ZOJE

中捷缝纫机

SEWING MACHINE

1900B Computerized Control System for Doubling and Tacking Machine

User’s Manual

Foreword

Thanks for using the Computerized Sewing Machine of ZOJE Company.

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

Contents

1 General Information

1.1 Supporting Model

SC201 Bar-tacking Machine Control System

1.2 Method for Input

Via Keyboard

1.3 Method for Display

Nixie Tube and LBDs

1.4 Layout of Panel

The operation panel is in a shape of oblong, and it is divided into 2 parts, the display part and the operational part. The display part consists of 5 nixie tubes and 10 LBDs while the operational part contains 12 keys. For specific information, please refer to the figure of control panel below.

1.5 Standardization

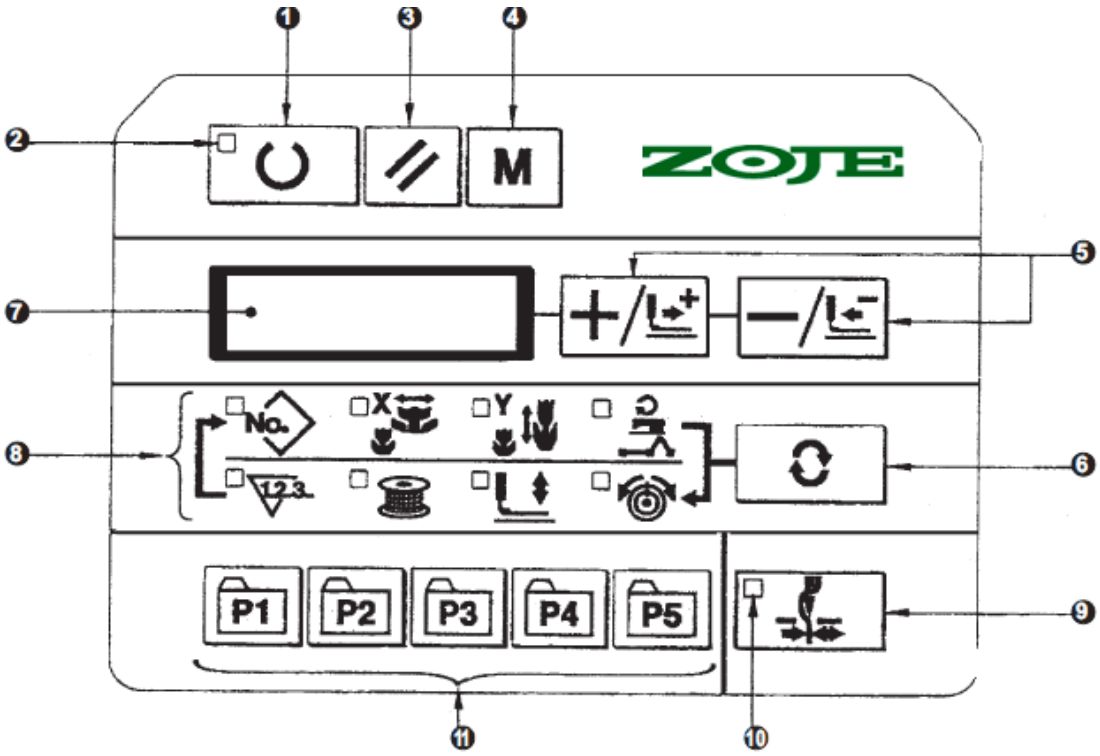
The function keys use the general figures with the meaning agreed in the trade. The figures are the internationalized language that users in each country can recognize it.

1.6 Method for Operation

The function keys include the Ready Key, Reset Key, Mode Key, Selection Key and Thread-catching Switch. For the specific operational method, please refer to the Operational Instruction.

2 Operational Instruction

2.1 Name & Description of Buttons on Control Panel



(1) Ready Key

Key for shifting between the setting/programming status of control panel and the sewing status of sewing machine;

(2) Sewing LED

It is set as: “ON” at sewing status, “OFF” at programming status. User can use the Ready Key for shifting between these two statuses;

(3) Reset Key

Release the error and restore the set value to the default value;

(4) Mode Key

When the Sewing LED is off, this key can activate the functions for setting parameters or storing the patterns; when the Sewing LED is on, this key can activate the siding function for threading actions, which will be automatically turned off in 20 seconds.

(5) ＋/Feed Forward Key & －/Feed Backward Key

These two keys are applicable for changing pattern number, rate of scale and feeding cloth forward/backward.

(6) Selection Key

Select the set item. The Item Selection LED and the set value of the selected item will be

displayed.

(7) Data Display LED

This LED indicates the set value of the selected items such as the pattern number, scale rate and so on.

(8) Item Selection LED

The LED of the selected item will be on.

(9) Thread-catching ON/OFF Key

The Validity/Invalidity of thread-catching function can be selected. When it is set as Validity, the Thread-catching Display LED will be on.

(10) Thread-catching Display LED

When the LED is on, the machine will catch the thread.

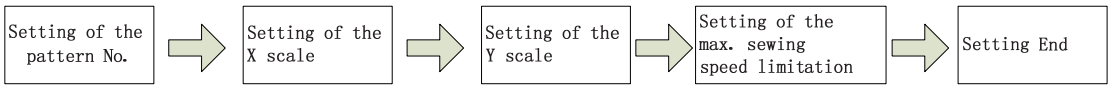
(11) Pattern Storage Key

Store the pattern. The stored pattern can be put into sewing as long as user presses this key. The changes in scale rate, sewing position and so on can also be stored.

2.2 Basic Operation

2.2.1 Settings of Item Data

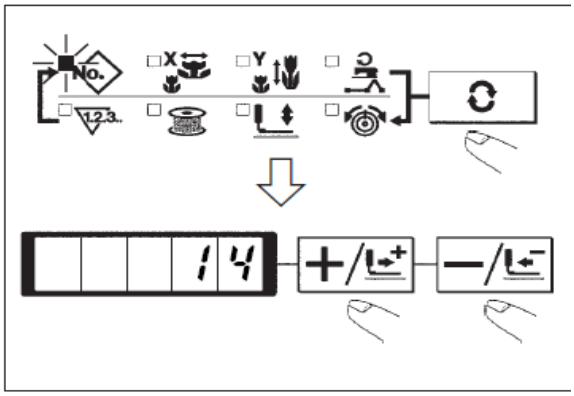
Please set the items in the following sequence:



1. Turn ON the power switch.

The pattern number of the item selection is lit up, and the pattern number will be displayed at data display part.

2. Setting of the pattern No.

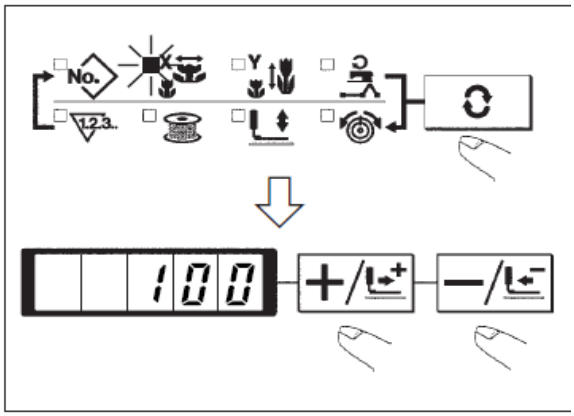


(1) Press , and then the LED of will be on.

(2) Press and to display 14 in the Data Display LED

(We take No.14 pattern as an

3. Setting of the X scale

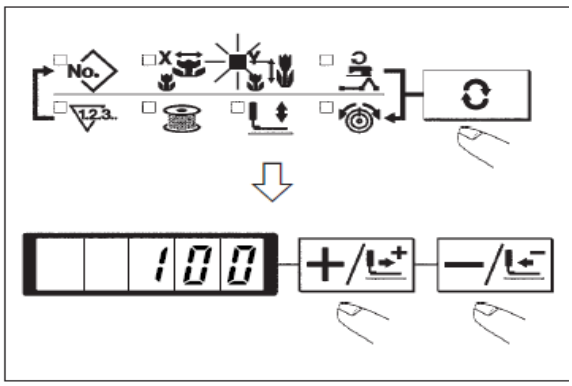


（1） Press , and then the LED of will be displayed.

（2） Press + & − to display 100 at Data Display LED

（The Scale Rate in X Direction is set as 100%）

4. Setting of Scale Rate in Y scale

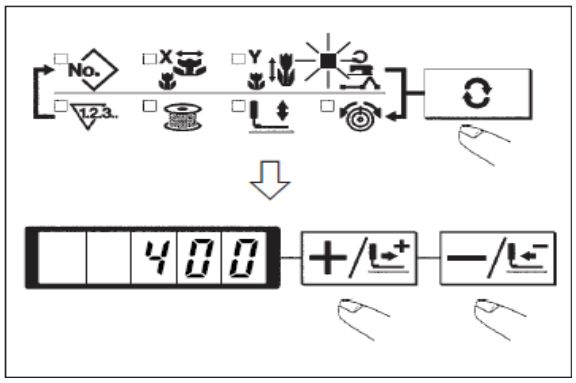


（1） Press , and then the LED of will be displayed.

（2） Press + & − to display 100 at Data Display LED.

（The Scale Rate in Y Direction is set as 100%）

5. Setting of Limitation on Max Speed

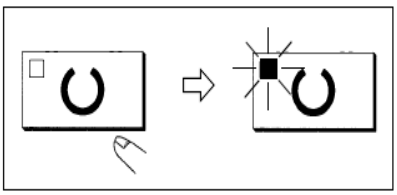


（1） Press , and then the LED of will be displayed.

（2） Press + & − to display 400 at Data Display LED

（The limitation is set as 400rpm）

6. Setting End



（1） Press .

（2） After the presser goes up, the Sewing LED is on. At this time the system is in the sewing status

·Press to record the set values like pattern number, X/Y scale rate and so on.

·Press to reconfirm each set item, but the Sewing LED can't changes its status.

·Press to turn off the Sewing LED, then each set value of item can be changed

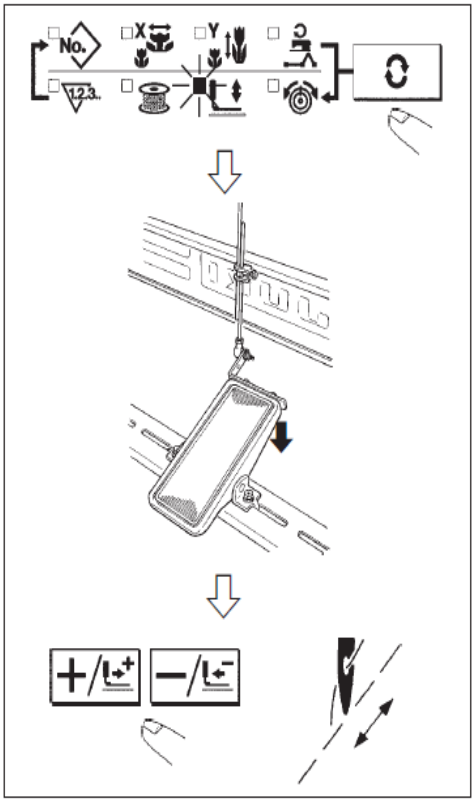
·When the pattern number is 0 (the default setting), pressing will activate the error "E-10". At this time, please press the Reset Key to reconfirm the pattern number.

·Without pressing , the pattern number, X/Y scale rate, Max Speed and other setting values will be unable to be recorded.

2.2.2 Confirmation of Pattern Shape

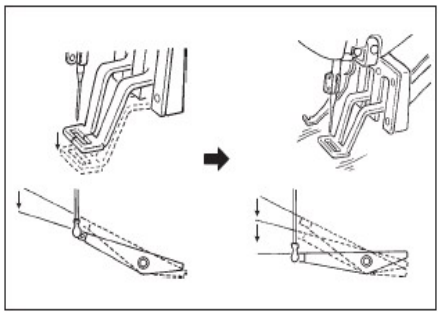
After selecting the pattern, user shall confirm the shape of the pattern.

If the pattern is far away from the presser, the needle will run into the presser, thus breaks the needle.



1. Press to light up the Sewing LED
2. Press to select , and then the screen displays ; step the pedal to lower the presser and then the screen displays .
3. In the status of lowering the presser, press .
4. Use and to confirm the shape. The confirmed pattern for sewing shall be in the permitted range of the presser.
5. Press to lift presser.
6. Press to release the selection of (select other data item other than). After that, press to end the trial sewing and the

2.2.3 Sewing

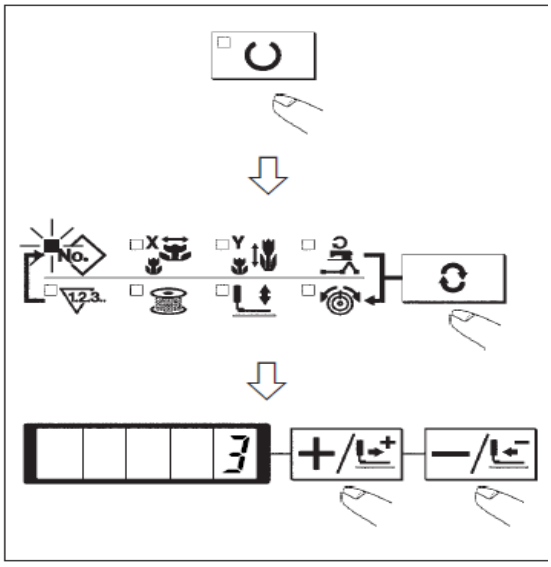


1. Put the fabric to the presser section
2. Step on the pedal switch to the level 1, then the presser goes down. If you detach the foot from the pedal, the presser will go up.
3. Lower the presser to the next level, and then depress the pedal to the second level to start sewing
4. At sewing end, the presser will go up and stop at the initial position.

