

Contents

3.2 Keyboard Shortcut.....	7
Chapter 4 Test Menu	15
4.1 Needle selector Test.....	15
4.2 Gas Valve / Solenoid Valve Test.....	17
4.3 Stepper Motor Test	19
4.4 Servo Motor Test.....	21
4.5 Alarm Input Test.....	23
4.6 Panel Test	24
5.1 Pattern File Management.....	26
5.1.1 Pattern Preview.....	28
5.1.2 Chain Editing.....	35
5.1.3 Action Editing	46
5.1.4 Needle Selection Data Editing.....	48
5.1.5 Seam Action Editing.....	50
5.1.6 Seam Parameter.....	55
5.2 Machine File Management.....	58
5.2.1 Machine Parameters	59
5.2.2 Elastic Setting.....	69
5.2.3 Stepper Motor.....	71
5.2.4 Alarm Setting.....	73
5.2.5 Quick Reset	74
5.2.6 Seam Alignment	75
5.3 Encrypted Files.....	76
5.4 System Configuration.....	77
5.5 Device Configuration	78
Chapter 6 System Setting Menu.....	79
6.1 Servo Setting	79
6.2 Electric Eye Setting.....	80
6.3 Needle Arrangement.....	82
6.4 Device Management.....	83
Chapter 7 Language Setting Menu	85
Chapter 8 Version Information Menu.....	85
8.1 Clock setting.....	85
8.2 Touch screen proofreading	86
8.3 Version Management.....	86
8.4 Import resource	88
8.5 Disk information	88
8.6 Fault Log	89
Chapter 9 Alarm Description.....	90
9.1 System Alarm	90
9.2 Servo Alarm.....	93

Chapter 1 Introduction

Thank you for using seam integrated hosiery machine designed and produced by Zhejiang Mingde Electronic Control Equipment Co., Ltd.

Please read the instructions carefully to ensure proper operation. Keep these instructions safe for your future reference.

1.1 Application Notice

When applying this product, the following safety precautions and notices should always be followed in order to ensure the safe operation of the machine and avoid casualties.

1. The machine is limited to the power type indicated by its nameplate. When the voltage fluctuation in the grid exceeds 10%, the power regulator must be equipped.
2. The incoming power threading should be fixed for the safety protection in accordance with the regulations and can't bear the force.
3. The equipment must be connected to the ground wire. Poor grounding will cause electric shock and affect its safe and reliable operation.
4. Never repair and debug electrical components by non-professionals. It will reduce the safety performance of the equipment, aggravate the failure and even cause casualties and property losses.
5. To open the computer case board, please cut off the machine power supply at first. When touching the internal parts, the power must be cut off for 1 minute. When touching the servo amplifier, the power must be cut off for 10 minutes.
6. Never operate the machine when the shield of the moving parts is defective.
7. Never operate the machine in damp, dust, corrosive, flammable and explosive site; otherwise, it may cause electric shock or fire.
8. Never conduct insulation test directly on the input and yield circuit of the controller, otherwise the electrical equipment will be damaged.
9. Please replace the fuse in strict accordance with the specifications indicated in this machine.
10. The pressure of the machine should be above 6kg/cm², otherwise the action of the air valve may be incorrect.

11. When the machine is in operation, never touch any moving parts, otherwise it may cause personal injury.
12. Please use the spare parts and wear parts supplied by our factory.
13. Please use a quailed USB flash disk.
14. The machine should be kept in a clean and ventilated environment. Never stack the clutter around the control box for heat dissipation, and dust should be cleaned regularly.
15. Changes to this manual will be made in the appendix. If the appendix content is inconsistent with the original content, the appendix content shall prevail.
16. The company is not responsible for the consequences of unauthorized alteration of the product.

1.2 Function Introduction

The computer-controlled hosiery machine of our factory not only has more powerful functions than similar imported products, but also has the advantage of high reliability and favorable price. The functions and features are described below.

1. 18 colors can be knitted. Each threading can be knitted into one main color and six secondary colors.
2. The knitting system is controlled by high-performance computer with a CPU frequency of over 600M.
3. Please maintain high speed operation to improve internal triangle, each triangle has the function of alarm detection and protection.
4. The tension and knitting density of elastic yarn can be adjusted by stepper motor. Elastic motor can realize the progressive function, convenient to make football socks and other special socks.
5. The yarn and triangle are electronically controlled.
6. Automatic protection of sensor devices.
7. Adjustable automatic fuel supply.
8. Multiple languages display is realized, available for free switching. Large LCD display (800 x 480 lattice) can provide a clear display.
9. The computer operation adopts the graphics menu mode and supports the touch function, with simple operation and good human-machine interface.
10. Use large capacity memory, and the pattern disk capacity of each system is 4G, available for a large number of patterns.

11. Support folder and long filename display.
12. The computer control box can drive the 12-channel needle selector, support piezoelectric-ceramics needle selector, operating selector and electromagnet selector, support arbitrary and fixed fluff function, can be used for all gas valve channels, expand the sinker, settled motor, left-angular motor, right-angular motor and the scissor plate motor with the out-of-frame detection function. There will be an alarm reminding when mechanical failure occurs.
13. Patterns and parameters can be inputted to the machine by a USB flash disk or can be saved in the USB flash disk.
14. The machine has the function of continuing knitting in case of outage and can save the original knitting position when it suddenly loses power.
15. The servo control technology is adopted to ensure the smooth running of the machine.

Chapter 2 Main Menu

Turn on the machine power and enter the main menu interface.

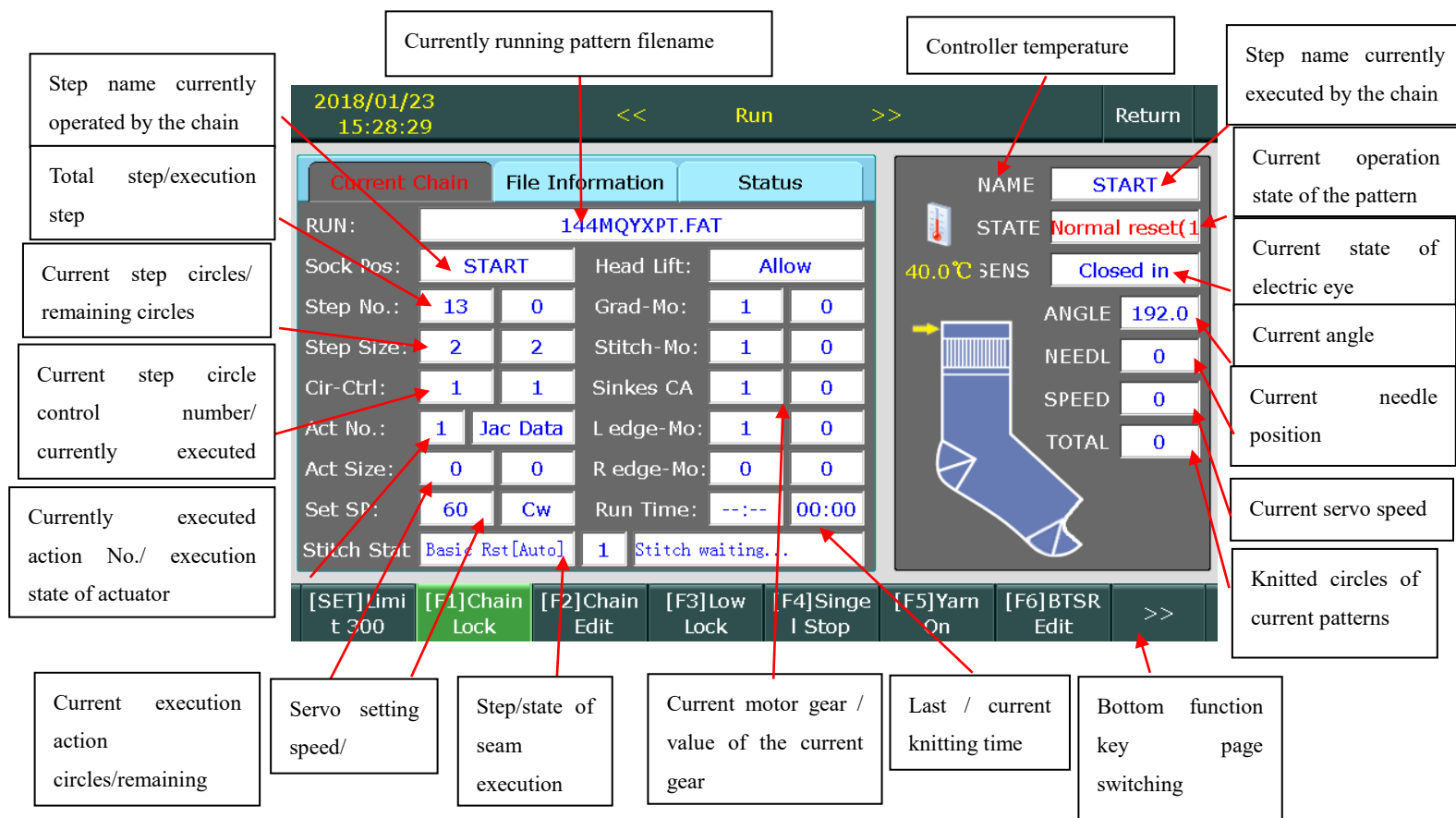


The bottom is the switching function keys of the main menu and both sides are the submenu function keys corresponding to the function items of the current main menu.

Chapter 3 Knitting

3.1 Running Interface

The left side of the running interface contains the “current chain”, “file information” and “state control”. Switch by clicking the page button. The right side shows the real-time information about the state of the machine.



Work pattern information, pattern size red box indicates the currently running file

Current working machine file

Set / completed yeild

2018/01/23 15:28:40		<< Run >>		Return
Current Chain		File Information		Status
PAT-1	144MQYXPT. FAT	WIDT	144 X 750	
PAT-2	144MQYXPT. FAT	WIDT	144 X 750	
PAT-3	144MQYXPT. FAT	WIDT	144 X 750	
MAC-FILE		AA. MAC		
TOTAL:		0		
CUR PIECE:		764		

NAME: START

STATE: Normal reset(1)

40.0℃ SENS: Closed in

ANGLE: 192.0

NEEDL: 0

SPEED: 0

TOTAL: 0



[SET]Limit 300	[F1]Chain Lock	[F2]Chain Edit	[F3]Low Lock	[F4]Single Stop	[F5]Yarn On	[F6]BTSR Edit	>>
----------------	----------------	----------------	--------------	-----------------	-------------	---------------	----

State control: The interface shows relevant information in the current state of the machine for the professional to judge the fault point.

2018/01/23 15:28:54		<< Run >>		Return
Current Chain		File Information		Status
SelPos:	010 043 060 076 094 112 128 145 162 192 002			
SelPos-R:	000 000 000 000 000 000 000 000 000 000 000			
SelCirle:	000 000 000 000 000 000 000 000 000 000 000			
YarnPos:	036 053 070 086 103 113 041 Rb=0 F=0			
YarnPos-R:	000 000 000 000 000 000 Ms=000 Sel=1/0/0/0			
YarnNo:	000 000 000 000 000 000 Sv=0/0/0/0			
YarnCir:	000 000 000 000 000 000 Ts=1/0/000/0/0 0.00			
PatCir:	0 (1 to 750) all:750 WgLm_S=0 WgLm_E=0			
CWPos:	0 WzZ0=0			
CCWPos:	0 WzSt=0			
	0 WzEd=0			
	0 T/Q=00/00			
	0 WzEr=00/00 AL=0 AR=0 WA=0 Sp=60/60/60			

NAME: START

STATE: Normal reset(1)

40.0℃ SENS: Closed in

ANGLE: 192.0

NEEDL: 0

SPEED: 0

TOTAL: 0

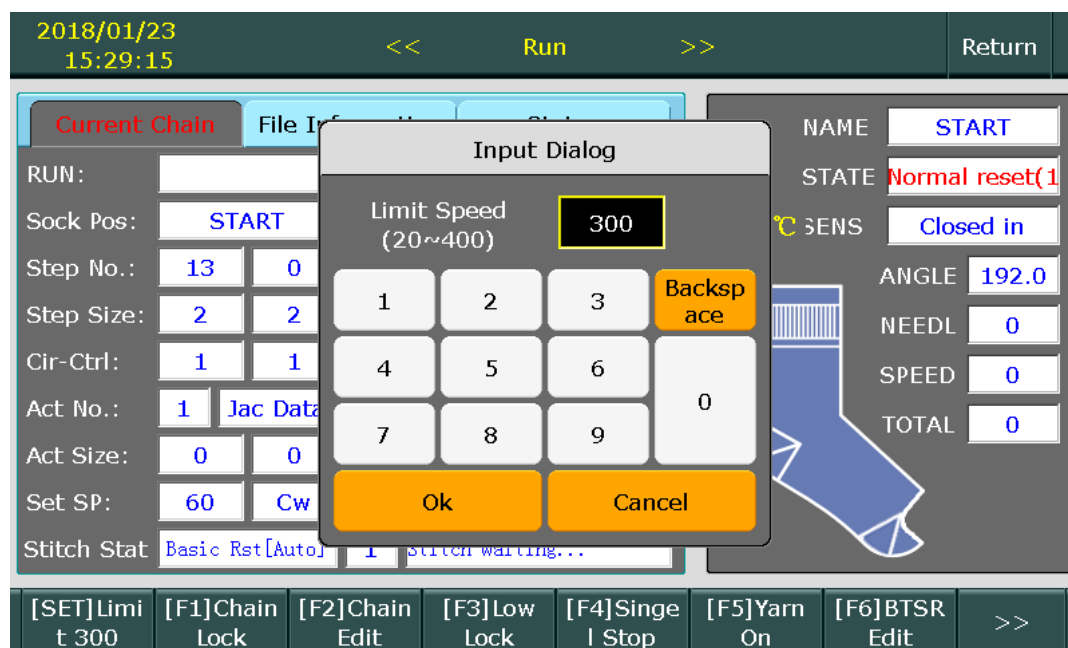


[SET]Limit 300	[F1]Chain Lock	[F2]Chain Edit	[F3]Low Lock	[F4]Single Stop	[F5]Yarn On	[F6]BTSR Edit	>>
----------------	----------------	----------------	--------------	-----------------	-------------	---------------	----

3.2 Keyboard Shortcut



Speed limit After pressing it, the machine will be displayed with the speed limit input dialog. After the input value, the machine will not run faster than this value, and the input range is 20~400.



Chain locking Press it, the chain will be locked, press it again, the chain lock will be cancelled.



Chain editing Enter chain editing interface and seam parameter editing interface, refer to 5.1.2.



Low speed locking Press it, maximum limit of operating speed is low speed, press it again, it will be cancelled. The low speed can be set in the machine parameter.



Automatic stop for each sock Press it, the machine will automatically stop for each sock, press it again, it will be cancelled.



Electric eye study When the electric eye function is turned on, press this button to relearn the electric eye data.



Shuttle lifting Press it, the elastic shuttle exits and all plaiting, main and elastic shuttles lift, press it again, recover the previous state.



Chain normalizing Press it, the current control circle is directly changed to 1, and only the current action is executed.



10 chain circles reducing Press it, 10 current chain circles are automatically reduced, just as effective when the machine stops.



Manual refueling Press it, automatically refuel for 2 seconds.



Density setting Press it, pop up the density setting interface, with a total of 24 gears, which can be flipped through page down, as shown.

	Graduation	Stitch Cam	Sinkers	Head	L Edge	R Edge
1	0	0	0	0	0	0
2	20	0	20	0	0	0
3	50	0	35	0	55	0
4	20	0	65	0	0	0
5	28	0	65	0	0	0
6	25	0	70	0	0	0
7	25	0	75	0	0	0
8	25	0	30	0	0	0

Navigation buttons: Page Up, Page Down, Enter, Exit



Hosiery damper Press it, then hosiery damper motor or hosiery damper gas valve opens, and it closes when pressing it again. If the damper takes the opening position of the motor as the maximum range, the range is set in the machine parameter, and it will be specified later.



Forced reset Press it, pop up a confirmation box for forced reset, quickly click “Yes” to enter fast reset, click it again to enter forced reset and the reset is finished immediately after entering password according to the prompt.

2018/01/23 15:29:42 << Run >> Return

Current Chain File Information Status

RUN: Sock Pos: START Step No.: 13 Step Size: 2 Cir-Ctrl: 1 Act No.: 1 Act Size: 0 Set SP: 60 Stitch Stat: Basic Rst[Auto] 1

NAME: START STATE: Normal reset(1) TENS: Closed in ANGLE: 192.0 NEEDL: 0 SPEED: 0 TOTAL: 0

Confirm: Do you want to do reset? Yes No

[SET]Limit 300 [F1]Chain Lock [F2]Chain Edit [F3]Low Lock [F4]Single Stop [F5]Yarn On [F6]BTSR Edit >>



Seam switch When the seam doesn't work, press it, then the chain will work in the step of "finishing", otherwise it will work in "seam finishing".



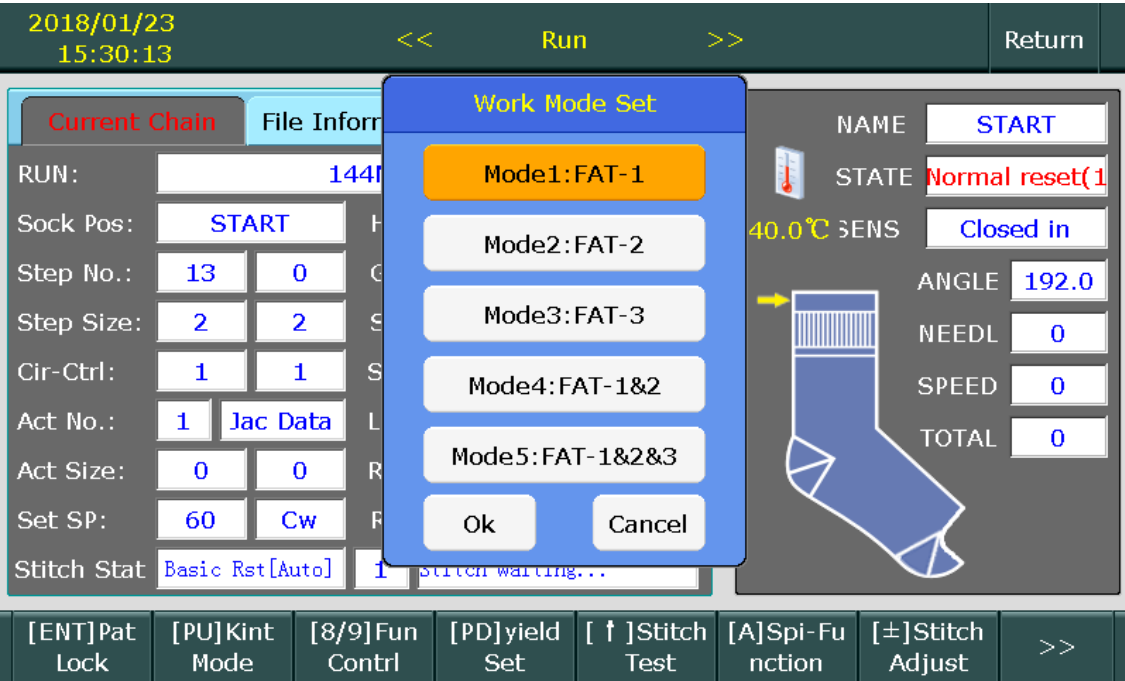
Seam reset When the seam doesn't work, press it, then it will run the "basic reset" action of the seam, otherwise it will run the seam reset action as set.



Pattern locking Press it, then the needle selector will not run and remain the current state, press it again to cancel the function.



Knitting switch Press it, pop up the following interface, including five modes as "Mode1: FAT-1", "Mode2: FAT-2", "Mode3: FAT-3", "Mode4: FAT-1&2" and "Mode5: FAT-1&2&3". Mode 1, 2, 3 only execute one of three set patterns. Mode 4 is the alternative execution of pattern 1 and 2. Mode 5 is the alternative execution of pattern 1, 2 and 3.





[8/9]Fun Contrl Press it, pop up the following interface, then you can control the switch of hosiery and seam air draft.

2018/01/23 16:14:26		<< Run >>		Return
Current Chain		File Information		Status
RUN: 144MQYXPT.FAT				NAME START
Sock Pos: START		Head Lift: Allow		STATE Normal reset(1
Step No.: 13 0		Grad-Mo: 1 0		40.0°C SENS Closed in
Step Size: 2 2		Stitch-Mo: 1		ANGLE 192.0
Cir-Ctrl: 1 1		Sinkes CA 1		NEEDL 0
Act No.: 1 Jac Data		L edge-Mo: 1		SPEED 0
Act Size: 0 0		R edge-Mo: 0		TOTAL 0
Set SP: 60 Cw		Run Time: --:-- 00:00		
Stitch Stat Basic Rst[Auto] 1		Stitch waiting...		
Items [8]Kint Fun [9]Stitch Fun Exit				
[ENT]Pat Lock	[PU]Kint Mode	[8/9]Fun Contrl	[PD]yield Set	[↑]Stitch Test
[A]Spi-Fu nction	[±]Stitch Adjust	>>		

8 Hosiery air draft switch hosiery air draft.

9 Seam air draft switch seam air draft.

PD **Yield setting** Press it, pop up the following interface, you can select to execute yield setting and yield zero.

2018/01/23 16:19:41		<< Run >>		Return
Current Chain		File Information		Status
RUN: 144MQYXPT.FAT				NAME START
Sock Pos: START		Head Lift: Allow		STATE Normal reset(1
Step No.: 13 0		Grad-Mo: 1 0		40.0°C SENS Closed in
Step Size: 2 2		Stitch-Mo: 1		ANGLE 192.0
Cir-Ctrl: 1 1		Sinkes CA 1		NEEDL 0
Act No.: 1 Jac Data		L edge-Mo: 1		SPEED 0
Act Size: 0 0		R edge-Mo: 0		TOTAL 0
Set SP: 60 Cw		Run Time: --:-- 00:00		
Stitch Stat Basic Rst[Auto] 1		Stitch waiting...		
Items Yield Setting Yield Zero Exit				
[ENT]Pat Lock	[PU]Kint Mode	[8/9]Fun Contrl	[PD]yield Set	[↑]Stitch Test
[A]Spi-Fu nction	[±]Stitch Adjust	>>		

▲ **Seam test** Press this button to enter the seam test mode, as shown in the figure, the chain action

is edited in the machine parameter.

In this mode, the system repeats executing seam until it exits.

2018/01/23
15:31:35

<<
Run
>>

Return

Current Chain

File Information

Status

RUN:
144MQYXPT.FAT

Sock Pos:
STITCH TEST

Head Lift:
Allow

Step No.:
13
0

Grad-Mo:
0
0

Step Size:
16
16

Stitch-Mo:
0
0

Cir-Ctrl:
15
1

Sinkes CA
0
0

Act No.:
0
Jac Data

L edge-Mo:
0
0

Act Size:
0
0

R edge-Mo:
0
0

Set SP:
150
Cw

Run Time:
--:--
00:00

Stitch Stat
Basic Rst[Auto]
1
Stitch waiting...

NAME
STITCH TEST

STATE
Seam preparat

40.0℃
SENS
Closed in

ANGLE
192.0

NEEDL
0

SPEED
0

TOTAL
0

[ENT]Pat Lock
[PU]Kint Mode
[8/9]Fun Contrl
[PD]yield Set
[↑]Stitch Test
[A]Spi-Fu nction
[±]Stitch Adjust
>>

[A]Spi-Fu nction

Special function Press this button to pop up the following interface, including 7special functions, as seam scissors, elastic scissors 1, elastic scissors 2, open needle latch 1, open needle latch 2, wear line and seam LED and their corresponding gas valve switches. The wear line executes to remove swing arm, the sewing machine is back, suitable for sewing threading, then press it again to back to the original position.

- 0

Seam scissors

Control seam scissors switch.
- 1

Elastic scissors 1

Control elastic scissors 1 switch.
- 2

Elastic scissors 2

Control elastic scissors 2 switch.
- 3

Open needle latch 1

Control open needle latch1 switch.
- 4

Open needle latch 2

Control open needle latch 2 switch.
- 5

Wear line

Switch back and forth of seam waiting state and wear line state.
- 6

Seam LED

Control the switch of seam LED.
- 7

Hafa clutch

Control the switch of hafa clutck.

2018/01/23
15:32:08

<<Run>>

Return

Current Chain

File Information

Sta

Items

NAME

STITCH TEST

RUN:

144MQYXPT.FAT

[0]Stitch Scissors

Sock Pos:

STITCH TEST

Head Lift:

A

[1]Rub-Scissors 1

Step No.:

13

0

Grad-Mo:

0

[2]Rub-Scissors 2

Step Size:

16

16

Stitch-Mo:

0

[3]ONeedle 1

Cir-Ctrl:

15

1

Sinkes CA

0

[4]ONeedle 2

Act No.:

0

Jac Data

L edge-Mo:

0

[5]Wear Line

Act Size:

0

0

R edge-Mo:

0

[6]Stitch Led

Set SP:

150

Cw

Run Time:

--:--

[7]Hafa Div

Stitch Stat

Basic Rst[Auto]

1

Stitch waiting.

ANGLE

192.0

NEEDL

0

SPEED

0

TOTAL

0

[ENT]Pat
Lock

[PU]Kint
Mode

[8/9]Fun
Contrl

[PD]yiel
Set

Exit

[±]Stitch
Adjust

>>

Test

nction

 **Seam adjustment** When the seam doesn't run, following interfaces pop up and enter seam adjustment interface, including wear line, seam motor, seam scissors, seam last needle, seam last needle, swing arm left-right limit and seaming. In the “wear line” surface, press the “start test” button to enter wear line state, then press exit to the waiting state. In the “seam motor” interface, press “start test” button to test if seam motor installation is in place. In “seam last needle” interface, press “start test” button to calibrate the position of the last needle in seaming. “Swing arm left-right limit” calibrates the position of the left and right motor of the swing arm. In “seaming”, press “start test” button to calibrate the position of each needle in seaming.



Seam start When the seam temporarily runs or has single step, press the button and the seaming will continue.



Seam single step Execute single step of seaming



Seam suspension When executing seaming, press the button and it will suspend. When not executing seaming, press it to choose whether seaming is executed for switch pattern.



Hafa head lifting Hold this button continuously to lift the hafa head up to the highest position. Note: This button can't be operated in the steps between the set-up and tying and the start of seam and seam sock.



Hafa head fall Hold this button continuously to make the hafa head fall to the highest position. Note: This button can't be operated in the steps between the set-up and tying and the start of seam and seam sock.



Hafa disk lifting Hold this button continuously to lift the hafa disk up to the highest position. Note: This button can't be operated in the steps between the set-up and tying and the start of seam and seam sock.



Hafa disk fall Hold this button continuously to make the hafa disk fall to the highest position. Note: This button can't be operated in the steps between the set-up and tying and the start of seam and

seam sock.



knitting execution Press the button to enter knitting interface quickly.



Quick reset Press the button to switch to quick reset chain and enter hosiery reset.

