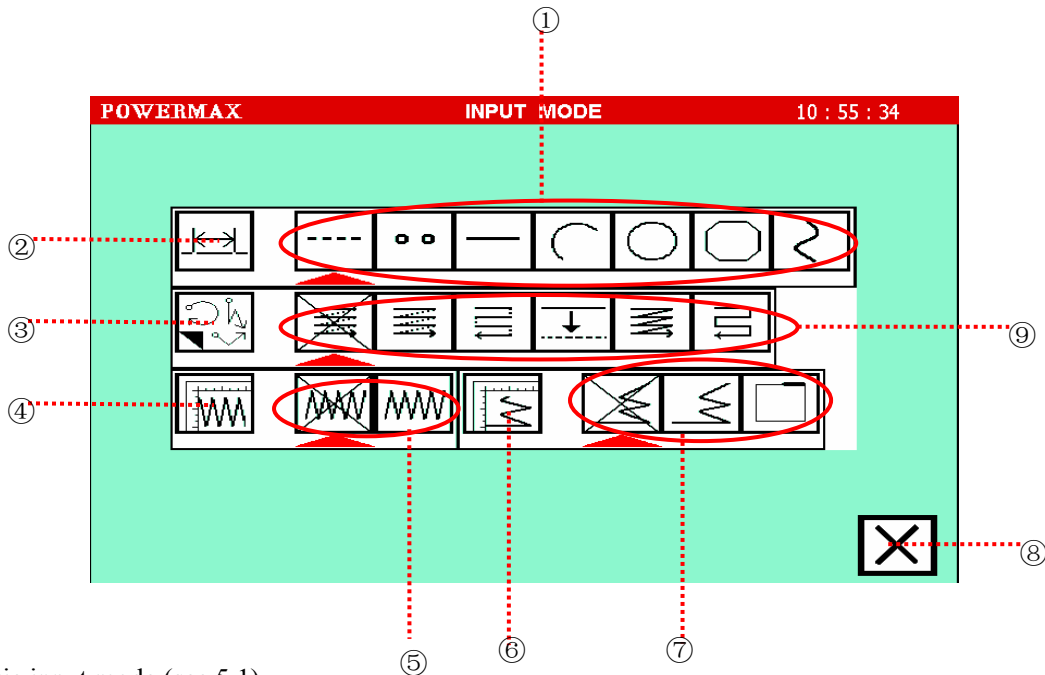
In this file number; You can also touch numeric

keys to enter the desire file number. Touch  to confirm. Return to the main menu.










#### 4.2 PATTERN INPUT SETTING SCREEN

Touch  <input method is set> in the screen of pattern preparation, enter the pattern setting screen.




① Basic input mode (see 5.1)


 send feed input,  point input,  linear input,  arc input,  circle input,  Polygon input and  curve input.

② Change the stitch length


③ Detailed set of multiple seam and offset stitching


④ Herringbone stitch detail settings


⑤  Cancel herringbone stitch

 Use the herringbone stitch function(after selecting the button you must set herringbone stitch each parameter points in the key ④ <herringbone stitch detail settings >screen, so herringbone stitch takes effect)

⑥ Settings the detail of back tacking or overlapping seam.

⑦  Do not use back tacking and overlapping seam.

 Use back tacking function (After selecting the button, you must set back tacking each parameter points in the key ⑥< set in detail >screen, so this function takes effect) .








 Use overlapping seam function (After selecting the button, you must set overlapping seam each parameter points in the key ⑥< set in detail >screen, so this function takes effect) .

⑧ Return preparation pattern screen.

⑨ Multiple seam and offset stitching (see 5.2.3,5.2.4)


## 5 INPUT MODULES OF CREATING STITCHING DATA

### 5.1 BASIC INPUT METHODS

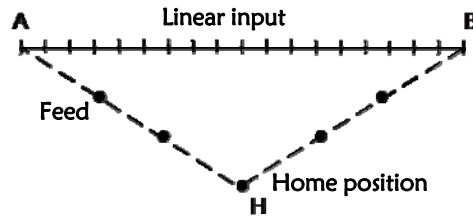
Key	Function	Explanations
	Feed	Feed function
	Point	The Point can be input one stitch at a time. (The distance between the points must be within 12.7mm.)
	Linear	2-point input: A linear line is created between the current position (already input) and the newly input point.
	Arc	3-point input: An arc, passing through the current position (already input) and two newly input points is created.
	Circle	3-point input: A circle, passing through the current position (already input) and two newly input points is created.
	Broken line	A broken line connecting the current position (already input) and the input point (up to 63 points possible) is created.
	Curve	A curve passing through the current position (already input) and the input point (up to 127 points possible) is created.

#### 5.1.1 LINEAR INPUT

[Operation points]

- 1) Designate linear input (  ) .
- 2) Two points input: A linear line is created between the current position (already input) and the newly input point.

[Example] The following type of pattern data will be created.





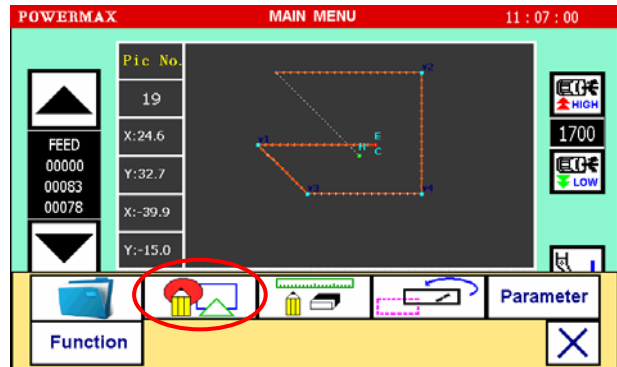
Pattern Analysis:

Between point A from point H to send feed.



Sewing is a straight line (linear input mode select) between point A to point B.

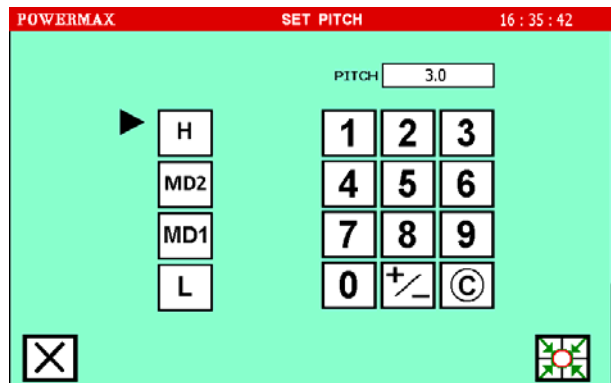
[Operation details]

1 After touching  in the main menu screen, touch  enter the stitch length and speed settings screen.

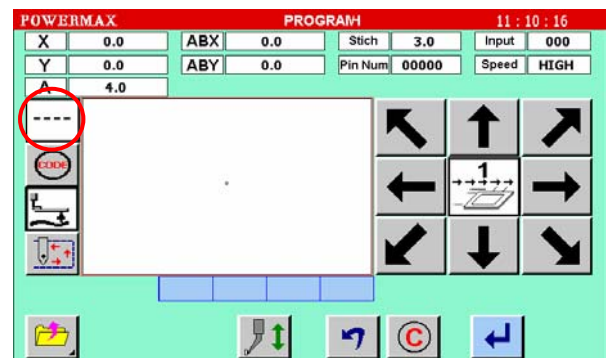


2 Setting stitch length and speed

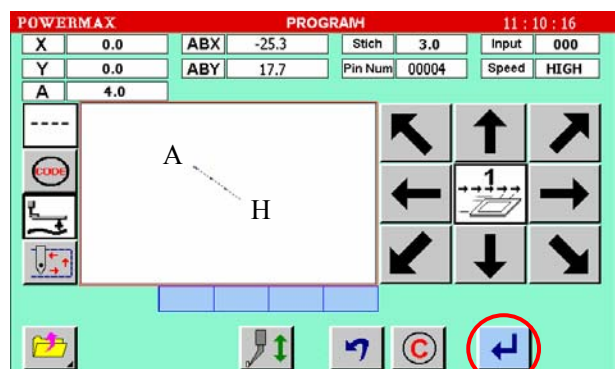
- Touch **3** , **0** to set stitch length for 3.0mm. Sewing stitch setting range (0.1mm ~ 12.7mm).
-  Is the enter key to cancel.
- Select the speed ratio.
- After the setup is complete, touch  (return to home) to enter the pattern preparation screen.




3 Enter the preparing pattern screen, Determine ways to send feed.






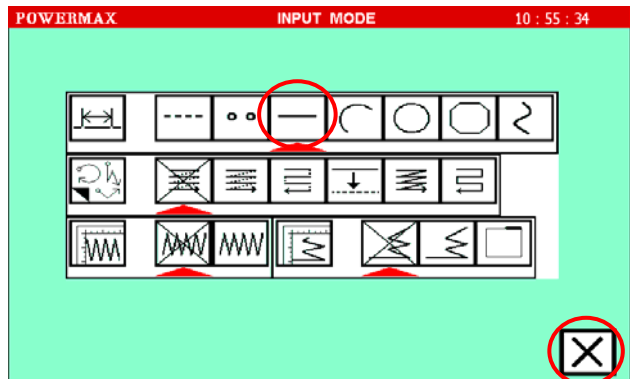
4 Touch the arrow keys to run needle to the A point.  
 • Touch the arrow keys to move the needle from H to A.








- Touch  .A point is determined (after determining the pattern is generated above).

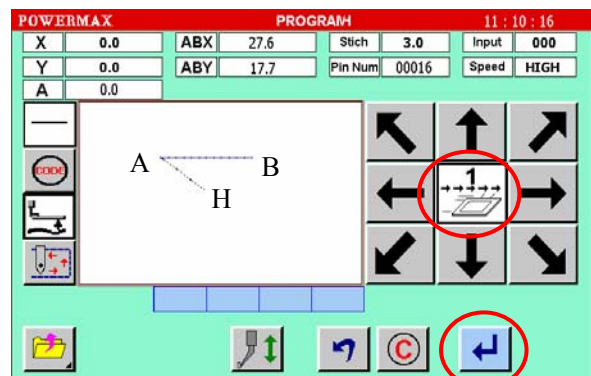
5 Change the input method, select a linear input.


- Touch  (select the line input).
- Determine  pointing  
Straight input
- Touch  to return pattern preparing screen.




6 Sewing a straight line through the point A to point B.

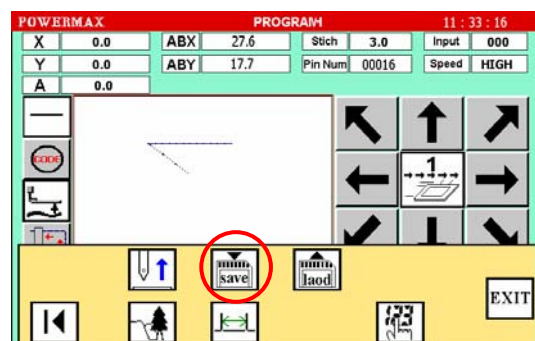
- Press  key to set the pattern making speed:  
 — Creating speed 1  
 — Creating speed 2  
 — Creating speed 3 (Set creating speed in user parameter. )
- Press the direction keys and move needle from Point A to Point B.
- Touch  key to set Point B.




7 After determining the pattern has been completed, saving the pattern. Touch , expand the pattern preparing additional directories.

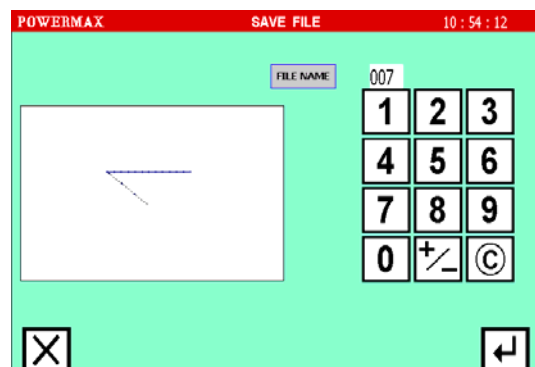
In the Mood for preparation of additional directory,


touch  to enter the pattern is saved pages.







8 Touch the number keys to define a new file name

- What displayed on the screen is the first unoccupied document number, you can touch  to save the worked out well file directly to the document number; You can also touch the numeric keys to enter the desired pattern file number, touch




 to confirm. Return to the main menu.

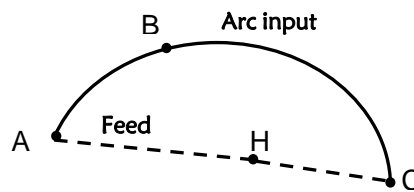
-  Is the key to cancel the input.
- After the file number (pattern number) has been input, touch  to confirm. If the file number already exists, screen will display the word "error", at this time touch , then you can re-enter. If the file number does not exist, then save the file and return to the main menu screen.
- If touch , then return to the pattern preparing screen.

### 5.1.2 ARC INPUT

[Operation Points]

- 1) Set arc input. ()
- 2) 3 points input (An arc, passing through the current position (already input) and two newly input points, is created.)

[Example] The following type of pattern data will be created.



Pattern Analysis:


Between point A and point H is the mode of sending feed.

Between point A and point C is circular sewing (choose arc input method)



[Operation details]

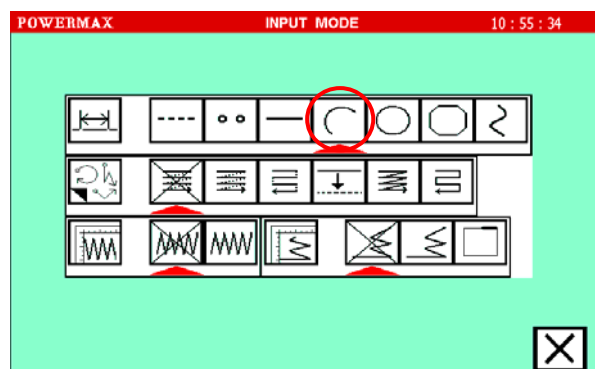
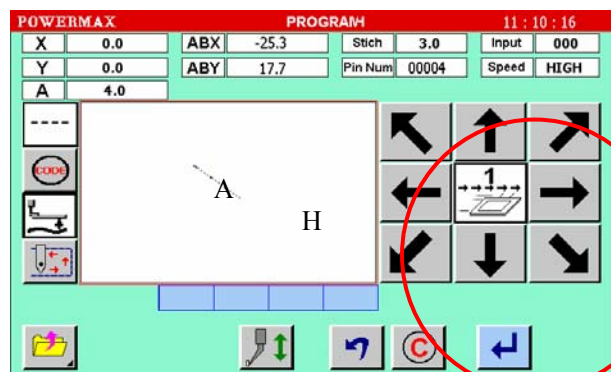
**1** ~ **3** Steps the same as Linear input, enter description will not be repeated later.


**4** Setting Point A position

- Touch the arrow keys to move the needle from origin to point A.
- View the amount of movement.
- Touch  to set point A.


**5** Change the input method, select the arc input.

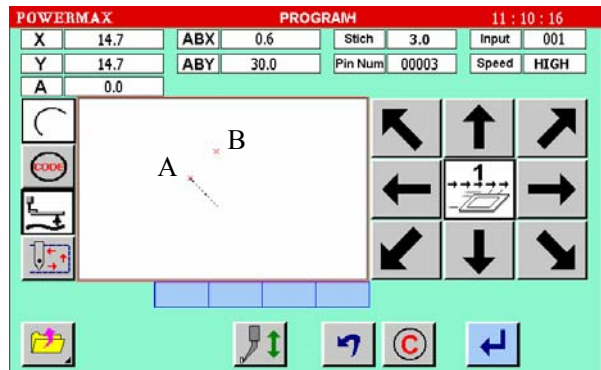
- On the input mode selection page, touch  to select the arc input.
- Determine  point arc input




- Touch  to return to the pattern file drawing screen.

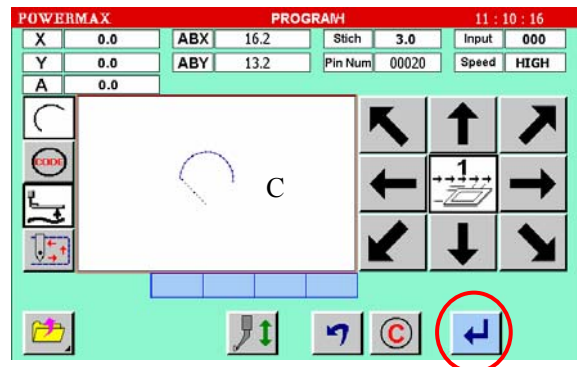
### 6 Setting Point B position

- Touch the arrow keys to run the needle to point B.
- Touch  to confirm, then the screen shows page like right, mark appears at point A and point B



### 7 Setting Point C position, generating pattern


- Touch the arrow keys to run the needle to point C.
- Touch  to confirm, after confirming, the arc is generated, as shown at right.



### 8 Save pattern file (see 5.1.1 Specific linear input).

## 5.1.3 CIRCLE INPUT

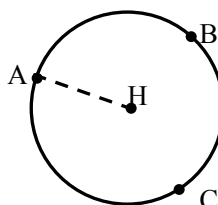
[Operation Points]

1) Set arc input (.

2) Input three Point Es (A circle, passing through the current position (already input) and two newly input points, is created.)

**WARNING: When circle data is created, the needle returns to the circle home position. Care stitch position in avoiding hand harm or danger.**

[Example] The following type of pattern data will be created.




Pattern Analysis:

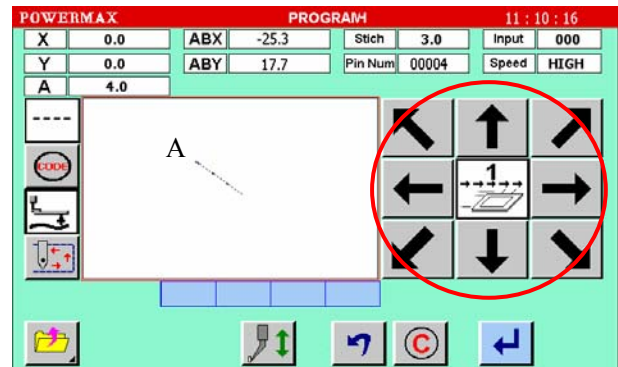
Between point A and point H the input mode is sending feed. Between point A and point C is sewing round (selection round input mode).

[Operation details]





1~3 Steps the same as linear input, enter description will not be repeated later.

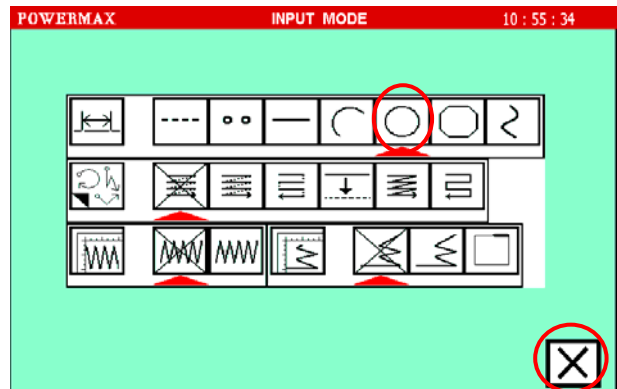
4 Setting point A position

- Touch the arrow keys to move the needle from origin to point A.
- View the amount of movement.
- Touch  to set point A.




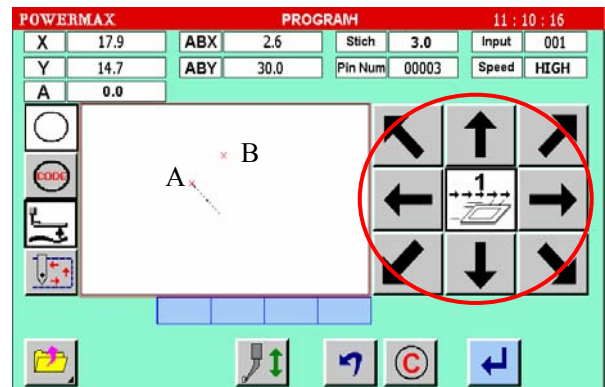
5 Switching input method setting

- Touch  to enter the pattern setting screen. Select  key to input.
- When the  key point to the arc input, Touch  to return to the pattern data drawing screen.




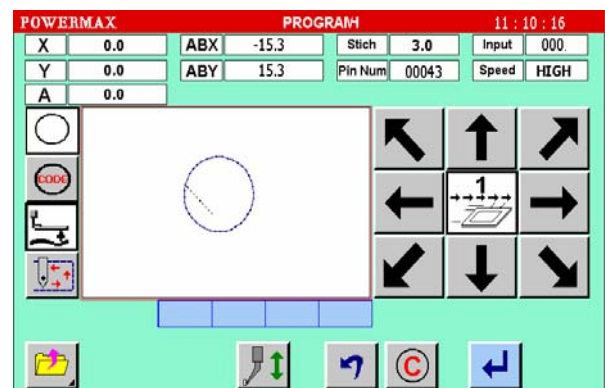
6 Setting Point B position

- Touch the arrow keys to run the needle to point B.
- Touch  to confirm, then the screen shows page like right, mark appears at point A and point B.



7 Setting Point C position and generating pattern

- Touch the arrow keys to run the needle from point B to point C.
- Touch  to confirm point C and the same time needle automatically move



to the starting point A, thus complete the circle input.

- After confirming, return to the pattern data drawing screen.



**注**: When set Point C, the needle returns to the Point A automatically. Care needle's position in

## 8 Storing pattern data.

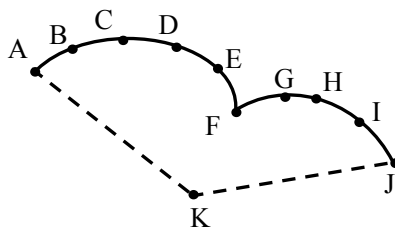
**Caution:** "The three points confirm circle" should be obeyed by arc input rule, or the system will operate linear input.




### 5.1.4 CURVE INPUT

[Operation points]

- 1) Set curve input (.
- 2) Up to 127 points can be input (A curve, passing through the current position and the input points, is created.)
- 3) Press . A delimiter point can be inserted at a pointed corner to continuously input the curve.
- 4) **Caution: The delimiter point is the start point of the new curve.**
- 5) When input curve, returning to home position key is unavailable to avoid input error.

[Example] The following type of pattern data will be created.

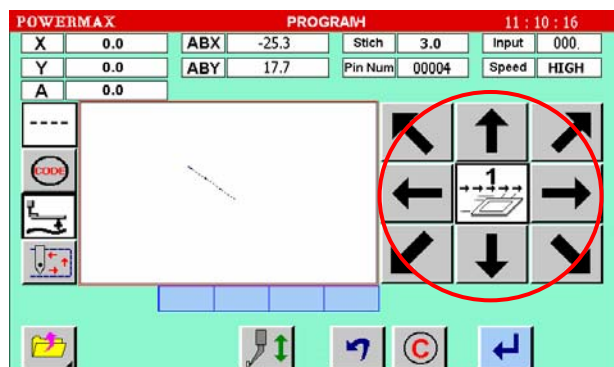


Analysis: The above pattern consists of 2 curves. Point F is the delimiter point. Press  to set Point A, Point B, Point C, Point D, and Point E. Press  to set Point F, and press  to set Point F as a delimiter point as the end of the curve input.

[Operation details]

#### 1 Setting Point C position.





- Touch the arrow keys to move the needle from origin to point A.
- View the amount of movement.

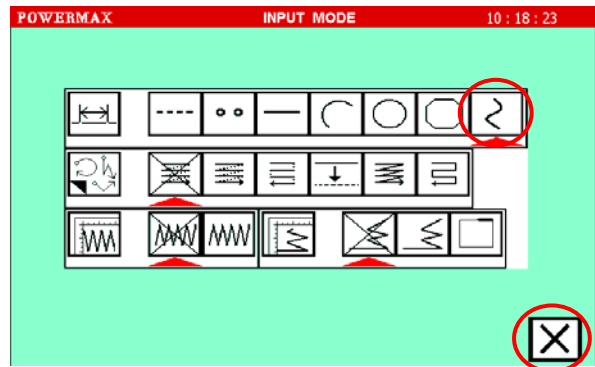





- Touch  to set point A.





## 2 Switching input method setting

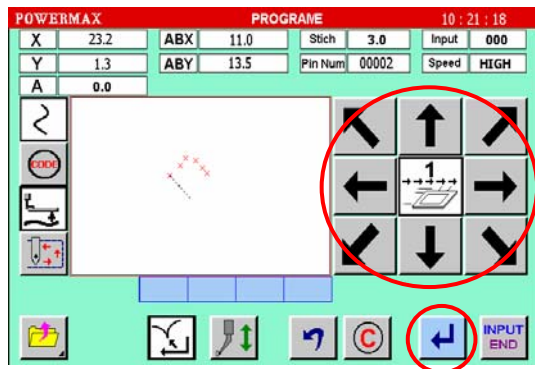
- Touch  to enter the pattern setting screen. Select  key to input.
- When the  key points to the curve input.
- Touch  to return to the pattern data drawing screen.




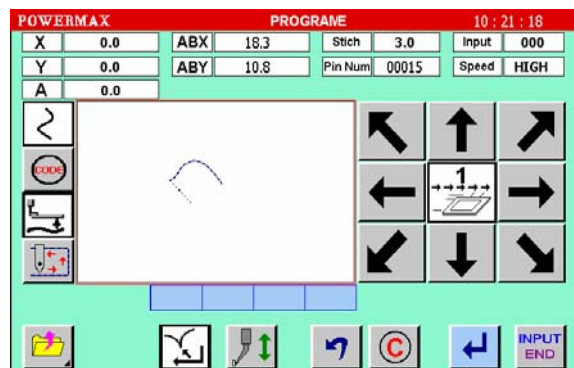
**注 Caution:** Because the curve input is different from the other inputs. Therefore,  key is added on curve data drawing screen to ensure the input end.

## 3 Inputting stitching from Point B to Point F






- Press the direction keys and move needle from Point A to Point B.
- Press  key to set Point B.
- Press the direction key  to remove needle from Point B to Point C.
- Press  key to set Point C.
- Press the direction key  to remove needle from Point C to Point D, E and F.

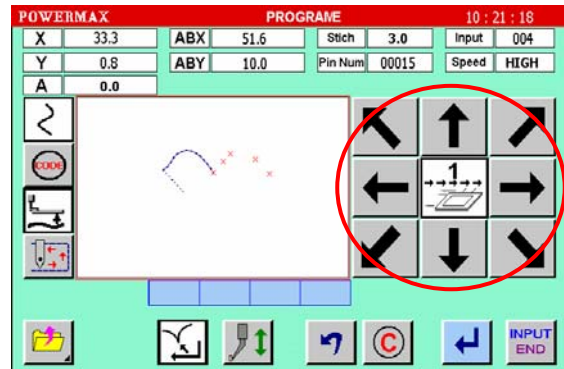


- Touch  key to generate curve of point A ~ F.

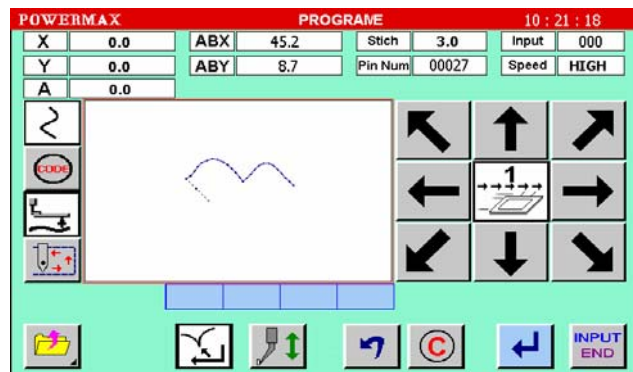




**5** Inputting stitching from Point F to Point J

- Press the direction keys and move needle from Point F to Point G.
- Confirm the remove amount.
- Press  key to set Point G.
- Press the direction key  to remove needle from Point G to Point H.
- Press  key to set Point H.
- Press the direction key  to remove needle from point H to Point I and J.
- Press  key to set Point J.



**6** Generating curve of point F~ J.



**Caution:** Because the curve input is different from the other inputs. Therefore, before  key is pressed you are unable to see the preview graphic. After you touch  to ensure the input end. Then you can see the generated graphics.

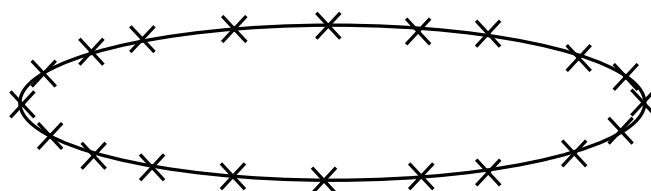
**7** Storing pattern data

**Caution:** If the distance between the curve start point and the end point is less than 0.5 mm, the pattern will be closed pattern automatically. Press  key twice at the same point is regarded as the invalid operation.

**Keys for curve input**

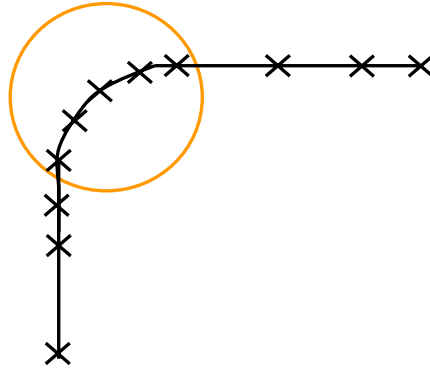
1、 Ellipse input

For shape data as shown below, except peak, in each quadrant five or more points are input.

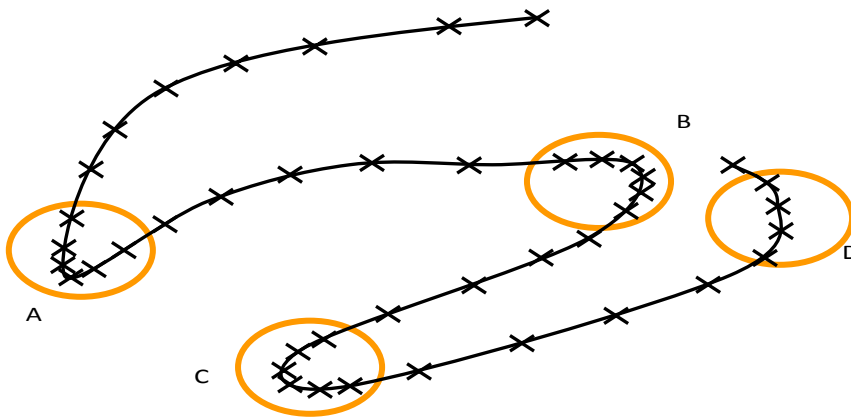


## 2、 Curve

Pay attention to the following situations. If the curve rate changes variably, more points need to input. For shape data (linear line+ arc) as shown below, at least input five points in delimiter point.



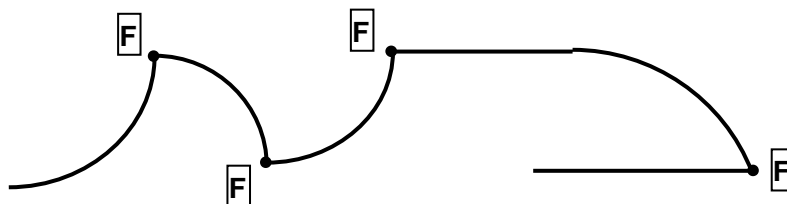
## 3、 Arbitrary curve



If the curve rate changes variably, as Point A/B/C shown above, input points as many as possible (more than five Points); if the curve rate is steady (Point D), input less points.


**For the curve drawing precision, input points as many as possible in proper conditions.**

4 . For shape data as shown below, continuous curve input is possible by selecting a delimiter point where the corner is pointed (Point F).

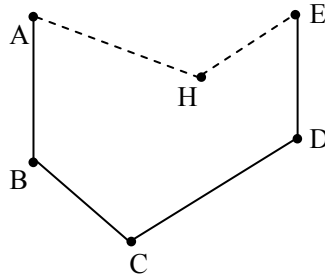


## 5.1.5 BROKEN LINE INPUT

[Operation points]


- 1) Set broken line input (.
- 2) Up to 127 points can be input (A broken line connecting the current position and input points is created.)
- 3) When input broken line, returning to home position key is unavailable.

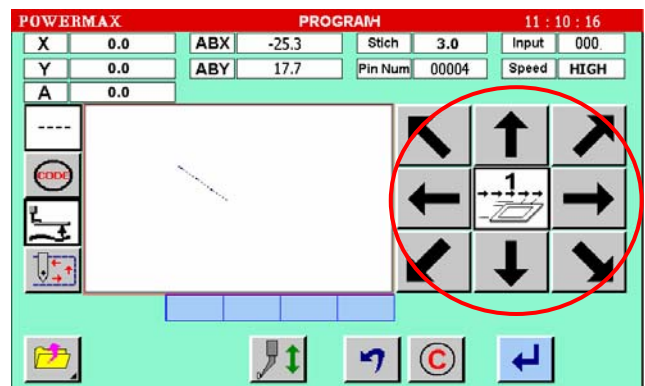
[Example] The following type of pattern data will be created.







[Operation details]

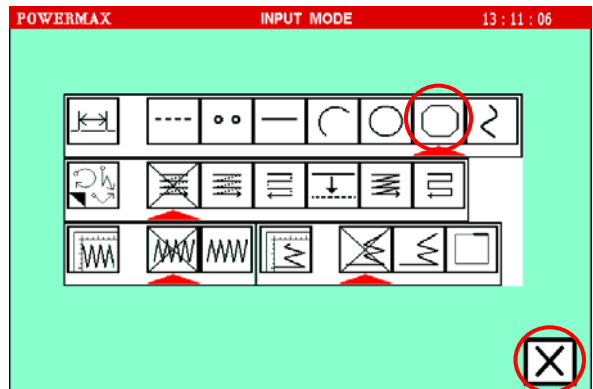
**1** Setting Point A position


- Press the direction keys to move needle from home position (H) to Point A.
- View the remove amount.
- Press  key to set Point A.