Attention 1： When depressing the pedal to level 1 and lowering the presser, the user can press [+/⊢] & [−/⊢] to change the sewing position of pattern. Then the user could start sewing at the selected position by depressing the pedal to level 2. During the sewing, for the problems like thread-breakage, user can use this method for mending after releasing the malfunction

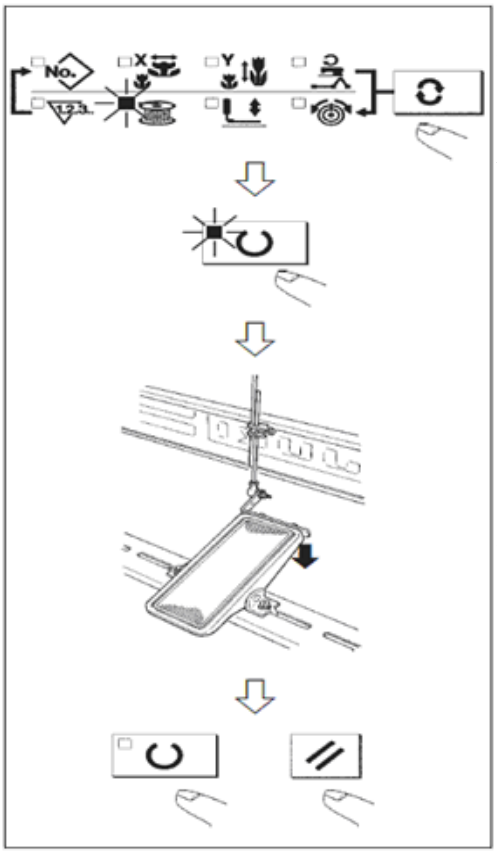
Attention 2： Don't apply the operations in Attention 1 into the operation of pattern trial sewing, in case the user depresses the pedal to level 2 by mistake, thus start the machine and cause the dangerous. For the operations in trial sewing, user shall strictly follow the descriptions of 【Confirmation of Pattern Shape】in the above sector.

2.2.4 Change to Other Patterns



1. Press [↺] to turn off the Sewing LED.
2. Press [↺] to select the [No.].
3. Use [+/⊢] & [−/⊢] to set pattern number.
4. Set the X/Y scale rate, speed and so on in the same way
5. Press [↺] to turn on the Sewing LED, thus have access to Sewing status.

2.2.5 Winding



The winding device will not work just after power-on. Please set a pattern code and press to turn on the Sewing LED before the winding operation.

1. Press to turn off Sewing LED.
2. Press to select the . (It is unable to select when the Sewing LED is on.)
3. Press to lower the presser and turn on the Sewing LED.
4. Depress the pedal to start the sewing machine
5. Depress the pedal switch or press or to stop machine
6. Press to turn off the Sewing LED and lift the presser. Then become valid.

2.2.6 Independent Thread-trimming Device

Independent thread-trimming, different from the general presser transmission and main-shaft transmission thread-trimming mechanisms, has the independent control unit, which can control the whole process of thread-trimming better,

If the storage parameter No.35 is set as 1 (Thread-trimming Forbidden), the machine will not perform the thread-trimming.

2.2.7 Thread-catching Device

With thread-catching device, the abnormal sewing, like the missing or staining of upper thread, as well as needle-jumping, can be avoided in the high speed start. The thread-catching function is only available when the Thread-catching Display LED is on. User can use to turn on/off this function. When the thread-catching device is OFF, the machine will turn to low-speed start automatically.

The thread-catching action will be invalid if the Storage Parameter No.35 is set as 1

(Thread-catching Forbidden). At the same time,  becomes invalid.

Matters for attention in using the function for catching upper thread

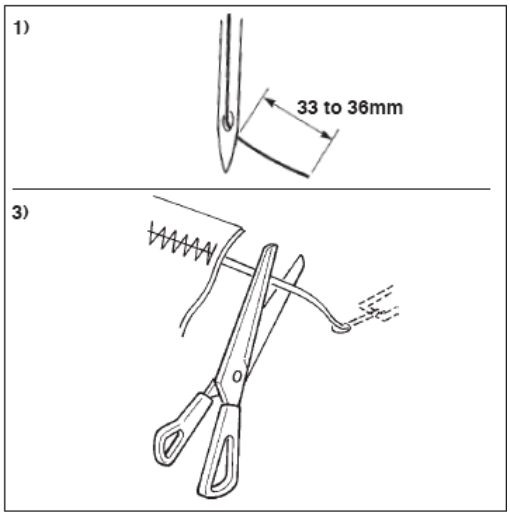
1. For catching thread, please shorten the upper thread at sewing start.

If the needle is too long, the thread at the backside of the cloth will be pulled out; meanwhile that too-long needle will easily sew the end of the thread on needle into the seam.

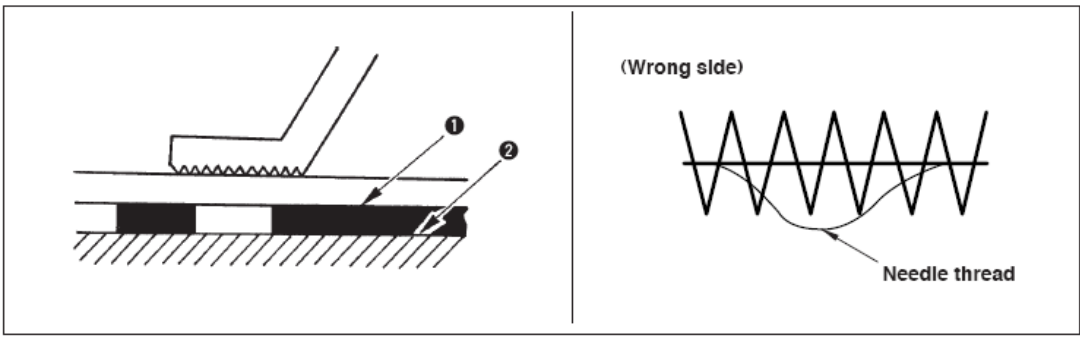
1） The standard length of needle thread in thread-catching shall be 33～36mm.

2） Lengthen the thread after replacing the needle thread. Or when holding the needle thread at sewing, please set the Thread-catching Key at OFF.

3） When the needle thread held with the thread catcher is rolled in the seams, do not draw the material forcibly but cut the connecting needle thread with the scissors or the like. The seams are not damaged since it is the needle thread at the sewing start.

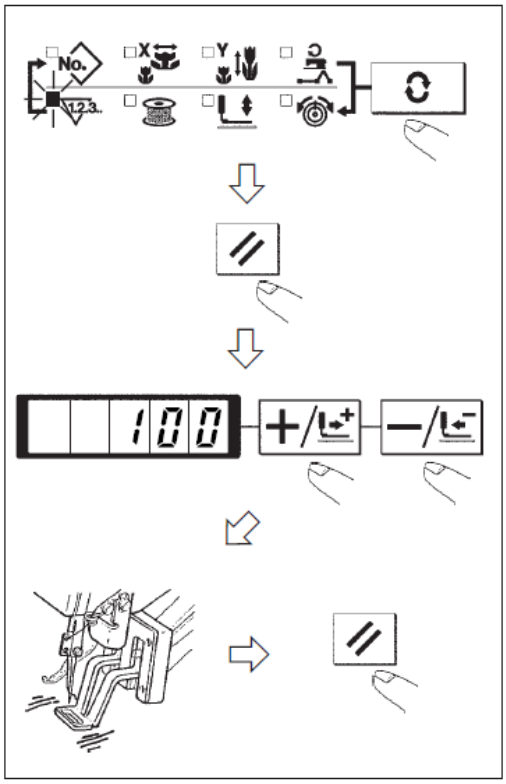


2. In order to make thread-catching action ensure the stable sewing at start, user can shorten the needle so that less needle thread could be winded in upper side of the cloth.
3. When the type of lower plate (1) that material doesn’t closely contact to the board (2) is used, needle thread at backside of cloth will be rolled into the seams regardless the length of the thread or the needle thread will be loose



2.2.8 Bottom Thread Counter

The counters are set as Production Counter (Adding method) at the time of delivery. However, if it is used as the Bottom Thread Counter (subtracting method), the value of parameter No.18 shall be set at 1.



1） Press to select .

2） Then press .

3） After that, press & to set number of times that can be sewn with a bobbin.

4） Finish of sewing in each time will cause the counter to count down by one.

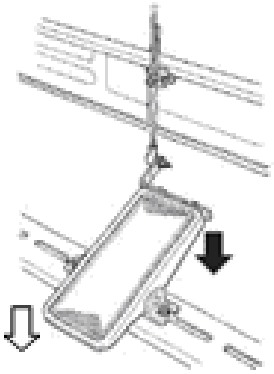
5） After the machine finishes the set times of sewing, the monitor will shine for hinting the user.

6） Replace the bottom thread and press again. Then the value of counter will restore to the set value

7） Repeat the steps from 4) to 6).

2.2.9 Pause

1. Pedal Stop Function: The new pedal has three levels: Level 1 for lowering presser; Level 2 for normal sewing; Level 3 for emergency stop.



1） Press Ready Key and step the front part of pedal ⬇ to lower the presser；

2） Step the front part of pedal ⬇ again to start sewing；

3） During sewing, if user needs to stop machine immediately, user can step the back part of the pedal ⇩ to stop machine. If user needs to continue sewing, he just needs to step the back part again⇩.

2、Panel Pause

After user set the value of No.31 parameter at 1, or the reverse gear of pedal can be used as the pause key.

1）If user presses or depresses the reverse gear of pedal, the sewing machine will stop and display the error No.50.

2）The following are the three available operations after the pause:

① Press the Start Switch to start the sewing.

② Press and perform the thread-trimming. After that, use & to adjust the position and then press start switch to start sewing.

③ Press and trim the thread. After that, press again to return to the origin.

2.3 Set P Pattern & C Pattern

2.3.1 Use Pattern Key（P1 P2 P3 P4 P5）for Sewing

The saved patterns (No.1~200) can be registered on P1~P50. It is possible to change and register the scale rate, Max speed limitation and sewing position. With the rolling window of pattern, user can also register patterns and has access to the pattern from P1~P25 at a time.

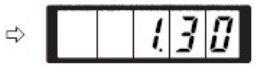
·For selecting P6~P25, user can use the combinations of P1 P2 P3 P4 P5 (simultaneous pressing) shown in the below table at his sewing.

P-No.	Selection Key	P-No.	Selection Key	P-No.	Selection Key	P-No.	Selection Key
P1	P1	P8	P1+P4	P15	P4 +P5	P22	P2+P3+P4
P2	P2	P9	P1+P5	P16	P1+P2+P3	P23	P2+P3+P5
P3	P3	P10	P2+P3	P17	P1+P2+P4	P24	P2+P4+P5
P4	P4	P11	P2+P4	P18	P1+P2+P5	P25	P3+P4+P5
P5	P5	P12	P2+P5	P19	P1+P3+P4		
P6	P1+P2	P13	P3+P4	P20	P1+P3+P5		
P7	P1+P3	P14	P3+P5	P21	P1+P4+P5		

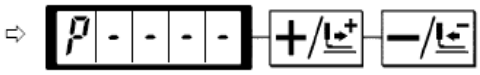
1. Registration on Pattern Key

Exp：Register pattern No.3 to P2, X scale rate: 50%; Y scale rate: 80%; Max speed limitation: 2000 rpm, pattern position: 0.5mm to the right and 1mm to the front.

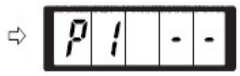
1）Turn on the power, press M (the sewing LED shall be off at this moment) to have access to Mode Setting (Setting of Storage Switch).



2）Use [+/⏎] & [−/⏎] to display the storage mode of pattern

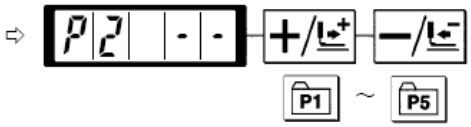


3）Press [↺] to have access to the pattern storage mode.



4）Press [P2] to select the stored P-No.

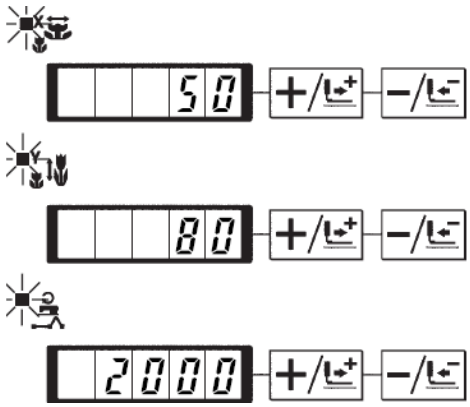
This selection can also be done by using [+/⏎] & [−/⏎].



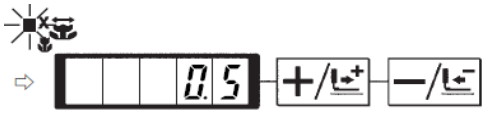
5）Use [↺] to select [No.].

Use [+/⏎] & [−/⏎] to set pattern number.

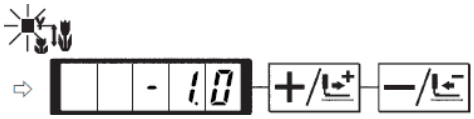
6）Press [↺] and use [+/⏎] & [−/⏎] to set the X scale rate [X] at “50”% and the Y scale rate [Y] at “80%”, as well as Max Speed limitation [⏱] at “2000”rpm.



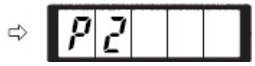
7）Press [↺] to activate X scale rate [X], which is displayed at 0.0. The stroke in X direction can be changed in step at 0.1mm. Use [+/⏎] & [−/⏎] to set this value at 0.5.



