

# High-speed & Intelligent Glove Knitting Machine

B-Mac 99-7/10/13/15/18/21G

USER MANUAL(4th version)



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## Chapter 1 Overview










Dear users,

Welcome to use our glove knitting machine CNC system (the System). Please read the Manual carefully before using the System in order to use it correctly and keep it properly for further reference.

### 1.1 Safety Precautions





 Caution	Use the power supply marked in the Equipment's nameplate only. A power regulator must be used when power grid fluctuation exceeds $\pm 10\%$ .
 Caution	The incoming power cable must be fixed and protected and free from load.
 Caution	The Equipment must be connected to ground wire reliably; otherwise, it may lead to electric shock or affect the Equipment's

## Chapter 1 Overview

	safety and reliability.
 Caution	Electrical parts must be repaired and debugged by professional electricians; otherwise, it may lower the Equipment's safety, and lead to severer faults and even personal injury and property losses.
 Caution	Do not open the cover plate of case during operation to avoid electric shock, for some parts in case may have high voltage.
 Warning	Make sure to cut off power supply, unplug the power plug from socket before opening the cover plate of case. When power supply is cut off, wait for 1min before touching the parts in case, for the capacitor in case may still be alive, even if the power supply is cut off.
 Prohibited	It is forbidden to touch any moving parts while the Equipment is running; otherwise, personal injury may occur.
 Prohibited	It is forbidden to start production if the protective cover of moving part has a fault.
 Prohibited	It is forbidden to use the Equipment in places with moisture, dust, corrosive gas, inflammable and explosive gas; otherwise, electric shock or fire hazards may occur.
 Prohibited	It is forbidden to perform insulation test directly to the input/output circuit of controller; otherwise, the electrical equipment may be damaged.
 Warning	Use the matched spare parts supplied by the Company only; otherwise, fire hazard, electric shock and major damage may occur.
 Caution	Please replace the fuse in strict accordance with the marked specification, to keep safety of personnel and property.

# Chapter 1 Overview

## 1.2 General Precautions

 Caution	<p>The Equipment's power switch supports overcurrent protection. When overcurrent protection switch is triggered, wait for 3min before closing the switch again.</p>
 Caution	<p>Use the Equipment in a clean and ventilated place. Do not stack sundries around the control case to ensure cooling effect; sweep off dust regularly, if any.</p>
 Caution	<p>The Manual should be modified by adding some attached pages. For any inconsistency between the Manual and the attached page, the latter should prevail.</p>
 Caution	<p>The Company does not bear liability for any consequence due to unauthorized modification of the Equipment.</p>

## 1.3 Main Characteristics

Comparison	Traditional glove knitting machine	Full-auto electronic control glove knitting machine
Control mode	Mechanical transmission control	Full-auto electronic control
Drive mode of machine head	Variable-frequency drive	Fast rotation control of servo
Max. knitting speed of glove finger	180 rpm	300 rpm
Max. shifting speed	150 rpm	200 rpm
Max. knitting speed of four-finger palm	200 rpm	260 rpm
Reset time	8s	3s

## Chapter 1 Overview

Finger reset function	Unavailable	Available
Cylinder control mode	Chain transmission	Step drive
Cam control mode of slotting tool and scissors	Mechanical transmission	Step drive
Glove pattern edit	Unavailable	Available
Infrared length detection	Unavailable	Unavailable
Defect product sorting	Unavailable	Available
Tracking and display of glove knitting	Unavailable	Available
Low-fork knitting	Unavailable	Available

### 1.4 Function Introduction

#### 1.4.1 Speed Regulation

The knitting speed is adjustable.

#### 1.4.2 Broken Yarn Detection

The Equipment will stop automatically and give out audible and visual alarm when yarn is broken or used up.

#### 1.4.3 3-color Function

Support 3-color knitting based on 3-color parameters provided by user; the yarn nozzle is switched at the right side.

#### 1.4.4 Pattern Storage Capacity

The external patterns must be stored in the internal memory prior to knitting. The Equipment's basic storage capacity is 50MB, which can be further expanded based on demands.