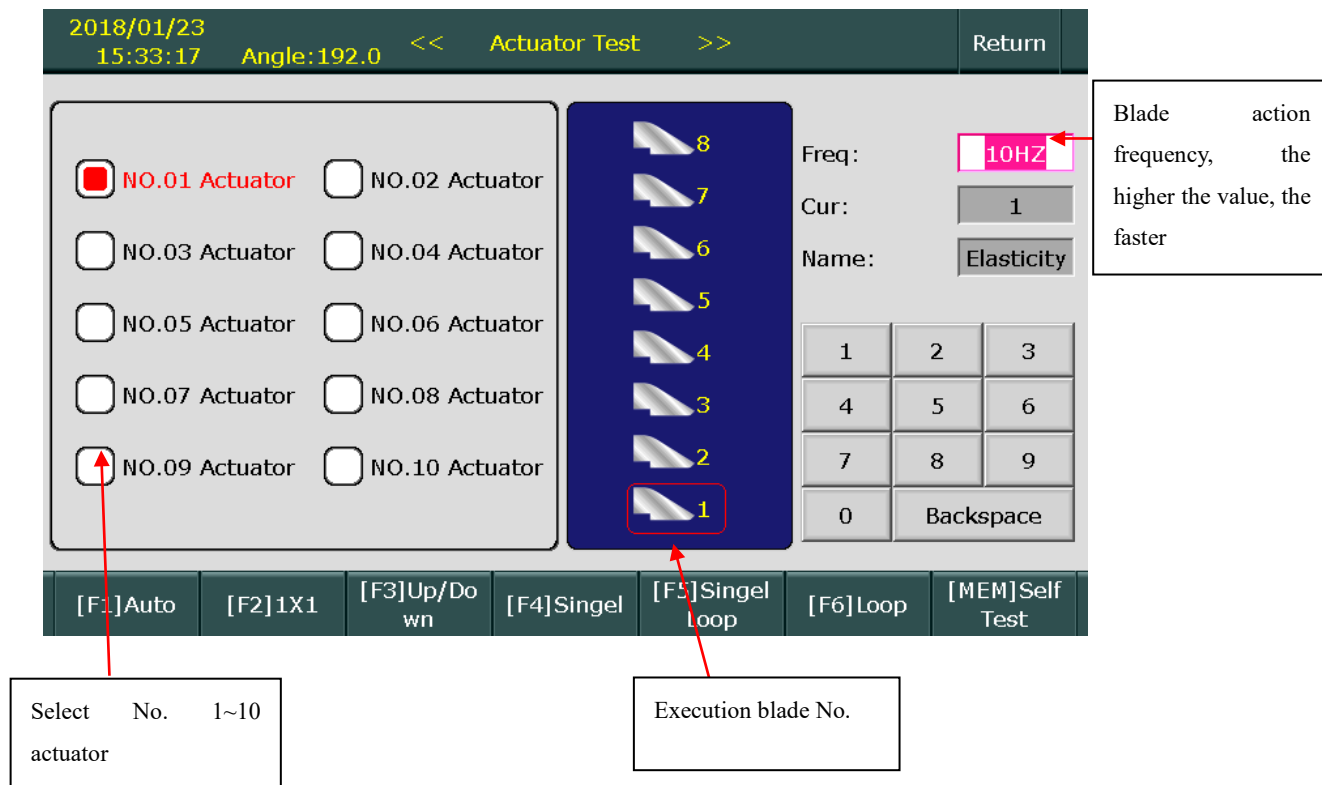
Chapter 4 Test Menu

In the main menu, press  button to switch to test page.



4.1 Needle selector Test

In the test page of main menu, press  button to enter needle selector test interface.



F1 Automatic test Implement automatic full lifting and falling test for selected needle selector

F2 1X1A/B Press needle selector 1X1, then press inverse 1X1.

F3 Full lifting and falling Press the needle selector for full advance and press it again for full retreat.

F4 Single-blade test Click the blade position to select the tool to be tested and execute **F4** button.

F5 Single- knife test Single knife cycle test of needle selector.

F6 Aging test All needle selectors are fully automatic, and the output frequency can be adjusted through pressing the number keys.

Blade test This function is reserved. Click to pop up the automatic test interface, then press **F1** to start self-test, then the needle selector blade will be output in sequence and automatically detect the resistance value of the wire wrap winding. If it exceeds the normal range, different colors will be displayed. The piezoelectric ceramic needle selector does not support this function.

选针器自动检测

No.	SEL-1	SEL-2	SEL-3	SEL-4	SEL-5	SEL-6
01	14.0	15.0	13.2	13.1	13.3	13.9
02	13.7	13.7	12.9	12.8	12.9	14.0
03	14.2	13.3	13.2	12.7	12.8	12.5
04	13.6	13.6	13.2	12.8	12.2	12.8
05	14.2	13.5	13.3	12.8	13.2	14.2
06	13.7	13.5	12.9	12.8	13.5	13.7
07	13.9	14.0	13.2	12.9	12.7	12.5
08	13.7	13.6	13.3	12.8	12.9	12.7
09	13.7	13.9	13.2	13.5	13.2	13.7
10	13.9	13.6	13.2	13.5	13.5	13.9
11	13.7	14.0	13.5	13.2	12.6	12.7
12	13.6	13.7	13.1	13.1	12.7	12.9
13	13.7	14.0	13.2	12.9	13.7	14.0
14	14.0	13.9	13.1	13.1	13.5	14.2
15	13.9	13.9	13.2	13.1	12.6	12.7
16	14.3	13.7	13.3	13.1	12.8	12.3

电压:

[F1]开始检测

[F2]选针驱动复位

Needle selector 1~6

Drive voltage, inputted according to actual situation, otherwise it will affect the resistance accuracy.

Click the button when the needle selector is not responsive.

Blade No.

The arrow points to the resistance of the no. 14 blade of the second needle selector

4.2 Gas Valve / Solenoid Valve Test

In the test page of main menu, press **2** to enter gas valve / solenoid valve test interface.

2018/01/23 15:33:55 << Valve Test >> Return

Name	Type	No.	Pos	Freq
6C-1	Socks warning board	1	1	3

[PU] Page Up

[PD] Page Down

[F1]Auto [F2]Turn [F3]Clear [F4]Loop [F5]Freq+ [F6]Freq- [A]Self Test

It is set by the valve configuration file. If not, please see if the configuration file has been entered.

Indicate the exact position of gas valve in which number of the equipment of cursor position gas valve.

Show corresponding signal detection of current gas valve

- F1

Automatic

The selected gas valve is automatically running.
- F2

Overturn

The selected gas valve switches output in running.
- F3

Clear

All gas valves are clear and outputted.
- F4

Automatic

All gas valves are automatically output in sequence
- F5

Self-test

This function is reserved. Pop up self-test interface of gas valve, then press

F1

 to start self-test, then gas valves will be output in sequence and automatically detect the resistance value of the wire wrap winding. If it exceeds the normal range, different colors will be displayed.

Gas valve No.

气阀自动检测					
NO.01	225.0	234.7	241.0	232.7	226.8
NO.06	121.0	225.0	230.7	245.4	236.8
NO.11	Error	238.9	250.0	241.0	238.9
NO.16	226.8	228.8	234.7	243.2	230.7
NO.21	226.8	226.8	234.7	236.8	226.8
NO.26	225.0	Error	236.8	241.0	234.7
NO.31	221.3	232.7	232.7	243.2	230.7
NO.36	223.1	228.8	226.8	232.7	Error
NO.41	236.8	238.9	232.7	232.7	226.8
NO.46	241.0	236.8	234.7	226.8	232.7
NO.51	Error	226.8	230.7	Error	236.8
NO.56	241.0	236.8	226.8	223.1	228.8
NO.61	230.7	232.7	226.8	Error	Error
NO.66	Error	Error	Error	Error	Error
NO.71	Error	Error	Error	Error	Error
NO.76	Error	Error	Error	Error	Error

电压:

27

[F1]开始检测

Resistance value of the wire wrap winding, ERROR indicates normality (it will also show ERROR when the gas valve is not connected).

- F6

Combination

Mechanical part test together controlled by two gas valves and test key function is the same as the above.

2018/01/23
15:37:18

<<
Valve Test
>>

Return

Butterfly door

Rising lock

Lower press plate

chisel tube

Hanging stab

Sewing machine

Name

M-D Out

49

Type

Output_Board

No.

2

Pos

1

Freq

3

In

Name

M-D In

50

Type

Output_Board

No.

2

Pos

2

Freq

3

[F1]Auto

[F2]Turn

[F3]Clear

[F4]Loop

[F5]Chec
k

[F6]Grou
p

[.]Freq+

[±]Freq-


Frequency+
The output interval frequency of gas valve is increased by 1. The larger the value is, the shorter the interval is.


Frequency -
The output interval frequency of gas valve is reduced by 1. The smaller the value is, the longer the interval is.

4.3 Stepper Motor Test

In the test page of main menu, press  to enter stepper motor test interface.

Please move the cursor to the corresponding motor before test.

2018/01/23 15:37:47										<< Step Motor Test >>			Return
	Output	Now	Code		Output	Now	Code						
Elastic	500				Lift Moto	0	+0	+0					
Grad-Mo	0	+0	+0		Tongs Moto	0	-24000	+0					
Kint Fun	0	+0	+0		Arm LR	0	+100	+0					
Head Moto	0	+0	+0		Arm Lift	0	-21000	+0					
Scissors-Mo	500				Stitch Moto	0	+800	+0					
Stitch-Mo	0	+0	+0		Stitch Gap	0	-20000	+0					
Sinkes-Mo	0	+0	+0		Flip Moto	0	-4000	+0					
Stitch Fun	0	+0	+0		L Edge-Mo	0	+0	+0					
Tilt Moto	0	+50	+0		R Edge-Mo	0	+0	+0					
1	2	3	4	5	6	7	8	9	0 +/- Backs				
[F1]Forward		[F2]Reversal		[F3]Goto Zero		[F4]Loop		[F5]Start		[F6]Stop		[MEM]E-Zero	



Motor forward

Stepper motor turns the set value in the positive direction.



Motor reversal

Stepper motor turns the set value in the reverse direction. (automatically stops after the corresponding zero probe is encountered)



Motor go to zero

Stepper motor automatically turns to the position of zero probe.



Motor loop

Stepper motor is automatically rotated in the positive and reverse direction.



Motor start

The motor is running at the set speed (turn/min) and some motors support the function.



Motor stop

The motor stops and some motors support the function.



Motor zero

Some types of motor support software simulation zero position, the button is used for the setting of motor simulation zero, clear of the motor simulation zero and the motor unlocking operation. When the zero position is set, just move the motor to the zero position, and then press the zero-position setting button, which does not require the zero-signal support of the hardware.

2018/01/23 15:37:59		<< Step Motor Test >>		Return			
	Output	Now	Code		Output	Now	Code
Elastic	500			Lift Moto	0	+0	+0
Grad-Mo	0	+0	+0	Tongs Moto	0	-24000	+0
Kint Fun	0	+0	+0	Arm LR	0	+100	+0
Head Moto	0	+0	+0	Arm Lift	0	-21000	+0
Scissors-Mo	500			S		+800	+0
Stitch-Mo	0	+0	+0	S		-20000	+0
Sinkes-Mo	0	+0	+0	F		-4000	+0
Stitch Fun	0	+0	+0	L		+0	+0
Tilt Moto	0	+50	+0	R		+0	+0

Items

1.Set E-zero

2.Clear E-zero

3.Unlock Moto

Exit

1	2	3	4	5	6	7	8	9	0	+/-	Backs
[F1]Forward	[F2]Reversal	[F3]Goto Zero	[F4]Loop	[F5]Start	[F6]Stop	[MEM] E-Zero					

Note: Each motor has a corresponding zero signal and limit signal display.

4.4 Servo Motor Test

In the test page of main menu, press **4** to enter servo motor test interface

2018/01/23 15:38:27		<< Ac Servo Test >>		Return	
Speed Set	20	Dir Set	Cw	Svo-State	Off
Elastic Syn	Off	Code	0	Real Speed	0
Angel	192.0	Needle	76		

1	2	3
4	5	6
7	8	9
0	Backspace	

[F1]Switch Dir	[F2]Low Speed	[F3]ON/OFF	[F4]Elastic Syn	[F5]Zero Adjust	[F6]Servo State	[↓]Speed Add	[↑]Speed Dec
----------------	---------------	------------	-----------------	-----------------	-----------------	--------------	--------------

* It's used for professional test and it is not recommended to test here for general people.

* When testing, determine the direction at first, generally positive, the reversal will cause collision

* Enter servo speed first, low speed is better at first.

F1 Switch direction Switch servo motor direction.

F2 Low speed Press it, the speed setting is forced to change to 60.

F3 On/off Start and stop of switch servo motor.

F4 Elastic synchronization Press it, elastic motor and servo motor can synchronously run.

F5 Zero adjustment Due to the characteristics of the rotary encoder, the zero calibration of servo motor should be conducted after installation, otherwise the servo motor will not run normally. As shown in the figure, press “Next” according to the prompt to complete the zero calibration.

2018/01/23 15:38:32 << Ac Servo Test >> Return

Servo zero calibration

☒ Go to zero and 1F edge of knife 1, then press

☐ Waiting for automatic completion of servo zero!

☐ Wait for the servo to restart!

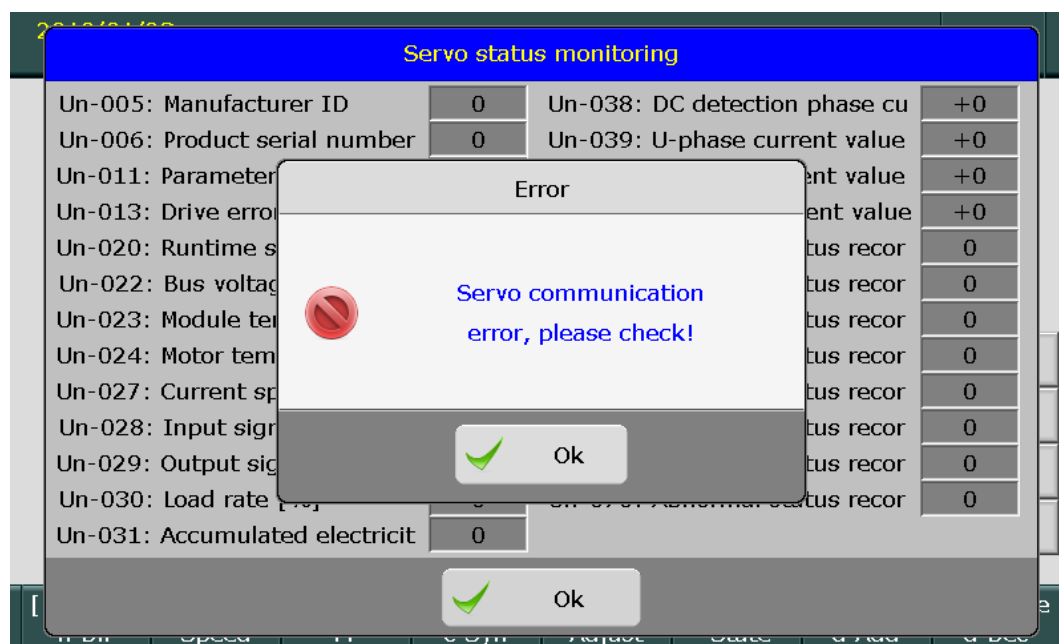
actual angle: 192.0 Actual needle: 76

Next Exit

3 6 9 backspace

[F1] Switch Dir [F2] Low Speed [F3] ON/OFF [F4] Elastic Syn [F5] Zero Adjust [F4] Servo State [↓] Speed Add [↑] Speed Dec

F6 Servo state Can query some state parameters of servo motor running and monitor whether the servo is working properly.



 **Servo acceleration** The servo can increase its operation speed in real time, and the adjustment range is 10.

 **Servo deceleration** The servo can reduce its operation speed in real time, and the adjustment range is 10.

4.5 Alarm Input Test

In the test page of main menu, press  to enter alarm input test interface.

2018/01/23 15:38:59 << Alert Signal Test >> Return				
M01:Drop Electrica	A07:Right Water Ha	A17:Needle Knife 3	A27:Needle Bar Det	A37:Disc Scissors
M02:Press Needle L	A08:Retreating Cut	A18:Broken Line 1	A28:NC.	A38:Yarn Scissors
M03:Press Needle R	A09:Stitch Up	A19:Broken Line 2	A29:Heel Tension	A39:NC.
M04:Kint Sock Out	A10:T2 Jacquard Kn	A20:Broken Line 3	A30:Broken Detecto	A40:NC.
A01:Left Rhombic H	A11:Right Water Fu	A21:Copper	A31:Tongue Detecto	A41:Hover Separati
A02:Hyper Needle K	A12:T1 Jacquard Kn	A22:Needle Lock	A32:Tongue Detecto	A42:M-D
A03:Needle Knife 1	A13:Right Collater	A23:Rubber Tension	A33:Low Oil Pressu	A43:Induction Grat
A04:Live Collatera	A14:Needle Knife 2	A24:Rubber Tension	A34:Oil Shortage	A44:Induction Grat
A05:Rubber Knives	A15:Left Rhombic F	A25:Jacquard Needl	A35:Head Separatio	A45:Air Pressure
A06:Press Needle K	A16:Foot Reinforce	A26:Shake Handle	A36:Haff Disc In P	A46:NC.
[F1] Kint Alarm		[F2] Stitch Alarm	[F3] Moto Zero	

2018/01/23 15:39:03 << Alert Signal Test >>				Return
F01:Sock Tube Swin	F11:NC.	F21:NC.	F31:Sock Induction	F41:Hosiery Pipe D
F02:Pressure Up	F12:Arm Protection	F22:NC.	F32:Sock Induction	F42:Spiny Flip Dow
F03:Pressure Down	F13:NC.	F23:NC.	F33:Spiny Relaxati	
F04:Slotting Sciss	F14:NC.	F24:Stitch Jog	F34:Spiny Tighten	
F05:Stitch Tension	F15:NC.	F25:Stitch Stop	F35:Slotting Out	
F06:Spiny Press	F16:NC.	F26:Stitch Sock Ou	F36:Slotting In	
F07:Rise Lock Out	F17:NC.	F27:NC.	F37:Stings Inducti	
F08:Rise Lock In	F18:NC.	F28:Turn Induction	F38:Crank Sock Pos	
F09:Door Induction	F19:NC.	F29:Lower Cylinder	F39:handle Limit U	
F10:NC.	F20:NC.	F30:Lower Cylinder	F40:Hosiery Pipe U	
	[F1] Kint Alarm	[F2] Stitch Alarm	[F3] Moto Zero	

2018/01/23 15:39:06 << Alert Signal Test >>				Return
Grad-MoZero	Arm LRZero			
Kint FunZero	Arm LRLimit			
Head MotoZero	Arm LiftZero			
Stitch-MoZero	Stitch MotoZero			
Sinkes-MoZero	Stitch GapZero			
Stitch FunZero	Flip MotoZero			
Tilt MotoZero	Flip MotoLimit			
Lift MotoZero	L Edge-MoZero			
Tongs MotoZero	R Edge-MoZero			
Tongs MotoLimit				
	[F1] Kint Alarm	[F2] Stitch Alarm	[F3] Moto Zero	

The alarm is divided into three parts of hosiery alarm, seam alarm and zero probe. When the alarm signal is valid, the corresponding text background turns red.

4.6 Panel Test

In the test page of main menu, press  to enter panel test interface.



When the corresponding switch or button is valid, the color of the corresponding image will change. This function is to check if all the buttons and switches on the test panel work properly.

Chapter 5 File Management Menu

Press **F2** button in the main menu to switch to file manager.



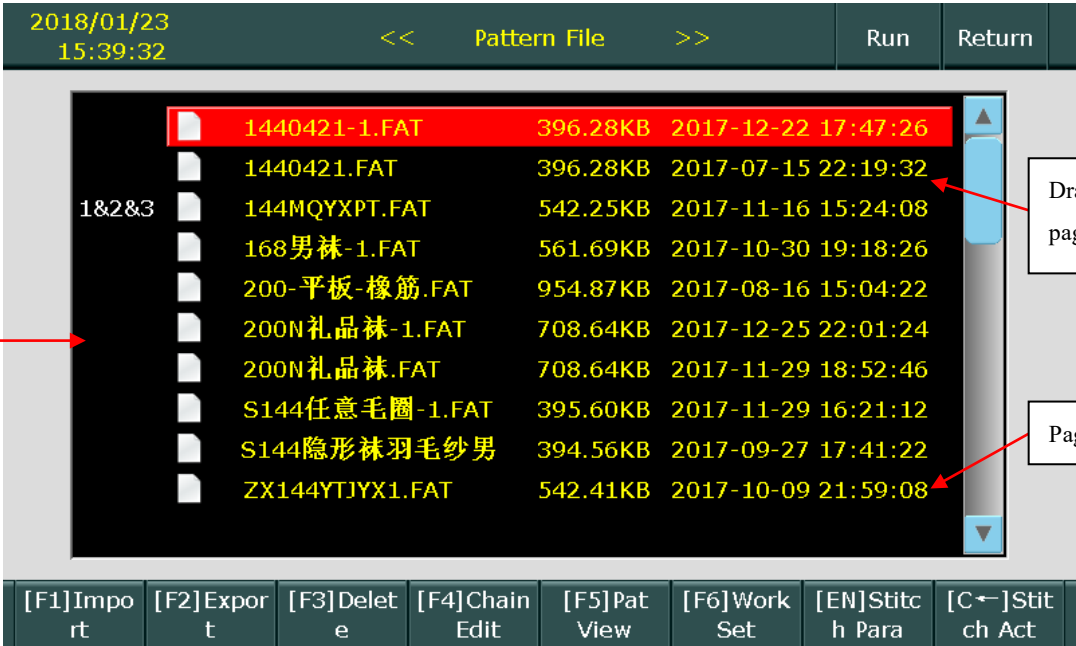
5.1 Pattern File Management

In the file manager of the main menu, press  button to enter pattern file management interface.

*The maximum capacity of pattern file is 300 (the extension name is FAT);

*Support folders and long filenames (It is recommended that the long filenames not exceed 20 ASC characters.);

*In the work setting column, 1, &2, &3 correspond to the working file 1~3 in the running, and 1 work pattern can be set separately.



2018/01/23 15:39:32 << Pattern File >> Run Return

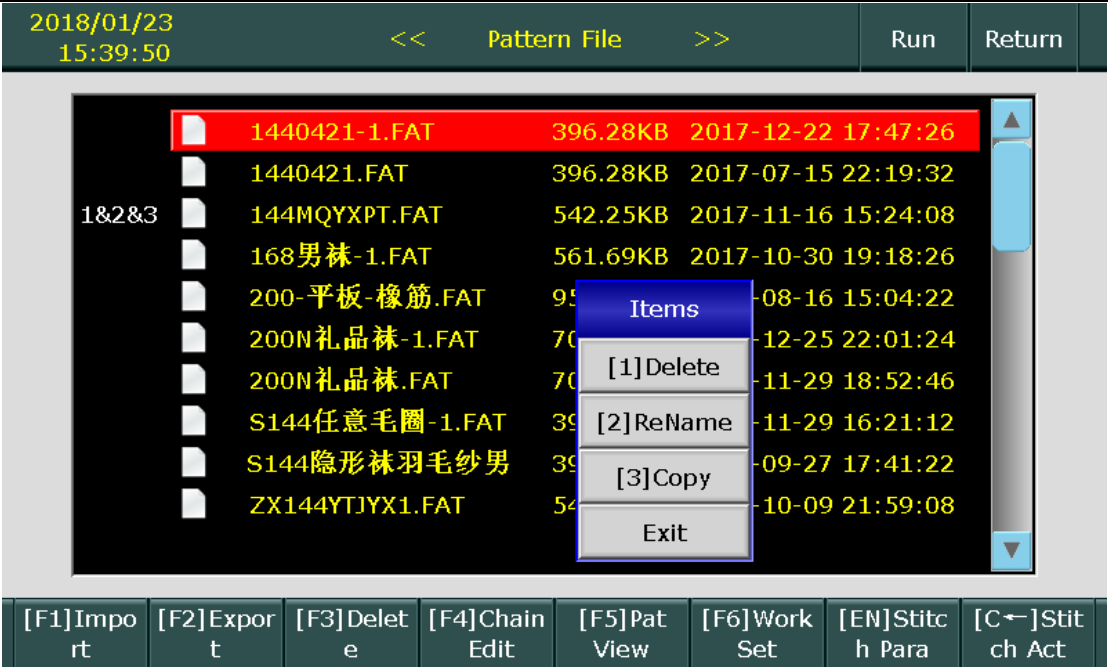
1&2&3	File Name	Size	Date
	1440421-1.FAT	396.28KB	2017-12-22 17:47:26
	1440421.FAT	396.28KB	2017-07-15 22:19:32
	144MQYXPT.FAT	542.25KB	2017-11-16 15:24:08
	168男袜-1.FAT	561.69KB	2017-10-30 19:18:26
	200-平板-橡筋.FAT	954.87KB	2017-08-16 15:04:22
	200N礼品袜-1.FAT	708.64KB	2017-12-25 22:01:24
	200N礼品袜.FAT	708.64KB	2017-11-29 18:52:46
	S144任意毛圈-1.FAT	395.60KB	2017-11-29 16:21:12
	S144隐形袜羽毛纱男	394.56KB	2017-09-27 17:41:22
	ZX144YTJYX1.FAT	542.41KB	2017-10-09 21:59:08

[F1]Import [F2]Export [F3]Delete [F4]Chain Edit [F5]Pat View [F6]Work Set [EN]Stitch Para [C←]Stitch Act

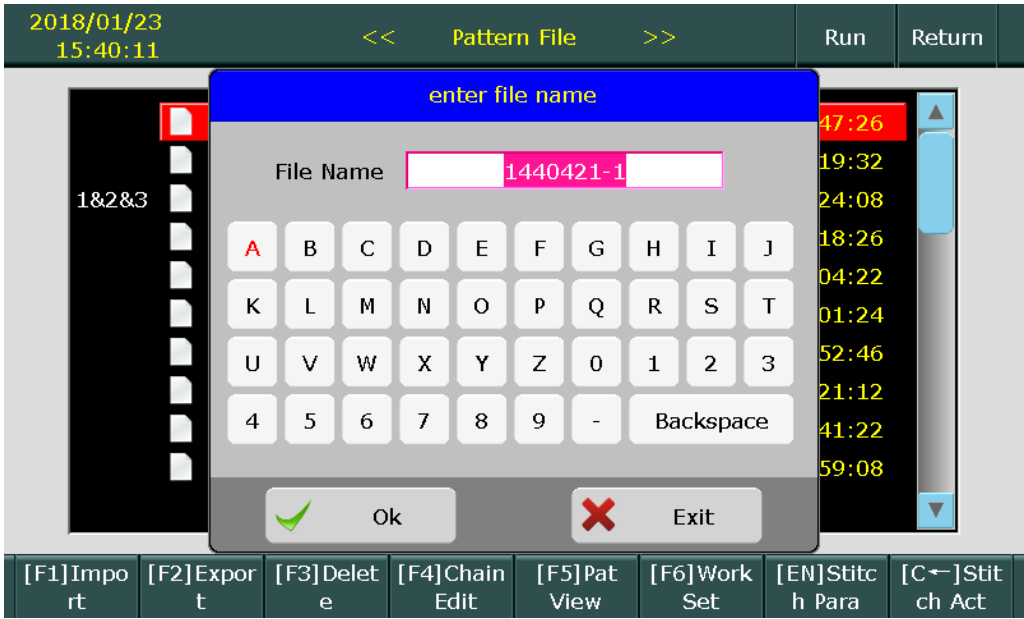


File import

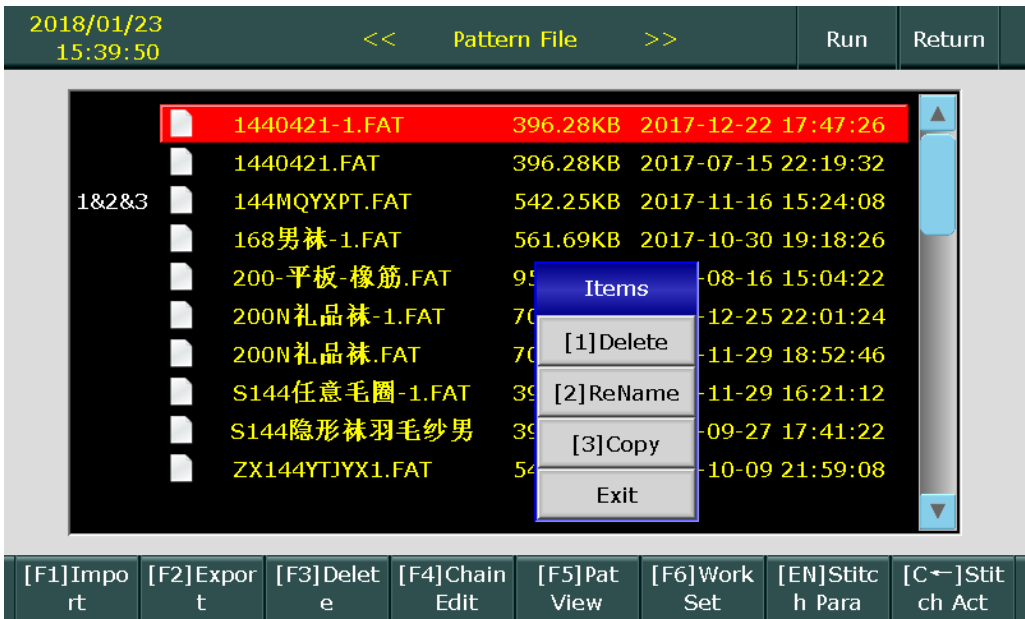
Enter the pattern file in the USB disk into the system. When you type in pattern file of Mingde 3rd generation color screen with the format of PAT, it will be automatically converted into a new format PAS file and saved.