**2** Switching input method setting





- Press  key to enter the pattern setting screen. select  key to input.
- When the  key points to the curve input. Touch  to confirm and return to the pattern data drawing screen.

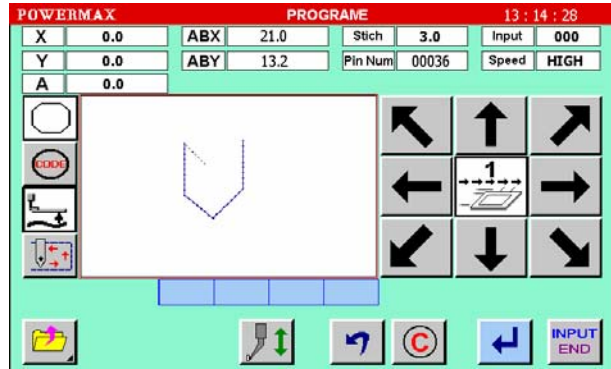



**Caution:** Because the curve input is different from another kinds of input, therefore add  on curve creating screen to ensure the end of curve input.

**3** Inputting stitching from point B to Point E





- Press the direction keys and move needle from Point A to Point B.

- Press  key to set Point B.
- Press the direction keys to remove needle from Point B to Point C.
- Press  key to set Point C.
- Press the direction keys to remove needle from Point C to Point D.
- Press  key to set Point D.
- Press the direction keys to remove needle from Point D to Point E.
- Press  key to set Point E.




4 Press the  key again to generate the pattern.

5 Storing pattern data

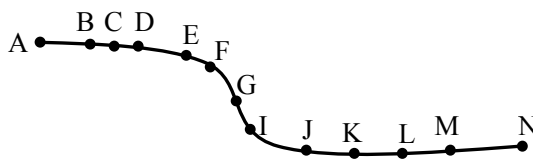
**Caution: Polygon input is similar with the curve input. Press  to set common points. When set end point, press  and  to confirm the end of polygon input. When end of polygon input, press  to see the creating pattern.**

### 5.1.6 POINT INPUT

[Operation points]


1) Set Point E input (.

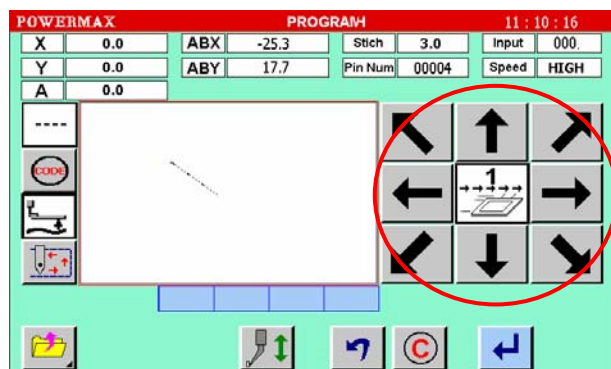
[Example] The following type of pattern data will be created.







[Operation details]

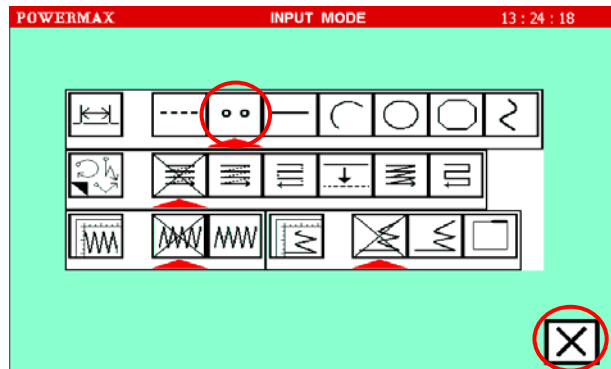
1 Setting Point A position

- Press the direction keys and move needle from home position (H) to Point A.
- View the remove amount.
- Press  key to set Point A.





2 Switching input method setting

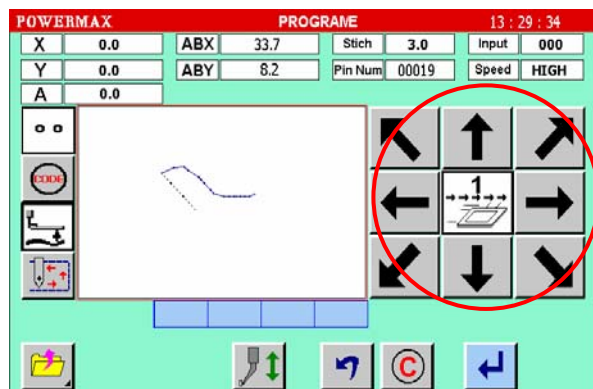
- Press  key to enter the pattern setting screen. Select  key to input.
- When the  key points to the curve input, Touch  to confirm and return to the pattern data drawing screen.



**Memo: The distance between the points must be within 12.7mm.**

### 3 Inputting stitching from point B to Point N


- Press the direction keys and move needle from Point A to Point B.
- Press  key to set Point B.
- Press the direction key to remove needle from Point B to Point C.
- Press  key to set Point C.
- Input point from C to N separately in the same manner as shown above.
- Return to pattern data drawing screen after confirming.

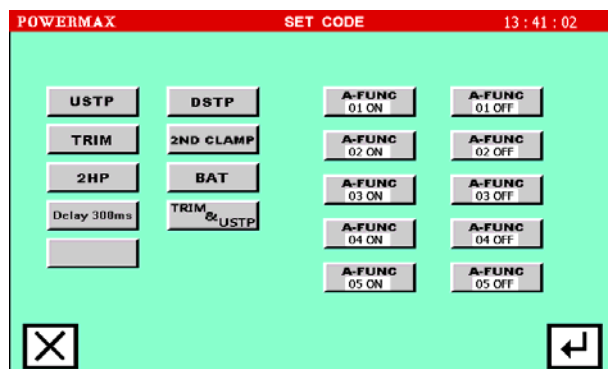


### 4 Storing pattern data

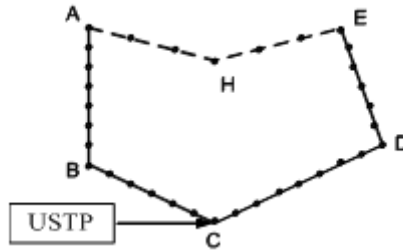
#### 5.1.7 CODE DATA INPUT

[Operation points]

- 1) Designate code data input (.
- 2) Select code data according to the below list.



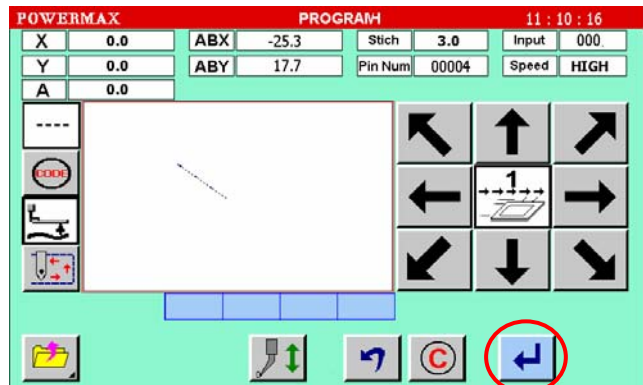
[Example]: As the following type of pattern data, insert <USTP> between two straight lines.



[Operation details]

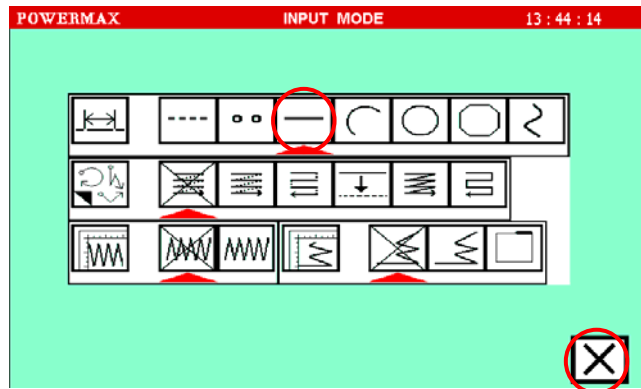
**1** Setting Point A position

- Press the direction keys and move Needle from home position (H) to Point A.
- View the remove amount.
- Press key to set Point A.



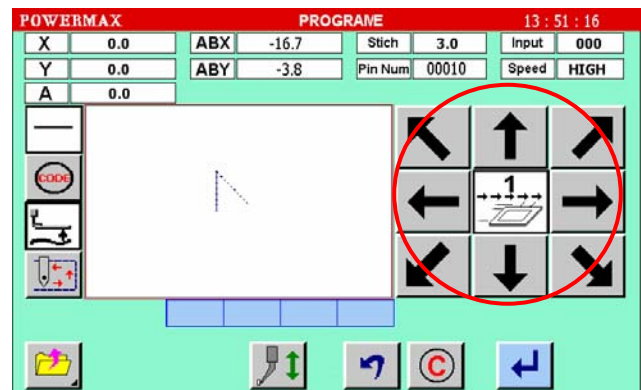
**2** Switching input method setting

- Press key to enter the pattern setting screen. Select key to input.
- When the key points to the curve input, key is pressed to set and return to the pattern data drawing screen.




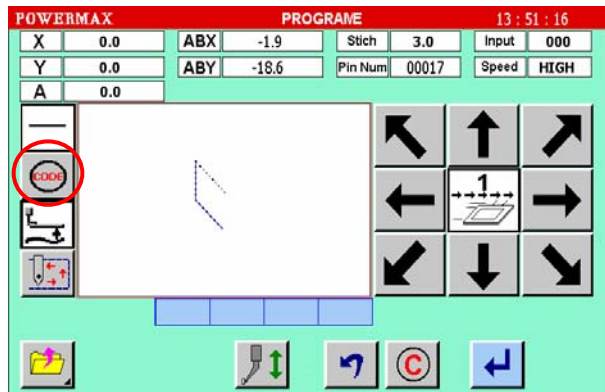
**3** Inputting stitching from point B to Point

- Press the direction keys and move needle from Point A to Point B.
- View the amount of movement.
- Press key to set Point B.
- Press the direction key to remove needle from Point B to Point C.
- Press key to set Point C.





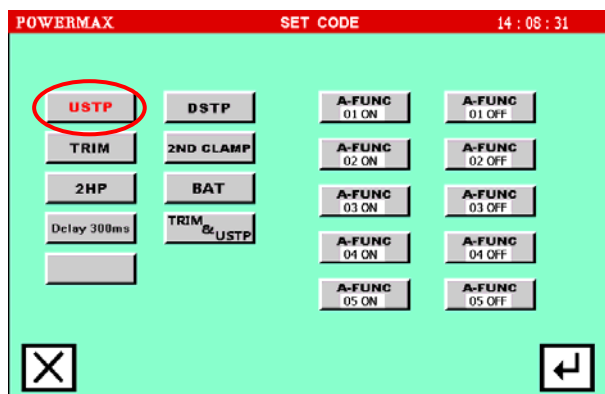
#### 4 Inputting the code data at the Point C (USTP)

- When needle stops at Point C,  
code data is input and touch 





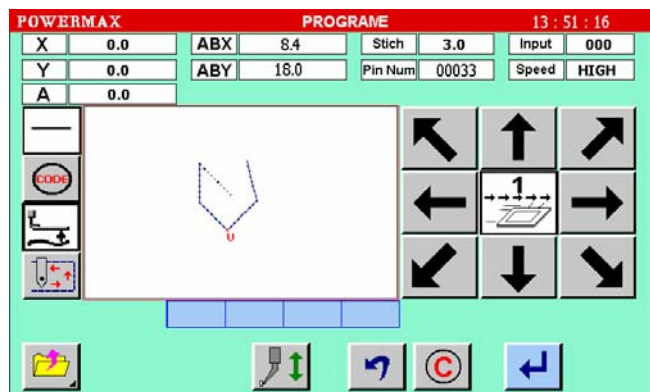
#### 5 Selecting USTP

- Press  key.
- Press  to set the code. (The "NEEDLE UP HALT" code will be created.)
- The system will return to the arrow input screen.



#### 6 Inputting a linear line from Point C to Point D and from Point D to Point E

- Press the direction keys and move needle from Point C to Point D.
- View the amount of movement.
- Press  key to set Point D.
- Press the direction key to remove needle from Point D to Point E.
- Press  key to set Point E.











#### 7 Storing pattern data

### 5.2 APPLICATION INPUT

Various types of stitching, including start/end back tacking, terminal reinforcing, multiple stitching, offset stitching and zigzag stitching can be inputted. Various types of stitching data can be created easily by combining the basic inputs and these types.

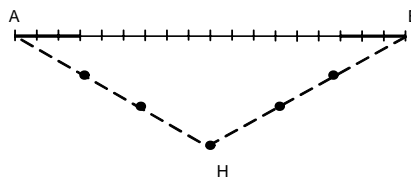
**Caution: The back tacking, multiple stitching, offset stitching and zigzag stitching input cannot be combined with point inputs to input data.**



Function	Explanations
<b>Back tacking</b>	 Start/end back tacking
	 Overlap back tacking
<b>Multiple stitching</b>	 Multiple stitching (Feed data specifications)
	 Multiple stitching (stitching specifications)
	 Reverse multiple stitching (feed data specifications)
	 Reverse multiple stitching (stitching specifications)
<b>Offset stitching</b>	
<b>Zigzag stitching</b>	


### 5.2.1 BACK TACKING (START/END BACK TACKING)

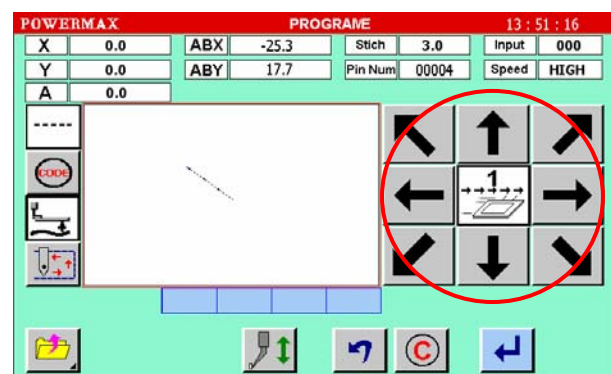
[Example] With the linear input, the N mode and 3-stitch back tacking will be inserted for both the start and end of stitching. (The bold sections indicate start/end back tacking.)



[Operation details]

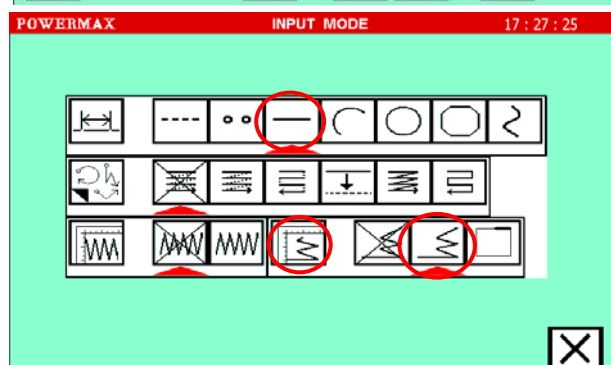
#### 1 Setting Point A position

- Press the direction keys and move needle from home position (H) to Point A.
- View the amount of movement.
- Press  key to set Point A.






#### 2 Setting the input method









- Set the sending feed data from the home position to the point A with the procedures for linear input, and open

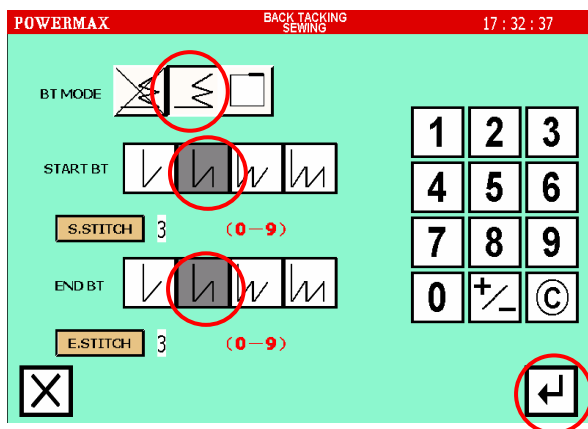


the input method setting screen.


- Press linear input 
- Press back tacking 
- Press the back tacking details setting key 

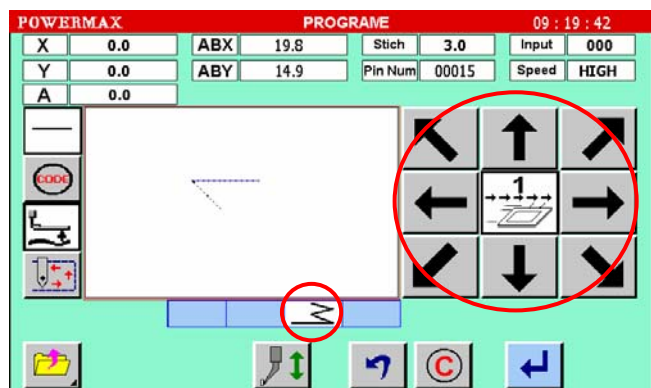
### 3 Setting the back tacking details

- The details are set on this screen. The details set  here are (start/end back tacking), start  key Setting <bent pin to start> (N mode). Press  key to set start stitch, and use numeric key to set the number of start stitches = 3.
- Press  key to confirm.
- Start  key Setting <bent pin to end> (N mode), press  key and use numeric key to set end stitches = 3.
- Press  to confirm.
- Return to input method setting screen.
- Touch  key to confirm.
- Return to the pattern data drawing screen.



### 4 Inputting stitching from point A to Point B


- Press the direction keys and move needle from Point A to Point B.
- View the amount of movement.
- Press  key to set Point B.





### 5 Saving pattern data


**Memo:**

1) Regarding back tacking mode

 V mode: Back tacking will be performed only once.

 N mode: Back tacking will be performed twice.

 M mode: Back tacking will be performed third.

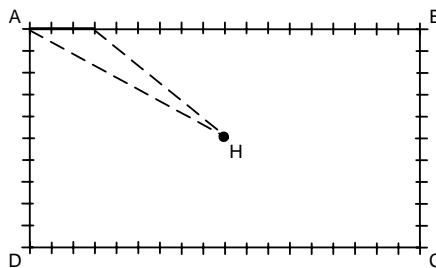
 N mode: Back tacking will be performed fourth.

2) Regarding number of stitches

Press the **S.STITCH** key or **E.STITCH** key, and use numeric key to input back tacking stitches.

**5.2.2 OVERLAPPING SEAM INPUT**

[Example] The following type of pattern data will be created. Input a rectangle as a broken line, and then insert overlap back tacking at the end. (The overlap mode is entered once; three overlap stitches are made.)



**Caution: It is a shutting figure in the figure made in [Broken line], [Circle], [Arc], [Curve] to be able to do multiple back tacking.**

[Operation details]

1 Setting Point A position (See 5.1.1)


2 Setting the input method

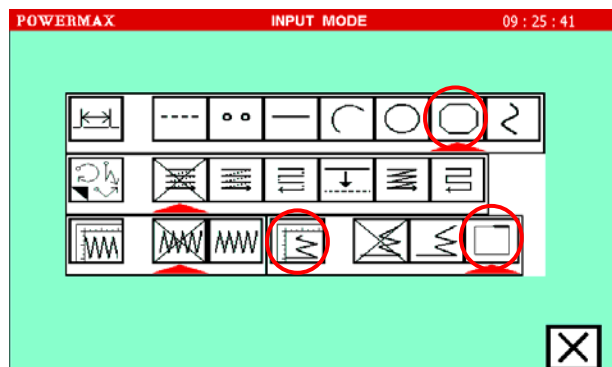
• Set the sending feed data from the home position to the Point A with the procedures for broken line input, and open the Input Method Setting screen.

• Press broken Line Input 





• Press overlapping seam 

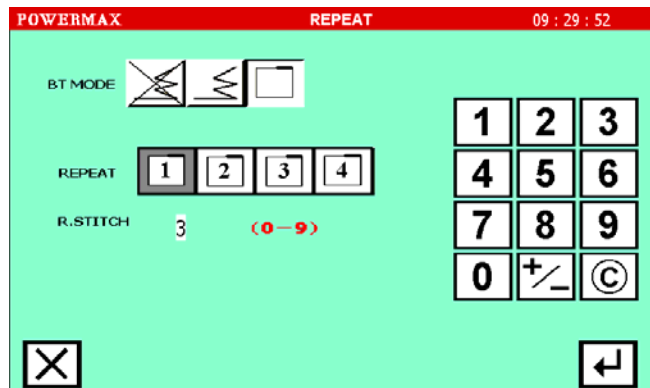
• Press the back tacking details

• setting key 







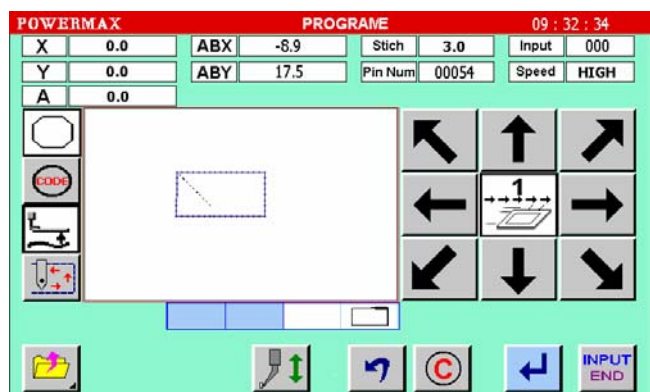
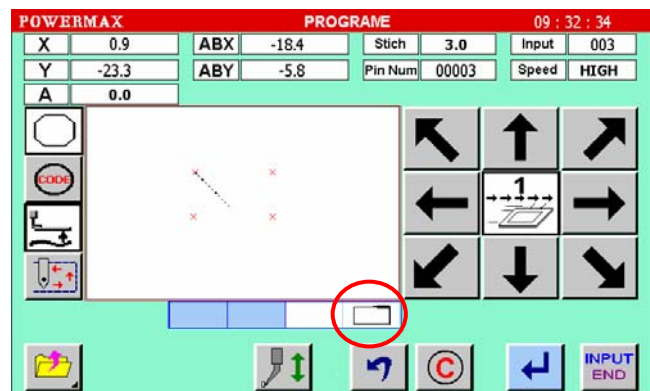
### 3 Setting the Overlapping seam details

- The details are set on this screen. First select <bent pin mode>,  (Overlapping seam), Then set the number of overlapping seam , overlapping stitches are three.
- Press  to set.
- The system will return to the input method setting screen.
- Press  to determine these set values.
- The system will return to the pattern data drawing screen.



### 4 Inputting stitching from point A to Point D





- Press the direction keys and move needle from Point A to Point B.
  - Press  key to set Point B.
  - Press the direction key to remove needle from Point B to Point C.
  - Press  key to set Point C.
  - Press the direction key to remove needle from Point C to Point D.
  - Press  key to set Point D.
- 5 Press the  key again to set the pattern.



### 6 Saving pattern data

#### Caution:


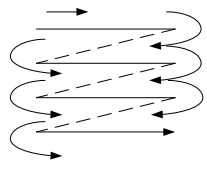

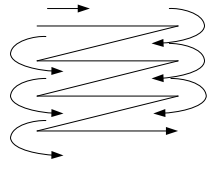

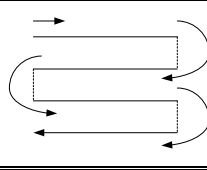

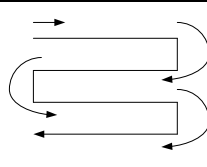
1) The number of overlapped sections

    in the overlap mode indicate the number of overlapped sections.

2) Number of overlap stitches

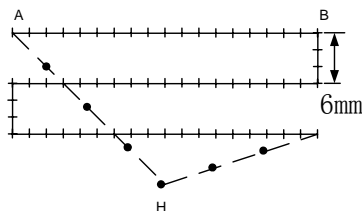
This is the number of stitches at the overlapped section. (Set a value between 0 and 9.)

### 5.2.3 MULTIPLE STITCHING INPUT

Type	Mode	Key	Stitching data image	Explanations
Multiple	Feed data			"Stitching" in a set direction is connected with "feed without stitching".
	Stitching			"Stitching" in a set direction is connected with "stitching".
Reverse multiple	Feed data			"Stitching" in alternating reverse directions is connected with "feed data".
	Stitching			"Stitching" in alternating reverse directions is connected with "stitching".


**Caution:** ( ..... ) in the image indicates "feed data". ( ——— ) in the image indicates "stitching".

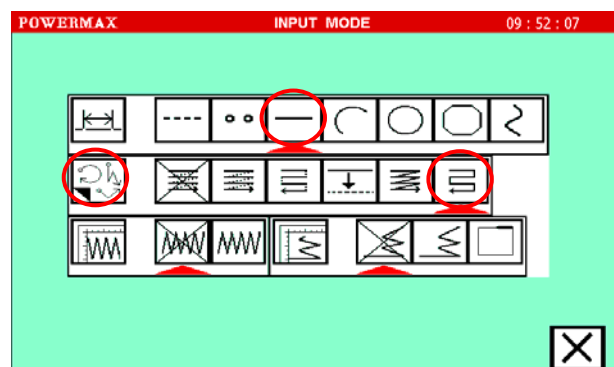
[Example] The following type of pattern data will be created.





Create the linear reverse multiple (stitching specification) data. (The multiple distance is 6mm, the number of times is three, the direction is right.)

[Operation details]




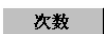


- 1 Setting the Point A position (see 5.1.1)
- 2 Setting the input method
  - Press linear input key 
  - Press reverse multiple (stitching

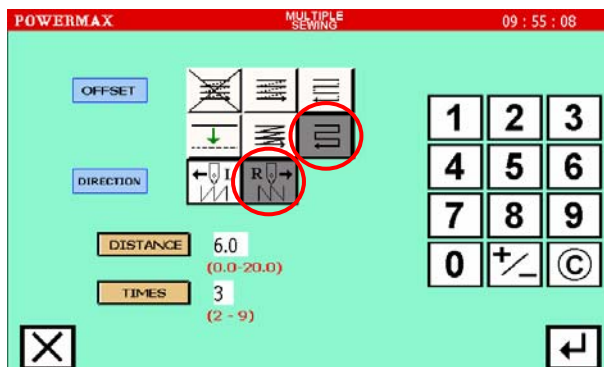


specifications) 

- Press the reverse multiple details key 
- Set the reverse multiple stitching details.

### 3 Setting the reverse multiple stitching details

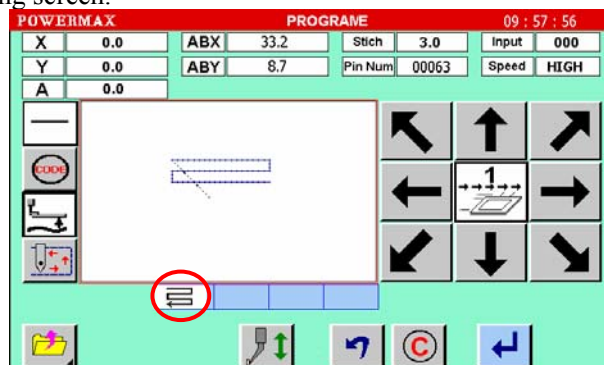
- Select the multiple mode, and press  key (reverse multiple (sewing)).
- Select the multiple directions, and press  key (right side).
- Press  key, set the distance to 6.0 by using numeric key; press  key, set the number of times to 3 by using numeric key.
- After inputting the details, press  to set the data.
- Press  key screen to return to pattern data drawing screen.



### 4 Inputting stitching from Point A to Point B


- Press the direction keys and move needle from Point A to Point B.
- View the amount of movement.


### 5 Saving pattern data



#### **Memo:**

##### 1) Direction

When creating multiple stitching to the left of the input stitching line, press  key (left side).

When creating multiple stitching to the right of the input stitching line, press  key (right side).

##### 2) Distance

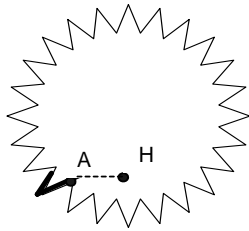
This is the distance between the multiple stitching and adjacent line. Set between 0.0mm and 20.0mm. To input the distance data, press the DISTANCE key, then use the numeric key.

##### 3) Number of times

Set the number of multiple stitching layers. Set between 2 and 9. To input the number of times, press the DISTANCE key, then use the numeric key.

## 5.2.4 ZIGZAG STITCHING (WITH OVERLAPPING SEAM)

[Example] The following type of pattern data will be created. Input zigzag stitching with overlap back tacking as circle. (The zigzag deflection width will be 5.0mm the feed amount (stitch length) will be 3.0mm, the direction is left, the overlap back tacking mode will be carried out once, and two overlap stitches will be made.)



The bold section is the overlap back tacking section.

[Operation details]

**1** Setting the Point A position (see 5.1.1)

**2** Setting the zigzag input

- Set the feed data from the home position H to the point A with the procedures for broken line input, and open the input method setting screen.

- Press circle input key

- Press key to change the stitch

length, enter the stitch length screen and use numeric key to input stitch length.

- Press zigzag key

- Press to set the application input details.

**3** Setting the zigzag details

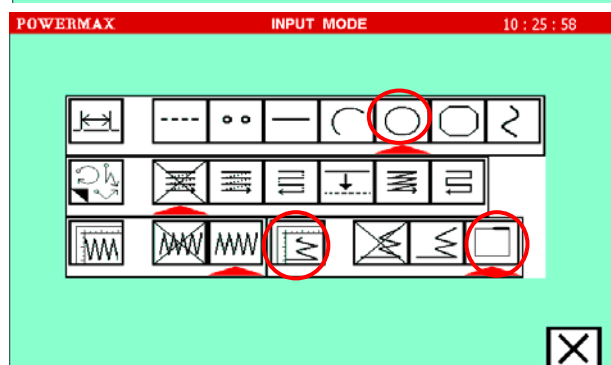
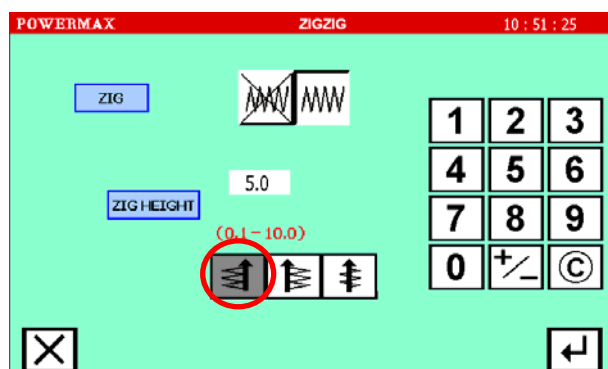
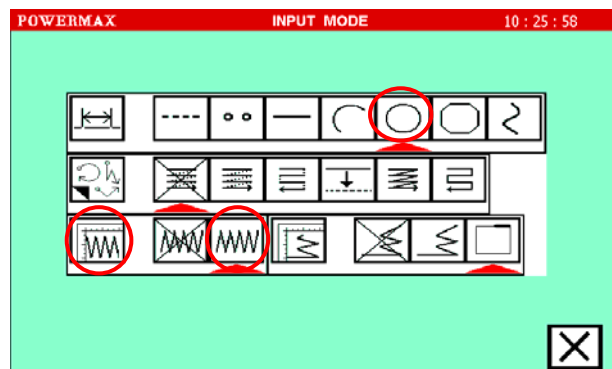
- The details are set on this screen.



Use numeric key to set the deflection width to 5.0.

- Press key to set deflection direction (left side).

- Press to set the data.



**4** Setting the overlapping seam details





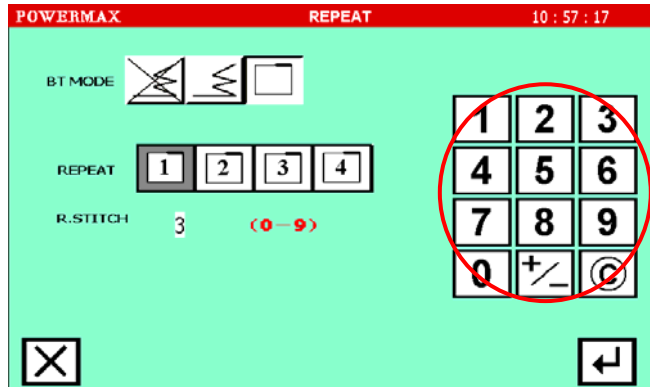
- Press overlapping seam key 
- Press overlapping seam detail setting key 

- The details are set on this screen.

First select the type of key

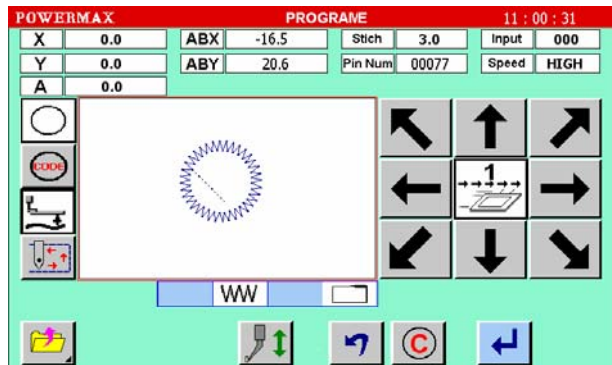
 (Overlapping seam). Then set the number of overlaps , two overlap stitches.

- Press  to set the data.
- The system will return to the input method setting screen.
- Press  to determine these set values.
- The system will return to the pattern data drawing screen.