#### 1.4.5 Pattern Storage Quantity

The max. storage quantity of pattern is 400 (it varies along with equipment model), which means the max. quantity of patterns which can be stored in memory.

## Chapter 1 Overview

### **1.4.6 Input/output of Pattern USB disk**

The computer case is mounted with a USB input port to read the patterns into memory through U-disk. The patterns stored in memory can also be stored in the U-disk.

### **1.4.7 Single/multiple Modes**

The glove knitting quantity can be set as single/multiple-glove modes. When knitting in single mode is finished, the Equipment will stop and prompt the completion of single glove; when knitting quantity in multiple-glove mode reaches the set max. value, the Equipment will stop and prompt knitting completion.

### **1.4.8 Continued Knitting after Power Recovery**

For any sudden blackout of external power supply, the system can realize continuous knitting after power recovery based on the instantaneous memory function.

### **1.4.9 Log Function**

The system can record fault information automatically to search the cause of fault.

### **1.4.10 Memory Pattern Edit Function**

Edit and modify the patterns in memory, so users can modify the patterns partially.

### **1.4.11 Touch Screen**

All functions can be operated through the touch screen to replace external keyboard.

---

# Chapter 2 Operation & Use

## 2.1 Structure and Use of Operation Box

### 2.1.1 Structure of Operation Box

#### (1) LCD

The Equipment is fitted with a high-brightness LCD.

#### (2) USB interface

The Equipment can input/output data through external USB disk and connect magnetic disk through USB interface.

### 2.1.2 Use of USB Disk

Pay special attention to prevention of static electricity when using USB disk. Please touch the metal rack or operating rod for discharging before inserting or unplugging the USB disk.

Pay attention to direction when inserting USB disk. Do not unplug the USB disk suddenly when reading data, or the data can be lost if it is unplugged or there's sudden power outage. In such case, inspect the data integrity of USB disk in computer and repair it before use.

Note: User may fail to use the USB disk continuously if it is unplugged or has sudden power outage during formatting.

## 2.2 Operation of Touch Screen

Enter the three modes below for corresponding operation:

#### Click (press)

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Similar with mouse click, it applies to the main buttons, lists, tables and keypad in display. Click one button to select certain item in list or table.

#### Double click

Similar with double click of mouse, it applies to disk management, pattern management window and the keypad that includes reset button. For example, double click directory in disk management to enter the sub-directory directly; double click the pattern file to input pattern; double click pattern file in pattern management to

## Chapter 2 Operation & Use



select the knitting pattern. Click the keypad that includes reset button, such as


 , to acquire 1, a, b, c... in turns.

Long press (hold)


Click one button and hold it for 3s to realize long press.

### 2.3 Input Method of Figures, Letters and Symbols

Click “” button to enter a decimal point, or press “” button to enter a negative number. If one button has figure and different letters and symbols, press the figure button on keypad continuously to enter the corresponding figure,

letter or symbol. For example, press  button continuously for 3 times to

enter Letter “b”. Press “” button (backspace button) to erase the last

figure/letter/symbol. Press “” button (delete all button) to clear all figures/letters/symbols entered.

### 2.4 Startup/shutdown

#### 2.4.1 Startup

Turn on the Equipment’s main switch.

#### 2.4.2 Shutdown

Turn off the Equipment’s main switch.

### 2.5 How it Works

#### 2.5.1 Working Modes of the Equipment’s CNC System

The System has three working modes:

(1) Preparation mode: Get prepared for knitting; preset (prepare) the control parameters and select knitting pattern.

## Chapter 2 Operation & Use

(2) Confirmation mode (test run mode): Confirm the preset control parameters prior to knitting; press reset (clear) button to enter the test run mode.

(3) Running mode (operation mode): Press the green button to start production of the Equipment.