8）Press [↺] to activate Y scale rate [Y], which is displayed at 0.0. The stroke in Y direction can be changed in step at 0.1mm. Use [+/⏎] & [−/⏎] to set that value at 1.0.



9）Press [↺] to end the setting.

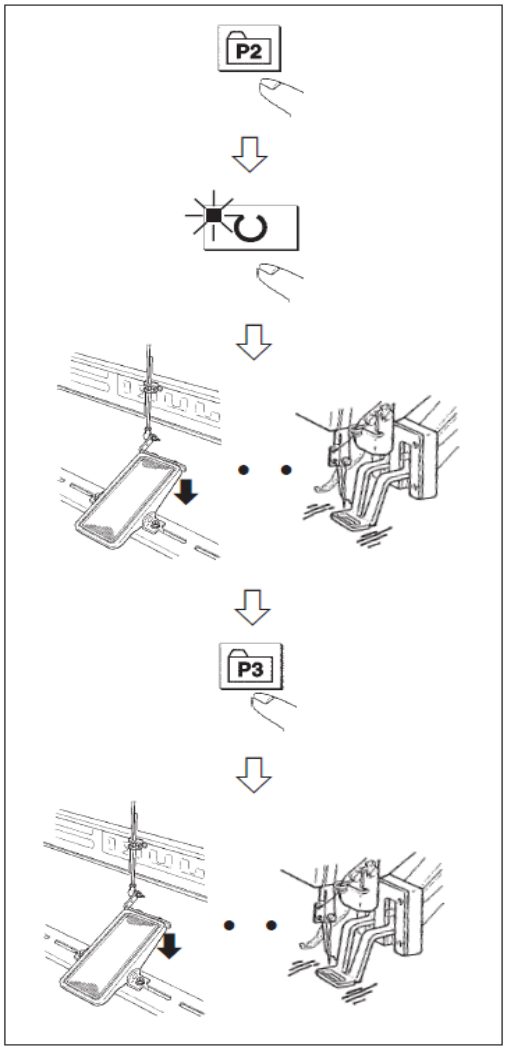


10) Press M to end pattern storage mode ⇨ P - - - -

11) Press M to end Mode Setting and return to Ordinary Mode

2. Sewing Operation

Example: sew the pattern saved as P2 at first, and then sew the P3.



1. Turn on the power.
2. Press P2.
3. Press to turn on the Sewing LED, and then the presser will go up.
4. Confirm the pattern shape.
5. If the pattern shape is correct, the machine will be able to carry out the sewing.
6. After sewing, please press P3 to lower the presser for searching the origin. After that, the presser will move to the sewing start point and go up.

   (When the Sewing LED is on, user can also press P keys to change the pattern.)
7. Perform the operations in Step 4 and Step 5.

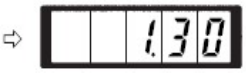
2.3.2 Sewing with Combination Functions

Store the patterns registered in the sequence as P1~P50 to C1~C20. The sewing pattern will be changed in order upon the finish of sewing in each time. 30 patterns can be stored in a combination code at most.

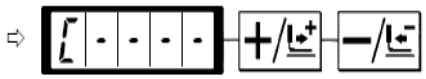
1. Storage of Combination Pattern

Example: Register the combination in order of P1, P2 and P3.

1）Turn on power. Press M to have access to Mode Setting (for setting parameter of memory). The Sewing LED shall be off at the moment

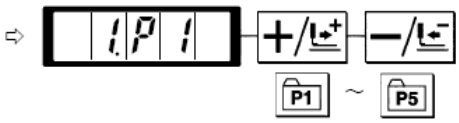


2) Use +/⊢+ & −/⊢− to display the Combination Mode

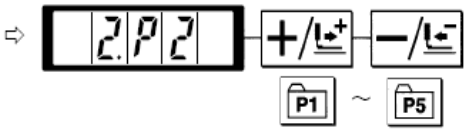


3) Press ↺ to turn on the Sewing LED, thus to have access to the setting mode of combination pattern. User can select C pattern number from C1~C20 with +/⊢+ & −/⊢−.

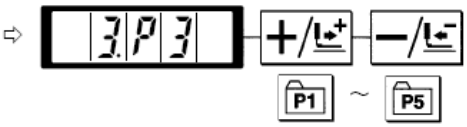
4) Press ↺ and P1 to set the P1 as the first pattern in the C1. User can select P pattern from P1~P50 with +/⊢+ & −/⊢−.



5) Press ↺ and P2 to set the P2 as the second pattern in C1. User can select P pattern from P1~P50 with +/⊢+ & −/⊢−.

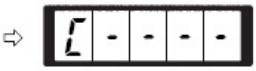


6) Press ↺ and P3 to set the P3 as the third pattern in C1. User can select P pattern from P1~P50 with +/⊢+ & −/⊢−.

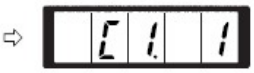


7) Press ↺ to end the storage

8) Press M to end the storage mode of combined pattern。

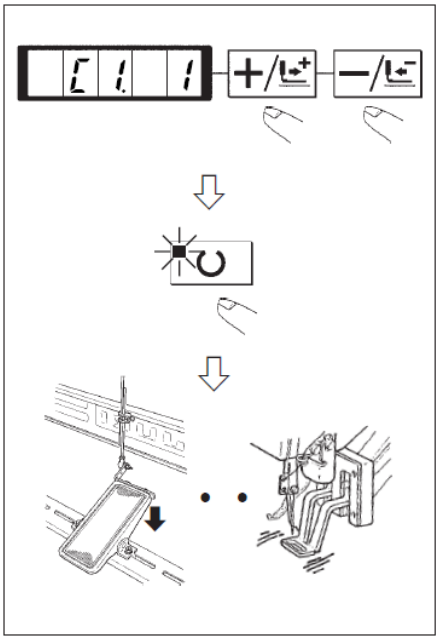


9) Press M to end the Mode Setting and return to the ordinary mode.



2. Sewing Operation

Example: Sew the C1 pattern.



1） Power on the machine

2） Set the pattern number as C1.1 with [+/⊥] & [−/⊥].

3） Press [U] to turn on the Sewing LED. After that the presser will go up.

4） If the pattern shape is sound, the sewing operation will proceed.

5） Sew the C1 pattern in the sequence in the combination. When the last pattern in the combination is finished, the machine will start sewing the first pattern and repeat this combination.

✧ After the sewing, if user wants to go to the previous pattern or the next pattern, user can press [+/⊥] & [−/⊥] when the Sewing LED is on. Then the pattern display will be changed and the presser will also move to the start point

✧ ·After storing the patterns among C1～C20, if the P pattern in P1~P50 id changed, the content of P pattern with same code will also be changed.。

✧ Confirmation of pattern is necessary for each pattern.

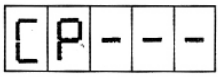
2.4 Debugging Mode

Via this mode, user can perform the operations of maintenance and checking.

1） When the Sewing LED is off, press [M] to call the display of [1.30]. Then press [P1] [P3] [P5] at same time. After the ring of buzzer, the system will have access to the debugging mode via the user level setting mode of memory switch.

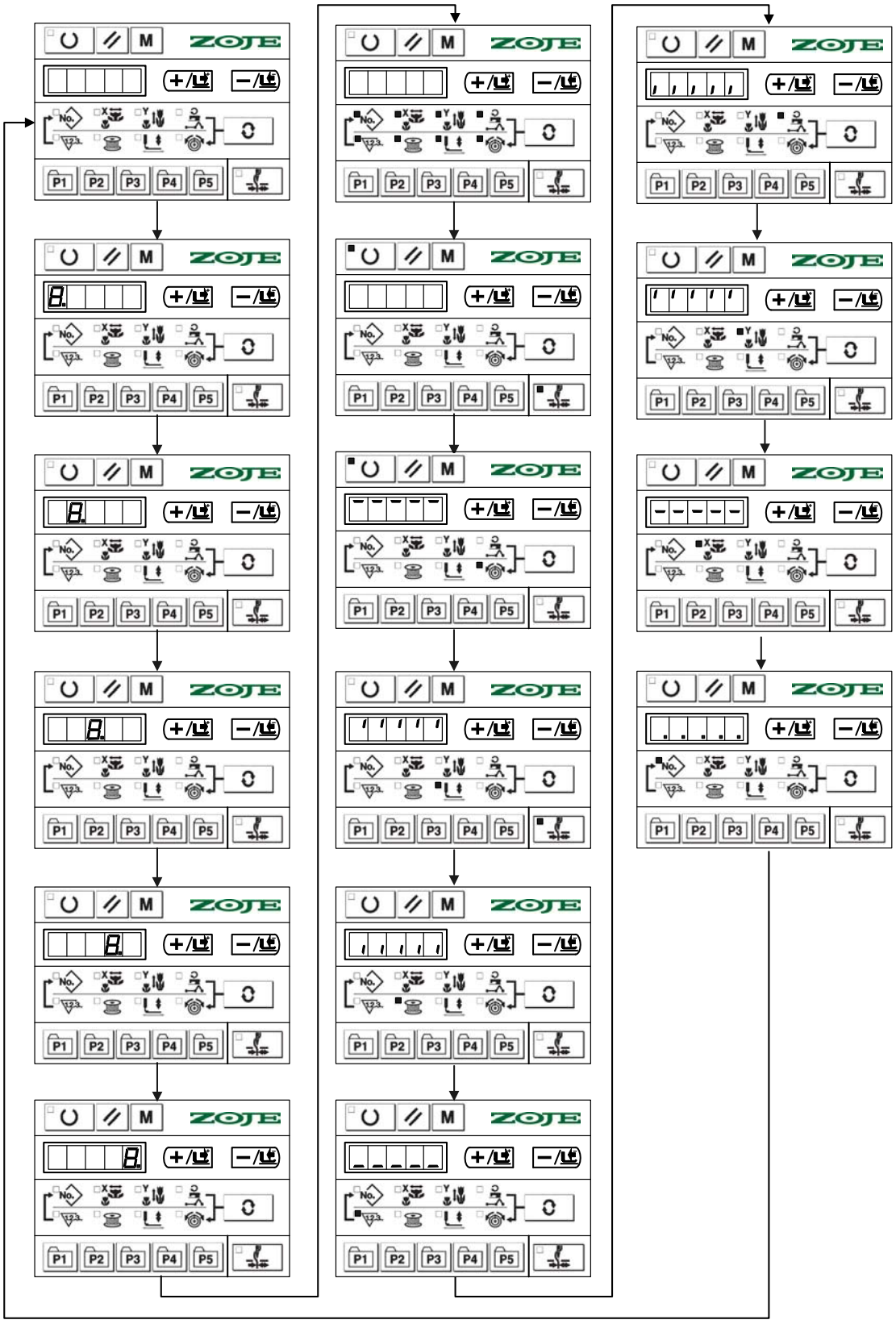
（**Attention**）Not pressing [P1] [P3] [P5] at same time will cause the failure of access to debugging mode.

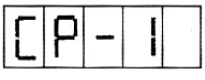
2）Press [−/⊥] to have access to debugging mode, the monitor will show “CP---” as displayed in

the following picture: 

;

3）Press  to perform the display output test. This test will check the display module and indicator of each LED in cycle; the following is the specific procedure:



4）Press  again to end the display output test. The monitor will display “CP-1” as shown in the following picture:  .

Remarks:

Only after the display output test, can the user perform the test on other functions.

5）Press [+/⊥] & [−/⊥] to change the program code of the function test. The function stood by each code is shown in the following table:

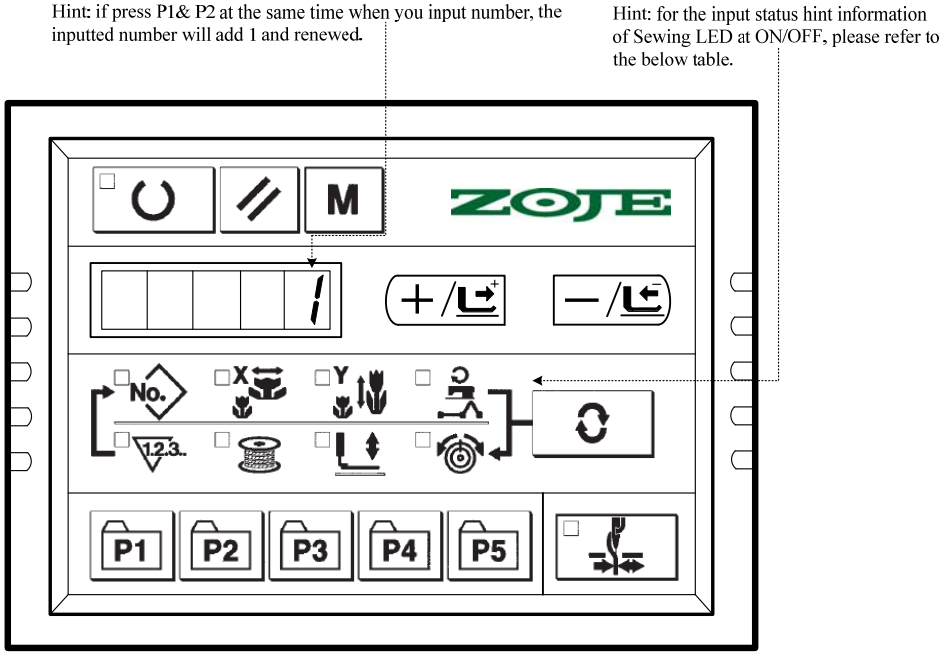
Function Test Code	Function	Content
CP-1	Test input signal	LED hint switch, sensor input
CP-2	X/ Y Motor Origin Sensor Test	Display the statuses of the X/Y motor step motion operation, origin searching operation and X/Y origin sensor.
CP-3	Continuous Running	If setting the condition of continuous running, test the continuous running mode.
CP-4	Main motor rotation number test	Setting rotation number, machine start-up ,display of actual rotation number
CP-5	thread-trimming test	Action of thread-trimming motor, debugging the installation of knife
CP-6	Presser /thread-trimming motor /origin sensor test	Display the step motion of presser/thread-trimming motors, operation of origin searching, and the status of presser origin/presser sensor.
CP-7	Thread-catching motor/origin sensor test	Display the step motion of thread-catching motor, operation of origin searching and the status of thread-catching origin/thread-catching sensor.
CP-8	_____	_____

6）Hold [C] to have access to the function test.