## 5 Circle stitching

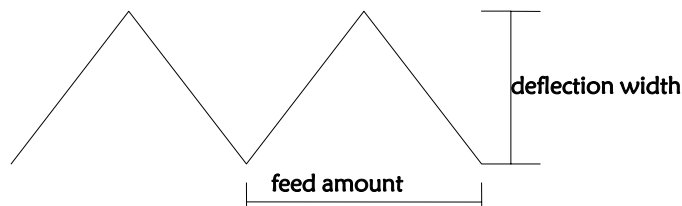
- Carry out circle stitching according to 5.1.3.
- Return to pattern data drawing screen after confirming.



## 6 Saving pattern data

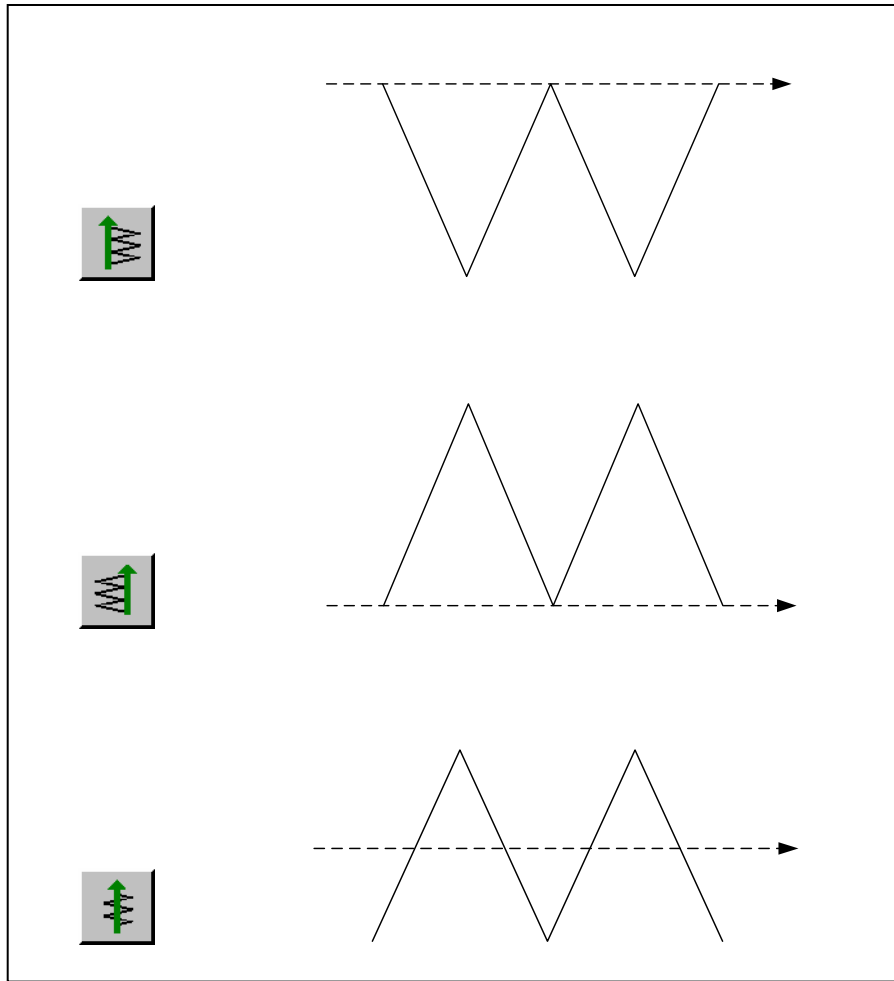
### Memo:


- 1) The zigzag deflection width can be set in 0.1mm increments between 0.1 and 10.0mm.)
- 2) The zigzag feed amount can be set in 0.1mm increments between 0.5 and 10.0mm.)
- 3) Deflection width, feed amount and creation direction (feed amount= stitch length)





Direction:



When the direction of making is made "Center" , does not become a zigzag pattern data if "width of the shake" is 0.1mm. Please set "width of the shake" to 0.2mm or more, or whether to do the direction of making is other than "center".

### 5.3 TABLE OF STITCHING TYPE COMBINATIONS

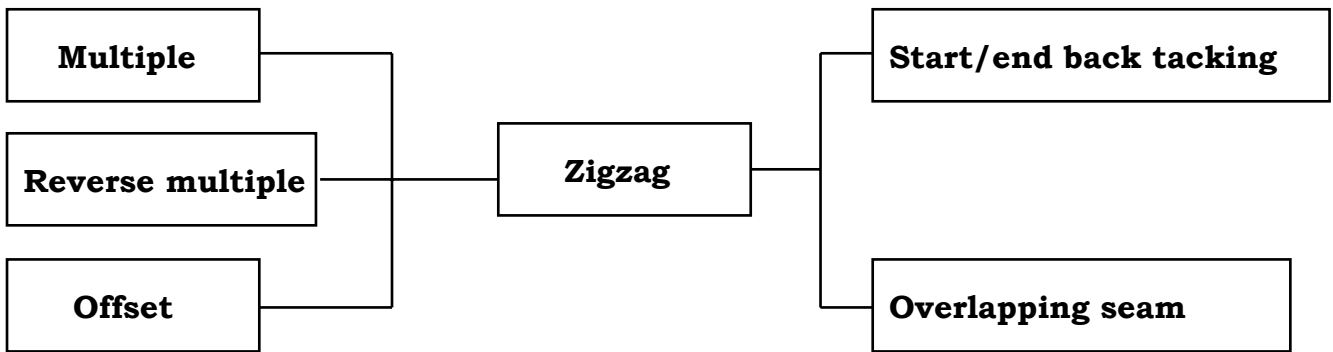
Basic input	Application input					
	Multiple	Reverse multiple	Offset	Zigzag	Start/end back tacking	Overlap back tacking
Linear	●					
		●				
			●			
				●		
					●	
						●
	●				●	
	●					●
	●				●	●
			●		●	

		●			●	
		●		●	●	
			●	●		
			●			
			●	●	●	
				●	●	
Arc	●					
		●				
			●			
				●		
	●			●		●
	●					●
	●			●		●
		●		●		
		●				●
		●		●		●
			●	●		
			●			●
			●	●		●
				●		●
Circle	●					
		●				
			●			
				●		
					●	
	●			●		
	●					●
	●					●
	●			●		●
	●			●		●
		●		●		
		●				●
		●				●
		●		●		●
		●		●		●
			●	●		
			●			●
			●	●		●
Curve	●					
		●				
			●			
				●		

				●	
					●
●			●		
●				●	
●					●
●			●	●	
●			●		●
	●		●		
	●			●	
	●				●
	●		●	●	
	●		●		●
		●	●		
		●		●	
		●			●
		●	●	●	
		●	●		●
			●	●	
			●		●
			●	●	
			●		●
				●	
					●
<b>Broken line</b>	●				
		●			
			●		
				●	
					●
●			●		
●				●	
●					●
●			●	●	
●					●
●			●		●
	●		●		
	●			●	
	●				●
	●			●	
	●		●	●	
	●		●		●
		●	●		
		●		●	








			•			•
			•	•	•	
			•	•		•
				•	•	
				•		•
<b>Point</b>	<b>Combination inputs with application inputs are not possible.</b>					

Combined pattern:



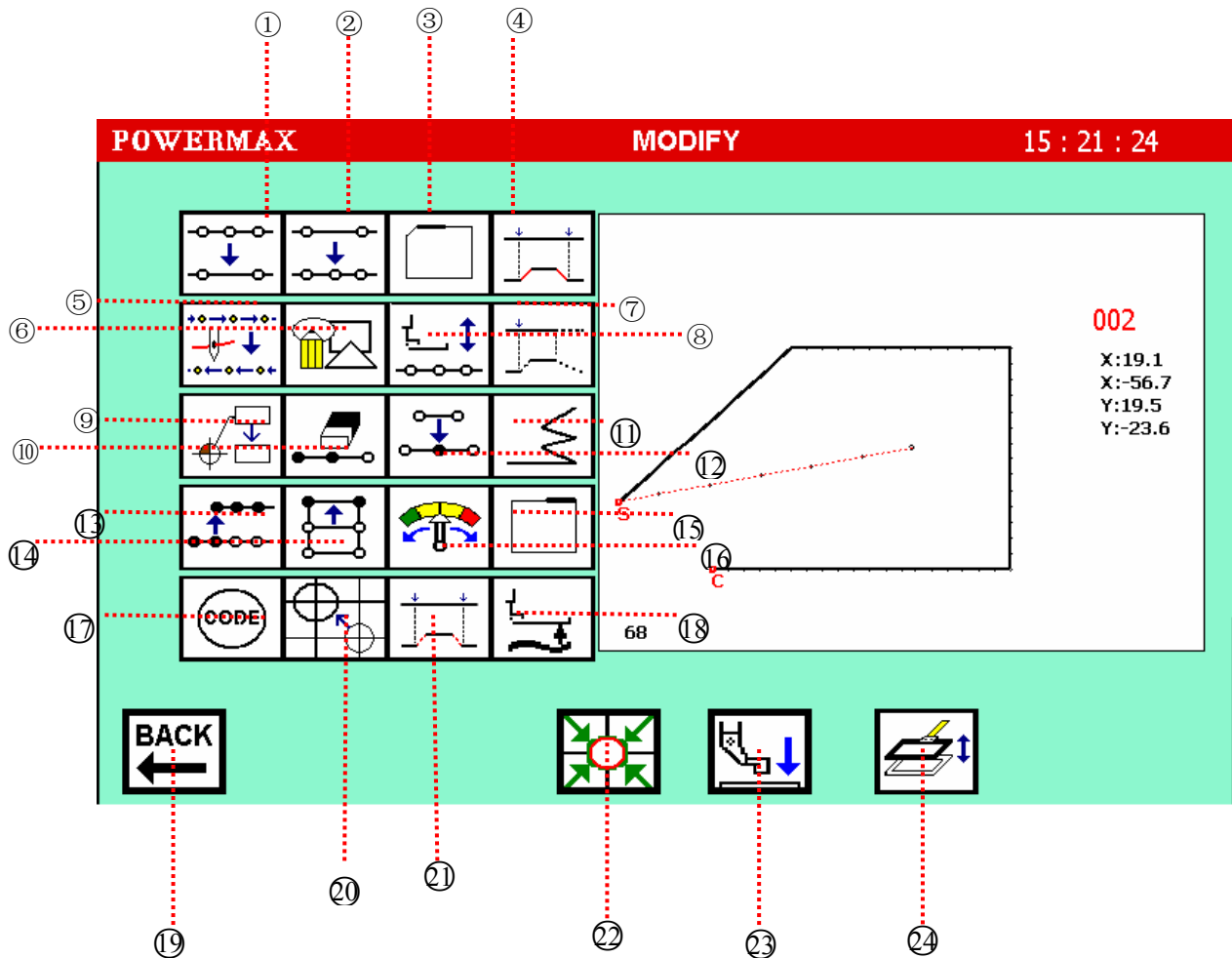
## 6 PATTERN DATA MODIFICATION

### Main modification mode functions

	Function	Key	Details	Details setting
 stitch	<b>Movement to stitching start position</b>		The stitching start position moves.	
	<b>Stitch addition</b>		Data for one stitch is added at designated position	
	<b>Delete</b>		Deletes the designated stitch.	
	<b>Stitch position modification</b>		The position of the stitch is modified	 <After modification position> fixed  Relative movement

	<b>Block movement</b>		Data in a designated range is moved.	<Prior/Subsequent data> <b>Change</b> Add new stitch in between
	<b>Block modification</b>		The area between two points to be modified is modified with linear, broken line, arc, curve, zigzag or feed data.	
	<b>Second home position modificatino</b>		Only use in the pattern with the second home position.	
	<b>Code</b>		Code data is added to or deleted from designated stitch position.	Add Delete

### Pattern file modification screen



- ① Delete the current stitch (pattern unchanged, see 6.2).
- ② Add stitch (pattern unchanged see 6.1).
- ③ Overlapping seam (also known as the first reinforcement, overlapping seam portion before the beginning).
- ④ Block translation (Note: using the sewing instead of the part of translation).
- ⑤ Skip stitch.

- ⑥Pattern programming.
- ⑦Block movement . (Note: the front do not change but the behind change)
- ⑧Sewing direction is reversed.
- ⑨Seam starting point.
- ⑩Stitch deletion (pattern changes, see 6.6).
- ⑪Add start or end back tacking (see 6.3).
- ⑫Additional stitch (pattern changes, see 6.7, 6.8) (see 6.18,6.19).
- ⑬Stitch position modification (see 6.9,6.10).
- ⑭Block modification(see 6.11,6.12,6.13,6.14).
- ⑮Add overlapping seam (see 6.4). (Note: The normal reinforcement, also called after reinforcement, overlapping seam portion after the starting point)
- ⑯Speed override modification (see 6.15).
- ⑰Modify additional functionality (see 6.16,6.17).
- ⑱Presser foot adjustment.
- ⑲Back key.
- ⑳Starting seam point and the second origin modify (see 6.18,6.19).
- ㉑Block movement (see 6.20,6.21). (Note: sending feed instead of translation section)
- ㉒Back to home button

Touch this button can make the running sewing machine needle back to home.(Where home refers to the location in the sewing head mounted photoelectric sensor).

- ㉓Presser foot rise / fall

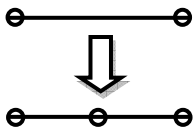
Touch this button once, the presser foot falls; Touch again, the presser foot rises.

- ㉔Plate lift / drop

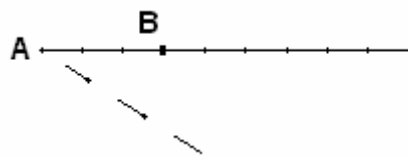
Touch this button once, platen pressure; Touch again to lift the load plate.

### 6.1 ADD A STITCH(ORINGINAL PATTERN UNCHANGED)

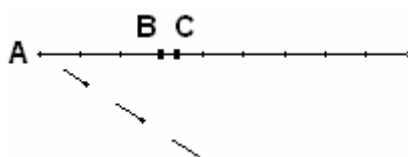
Add a needle between the two stitches, pattern original shape does not change.



For example: the use of add a stitch functionality to modify the Figure ① to Figure ② , add point C behind point B, the distance is about 2mm .





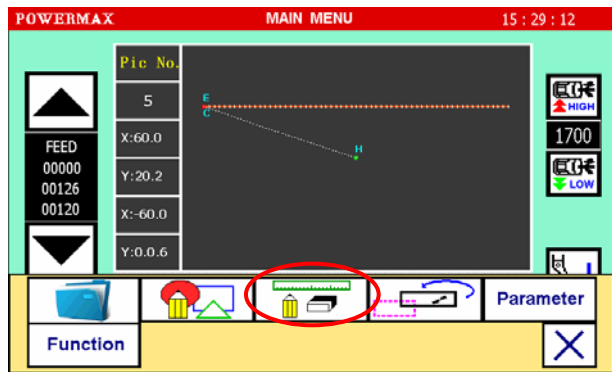
图①




图②

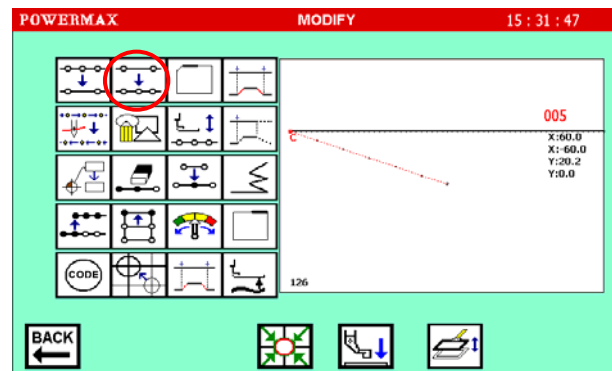
[Operation details]

① Select the file you want to modify in the main menu screen, touch  and  to enter the pattern file modification screen.

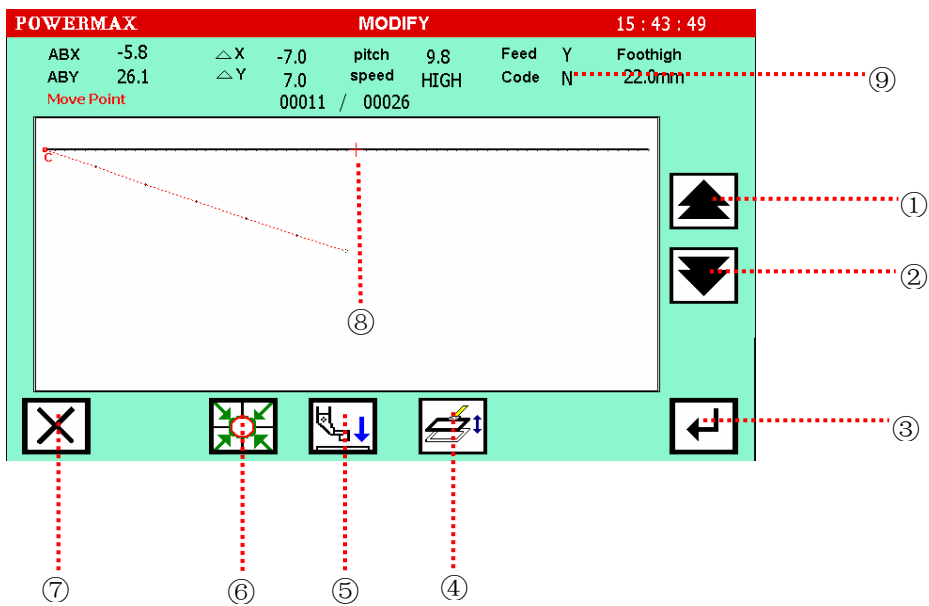


② Select the function of addition stitch.

- Touch addition stitch function key  .enter the modify jogging screen



③ Enter jogging positioning page .The Needle is moved to the modification position.



①Continuous jogging forward

Hold down, let go, the needle moves forward a stitch connected to a stitch along with the pattern by continuous operation.

②Continuous jogging backward

Hold down, let go, and the needle moves back a stitch connected to a stitch along with the pattern by continuous operation.

③Confirmed the position. Enter the add a stitch screen.

④Platen lift / drop

Touch this button once, flapper pressure; Touch again to lift the load plate.

⑤ Presser foot rise / fall

Touch this button once, the presser foot fall; Touch again, the presser foot rise.

⑥ Back to home button

Touch this button can make the running sewing machine needle back to home. (Where home refers to the location in the sewing head mounted photoelectric sensor).

⑦ Return modify function selection screen.

⑧ Current needle position identification

⑨ Status of each stitch.

**ABX/ABY** The absolute coordinates of X / Y direction (Origin as the coordinate origin)

**X增量 / Y增量** X/Y incremental coordinates




**针距** Display the current stitch length

**速度** Display the current speed override





**空移** Display the current status is sewing, or sending feed state. If it is sending feed, the back display Y; If it is sewing state, the back display N.

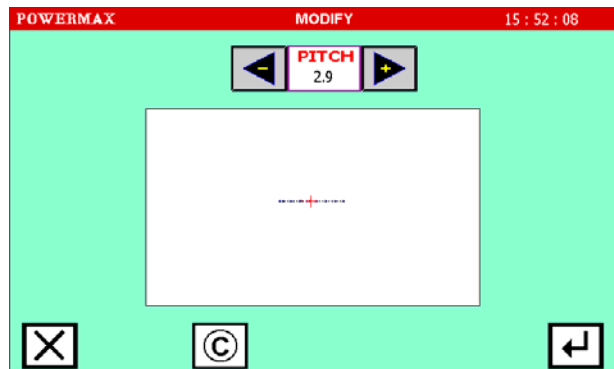
**代码** Displays the current stitch whether joined the secondary origin、trimming、needle pause, pause under the needle and other auxiliary functions. If there are additional inputs, the back display Y; If not, the back display N.

**00011 / 00026** Displays the current stitch / total stitch.

- With keys  /  move the needle to point B (to append stitch position).
- Touch  to confirm. Enter the add a stitch detail settings.

**4** Set the function of adding a stitch.

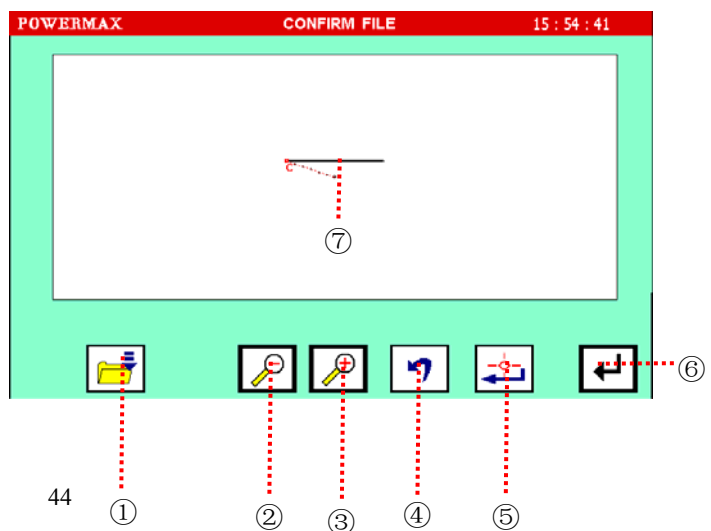
- With keys  /  to confirm the distance between the current position. Set here to 2.9mm.
-  is the key to cancel.
- Touch  to confirm. Enter the pattern confirmation status.



**5** Confirming pattern






① Pattern for saving again. After the pattern file is modified, it will be saved again. The Original pattern unchanged.

② Narrow pattern.



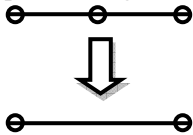


- ③Enlarge pattern.
- ④Cancel the operation and return to jogging page.
- ⑤Confirming key.
- ⑥Enter key.
- ⑦Display the stitch that has added.

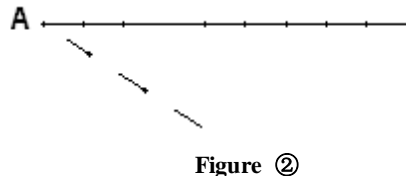
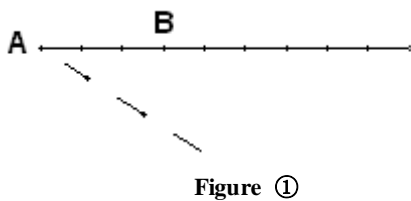
- Use  /  to Narrow / Enlarge pattern, view the pattern whether to meet the requirements.
- After confirming, you can touch  to save file as other name, the original pattern does not change ;You can also touch  directly to save the file in the original file.
- Touch  to cancel the previous operation, return to the jogging positioning page.

## 6.2 DELETE THE CURRENT STITCH (ORIGINAL PATTERN UNCHANGED)

This function only deletes the current stitch, pattern original shape does not change.



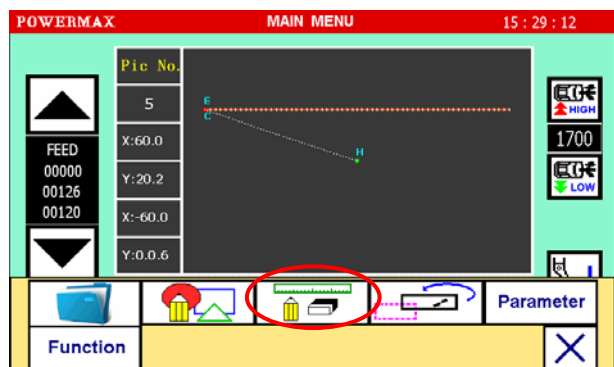
For example: Use the function of deleting the current stitch to modify the figure① to figure②. Remove the point B in figure①.




: After deleting the stitch, if the stitch length is more than 12.7mm, then system sends the alarm .Therefor, please make sure that the operation is carried out under the modified stitch length no more than 12.7mm case.

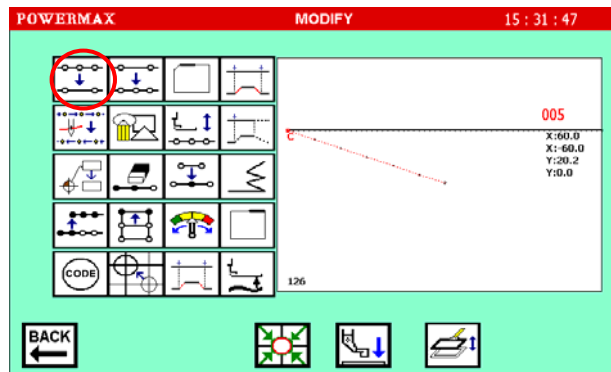
[Operation details]

- 1 Touch  and  on main menu screen to enter the modification mode.






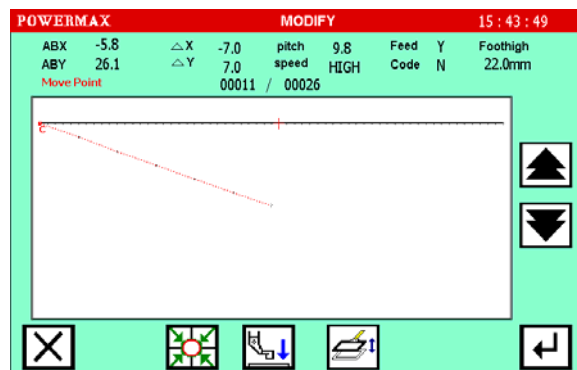
2 Select the function of deleting the current stitches.

- Touch the function of deleting the stitch key . Enter the modified jogging screen.





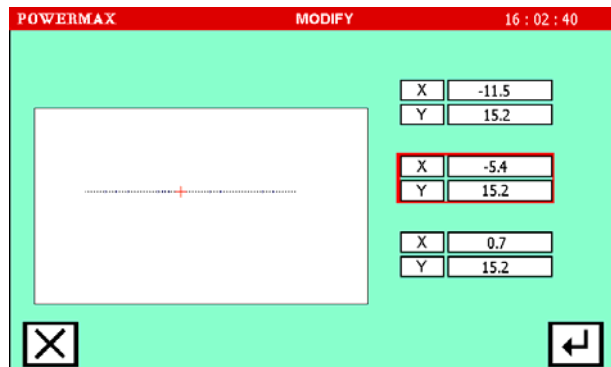
3 Enter the screen of jogging orientation and move the needle to the position you want to modify.

- Use  /  to move the needle to point B (To delete the position).
- Touch  to confirm. Enter the screen of deleting the stitch detail settings.





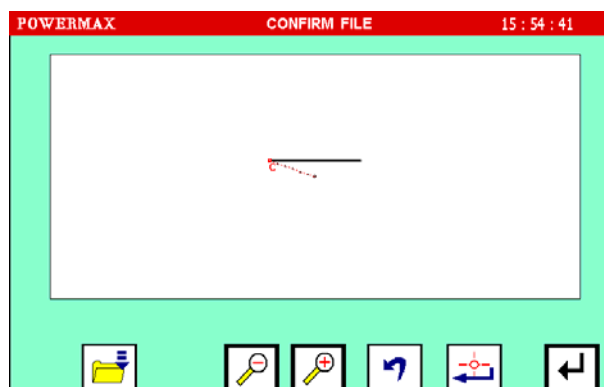
4 Confirm the coordinates of deleting stitch.


- On the picture the coordinate is ringed with a red box is the current coordinates of needle stop position.
- Confirm to delete marked stitch, please touch the key  and enter the fifth step.
- Don't delete, touch  to return.




5 Confirm the pattern data .

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.



- After confirming, you can touch  to save file

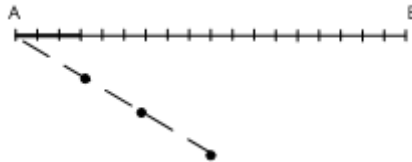
In the original position.

- Touch  to cancel the previous operation, and return to the Jogging page.



### 6.3 ADDING BEFORE BACK TACKING OR AFTER BACK TACKING

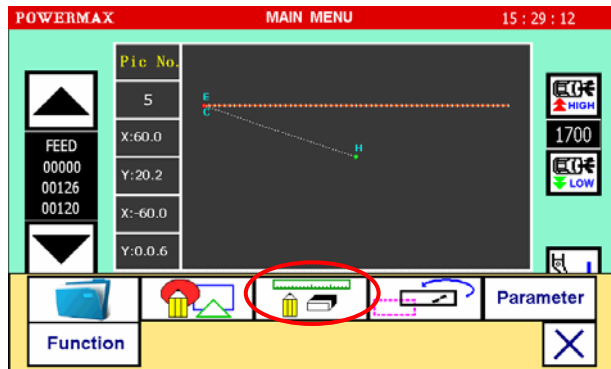
Select this function can only add one type back tacking.

Example: In front of linear sewing add three N-shaped stitches. (Thick part is back tacking)

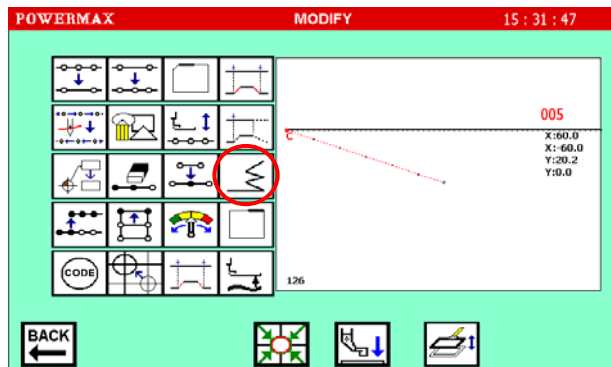


[Operation details]



- 1 Touch  and  on main menu screen to enter the modification mode.




- 2 Select add back tacking function

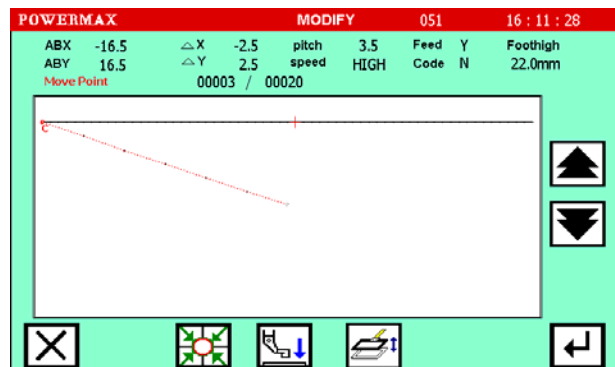


- 3 Enter the screen of jogging orientation and move the needle to the position you want to modify.


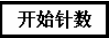

- Use the key  /  to move the needle to the place where you want to add back tacking.

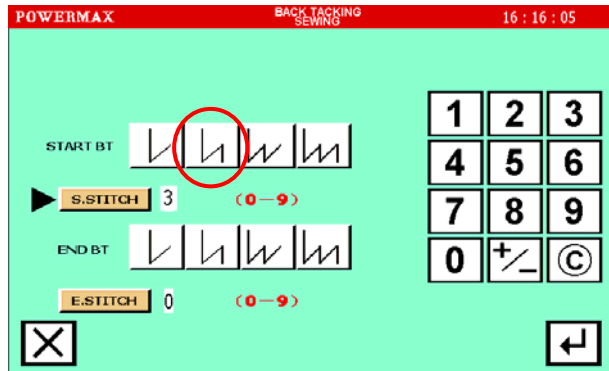
Touch the key  to confirm

and enter the detail settings of before back tacking and after back tacking.







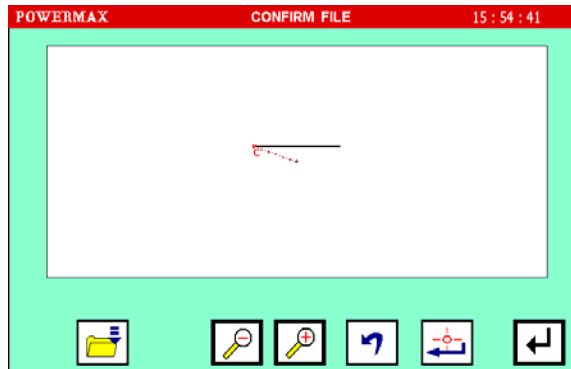
**4** Set the parameters of back tacking

- Touch  to set <bent pin Start> as N-shaped back tacking
- Touch the key  to set the beginning number of stitches, set the starting stitch number as 3 with the numeric keys.
- Touch  to confirm. Enter the viewing pattern screen.



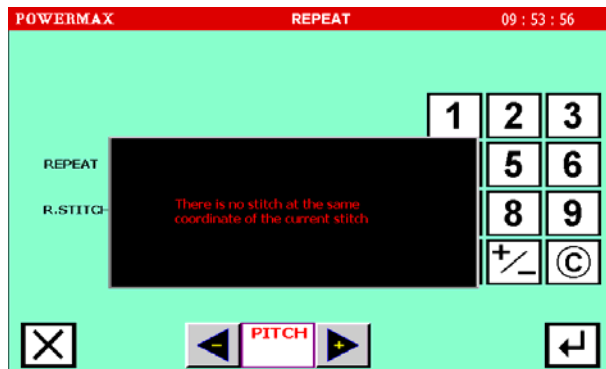
**5** View the pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and return to the Jogging page.

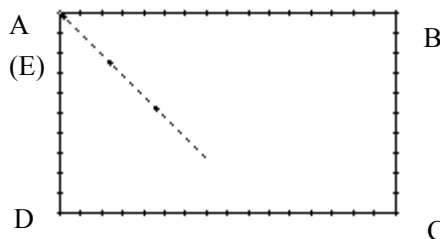


**6.4 ADD OVERLAPPING SEAM**

Overlapping seam is only used in the case of the two stitches at the same position in the pattern file. Otherwise, the system displays the following prompt screen:



For example: In the figure below to add overlapping seam pattern.




Pattern Analysis:




In the rectangular ABCDE, starting point A and end point E are coincident with the each other, therefore, please add overlapping seam at the point A (E).

[Operation details]

- 1 Enter modification screen and select overlapping seam

- Touch  to add overlapping seam.


- 2 Selected position

- Use the keys  /  and move the needle to the place where you want to add overlapping seam. (It is the starting point, since the start point and end point of the pattern are overlapped, the condition of adding overlapping seam is met) .
- Touch  to confirm. Enter the overlapping seam detail settings.