### **2.5.2 Switch of Working Modes**

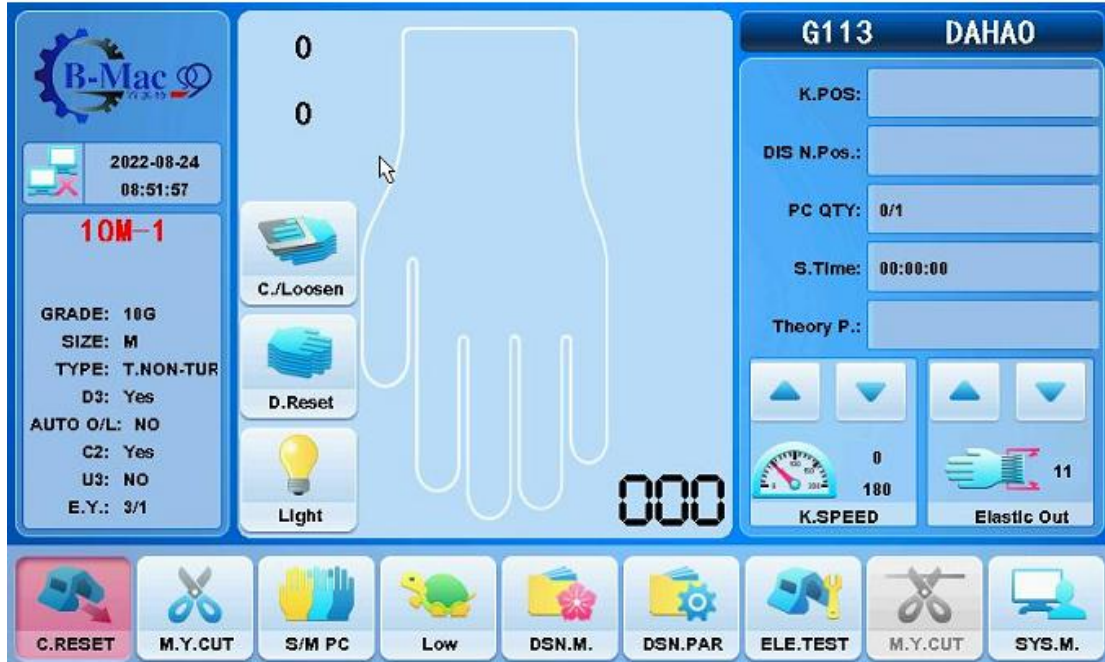
(1) If preset patterns and relevant parameters are selected in preparation mode, press reset to enter test run mode.

(2) In test run mode, press the green button to start knitting. Select high and low speed based on prompts on screen, press red button in running mode to stop the Equipment and return to test run mode.

---

## Chapter 3 Work Management

Work management window is the homepage. After power-on, the System will enter the homepage window by default and display system running status in real time.



The left area shows the current system time, main information of knitted gloves and factory logo.


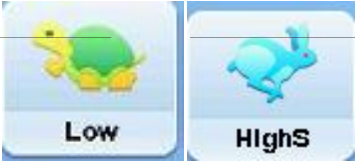

The middle area monitors the current glove knitting status in real time.

The right area displays the current running parameters of the System in real time.





### 3.1 Operation of Function Buttons

S/N	Display	Name	Description
1		Overall reset	Click overall reset and the button will become dark blue, then click the green button on operation head to start overall reset of the Equipment; once reset is done, the button will be recovered to the original



## Chapter 3 Work Management

S/N	Display	Name	Description
			color. <b>(Note: Move the yarn nozzle to the leftmost side of home position, pull out the handle and move the machine head to the right side, stop movement when hearing “click” sound, then click the green button on operation head to start overall reset; the machine head should not exceed the rightmost position).</b>
3		Main yarn scissor	Click the main yarn scissors and it will bounce upwards to hook the main yarn, then drop and cut off excessive yarn.
5		Fast/slow mode	Rabbit: Fast; turtle: Slow; snail: Inching. When turtle mode is displayed, click turtle to switch to rabbit mode, then click rabbit to switch to snail mode.
6		Single glove knitting	When it shows multiple gloves: Multi-glove knitting mode; when it shows one