7）During the function test, if user presses [M], the test will be stopped and the system will return to the status of 5); However, if the continuous mode has been used for once, the test will be unable to be released. For ending the test, the user can only turn off the power.

2.4.1 CP-1（Input Signal Test）

Test the input status of the buttons, pedal and sensors. Press [C] to have access to CP-1 when the “CP-1” is displayed at the screen. After that, the screen displays the “1” that means the first test content.



The display content for each inputted No.

Input No.	Pattern N0. LED	X Scale LED	Y Scale LED	Speed LED	Counter LED	Winding LED	Presser -lowering LED	Solenoid LED
1	/	/						
2	/	/		P5	P4	P3	P2	P1
3	/	/	/	/	/	/	/	/
4	Pedal Level 0	Pedal Level 1	Pedal Level 2	/	/	/	/	/
5	Presser motor origin sensor	Y motor origin sensor	X motor origin sensor	Thread-catching origin sensor	Thread-trimming sensor	Thread-catching sensor	/	/
6	Main-shaft angle display							
7	Main-shaft motor Z phase	/	/	/	/	/	/	/
8	/	/	/	/	/	Head tilt switch	/	/

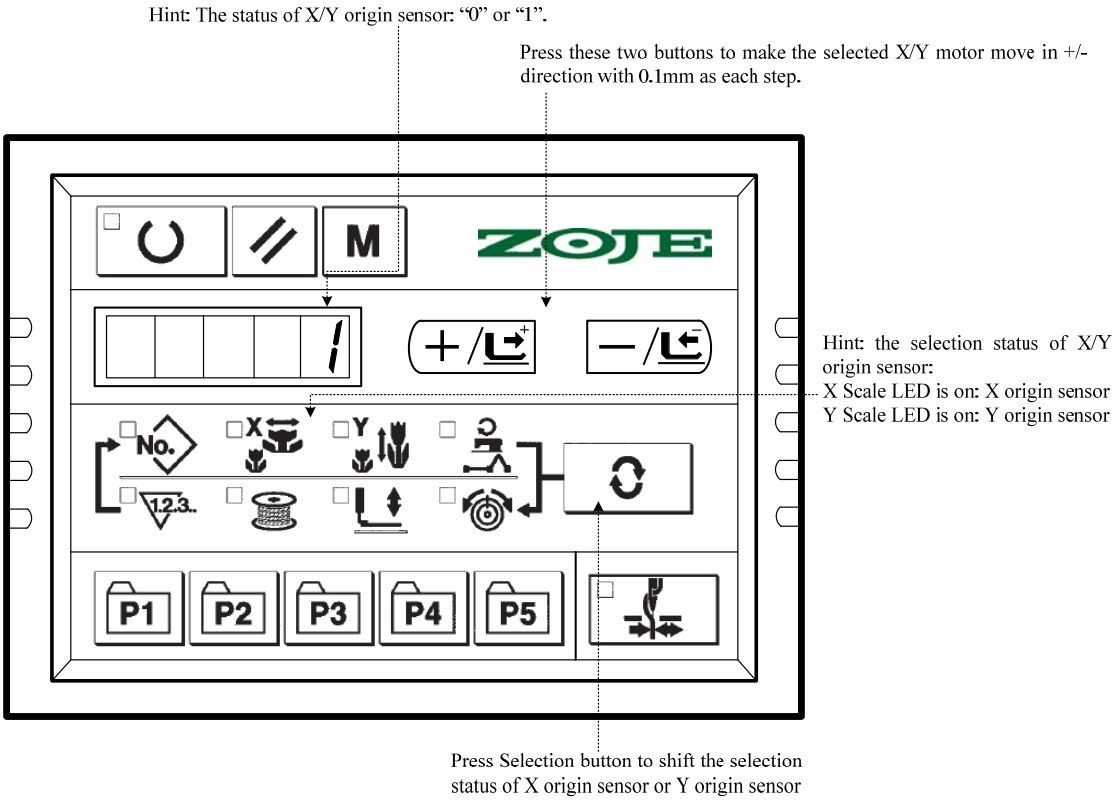
2.4.2 CP-2（Check X/Y Motor/Origin Sensor）

Display the statuses of X/Y origin sensor, operation of searching origin and step operation of X/Y motor.

1． Preparation

Press to have access to CP-2, and system displays “1” at screen. Then press to search the origins of X/Y motors. At that time, the presser goes down and the Sewing LED is on (User can also perform step 2 directly without pressing).

2． Operation



3、X,Y Origin correction：（1）、new origin set up：At first press to access to CP-2，and system displays“0”or“1”，and then press ,and the pedal to search origin. When the Sewing LED is on, user can press or to have the selected X\Y motor to move in step at +/- direction with the changing unit at 0.1mm. After setting the new origin, user can press M to quit, thus to finish the setting of new origin.

（2）、Return to Origin: At first, press to have access to CP-2. The screen will display “0” or “1”. And then press to search origin, lower the presser, and activate the Sewing LED. Step on the pedal to the second level, repeat it for twice (the first time is to search the newly set origin; the second time is to return to the return to the system origin). When the machine return to the origin, please press M for quit.

2.4.3 CP-3（Continuous Running）

When the screen displays the “CP-3”, user can press to have access to the Continuous Running Mode. After setting the conditions for continuous running, user can start the continuous running mode; for quitting the continuous running mode, please turn off the power.

1. Setting of Time Interval

User can press & to set the time interval between two operations.

From 1800ms to 9900ms, user can set the 100ms as a changing step. After the setting (the default value is 2000ms), user can press to save the set value C 20.

2. Setting of origin search at sewing end。

User can press & to set the validity of origin search at sewing end.

A0：Invalid (Default value)

A1：Valid（Search origin after sewing at each time） C A0

After the setting, user can press to have access to the normal sewing mode.

3. Continuous Operation

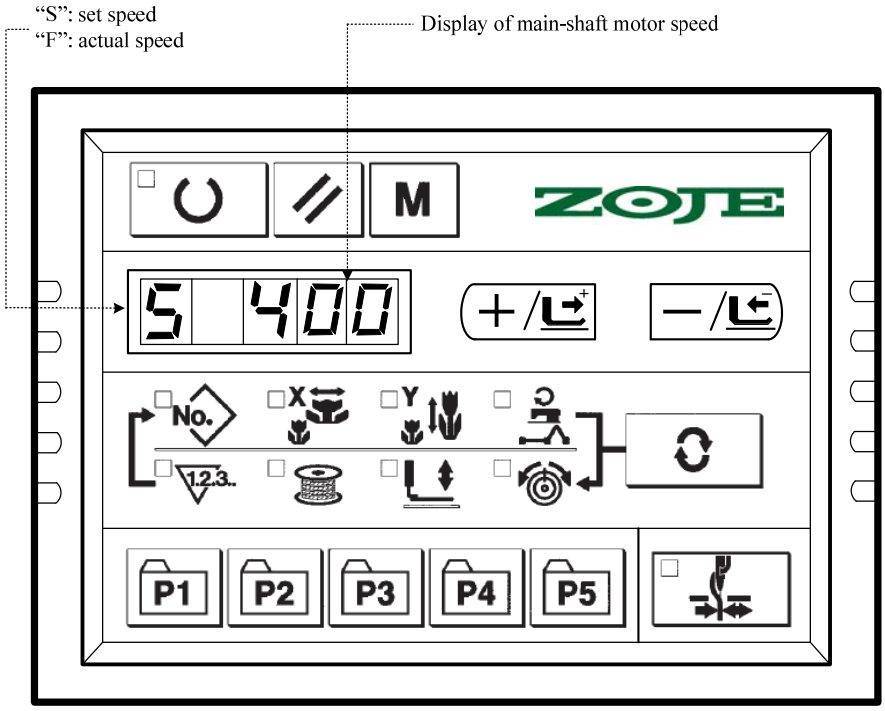
Under the normal sewing mode, user can set the conditions, such as pattern number, X/Y scale rate and Max speed, and start sewing. At sewing end, if the user sets the origin search at the second step operation, the machine will search the origins of motors, including X/Y presser motors, thread-trimming motors and thread-catching motor; however, if the user set stop time in the 1st step operation, the machine will automatically start sewing again after sewing end. For stopping the continuous sewing, please press when the sewing ends.

2.4.4 CP-4（Test Main Motor Speed）

Set the speed of machine. With the set speed, the machine will only run the main motor that is used for driving the machine and display the actual speed.

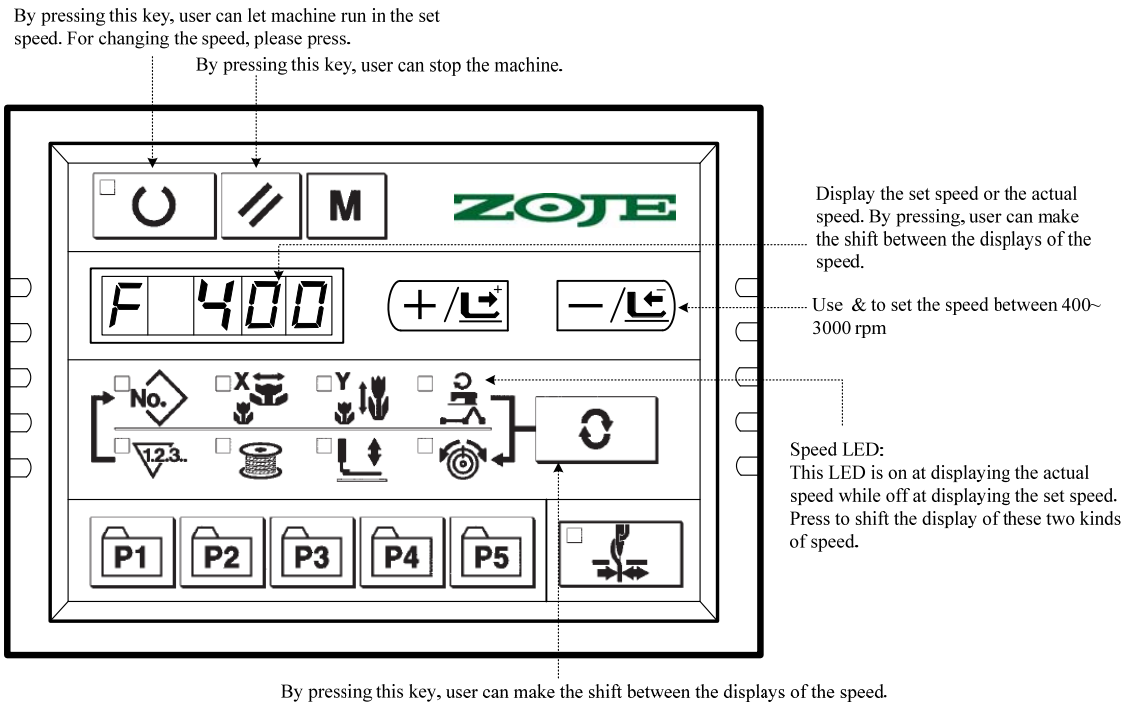
1．Preparation

User shall press to have access to CP-4 firstly. At this time, the screen displays “S 400”. Then the user can press to search the origins of motors, including thread-catching motors, presser motors, and thread-trimming motors. At this moment, the Sewing LED is on.



2. Operations

User can use [+/⇲] & [−/⇲] to change the setting on the main-shaft speed. Then the machine will run in the set speed just after user presses [↻]. At this time, by pressing [⟲], user can shift the display of set speed and the display of actual speed. For changing the set speed again, user shall press [↻] again and use [+/⇲] & [−/⇲] to set the speed, and then press [↻] to enable machine to run in the newly set speed. Press [//] for stopping while pressing [M] for quit.



2.4.5 CP-5 （Adjustment on Thread-trimming）

Display the step motion of thread-trimming motor and the thread-trimming actions of moving to thread-curving position, thread-trimming, knife return, and return-to-origin.

1． Preparation

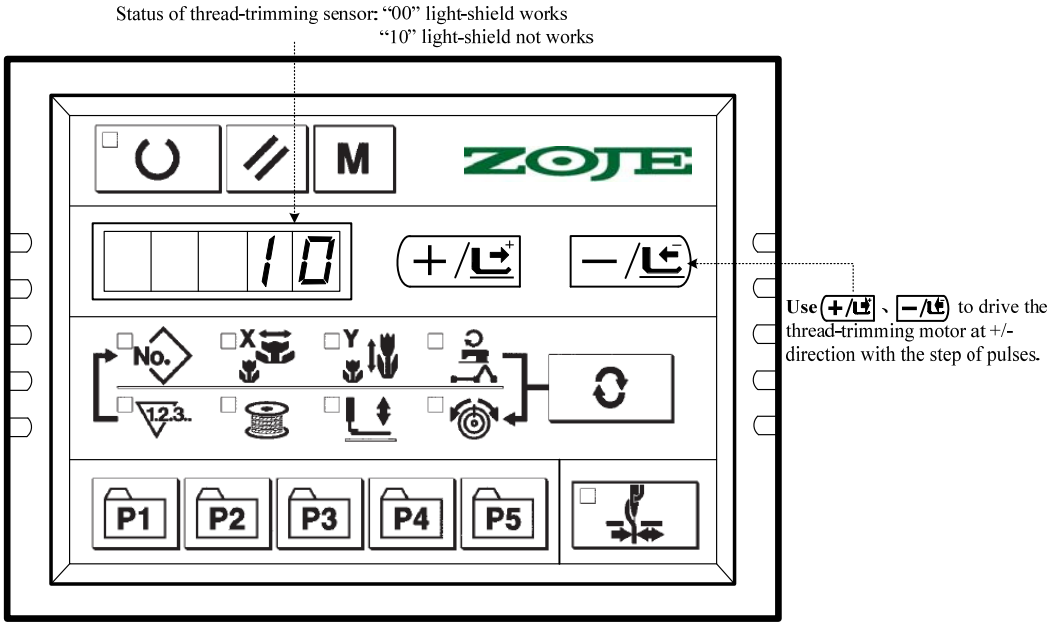
Press to have access to CP-5.