- 3 Set overlapping seam

- Set the details in this screen.

First select <bent pin mode>,



touch  (overlapping seam) ,

then set the stitch number of

overlapping  , set the

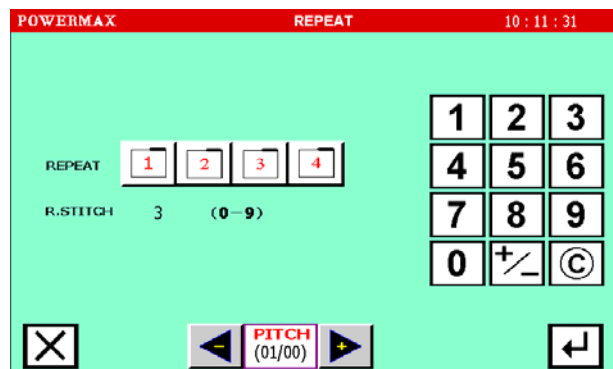
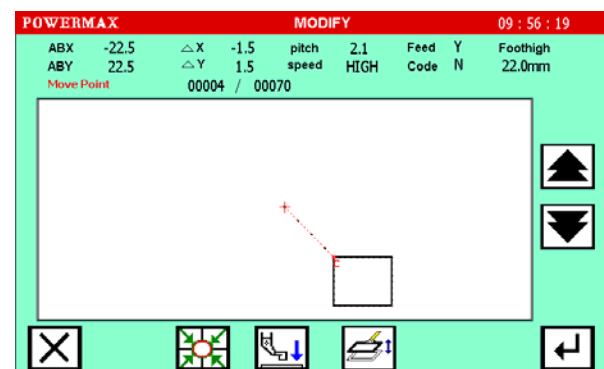
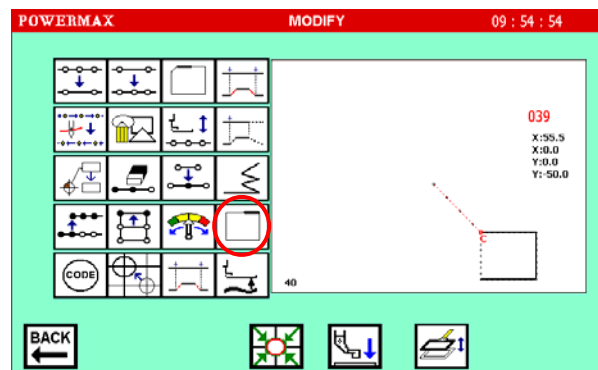
number of overlap as 3 with

the numeric keys.



- Touch  to confirm.
- Return to the input method setting screen.
- Touch  to confirm.

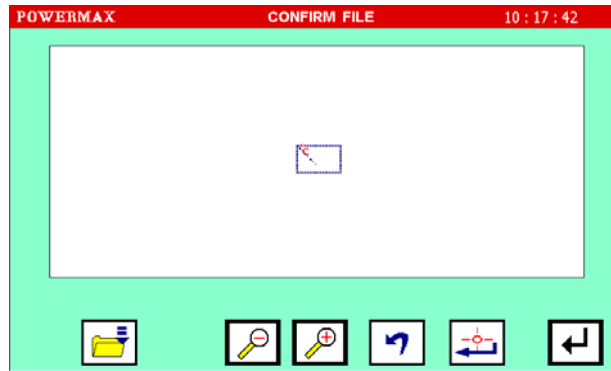
- 4 View pattern

- Use  key or  key to Narrow / Enlarge



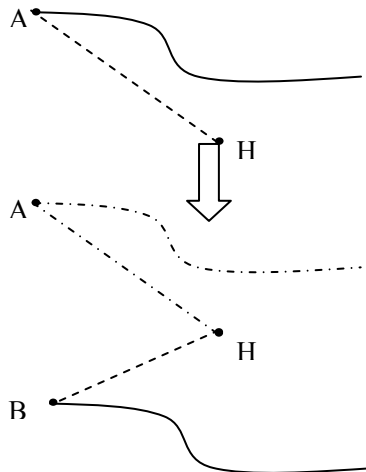
pattern. Viewing the pattern whether to meet the requirements.

- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.




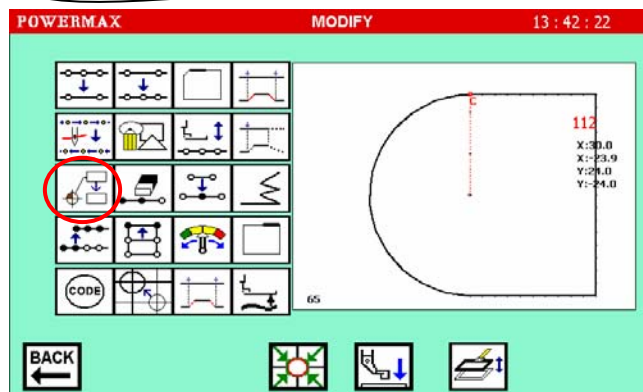
### 6.5 MODIFY FROM THE BEGINNING SEAM POSITION

For example: The starting position of the next stitch pattern chart data changes from point A to point B.



[Operation details]



- 1 Enter modification selection screen and select the key of beginning seam position moving
- Touch the Key of beginning seam position moving  .

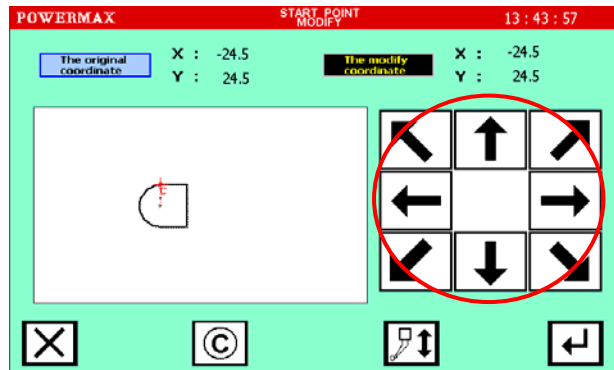


**Caution:** Touch button and the needle will automatically move to point A where the sewing starts position, so please pay attention to the needle stop position.

- 2 Move to the modified sewing starting position
- Touch the arrow keys and move





the needle to point B.

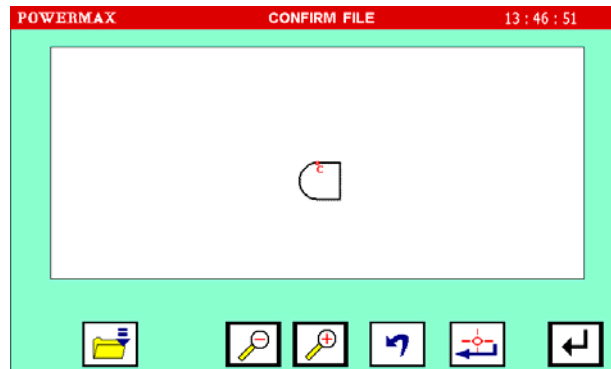
- Touch  to confirm.
- If you touch  before confirming, since the operation of modifying the position of the sewing starting is not performed, you'll return the previous screen.



**Caution: The work holder will automatically move to the home position. Take care when the needle is lowered, etc.**

### 3 Verify the data of pattern

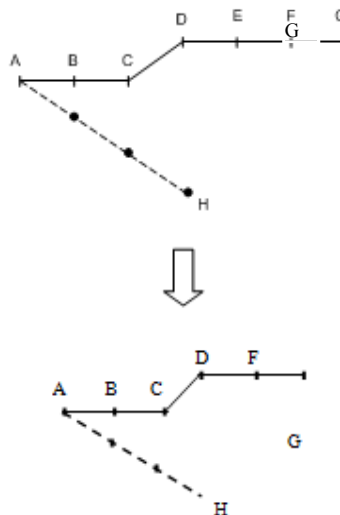
- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



**Caution: If there is the second home position in original data, the second home position will be deleted after modifying stitching start position. Please reset the second home position.**




## 6.6 STITCH TO REMOVE (THE ORIGINAL PATTERN CHANGE)

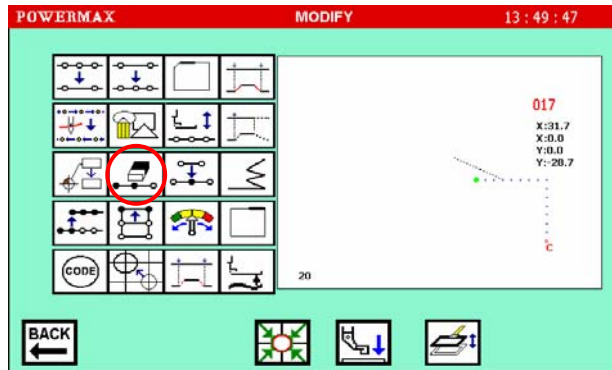
[Example] The Point E between the Point D and Point F in the following type of stitching data will be deleted.






[Operation details]

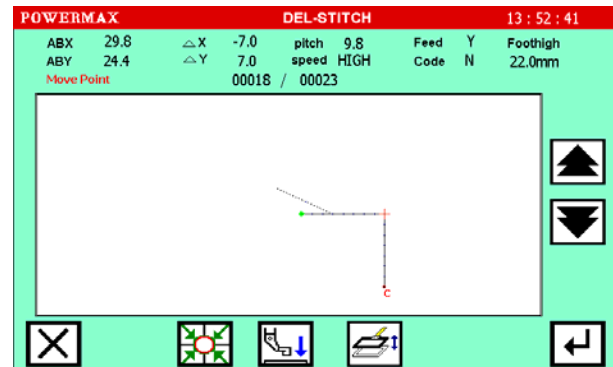
**1** Select deletion of stitches

- Press  and  on main menu screen to enter the modification mode.
- Press stitch deletion key .





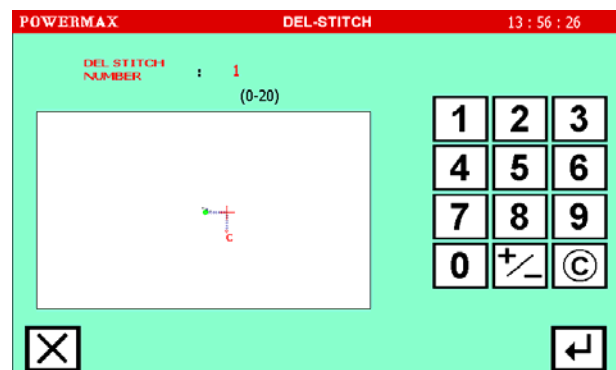
**2** Determining the deletion position, this position before the stitch to be deleted.

- Use  /  and move the needle to the place where you want to add deletion stitch. Stop the needle at point D, because the stitch will be deleted behind the stitch is selected. Press  to confirm.






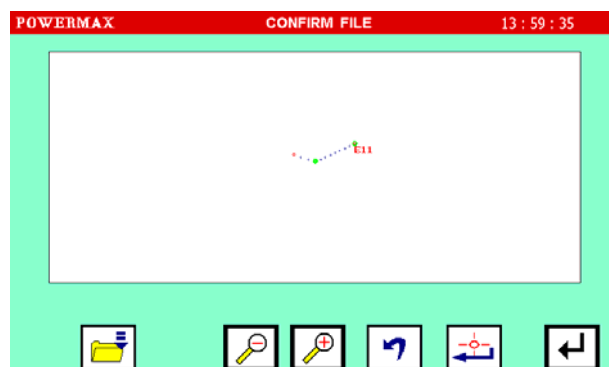
**3** Select the number of deletion stitches.

- Touch the numeric key to select the number of deletion stitches. The maximum number of stitches can be deleted is determined by the number of remaining stitch, as example, the maximum deletion Stitches are 3-pin.
-  is the key to cancel input.
- Touch  to confirm.




**4** Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the



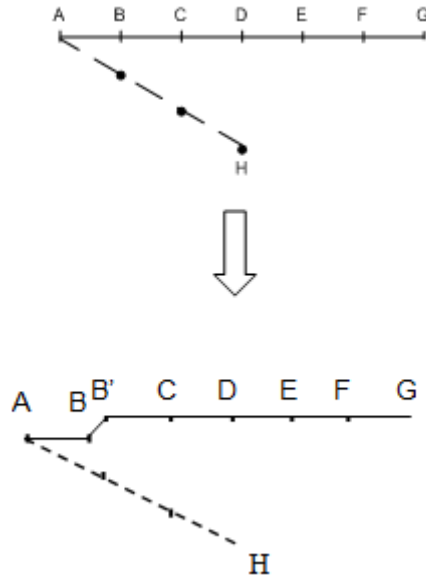


original position.

- Touch  to cancel the previous operation, and returned to modification function selection screen.




### 6.7 ADDITIONAL STITCH(ORIGINAL PATTERN CHANGE)

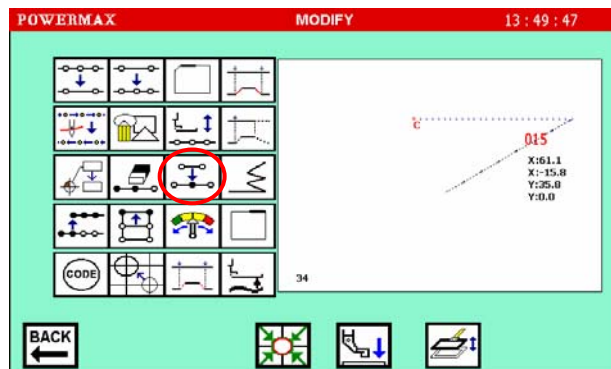
[Example] The required stitch length B' will be added to the B point of the following type of stitching data.






[Operation details]

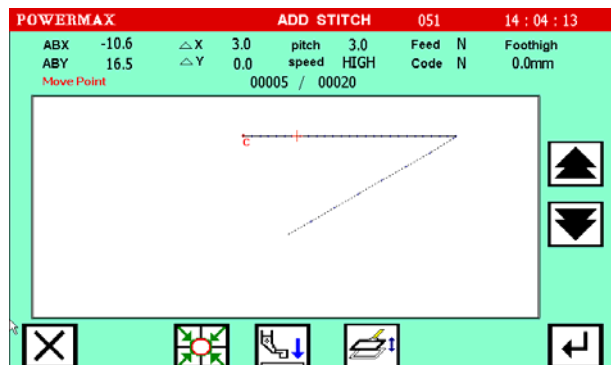
#### 1 Selecting stitch addition

- Press  and  to enter the modification mode.
- Press stitch addition key  to enter the stitch addition setting screen.





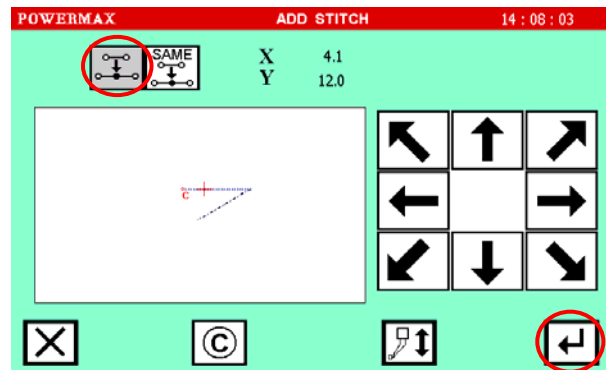
#### 2 Set the position of point B.

- Use the key  /  to move the needle to the addition position (point B).
- Press .







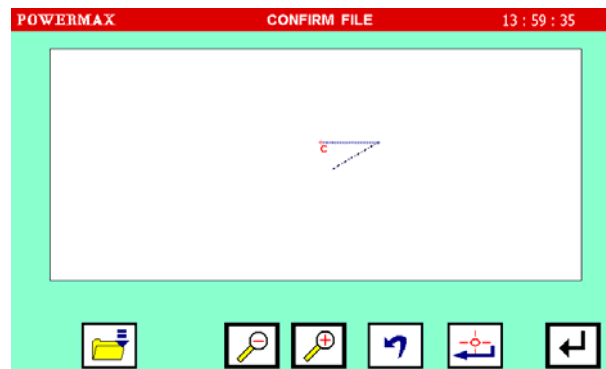
### 3 Set additional method

- Touch the key of adding a stitch , and move the needle to the addition position (point B).
- Touch  to confirm.  
(Perform a stitch is appended)



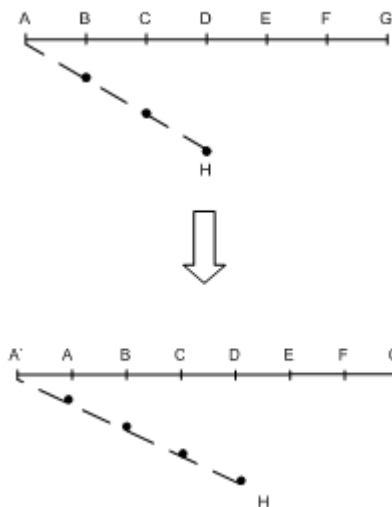
### 4 Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



## 6.8 ADDITIONAL STITCH(SAME SEWINGSTITCH,PATTERN CHANGE)

Example: At point A to append a same sewing stitch A '.



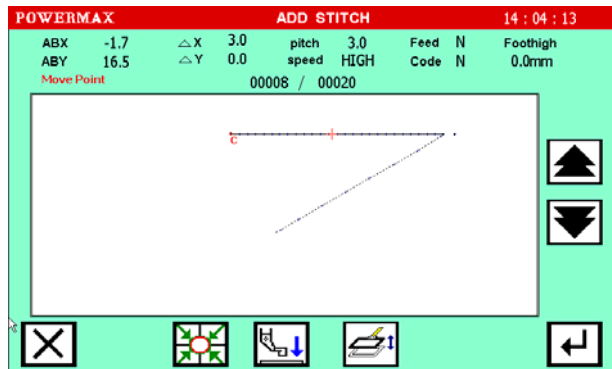
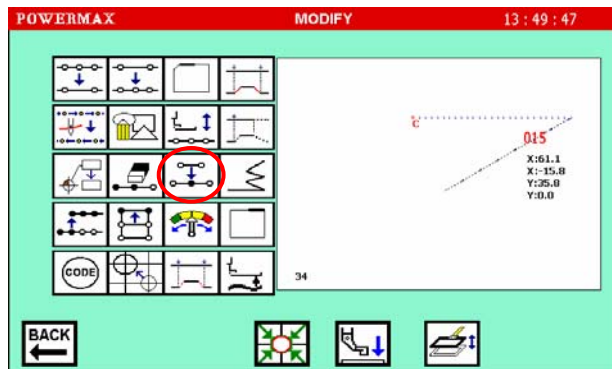
[Operation details]

### 1 Selecting stitch addition

- Press and to enter the modification mode.
- Press stitch addition key to enter the stitch add setting screen.

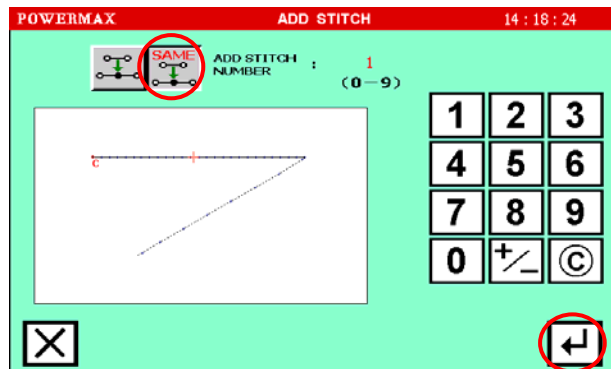
**2** Determining the addition position

- Use / to move needle to point B  
(Because it is added the same stitch as the front, therefore, location is at point B; If location is at point A, then adding a stitch the same as the sending empty movement what is front of point A)
- Touch to confirm.



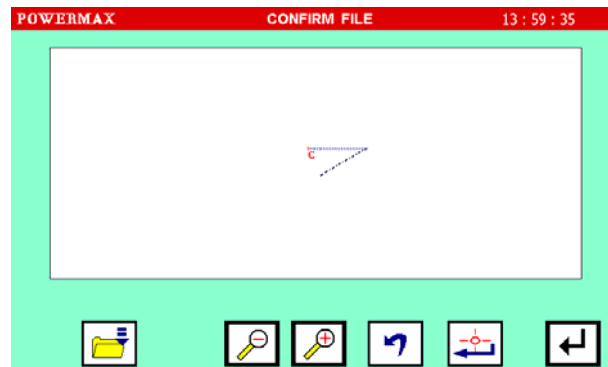
**3** Set additional method

- Touch the key of adding a stitch
- Touch the numeric keys to set the number of stitch addition as one.
- After setting, touch to confirm.  
(Perform the same condition to add a stitch)



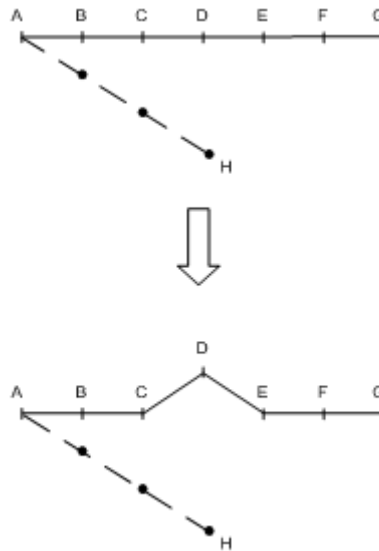
**4** Verify the data of pattern

- Use key or key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch to save file in the original position.
- Touch to cancel the previous operation, and returned to modification function selection screen.



## 6.9 MODIFYING THE STITCH POSITION (POSITION OF SUBSEQUENT DATA FIXED)

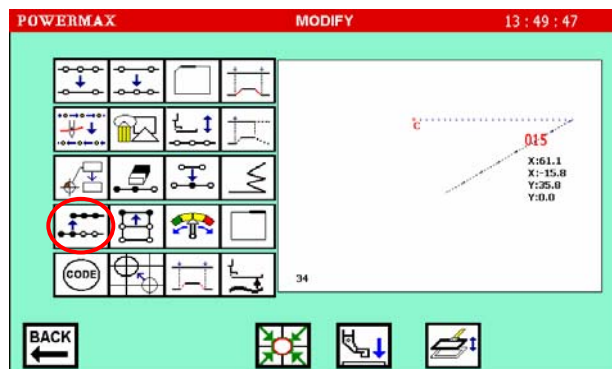
[Example] The D point in the following type of stitching data will be moved. (The E, F and G points will not be changed)



[Operation details]

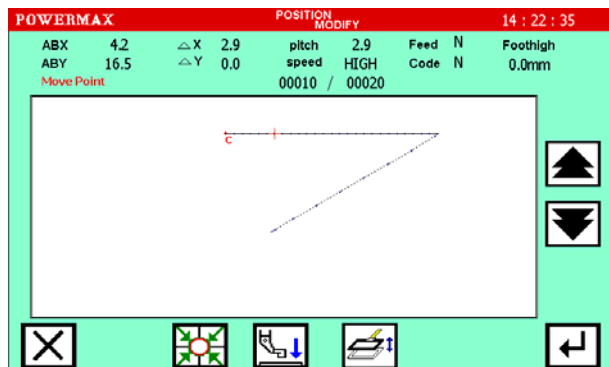
### 1 Select stitch position modification

- Press and on main menu screen to enter the modification mode.
- Press stitch position modification key



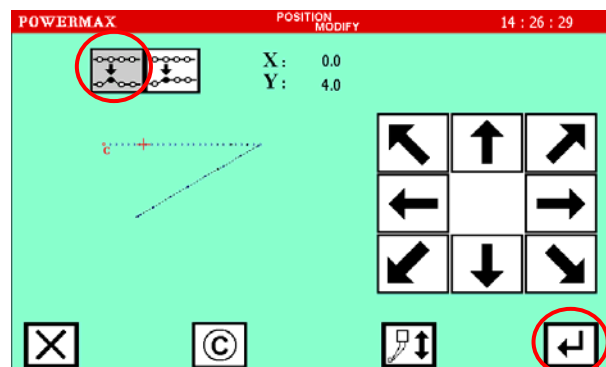
### 2 Set the modification position

- Use / to set the position that will be added. Move to the modification position (point D).
- Press to confirm.



### 3 Setting the modification method and modification amount

- To set the method, press (pattern data after modification stitch fixed), and move to the modification position







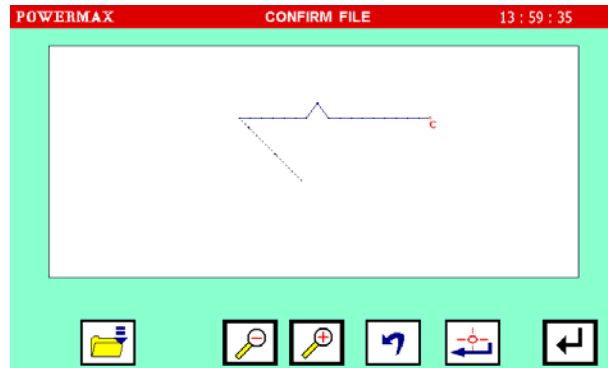
(point D) using the direction keys.

As shown on the above screen, move up 4.0 from the previous Point D.

- Press  to set. (The stitch position will be modified.)

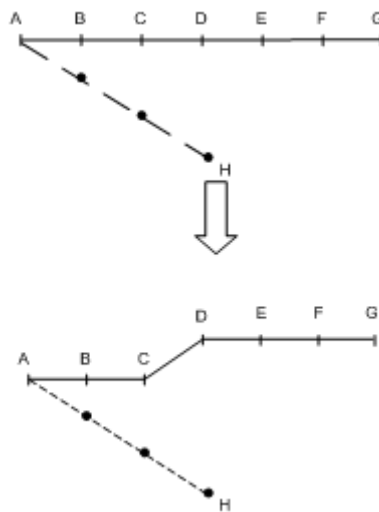
#### 4 Confirming the pattern data after modifying the stitch position

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.





### 6.10 MODIFYING THE STITCH POSITION (SUBSEQUENT DATA POSITION MOVED)

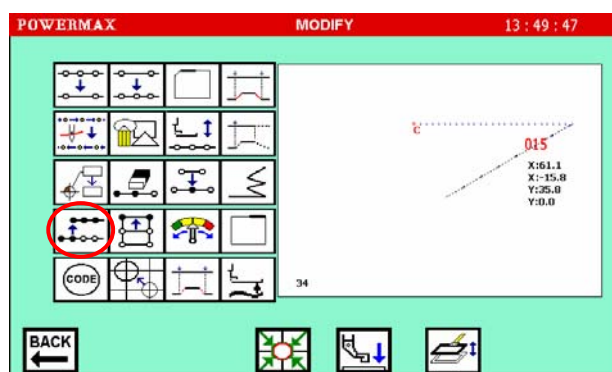
[Example] The Point D in the following type of stitching data will be moved. (The E, F and G points will move)



[Operation details]




#### 1 Select stitch position modification

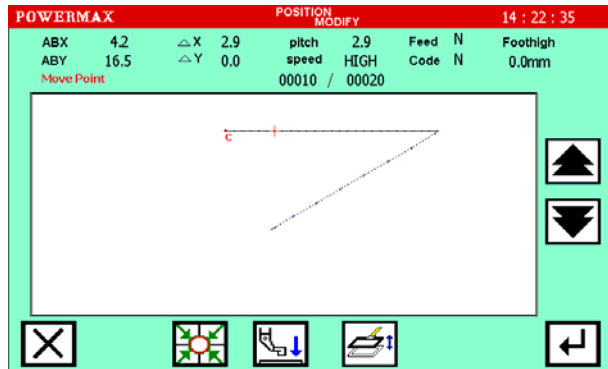
- Press  and  on main menu screen to enter the modification mode.
- Press stitch position modification





key 

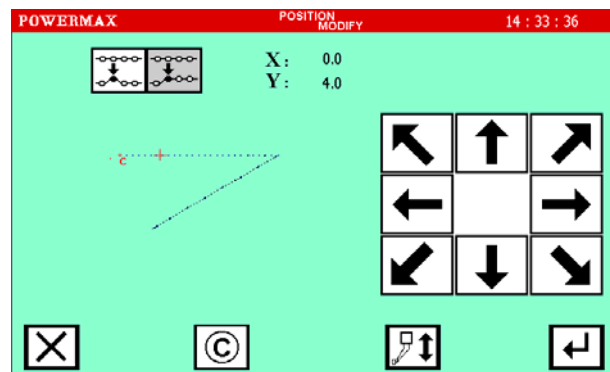
**2** Determine the modification position

- Use  /  to move the needle to point D (modification position).
- Touch  to confirm.







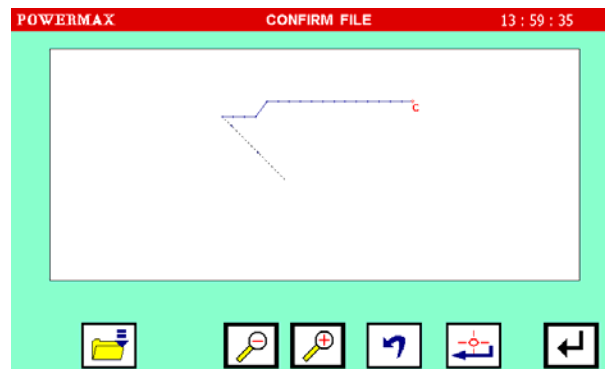
**3** Set the modification method and modification amount

- Press  (pattern data after modification stitch fixed), and move to the modification position (Point D) by using the arrow mark keys.
- Press  to set. (The stitch position will be modified.)



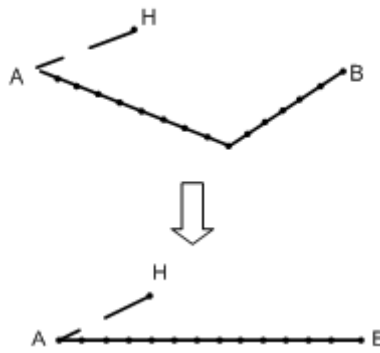
**4** Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



**6.11 MODIFYING A BLOCK 1 (LINEAR INPUT)**

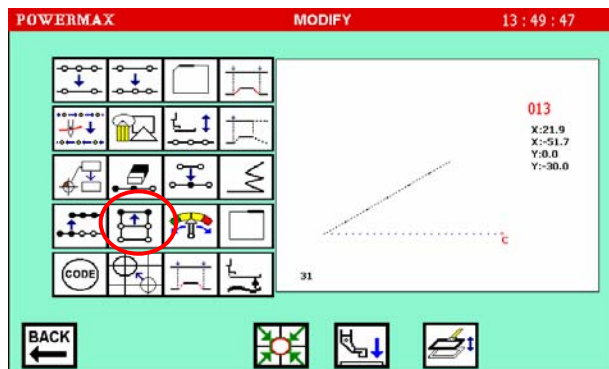
[Example] The section between the point A and point B of the following type of stitching pattern will be modified to a linear line.



[Operation details]

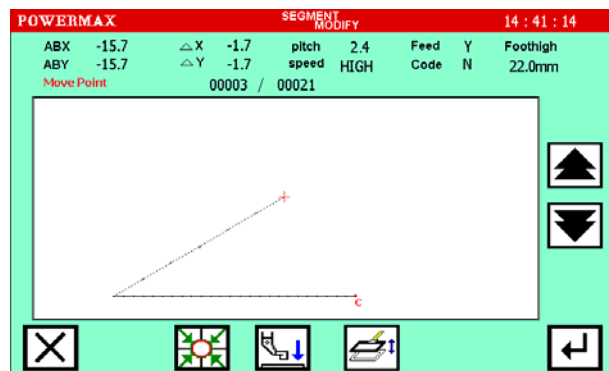
**1** Select block modification

- Press and on main menu screen to enter the modification mode.
- Press block modification key .



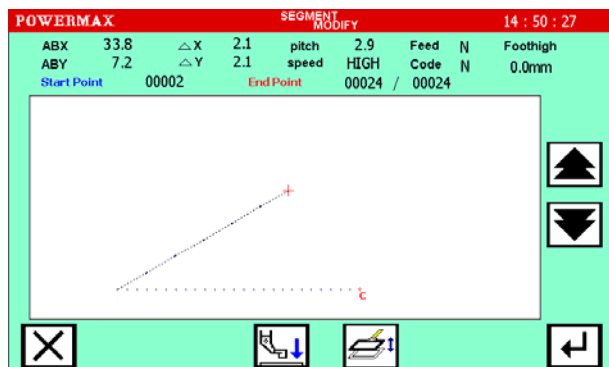
**2** Determine the block modification range (start point A)

- Press / to move needle to Point A (start point).
- Press to confirm.





**3** Determine the block modification range (end point B)

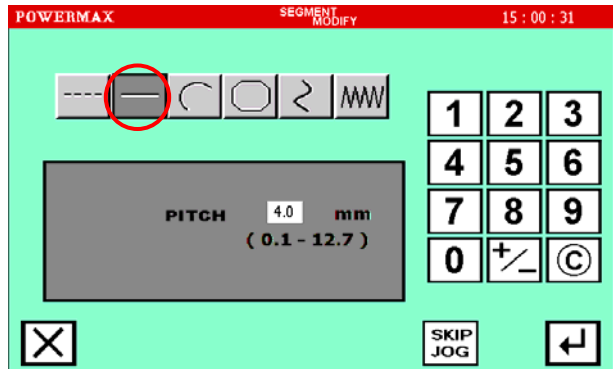
- Press / to move needle to point B (end point).
- Press to confirm.







**Caution:** When the end point is determined, the work holder will automatically return to the start point. Take care when the needle is lowered, etc.