F2 File export Export the pattern files in the system to the USB flash disk. Press  after inputting filename and its format will be FAT.



F3 File operation Include 3 operations of file deletion, renaming, and file copying.



- F4

Chain editing Enter the chain editing interface of the location file of the cursor.
- F5

Pattern preview Enter the interface of pattern data view and editing.
- F6

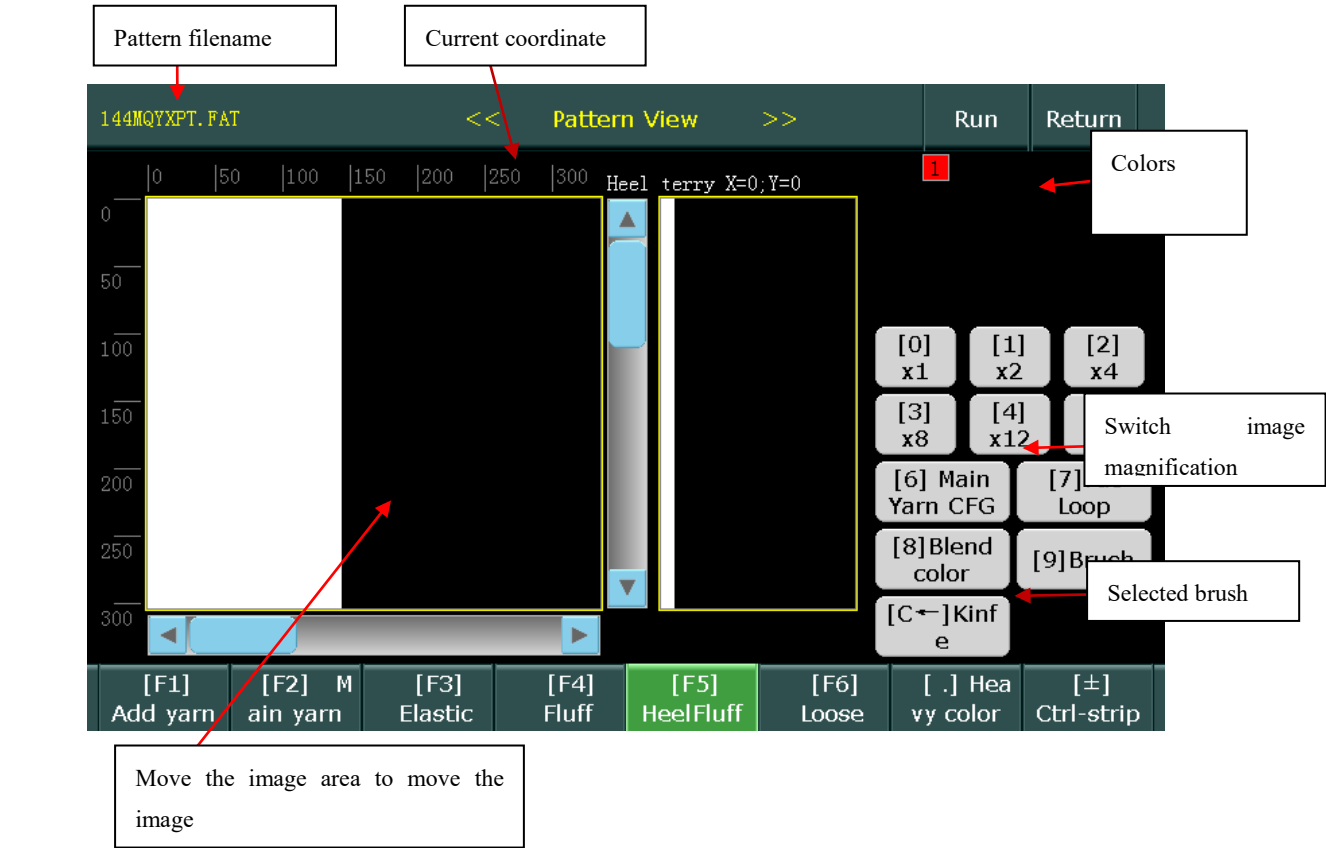
Work set Used to set the pattern files that will run.
- Seam para** Some parameters set when seaming.
- Seam editing** For factory personnel to view, other personnel should not modify.

5.1.1 Pattern Preview

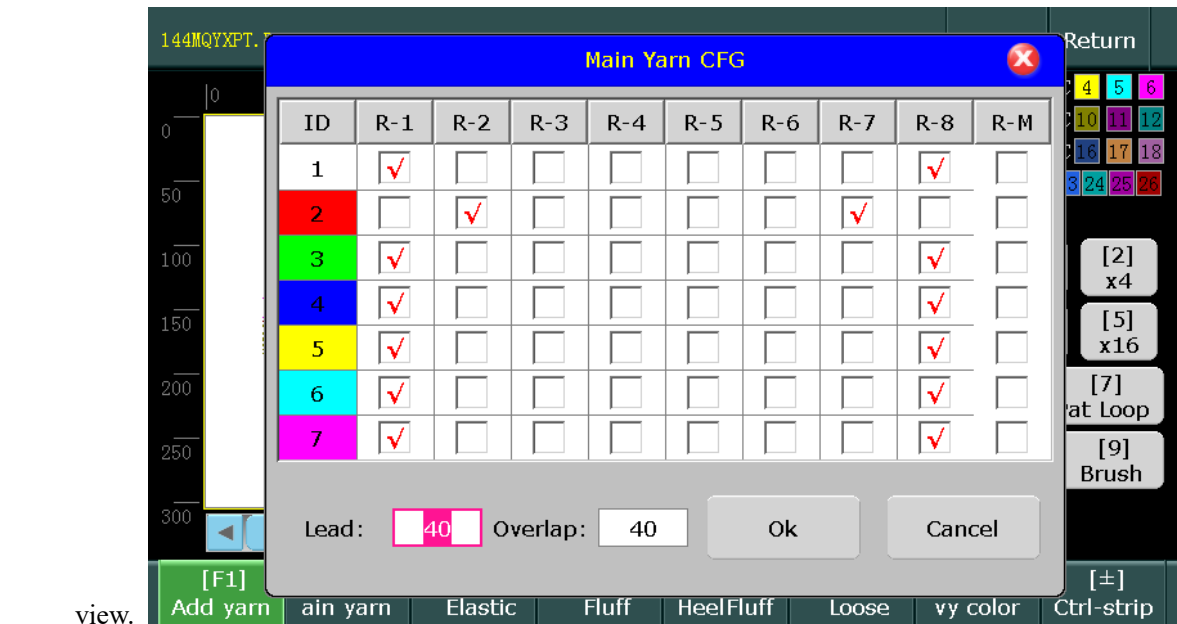
In the pattern file management interface, choose corresponding file and then press

F5

 to enter pattern interface.



[6] Main Yarn CFG Used for the color change of the main shuttle. When the instruction page has the main shuttle color change instruction, and the main shuttle view with 7 colors has the corresponding color, it will call the main shuttle configuration and switch different main shuttle settings according to the colors in the main shuttle



[7] Pat Loop The pattern cycle has two setting interfaces, including the pattern and fluff setting. The pattern setting is the execution order of the pattern of plaiting view and fluff setting is the execution order of the

pattern of fluff view.

144MQ

0

50

100

150

200

250

300

144MQ

添

Loop Edit

No.	Start	End	Cycle	No.	Start	End	Cycle
1	1	750	750	11	0	0	0
2	1	750	750	12	0	0	0
3	1	750	750	13	0	0	0
4	1	750	750	14	0	0	0
5	1	750	750	15	0	0	0
6	1	750	750	16	0	0	0
7	1	750	750	17	0	0	0
8	1	750	750	18	0	0	0
9	1	750	750	19	0	0	0
10	1	750	750	20	0	0	0

☐

☐

[F1]Insert

[F2>Delete

[MEM]Save

[ESC]Exit

11111

0

50

100

150

200

250

300

11111

添

花型循环编辑

序号	开始	结束	圈数	序号	开始	结束	圈数
1	1	750	750	11	0	0	0
2	0	0	0	12	0	0	0
3	0	0	0	13	0	0	0
4	0	0	0	14	0	0	0
5	0	0	0	15	0	0	0
6	0	0	0	16	0	0	0
7	0	0	0	17	0	0	0
8	0	0	0	18	0	0	0
9	0	0	0	19	0	0	0
10	0	0	0	20	0	0	0

☐花型设置

☒拉毛设置

[F1]插入

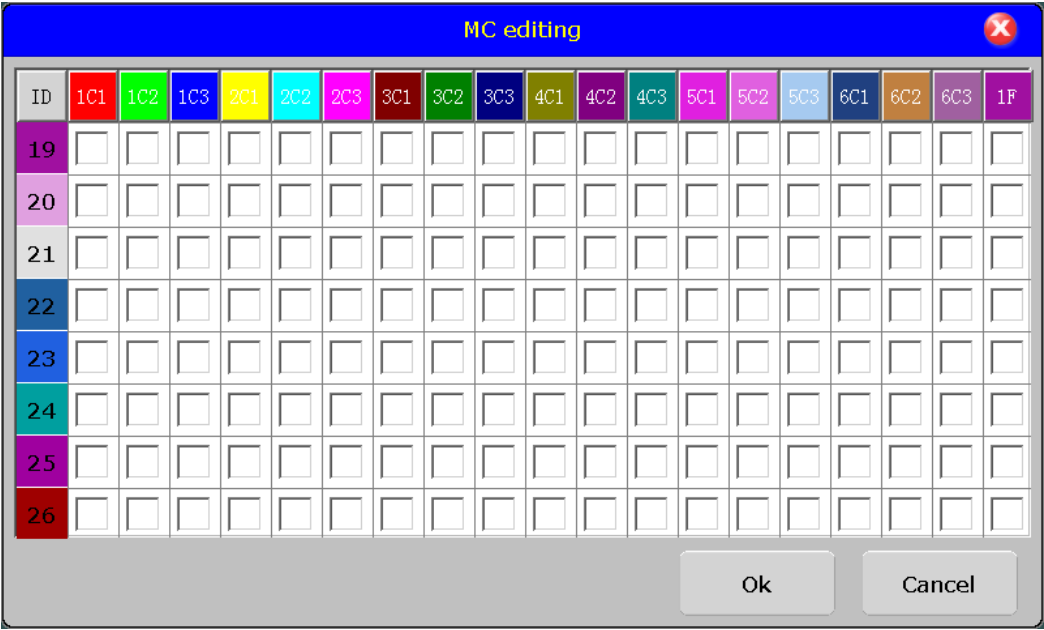
[F2]删除

[ENT]确定

[ESC]退出

[8]Blend color

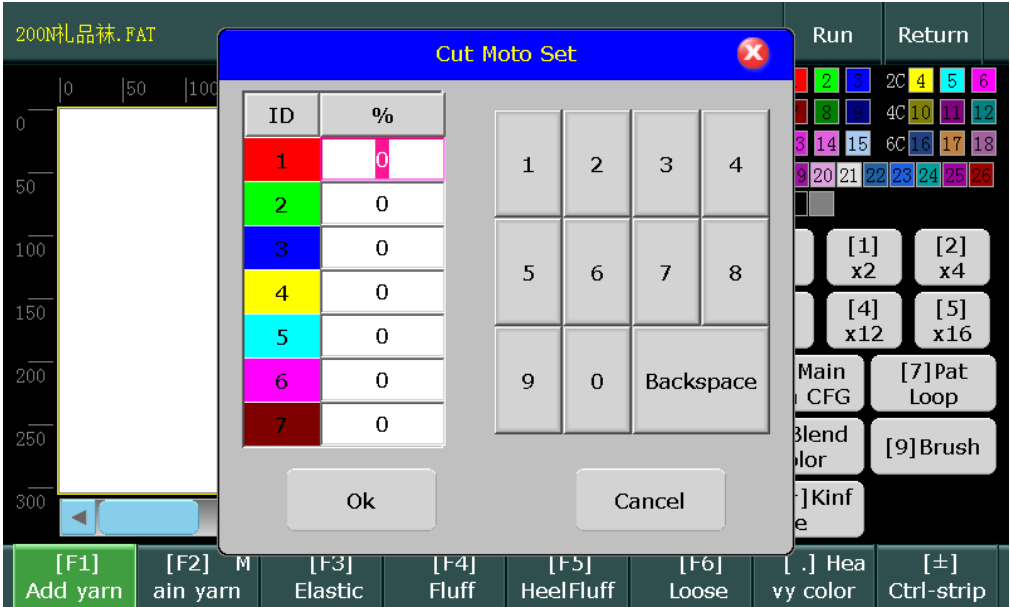
The secondary color is mainly used in the case that several channels spin yarn at the same time, also called repeated spinning, used in the plaiting view.



- [9]Brush

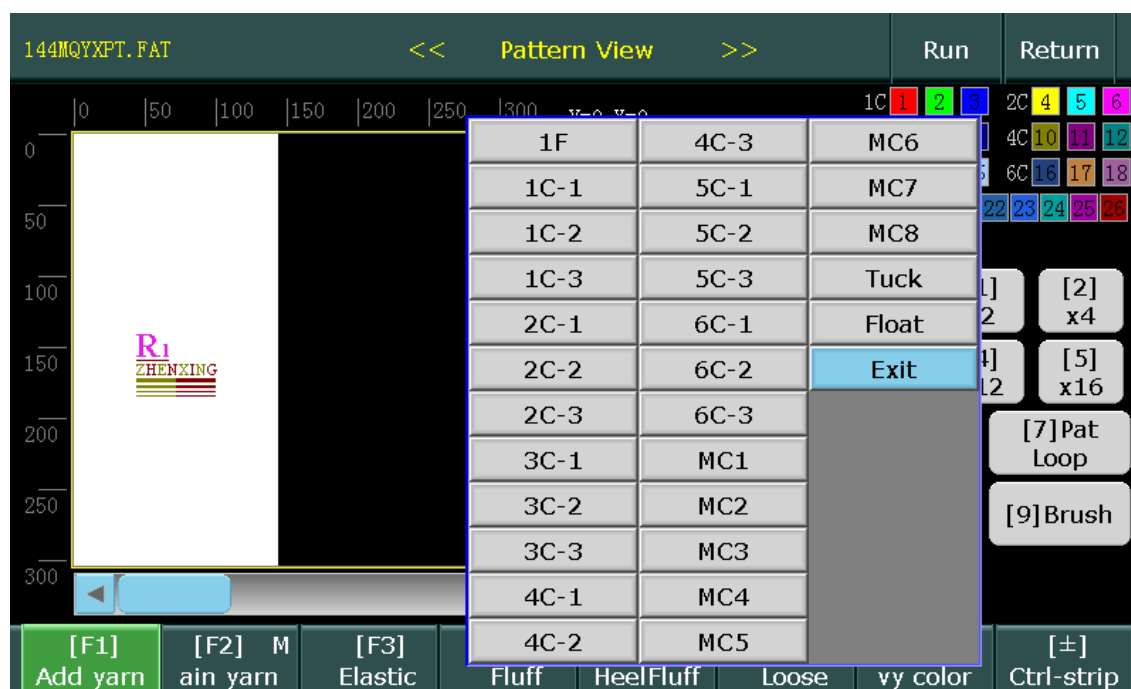
Used for pattern and control strip editing. After selecting the appropriate brush in each view, you can edit the pattern in the corresponding view.
- C←

Set the speed of the scissors motor, It is divided into 8 files to correspond to 8 colors.

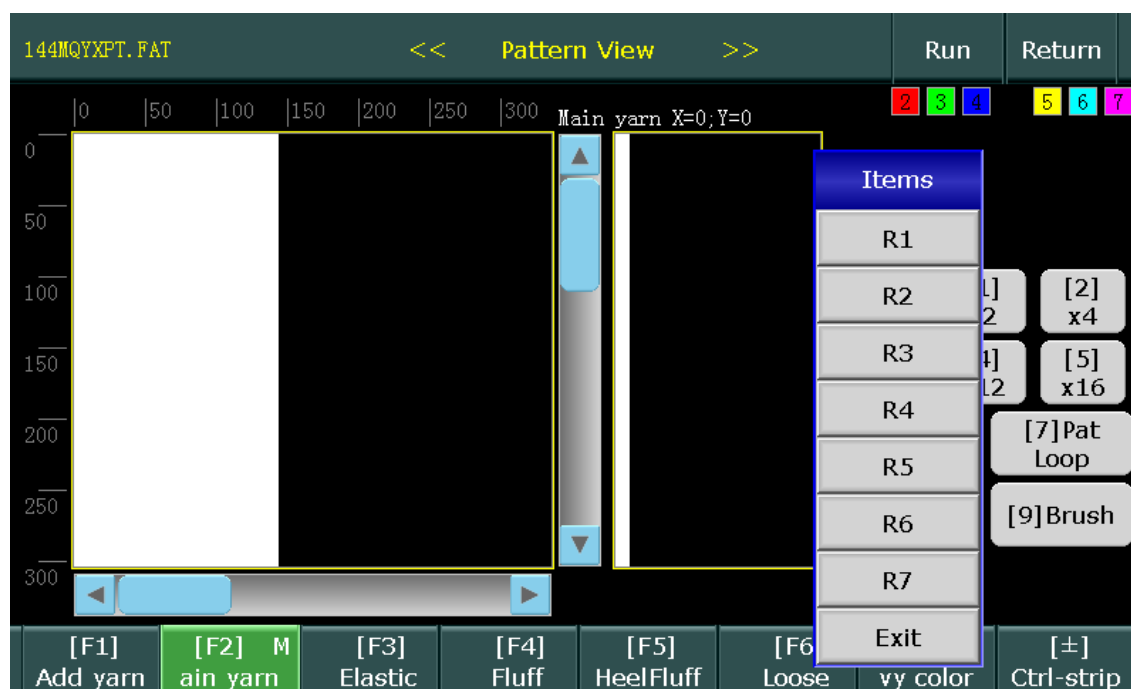


- F1

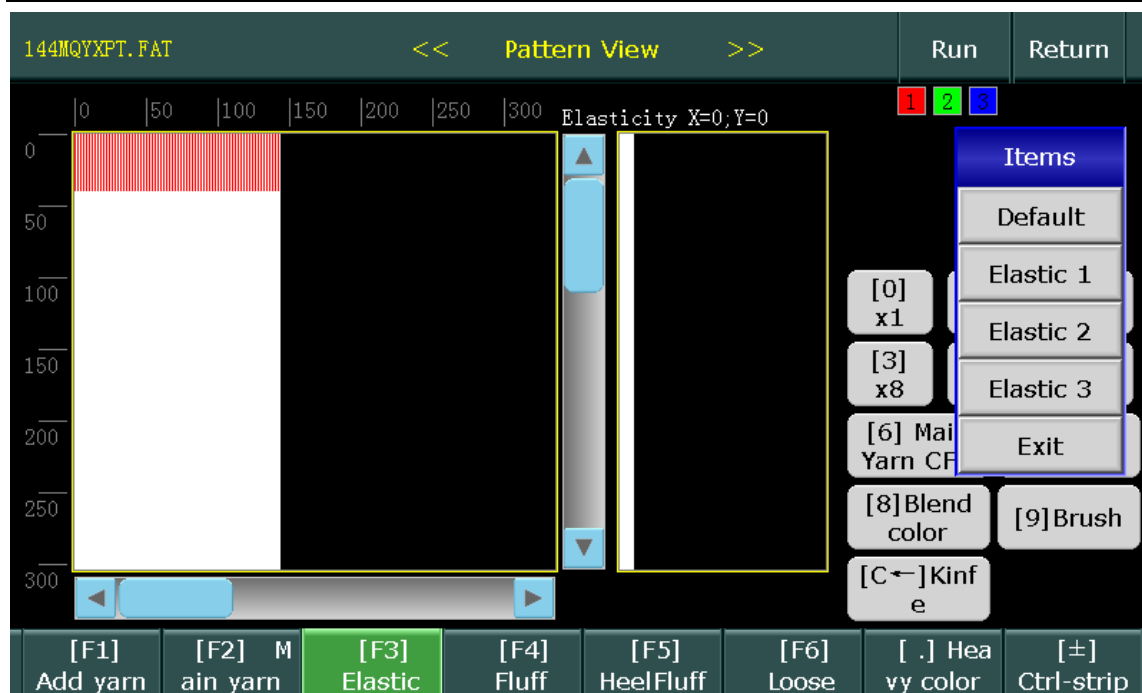
Add yarn view Control 1C-6C and 1F selection needle of needle selector. Select the brush, then select the view point and press “ENTER” to edit.



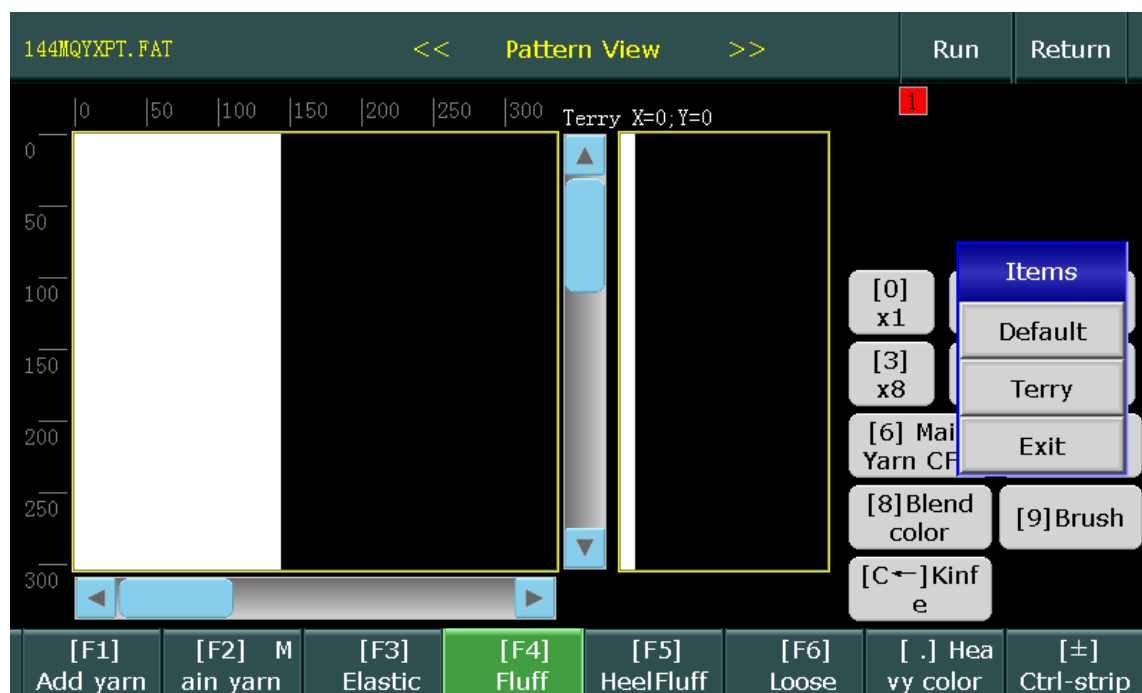
F2 Main shuttle view Used for color change of the main shuttle. Select the brush, then select the view point and press “ENTER” to edit.



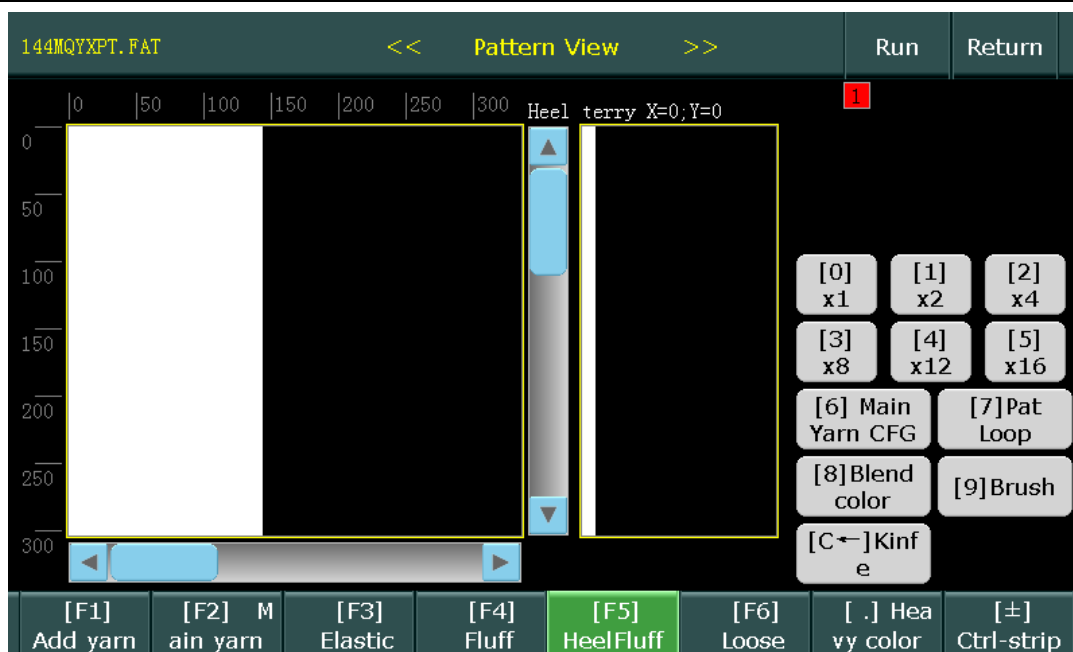
F3 Elastic view Control needle selection of elastic needle selector. Select the brush, then select the view point and press “ENTER” to edit.