2． Operation

（1）Operation of step motion of thread-trimming motor

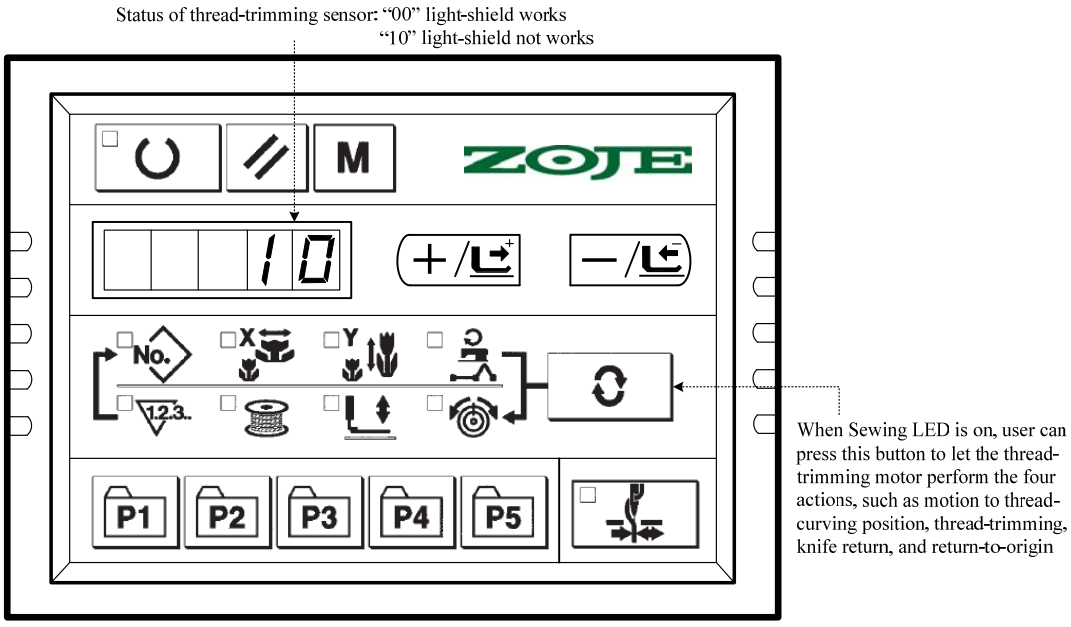
User can press & to operate the step motion of thread-trimming motor.

This function is for the staffs at their installing and debugging the knife.



（2）Thread-trimming Action

Press to turn on the Sewing LED, and then depress the pedal for searching the origin; by pressing for times, users can let the thread-trimming motor perform the four actions, such as motion to thread-curving position, thread-trimming, knife return, and return-to-origin. For quitting this mode, please press M.



2.4.6 CP-6（Test Presser Origin Sensor）

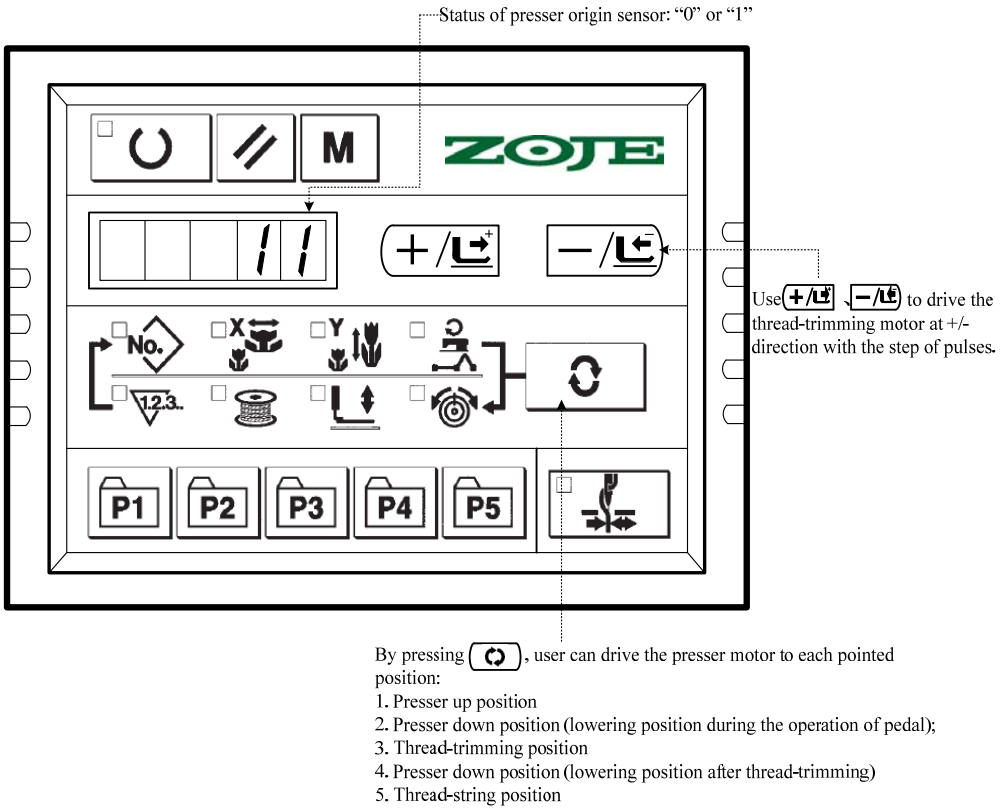
Display the step motion operation of presser motor, operation of origin search and status of presser origin sensor.

1． Preparation

Firstly, user can press to have access to CP-6. Then user can press to search the origin of thread-catching; at this time, the sewing LED is on.

2． Operations

If the user presses for 6 ~ 8 times, and then the display on screen changes to “01” from “00”, it means the presser sensor is normal. If not, please adjust the position of the presser sensor.



After user presses , the relating parts on the machine will do the 5-step cyclic action in the sequence shown in above figure. Press M to quit that mode.

2.4.7 CP-7（Test Thread-catching Motor/ Origin Sensor）

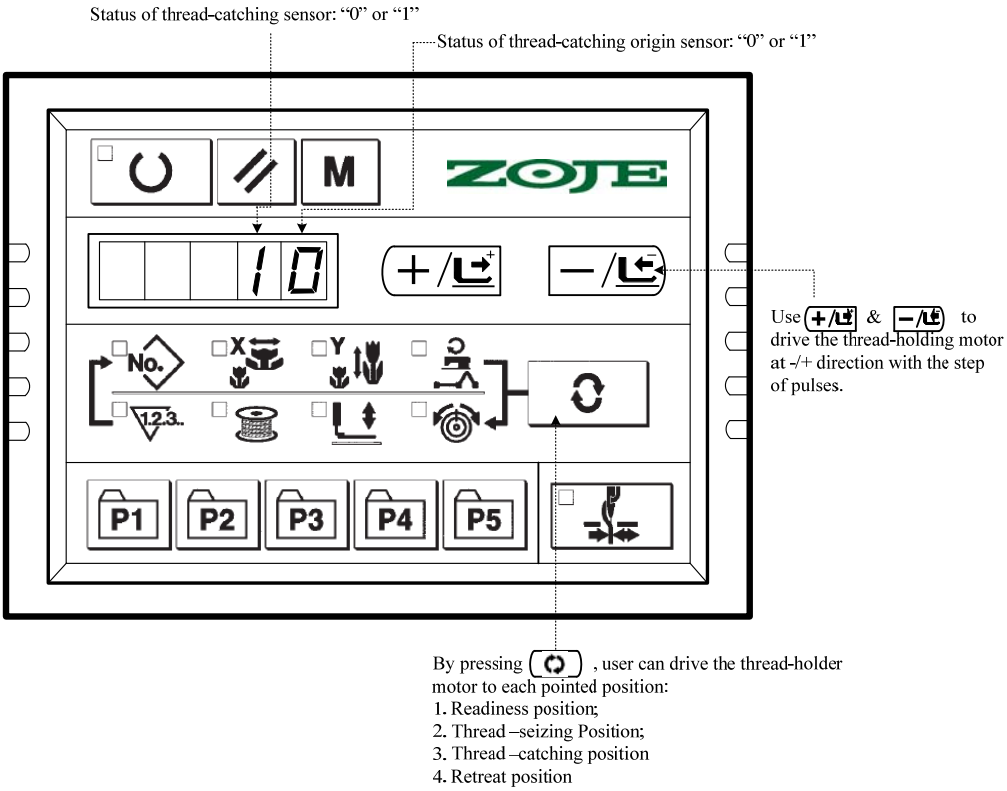
Display the step operation of thread-catching motor, the statuses of thread-catching motor origin sensor and thread-catching sensor and operation of origin search.

1. Preparation

Firstly, user shall press to have access to CP-7; then press to turn on the Sewing LED. Depress the pedal to search origin. After that the screen will display “10”.

2. Operation

By pressing & , user can let thread-catcher move in step with the pulse as unit. Press to drive the thread-catcher backward; press to drive the thread-catcher forward.



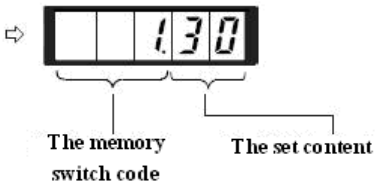
After user presses , the relating parts on the machine will do the 4-step cyclic action in the sequence shown in above figure. Press M to quit that mode.

2.5 Parameter Setting

2.5.1 Specific Operations on Setting Parameters

1）When Sewing LED is off, user can press M to set the parameters.

（**After user presses M, the displayed 1.30 means that the Max speed of the No.1 parameter is 3000rpm。**）



2）User can use +/⊆+ & −/⊆− to change the number of parameter.

3）By pressing ↺, user can adjust the wanted parameter number and turn on the Sewing LED

4）By using +/⊆+ & −/⊆−, user can change the corresponding value of the parameter

5）By pressing //, user can make the parameters return to the initial value.

6）By pressing ↺, user can save the changed content and turn off the Sewing LED. After that, the machine returns to parameter number selection status.

7）Pressing M will end the parameter setting mode and let system return to ordinary status.

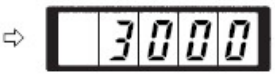
2.5.2 Example for Setting Parameters

1. Setting of Max Sewing Speed

Emp.: Set the upper limitation of sewing speed to 1800rpm

1）When the Sewing LED is off, user can press M to display the content of Parameter No.1. Parameter No.1 displays the Max speed of sewing machine.

2）When the No.1 parameter is displayed; user can press ↺ to turn on the Sewing LED. Then the content of No.1 parameter is displayed in the screen.



3）User can use [+/⊥] & [−/⊥] to set the speed to "1800"

4）Press [U] to save the value and turn off the Sewing LED.

5）Press [M] to return to the ordinary status.

2. Setting of Soft-start Speed at Sewing Start

The speed of stitches from the first one to the fifth one can be set in the unit of 100rpm. User can also set the validity of thread-catching on these stitches.

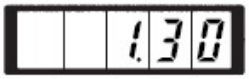
With thread-catching function

	Default Setting（rpm）	Setting Range
1st stitch	1500	400～1500
2nd stitch	3000	400～3000
3rd stitch	3000	400～3000
4th stitch	3000	400～3000
5th stitch	3000	400～3000

·For the Max speed, the No.1 parameter takes the priority.

Emp.: In case of having thread-catching function, the 1st stitch will change from 1500 to 1000rmp, while 2nd stitch will change from 3000 to 2000rpm.

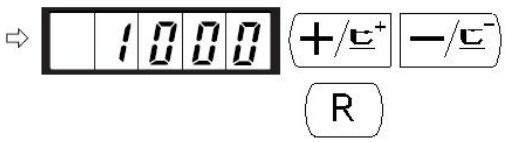
1）When the Sewing LED is off, press [M].



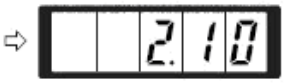
2）By using [+/⊥] & [−/⊥], user can have the parameter code No.2 displayed. And user can set the sewing speed of 1st stitch

3）Press [U] to turn on the Sewing LED and display the set value of the 1st stitch.

4）By using [+/⊥] & [−/⊥], user can input "1000" in the screen. Press [//] to return to default setting. If user presses [M], the existing operations will be cancelled and system will return to the status in step 2).



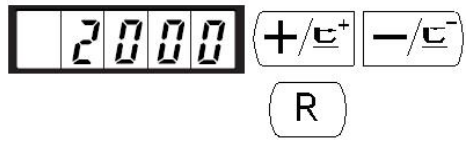
5）Press [U] to turn on the Sewing LED and save the set value of the 1st stitch.



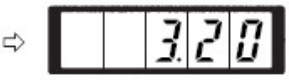
6）By pressing the [+/⊥] & [−/⊥], user can display the parameter code No.3 at screen. And the sewing speed of the 2nd stitch is display at here as well.

7）Press [↺] to turn on the Sewing LED and display the set value of the 2nd stitch.

8）By using [+/⊥] & [−/⊥], user can input "2000" in the screen Press [//] to return to default setting. If user presses [M], the existing operations will be cancelled and system will return to the status in step 6).



9）Press [↺] to turn off the Sewing LED and save the set value of the 2nd stitch.