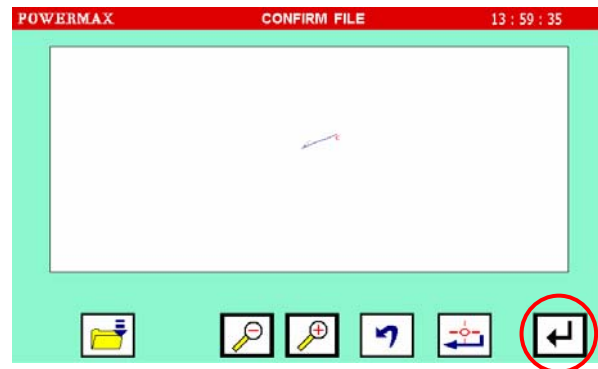
4 Select the type of modification

- Select the key of linear modification 
- Use numeric key to input stitch length.
- Touch  to confirm.



5 Execute the action of block modification.

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.





**Memo:**

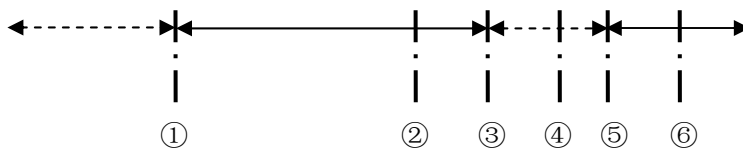
1. When arc modification is selected for block modification: Arc modification will be executed just by indicating one point in the designated range.
2. When linear modification is selected for block modification: The modification range will be connected with linear lines.
3. If the block to be modified contains code data, the code data will be deleted.
4. The block modification start point and end point are explained below.

√ For modification other than feed data modification

The start point can be designated when the stitch is stitching data.

The end point can be designated when the section before the stitch is stitching data.

(The broken line denotes feed data, and the real line denotes stitching.)



Start point	End point	Designation validity
①	②	Valid (OK)
①	③	Valid (OK)
①	④	Invalid (NG)
		.....Prior section is feed data
①	⑤	Invalid (NG)
		.....Prior section is feed data
①	⑥	Valid (OK)

√ For feed data modification

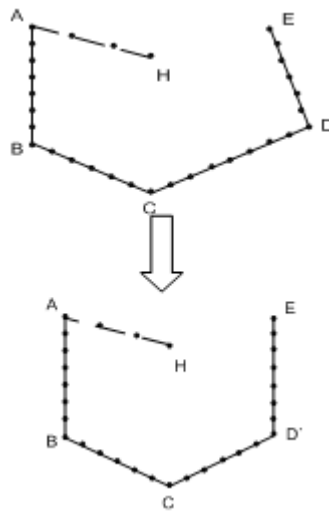
The start point can be designated when the stitch is stitching data or feed data.

The end point can be designated when the section before the stitch is stitching data or feed data.

(The data between the start point and end point is irrelevant.)

## 6.12 MODIFYING A BLOCK 2(BROKEN LINE,ARC,CURVE LINE)

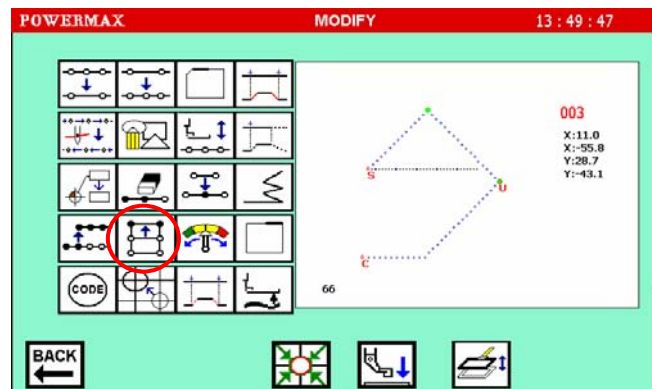
[Example] The Point C and Point D in the following type of data are each modified to the Point C' and Point D'.



[Operation details]

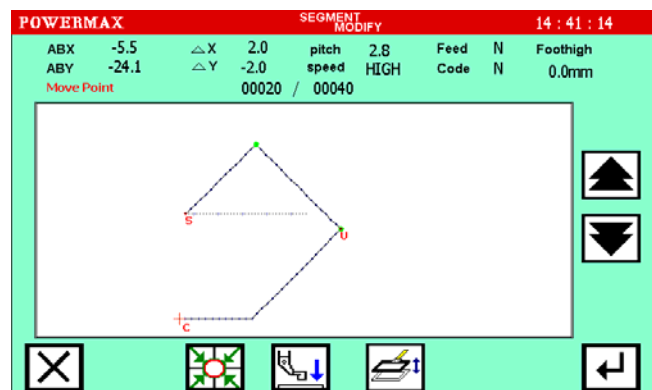
### 1 Select block modification

- Press and on main menu screen to enter the modification mode.
- Press block modification key .



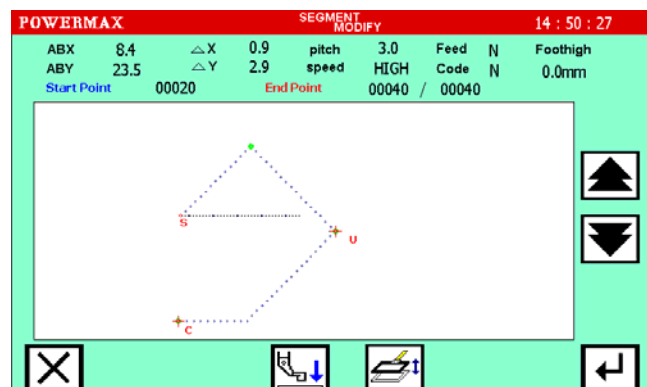
### 2 Determine the block modification range (start point C)

- Press / to move needle to point C (To modify the start point).
- Press to confirm.





### 3 Determine the block modification range (end point U)

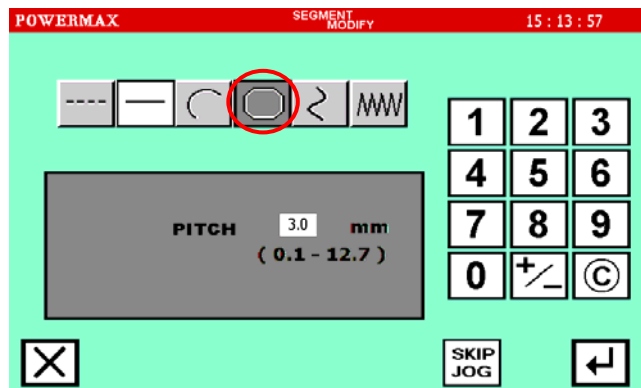
- Press / to move needle to point U (to modify end point).
- Press to confirm.





**Caution: When the end point is determined, the work holder will automatically return to the start point. Take care when the needle is lowered, etc.**

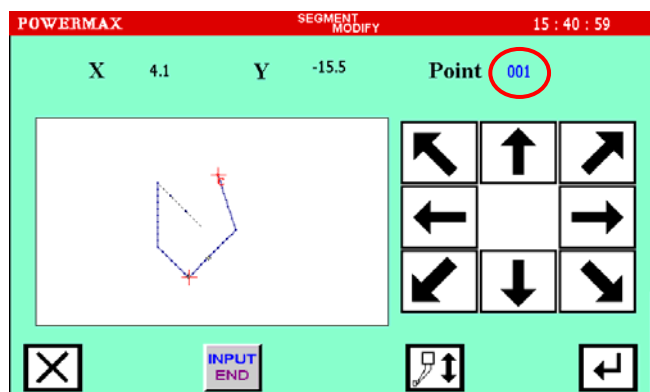
**4** Select the type of modification

- Press broken line  key.
- Use numeric key to input stitch length.
- Press  to confirm.







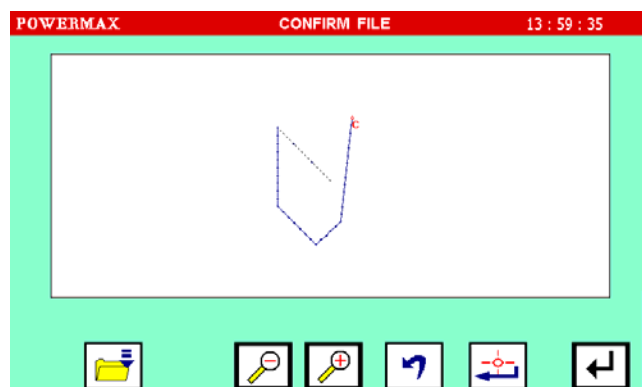
**5** Move and set the new modification position

- Use direction key and move needle to Point D' (the position to be modified)
- Press  to confirm.
- After determining, there will display the certain number of stitches 001 behind the Point.
- After all modification points are input,
- press  to enter the viewing pattern.



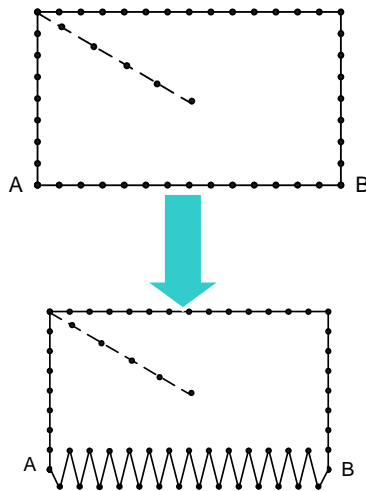
**6** Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



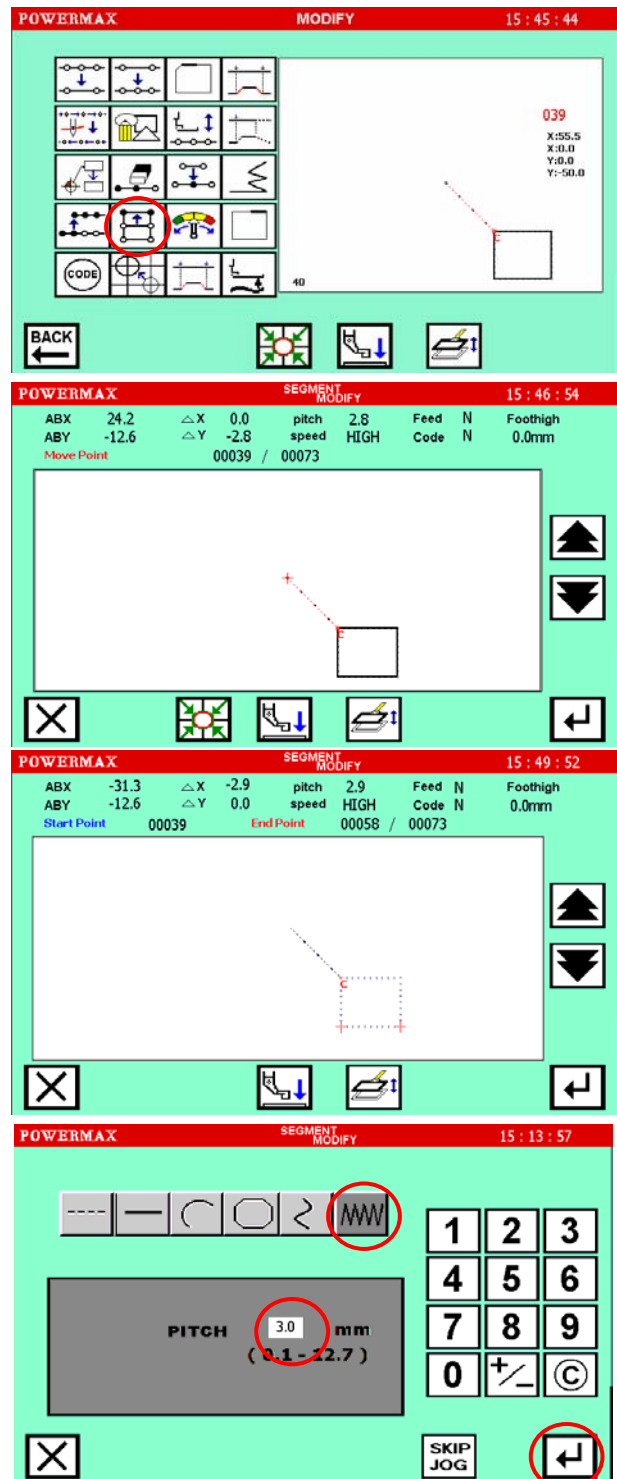
**6.13 MODIFYING A BLOCK 3(ZIGZAG INPUT)**

[Example]The section between the Point C and Point D in the following type of stitching data is modified to a zigzag pattern.




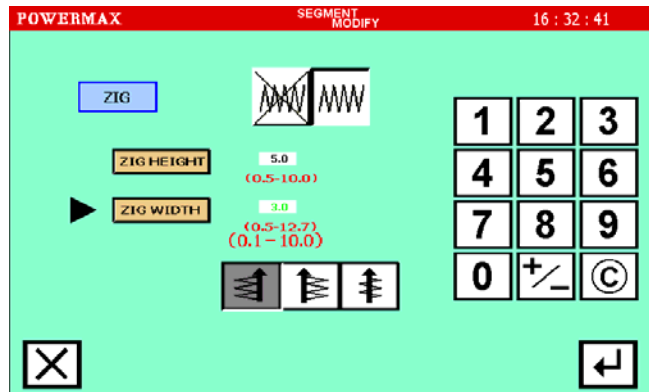
[Operation details]

- 1 Select block modification
  - Press and on main menu screen to enter the modification mode.
  - Press block modification key .
- 2 Determine the block modification range (start point B)
  - Press / to move needle to point B (to modify start point).
  - Press to confirm.
- 3 Determine the block modification range (end point A)
  - Press / to move needle to point A (to modify end point).
  - Touch to confirm.
- 4 Select the type of modification
  - Touch the numeric keys to input stitch length
  - Touch zigzag modification key .







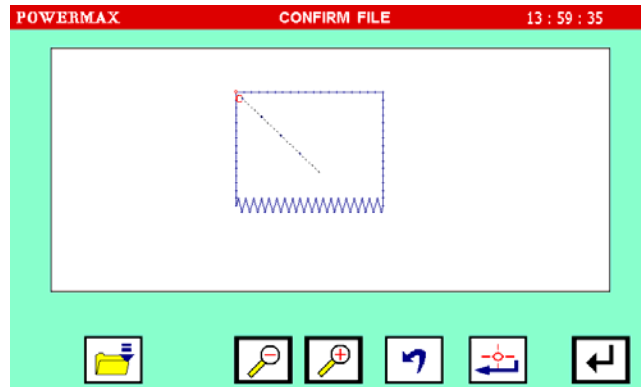
**5** Enter the detailed settings of zigzag.

- Use numeric key to input deflection width, feed amount and creation direction. (Refer to "5.2.5 zigzag stitching (with overlap back tacking)" for details on the deflection width, feed amount and creation direction.)
- Touch  to confirm.



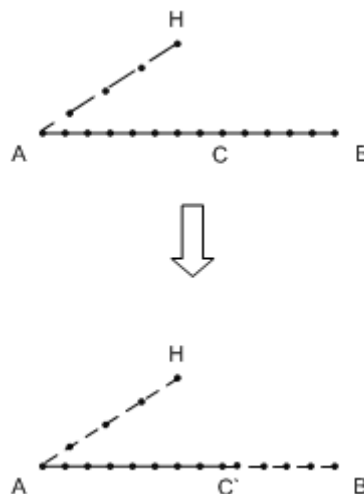
**6** Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.






**6.14 MODIFYING A BLOCK 4(CHANGING THE FEED DATA)**

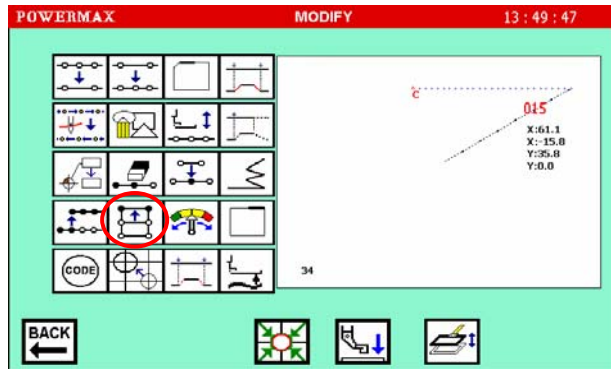
[Example] The Point C and Point B in the following type of data are each modified to the Point C' and Point B'.






[Operation details]

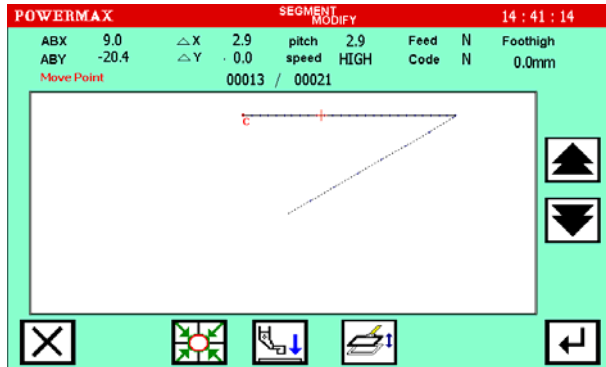
**1** Select block modification

- Touch  and  on main menu screen to enter the modification mode.
- Touch block modification key 






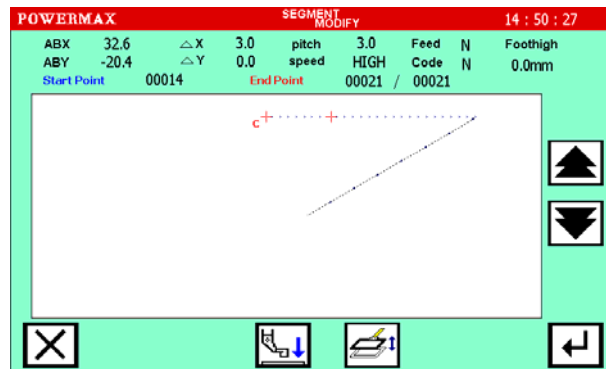
**2** Determine the block modification range (start point C)

- Touch  /  to move needle to point C (to modify start point).
- Touch  to confirm.





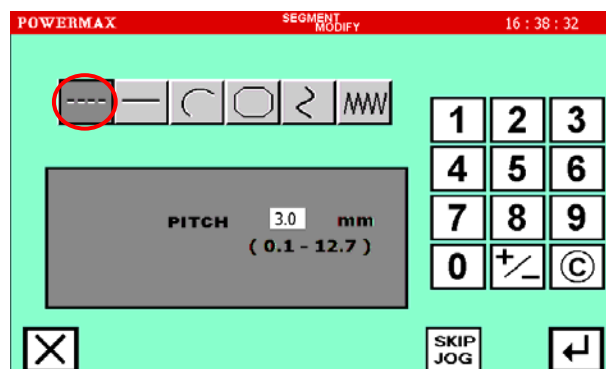
**3** Determine the end point

- Touch  /  and move needle to Point B (to modify end point).
- Touch  to confirm.





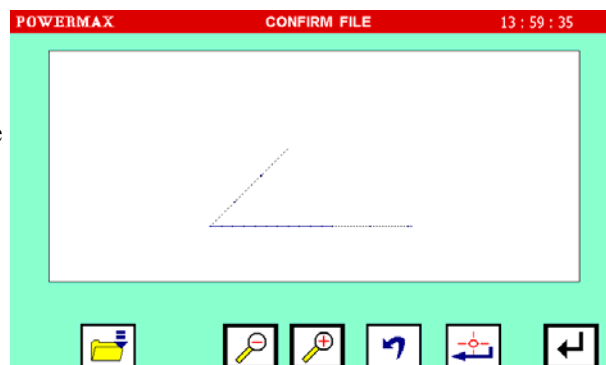
**4** Select the type of modification



- Touch the key of sending feed modification 
- Touch  to confirm.



**5** Verify the data of pattern

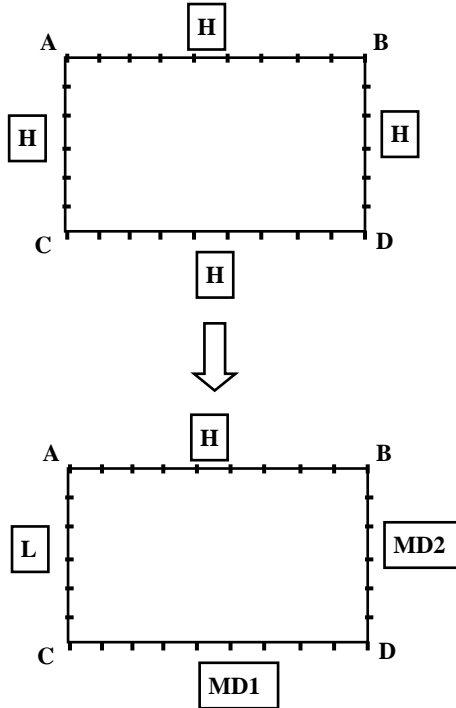
- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.



- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.




### 6.15 MODIFYING THE SPEED

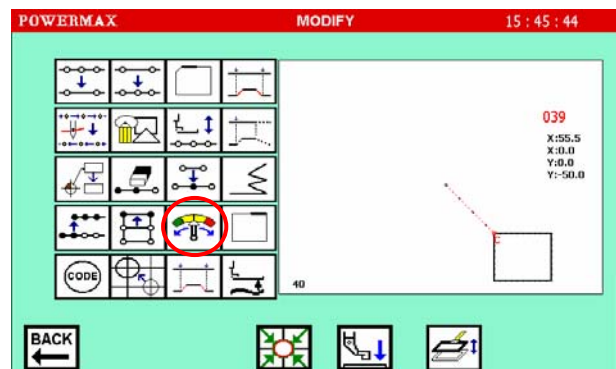
[Example]: Select different speed to realize pattern stitching.






[Operation details]

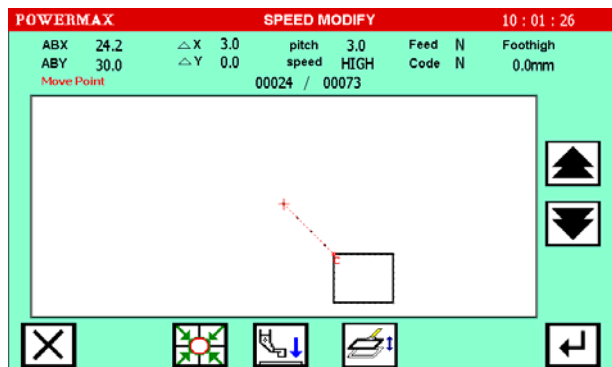
#### 1 Select speed modification

- Touch  and  on main menu screen to enter the modification mode.
- Touch  to enter setting screen.






#### 2 Select MD2 speed modification start position(Point B)

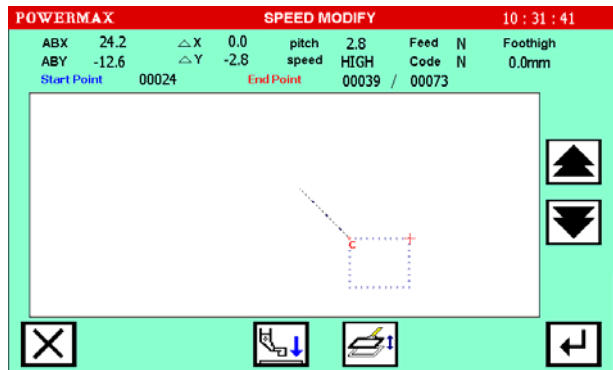
- Touch  /  to move needle to point B (modification start position).
- Touch  to confirm.



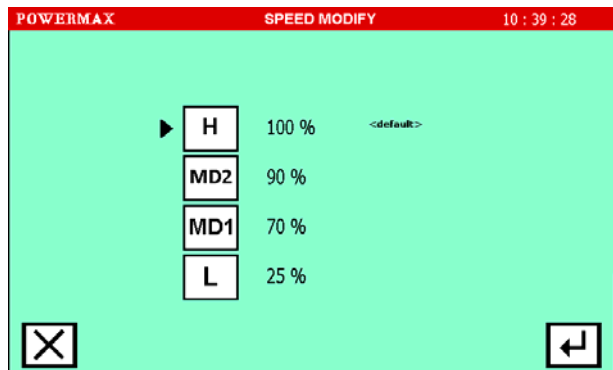
**3** Select MD2 speed modification

end position





- Touch  /  to move needle to point C (modification start position).
- Touch  to confirm.

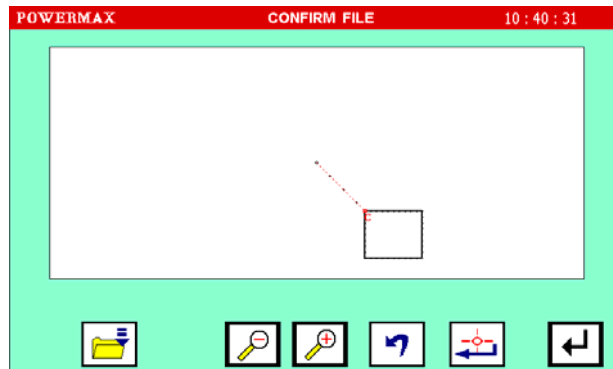


**4** Select MD2 speed



**5** Check and confirm

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



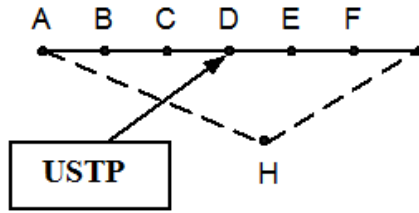
**6** MD1 speed setting repeats the ②~⑤ steps.

**7** L speed setting repeats the ②~⑤ steps.

**6.16 MODIFYINGG CODE DATA(ADD CODE DATA)**

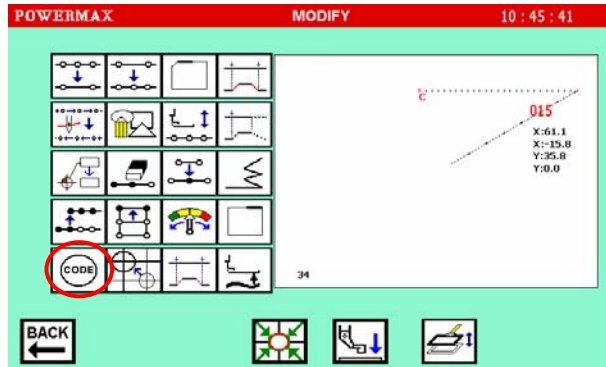
[Example] The needle UP halt code (USTP) will be added to the Point D of the following type of stitching data.



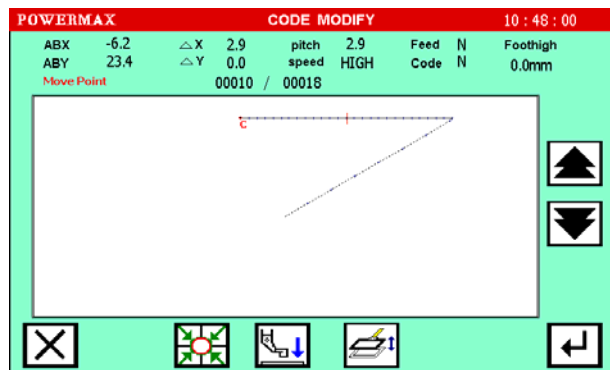


[Operation details]

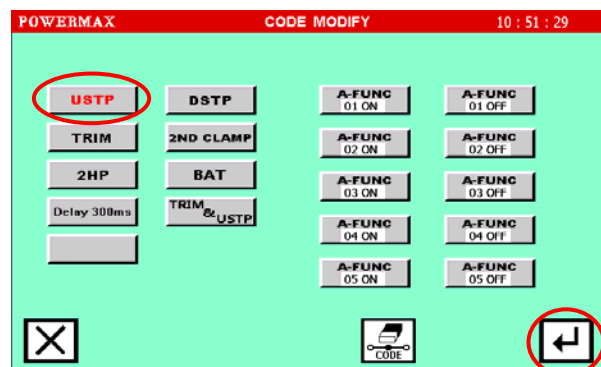
- 1 Select code data addition
  - Touch and on main menu screen to enter the modification mode.
  - Touch code data change key and enter the next setting screen



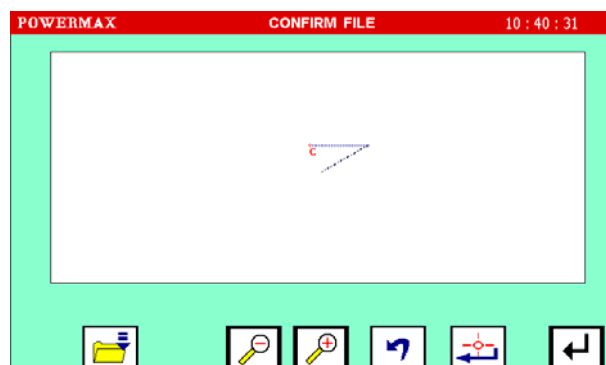
- 2 Determine the code addition position
  - Touch / to move needle to point D (code addition position).
  - Touch to confirm.




- 3 Set the code to add
  - Select input method - append additional function keys (USTP).  
Once selected, the right display area will show the name of the selected additional function.
  - Touch to confirm.



- 4 Verify the data of pattern
  - Use key or key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
  - After confirming, you can touch

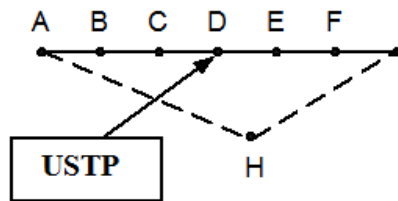


to save file in the original position.

- Touch  to cancel the previous operation and returned to modification function selection screen.




### 6.17 MODIFYING CODE DATA (DELETEING CODE DATA)

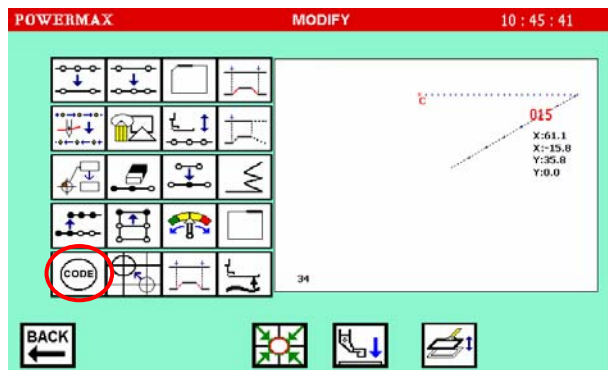
[Example] The needle UP halt code (USTP) will be deleted from the Point D of the following type of stitching data.






[Operation details]

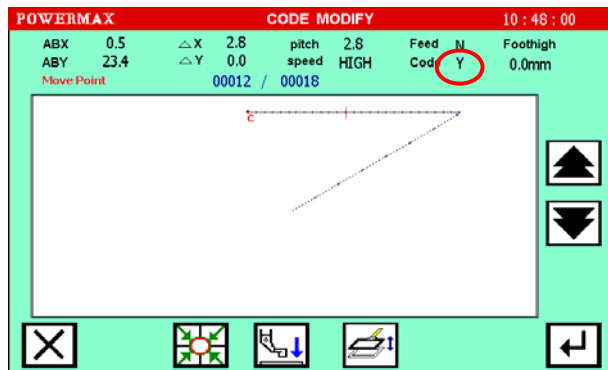
#### 1 Select code data deletion

- Touch  and  on main menu screen to enter the modification mode.
- Touch code data change key  and enter the next setting screen.




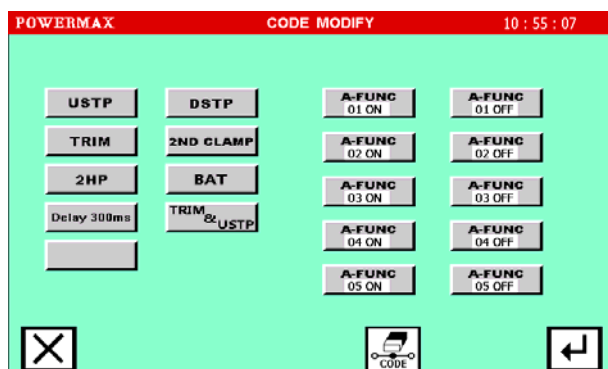
#### 2 Determine the code deletion position

- Touch  /  to move needle to point D (code deletion position).
- Confirm the code is Y.
- Touch  key to confirm the position.





#### 3 Set the code data deletion

- Touch code data deletion key . Then, red button turn back into black, instructions to cancel the operation has been performed.





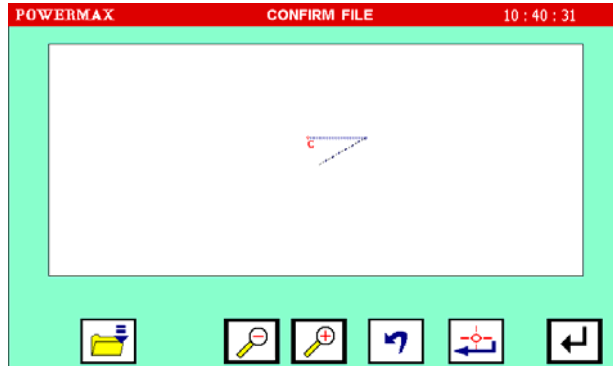
- Touch  to confirm.

**4** Verify the data of pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern

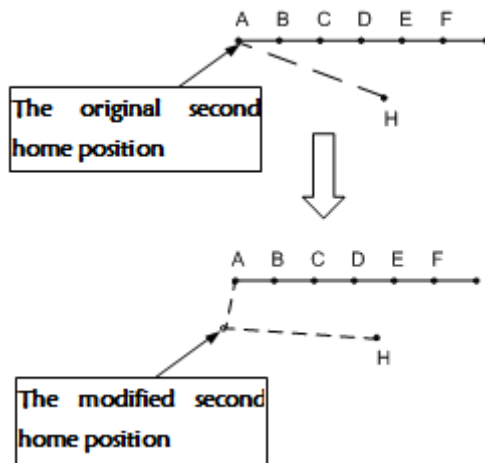
whether to meet the requirements.