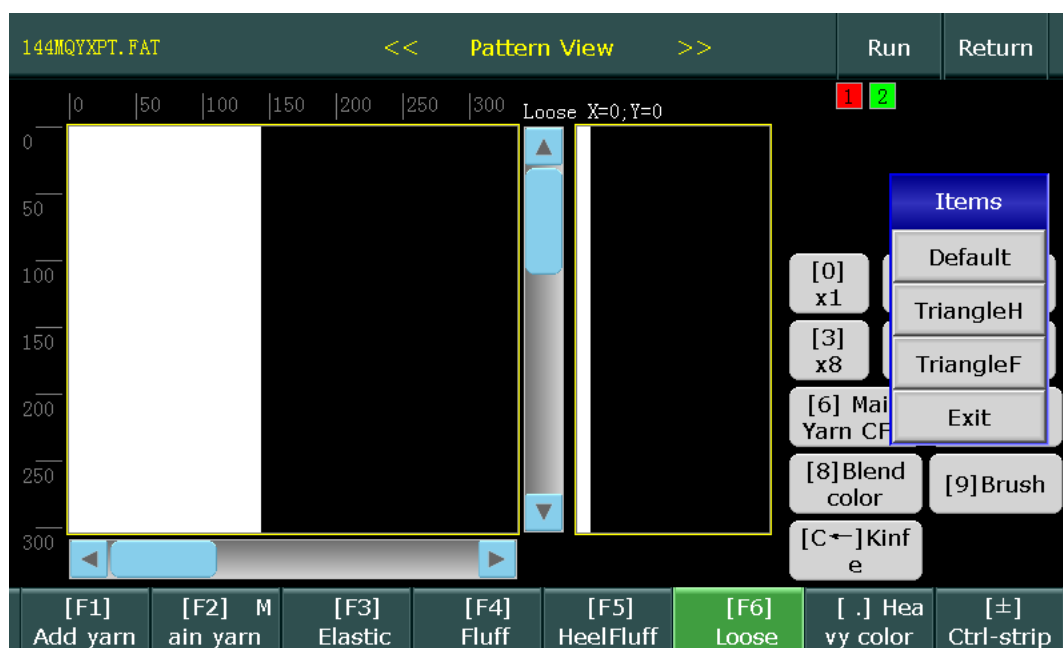
F4 Fluff view Control needle selection of fluff needle selector, make no difference for heel and toe. Select the brush, then select the view point and press “ENTER” to edit.



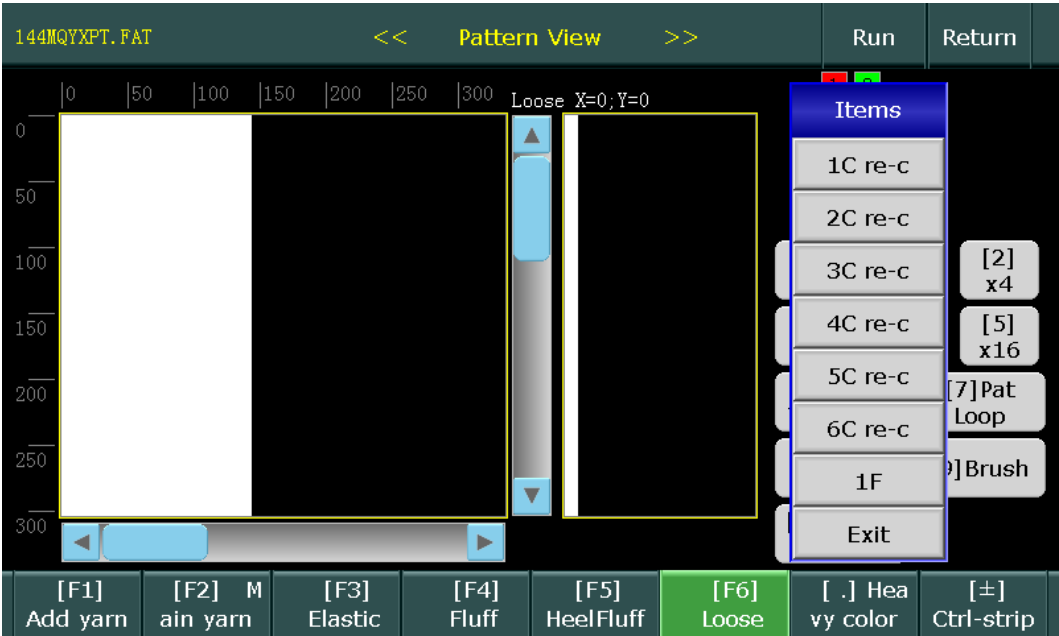
F5 Heel fluff Control needle selection of heel and toe fluff needle selector. The instruction page of heel and toe work after inserting heel fluff. Select the brush, then select the view point and press “ENTER” to edit.



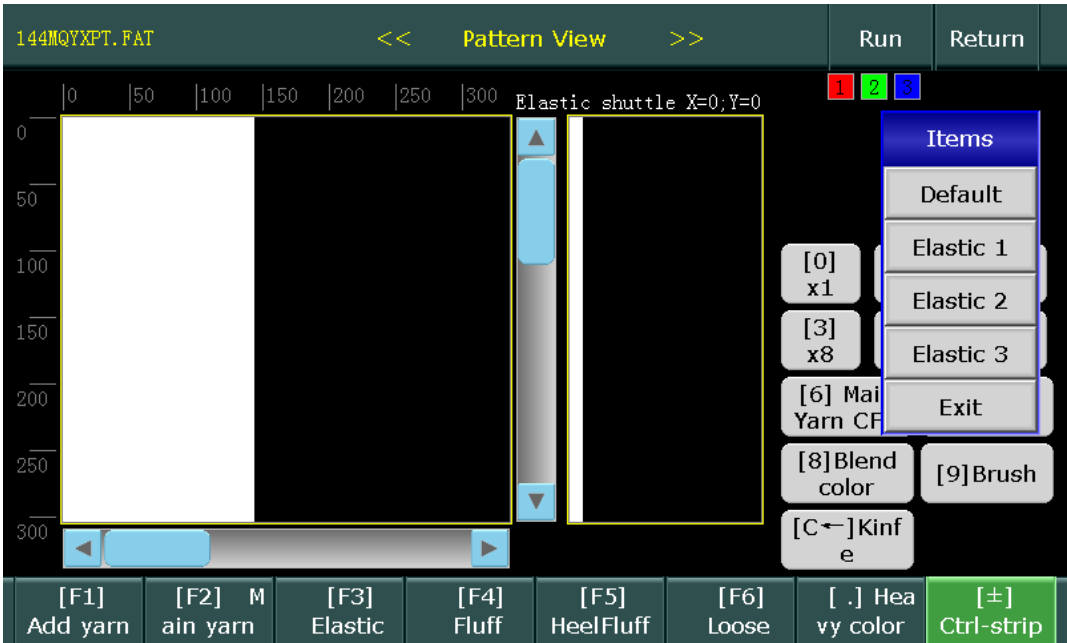
F6 Loose Control the half and all of the loose triangle, make no difference for heel and toe. Select the brush, then select the view point and press “ENTER” to edit.



Heavy color view Have the same principle with secondary color, control repeated spinning. Choose the type of heavy color view at first, then select the brush, then select the view point and press “ENTER” to edit.



 **Control strip** Include four major parts of down knife control, speed control, scissor panel and blow control. Select the brush, then select the view point and press “ENTER” to edit.



5.1.2 Chain Editing

In pattern file management interface, select the corresponding file and press  to enter chain interface

editing.

Pattern filename

Red indicates the current running position.

Brown indicates the current cursor position.

144MQYXPT.FAT

Angle 192.0

<< Chain Edit >>

Run

Return

01. START	Part:	START	No.	Cmd	Set	State	Cmd Insert
02. NYLON-R	Size:	2	Speed:	60	M-01:	Kint Fun +0 Zero	Cmd Del
03. NYLON	Elastic:	0		Nomal	M-02:	- - -	Cmd Clear
04. Elastic	KTF:	0		Nomal	M-03:	- - -	Enter ActNo
05. Elastic-2	Gradate:	1		Nomal	M-04:	- - -	Cir-Ctrl Insert
06. LEG	Stitch:	1		Nomal	M-05:	- - -	Cir-Ctrl Del
07. HEEL	Sinkes:	1		Nomal	M-06:	- - -	Cir-Ctrl Clear
08. FOOT	L-edge:	1		Nomal	M-07:	- - -	Density Para
09. RING-TOE	R-edge:	0		Nomal	M-08:	- - -	
10. TOE	Pat:	Jac Data			M-09:	- - -	
11. ROSSO	Fluff:	Jac Data			M-10:	- - -	
12. STITCH END	Heel:	- - -					
13. END	Ctrl:	CY-1 CY-2 CY-3 CY-4 CY-5 CY-6 CY-7 CY-8					
	Act:	1 - - - - - - - -					
	Cirs:	1 - - - - - - - -					
	Code:	0. Defl - - - - - - - -					

[PU]Page Up [PD]Page Down [F1]Insert [F2]Delete [F3]Copy [F4]Paste [MEM]Save

Insert a chain position

Cycle control information

Touching data input keyboard

【Part】 Chain name, click to pop up chain name option box, select corresponding content for modification.

144MQYXPT.FAT

Angle 192.0

<< Chain Edit >>

Run

Return

01. START	Part:	START	START	STITCH END	State	Cmd Insert
02. NYLON-R	Size:	2	Speed:	END	Zero	Cmd Del
03. NYLON	Elastic:	0		Exit	-	Cmd Clear
04. Elastic	KTF:	0			-	Enter ActNo
05. Elastic-2	Gradate:	1			-	Cir-Ctrl Insert
06. LEG	Stitch:	1			-	Cir-Ctrl Del
07. HEEL	Sinkes:	1			-	Cir-Ctrl Clear
08. FOOT	L-edge:	1			-	Density Para
09. RING-TOE	R-edge:	0			-	
10. TOE	Pat:	Jac Data			-	
11. ROSSO	Fluff:	Jac Data			-	
12. STITCH END	Heel:	- - -			-	
13. END	Ctrl:	CY-1 CY-2			CY-8	
	Act:	1 - - - - - - - -			-	
	Cirs:	1 - - - - - - - -			-	
	Code:	0. Defl - - - - - - - -			-	

[PU]Page Up [PD]Page Down [F1]Insert [F2]Delete [F3]Copy [F4]Paste [MEM]Save

【Size】 Set the running cycles of the chain machine in this section.

【Speed】 Set the revolving speed of the chain machine in this section.

【Elastic motor】 Set the revolving speed of elastic motor. The bigger the value, the faster the rotation and the setting varies from 0 to 999. When it's set 0, the revolving speed ratio of elastic and

needle cylinder is 1.5:1. And when it's set 999, it's 5.1:1. **In order to ensure the stable operation of the elastic motor, it is necessary to providing speeding time for the motor when setting the chain parameters. And the elastic speed of the front and rear chains should not be too different.** When the latter mode is set to “progressive” mode, the second data indicates the elastic speed at the end of the part. Each step value is divided by cycles.

【Elastic KTF】 Control the operation of KTF constant-tension yarn feeding machine. The larger the value, the smaller the tension. The setting varies from 0 to 999. When it's set 0, it's the basic value of KTF and the definition of basic value can be set in the machine file. 1 indicates a step value and the definition of step value can be set in the machine file. When the latter mode is set to “progressive” mode, the second data indicates the elastic speed at the end of the part. Each step value is divided by cycles.

【Needle cylinder density】 Specify the knitting density of the chain in this section. When the latter mode is set to “progressive” mode, the second data indicates the density value of needle cylinder at the end of the part. Please see details in progressive mode instructions.

【Settled density】 Specify the settled density of the chain in this section. When the latter mode is set to “progressive” mode, the second data indicates the density value of settled motor at the end of the part. Please see details in progressive mode instructions.

【Sinker density】 Specify the sinker density of the chain in this section. When the latter mode is set to “progressive” mode, the second data indicates the sinker density value of sinker motor at the end of the part. Please see details in progressive mode instructions. For heel and toe, the first data is the sinker density value of the left heel, and the second data is that of the right heel.

【Left-angular density】 Specify the settled density of the chain in this section. When the latter mode is set to “progressive” mode, the second data indicates the density value of left-angular motor at the end of the part. Please see details in progressive mode instructions.

【Right- angular density】 Specify the settled density of the chain in this section. When the latter mode is set to “progressive” mode, the second data indicates the density value of right-angular motor at the end of the part. Please see details in progressive mode instructions.

【Pattern configuration】 There are two options of selection of needle and pattern. When selecting the needle selection data, the needle selection device is executed according to the selection needle data. When

choosing a pattern, 1C-6C and 1F are executed according to the add yarn view. The elastic needle selector is executed according to the elastic view.

【Fluff configuration】 There are two options of selection of needle and pattern. Fluff needle selector is executed according to the selection needle data. When choosing a pattern, fluff needle selector is executed according to fluff view.

【Heel configuration】 The first data indicates the heel center bias, the second data indicates the width of the heel and the third data shows heel additions.

Progressive mode instructions

When using progressive function, the first data represents the initial density, and the second data indicates the end density. If the two values are 40,80, the density motor will automatically calculate the angle of rotation for each motor based on these two values and the current chain size, so the density evenly changes from 40 to 80.

Cycle control

You can have up to 8 actions in each chain module, CY-1.....CY-16,

Each CY has a corresponding action number, with a range of 1~100.;

Current CY corresponds to the cycles, with a range of 1~999;

The corresponding eigenvalue of CY is 0,1,2,3,5.

0 and 1: Normal.

2: Forced low-speed The first cycle of current cycle control is forced to keep low speed.

3: Subsequent actions Post the current action, generally not available.

4: 1C free heel making Reserved.

5: Continuous heel It is usually used in the production of ankle socks, the continuous stocking is more than 16. A chain can't hold them, the last action eigenvalue of the current chain is set to 5.

6 and 7: Reserved.

Each CY has a corresponding configuration instruction set, which can be inserted at most 16 instructions.

Configuration instruction set

144MQYXPT. FAT	Angle 192.0	<<	Chain Edit	>>	Run	Return
01. START	R-1	Soild+	Elastic2	Head-N	R Edge-Mo	End Insert
02. NYLON-	R-2	Grad-Mo	Pat Stop	Head-A	Ela-Auto1	Cmd Del
03. NYLON	R-3	Stitch-Mo	Pos Add	Add oild	Ela-Auto2	Cmd Clear
04. Elasti	R-4	Sinkes-Mo	HeelColor	Heel Sel	ElasticBy	Enter ActNo
05. Elasti	R-5	MYarn-E	HeelLoop	Stop Pos	Sp-Limit	Cir-Ctrl Insert
06. LEG	R-6	Kint Fun	HeelFA	Stitch-P	Wait Down	r-Ctrl Del
07. HEEL	R-7	StitchFun	Blow	Stitch-M	Fluff By	Cir-Ctrl Clear
08. FOOT	R-8	Speed	TRange	Stitch-T	Heel Senk	Density Para
09. RING-T	R-M	Fluff-	Ts-Stop	Stitch-E	CY Speed	
10. TOE	M-D	Fluff1/2-	HeelT	Head lift	CY Away	
11. ROSSO	Fluff+	Soild-	Press L	Boat-En	Exit	
12. STITCH	Fluff1/2+	Elastic1	Press R	L Edge-Mo		
13. END						
[PU]Page Up	[PD]Page Down	[F1]Insert	[F2]Delete	[F3]Copy	[F4]Paste	[MEM]Save

The following positions referring to in and out position are the angle values, the positive angle is executed forward, and the negative angle is executed inversely.

No.	Instruction	Setting	State	Note
1	R-1	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
2	R-2	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
3	R-3	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
4	R-4	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
5	R-5	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
6	R-6	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
7	R-7	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
8	R-8	Angle value, -720 ~	Withdraw, half, whole,	

		+720	hold	
9	R-M	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
10	M-D	Angle value, -720 ~ +720	Withdraw, forward, hold	
11	Fully positive	Angle value, -720 ~ +720	Withdraw, forward, hold	
12	Half positive	Angle value, -720 ~ +720	Withdraw, forward, hold	
13	Positive reinforcement of fluff	Angle value, -720 ~ +720	Withdraw, forward, hold	
14	Needle cylinder density	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
15	Settled density	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
16	Sinker density	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
17	Color change of main shuttle	--	--	In addition to heel and toe, the instruction can be inserted for color change of main shuttle. In case of the existence of main shuttle view, the instruction comes into effect.
18	Hosiery throttle	Angle value, -720 ~ +720	Return to zero, left 25%, left 50%, left 75%, left 100%, right 25%, right 50%, right 75%, right 100%	
19	Seam throttle	Angle value, -720 ~	Return to zero, left	

		+720	25%, left 50%, left 75%, left 100%, right 25%, right 50%, right 75%, right 100%	
20	Speed	Speed value, 0-380	--	The first cycle of the current action is the value set for speed.
21	Fully reverse	Angle value, -720 ~ +720	Withdraw, forward, hold	
22	Half reverse	Angle value, -720 ~ +720	Withdraw, forward, hold	
23	Reverse reinforcement of fluff	Angle value, -720 ~ +720	Withdraw, forward, hold	
24	Elastic shuttle 1	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
25	Elastic shuttle 2	Angle value, -720 ~ +720	Withdraw, half, whole, hold	
26	Pattern suspension	--	--	The pattern cycles are paused to maintain the current action of needle selector.
27	Temporary addition	Angle value, -180~180	Left and right	Adjust positive and reserve position in heel production, come into effect once.
28	Heel color change	Cycles, 0-999	Method 1, 2, 3 and 4	O is the cycle of current cycle control and other values are set cycles. Please see details in Annotation 1.
29	Pressing-teasing loop	Cycles, 0-999	Method 1, 2, 3 and 4	O is the cycle of current cycle control and other values are set cycles. Please see details in Annotation 2.
30	Forced addition	Angle value, 0~180	+, -	Adjust positive and reserve position in heel production, effective for the whole heel.

31	Blow	Angle value, -720 ~ +720	Withdraw, forward, hold	
32	Fluff addition	Needles, -42~42	Left, right and &&	Heel fluff attaches a certain number of needles to the original trimming
33	Yarn adding prohibition	--	--	Yarn adding shuttle maintains the former state.
34	Heel fluff	Initial cycles of heel fluff, 0-9999	--	
35	Left signal of press-needle	Angle value, -720 ~ +720	Off/on	
36	Pressing right-left signal	Angle value, -720 ~ +720	Off/on	
37	Conventional hafa disk	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
38	Progressive hafa disk	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
39	Refuel	Unit of time: second, 0~9999	--	
40	Heel needle selection	Needle selection data No.: 1-32		Meanwhile, it is necessary to set “*” for the needle selection data of card stripping needle selector, set more needle cycles for reverse needle parameter than general condition and forced needle selection for heel card stripping needle selector.
41	Needle position stop	Angle value, 0~360	--	
42	Seam preparation	Angle value, 0~360	--	
43	Seam moving	Angle value, 0~360	--	

	sock			
44	Seam ankle sock	Angle value, 0~360	--	
45	Seam end	Angle value, 0~360	--	
46	Machine head lifting	Angle value, 0~360	Lifting	
47	Use function of ankle sock	--	--	Used to make ankle socks, 1F doesn't withdraw in card stripping
48	Left-angular density	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
49	Right-angular density	Angle value, -720 ~ +720	0—24	0 means to return to zero, 1-24 are gear values
50	Elastic automatic 1	Angle value, -720 ~ +720	Withdraw, half, whole	A series of elastic1 channel 1 actions are based on the set angle value.
51	Elastic automatic 2	Angle value, -720 ~ +720	Withdraw, half, whole	A series of elastic1 channel 2 actions are based on the set angle value.
52	Elastic following	--	Action and pattern	Elastic action in pattern mode follows the action of elastic view.
53	Action speed limit	--	Recovery and removal	Removal and recovery of low-speed limit of the triangulation
54	Hosiery waiting removal	--	--	Work together with seam action
55	Down knife following	--	Action and pattern	In pattern mode, down knife actions follow the actions of control strip down knife view
56	heel sinker	Heel left sinker gear, 1-24	Heel right sinker gear, 1-24	
57	CY speed	0-380		CY cycle control speed value is the set value
58	CY circulation	Cy Number, 0-999	Step times, 1-99	Circulation of some CY cycle controls

Annotation 1 (**heel color change**): The heel change colors automatically and butterfly doors also switch

automatically. The value of the position corresponds to the number of cycles in which the sock is automatically changed. The state value corresponds to the line change method. The method settings are shown below. The main shuttle 4 and 5 are in circulation. The main shuttle 5 follows the jumper 3, advances angle 340 and exits angle 370. The main shuttle 4 follows the jumper 2, advances angle 340 and exits angle 370. The initial cycle is 1, indicating the first cycle of the current cycle control, and the change speed is 80.

The screenshot shows a control window titled "Heel Color-1". It contains a table with 4 columns (1, 2, 3, 4) and 12 rows of settings. To the right of the table is a numeric keypad (0-9) and a Backspace button. Below the keypad are five function buttons: [F1] Clear data, [PU] Page Up, [PD] Page Down, [EN] OK, and [ESC] Esc. At the bottom of the window, there are two input fields: "Start Loo" with the value "1" and "Change Sp:" with the value "80".

NO.	1	2	3	4
MS1	R-5	R-4	-	-
TS1	3	2	-	-
TS2	-	-	-	-
MS2	-	-	-	-
TS1	-	-	-	-
TS2	-	-	-	-
IN	340	340	0	0
OUT	370	370	0	0
CIRS	2	2	0	0

Start Loo: 1 Change Sp: 80

Annotation 2 (**pressing selection loop**): Pressing selection loop setting is common in making kitten heel. For example, when teasing the needle, set teasing left 2, pressing left 1. When teasing the needle, set teasing left 1, pressing left 2. If it is a double press, the right is also set. If it's asymmetric, just one side can be set. The pattern is divided into six categories, as shown in the figure, executed in different execution order.



Density parameter

You can view and edit the density of each motor. In addition to the hafa disk motor, the other motor has a total of 100 gears. The specific value of each gear is based on the range value of the [motor setting] in [machine parameter], including 100 gears. The value of the hafa disk motor is the encoder value, which is 4 times the pulsed value.

	Graduation	Stitch Cam	Sinkers	Head	L Edge	R Edge
1	0	0	0	0	0	0
2	20	0	20	0	0	0
3	50	0	35	0	55	0
4	20	0	65	0	0	0
5	28	0	65	0	0	0
6	25	0	70	0	0	0
7	25	0	75	0	0	0
8	25	0	30	0	0	0

Page Up Page Down Enter Exit

5.1.3 Action Editing

In the chain edit interface, click the “Enter Action” button to pop up the action editing interface. An action number can set up 44 valve states.

Act: 14
Valv: 3 - 6C-1

<< Chain Act Edit >>

Run Return

No.	positi	No.	positi	No.	positi	No.	positi	No.	positi	No.	positi
3	330	2	0	7	450	7	10	9	180	10	290
12	220	35	180	14	280	19	280	37	450	6	130
4	305	5	335	34	380	68	320	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*

Elasti: [] No.20
Tuck: [] No.20
1C: [] No.20
2C: [] No.20
3C: [] No.20
4C: [] No.01

[F1] Previous [F2] Next [F3] Clear [F4] Copy [F5] plaster [MEM] Save

Vavle PageUp
Vavle PageDn
Vavle Delete
Vavle End
Jac Data
Jac PageUp
Jac PageDn

Current page action number and chain number

Needle selection information

Gas valve action, the grey indicates invalid

F1 Previous Show the action number content of the previous chain.

F2 Next Show the action number content of the next chain.

F3 Clear Clear the data for the current action block.

F4 Copy Copy the data for the current action block.

F5 Plaster Paste the copied action block data into the current block.

Save Save the data for the current action block.

【Gas valve page up】 Page gas valve action number up

【Gas valve page down】 Page gas valve action number down

【Gas valve deletion】 Delete current gas valve number

【Terminator】 Set the end position of the gas valve action, the gas valve action unit becomes invalid after setting the current position.

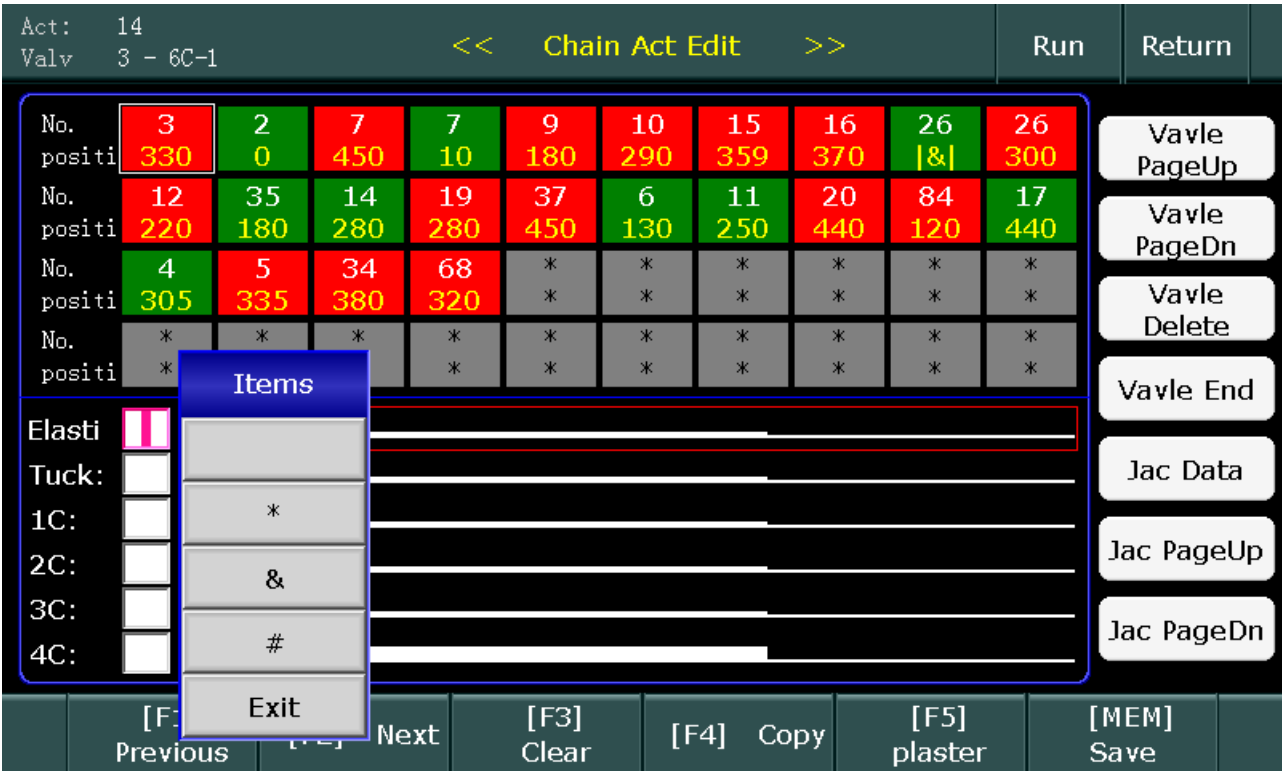
Click on the gas valve element, and the corresponding valve name will be displayed in the upper left corner, and then click again, the gas valve action edit box pops up again.