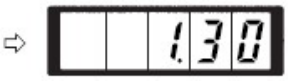
10）Press [M] to end the parameter setting mode and return to the ordinary status.

3. Setting on whether to call the pattern number

User sets the machine not to read the inoperative pattern in case the unnecessary pattern is called. Additionally, the available pattern can be called when necessary.

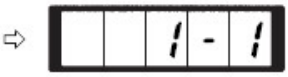
Emp.: Set the No.2 & No.3 patterns as the inoperative.

1）Press [M] when the Sewing LED is Off.



2）User can use [+/⊥] & [−/⊥] to let screen display parameter code No.201.

3）Press [↺] to turn on Sewing LED, at the same time the set value of pattern No.1 is displayed. Set value 1: Readable; 0: Unreadable.



4）Set pattern No. 2 with [+/⊥] & [−/⊥].

5）Set the value to 0 with [↺].

6）Set pattern No.3 with [+/⊥] & [−/⊥]. ⇨ 3 - 1 [+/⊥] [−/⊥]

7）Set the value to 0 with [0]. ⇨ 3 - 0

8）Press [↺] to save the set value and Turn off the Sewing LED ⇨ 201 - -

9）Press [M] to end the parameter setting mode and return to ordinary mode.

4. Setting of Counter Action

The production counter can be used as the Bottom Thread Counter. In repetition sewing, if a bobbin finishes the sewing time as set in parameter, the sewing machine will stop sewing. The Bottom Thread Counter uses the subtracting method.

The counters are set as Production Counter (Adding method) at the time of delivery. However, if it is used as the Bottom Thread Counter (subtracting method), the parameter switch No.18 shall be changed.

Example: change the Production Counter (Adding method) to Bottom Thread Counter (Subtracting method).

1）Press [M] when Sewing LED is off. ⇨ 130

2）User can use [+/⊥] & [−/⊥] to let screen display parameter code No.18 ⇨ 18. 0 [+/⊥] [−/⊥]

3）Press [↺] to turn on the Sewing LED. Then the set value of the counter action is displayed in the screen. ⇨ 18. 0

4）Set the set value to 1 with [+/⊥] ⇨ 18. 1 [+/⊥] [−/⊥]

Set value 0：Production Counter;

1：Bottom Thread Counter

5）Press [↺] to save the set value and turn off the Sewing LED

6）Press [M] to end the parameter setting mode and return to ordinary mode.

2.5.3 Table for Parameter Setting

No.	Functions	Adjustment Range	Default Value	Remarks
1.30	Max Speed of Sewing （it can be set in step of 1000rpm）	400～3000	3000	
2.15	Sewing speed of 1st Stitch (thread-catching) (It can be set in step of 100rpm)	400～1500	1500	
3.30	Sewing speed of 2nd Stitch (thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
4.30	Sewing speed of 3rd Stitch (thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
5.30	Sewing speed of 4th Stitch (thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
6.30	Sewing speed of 5th Stitch (thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
9.--	Changeover time of thread tension at thread-trimming	－6～4	0	Unavailable in 1900B
10. 4	Sewing speed of 1st Stitch (no thread-catching) (It can be set in step of 100rpm)	400～1500	400	
11. 9	Sewing speed of 2nd Stitch (no thread-catching) (It can be set in step of 100rpm)	400～3000	900	
12.30	Sewing speed of 3rd Stitch (no thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
13.30	Sewing speed of 4th Stitch (no thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
14.30	Sewing speed of 5th Stitch (no thread-catching) (It can be set in step of 100rpm)	400～3000	3000	
15.--	Thread tension of 1st stitch（no thread-catching）	0～200	0	Unavailable in 1900B
16.--	Changeover timing of thread tension at the sewing start （no thread-catching）	－5～2	0	Unavailable in 1900B
17. 0	Whether to change or indicate the XY scale rate and max speed limitation	0：changeable 1 ： unchangeable	0	
18. 0	Action of Counter	0：Production Counter(Adding Method) 1 ： Bottom	0	

No.	Functions	Adjustment Range	Default Value	Remarks
		Thread Counter(Subtracting Method)		
25.1	Presser Division	0~1	1	0：Divide 1: Not divided；
26.70	Adjustment of presser height in section	50～90	70	
31. 0	Use keyboard (Clear Key) to stop sewing machine	0：invalid 1：Reset Key	0	
32. 1	Buzzer forbidden	0：no voice 1：panel operation voice	1	
33. 1	Set number of stitches that thread-catching releases	1～7	1	
34.--	Time deferrable in catching thread	－10～0	0	Speed down in direction “__”
35. 0	Enable to forbid the control on catching upper thread	0：Normal 1：Forbidden	0	
36.--	Select the Feed time. When stitches are not well tightened, set the value in “–” direction.	－8～16	12	If it moves to one side excessively, the needle might be broken. Be careful at sewing the thick fabric.
37. 1	Presser status at sewing end	0：Depress pedal to lift presser 1：Presser goes up	1	

No.	Functions	Adjustment Range	Default Value	Remarks
		automatically		
39. 0	Search origin at sewing end of each time (except the cyclic sewing)	0：Not search origin 1 ： Search Origin	0	Refer to 【 3.3 Recovery to Default Setting】
40. 0	Search origin at cyclic sewing	0：Not Search origin 1 ： Search origin after the finish of each pattern	0	
42. 0	Stop position of needle rod	0 ： upper position 1 ： highest position	0	Stop at highest point: Needle rod stops at the upper position and reverses.
46. 0	Forbid thread-trimming	0：normal 1 ： forbid thread-trimming	0	
49.16	Set winding speed	800～2000	1600	
201.--	Whether to read the pattern data.	0：unable 1：able	Setting depends on model used.	Whether the pattern can be opened can be set respectively.
P- - - -	Register pattern			
C- - - -	Register the cyclic sewing			

3 Setting of Service Parameter

The Service Parameter is different from the ordinary parameter. Generally, these parameters are provided to the technicians for their debugging, and the users are forbidden to change them without directions from the professionals.

3.1 Activation & Modification of Service Parameter

When the sewing LED is off, operator can press M to have system display 1.30, then the operator needs to press P1 P3 P5 together. After hearing the voice from buzzer, the operation can activate and modify the service parameters

The modification is same to that of the ordinary parameters.

3.2 Table of Service Parameters

No.	Definition	Adjustment Range	Initial Value	Remarks
21.--	Positions of standard pedal & pedal switch	50-500	70	If increasing the set value, user will need to depress presser harder.
22.--	Position of standard pedal & stroke switch of high/low section.	50-500	120	If increasing the set value, user will need to depress presser harder.
23.--	Position of standard pedal & start switch	50-500	185	If increasing the set value, user will need to depress presser harder.
27.--	Dropping speed of presser at depressing pedal	100-4000pps	4000	
28.--	Lifting speed of presser at depressing pedal	100-4000pps	1500	The excessive lifting will cause problems in operation.
29.--	Lifting speed of thread-trimming presser at sewing end	100-4000pps	3000	The excessive lifting will cause problems in operation.
38.--	Start sewing with switch when presser keeps still	0：Normal 1：Not lift presser	0	
43. 1	Selection of machine rotating number at thread-trimming	0：400rpm 1：800rpm	0	Rotation number at dividing thread with moving knife; the thread-trimming is performed after the machine ends
44. 1	Selection on whether to feed cloth in the easy	0：Not Feed 1：Feed Cloth	1	

No.	Definition	Adjustment Range	Initial Value	Remarks
	direction at thread-trimming			
45.--	Guide diameter of needle hole for feeding cloth at thread-trimming (Changing step can be set at 0.2mm.)	16~40	16	1.6mm~4.0mm
50.--	Thread-trimming Angle	0~9	5	
56.--	Limited range of motion in +X direction (Right)	-20-20mm	20	In the initial status, regardless shape of presser.
57.--	Limited range of motion in -X direction (Left)	-20-20mm	-20	In the initial status, regardless shape of presser.
58.--	Limited range of motion in +Y direction (Back)	-20-20mm	10	In the initial status, regardless shape of presser.
59.--	Limited range of motion in -Y direction (Front)	-20-10mm	-20	In the initial status, regardless shape of presser.
62. 0	Pattern Update	0: Normal Mode 1:Pattern update mode	0	For updating the pattern, please refer to 【5 Updating pattern via U disk】
67.--	Default parameter transfer	0 or 1	1	For this parameter, please refer to 【3.3 Recovery to Default Setting】
68.--	Main-shaft stop compensation	-10-+10	0	
90.--	Preset value for bottom thread counter	0~9999	0	
91.--	Current value for production (bottom thread) counter	0~9999	0	
150. 0	Invalidity of head tilt safety switch	0：Normal 1：The safe shape of head tilt is invalid.	0	
241. 0	Functional Selections	0：Bar-tacking 7：Button sewing	0	

Note: the parameters above are only for the repair technicians, and ordinary users are forbidden to change those parameter

3.3 Recovery to Default Setting

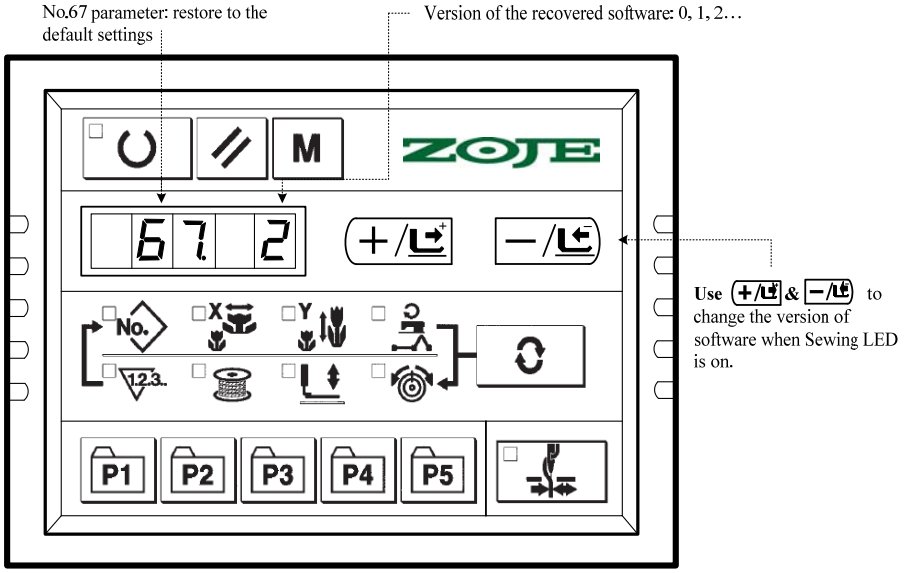
If the user changes some parameters by mistake, which are properly set at delivery, he will use the function of “Recovery to Default Setting” to restore the system.

Note：At recovering the default settings, the entire parameters that are set by user before will be covered. Therefore, please take caution in using this function. For anything unknown, please contact the technicians of the manufacturer, and operate the machine with the instruction from the professionals

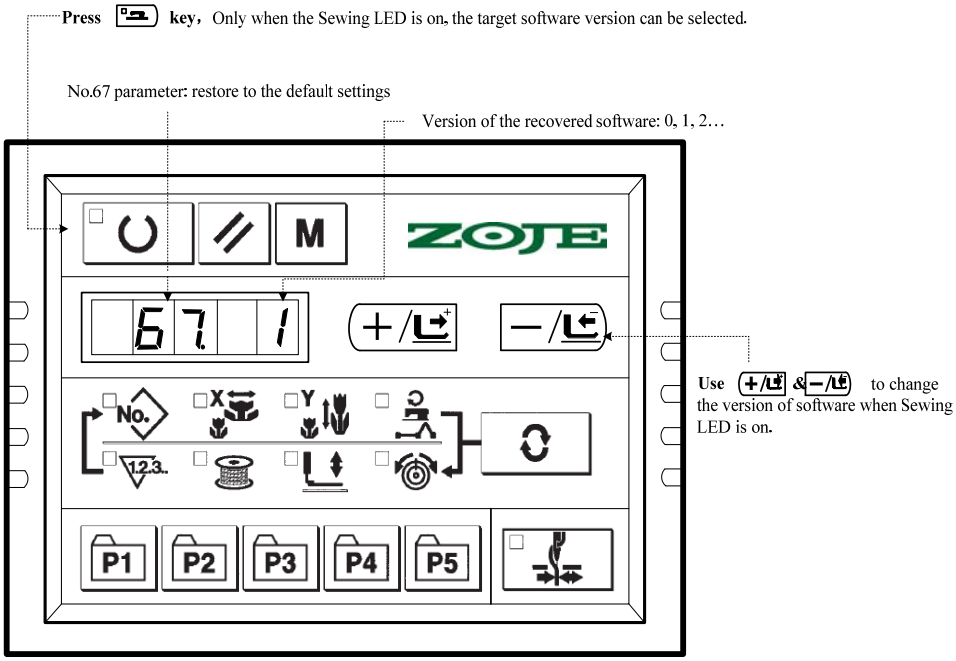
The following is the specific operation step：

1、 When the Sewing LED is off, operator can press M to have system display 1.30, and then the operator needs to press P1 P3 P5 together. Following the voice from buzzer, the modification of service parameters is started.