- After confirming, you can touch  to save file in the original position. Touch  to cancel the previous operation, and returned to modification function selection screen.



### 6.18 MODIFYING THE SECOND HOME POSITION




[Example]: The second home position in left pattern will be modified to the position in the right pattern as shown below.

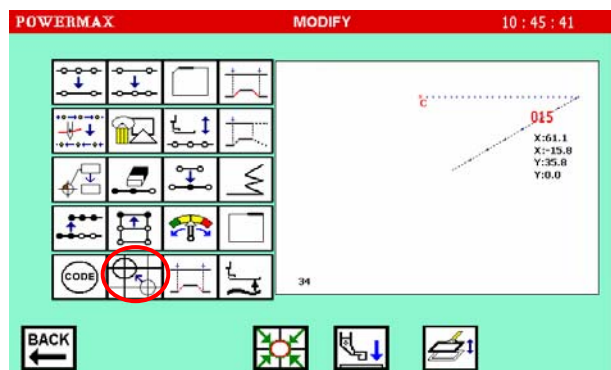


**Caution:** The second home position modification only modifies the position of the second home position, and never modify the position of stitching start position. The way between the second home position and the stitching start position is filled with moving.

[Operation details]

**1** Select the code data modification

- Touch  and  on main menu screen to enter the modification mode.
- Touch the second home position modification key  and enter



the setting screen.

- If there is no second home position in pattern, the system will display the left screen.

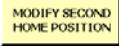
Then, return to the main menu screen

to select again.

- Otherwise, enter the next setting screen.



## 2 Select the second home position modification

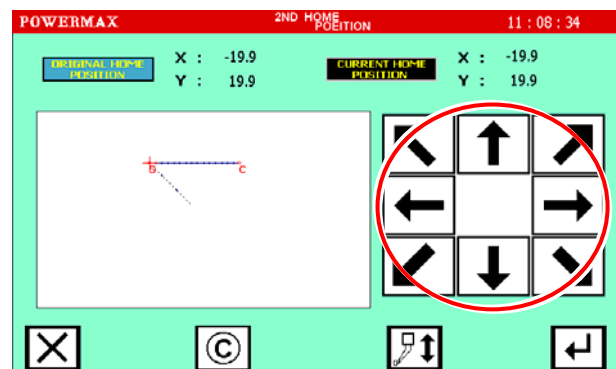
- Touch  to enter the second home position modification mode.





## 3 Modify the second home position


- Use the arrow keys to move the second home position to the new position.


- Touch  to confirm.

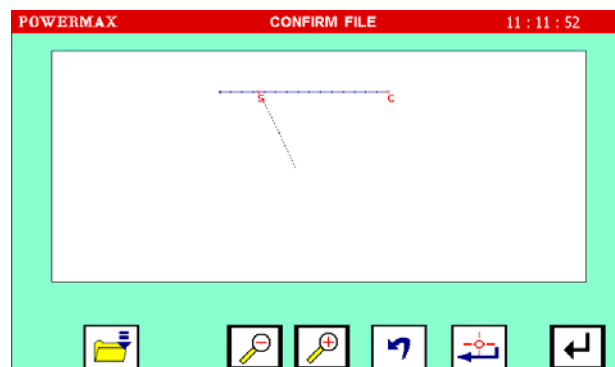


## 4 Confirm modification and store

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.

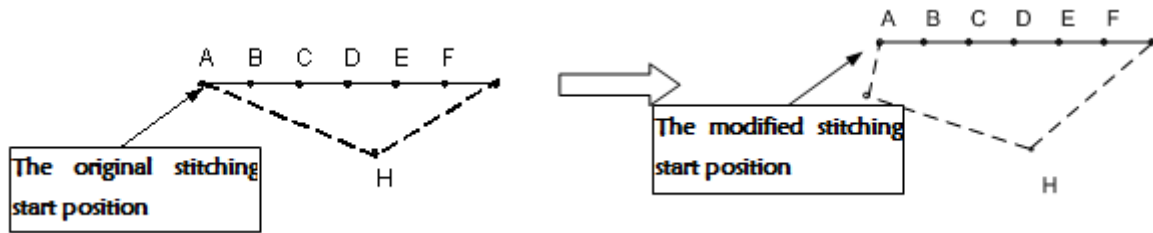
- After confirming, you can touch  to save file in the original position.

- Touch  to cancel the previous operation, and returned to modification function selection screen.






## 6.19 MODIFYING THE STITCHING START POSITION

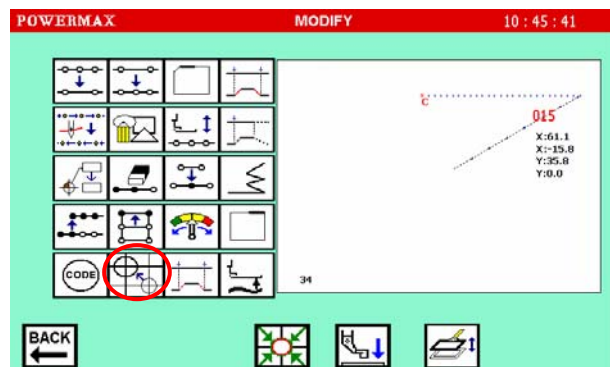
[Example]: The stitching start position in left pattern will be modified to the position in the right pattern as shown below.




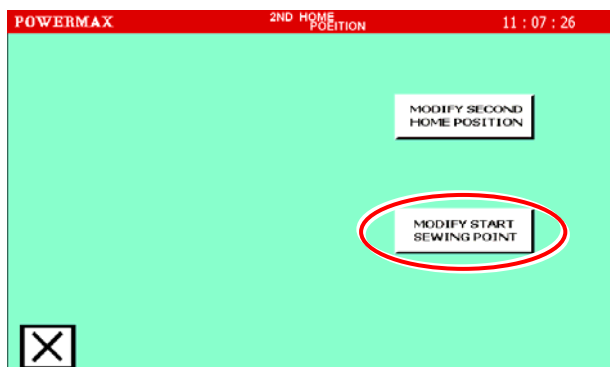
**Caution:** The stitching start position modifications only modify the stitching start position, and never modify the second home position. The way between the second home position and the stitching start position is filled with moving.

[Operation details]


- 1 Select the code data modification
  - Touch  and  on main menu screen to enter the modification mode.
  - Touch the second home position modification key  and enter the setting screen.
  - If there is no second home position in pattern, the system will display the left screen. Then, return to the main menu screen to select again. Otherwise, enter the next setting screen.







- 2 Select the stitching start position modification
  - Touch  to enter the stitching starting position modification.

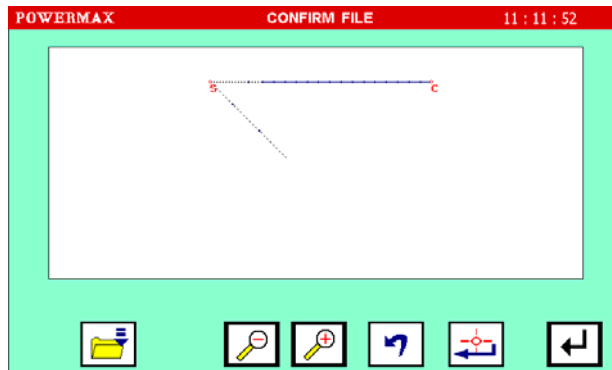
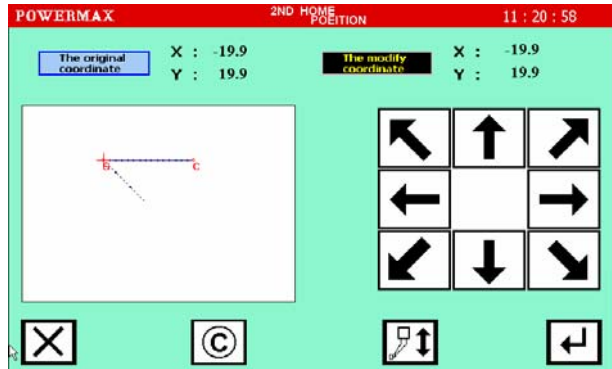


- 3 Modify the stitching starting position

- Use the arrow keys to move the stitch starting position to the new position.
- Touch  to confirm.
- Enter the pattern creation screen.

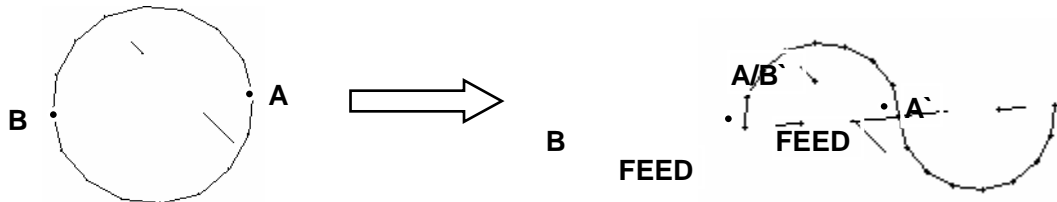
**4** Confirm modification and store

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.






**6.20 BLOCK MOVEMENT(FEEDING)**

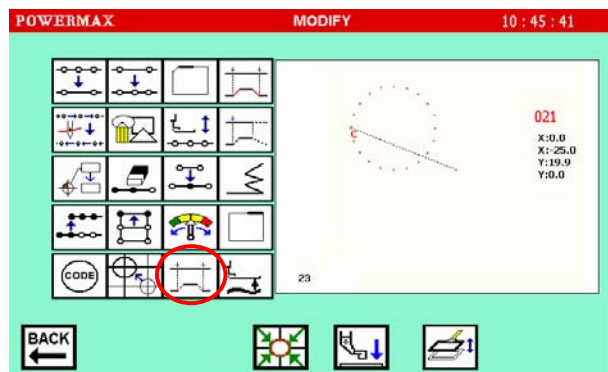
[Example] The block from Point A to Point B in the following will be moved by feeding and created A'B'.






[Operation details]

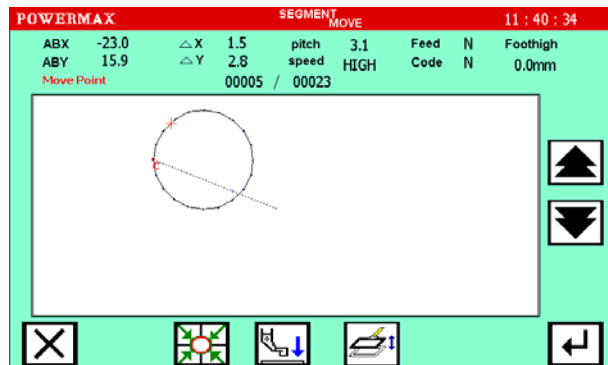
**1** Select block movement

- Touch  and  on the main menu screen to enter the modification mode. Then, touch  to enter setting screen.






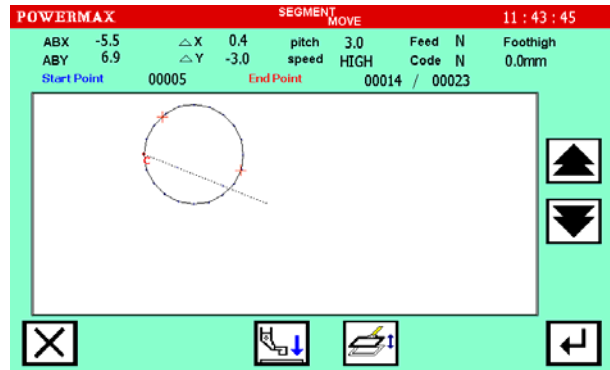
**2** Set starting point B

- Touch  /  to move needle to point B (starting point of moving block).
- Touch  to confirm.





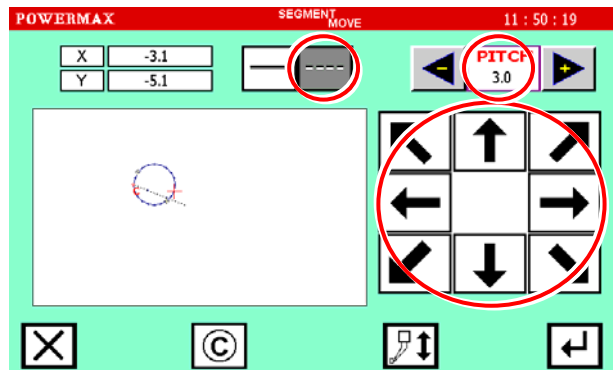
**3** Set end point A

- Touch  /  to move needle to point A (end point of moving block).
- Touch  to confirm.







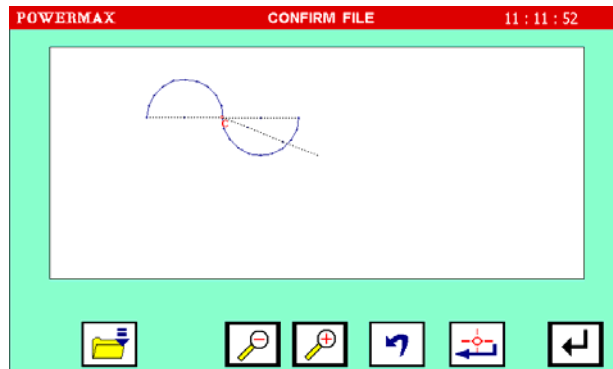
**4** Select the mode of sending feed, set stitch length and move position.

- Select the mode of sending feed.
- Use  and  to set stitch length as 3.0mm.
- Use the arrow key to set the position of movement, cursor from point A to point B.



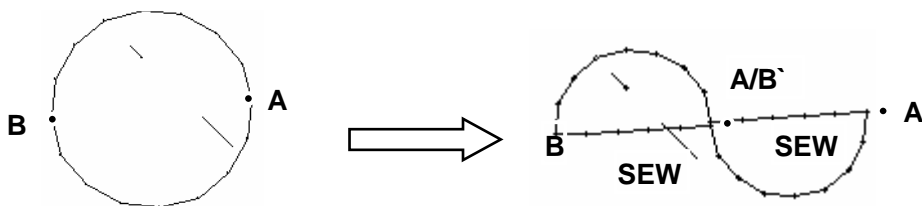
**5** Check and confirm

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.






**6.21 BLOCK MOVEMENT(LINEAR)**

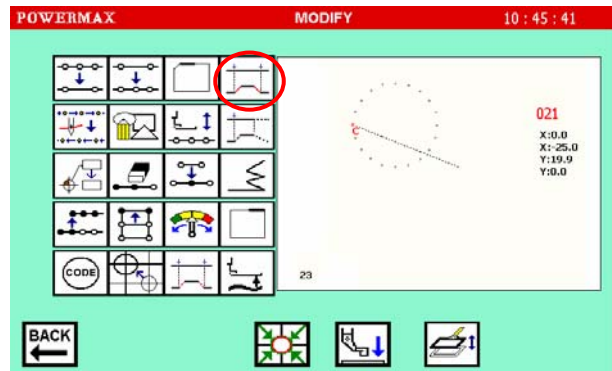
[Example] The block from Point A to Point B in the following will be moved by linear mode and created A'B'.






[Operation details]

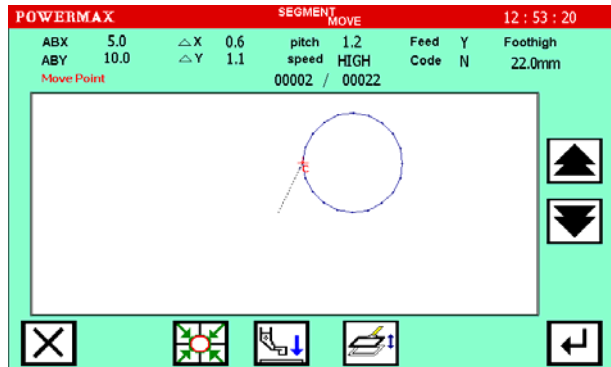
**1** Select block movement

- Touch  and  on the main menu screen to enter the modification mode. Then, touch  to enter setting screen.






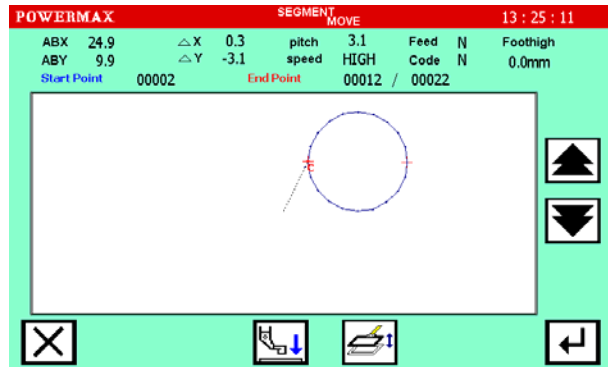
**2** Set start point B

- Touch  /  to move needle to point B (start point of moving block).
- Touch  to confirm.





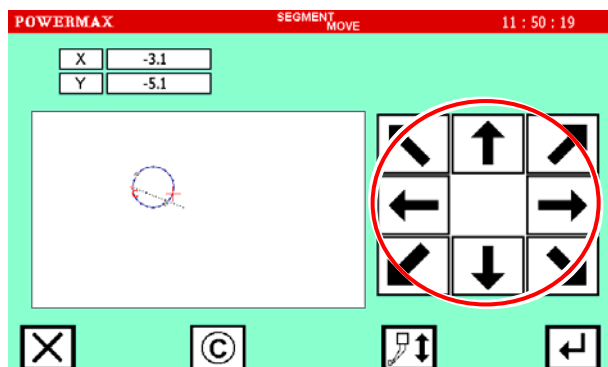
**3** Set end point A

- Touch  /  to move needle to point A (end point of moving block).
- Touch  to confirm.



**4** Select linear mode, set stitch length and move position.

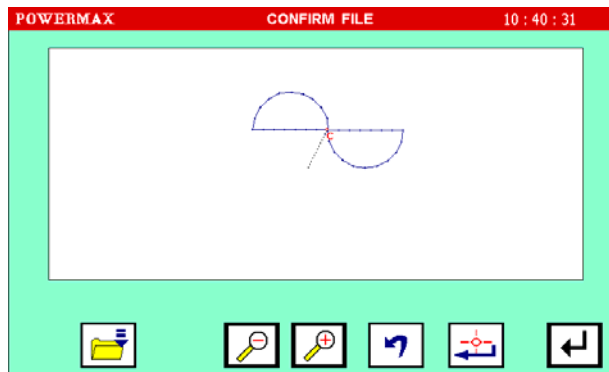
- Select linear mode.
- Use  and  to set stitch length as 3.0mm.
- Use the arrow key to set moving position. Move the position of point A to point B.





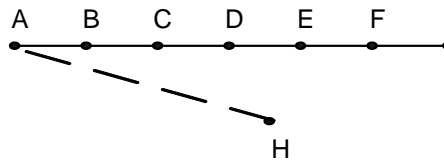
## 5 Check and confirm

- Use key or key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch to save file in the original position.
- Touch to cancel the previous operation, and returned to modification function selection screen.



## 6.22 PRESSER FOOT ADJUSTMENT(APPLIES TO SWING FOOT MODELS)

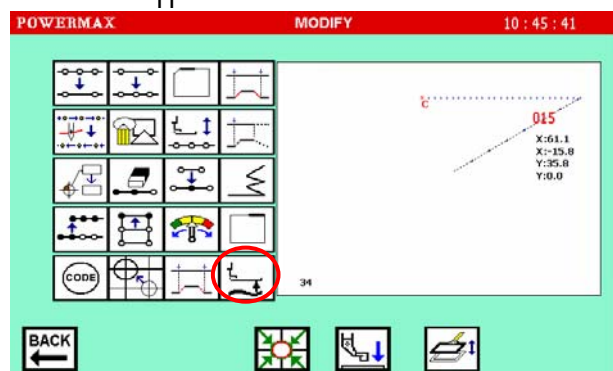
For example: the straight line in the figure below, to adjust the presser foot height between point C and point E as 1.7mm.



[Operation details]

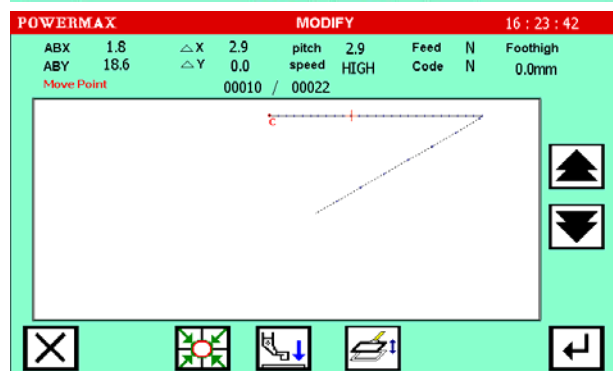
### 1 Select presser foot adjustment

- Touch and on the main menu screen to enter the modification mode.
- Then, touch to enter setting screen.



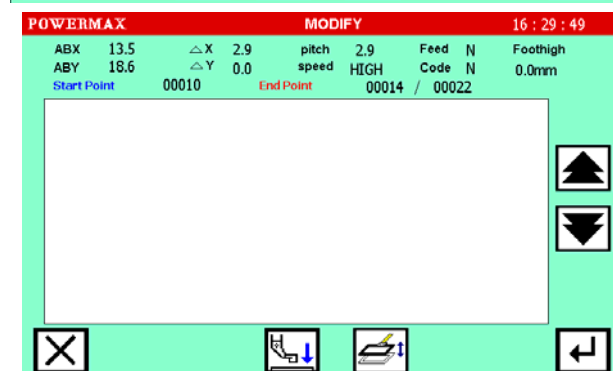
### 2 Set start point C

- Touch / to move needle to point C (start point of moving block).
- Touch to confirm.






### 3 Set end point E

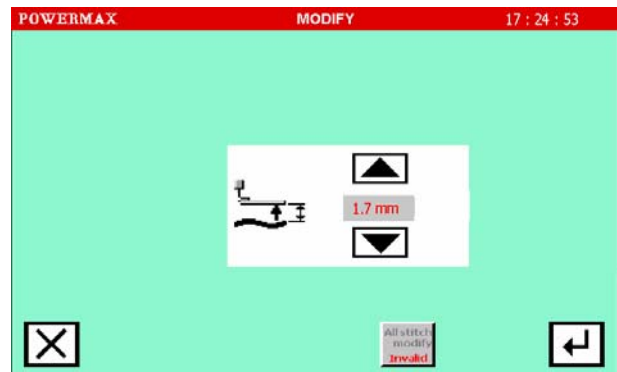
- Touch / to move needle to point E (end point of moving block).
- Touch to confirm.







**4** Select the size of the presser foot adjustment

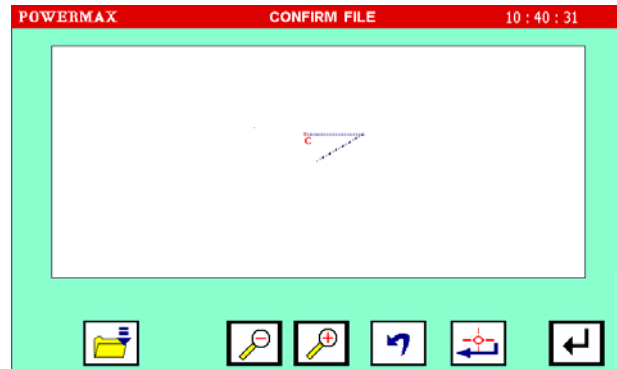
as shown:

- Touch  and  to set presser foot height as 1.7mm.
- Touch  to confirm.









**5** Check and confirm

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and returned to modification function selection screen.



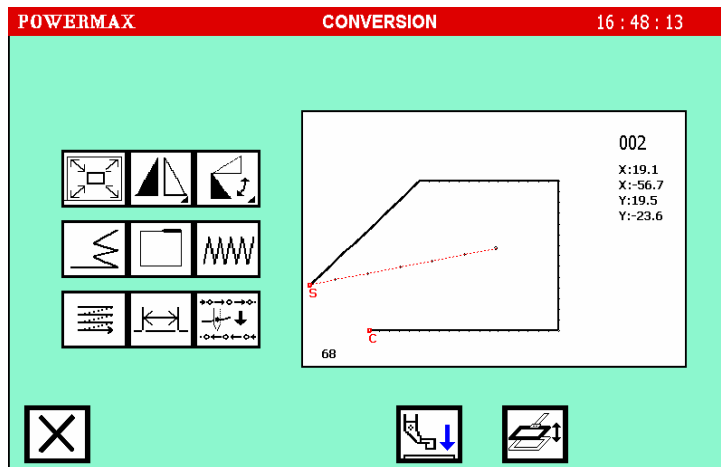
**7 PATTERN DATA CONVERSION**

**Main data conversion mode functions**

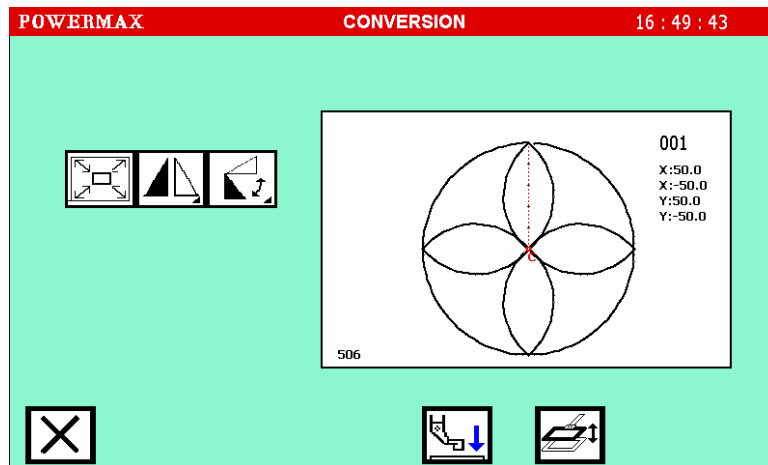
Function	Key	Details	Details setting
Back tacking		Existing back tacking can be modified, and new back tacking can be created.	 Start/end back tacking
Fixing		Existing fixing can be modified, and new fixing can be created.	
Zigzag stitching		Existing zigzag stitching can be modified, and new zigzag stitching can be created.	
Multiple		The multiple distance, multiple direction and number of multiple stitching times for multiple stitching data can be changed.	
stitch length conversion		Do the stitch length conversion for existing pattern design	

Caution: According to the pattern data complexity, the data conversion function enters two different screens as below:

(1) If the pattern data is complete, enter the conversion screen as below: (The pattern data based on Wince is complete.)



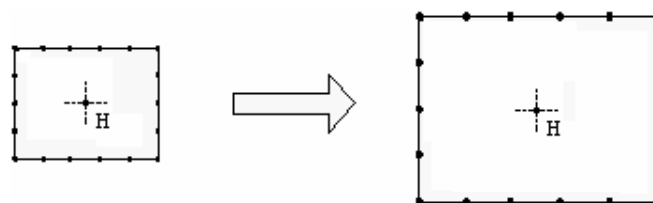
(2) Combined pattern data or non-complete data: Non-complete pattern data includes the assistant data losing of pattern data and the pattern data which compiled below Win 98 V3.0. The non-complete pattern data can be solved by recreating.



## 7.1 SCALING \ ROTATION \ SYMMETRICAL

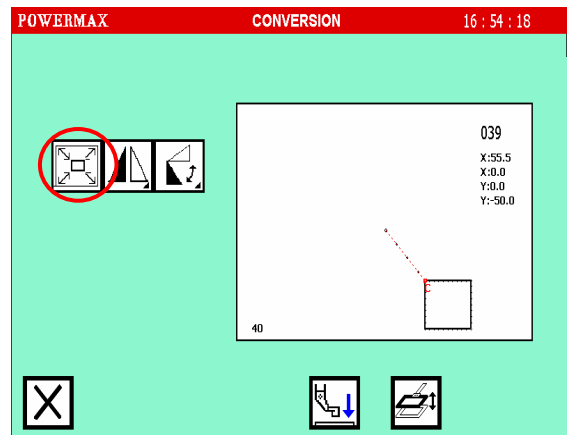
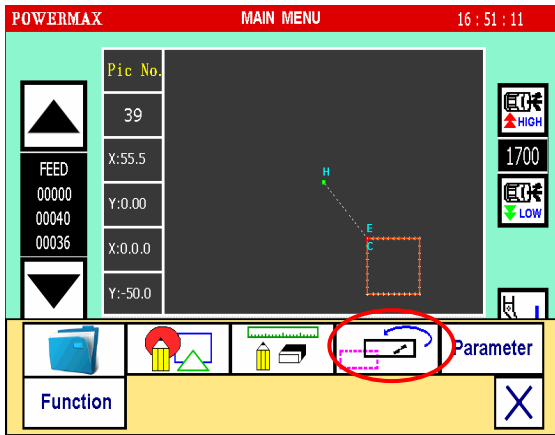
### 7.1.1 SCALING


[Example] The data will be enlarged (X:120%, 120%) with a fixed stitch length centering on the Point H (Home position) in the following type of stitching data.

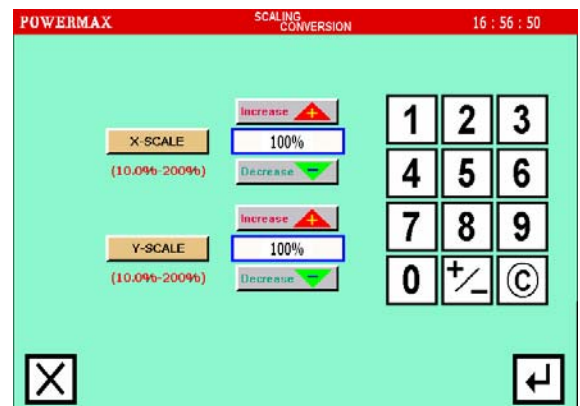






[Operation details]

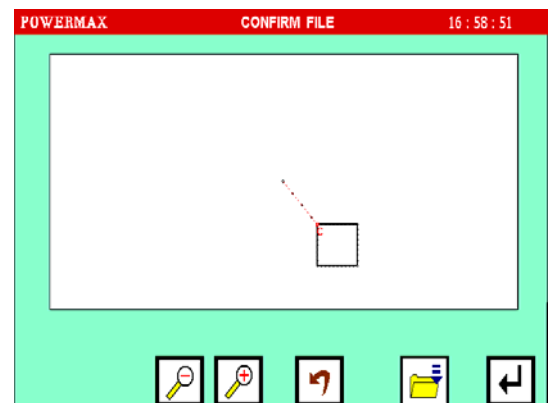
- 1 Select the pattern that you want to scale in the file directory  
Then enter the scaling screen.



- 2 Enter modification mode
  - Touch **X\_SCALE** and **Y\_SCALE** separately. Set the X, Y enlargement rate (reduction rate) with the numeric keys. (Here scaling X / Y is 120%, or enlarge doubled; enlargement / reduction ratio increment: 1%)
  - With a fixed stitch length centering on the point H (Home position).
  - Touch  to confirm.

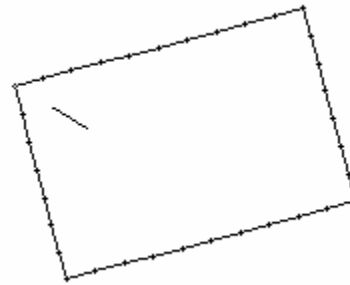
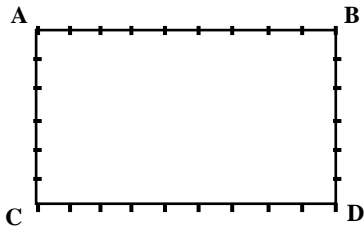


- 3 Confirm the pattern
  - Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
  - After confirming, you can touch  to save file in the original position.
  - Touch  to cancel the previous operation, and return to the previous screen.



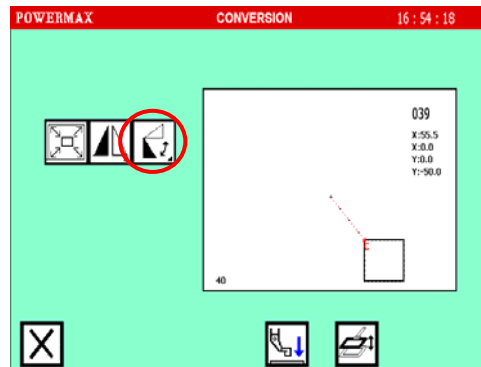
## 7.1.2 ROTATION

[Example] The pattern will be rotated by 45° centering on the Point A in the following type of stitching data.







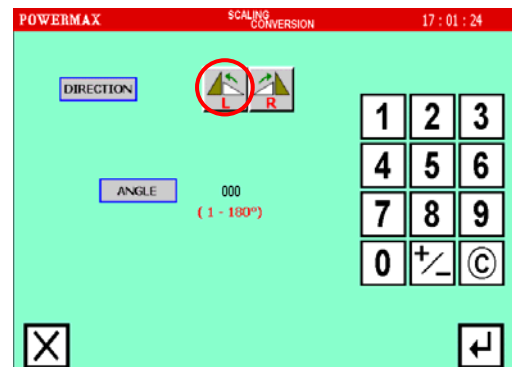
[Operation details]

**1** Select the pattern you want to rotate in the file directory  
Then enter the scaling screen.







**2** Set the rotation method, etc.

- Touch  on the main menu screen to select the pattern rotation.
- Direction:
  -  — Left rotation
  -  — Right rotation
- Input the angle from the numeric key.  
(Input 45° for this example.)
- Touch  to confirm.



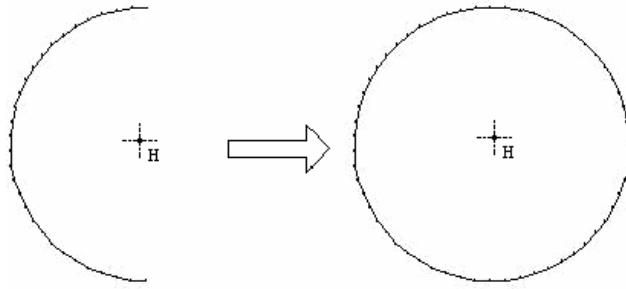
**3** Confirm the pattern

- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.
- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and return to the previous screen.