【Needle selection information】 Enter needle selection information editing interface.

【Needle selection page up】 Page needle selector unit up.

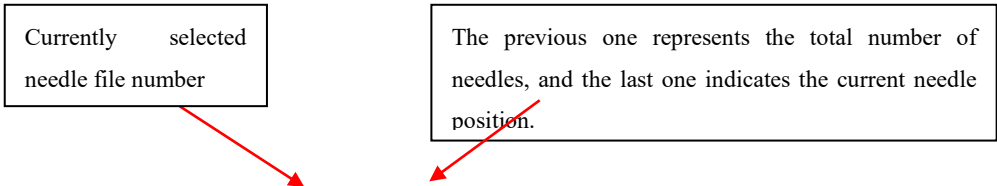
【Needle selection page down】 Page needle selector unit down.

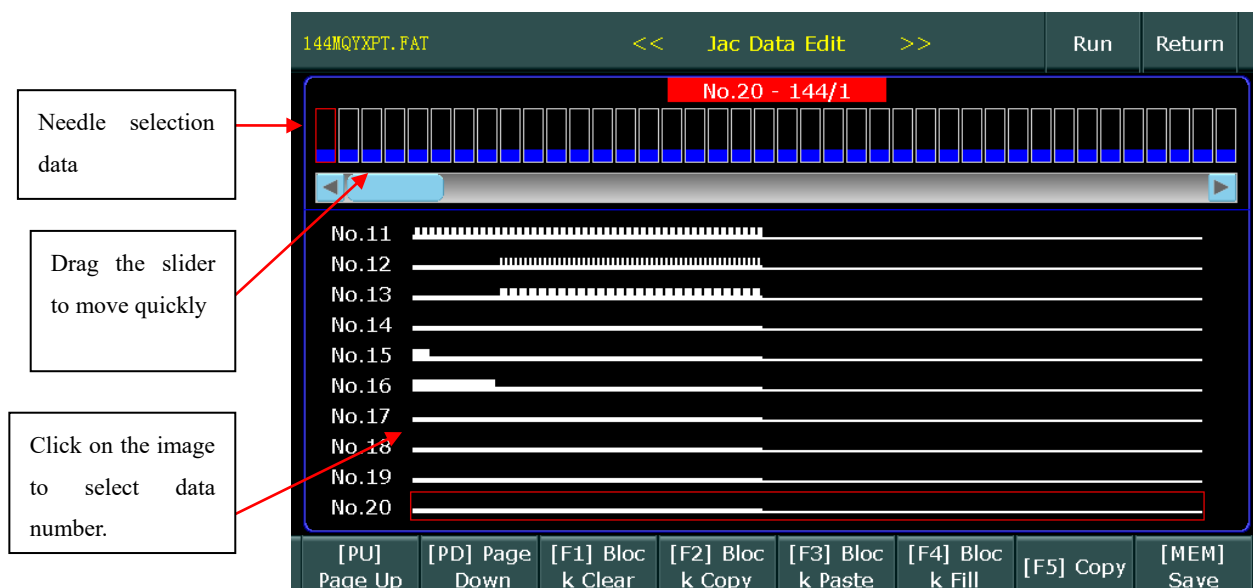


- “ ”: Default.
- “*”: Execute according to patterns whether or not there are patterns.
- “&”: When there is a pattern, needle part in needle selection information is executed according to patterns.
- “#”: Execute according to patterns when there is no pattern.

5.1.4 Needle Selection Data Editing

In action editing interface, press 【Needle selection data】 to enter needle selection data editing interface, including a total of 32 editable needle selection data.





Previous Page needle selection data up



Next Page needle selection data down



Block clear The versatile position of selected needle data at the current cursor is set in a needle withdrawing difficulty state.



Block copy Copy the needle selection data at the current cursor.



Block paste Paste the needle selection data at the current cursor.



Block fill The versatile position of selected needle data at the current cursor is set in a needle withdrawing state.



Copy Click the pop-up block to copy the input box as shown below.

Copying original
needle scope

Copying target needle
scope, the second one is 0
for the last needle.

Indicate that the needle selection data of 1~5 needles is copied behind the 9th needle.

5.1.5 Seam Action Editing

In pattern file management interface, select corresponding file, press  to enter seam action editing interface. **Non-factory personnel are profited to modify it, otherwise the consequence is conceited.**

Step number of the current combination name

144MQYXPT.FAT

<< Seam Action Editor >>

Run

Return

Combination na

01. seam head

01.

Action num

1

Action del

1000ms

0ms

Action com

Null

Reset Acti

Rst seam 01

Repeat:

Allow

Motor	Name	Cmd	Set
01.	-	-	-
02.	-	-	-
03.	-	-	-
04.	-	-	-
05.	-	-	-
06.	-	-	-

Actio Type

Name

Statu

01. Valv 85.Press Needle Out

02. Valv 83.Press Needle Out

03. Valv 142.Slotting Ou In

04. Valv 140.Spiny Relax In

05. Valv 143.Slotting In Out

06. Sign 59.Door Inducti vali

07. - - -

08. - - -

09. - - -

10. - - -

11. - - -

12. - - -

Action insert

Action delete

Action clear

Seam param

Motor insert

Motor delete

Motor clear

Gas valve operation

Seam parameter setting

Motor operation

1

2

3

4

5

6

7

8

9

0

+/-

Backs

[PU]Page Up

[PD]Page Down

[F1]Insert

[F2>Delete

[F3]Copy

[F4]Paste

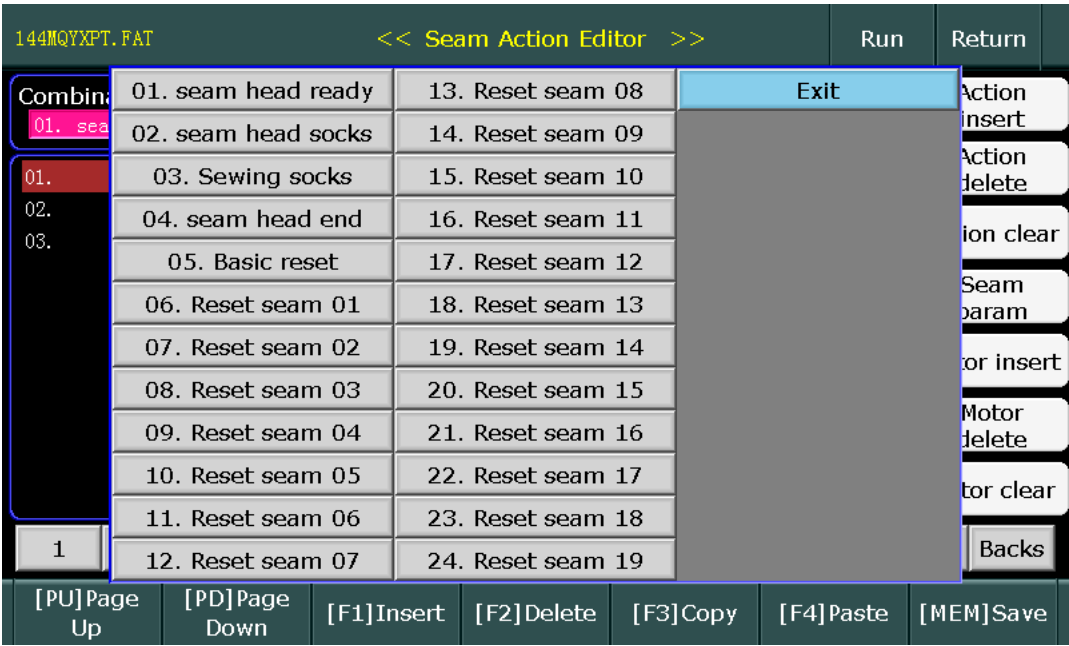
[MEM]Save

-  **Page up** Page up to the previous step.
-  **Page down** Page down to the next step.
-  **Insert** Insert a new step before or after the current step.
-  **Delete** Delete the current step
-  **Copy** Copy the current step data.
-  **Paste** Paste the copied step data into the current step.
-  **Save** Save the data for the current seam action.
- 【Action insertion】** Insert a gas valve action at current cursor;
- 【Action deletion】** Delete the gas valve action at current cursor;
- 【Action clear】** Clear all data for current gas valve action.
- 【Seam parameter 】** Enter seam parameter editing interface.
- 【Motor insertion】** Insert a motor action instruction at current cursor;

- 【Motor deletion】 Delete the motor action instruction at current cursor;
- 【Motor clear】 Clear all data for current motor action.

Action step instruction analysis

【Combination name】 Divided into 24 major action combinations, as shown in the figure. Click to select to edit which action combination to edit.



- 【Action No.】 Step number of the current action combination
- 【Action name】 Current action step annotation
- 【Action delay】 The first delay is the alarm delay. In the set time delay, if the alarm in the action setting conforms to the set state, it can get out of the delay state, otherwise the signal will alarm. The second delay is the action delay, and the motor action and gas valve action are executed after the set delay.
- 【Action instruction】 Divided into 8 instructions, as shown in the figure.



Seam instruction: Start to execute seam action.

Additional instruction: If the hosiery section is working, this action will not be executed.

Stock dropping start and stock dropping end: the signal of stock dropping is detected by setting the two commands; an alarm should be given if it can’t be detected.

Positioning detection: Positioning shut-down should be done in the set angle before the execution of seam action; if the error between the positioning shut-down position and the set position exceeds the set value of machine parameter, the alarm will be paused.

Hosiery wait: Wait the hosiery wait cancelling command of hosiery part after inserting this command, and the previous seam action has been paused.

Stock turning over start and stock turning over end: The actions of the two commands are executed for many times according to the seam parameter.

[Reset action] The reset action block is used when the current step is executed.

[Repetition] Whether does it allow to execute the current action repeatedly?

[Motor setting] As shown in the figure, the motor type that can be set.



[Motor command] It is divided into 8 types, as shown in the figure.

- Pulse: the pulse position that pulse position.
- Frequency: Motor executes at the set frequency, otherwise it will execute at the default frequency.
- Measuring range: Motor executes at the range position in the setting of machine parameter.
- Return to zero: Execute the return-to-zero action.
- Delay: Execute the set delay.
- Limitation: Execute by the maximum position of motor and stop at the limiting position, which is valid for the motor with limiting position.
- Parameter: Execute by the set value of machine parameter, and the following [setting] represents the data position of machine parameter.
- Pattern: Execute by the set value of seam parameter in pattern, and the following [setting] represents the data position of pattern seam parameter.

144MQYXPT.FAT		<< Seam Action Editor >>		Run	Return				
Combination na 01. seam head 01. 02. 03.	Action num	2	Items Pulse Frequency Range Zero Delay Limit Parameter Pat Exit	Type	Name	Statu	Action insert		
	Action Nam			53.Pressure Dow	vali	Action delete			
	Action del	1000ms		83.Spiny Relaxa	vali	Action clear			
	Action com	Null		84.Spiny Tighte	inva	Seam param			
	Reset Acti	Rst seam 01		-	-	Motor insert			
	Repeat:	Allow		-	-	Motor delete			
	Motor	Name		Cmd	-	-	Motor clear		
	01.	Head movem		Rang	-	-			
	02.	Swing arou		Puls	-	-			
	03.	Arm up and		Para	-	-			
04.	-	-	-	-					
05.	-	-	-	-					
06.	-	-	-	-					
1	2	3	4	5	8	9	0	+/-	Backs
[PU]Page Up	[PD]Page Down	[F1]Insert	[F3]Copy	[F4]Paste	[MEM]Save				

[Action setting] As shown in the figure, the type of action can be divided into gas valve and signal; the serial number or signal sequence number of gas valve is filled in the name field, and the action state or signal state of gas valve is filled in the state.

144MQYXPT.FAT		<< Seam Action Editor >>		Run	Return						
Combination na 01. seam head 01. 02. 03.	Action num	2	Items Valve Signal Exit	Actio Type	Name	Statu	Action insert				
	Action Nam			01. Sign	53.Pressure Dow	vali	Action delete				
	Action del	1000ms		02. Sign		vali	Action clear				
	Action com	Null		03. Sign		inva	Seam param				
	Reset Acti	Rst seam 01		04. -		-	Motor insert				
	Repeat:	Allow		05. -		-	Motor delete				
	Motor	Name		Cmd	Set	-	-	Motor clear			
	01.	Head movem		Rang	NC.	-	-				
	02.	Swing arou		Puls	+3000	-	-				
	03.	Arm up and		Para	+4	-	-				
04.	-	-	-	-	-						
05.	-	-	-	-	-						
06.	-	-	-	-	-						
1	2	3	4	5	6	7	8	9	0	+/-	Backs
[PU]Page Up	[PD]Page Down	[F1]Insert	[F2>Delete	[F3]Copy	[F4]Paste	[MEM]Save					

144MQYXPT.FAT

<< Seam Action Editor >>

Run

Return

Combination na

01. seam head

01.

02.

03.

Action num

2

Action Nam

Action del

1000ms

-

Action com

Null

Reset Acti

Rst seam 01

Repeat:

Allow

Motor

Name

Cmd

Set

01.

Head movem

Rang

NC.

02.

Swing arou

Puls

+3000

03.

Arm up and

Para

+4

04.

-

-

-

05.

-

-

-

06.

-

-

-

Actio Type

Name

Statu

01.

Valv

53.Heel Tension

In

02.

Sign

83.Spiny Relaxa

03.

Sign

84.Spiny Tighte

04.

-

-

05.

-

-

06.

-

-

07.

-

-

08.

-

-

09.

-

-

10.

-

-

11.

-

-

12.

-

-

Items

Out

In

Exit

Action insert

Action delete

Motor insert

Motor delete

Motor clear

1

2

3

4

5

6

7

8

9

0

+/-

Backs

[PU]Page Up

[PD]Page Down

[F1]Insert

[F2>Delete

[F3]Copy

[F4]Paste

[MEM]Save

144MQYXPT.FAT

<< Seam Action Editor >>

Run

Return

Combination na

01. seam head

01.

02.

03.

Action num

2

Action Nam

Action del

1000ms

-

Action com

Null

Reset Acti

Rst seam 01

Repeat:

Allow

Motor

Name

Cmd

Set

01.

Head movem

Rang

NC.

02.

Swing arou

Puls

+3000

03.

Arm up and

Para

+4

04.

-

-

-

05.

-

-

-

06.

-

-

-

Actio Type

Name

Statu

01.

Sign

53.Pressure Dow

vali

02.

Sign

83.Spiny Relaxa

vali

03.

Sign

84.Spiny Tighte

04.

-

-

05.

-

-

06.

-

-

07.

-

-

08.

-

-

09.

-

-

10.

-

-

11.

-

-

12.

-

-

Items

invalid

valid

Exit

Action insert

Action delete

Motor insert

Motor delete

Motor clear

1

2

3

4

5

6

7

8

9

0

+/-

Backs

[PU]Page Up

[PD]Page Down

[F1]Insert

[F2>Delete

[F3]Copy

[F4]Paste

[MEM]Save

5.1.6 Seam Parameter

Press **F2** to select [seam parameter] in the operation interface or select [seam parameter] in [seam editing] in the pattern interface to enter the editing interface of seam parameter.

144MQYXPT. FAT				<< Seam param Editor >>		Run	Return												
01. Seam type	1 pin-1 pin	14. Throttle Step 5	+160	<table border="1"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> <tr><td>9</td><td>0</td></tr> <tr><td>Backspace</td><td>+/-</td></tr> </table>				1	2	3	4	5	6	7	8	9	0	Backspace	+/-
1	2																		
3	4																		
5	6																		
7	8																		
9	0																		
Backspace	+/-																		
02. seam range 2	2	15. Throttle Step 6	+160																
03. Sewing motor sp	200	16. Throttle Step 7	-160																
04. Suction type	default	17. Throttle Step 8	+0																
05. Parameter 5	ordinary	18. Waiting time	300																
06. Parameter 6	Normal	19. Tilt position	3200																
07. Parameter 7	Inhibited	20. access location	500																
08. Parameter 8	Right	21. Tilt mode	ordinary																
09. Parameter 9	Normal	22. Parameter 23	ordinary																
10. Throttle Step 1	+160	23. Parameter 24	0																
11. Throttle Step 2	-160	24. before the seam	2																
12. Throttle Step 3	+160	25. After the seam	14																
13. Throttle Step 4	+0	26. number of socks	1																
[PU] Page Up		[PD] Page Dn		[F1] Default		[MEM] Save													

144MQYXPT. FAT				<< Seam param Editor >>		Run	Return												
27. Socks location	0	40. Swing Poszion 5	0	<table border="1"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> <tr><td>9</td><td>0</td></tr> <tr><td>Backspace</td><td>+/-</td></tr> </table>				1	2	3	4	5	6	7	8	9	0	Backspace	+/-
1	2																		
3	4																		
5	6																		
7	8																		
9	0																		
Backspace	+/-																		
28. Socks pos 1	3000	41. Swing Poszion 6	0																
29. Socks pos 2	2500	42. Swing Poszion 7	0																
30. Socks pos 3	2000	43. Swing Poszion 8	0																
31. Socks pos 4	0	44. Swing Out Pos 1	0																
32. Socks pos 5	0	45. Swing Out Pos 2	0																
33. Socks pos 6	0	46. Swing Out Pos 3	0																
34. Socks pos 7	0	47. Swing Out Pos 4	0																
35. Socks pos 8	0	48. Swing Out Pos 5	0																
36. Swing Poszion 1	0	49. Swing Out Pos 6	0																
37. Swing Poszion 2	0	50. Swing Out Pos 7	0																
38. Swing Poszion 3	0	51. Swing Out Pos 8	0																
39. Swing Poszion 4	0																		
[PU] Page Up		[PD] Page Dn		[F1] Default		[MEM] Save													

[Seam type] Two modes are available, namely, 1 seam-1 seam and 1 seam-1/2 seam. The first one refers to one seam for every two needles; the second one refers to one seam for every one needle.

[Range of 2seames] the range of 2 additional seames at the beginning and the end of seaming.

[Seam motor speed] the speed of seaming, in the set range of 100 seames/second-400 seames/second.

【Parameter 5】 Standby application.

【Parameter 6】 Standby application.

【Parameter 7】 Standby application.

【Parameter 8】 Standby application.

【Parameter 9】 Standby application.

[Throttle step 1-8] It corresponds to the 8 throttle action steps of seam throttle in the seam action.

[Waiting time of connection stock] The waiting time of connection stock when the sock is removed.

[Inclined position of connection stock] The shift position of connection stock when the sock is removed.

[In/out position of connection stock] The position of picking stock bar stretches out from the connection stock when the sock is removed.

【Parameter 23】 Standby application.

【Parameter 24】 Standby application.

[Number of float seaming before seam] The number of float seaming by seam motor before seam starts.

[Number of float seaming after seam] The number of float seaming by seam motor after seam starts.

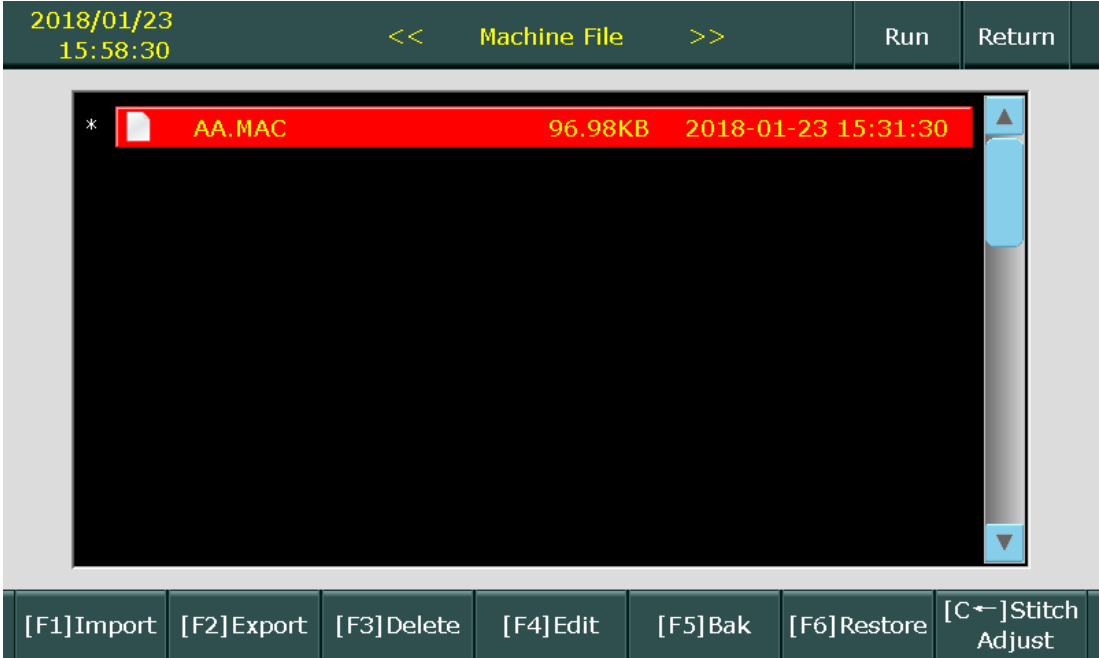
[Number of turning over stock before seam] The number of turning over stock by seam motor before seam starts.

[Position of moving stock by swing arm] The left and right waiting position of swing arm in the process of moving stock.

[Position of turning over stock by gripper 1-8] The position of turning over stock by gripper, totally 8 times.

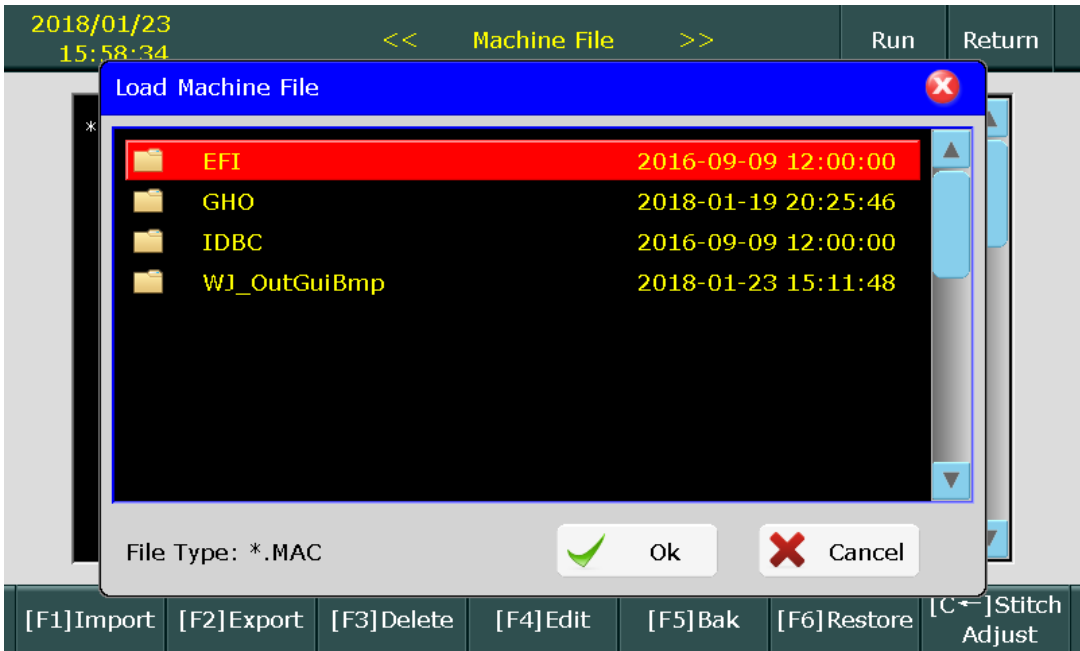
5.2 Machine File Management

Press **2** to enter the interface of machine file (.MAC) management in the page of file management in the primary menu.



When there is no machine parameter existing, it is impossible to enter the operation interface.

F1 **file input** input a machine parameter file from a U Disk, press **F1** to pop up the interface of file input.



There should be only one machine file existing. After re-inputting a machine parameter file, the previous

machine parameter file will be automatically covered.

- F2

file output

Output the machine parameter files in the memory into the U Disk.
- F3

file deletion

Delete the machine parameter files in the memory.
- F4

file edit

enter the edit interface of machine parameter files.
- F5

seam alignment

enter the edit interface of seam alignment act.

5.2.1 Machine Parameters

Press

F1

 in the interface of “mac parameter edit” to enter the setting interface of machine parameters.

AA. MAC

Angle: 192.0

<<

Mac File Edit

>>

Run

Return

Mac param	Actuator set	Peripheral set	Reset valve	User param	Seam param		
01. Machine type	One	11. Trimming pos	260°				
02. Total Needle	144	12.1 KTF init value	100cN				
03. Machine zero	168.0°	13.1 KTF step value	0.1cN		1	2	3
04. suction auto	Off	14.2 KTF init value	10°				
05. Left heel pos	70°	15.2 KTF step value	1°		4	5	6
05. Right heel pos	260°	16. En electric eye	Close				
05. Right heel2 pos	76°	17. Sel Power time	110ms		7	8	9
08. Enable heel	On	18.Fluff Pos +	110°				
09. heel advance	+5°	19.Fluff Pos -	320°		0	+/-	.
10. Adaptive heel	Off	20. Continued	Off				

[F1] Mac param

[F2] Elastic set

[F3] Step set

[F4] Alarm set

[F5] Quick reset

[F6] Default

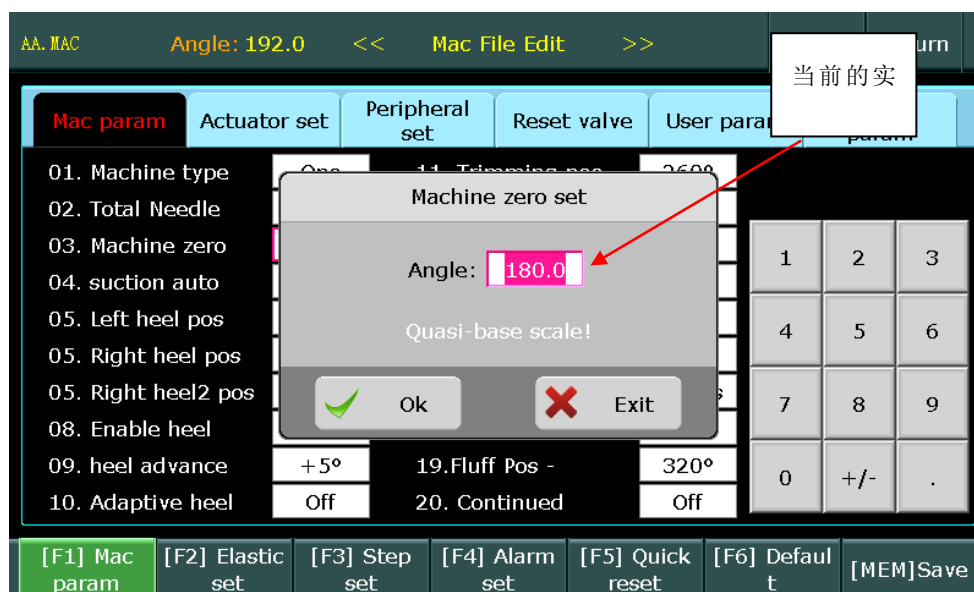
[MEM]Save

- 【01.machine type】

for setting the machine type. It can be divided into the integrated mode and the tablet mode. The seam act in the tablet mode does not work.
- 【02.total needle】

If the setting value of total needle is inconsistent with reality, it will influence the calculation of the current position.
- 【03.machine zero】

for determining the datum point of the position of needle cylinder. If the setting is wrong, the action positions of devices like needle selector and gas valve will be affected.
- Click INPUT to pop up the password box, display the setting interface of machine zero needle after inputting the correct password.