2、 By using the +/⇲ & −/⇱, the operator can select the parameter No.67：



3、Press ⏻ to turn the sewing LED, then select the needed software version number by using +/⇲ & −/⇱ :

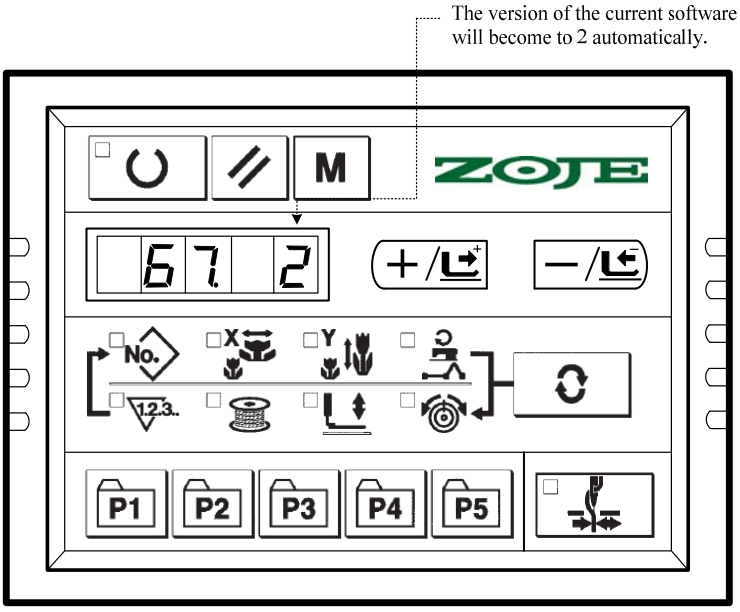


4、For an example, if the existing version is 2, operator can restore it to 0 or 1 (smaller than the current version number in all). And then press to confirm the restored version number and turn off the Sewing LED;

1、 Press M to quit the setting mode of service parameters. Then the system will return to the normal sewing mode;

2、 And then, turn off the power and repower the machine after about one minute. At the moment, “EEP——” will be displayed on the operation panel. After 20 seconds, the operation panel will become to display normally (attention: it is a normal phenomenon because the system needs some time to perform the recovery of the default software).

3、 After the recovery, the system will set the current software version as the highest version. For example, there are 2 default versions, Version 1 & Version 0; in that case the version after the recovery will be defined at 2 automatically.

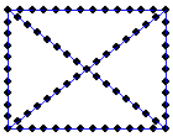
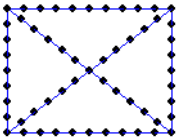
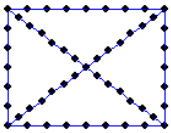
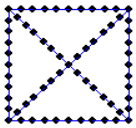
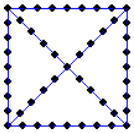
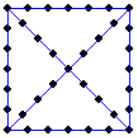
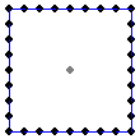
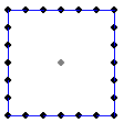
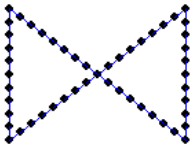
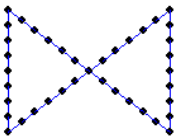
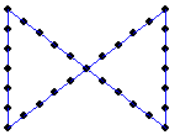
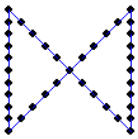
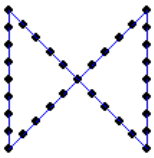
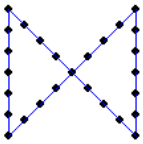


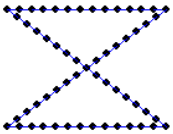
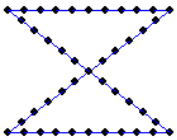
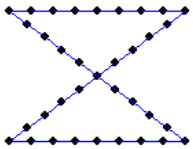
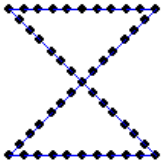
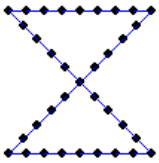
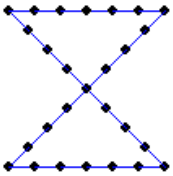
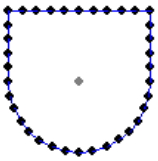
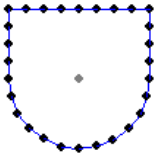
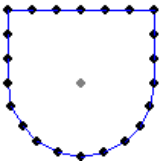
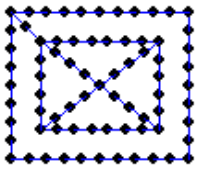
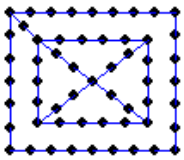
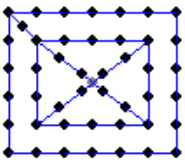
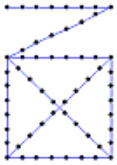
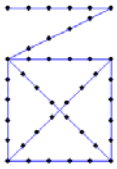
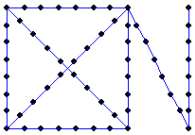
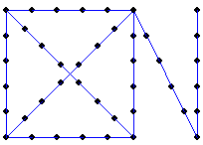
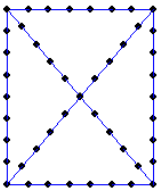
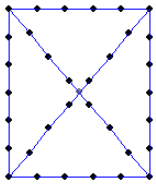
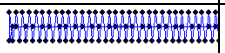
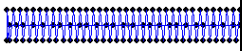
Attention: During the process of repowering the machine, if the power is off when the system is recovering, the recovery will be failed and the system will return to the software status before the recovery.

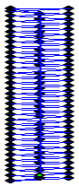
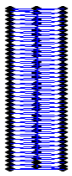
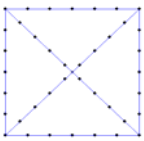
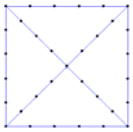
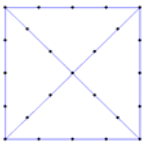
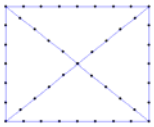
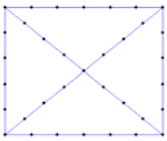
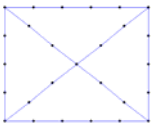
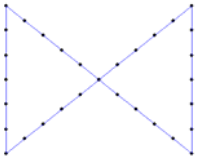
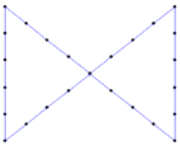
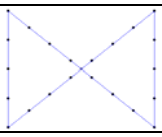
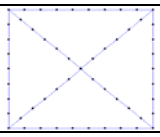
3.3 List of Standard Figure

NO.	Sewing Pattern	Stitch number	Size（mm）		NO.	Sewing Pattern	Stitch number	Size（mm）
1		42	16×2		2		42	10×2
3		42	16×2.5		4		42	24×3
5		28	10×2		6		28	16×2.5
7		36	10×2		8		36	16×2.5
9		56	24×3		10		64	24×3
11		21	6×2.5		12		28	6×2.5
13		36	6×2.5		14		15	8×2
15		21	8×2.2		16		28	8×2
17		21	10×1		18		28	10×1
19		28	25×1		20		36	25×1
21		41	25×1		22		44	35×1

23		28	4×20		24		36	4×20
25		42	4×20		26		56	4×20
27	(上) (下)	18	1×20		28	(上) (下)	21	1×10
29	(上) (下)	21	1×20		30	(上) (下)	28	1×20
31		52	10×7		32		63	12×7
33		24	10×6		34		31	12×6
35		48	7×10		36		48	7×10
37		90	24×3		38		28	8×2
39		28	12×12		40		48	12×12
41		29	2.5×20		42		39	2.5×25
43		45	2.5×25		44		58	2.5×4.4
45		76	2.5×4.4		46		42	2.5×4.4

47		91	8×8		48		99	8×8
49		148	8×8		50		164	8×8
51		100	40×30		52		78	40×30
53		70	40×30		54		90	30×30
55		70	30×30		56		54	30×30
57		53	40×30		58		40	40×30
59		31	40×30		60		45	30×30
61		36	30×30		62		27	30×30
63		57	40×30		64		45	40×30
65		35	40×30		66		55	30×30
67		42	30×30		68		33	30×30

69		65	40×30		70		49	40×30
71		39	40×30		72		55	30×30
73		42	30×30		74		33	30×30
75		43	30×30		76		33	30×29.9
77		26	30×29.8		78		93	30×25
79		72	30×25		80		54	30×25
81		77	20×30		82		57	20×30
83		77	30×20		84		57	30×20
85		69	20×24.1		86		52	20×24.1
87		101	40×5		88		109	40×5

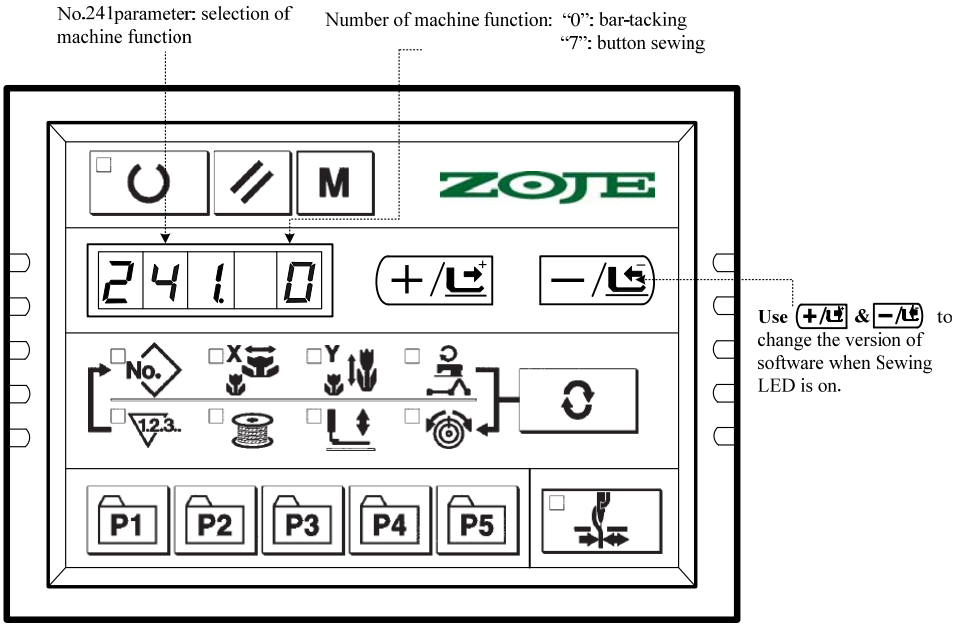
89		97	5×30		90		107	5×30
91		56	20×20		92		48	20×20
93		38	20×20		94		62	25×20
95		50	25×20		96		40	25×20
97		36	25×20		98		28	25×20
99		24	25×20		100		76	30×25

4 Function of Button Sewing

4.1 Settings

1、 When the Sewing LED is off, operator can press M to have system display 1.30, and then the operator needs to press P1 P3 P5 together. Following the voice from buzzer, the modification of service parameters is started;

2、 Select the parameter No.241 by pressing + & −:



3、Press to turn on the Sewing LED. After that, user can change the function number to "7" with +/ & −/; then user shall press to confirm the function number and turn off the Sewing LED.

4、Press M to quit the setting mode of service parameter. The system will return to the normal sewing mode. After user repowers the machine, the function of machine will turn to button sewing.

Attention:

The machine needs the special pressers and other supplementary equipments for sewing button. For the detailed information in this aspect, please contact to the supplier or agent of your machine.

4.2 List of Standard Pattern in Sewing Button

No	Sewing pattern	Thread number	Standard sewing length X(mm)	Standard sewing length Y(mm)	No	Sewing pattern	Thread number	Standard sewing length X(mm)	Standard sewing length Y(mm)
1·34		6-6	3.4	3.4	18·44		6	3.4	0
2·35		8-8			19·45		8		
3		10-10			20		10		

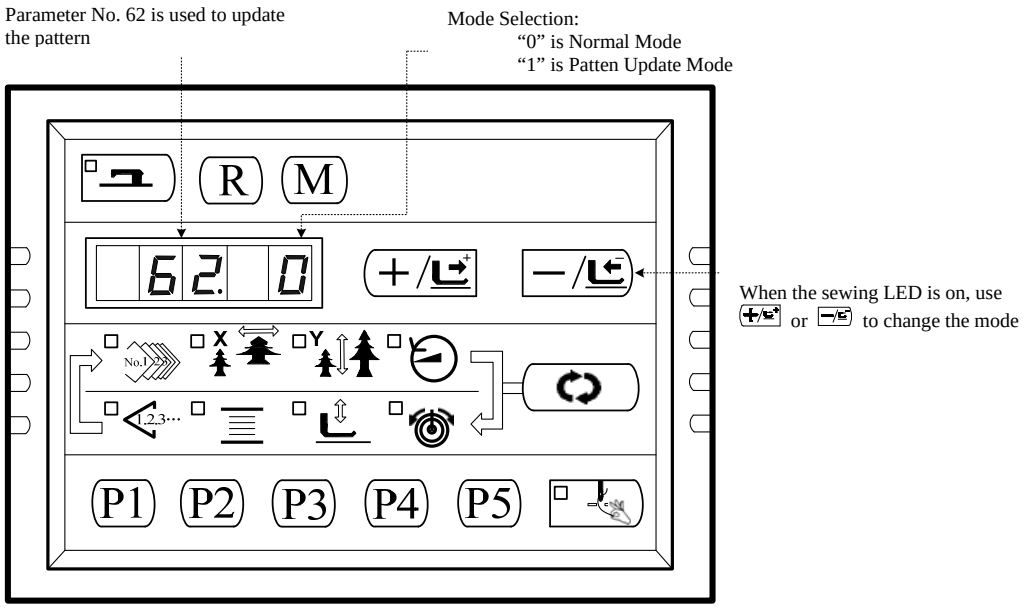
No	Sewing pattern	Thread number	Standard sewing length X(mm)	Standard sewing length Y(mm)	No	Sewing pattern	Thread number	Standard sewing length X(mm)	Standard sewing length Y(mm)
4		12-12			21		12		
5·36		6-6			22		16		
6·37		8-8			23·46		6	0	3.4
7		10-10			24		10		
8		12-12			25		12		
9·38		6-6			26·47		6-6	3.4	3.4
10·39		8-8			27		10-10		
11		10-10			28·48		6-6		
12·40		6-6			29		10-10		
13·41		8-8			30·49		5-5-5	3.0	2.5
14		10-10			31		8-8-8		
15·42		6-6			32·50		5-5-5		
16·43		8-8			33		8-8-8		
17		10-10							

5 Update Pattern via U disk

5.1 Operation for Updating Pattern

1、 When the Sewing LED is off, operator can press M to have the screen display 1.30, and then the operator needs to press P1 P3 P5 at same time. When hearing the voice from buzzer, the operation can activate and modify the service parameters;

2、 Press + and − to select Parameter No.62：



3、 Press to turn on the Sewing LED, then press + and − to change the function number to "1"; press again to confirm the function number and turn off the Sewing LED.