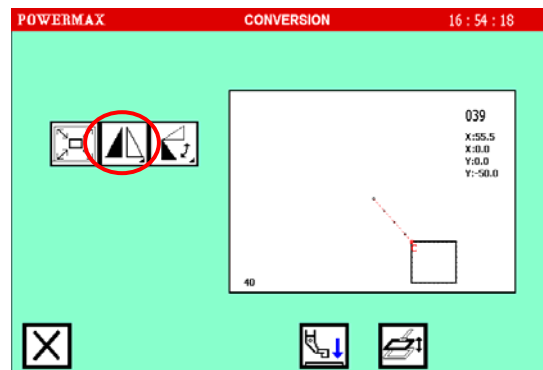
### 7.1.3 SYMMETRICAL


[Example] The left state of the following type of stitching data will be converted into a right state.



[Operation details]

- 1 Select the pattern you want to rotate in the file directory. Then enter the rotation screen. As shown:



- 2 Set the symmetrical method, etc. Touch  on the main menu screen to select the patter symmetrical .


- Clearing symmetrical origin data:



—Delete symmetrical origin data



—Keep symmetrical origin data

(Touch  for this example.)

Symmetrical direction:



—X symmetrical data creation (Select "X

symmetrical data creation" for this example.)





—Y symmetrical data creation

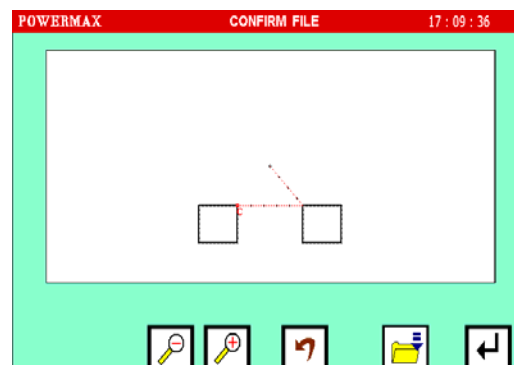
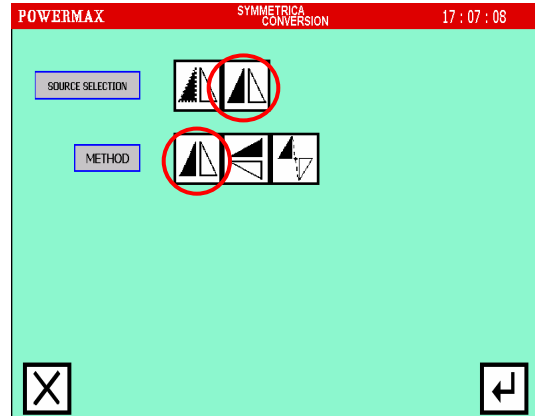




—XY symmetrical data creation

- Touch  to confirm.

- 3 Confirm the pattern

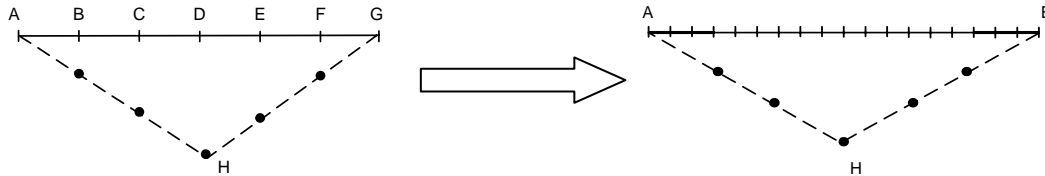
- Use  key or  key to Narrow / Enlarge pattern. Viewing the pattern whether to meet the requirements.



- After confirming, you can touch  to save file in the original position.
- Touch  to cancel the previous operation, and return to the previous screen.


## 7.2 BACK TACKIN CONVERSION

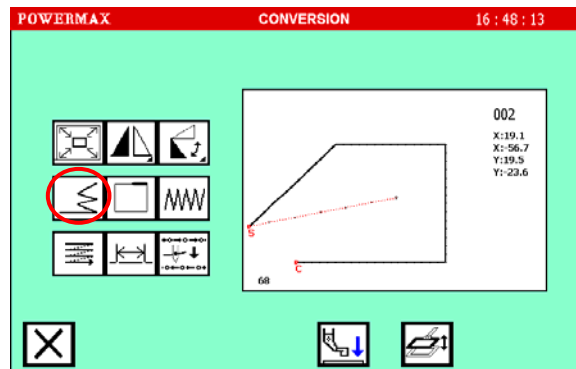
[Example]: Convert the left pattern data into the right pattern data. Add 3 N back tacking before and after linear stitching. (The bold section is back tacking.)



[Operation details]

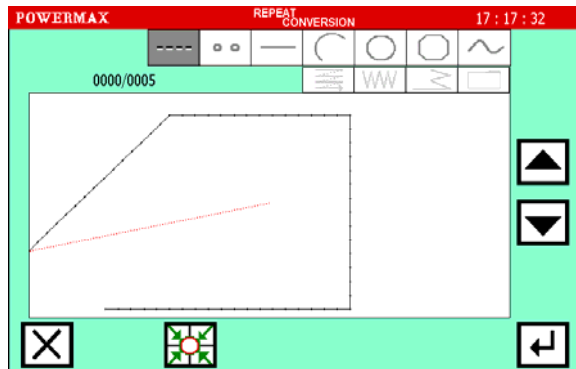
### 1 Select Start/End back tacking








- Touch  to set back taking.

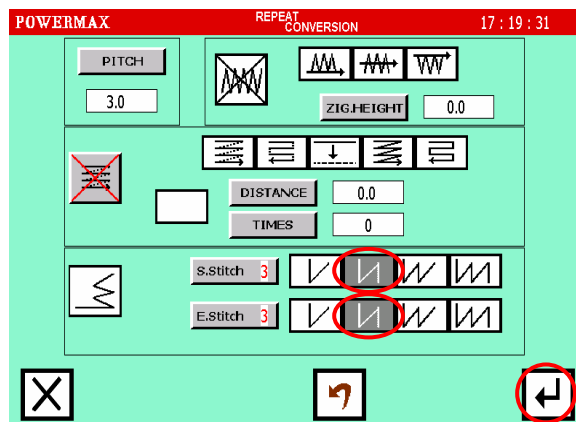


### 2 Set Start/end back tacking





After entering and selecting the button, as shown on the right :

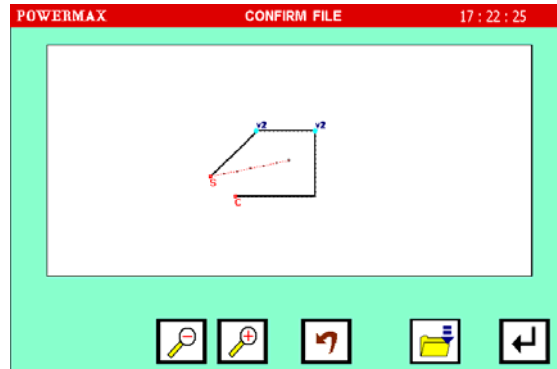


- Touch  to set parameter ,as shown:
- The details are set on this screen.
- The details set  here are (start/end back tacking), start  key (N mode).  
Touch  key to set start stitch, and use numeric key to set three start stitches.
- Start  key (N mode),touch  key and use numeric key to set three end stitches.
- Touch  to confirm.



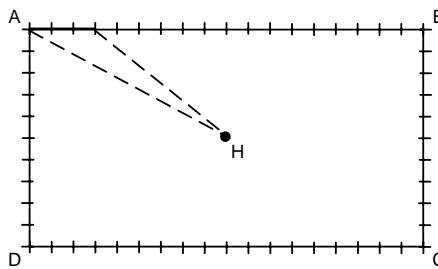
**3** Verify the data of pattern

- Use  key or  key to make pattern be a fit size.
- Touch  to return.
- Touch  to conversion.



**7.3 OVERLAP BACK TRACKING CONVERSION**

[Example] The following type of pattern data will be created.




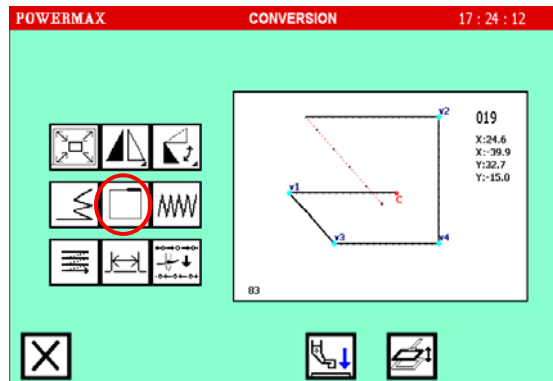
Input a rectangle as a broken line, and then insert overlap back tacking at the end. (The overlap mode is entered once; three overlap stitches are made.)

**Caution:** It is a shutting figure in the figure made in [Broken line], [Circle], [Arc], [Curve] to be able to do multiple back tacking.



[Operation details]

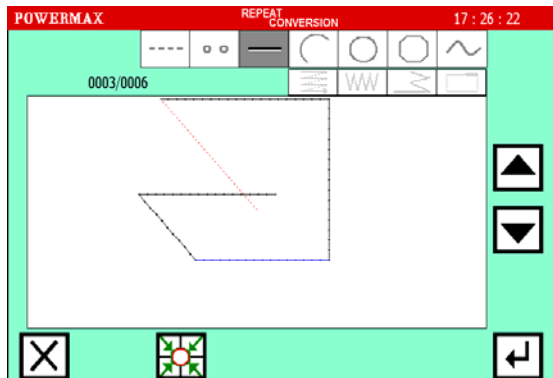
**1** Select overlapping seam conversion function

- Touch  to set overlapping seam.




**2** Select conversion segments

- Use  /  to select the line of requiring overlapping seam, the selected line is red. The overlapping seam is unavailable for sending feed









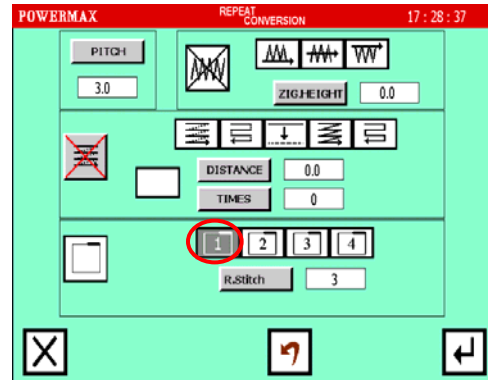
and liner pattern.

- Touch  to confirm and set the overlapping seam details.





**3** Set the overlapping seam details

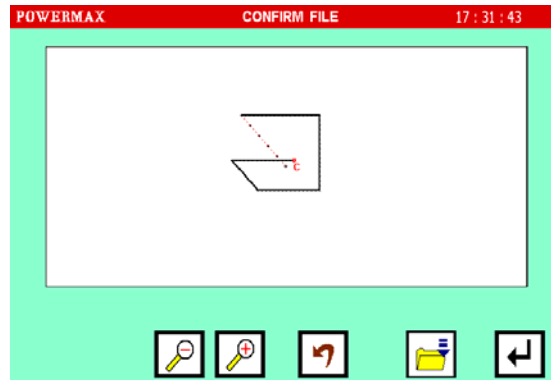
Flipping the  key, you can enter the screen of setting the overlapping seam, as shown right:

- The details are set on this screen.  
Select <back stitch mode> the key   
Touch the key , use the numeric key to set three overlapping stitches as 3.  
• Touch , the system will enter the screen of confirming conversion .



**4** Verify the data of pattern

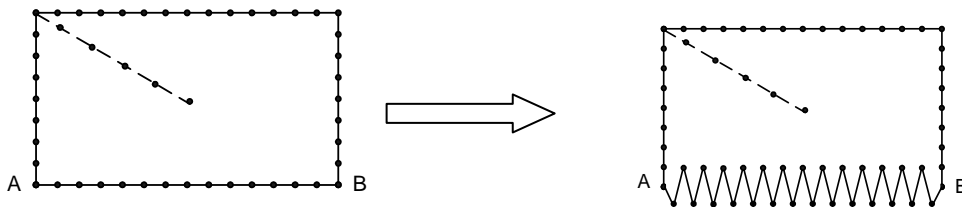
- Use  key or  key to make pattern be a fit size.
- Touch  to return.
- Touch  to conversion.



**Caution:** Check conversion results on main menu screen. For example, one conversion will add 3 overlap back tacking stitches.


**7.4 ZIGZAG STITCHING CONVERSION**

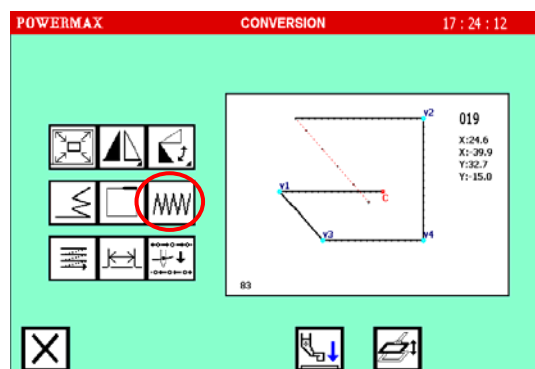
[Example] Add zigzag stitching between Point A and Point B as shown below.






[Operation details]

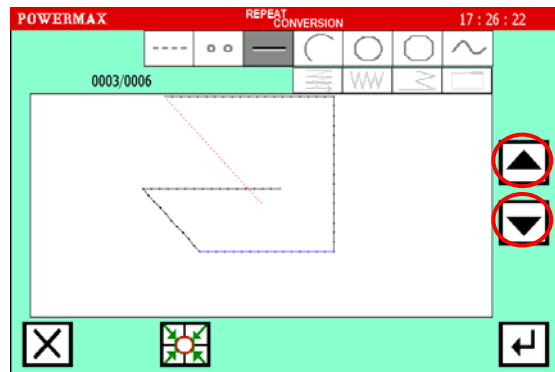
**1** Select zigzag conversion

- Touch  to set zigzag stitching.





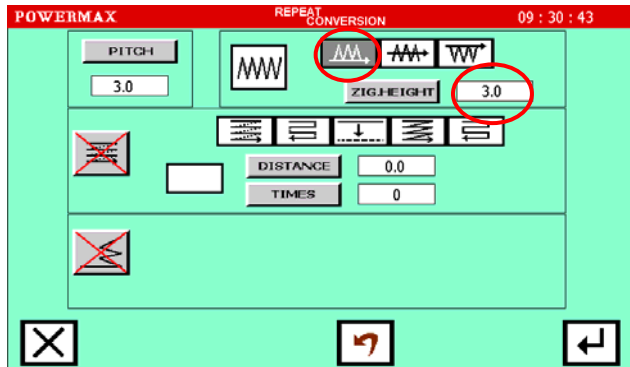
**2** Select conversion segments

- Use  /  to select the line of requiring zigzag stitching, the zigzag is unavailable for sending feed and liner pattern.
- Touch  to confirm and set the zigzag stitching details.





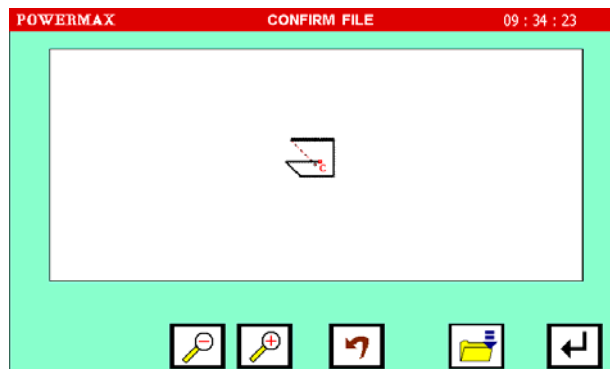
**3** Set the zigzag details

- Use numeric key to set the deflection width to 3.0. If you do not alter the width, the system defaults to the current stitch length.
- Touch  key to set deflection direction (left side).
- Touch  to confirm.



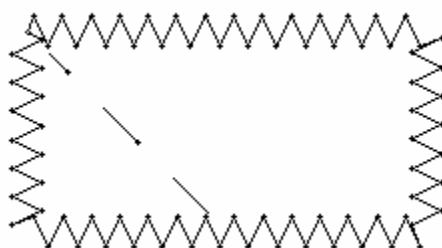
**4** Verify the data of pattern

- Touch  to confirm.
- Touch  to return.



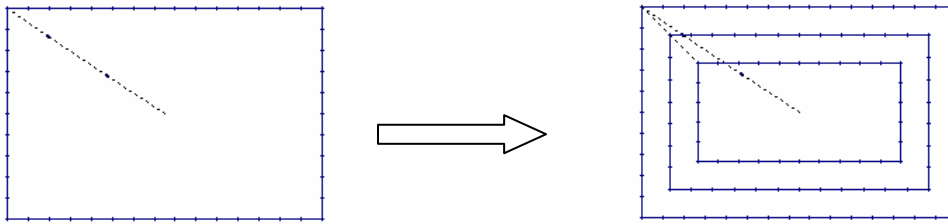
**注** **Caution:** The 5 straight lines compose the rectangle. The user can select 5 sections, one is feeding, the other is linear line. Select 4<sup>th</sup> section to convert and create the example.

If the polygon compose the rectangle, the user only selects 2 sections, one is feeding and the other is polygon. If select 2<sup>nd</sup> section, the converted pattern is shown as below.




## 7.5 MULTIPLE STITCH CONVERSION

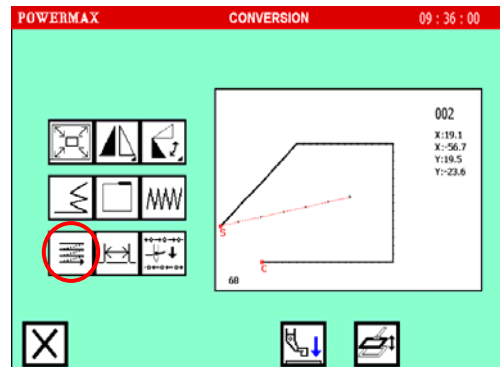
[Example] The following type of pattern data will be created. Create the multiple stitching specification data. (The multiple distance is 4mm, the number of times is three.)






[Operation details]

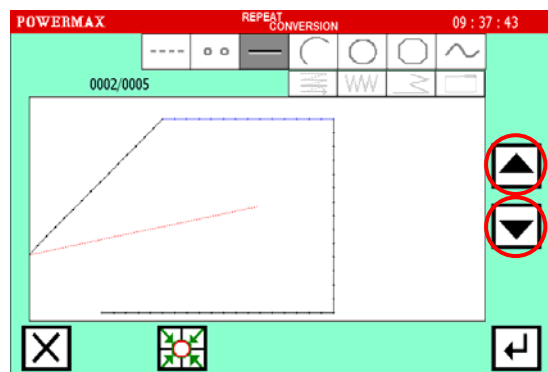
### 1 Select multiple stitching conversion

- Touch  to set multiple stitch.








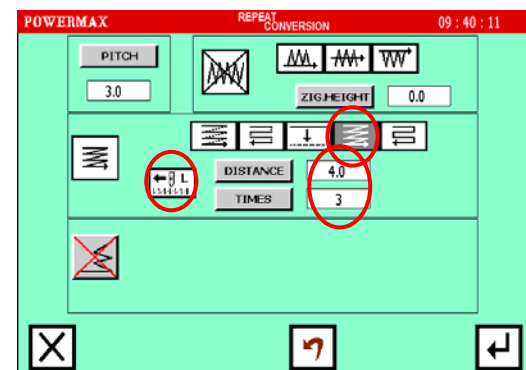
### 2 Select conversion segment

- Use  /  to select segment, the zigzag is unavailable for sending feed and liner pattern.
- Touch  to set the multiple stitch details.





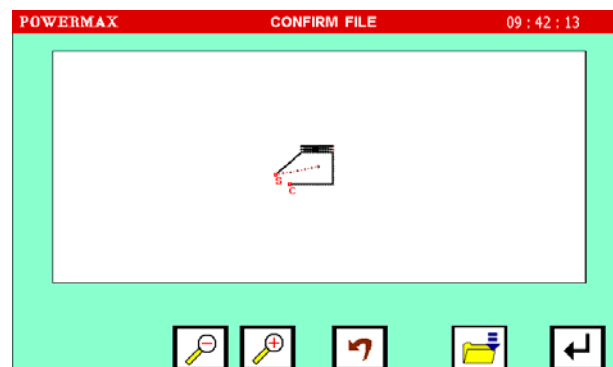
### 3 Set the multiple stitch details

- Touch  to set as the same direction multiple stitch.
- Touch  to make it into , set the multiple stitch directions as left.
- Touch **DISTANCE** key, set the distance to 4.0.
- Touch  to confirm.
- Touch **TIMES** key, set the number of times to 3.
- Touch  to confirm.



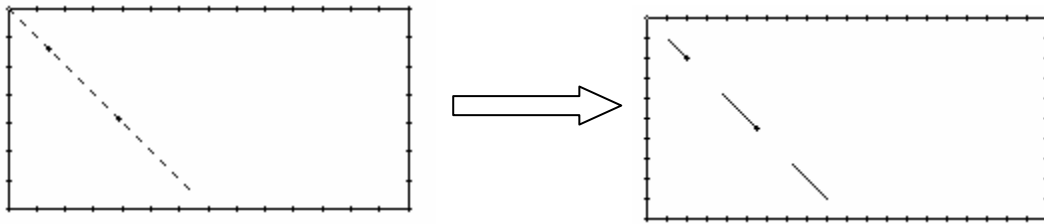
### 4 Verify the data of pattern

- Touch  to confirm.
- Touch  to return.




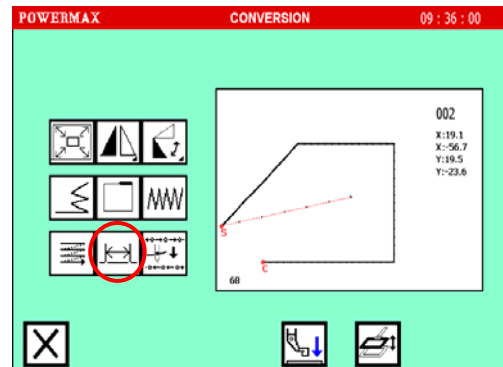
## 7.6 STITCH LENGTH CONVERSION

[Example]: Convert left pattern into right pattern. The stitch length of left is 3.0mm, the right is 2.0.

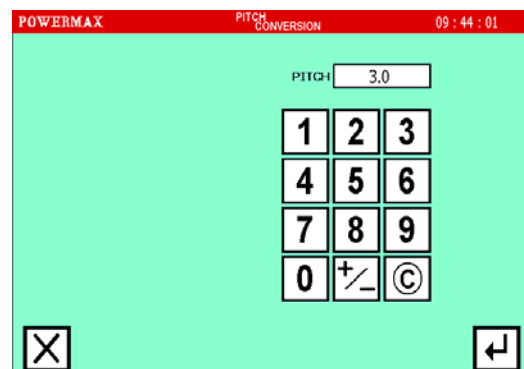




[Operation details]

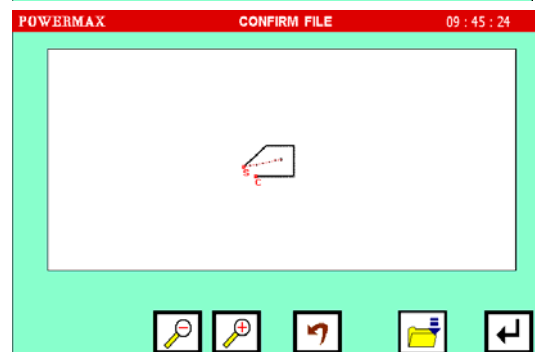
- 1 Select stitch length conversion
  - Touch  to set stitch length.



- 2 Set the stitch length details
  - Use numeric key to set new stitch length.





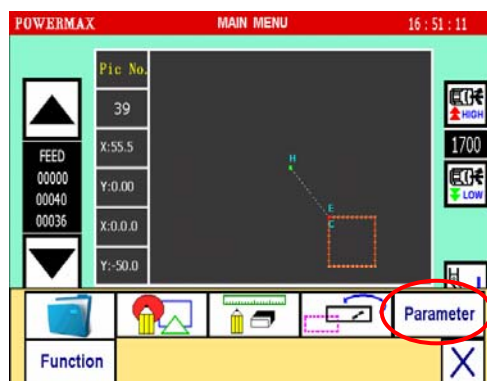
- 3 Verify the data of pattern
  - Touch  to confirm.
  - Touch  to return.



## 8 PARAMETER SET (USER PARAMETER)

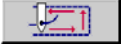


The mode of entering the parameter setting


- Touch  and  on main menu screen, then enter the parameter setting screen.

























Please refer to the "Parameter List" table about the specific settings.

**Parameter list**





















<b>AUTO</b> 	<b>U002</b> Autorun at uniform speed	<b>ON</b>   The speed of fees is uniform
		<b>OFF</b>   The speed of principal axis is uniform
	<b>U005</b> Sewing area limit	<b>ON</b>   Limit for stitching range is available
		<b>OFF</b>   Limit for stitching range is invaild
	<b>U006</b> Assistant orientation	<b>ON</b>   Assistant orientation is OFF
		<b>OFF</b>   Assistant orientation is ON
<b>SLOW STEP</b> 	<b>U011</b> Speed of the first stitch	On the basis of each machine, set the parameter properly.
	<b>U012</b> Speed of the second stitch	
	<b>U013</b> Speed of the third stitch	
	<b>U014</b> Speed of the forth stitch	
	<b>U015</b> Speed of the fifth stitch	
<b>SPEED</b> 	<b>U021</b> Upper limit of speed setting	
	<b>U022</b> Non-stitching feed speed	On the basis of each machine, set the parameter properly.
	<b>U024</b> Set of jog speed	
	<b>U025</b> Cursor input low speed	Commend:800
	<b>U026</b> Cursor input middle speed	Commend:1600
	<b>U027</b> Cursor input high speed	Commend:2600
<b>CLAMP</b> 	<b>U032</b> The order of treadle's operation	<b>ON</b>   The No.1 treadle controls startup,and the No.2 controls clamp



		<b>OFF</b> The No.1 treadle operates orderly,and the No.2 operates in reverse order
	<b>U033</b> The height of foot's lift up	
	<b>U034</b> Pedal operation method with clamp	<b>1ST</b> Control the action of the big clamp
		<b>2ND</b> Control the action of the big clamp and the 2 <sup>nd</sup> -clamp by turn
		<b>3RD</b> Separate control the action of the master clamp and the separate clamp( left/right )
	<b>U035</b> Invalid stitches of the 2 <sup>nd</sup> -clamp sensor	Commend:0
	<b>U038</b> The second hight of the clamp	Commend:0
<b>SCALE</b> 	<b>U051</b> Scale of high speed	Commend:100
	<b>U052</b> Scale of high middle speed(MD2)	Commend:90
	<b>U053</b> Scale of low middle speed(MD1)	Commend:70
	<b>U054</b> Scale of low speed	Commend:60
	<b>U061</b> The action od clamp at home position	<b>ON</b> Keep pressing at home position
		<b>OFF</b> Lift at home position
	<b>U062</b> The condition of returning home position	<b>ON</b> Permit returning to home position when clamp press down,foot lifting and needle's UP position
		<b>OFF</b> Permit returning to home position at current state

<b>HOME POSITION</b> 	<b>U063</b> The mode of returning home position	<b>1ST</b> The order of returning home position: X→Y
		<b>2ND</b> The X axis and Y axis return to home position together
		<b>3RD</b> The order of returning home position: Y→X
	<b>U064</b> Speed of returning to home position	
<b>PAUSE</b> 	<b>U071</b> Automatic trim at pause	<b>ON</b> Permit automatic trim at pause
		<b>OFF</b> Forbid automatic trim at pause
	<b>U072</b> Needle's position at pause	<b>ON</b> Needle stop at UP position at pause
		<b>OFF</b> Needle stop at DOWN position at pause
	<b>U073</b> Pause switch two-press operation	<b>ON</b> Permit two-press operation at pause
		<b>OFF</b> Forbid two-press operation at pause
	<b>U074</b> Delay of pause	
	<b>U075</b> Operation of clamp at pause	<b>ON</b> Clamp lifting at UPST
		<b>OFF</b> Clamp keep pressing at UPST
	<b>U076</b> Type of pause switch	<b>ON</b> Normal
<b>OFF</b> Auto-locked		
<b>MATERIAL</b> 	<b>U091</b> Select sewing material	<b>1ST</b> Select sewing material_Thick material
		<b>2ND</b> Select sewing material_Moderate-material
		<b>3RD</b> Select sewing material_Flimsy material
	<b>U092</b> Ply of moderate material	Commend:1mm
	<b>U093</b> Ply of moderate material	Commend:4mm

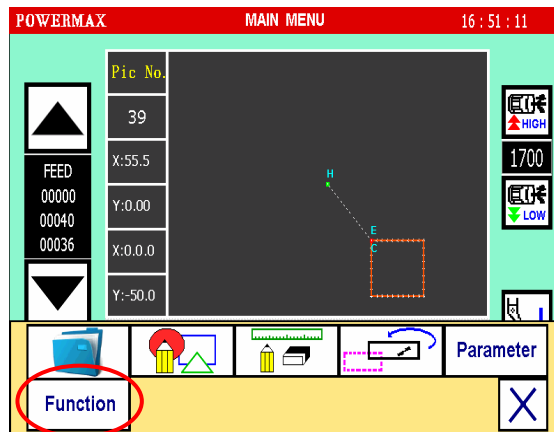
	 <b>U094</b> Ply of thick material	Commend:7mm
<b>THREAD TRIMMING SENSOR</b> 	 <b>U111</b> The needle thread trimming sensor's ON/OFF	 The needle thread trimming sensor is available
		 The needle thread trimming sensor is validated
	 <b>U112</b> Thread trimming when the thread trimming sensor detection	 The thread trimming when the needle thread trimming sensor detection is available
		 The thread trimming when the needle thread trimming sensor detection is validated
	 <b>U113</b> Invalid stitches of the starting time stitch sensor	Commend:3
	 <b>U114</b> Invalid stitches of the stitch in progress sensor	Commend:2
 <b>U115</b> Delayed timing for broken thread checking out	Commend:0.2	
<b>TRIMMING</b> 	 <b>U121</b> spindle speed for trimming	Commend:260mm/min
	 <b>U122</b> Delayed timing before trimming	Commend:0.12s
	 <b>U123</b> Wiping durable before trimming	Commend:0.03s
	 <b>U124</b> Turn-off time for wiping	Commend:0.12s
	 <b>U125</b> Permit/forbid trim at moving	 Permit trimming at moving
		 Forbid trimming at moving



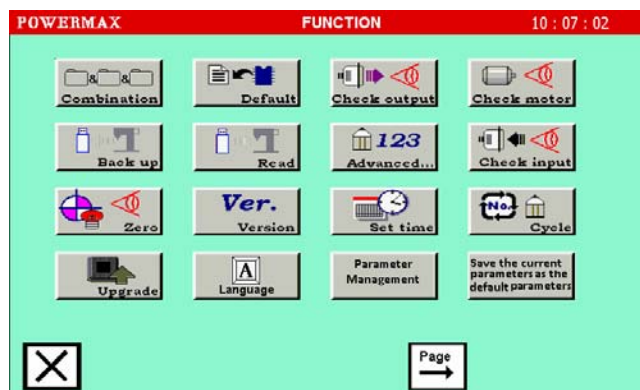
	 <b>U126</b> Set of wiper	 Available wiper at trimming
		 Invaild wiper at trimming
	 <b>U127</b> Thread release output delay time	Commend:0S
	 <b>U128</b> Needle position after trimming	 Hold Current position after trimming
 Reverse needle lifting operation after thread trimming		
<b>FOOT</b> 	 <b>U161</b> Usual height of foot when it's fall	
	 <b>U162</b> Height of foot 1	
	 <b>U163</b> Height of foot 2	
	 <b>U164</b> Height of foot 3	
	 <b>U165</b> Height of foot 4	
<b>ALARM</b> 	 <b>U171</b> Type of automatic alarm	 The automatic of alarm is OFF
		 The automatic alarm is ON
		 The alarm appears when the screen is being refreshed
	 <b>U172</b> The durative time of automatic alarm	
	 <b>U173</b> The periodic time of automatic alarm	

<b>DELAY</b>  输出延时	<b>DELAY OF FOOT DOWN</b> Delay of foot down	
	<b>DELAY OF CLAMP</b> Delay of clamp	
	<b>DELAY OF FOOT UP</b> Delay of foot up	
	<b>Assistant orientation (1)</b> Delay assistant orientation (1)	
	<b>Assistant orientation (2)</b> Delay assistant orientation (2)	
<b>DEBUG</b>  试机模式	<b>DELAY OF AUTORUN</b> Delay of autorun	

## 9 ASSISTANT FUNCTION



- Touch  on main menu screen and then touch  to open the assistant function selecting screen.