【04. auto control of air draft suction】 When the system is equipped with double air draft including seam air draft and hosiery air draft, it will be set in the automatic mode. The operation and inoperation of air draft are automatically controlled by the system.

【05. left heel position】 The parameter, the position of left movable terminal of heel, determines the turning position of pick and press-needle that transform from forward rotation to reverse rotation.

【06. right heel position】 The parameter, the position of right movable terminal of heel, determines the turning position of pick and press-needle that transform from reverse rotation to forward rotation.

【07. right heel2 position】 the rotation angle from reverse rotation to forward rotation upon the end of heel.

【08. enable heel acceleration】 upon enabling this option, the trimming system of forward and reverse rotation of heel will automatically adjust according to pick and press-needle.

【09. heel deceleration advance】 the insufficient or excessively large trimming of heel can be adjusted through this parameter.

【10. adaptive heel deceleration】 upon enabling this option, the heel trimming can be automatically adjusted through the system.

【11. thread trimming position】 the rotation angle from forward rotation to reverse rotation upon heel preparation.

【12. initial value of No.1 KTF】 initial power-on value of No.1 KTF.

【13. progressive value of No.1 KTF】 the minimum unit of step under the control of No.1 KTF.

【14. initial value of No.2 KTF】 initial power-on value of No.2 KTF.

【15. progressive value of No.1 KTF】 the minimum unit of step under the control of No.2 KTF.

【16. enable electric eye】 for checking if setting BTR part is on.

【17. electrified time of needle selector】 use when electromagnet needle selector is used.

【18. forward position of rough cutter】 invalid.

【19. reverse position of rough cutter】 for setting the number of press-needles.

【20. renewal of power failure】 enable the function of renewal of power failure.

Click “needle selector parameter”, switch to the setting interface of parameters related to needle selector.

Please correctly set the peripheral position of each needle selector before operation, otherwise the action of needle selector may fail to reach the desired effects.

Mac param	Actuator set	Peripheral set	Reset valve	User param	Seam param
01. Sel polarity	Ccw	11. 3C location	170.0°		
02. Sel arranged	Ccw+	12. 4C location	203.0°		
03. Sel Section	8	13. 5C location	231.0°		1 2 3
04. Terry polarity	Cw	14. 6C location	262.0°		4 5 6
05. Terry arrange	Ccw+	15. 1F location	292.0°		7 8 9
06. Terry section	6	16. Terry + pos	347.0°		0 . Set
07. Elastic pos	18.0°	17. Terry - pos	4.0°		
08. Tuck position	79.0°				
09. 1C location	108.0°				
10. 2C location	137.0°				

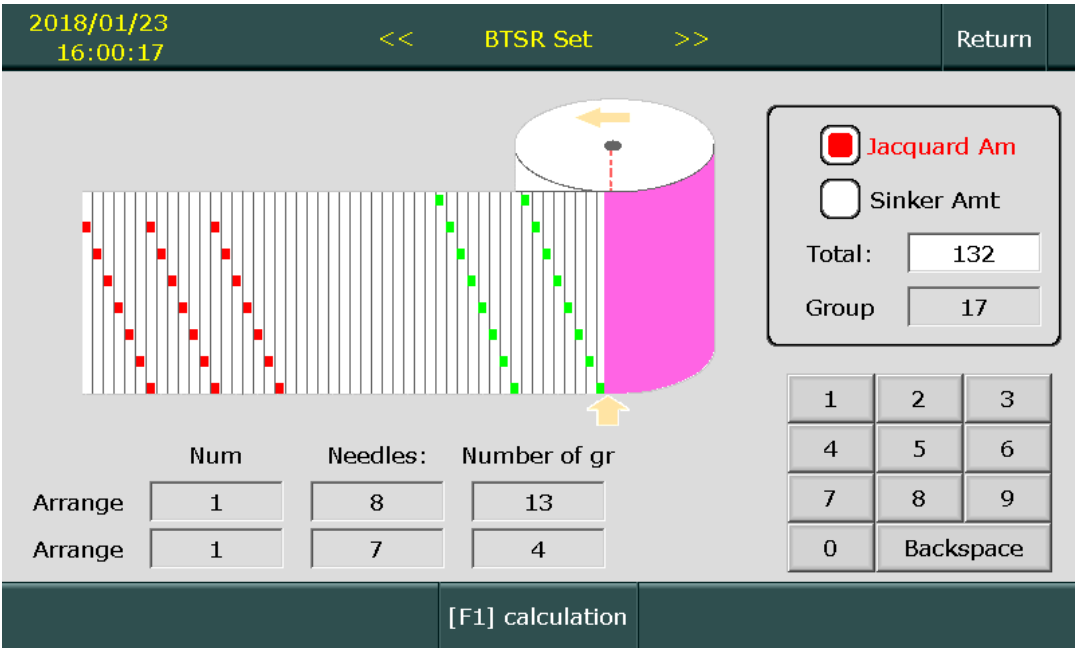
Sel Angle: 177.0

[F1] Mac param [F2] Elastic set [F3] Step set [F4] Alarm set [F5] Quick reset [F6] Default [MEM] Save

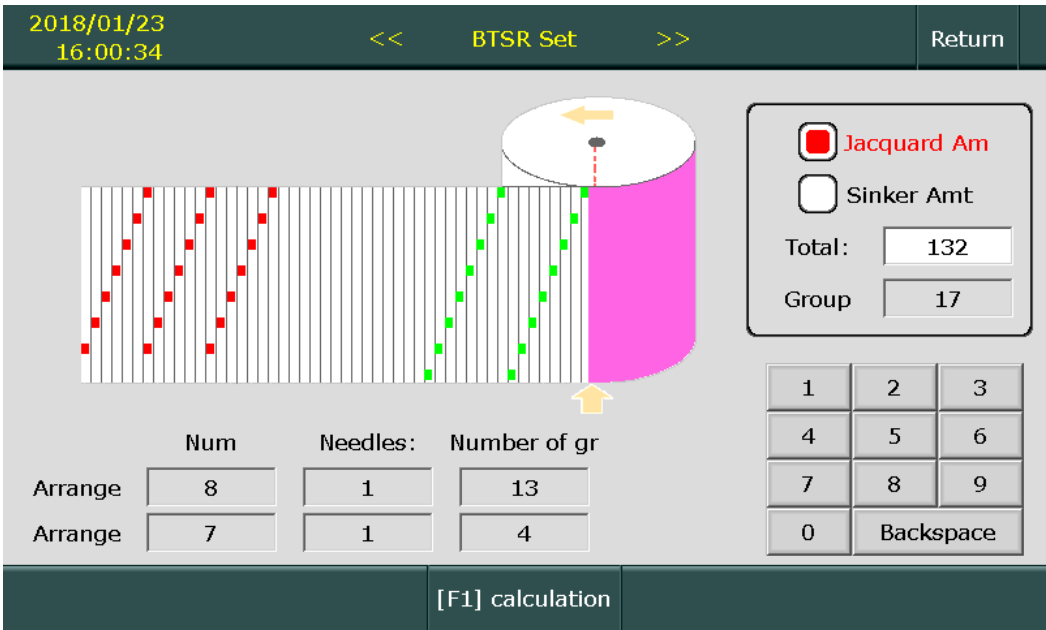
【01.needle selector polarity】 the direction of needle selector pressing.

【02.needle selector arranged】 divided into: forward+, reverse+, forward-, reverse-.

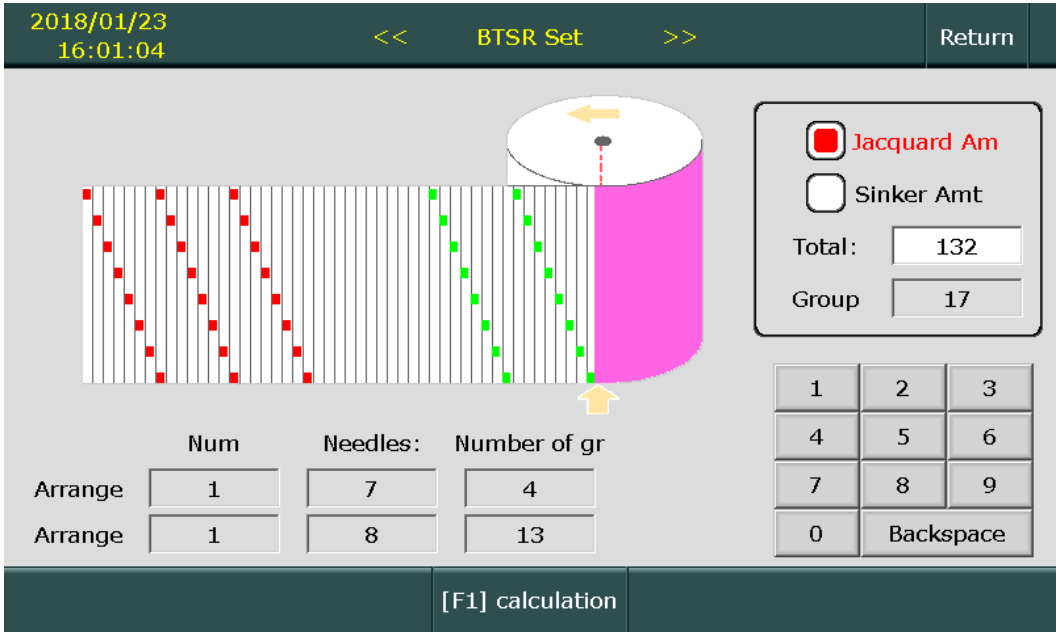
Forward+ is arranged as shown in the Fig. and irregular needles are arranged at the end of needle cylinder.



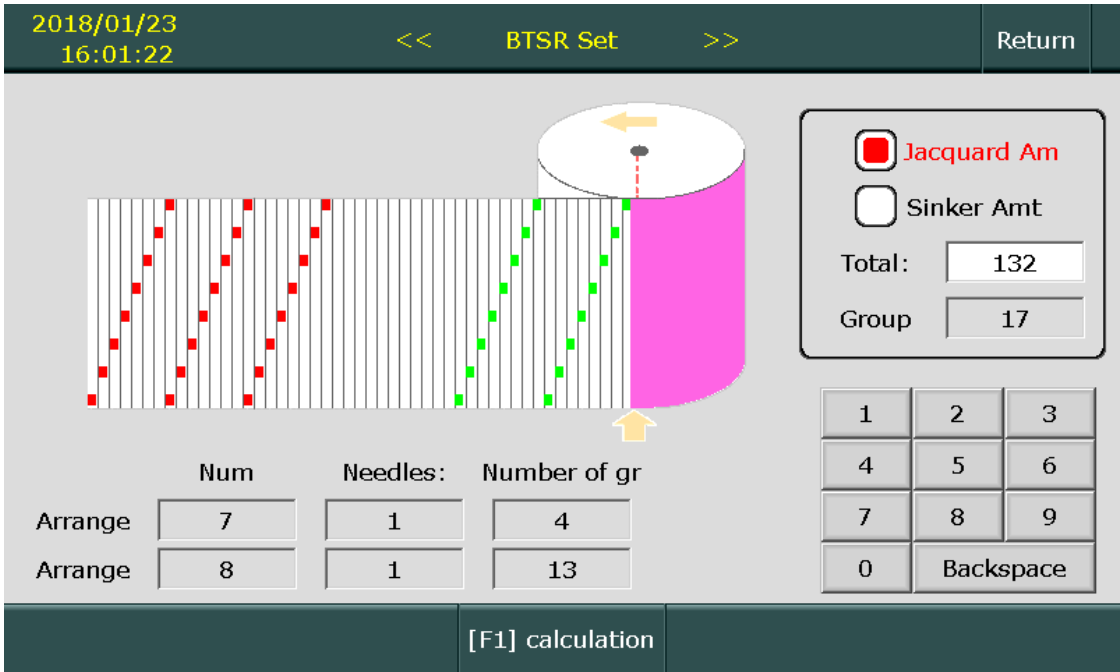
Reverse+ is arranged as shown in the Fig. and irregular needles are arranged at the end of needle cylinder.



Forward- is arranged as shown in the Fig. and irregular needles are arranged in front of needle cylinder.



Reverse- is arranged as shown in the Fig. and irregular needles are arranged in front of needle cylinder.



【03.needle selector section】 the cutter number of a single needle selector

【04.Terry polarity】 the direction of Terry needle selector pressing

【05.Terry arrange】 the same as needle selector arrange

【06.Terry section】 the cutter number of a single needle selector

【07.elastic position】 the position of elastic needle selector, manually correct machine zero needle to the position of the first cutter of elastic needle selector, press setting.

- 【08.tuck position】 tuck needle selector position, the same method like elastic needle selector method.
- 【09.1C position】 1C needle selector position, the same method like elastic needle selector method.
- 【10.2C position】 2C needle selector position, the same method like elastic needle selector method.
- 【11.3C position】 3C needle selector position, the same method like elastic needle selector method.
- 【12.4C position】 4C needle selector position, the same method like elastic needle selector method.
- 【13.5C position】 5C needle selector position, the same method like elastic needle selector method.
- 【14.6C position】 6C needle selector position, the same method like elastic needle selector method.
- 【15.1F position】 1F needle selector position, the same method like elastic needle selector method.
- 【16.Terry+ position】 the forward peripheral position of Terry needle selector. In view of the advance of needle selector, if it is a Terry needle selector with six cutters, the fifth needle before machine zero needle will target at needle selector. Fill in the angle value at a general value of 350 and the actual alignment value prevails.
- 【17.Terry- position】 the reverse peripheral position of Terry needle selector. In view of the advance of needle selector, if it is a Terry needle selector with six cutters, the fifth needle before machine zero needle will target at needle selector. Fill in the angle value at a general value of 10 and the actual alignment value prevails.

Methods for confirming the peripheral position of needle selector

Method 1: jog or manually operate the machine so that the machine zero needle will target at the tool bit of the needle selector, fill the **angle value of needle selector** below “position of 1F” into the corresponding peripheral position of needle selector.

Method 2: jog or manually operate the machine so that the previous group of needles of the machine zero needle just pass the tool bit of needle selector, fill the **angle value** in the lower right corner (the left side of button “save”) into the corresponding peripheral position of needle selector.

Note: the program of angle values of needle selector in Method 1 includes the advance while the advance needs to be solely calculated for angle values in Method 2.。

Click “peripheral position”, switch to the setting interface of relevant parameters.

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run		Return															
Mac param		Actuator set		Peripheral set		Reset valve		User param		Seam param													
01. Tim advance	75°	11. shuttle angle	3°	<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>Backs pace</td><td>.</td></tr> </table>								1	2	3	4	5	6	7	8	9	0	Backs pace	.
1	2	3																					
4	5	6																					
7	8	9																					
0	Backs pace	.																					
02. Tim overlap	2	12. Half-bit delay	20°																				
03. sinker center	150°	13. loosened pos	170°																				
04. 1C-Tim positio	140.0°	14. loose ahead	90°																				
05. 2C-Tim positio	170.0°	15. Elastic pos	90°																				
06. 3C-Tim positio	200.0°	16. Elastic overlap	10																				
07. 4C-Tim positio	230.0°	17. Left pick pos	20°																				
08. 5C-Tim positio	260.0°	18. Right pick pos	320°																				
09. 6C-Tim positio	278.0°	19. Haf needle full	100°																				
10. 8 shuttle pos	20°	20. Haf needle hal	310°																				

[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save
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【01.Tim advance】 the angle value, the position below Tim advance. In view of the response time of Tim shuttle, it is generally set as 100;

【02.Tim overlap】 invalid

【03.sinker center】 invalid

【04.1C-Tim position】 the peripheral position of 1C Tim shuttle. The machine zero needle targets at the position of Tim shuttle. Fill in the angle value.

【05.2C-Tim position】 the peripheral position of 2C Tim shuttle. Ditto.

【06.3C-Tim position】 the peripheral position of 3C Tim shuttle. Ditto.

【07.4C-Tim position】 the peripheral position of 4C Tim shuttle. Ditto.

【08.5C-Tim position】 the peripheral position of 5C Tim shuttle. Ditto.

【09.6C-Tim position】 the peripheral position of 6C Tim shuttle. Ditto.

【10.8 shuttle position】 the position of 8 shuttle. Ditto.

【11.shuttle angle】 the distance angle between two neighboring shuttles.

【12.half-bit delay】 the delayed angle after full-bit entry of shuttle, switch to half-bit.

【13.loosened position】 the loosened position without advance.

【14.loose ahead】 the advance of loose ahead action.

【15.elastic device position】 elastic position.

【16.overlap of elastic shuttle】 the overlap angle upon switch of double-color elastic shuttle.

【17.left pick position】 the position of left pick bit.

【18.right pick position】 the position of right pick bit.

【19.Haf needle full】 the position of Haf needle full.

【20.Haf needle half】 the position of Haf needle half.

Note: the position of heel with preparation for automatic quit of Tim shuttle is the peripheral position of Tim shuttle.

Click “resetgas valve”, switch to the setting interface of parameters related to resetgas valve where the gas valve being set refers to the gas valve mark being compulsively input through compulsive reset in interface operation;

The screenshot displays the control interface of the MD-C310A Seam Integrated Hosiery Machine. At the top, the status bar shows 'AA. MAC', 'Angle: 192.0', navigation arrows, 'Mac File Edit', and 'Run'/'Return' buttons. Below this is a menu bar with 'Mac param', 'Actuator set', 'Peripheral set', 'Reset valve' (highlighted in red), 'User param', and 'Seam param'. The main display area shows a grid of parameters. On the left, under 'I:', there is a 6x4 grid of values. The first row has '71' (highlighted in pink), '83', '113', and '126'. The subsequent rows contain '57', '135', '49', '0' and four rows of '0's. On the right, there is a 6x3 grid of buttons labeled 1 through 9, '+/-', and a decimal point. At the bottom, a row of function keys is visible: [F1] Mac param, [F2] Elastic set, [F3] Step set, [F4] Alarm set, [F5] Quick reset, [F6] Default, and [MEM] Save.

Mac param	Actuator set	Peripheral set	Reset valve	User param	Seam param
I:	71	83	113	126	
	57	135	49	0	1 2 3
	0	0	0	0	4 5 6
	0	0	0	0	7 8 9
	0	0	0	0	0 +/- .
	0	0	0	0	

Click “user parameter”, switch to the setting interface of user parameter.

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run	Return												
Mac param	Actuator set	Peripheral set	Reset valve	User param	Seam param														
01. Speed gain	100%	11. The jog speed	20	<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>+/-</td><td>.</td></tr> </table>				1	2	3	4	5	6	7	8	9	0	+/-	.
1	2	3																	
4	5	6																	
7	8	9																	
0	+/-	.																	
02. fallhock alarm	Off	12. Slow speed	80																
03. Screen time	30Min	13. Medium speed	220																
04. Auto refueling	On	14. Fast speed	340																
05. refueling mode	Time	15. Scissors rate	100%																
06. refueling time	10Min	16. Needle speed	280																
07. refueling keep	5Sec	17. Needle advance	7.0°																
08. parking speed	Slow	18. Density follows	Pat																
09. parking pos	0°																		
10. boot aging	Off																		

[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save
----------------	------------------	---------------	----------------	------------------	--------------	------------

【01.speed gain】 the percentage of actual speed.

【02.falhock alarm】 switch of fallhock alarm, including hosiery fallhock and seam fallhock.

【03.screen time】 screen time.

【04.auto refueling】 start the mode of auto refueling.

【05.refueling mode】 including three refueling modes, time, yield and cycle.

【06.refueling time】 the time mode refers refueling interval. The yield mode refers to add once for every several hocks. The cycle mode refers to add once for every several cycles.

【07.refueling keep】 refueling keep time with second as the unit.

【08.parking speed】 the fast mode and the slow mode is optional for the parking mode. The servo excitation is directly released in the fast mode while there is speed control in the slow mode.

【09.parking position】 setting of parking angles.

【10.boot aging】 enable the pre-heat mode of needle selector upon boot.

【11.jog speed】 the revolving speed in jog.

【12.slow speed】 the default speed of the hit action.

【13.medium speed】 for control strip.

【14.fast speed】 for control strip.

【15. scissor-board rate】 the default rate when scissors board motor is not controlled.

【16.speed of auto needle selector】 the revolving speed upon start-up of needle selector alignment algorithm.

【17.advance of auto needle selector】 the advance calculation upon start-up of needle selector alignment

algorithm.

【18.density parameter follows】 density parameter allocate system internal gears or pattern itself owns the density parameter.

Click “seam parameter”, switch to the setting interface of seam parameters.

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run	Return												
Mac param	Actuator set	Peripheral set	Reset valve	User param	Seam param														
01. Calibration mod	Off	11. Remove 5 pos	3200	<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>+/-</td><td>.</td></tr> </table>				1	2	3	4	5	6	7	8	9	0	+/-	.
1	2	3																	
4	5	6																	
7	8	9																	
0	+/-	.																	
02. slowdown ahead	+40	12. Wait for 6 pos	3000																
03. Sewing machine	22	13. Wait for 7 pos	680																
04. seam barrel	220	14. flip sock 8 pos	2500																
05. needle width	0.5	15. Reset 9 pos	200																
06. 1st needle pos	270	16. Compensation	0°																
07. Socks 1 pos	170	17. Error tolerance	0.5°																
08. Socks 2 pos	335	18. Set sock 10 pos	5																
09. Socks 3 pos	2200	19. Start Frequency	25																
10. Socks 4 pos	2800	20. Quick mode	On																

[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save
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【01.calibration mode of seam gear】 the calibration for the start-up of the final needle of the seam gear; divide the error between the first needle and the final needle averagely.

【02.seam parking deceleration advance】 the advance of seam parking.

【03.gear number of seam motor】 the gear number of seam motor

【04.gear number of seam cylinder】 the gear number of seam gear

【05.needle width upon seam accomplishment】 upon seam accomplishment, the width of each needle with seam as the unit.

【06.1st needle position】 the position of the 1st needle of seam motor with pulse as the unit.

【07.socks 1 position above and under the swing arm】 There are five positions above and under the swing arm. Please understand combined with the machine.

【08.socks 2 position above and under the swing arm】 There are five positions above and under the swing arm. Please understand combined with the machine.

【09.socks 3 position above and under the swing arm】 There are five positions above and under the swing arm. Please understand combined with the machine.

【10.socks 4 position above and under the swing arm】 There are five positions above and under the swing arm. Please understand combined with the machine.

【11.remove 5 positions above and under the swing arm】 There are five positions above and under the swing arm. Please understand combined with the machine.

【12.wait for 6 positions on the left and right of the swing arm】 the waiting position after removing the needle cylinder on the left and right of the swing arm.

【13.wait for 7 positions above and under the tongs】 position 1 of flick sock above and under the tongs.

【14.flick sock 8 positions above and under the tongs】 position 2 of flick sock above and under the tongs.

【15.reset 9 positions above and under the tongs】 the waiting position when the tongs does not work.

【16.setting of seam parking compensation】 seam parking compensation with angle as the unit.

【17.tolerance for seam parking error】 the alarm value of seam parking error.

【18.set sock 10 positions on the left and right of the swing arm】 the position of set socks on the left and right of the swing arm and seam gear.

【19.the start frequency on the left and right of the swing arm】 the start working frequency on the left and right of the swing arm.

【20.quick mode of seam action】 seam modes are divided into slow mode and quick mode. The slow mode only executes the next step upon accomplishment of the alarm time in executing the seam action. The quick mode can immediately quit the delay as long as the alarm signal is in place in the alarm time of executing the seam action.

5.2.2 Elastic Setting

Press  to enter the setting interface of elastic in the interface of “machine parameter edit”.

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run	Return
No. 1 rubber				No. 2 rubber			
	Working d	Exit delay					
Elastic motor:	0°	250°					
Elastic shuttl:	0°	0°		1 2 3			
Elastic half:	0°	0°		4 5 6			
Elastic full:	0°	0°		7 8 9			
Elastic scis:	0°	60°		0 Backspace			
Elastic dev:	0°	250°					
Eyebrows half:	0°	0°					
Eyebrows full:	0°	0°					
T1 jacquard:	0°	0°					
[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save	

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run	Return
No. 1 rubber				No. 2 rubber			
	Working d	Exit delay					
Elastic motor:	0°	250°					
Elastic shuttl:	0°	0°		1 2 3			
Elastic half:	0°	0°		4 5 6			
Elastic full:	0°	0°		7 8 9			
Elastic scis:	0°	60°		0 Backspace			
Elastic dev:	0°	250°					
Eyebrows half:	0°	0°					
Eyebrows full:	0°	0°					
T1 jacquard:	0°	0°					
[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save	

Input elastic shuttle into the position=the operation position of elastic device+the operation angle of elastic shuttle

Input elastic shuttle into the position=the quit position of elastic device+the quit angle of elastic shuttle

Input elastic motor into the position=the operation position of elastic device+the operation angle of elastic motor

Input elastic motor into the position=the quit position of elastic device+the quit angle of elastic motor

Input elastic cutter into half-bit position=the operation position of elastic device+the operation angle of elastic cutter half-bit

Input elastic cutter into half-bit position=the quit position of elastic device+the quit angle of elastic cutter

half-bit

Input elastic cutter into full-bit position=the operation position of elastic device+the operation angle of elastic cutter full-bit

Input elastic cutter into full-bit position=the quit position of elastic device+the quit angle of elastic cutter full-bit

Input elastic scissors into the position=the operation position of elastic device+the operation angle of elastic scissors

Input elastic scissors into the position=the quit position of elastic device+the quit angle of elastic scissors

Input elastic transport into the position=the operation position of elastic device+the operation angle of elastic transport

Input elastic transport into the position=the quit position of elastic device+the quit angle of elastic transport

Input elastic eyebrow into half-bit position=the operation position of elastic device+the operation angle of elastic eyebrow half-bit

Input elastic eyebrow into half-bit position=the quit position of elastic device+the quit angle of elastic eyebrow half-bit

Input elastic eyebrow into full-bit position=the operation position of elastic device+the operation angle of elastic eyebrow full-bit

Input elastic eyebrow into full-bit position=the quit position of elastic device+the quit angle of elastic eyebrow full-bit

Input T1 selector bar into the position=the operation position of elastic device+the operation angle of T1selector bar

Input T1 selector bar into the position=the quit position of elastic device+the quit angle of T1selector bar

The settings of elastic shuttle 2 are similar to those of elastic shuttle 1;

5.2.3 Stepper Motor

Press  to enter the setting interface of stepper motor in the interface of “machine parameter edit”, including socks motor, sewing motor and other motor.