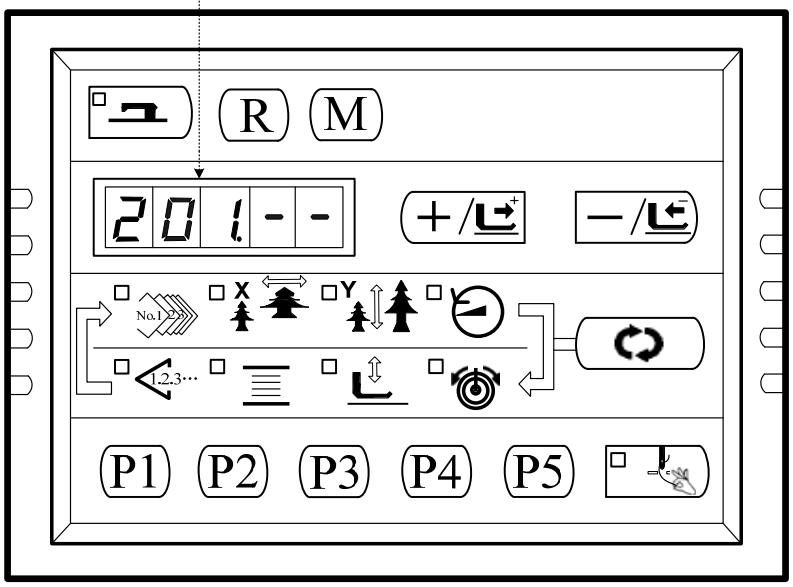
4、 Please Pay Attention To The Differences Among The Operations Below：

i. If your machine uses the old type USB update module that doesn't have USB port on panel, please use the methods at below to perform the update operation:

1. Turn off power; remove the panel plug at X7 port on controller and insert the plug of pattern updater into the X7 port. The pattern updater is shown at below：

2. Name the pattern file as “DH”, set its type as “.bin”, and save it in the DH file folder under the basic catalog in U disk. Then insert the U disk to the USB port on the updater. Turn on the power, and the system will automatically upload the needed patterns, whose number is from 101 to 200, into the memory of the computer; meanwhile the system will back up the data of the original patterns with number from 101 to 200 to the file named DHBAK.bin under the DH file folder (if patterns with number 101 to 200 don’t have any data, the backup file will be empty). During the process of update, the red indicator at the front of the control box will keep sparking, which mean that the system is updating. At this moment, please DO NOT remove the updater. After the update, the buzzer on the controller will ring that means the update is successful.
3. Turn off the power, remove the pattern updater and reconnect the operation panel. Turn on the power and press M, then the screen will display 1.27. After that, user needs to press + or − to select the user parameter No.201:

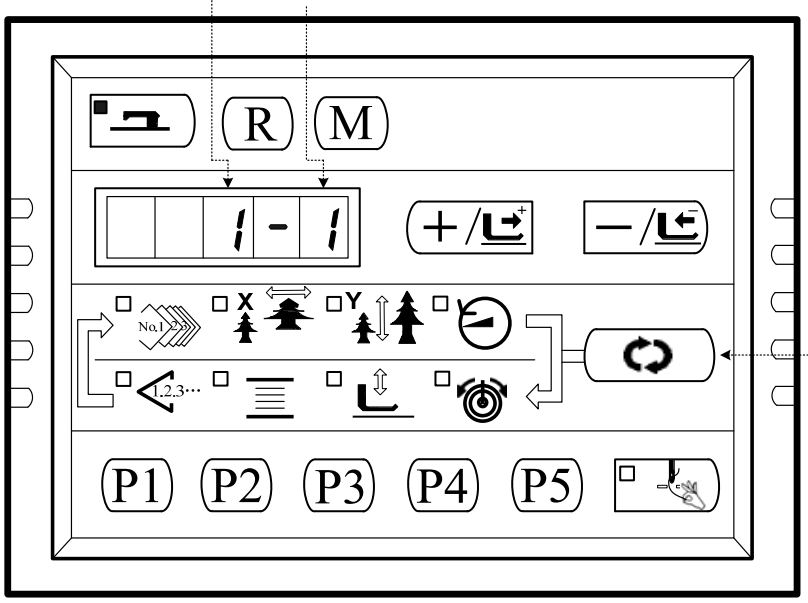
Parameter No. 201 is used to set whether to load the pattern data.



5、 Press  to turn on the Sewing LED, then the system will have access to Pattern On/Off Mode. The Screeen will display “1-1”：

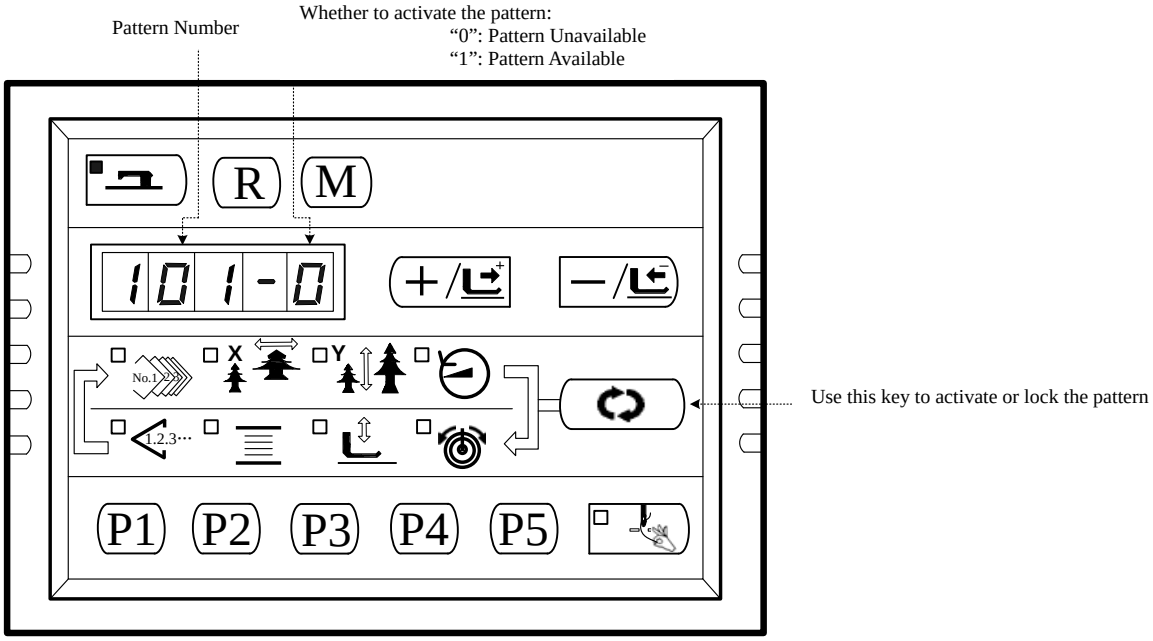
Whether to activate the pattern:
“0”: Pattern Unavailable
“1”: Pattern Available

Pattern Number

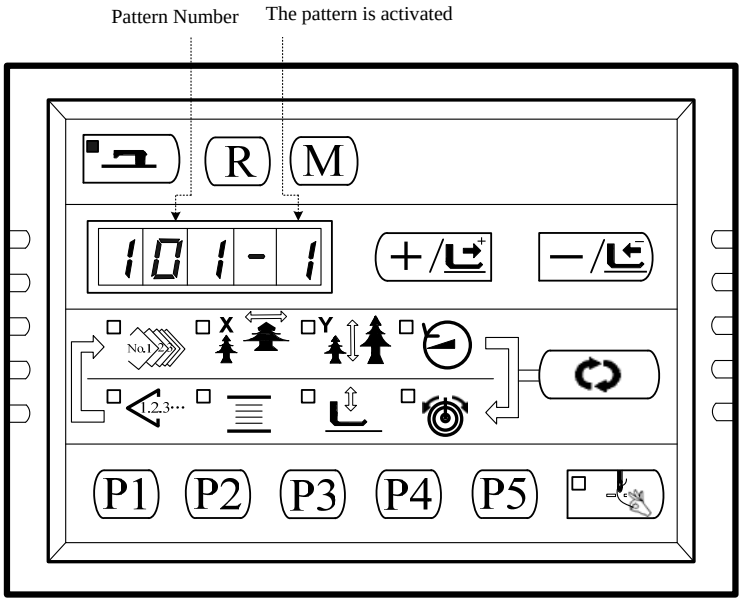


Use this key to activate or lock the pattern

6、 Press  and  to select the wanted pattern number like Pattern No.101:



7、 Press to turn "101-0" to "101-1", which means the pattern No.101 is activated：



10、Press to turn off the sewing LED and to save the parameters. Then the system will return to the interface at Procedure 6; user can repeat the operations from 6 to 10, so as to activate or lock the entire needed patterns.

11、Press M to return to the Normal Sewing Mode

12、Use to select the figure of Pattern No. (Please refer to [2.4.1 Set the Project Data]). Then press +/ or —/ to find the unlocked Pattern No.101. After that, the machine starts to sew the pattern No.101.

6 Appendix

6.1 List of Error Information

Display					Error Name	Content of Error	Solution
E				7	Machine Lock Error	The main-shaft of sewing machine can't rotate due to some problem.	Turn off power and release the trouble
E			1	0	Pattern NO. Error	The prepared pattern number is not registered in ROM or it is set at unreadable. The pattern is 0.	Press RESET switch to confirm the pattern NO. Confirm the content in memory switch No.201.
E			3	0	Needle Rod Up Position Error	The needle rod is not at UP position.	Turn the hand pulley to return the needle rod to its UP position.
E			4	0	Sewing Area Over	The sewing area is over the limit.	Press RESET switch to confirm the X/Y scale rate
E			4	3	Enlargement Error	The sewing stitch is below 10mm.	Press RESET switch and confirm the pattern and X/Y scale rate.
E			4	5	Pattern Data Error	The pattern data cannot be adopted.	Power off and check the data ROM
E			5	0	Pause	Press the RESET switch while sewing machine is running. The machine pauses.	Restart or return-to-origin after pressing RESET switch for thread-trimming
E		2	2	0	Controller Abnormal	The communication with executive device is abnormal.	Turn off the power and repower the machine after a while.
E		3	0	2	Head Tilt Error	Head tilt detection switch is turned ON.	The sewing machine cannot be operated with the head tilted. Return the sewing machine head to its proper position
E		3	0	3	Connection to Main-shaft Fail	Can't detection the highest point of the sewing machine	Turn off the power, and check the connection of the X5 plug.
E		3	0	5	Thread Trimmer	Knife is not at proper	Turn off the power and check

					Position Error	position.	the CZ024 at the head signal circuit board.
E		3	0	6	Thread-catching position error	The thread-catching device is at wrong position.	Turn off the power and check the CZ026 at the head signal circuit board.
E		3	0	7	Thread-trimming Motor Position Error	The thread-trimming motor is not at the right position.	Check the thread-trimming device and thread-trimming motor to make sure it has no blockage.
E		7	3	3	Motor Reverse	Motor Reverse	Turn off the power and check the coupling of the main-shaft motor.
E		8	1	1	Overvoltage Error	The voltage of power is over the specified value.	Confirm the voltage of power
E		8	1	3	Low Voltage Error	The voltage of power is too low.	Confirm the voltage of power.
E		9	0	1	Motor driver abnormal	The error is detected in motor driver.	Turn off the power and repower the machine after a while.
E		9	0	3	Power Supply of Pulse Motor Error	Power supply of the pulse motor is not output	Turn off the power and repower the machine after a while.
E		9	0	4	Solenoid Power Supply Error	Power supply of the solenoid cannot output	Turn off the power and repower the machine after a while.
E		9	0	7	X Origin Search Error	X origin sensor doesn’t change.	Turn off power and check the connections of CZ021 on head signal circuit board and X9 on control box.
E		9	0	8	Y Origin Search Error	Y origin sensor doesn’t change.	Turn off power and check the connections of CZ022 on head signal circuit board and X9 on control box.
E		9	1	0	Presser Origin Search Error	Presser origin sensor doesn’t change.	Turn off power and check the connections of CZ025 on head signal circuit board and X9 on control box.
E		9	1	1	Y Direction Motor Busy	Y motor doesn’t make action according to order	Check the stepping motor in Y direction.
E		9	1	2	X Direction Motor Busy	X motor doesn’t make action according to order	Check the stepping motor in X direction.

E		9	1	3	Thread-catching Origin Search Error	Thread-catching origin sensor doesn't change.	Turn off power and check the connections of CZ026 on head signal circuit board and X9 on control box.
E		9	1	4	Transmission Error	Time lag exist between cloth-feeding motor and main-shaft motor	Turn off the power and repower the machine after a while.
E		9	1	6	Communication Error between Main-board and Stepping Board	Communication between Main-board and Stepping Board is down.	Turn off the power and repower the machine after a while.
E		9	9	9	Abnormal status	More than one part of machine has problem.	Make sure no sensor is plugged reversely.
No Display					Plug Take-off	The voltage of power doesn't meet standard. The plug is take-off.	Turn off power and check the connections of power plug and X7 plug on control box.

6.2 System Diagram