Pattern data combination












Resuming default parameter



Output signal inspection



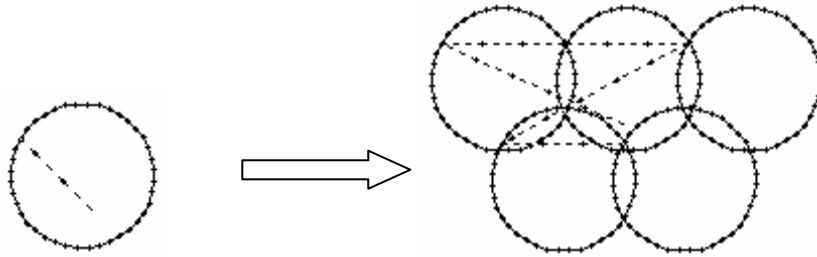
Check motor

	Backup parameters in U disk		Read parameters from U disk
	Setting password		Input signal inspection
	Version confirmation		Resetting date
	Zero Test		Circulatory function
	Slave machine program upgrade		



### 9.1 GROUP PATTERN DATA(PATTERN DESIGN COMBINATIONS)

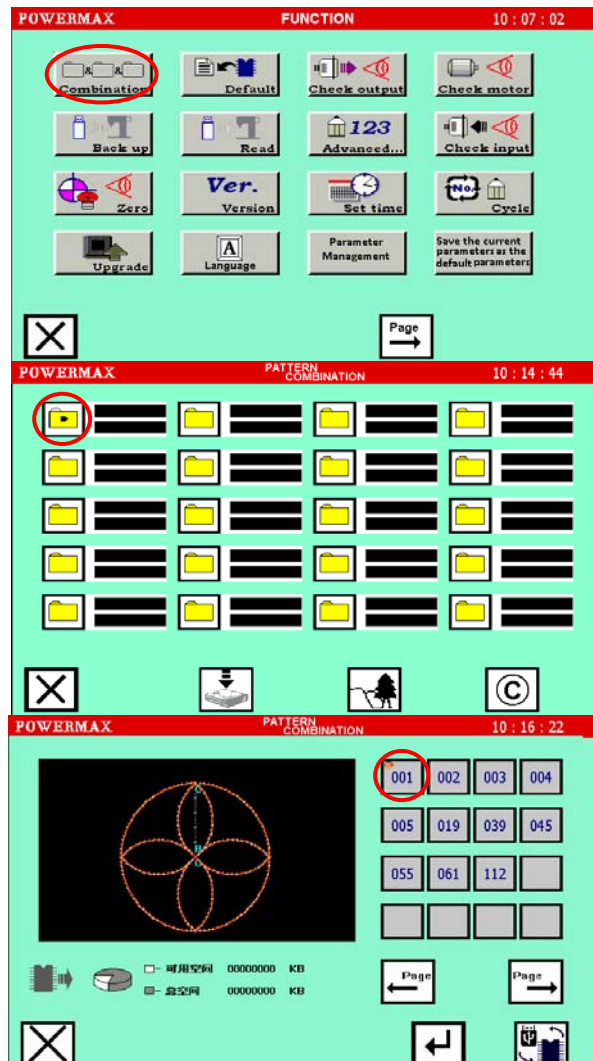
The system is based on current single pattern to create group pattern data. The group pattern is also called sub-data.

[Example] Based on left circle pattern to create right five-circle pattern.




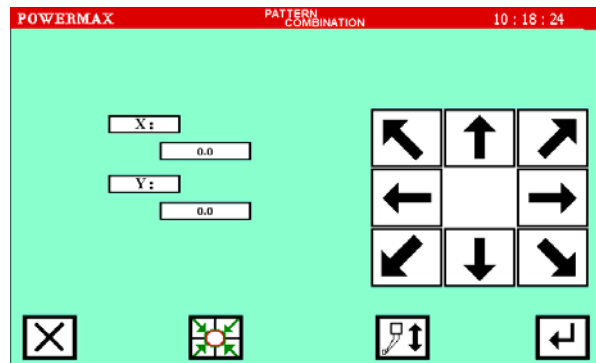
[Operation details]

- 1 Select macroprocessor
  - Touch  to create pattern.
  
- 2 Set sub-data
  - Touch data with  to set the 1st sub-data and enter sub-data selecting.
  
- 3 Select the 1st sub-data
  - Touch the 1st sub-data to enter the stitch start position setting screen.





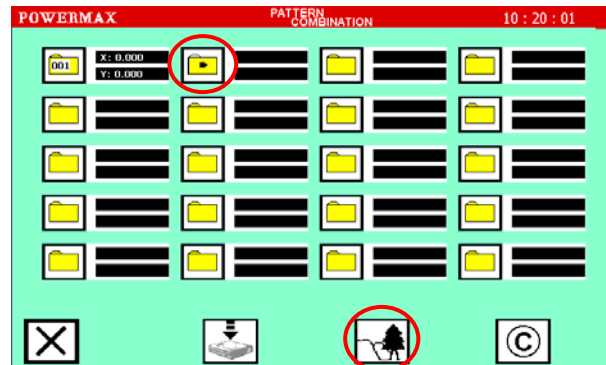
4 Set the stitch starting position of the sub-data

- Use direction key to set the stitch starting position of the 1st circle.
- Touch  to confirm and return to set the 2nd sub-data.





5 Set the 2nd sub-data

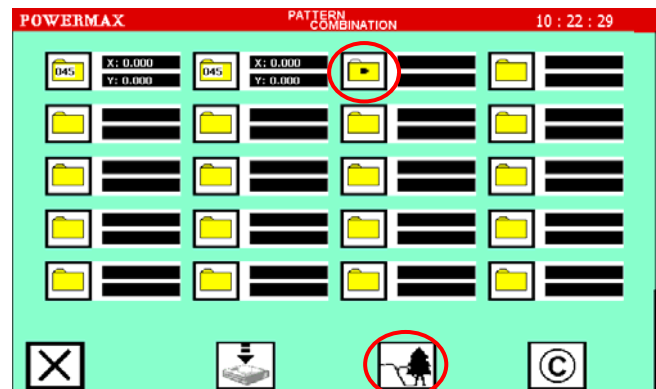
- Touch  to confirm the pattern data. If the above sub-data setting is wrong, setting again.
- Touch data with  and set the 2nd sub-data. Enter the sub-data selection.



6 The 2nd sub-data selection and stitch starting position are the same as the ③ and ④.

7 Set the 3rd sub-data


- Touch  to confirm the pattern data. If the above sub-data setting is wrong, setting again.
- Touch data with  and set the 3rd sub-data. Enter the sub-data selection.

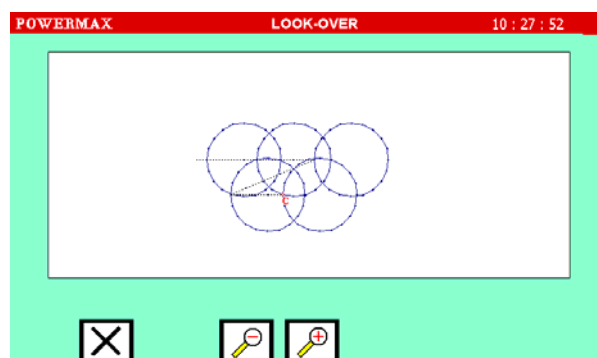


8 The 3rd sub-data selection and stitch starting position are the same as the ③ and ④.

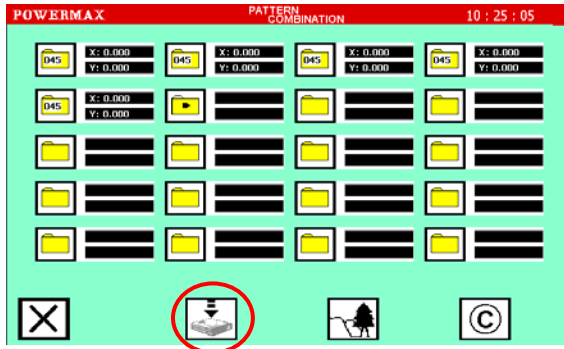
9 Set the 4th and 5th sub-data.


10 Confirm the pattern after setting the 5th sub-data.

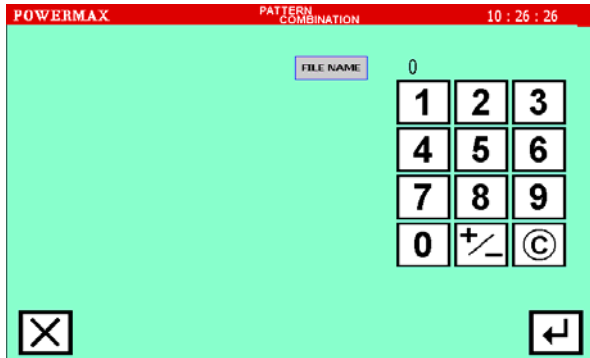
- Touch  and return to sub-data list screen.



11 Save data




- Touch  to enter pattern data saving screen.

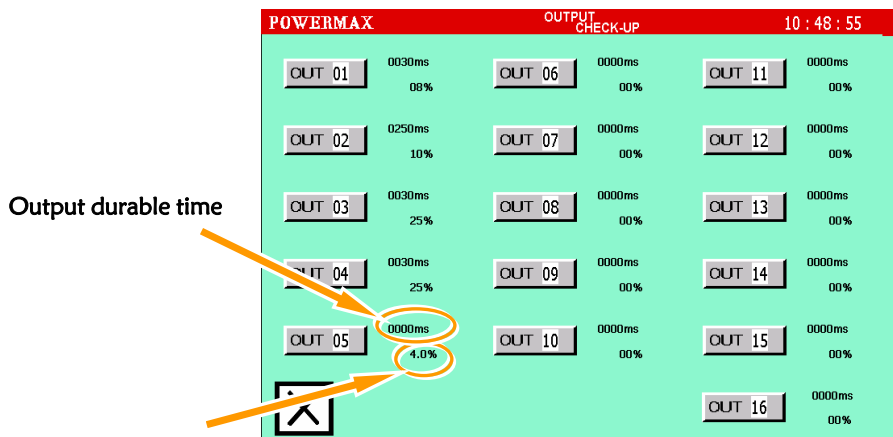


**注** Caution:

- (1) When the pattern data is selected as sub-data, the code data is all saved except the second home position function. If add the second home position in new data please refer to 6.12.
- (2) Stitch length of sub-data is not changed in new creation pattern.

## 9.2 OUTPUT SIGNAL INSPECTION

Touch  on assistant function selection screen and open the output signal inspection screen as shown on the below.




Pulse-width modulation output ratio


**注**: Before output model detection, make sure the output parameters are set correctly (Electromagnetic or start-up mode, pulse-width modulation output ratio and set Output durable time of the electromagnetic whether is correct) , If setting incorrectly may cause damage to the solenoid.

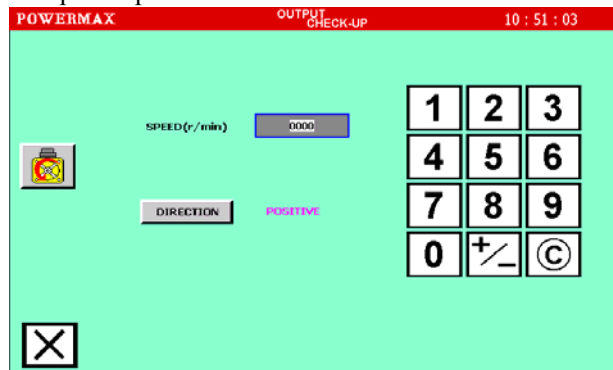
### 9.2.1 OUTPUT SIGNAL

<b>OUT 01</b>	Clamp signal	<b>OUT 02</b>	Presser foot
<b>OUT 03</b>	Triming signal	<b>OUT 04</b>	Wiping signal
<b>OUT 05</b>	Releasing signal	<b>OUT 06</b>	Buzzer
<b>OUT 07</b>	Spare	<b>OUT 08</b>	Spare


### 9.2.2 SERVO SIGNAL

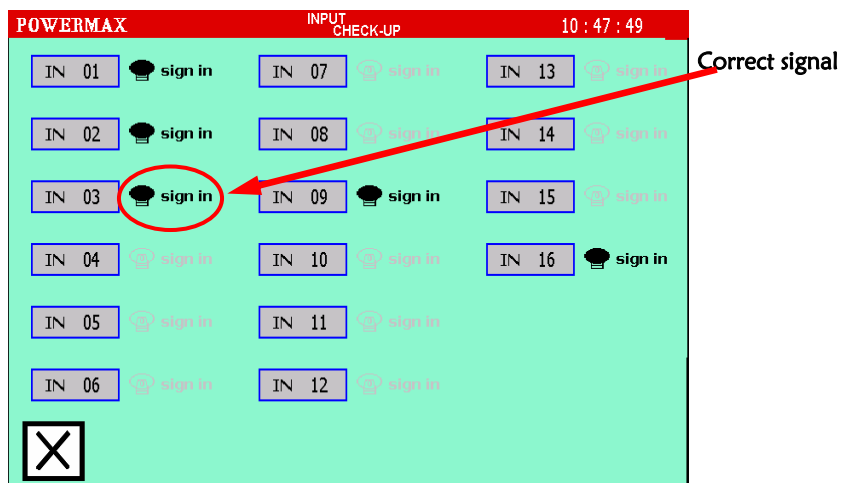
Press  on the above screen and open the servo output inspection screen as shown on the below screen.

- Use numeric key to input rotation.
- Use **DIRECTION** to change the rotation direction.
- Touch  to confirm the motor run.



### 9.3 INPUT SIGNAL INSPECTION

Touch  on assistant function selection screen and open the input signal inspection screen as shown on the below.




#### 9.3.1 INPUT SIGNAL

Enter the above screen and touch the relative key to confirm the <signal in> sign on screen. If there is no changing, please confirm the linkage.

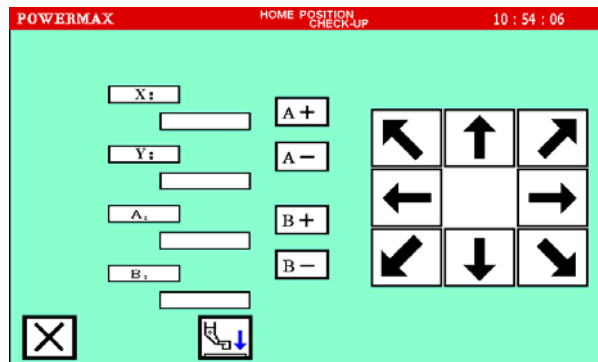
Key	Input No.	Signal
Running pedal	Input 1	Automatically running
Clamp pedal	Input 2	Clamp operation
Pause	Input 3	Pause

Spare	Input 4	Spare
Broken thread inspection	Input 5	Broken thread inspection signal
Spare	Input 6~16	Spare


### 9.3.2 HOME POSITION SIGNAL



Touch  and open the home position inspection screen.

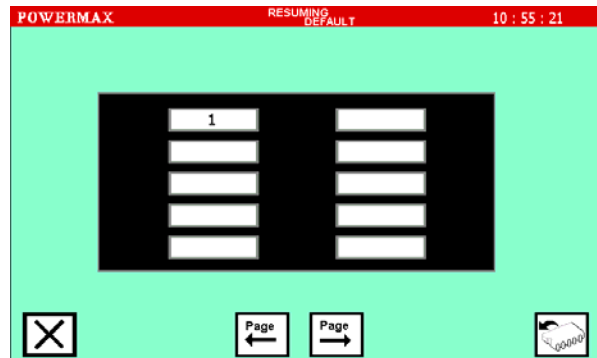
- Use arrow key to find the home position signal.
- If there is signal, the LCD will display <signal in> on relative direction. If there is <signal in> on X, Y and A directions, the home position signal is correct.



### 9.4 RESUMING DEFAULT PARAMETER


Touch  on assistant function selecting screen, After entering the correct password in the password entry screen, enter the default parameter resuming screen as shown on the below screen.

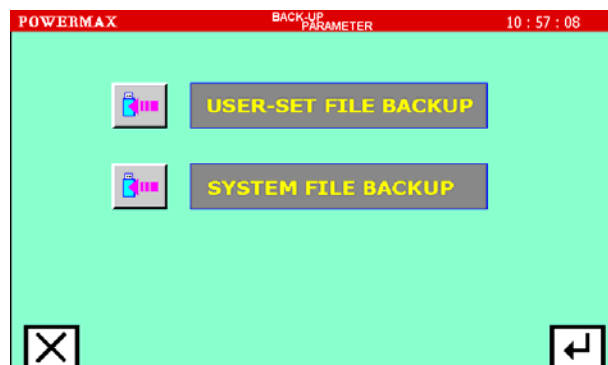
- Press the corresponding parameter to Confirm parameter.
- Touch  to reload the appropriate default parameters.
- After the emergence of the screen is loaded finished ,Touch  to return.






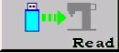
**注** **Caution: Only professional maintainer operates fault parameter loading. Before load fault parameters, record the angle parameter.**

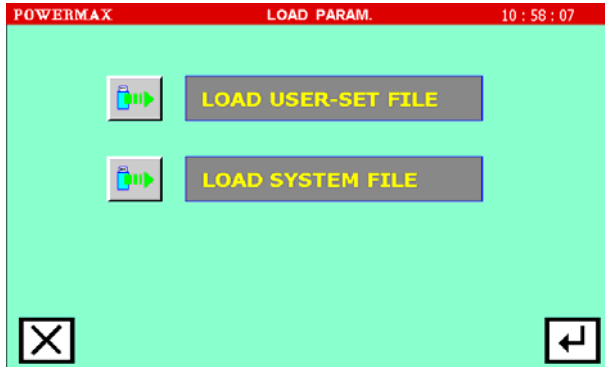
### 9.5 REDUCTION/SPARE PARAMETER

Touch  on assistant function selecting screen and open the spare parameter screen as shown on the below screen.





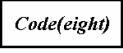
-  /  —— Select the user parameter / system parameters.
- Touch  to confirm.

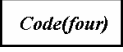
Press  on assistant function selecting screen and open the reduction parameter screen as shown on the below screen.

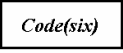


## 9.6 PASSWORD MODIFICATION FUNCTION

Touch  and  on assistant function selecting screen and open the password modification function screen as shown on the below screen.

 —— Modify <operation day password>.

 —— Modify<entrance parameter two password>.

 —— Modify<entrance parameter three password>.

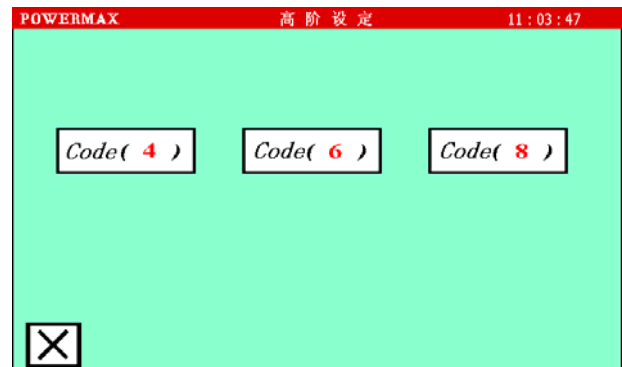

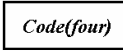


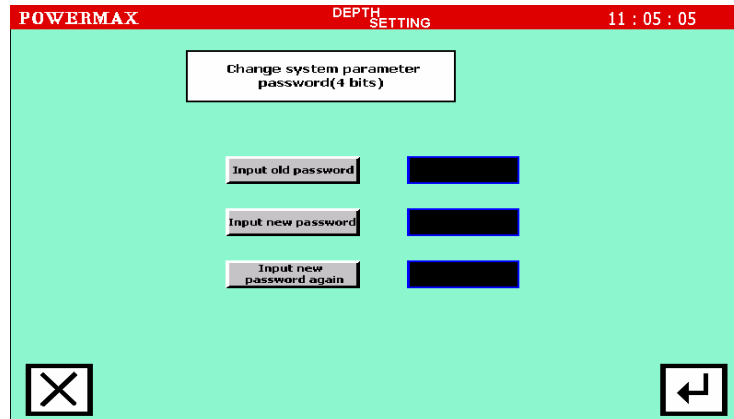
figure 9.5-1

 **Caution:** This function is used for modifying <entrance system parameter word> (4-bit) and <operation day password> (8-bit).

### 9.6.1 MODIFY<ENTRANCE PARAMETER TWO PASSWORD >.

In figure 9.5-1, Touch  to open Modify<entrance parameter two password> screen. as shown on the below screen:

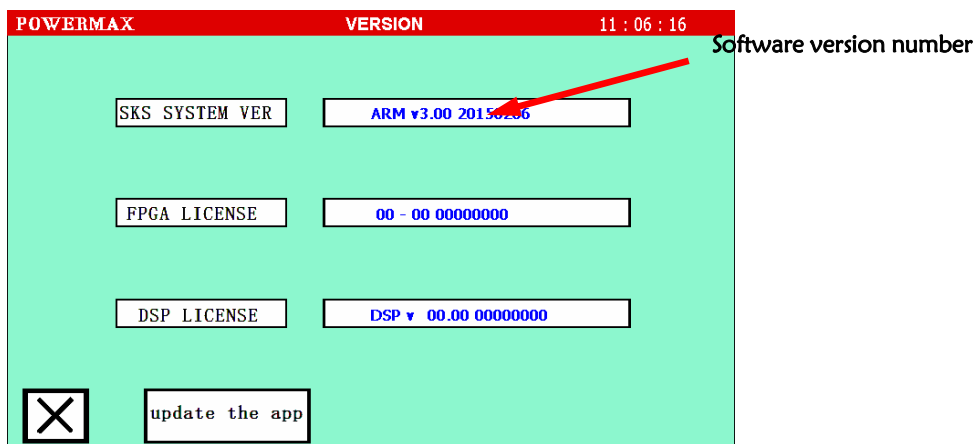




- Touch **Input old password** and open the password input screen. Input current password and confirm.
- Touch **Input new password** and open the new password input screen. Input new password and confirm.
- Touch **Input new password again** and open the new password confirm input screen, input the new password and confirm.
- The new password setting is available.

## 9.7 VERSION CHECK

Touch **Ver. Version** on assistant function selecting screen, and open the version checking function screen as shown on the below screen.



## [Appendix 1] Alarming explanation (system)

### Message code: 00001

The message code displays as below.

It's too fast to finish the stitch. Please lower or check the machine.

#### Analyzing:

- (1) Spindle rotates so fast that the pattern data cannot accept.
- (2) The system alarms, because the spindle locks or the stitching line enwind to make system overloading running.

#### Troubleshooting:

- (1) If select the speed to create pattern data at the 1<sup>st</sup> time, please refer to the speed index to reduce speed.
- (2) If problem occurs casually, please check machine state to make sure.

#### Explanation:

Spindle lock: The spindle can not rotates stably because of wrong fix.

### Message code: 00003

The message code displays as below.


Oversteps the area limit. Please return to home position at first.

#### Analyzing:

- (1) The pattern data stitching range oversteps the designed range.
- (2) The system can not carry out stitching because the over-limit parameter of system is changed .

#### Troubleshooting:

##### [Operation details]

- ① Press  to cancel over-limit state and make sure the over-limit parameter setting.
- ② After confirm the over-limit parameter, make sure the pattern data setting. Recompile or amend according to pattern data.

### Message code: 00004

The message code displays as below.

Principal axis's drive alarms. Please turn off the power at first and turn on it again after one minute.

#### Analyzing:

The system alarms, because the spindle locks or the stitching line enwind to make system overloading running.

#### Troubleshooting

[Operation details]

- ① At first, press spindle alarming cancel key on system control box.
- ② Get rid of the spindle overloading factors, adjust the spindle or check the cloth and stitching line.
- ③ Get rid of the alarming factors, reset the alarming cancel key for system running.

#### Message code: 00005

The message code displays as below.

Program is wrong. Please create again.

#### Analyzing

- (1) The data may be damaged and unrecognized if wrong shutdown when the pattern data running.
- (2) The system can not recognize the pattern data which is not created by itself.

#### Troubleshooting:

Delete the pattern data and recreate.

#### Message code: 00006

The message code displays as below.

The angle set of feed permitted /forbidden is wrong.

#### Analyzing:

The system can not run because feed angle parameter setting () is wrong.

#### Troubleshooting:

Make sure the angle setting () is right. (Please refer to 10.1 ANGLE SETTING )



**注** Caution: Please not set parameter at random. Wrong setting will cause bad running. or equipment damage. If you have question, please contact with local agent.

#### Message code: 00007

The message code displays as below.

The counter and suture counter arrives the upper limit.

#### Analyzing:

Set <Forbid working after counting arriving at limit> on counter parameter  of user parameter . When system products reach the designed amount, the system will automatically stop and alarm. (Please refer to 8 PARAMETER SET (USER PARAMETER))

#### Troubleshooting:

After alarming, the system will reset counter.

### Message code: 00008

The message code displays as below.

Thread was broken.

#### Analyzing:

Set <Stitching line checking> on stitching line checking  of user parameter .

When stitching line breaks, the system will alarm.

#### Troubleshooting:

Press self-lock key and replace stitching line.

### Message code: 00009

The message code displays as below.




Time limit is arrived.

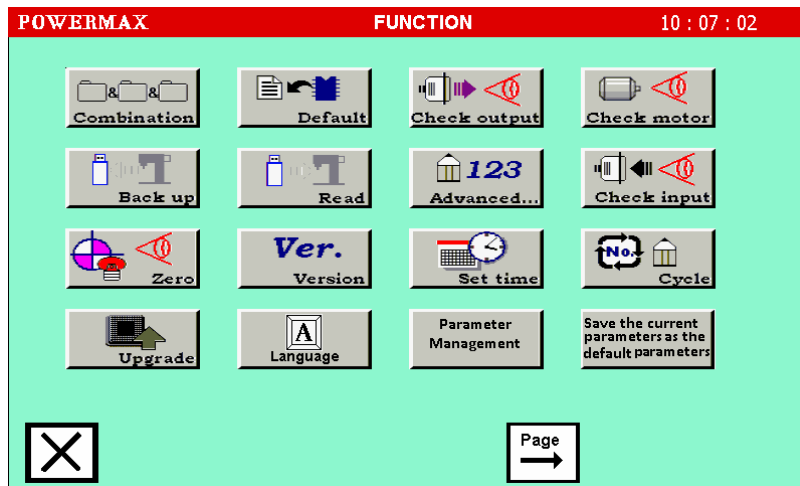
#### Analyzing:


Time limit is arrived. Please reset.

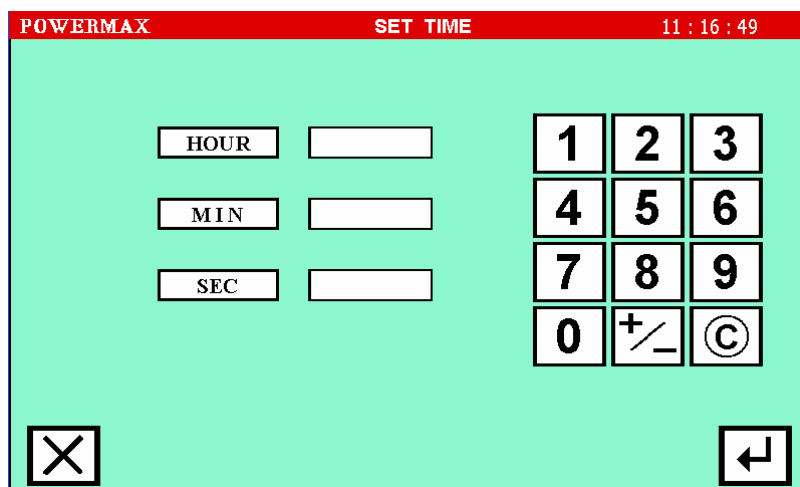
#### Troubleshooting:

[Operation details]

- ① Press  and  on menu screen to enter the assistant function. Press  to enter the advanced function.



③ Press  to enter the time limit set.



③Please refer to 9.6.1 SETTING OPERATION DAYS.

### Message code: 00010

The message code displays as below.

Lack of source. Please install software again.

#### Analyzing:

- (1) The system data damages because system wrong running or shutdown.
- (2) Incomplete installation leads to lack of data.

#### Troubleshooting:

Please contact our agents to reinstall system software.

### Message code: 00012

The message code displays as below.

Must return home position before rework.

### Analyzing:

If the system don't return origin position before rework, the system carries out over-limit alarm when running .

### Troubleshooting:

Press  and return origin position. Then, rework.

### Message code: 00999/01021

The message code displays as below.

System has a mistake. Please turn off the power at first and open it after one minute.

Operation of memory is wrong. Please turn off the power at first and open it after one minute.

### Analyzing:

The system start is wrong.

### Troubleshooting:

System stop. After one minute, restart the system.

### Message code: None

The message code displays as below.

Pitch distance is zero, and could not input data.

Stitch length is zero, and could not input data.

### Analyzing:

Stitch length input is wrong.

### Troubleshooting

Amend stitch length and input data again.

### Message code: None

The message code displays as below.

The distance between two points could not be more than 12.7 mm in point input mode.

Three inputted points could not in the same line in circle input mode.

The number of inputted points is not enough to finish curve program in curve input mode. Please input again.

**Troubleshooting:**

The system will return to the below certain point and input again.

**Message code: None**

The message code displays as below.

The number of inputted points could not more than 128 in polygon input / curve input mode.

**Troubleshooting:**

Reduce polygon / curve input points.

**Message code: None**

The message code displays as below.

Please return home position before input data.

**Troubleshooting:**

Press 

**Message code: None**

The message code displays as below.

The file is out of range.

**Troubleshooting:**

Press  to delete inputted data or create again.

**Message code: None**

The message code displays as below.














Enter the jogging mode when the display of x/y axis's coordinates are zero, namely it is just be confirmed input and doesn't move yet.

**Troubleshooting:**













Confirm current input (press  or ) to enter jogging mode. If not confirm current input, press

 (feeding/ point /linear/ circle) or  (polygon / curve) to return to the above confirm point.


















### Input mode

	FEED DATA INPUT		STRAIGHT LINE INPUT
	POINT INPUT		CURVE INPUT
	ARC INPUT		CIRCLE INPUT
	BROKEN LINE INPUT		REVERSE MULTIPLE (FEED)
	REVERSE MULTIPLE (SEWING)		ZIGZAG SEWING
	ZIGZAG IS NOT SET		ZIGZAG DATA IS MADE AT THE LEFT
	ZIGZAG DATA IS MADE AT THE CENTER		ZIGZAG DATA IS MADE AT THE RIGHT
	DETAILS OF ZIGZAG SEWING IS SET		DETAILS OF BACK TACKING SEWING IS SET
	DETAILS OF MULTIPLE/OFFSET IS SET		BACK TACKING SEWING
	BACK TACKING SEWING IS NOT SET		V BACK TACKING
	N BACK TACKING		W BACK TACKING
	M BACK TACKING		MULTIPLE/ OFFSET IS NOT SET
	MULTIPLE SEWING (SEWING)		MULTIPLE SEWING (FEED)
	MULTIPLE BACK TACKING STITCH		1 STITCH MULTIPLE BACK TACKING
	2 STITCH MULTIPLE BACK TACKING		3 STITCH MULTIPLE BACK TACKING
	4 STITCH MULTIPLE BACK TACKING		OFFSET INPUT IS DONE
	OFFSET DATA IS MADE AT THE RIGHT		OFFSET DATA IS MADE AT THE LEFT
	MULTIPLE IS MADE AT THE RIGHT		MULTIPLE IS MADE AT THE LEFT
	CLOTH THICKNESS SET (0 to 3 mm)		THICKNESS SET (3 to 6 mm)
	THICKNESS SET (6 to 8 mm)		SPEED SET
	MACHINE SPEED IS MADE LOW SPEED		MACHINE SPEED IS MADE MEDIUM-LOW SPEED



	MACHINE SPEED IS MADE MEDIUM-HIGH SPEED		MACHINE SPEED IS MADE HIGH SPEED
	FOLLOWING THE TRACKS AND MOVES		MOVES IN THE STRAIGHT LINE
	WEIGHT SET (LIGHT)		WEIGHT SET (STANDARD)
	WEIGHT SET (HEAVY)		ENTER (FIXED OPERATIONS.)
	CANCEL AND RETURN TO ORIGINE DATA		SAVE PATTERN DATA
	CODE DATA INPUT		CANCEL INPUT

### Modify mode

	ADDS SEWING STITCH		SAME LENGTH STITCH IS ADDED BY ONE
	MODIFYS SPEED		MOVEMENT IN BLOCK
	CODE DATA ADDED		CODE DATA IS MODIFIED
	ALL DELETED AFTER POSITION SETTING		CODE DATA DELETE
	STITCH DELETE		SETTING STITCH DELETE
	STITCH POSITION IS CHANGED		PATTERN MOVE AFTER CORRECTING
	PATTERN FIXING AFTER CORRECTING		START POSITION IS MOVED
	STITCHING LENGTH IS CHANGED		PITCH CHANGED AFTER SPECIFY
	ALL PITCH CHANGED AFTER SPECIFY		

### ASSISTANT FUNCTION

	PATTERN DATA COMBINATION		RESUMING DEFAULT PARAMETER
	OUTPUT SIGNAL INSPECTION		REDUCTION/SPARE PARAMETER
	PARAMETER IS SET/CHANGED		INPUT SIGNAL INSPECTION
	VERSION CONFIRMATION		RESETTING DATE
	MOTOR RUNNING		OUTPUT SIGNAL
	HOME POSITION SIGNAL		INPUT SIGNAL

### USER PARAMETER SETTING

	AUTOMATIC RUNNING PARAMETER		SLOW START PARAMETER
	SPEED SETTING PARAMETER		CLAMP PARAMETER
	SUTURE INSPECTION PARAMETER		BROKEN THREAD CHECK OUT
	REVERSE CLEARANCE		COUNTER
	TRIMING PARAMETER		BOBBIN PARAMETER
	FEED MODE		HOME POSIRION PARAMETER
	PAUSE PARAMETER		POWER ON PARAMETER

### PAREMETER SETTING KEYS

	ANGLE SETTING		DIGITAL INPUT SETTING
	DIGITAL OUTPUT SETTING		OVERSETP LIMIT SETTTING
	MOTOR RUNNING DIRECTION SETTING		DELAY SETTING
	MOVEMENT CONTROL PANEL PASSWORD SETTING		AUTOMATIC STEP LENGTH SETTING
	PROGRAM UPDATING		PARAMETER STORING
	MOVEMENT CONTROL PANEL RESET		

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