AA. MAC		Angle: 192.0		<< Mac File Edit >>		Run		Return	
Socks motor			Sewing motor			Other motor			
	Working	Lock curr	Working f	Reset fre	Range	Dirac	Zero	Dete	
Elastic mo	3.0A	/	/	/	/	Up	/	/	1 2
Syringe de	3.0A	0.8A	3.0K	2.0K	4500	Up	L	/	3 4
Hosiery ga	2.5A	0.8A	2.0K	2.0K	150	Dow	L	ON	5 6
Head mov	5.0A	1.0A	6.0K	5.0K	12300	Up	H	OFF	7 8
Scissors di	1.0A	5.0A	2.0K	/	/	Dow	/	/	9 0
Settlemen	1.5A	0.4A	3.0K	1.3K	700	Up	L	OFF	Back
Sinker mot	1.2A	0.5A	3.0K	1.0K	370	Up	L	ON	spac
Seam flap	2.0A	0.8A	2.0K	1.0K	140	Dow	L	ON	.
[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Defaul t	[MEM]Save			

【working current】 the current value when the stepper motor is working.

【locking current】 the current value when the stepper motor is not working.

【working frequency】 the frequency value when the stepper motor is working.

【reset frequency】 the frequency value when the stepper motor returns to zero.

【range】 the maximum position that the stepper motor can execute.

【direction】 the forward and reverse adjustment of the stepper motor.

【zero position】 the direction of zero position of the stepper motor.

【detection】 encoder out-of-step alarm opens.

AA. MAC Angle: 192.0 << Mac File Edit >>										Run Return	
Socks motor			Sewing motor				Other motor				
	Working	Lock curr	Working f	Reset fre	Range	Direc	Zero	Dete			
Socks swin	5.0A	1.5A	8.0K	2.0K	4000	Up	H	/	1	2	
Socks up a	5.0A	1.5A	8.0K	1.0K	10070	Up	H	ON	3	4	
Grip up an	5.0A	1.5A	4.0K	2.0K	3030	Up	L	/	5	6	
Swing arm	5.0A	2.0A	5.0K	1.0K	6490	Up	L	ON	7	8	
Arm up an	5.0A	2.0A	4.0K	1.0K	6140	Dow	L	ON	9	0	
Head Sewi	2.0A	1.0A	1.0K	1.0K	400	Dow	L	/	Back	spac	
Sewing m	3.0A	1.5A	4.0K	1.0K	20000	Dow	L	ON			
Flip motor	2.4A	1.0A	15.0K	5.0K	2840	Dow	L	/			

[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save
----------------	------------------	---------------	----------------	------------------	--------------	------------

AA. MAC Angle: 192.0 << Mac File Edit >>										Run Return	
Socks motor			Sewing motor				Other motor				
	Working	Lock curr	Working f	Reset fre	Range	Direc	Zero	Dete			
Left edge	2.0A	1.0A	4.0K	2.0K	4000	Up	H	ON	1	2	
Right edge	2.0A	1.0A	4.0K	2.0K	11000	Dow	H	OFF	3	4	
									5	6	
									7	8	
									9	0	
									Back	spac	

[F1] Mac param	[F2] Elastic set	[F3] Step set	[F4] Alarm set	[F5] Quick reset	[F6] Default	[MEM] Save
----------------	------------------	---------------	----------------	------------------	--------------	------------

5.2.4 Alarm Setting

Press **F4** to enter the setting interface of the stepper motor in the interface of “machine parameter edit”, including socks alarm and alarm seam.

AA. MAC
Angle: 192.0
<<
Mac File Edit
>>
Run
Return

Socks alarm

Alarm seam

No.	Name	Enable	Sensitivity
001	Drop Electrical	ON	15
002	Press Needle L	ON	1
003	Press Needle R	ON	1
004	Kint Sock Out	ON	1
005	Left Rhombic Half	ON	3
006	Hyper Needle Knife	ON	3
007	Needle Knife 1	OFF	3
008	Live Collaterals	ON	3

Enabled fully open
Enable full off
Sensitivity Modify

1 2 3 4
5 6 7 8
9 0 Backspace

[F1] Mac param [F2] Elastic set [F3] Step set [F4] Alarm set [F5] Quick reset [F6] Default t [MEM] Save

AA. MAC
Angle: 192.0
<<
Mac File Edit
>>
Run
Return

Socks alarm

Alarm seam

No.	Name	Enable	Sensitivity
001	Sock Tube Swing Lock	ON	3
002	Pressure Up	ON	3
003	Pressure Down	ON	3
004	Slotting Scissors	ON	3
005	Stitch Tension	OFF	3
006	Spiny Press	ON	3
007	Rise Lock Out	ON	3
008	Rise Lock In	ON	3

Enabled fully open
Enable full off
Sensitivity Modify

1 2 3 4
5 6 7 8
9 0 Backspace

[F1] Mac param [F2] Elastic set [F3] Step set [F4] Alarm set [F5] Quick reset [F6] Default t [MEM] Save

【enable】：switch alarm.

【sensitivity】：1-9999, set the sensitivity of alarm, unit: 0.5ms.

【enabled fully open】：turn on all the alarms on the current interface at one click.

【enable full off】：turn off all the alarms on the current interface at one click.

【sensitivity modify】：modify the sensitivity of all the alarms at one click.

5.2.5 Quick Reset

Press **F5** to enter the interface of quick reset chain edit on the interface of “machine parameter edit,

Press quick reset for allocation in hosiery.

Allocate in seam test.

5.2.6 Seam Alignment

75

AA. MAC
<< Seam Action Editor >>
Run
Return

Combination na	Action num	Action Nam	Action del	Action com	Reset Acti	Repeat:	Motor	Name	Cmd	Set	Actio Type	Name	Statu		
01. Adjust Pre	1										01.	Valv	139. Pressure	In	Action insert
02.			0ms	Null	Prohibit res	Allow					02.	Valv	-	Out	Action delete
03.											03.	Valv	-	Out	Action clear
											04.	Valv	-	Out	Seam param
											05.	Valv	-	Out	Motor insert
											06.	-	-	-	Motor delete
											07.	-	-	-	Motor clear
											08.	-	-	-	
											09.	-	-	-	
											10.	-	-	-	
											11.	-	-	-	
											12.	-	-	-	

1
2
3
4
5
6
7
8
9
0
+/-
Backs

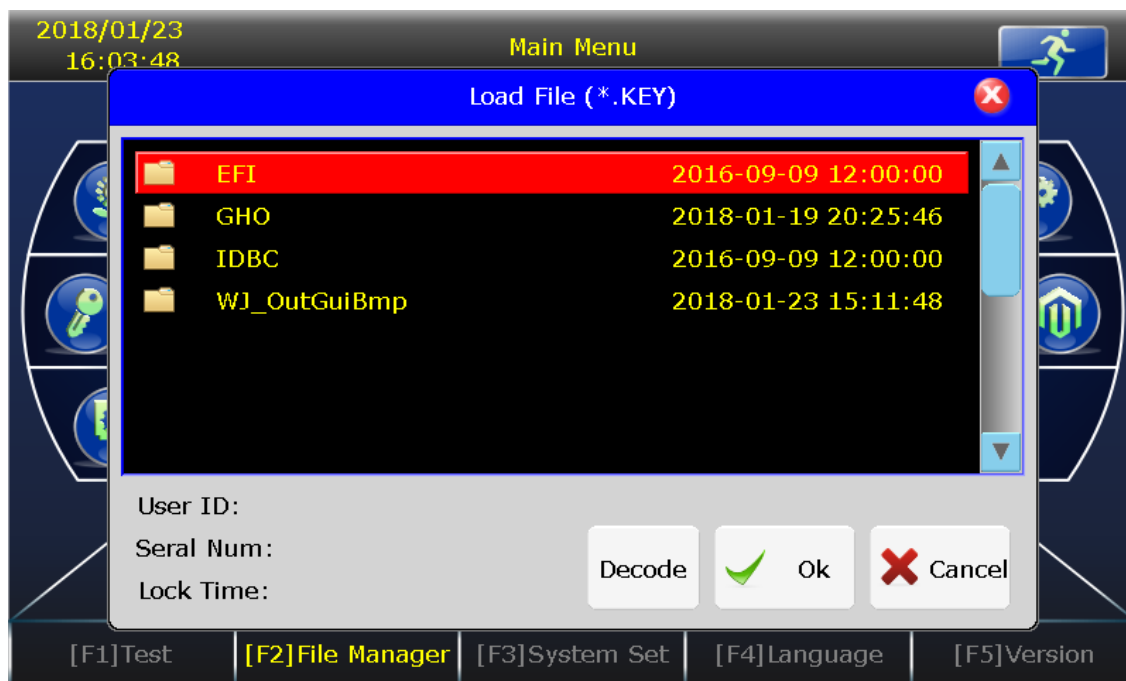
[PU]Page Up
[PD]Page Down
[F1]Insert
[F2]Delete
[F3]Copy
[F4]Paste
[MEM]Save

AA. MAC
<< Seam Action Editor >>
Run
Return
1
2
3
4
5
6
7
8
9
0
+/-
Backs
[PU]Page Up
[PD]Page Down
[F1]Insert
[F2]Delete
[F3]Copy
[F4]Paste
[MEM]Save

The action combination hereof is used for the preparation action and quit action of seam alignment interface. Please refer to 5.1.5 for edit methods.

5.3 Encrypted Files

*this function should be operated under the guidance of professionals from the manufacturer.

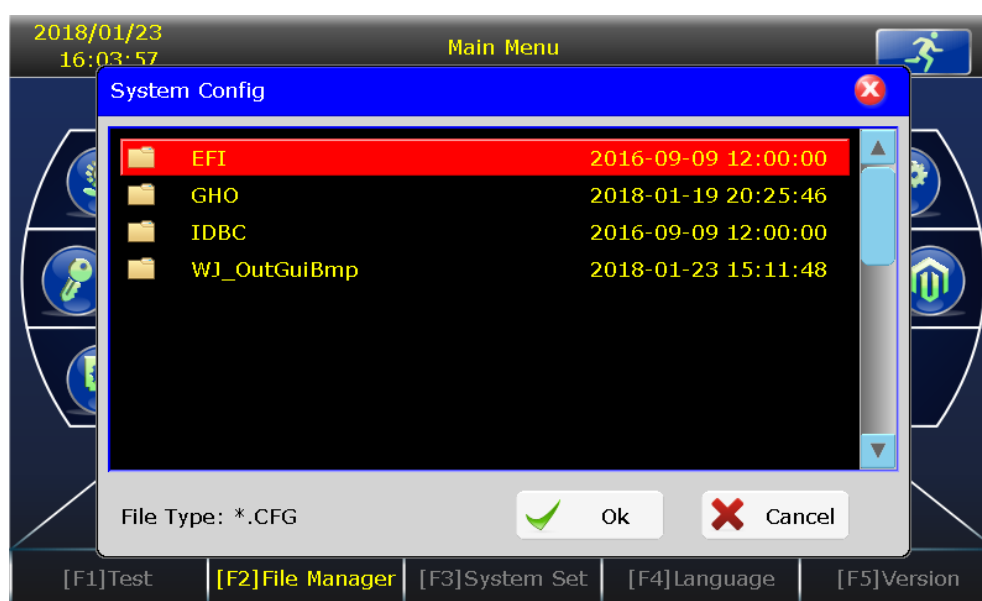


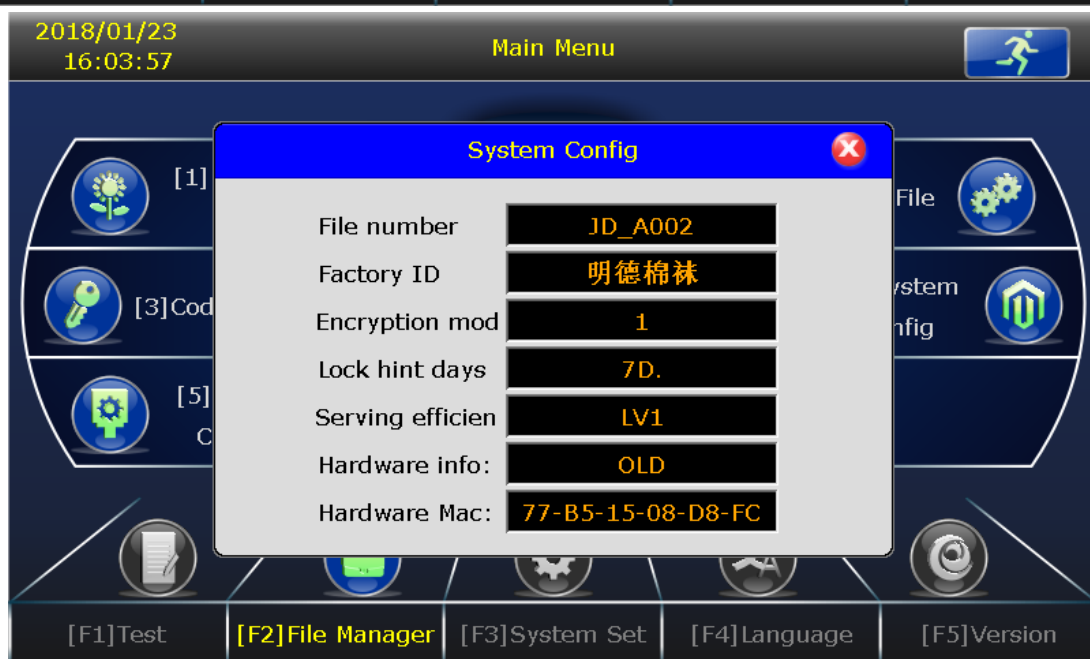
5.4 System Configuration

*this function should be operated under the guidance of professionals from the manufacturer.

*when the system lacks system configuration files, the machine will fail to normally enter the operation state.

*when the information of system configuration files is inconsistent with the manufacturer, the encryption function will be influenced.



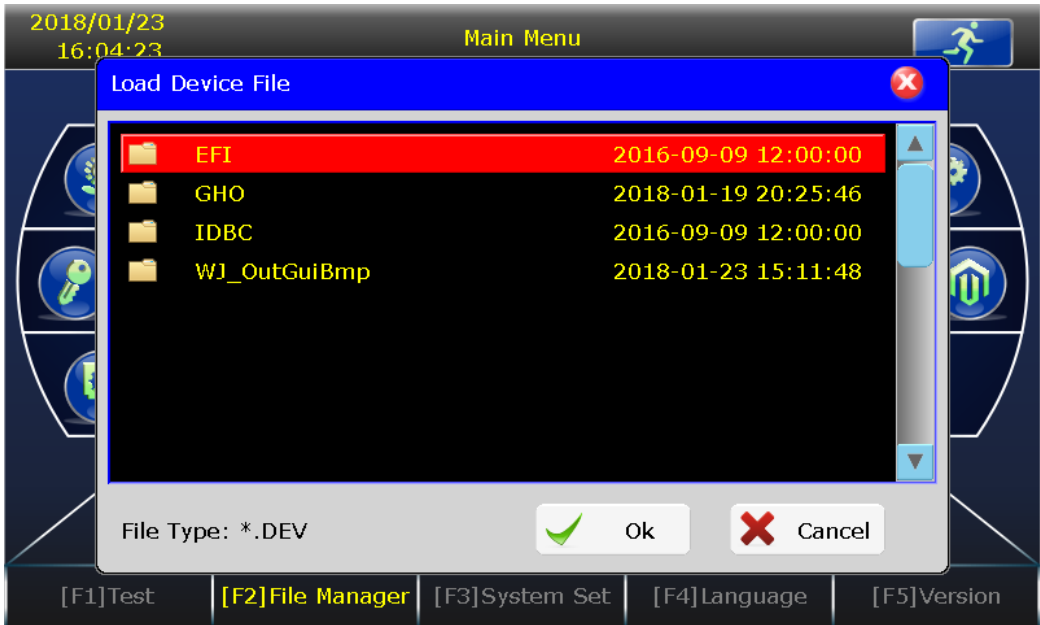


5.5 Device Configuration

Press **5** to enter the input interface of device configuration files on the management page on the primary menu

Chapter 6 System Setting Menu

Press **F3** in the primary menu; switch to the system setting page; choose to enter the following interfaces: servo setting, electric eye setting, needle arrangement, device management.



6.1 Servo Setting

Press **1** on the system setting page on the primary menu to pop up the password box; enter the interface of servo setting after inputting the correct password.

All the relevant parameters are made up of three pages, as shown in the figure below in detail. Please refer to the servo introduction for the introduction of each parameter as there will be no more details.

2018/01/23 16:04:37		<< Servo Set >>		Return							
P1-027: Overcurrent protection t	35000	P1-118: Electronic gear molecule	1								
P1-029: Overvoltage protection t	380	P1-119: Electronic gear denomin	1								
P1-030: Undervoltage protection	180	P1-141: Overload protection thre	100								
P1-031: DC enable voltage [V]	180	P1-142: Overload protection time	1000								
P1-055: Speed loop forward Max	+500	P1-165: Motor direction switchin	0								
P1-056: Speed loop reverse Max	-500	P1-174: Fault type operation	0								
P1-068: Motor Acceleration Time	500	P1-177: Power off parking selecti	0								
P1-069: Motor deceleration time	500	P1-178: Power-off stop hold time	20								
P1-082: Position loop positive Ma	+500	P1-179: Servo parking selection	0								
P1-083: Position loop reverse Ma	-500	P1-182: Parking delay time [ms]	0								
1	2	3	4	5	6	7	8	9	0	+/-	Backs
[PU] Page Up		[PD] Page Dn		[F1] Default		[MEM] Save					

2018/01/23 16:04:37		<< Servo Set >>		Return
P2-000: motor model	1	P2-010: Wirewound resistance [	2950	
P2-001: Rated motor power [W]	1780	P2-011: Wirewound Inductance [	5750	
P2-002: Motor voltage level [V]	220	P2-012: Moment of inertia [mkg.	1	
P2-003: Motor rated current [mA]	6000	P2-013: back EMF [mV/rpm]	313	
P2-004: Maximum motor current	7900	P2-014: pole pairs of motors	10	
P2-005: Rated motor torque [mN	38000	P2-015: Position compensation a	0	
P2-006: Maximum motor torque	42000	P2-016: Zero torque compensati	200	
P2-007: Motor torque constant [	6330	P2-027: PG division ratio	100	
P2-008: Rated motor speed [r/m	500	P2-034: Incremental encoder res	4096	
P2-009: Maximum motor speed [	600	P2-035: Encoder type	0	
1 2 3 4 5 6 7 8 9 0 +/- Backs				
[PU] Page Up		[PD] Page Dn		[F1] Default [MEM] Save

2018/01/23 19:51:23		<< Servo Set >>		Return
P3-002: Position loop proportiona	600	P3-036: Current loop integration	100	
P3-003: Position loop integration	400			
P3-004: Position loop feedforwar	1000			
P3-015: Speed loop proportional	950			
P3-016: Speed loop integration ti	200			
P3-017: Speed loop feedforward	500			
P3-028: Move 1 ratio	1000			
P3-029: Move 2 ratio	200			
P3-030: Move 3 ratio	200			
P3-035: Current loop proportiona	80			
1 2 3 4 5 6 7 8 9 0 +/- Backs				
[PU] Page Up		[PD] Page Dn		[F1] Default [MEM] Save

There has been a set of default general parameters when the whole system leaves the factory so it is not necessary to modify the parameters under general circumstances. If modification is needed, please modify under the guidance of professionals.

6.2 Electric Eye Setting

Press  to enter the setting interface of electric eye parameters on the system setting page on the primary menu.

2018/01/23 19:51:57		<< BTSR Set >>		Return
01. Number of jobs[1~36]		10	02. Breakout threshold[1	
03. Winding threshold [1		20	20	

Sensitivity		Detection time		Start Frequency		Stop frequency	
#01	5	#05	5	#09	5	#13	0
#02	5	#06	5	#10	5	#14	0
#03	5	#07	5	#11	0	#15	0
#04	5	#08	5	#12	0	#16	0

[F1] status refresh	[F2] Relocated	[F3] Relearning	[F4] Automatic test	[F5] default param	[F6] save param
---------------------	----------------	-----------------	---------------------	--------------------	-----------------

After entering the interface, the cursor appears at “**working quantity of electric eyes**” by default; input the quantity of electric eyes necessary for use with maximum support for 36 electric eyes. Move the cursor to set “**failure threshold of electric eye**” and “**winding threshold of electric eye**”.

“**failure threshold of electric eye**” refers to the allowable frequency of continuous errors in the electric eye with yarn working in operation. If alarms of electric eye errors appear frequently in operation, please appropriately enlarge the numerical value.

“**winding threshold of electric eye**” refers to the allowable frequency of continuous errors when the yarns are moving but not working in normal operation. If alarms of electric eye errors appear frequently in operation, please appropriately enlarge the numerical value.

“**sensitivity**” can be adjusted according to different working situations: set 1 for very thick yarns; set 3 for thick yarns; set 4 for medium yarns; set 5 for thin yarns; set 8~10 for very thin yarns. “**detection time**”, “**start frequency**”, “**stop frequency**” should be set according to default parameters.

Press F1 for state refresh. Press F2 to enter the edit state. The controller issue the coding order and the green indicators of corresponding sensors flicker, indicating the sensors are preparing for coding. Block the touch light area of the sensors with fingers. The indicators of sensors transform from flickering green lights to red lights that keep on. The edit accomplishes. If the setting fails, please repeat.

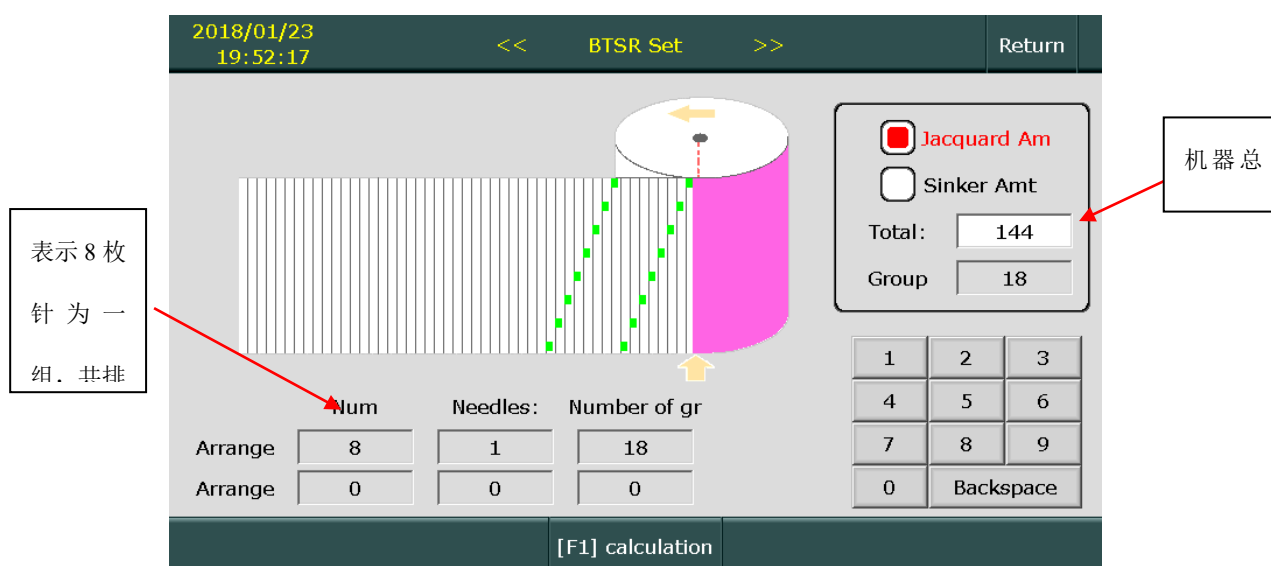
Introduction of indicators on the electric eye:

	LED 颜色	说明
	绿色指示灯亮起	纱线在感应器里运行，感应器检测到错误；
	红色指示灯亮起	纱线在感应器里停止运行；
	绿色指示灯闪烁	系统处在编号状态
	红色指示灯闪烁	机器运转过程中检测到一个错误： BROKE: 断纱 UNCUT: 未切纱线<多纱>
	红、绿指示灯都亮	停掉感应器，关闭后再打开系统，如果这状态依然持续，更换感应器；
	红、绿指示灯都闪烁	在感应器里指示一个技术的错误（数据丢失），尝试重新编程感应器，如果不行，更换感应器。

6.3 Needle Arrangement

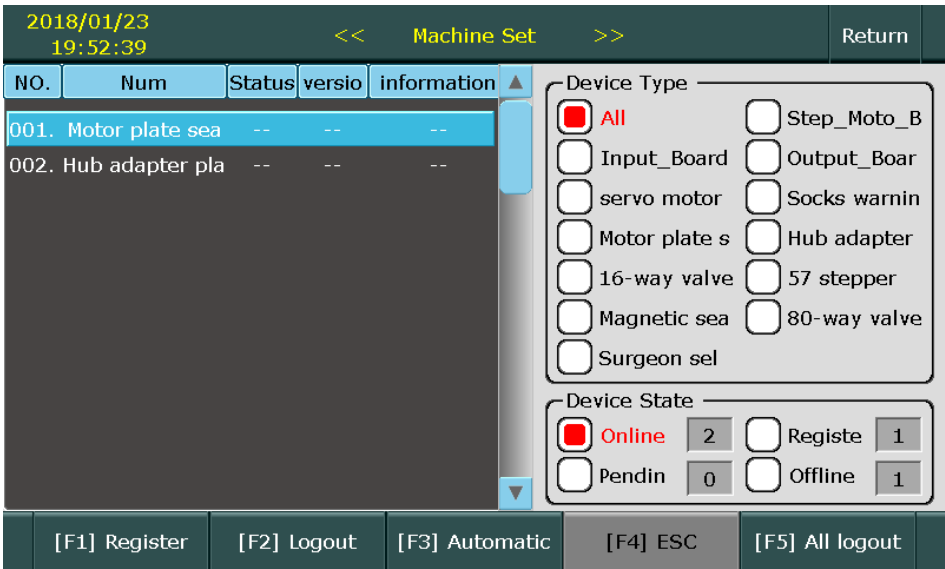
Press  to enter the arrangement interface of selector bar on the system setting interface on the primary menu.

The arrangement way of the selector bar is shown in the figure below. Taking the machine with total needle number of 144 as the example, the 8-section needle selector is used, which is divided into 18 groups. It is a must to orderly install the selector pieces according to the displayed quantity in machine installment. Upon choosing “**Sinker Arrangement**”, it is possible to notice the arrangement information of Sinkers of the machine, which is only for reference and cannot be modified.

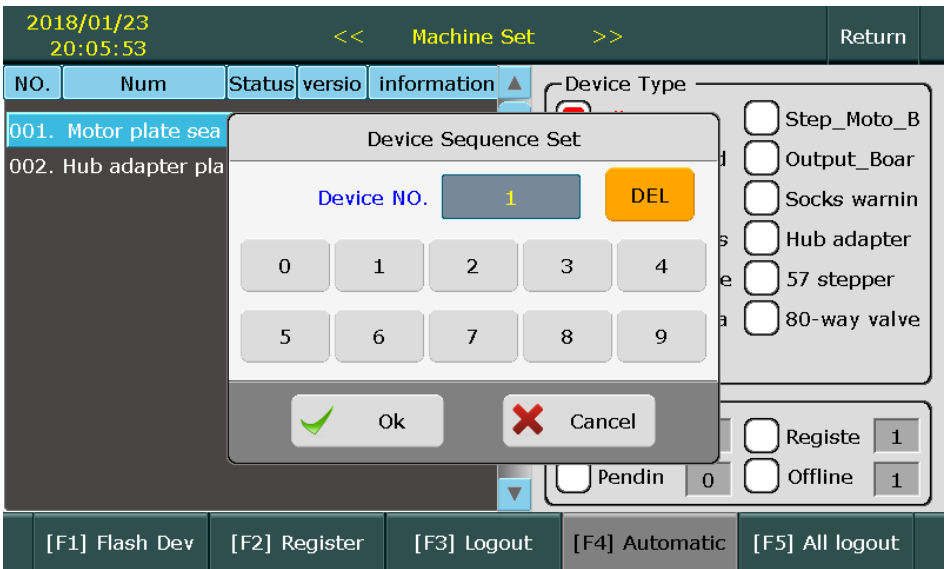


6.4 Device Management

The system is majorly featured in the registration system applied to management of hardware module. It is possible to choose the hardware modules flexibly according to machine type. The total number of hardware for each type depends on the device configuration files.

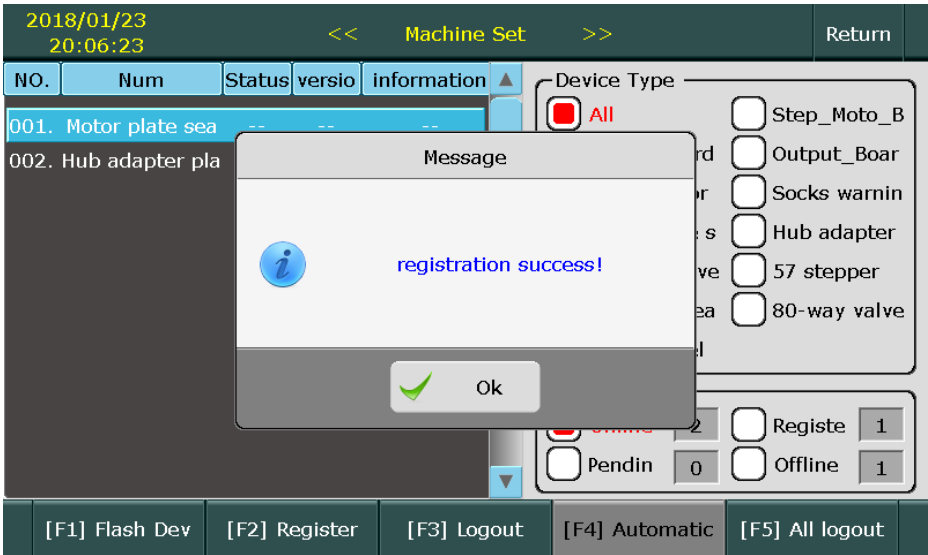


As shown in the figure above: there are four boards connected to the system communication bus, including two 8-road gas valve boards, one seam motor board and one Hub patching board. The 8-road gas valve board on the top is under the chosen state. Various hardware types can be seen in device type. It can be noticed that there are 4 devices available for registration now and others all remain zero.

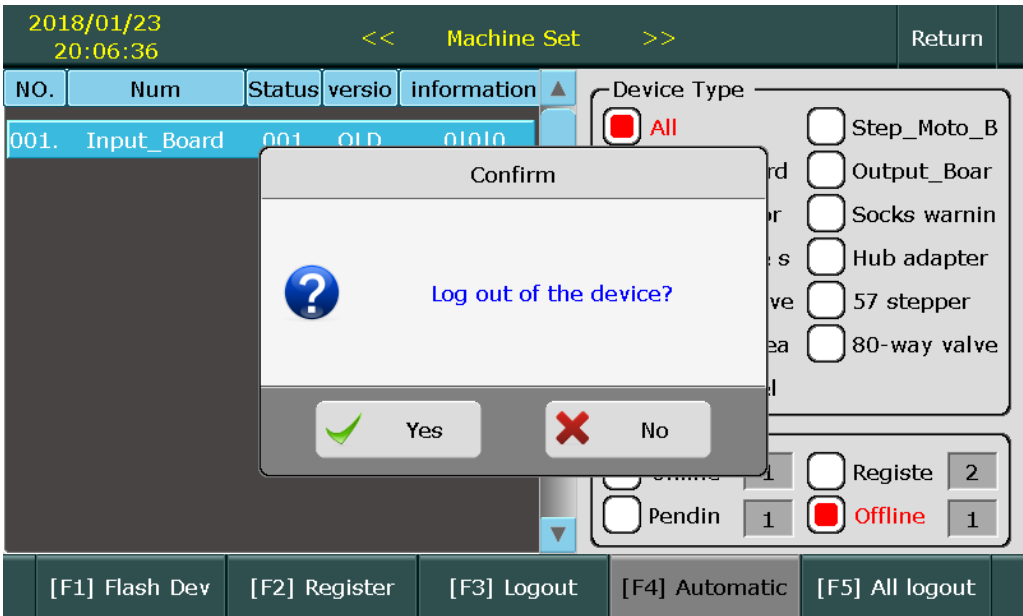


Press **F1** for device refresh. If there is one registered board becoming off-line after the system is electrified, it is necessary to enter this interface to refresh the state for automatic re-registration and refresh of module parameters. Press **F2** for registration of new devices. Taking the chosen 8-road gas valve board as the example, the dialogue box in the figure below will pop up after pressing the button. At that time, the

flickering operation indicator on the chosen circuit board keeps on. According to specific situations, the number of the chosen circuit board is set. Press the OK button for registration. There will be a notice for successful registration if succeeds. By then, it is possible to notice that those available for registration become 3 with 1 registered state, 1 online state and 0 offline state.



Then, register other boards in order. After accomplishing the registration, if it is necessary to change a certain circuit board, please choose this circuit board first and press **F3** to cancel. Cut off the power supply; change the circuit board; turn on the power supply, register according to the previous steps. In the figure below, if the device is canceled successfully, the number available for registration will become 1 and the registered and online number will become 3 with 0 offline state.



Chapter 7 Language Setting Menu

Press  button to pop up language setting menu, click corresponding language item, press  to display the language set.

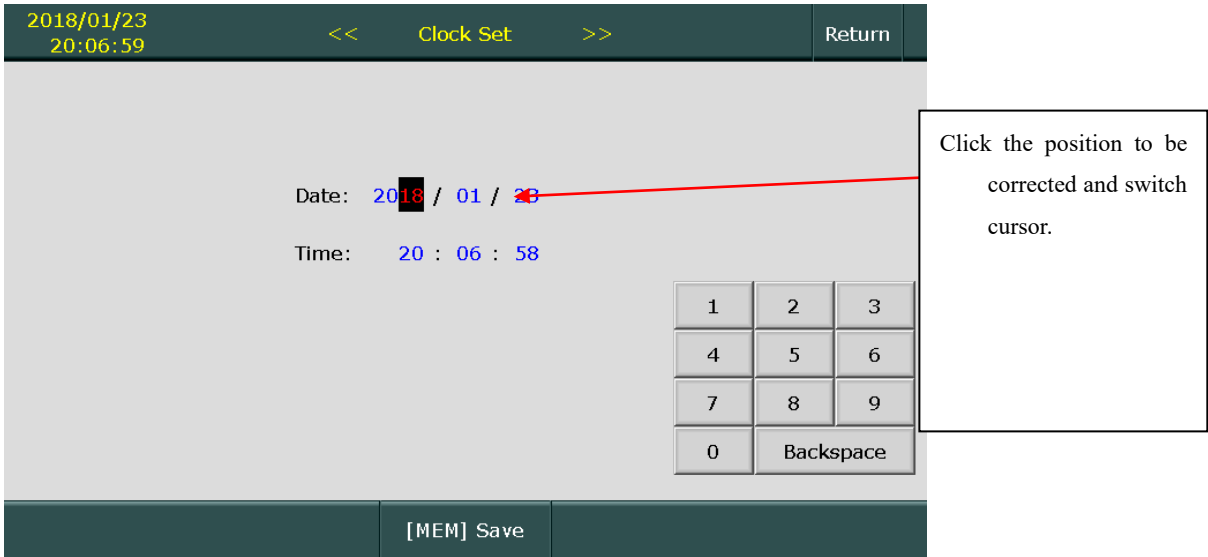


Chapter 8 Version Information Menu

Press  button in the main menu, switch to the version information management page.

8.1 Clock setting

In the system setting page in the main menu, press  to pop up password case, input correct password and then enter setting interface.



After setting the time to the right time, press  button to pop up confirmation case, and press  button to save the corrected system time.

8.2 Touch screen proofreading

In the system setting page of main menu, press  to pop up password case, input correct password and then enter the touch screen proofreading interface, click cross cursor appeared in proper order by touch pen according to prompt message, there are three points in total.

*When using, please proofread the touch screen timely in the case of touch screen position displacement.

8.3 Version Management

In the version management page of pain menu, press  button to enter version and update interface.

*The expanded-name of upgrade package file is .OUT

*When the upgrade bar is grey, it suggests that version in the upgrade package file mismatches with the current version. It is not allowed to upgrade corresponding program.

2018/01/23 20:07:11 << Program Update >> Return

Type	No	Version	Update	Update Version
System board	1	A.MXTA.MD-T.01.22.02 2018-01-23	APP ☒	A.MXTA.MD-T.01.21.78 2018-01-18
Motor plate seam	1	A.SFTA.PB-A.01.09.17 2018-01-19	APP ☐	A.SFTA.PB-A.01.09.08 2017-09-13
Hub adapter plate	--	A.SHBA.PB-A.01.00.01 2017-10-24	APP ☐	

[PU] Page Up [PD] Page Dn [F1] All [F2] None [F3] Import [F4] Updata

2018/01/23 20:08:02 << Import Res >> Return

EFI	2016-09-09 12:00:00
GHO	2018-01-19 20:25:46
IDBC	2016-09-09 12:00:00
WJ_OutGuiBmp	2018-01-23 16:14:58
WJ_OutGuiBmp1	2018-01-23 15:11:48

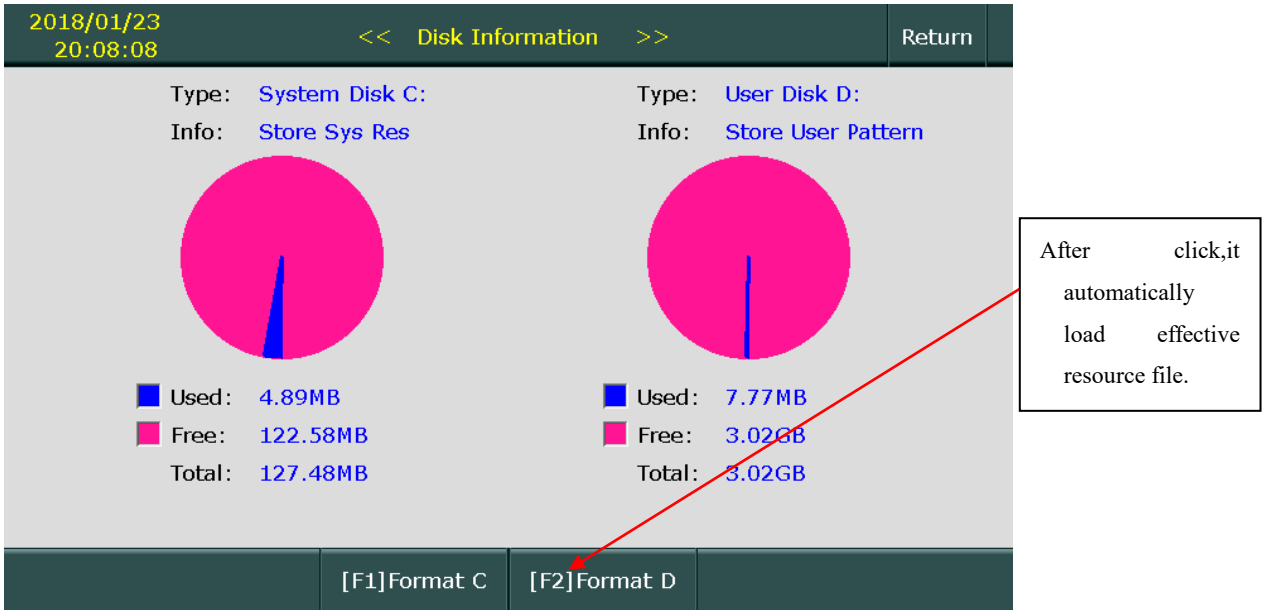
[F1]Load Res

When upgrade, insert USB FLASH DISK with upgrade package file, press **F3** button to pop up password case, enter correct password and it displays file dialog box. Click upgrade package file (.OUT) and press **ENTER** to load upgrade package. When load completes, update version bar will display the corresponding update program information in the upgrade package. If the file version to be upgraded is advanced to the current version, it will automatically click the upgrade choice box of corresponding program (it can be operated manually). And press **F4** button again, input correct password and then the system will execute corresponding upgrade and display corresponding prompt message. **After upgrade, the version is same as the information in the version that can be upgraded.**

8.4 Import resource

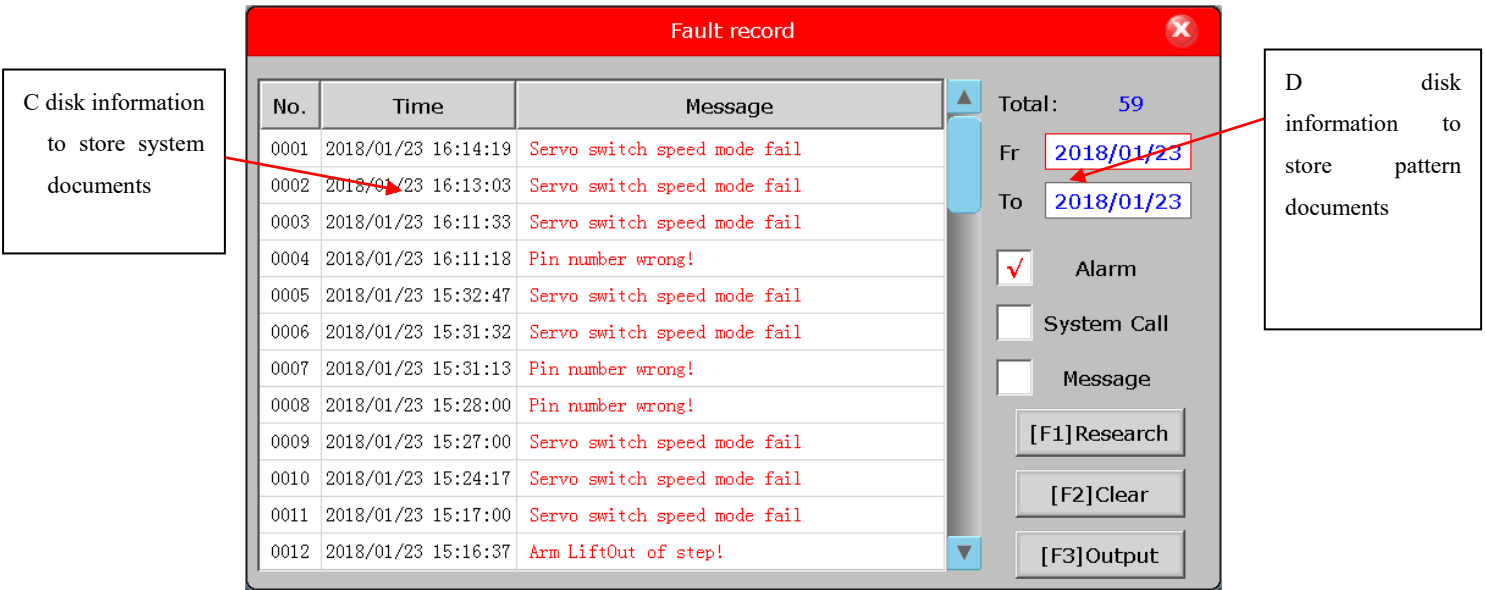
In the version information page in the main menu, press **2** button and input correct password, and then enter import resource file interface

*When system text and picture displays normally, please try to execute import resource file



8.5 Disk information

In the version information page in the main menu, press **3** button to enter disk information interface



When the total capacity of the disk is 0, please try to execute corresponding formatting operation.

When it suggest error while loading any file from USB FLASH DISK to system, please try to execute corresponding formatting operation.

*After formatting disk, corresponding file in the disk will all be lost.

8.6 Fault Log

In the version information page of the main menu, press

4

 button to enter fault log interface

The system can store 320 pieces of records to the maximum. When the record is full, the records recorded later will cover the records recorded before.

Fault occurrence time

Fault content

Swipe in this area for page turning

Fault record

No.	Time	Content
0001	2018/01/23 16:14:	
0002	2018/01/23 16:13:	
0003	2018/01/23 16:11:	
0004	2018/01/23 16:11:	
0005	2018/01/23 15:32:	
0006	2018/01/23 15:31:	
0007	2018/01/23 15:31:	
0008	2018/01/23 15:28:	
0009	2018/01/23 15:27:	
0010	2018/01/23 15:24:	
0011	2018/01/23 15:17:00	Servo switch speed mode fail
0012	2018/01/23 15:16:37	Arm LiftOut of step!

Start date

2018 / 01 / 23

1 2 3 4 5 6 7 8 9 0 Backspace

Ok Exit

Total: 59

Fr 2018/01/23 To 2018/01/23

☒ Alarm

☐ System Call

☐ Message

[F1]Research

[F2]Clear

[F3]Output

Number of records that meet conditions

Selection time, ignore it when any of items is 0

Fault type selection

Select assigned fault content

Click time and pop up selection time setting interface, ignore it when any of items is 0.

Start date

2018 / 01 / 23

1 2 3 4 5 6 7 8 9 0 Backspace

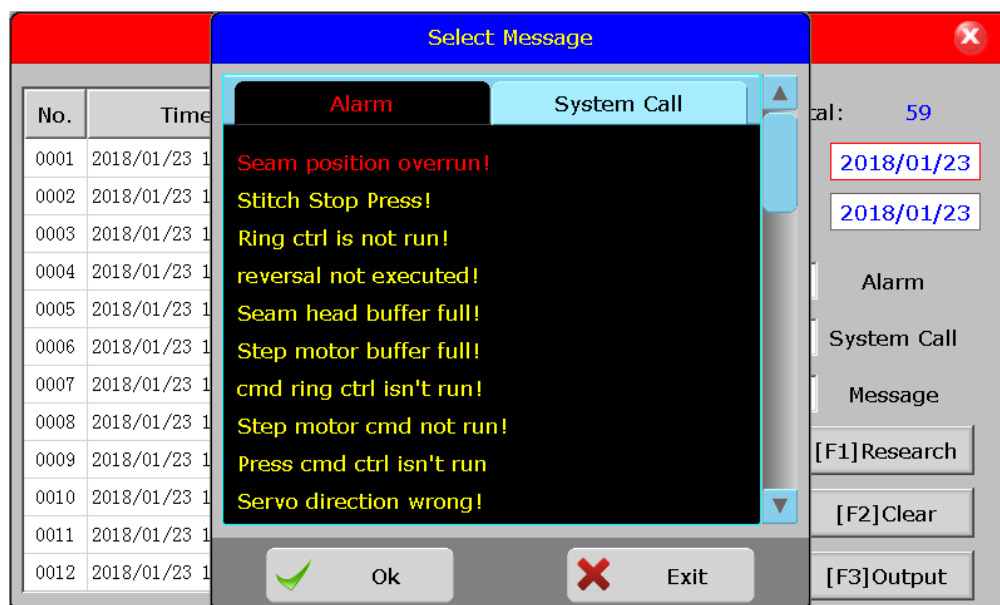
Ok Exit

Click

☐ 记录信息

 and pop up fault record content selection choice box, click selection content and

then press  button to display designated fault information record. Press  button to cancel fault content selection.



Chapter 9 Alarm Description

9.1 System Alarm

Alarm No.1-200 is system internal alarm and alarm whose number is above 200 is external alarm which can be defined by user according to configuration file.

No.	Alarm name	Note
1	Zero needle abnormality!	
2	Total Needles!	
3	Needle offset!	The system must reset.
4	No probe detected!	
5	BTSR (yarn)!	
6	BTSR not connected!	
7	Location is wrong!	
8	X No electric eye detected!	X represents number of electric eye.
9	Action data error!	
10	Press the stop switch!	
11	Temperature is too high!	
12	Forward pos too large!	
13	Reversing pos too large!	
14	Pin number wrong!	
15	The buffer is full!	

16	Chain check wrong!	
17	Action set wrong!	
18	Sel needle data wrong!	
19	Position wrong!	
20	Do not edit!	
21	Density data error!	
22	Less than 2 steps!	
23	an invalid step!	
24	no start, end the pace!	
25	Chain set is incorrect!	
26	Socks with set error!	
27	Circle control error!	
28	Reset chain exception!	
29	Forward pos is not over!	
30	Reverse pos is not over!	
31	XX Action not finished!	XX means motor name
32	Zero exception!	
33	Out of step!	
34	The limit!	
35	Overcurrent protection!	
36	Position shift!	
37	Not set electronic zero!	
38	Not in zero position!	
39	Anomaly detection zero!	
40	Now-Val is not compare to System!	
41	Act Time Out!	
42	Zero vaule error!	
43	Lift detection buf full!	
44	Head motor is not reset!	
45	Seam head data out!	
46	Hafu Futu off exception!	
47	Please jog,sure to work!	
48	This site can not lift!	
49	XX Offline or registration!	XX represents device type and serial number.
50	Servo error:	
51	Seam position overrun!	After stitch shut-down, error exceeds machine parameter setting error range.
52	Stitch Stop Press!	
53	Ring ctrl is not run!	
54	reversal not executed!	
55	Seam head buffer full!	

56	Step motor buffer full!	
57	cmd ring ctrl isn't run!	
58	Step motor cmd not run!	
59	Press cmd ctrl isn't run	
60	Servo direction wrong!	
61	Elastic or Tim Error!	
62	No.XX electric eye broken!	XX represents serial number of electric eye.
63	No. XX electric eye wrap!	
64	Stitch cmd error pin:	
65	Left signal abnormal!	
66	Right signal abnormal!	
67	output to complete!	
68	Shuttle lifted!	
69	scissors 1 not closed!	
70	scissors 2 not closed!	
71	Straight Not Closed!	
72	1 latch did not recover!	
73	2 latch did not recover!	
74	XX Sel overcurrent!	XX represents the serial number of needle selector.
75	XX Sel data sent too fast!	
76	Can start normally!	
77	press <seam start>!	
78	Playing loose pat err!	
79	Servo read param err!	
80	Servo positioning error!	
81	Electric eye cnn error!	
82	No. 1 CAN rate too fast!	
83	No. 2 CAN rate too fast!	
84	Forward encoder error!	
85	Reverse encoder error!	
86	Zero or not completely!	
87	Hover is not in place!	
88	Whether to manually zero	
89	No. 1 CAN receive full!	
90	No. 2 CAN receive full!	
91	No. 1 CAN bus is wrong!	
92	No. 2 CAN bus is wrong!	
93	XX Stitch needlet error:	XX represents the current number of needles during stitch.
94	FT-Moto not in poszieon!	
95	No. 1 CAN Buffer Full!	
96	No. 2 CAN Buffer Full!	

97	No. 1 CAN Send Fail!	
98	No. 2 CAN Send Fail!	
99	HF-Tray Signal is error!	
100	Ele-Down Data Save Sucess!	
101	Ele-Down Data Save Fail!	
102	Ele-Down Data Restore Sucess!	
103	Ele-Down Data Restore Fail!	
104	Servo switch pwm mode fail	
105	Servo switch speed mode fail	
106	Stitch state is not out!	

9.2 Servo Alarm

Alarm description	Note
[E-00] Not defined	
[E-01] Reserved	
[E-02] software ver	
[E-03] Reserved	
[E-04] Reserved	
[E-05] Connect type	
[E-06]Can't Connect	
[E-07] Signal poor	
[E-08] Reserved	
[E-09] Reserved	
[E-10] prohibits	
[E-11] overload	
[E-12] User err 1	
[E-13] System err 1	
[E-14] User err 3	
[E-15] System err 2	
[E-16] password err	
[E-17] Reserved	
[E-18] Reserved	
[E-19] Wrong wiring	
[E-20] Overpressure	
[E-21] undervoltage	
[E-22] Current1 err	
[E-22] Current2 err	
[E-22] Current3 err	
[E-25] is exceeded	
[E-26] EEPROM error	

[E-27] IO error	
[E-28] Pulse error	
[E-29] Reserved	
[E-30] Reserved	
[E-31] Reserved	
[E-32] Reserved	
[E-33] Reserved	
[E-34] Encoder err	
[E-35] Reserved	
[E-36]Can't Connect	
[E-37] Signal poor	
[E-38] ctrl domain	
[E-39] data field	
[E-40] status field	
[E-41] Over temper	
[E-42] checksum	
[E-43] too fast	
[E-44]Battery alarm	
[E-45] lap error	
[E-46] Multi-turn	
[E-47] Signal poor	
[E-48] AB pulse	
[E-49] Z pulse	
[E-50] UVW error	
[E-51] Resolution	
[E-52] Reserved	
[E-53] Reserved	
[E-54] Prohibited	
[E-55] Reset error	
[E-56]doesn't match	
[E-57] soft limit	
[E-58] excessive	
[E-59] adjustment	
[E-60] Reserved	
[E-61] Reserved	
[E-62] Reserved	
[E-63] Reserved	
[E-64] Reserved	
[E-65] Input error	
[E-66] overflow	
[E-67] Input error	
[E-68] position	

[E-69] Sync error	
[E-70] Reserved	
[E-71] Motor error	
[E-72] Motor speed	
[E-73] Motor stall	
[E-74] Moto Error	
[E-75] M overload	
[E-76] motor phase	
[E-77] Motor overt	
[E-78] Reserved	
[E-79] Reserved	
[E-80] transient	
[E-81] Continuous	
[E-82] Regenerated	
[E-83] DB overload	
[E-84] Power Error	
[E-85] Regeneration	
[E-86] regenerative	
[E-87] Reserved	
[E-88] Reserved	
[E-89] Reserved	
[E-90] Reserved	
[E-91] Reserved	
[E-92] Reserved	
[E-93] Reserved	
[E-94] Reserved	
[E-95] Reserved	
[E-96] Reserved	
[E-97] Reserved	
[E-98] Reserved	
[E-99] Reserved	