## Chapter 3 Work Management

S/N	Display	Name	Description
			glove: Single-glove knitting mode; click the single/multi-glove knitting button to switch; only the glove number is shown on homepage; click the long box near glove quantity to set the glove quantity as required.
7		Glove setting	Click glove setting to enter pattern management window and set glove pattern as required.
8		Working parameters	Click working parameter to enter the window of glove working parameters, to inquiry and modify glove patterns (password required).
		Electrical test	Click it to enter electrical test and test the input signals and output control of the Equipment
		Electrical scissors	Click the electrical scissors, the right electrical scissors of machine head will bounce upwards, hook the yarn, then drop down and

## Chapter 3 Work Management

S/N	Display	Name	Description
			cut off excessive yarn.
9		System management	Click system management to enter system management interface, set the language and time, upgrade equipment program, check the motor errors and make statistics of defective gloves.
10		Finishing reset	Click finishing reset, recover flip finishing machine to the original position, click press/loosen, the press plate of finishing machine will uplift and not press the glove; when it is pressed, the press plate will continue pressing the glove status.

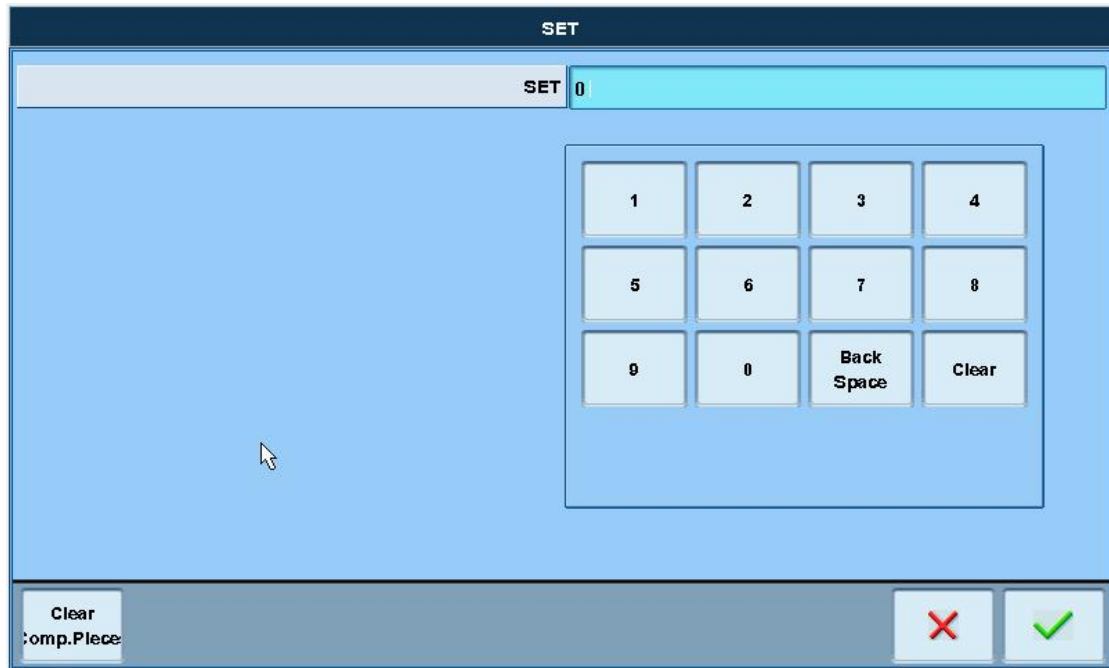
### 3.2 Touch Operation

#### 3.2.1 Set Glove Quantity

Click “Knitting quantity” in the right area and the input window of glove knitting quantity will pop up, to enter the set index of gloves.

User can set the glove quantity independently; the System will clear the counting when reaching the theoretical max. glove quantity.

## Chapter 3 Work Management





### 3.2.2 Adjustable Output of Rubber Band

Click “Rubber band output” button   at the right area to adjust the output of rubber band.

Note: The initial output of rubber band is 50; the sum of rubber band output and initial value on homepage are the real output rate of rubber band; user can enter the rubber band window of pattern parameter to change the initial output of rubber band. Rubber band output is used for adjusting the output of rubber band yarn.

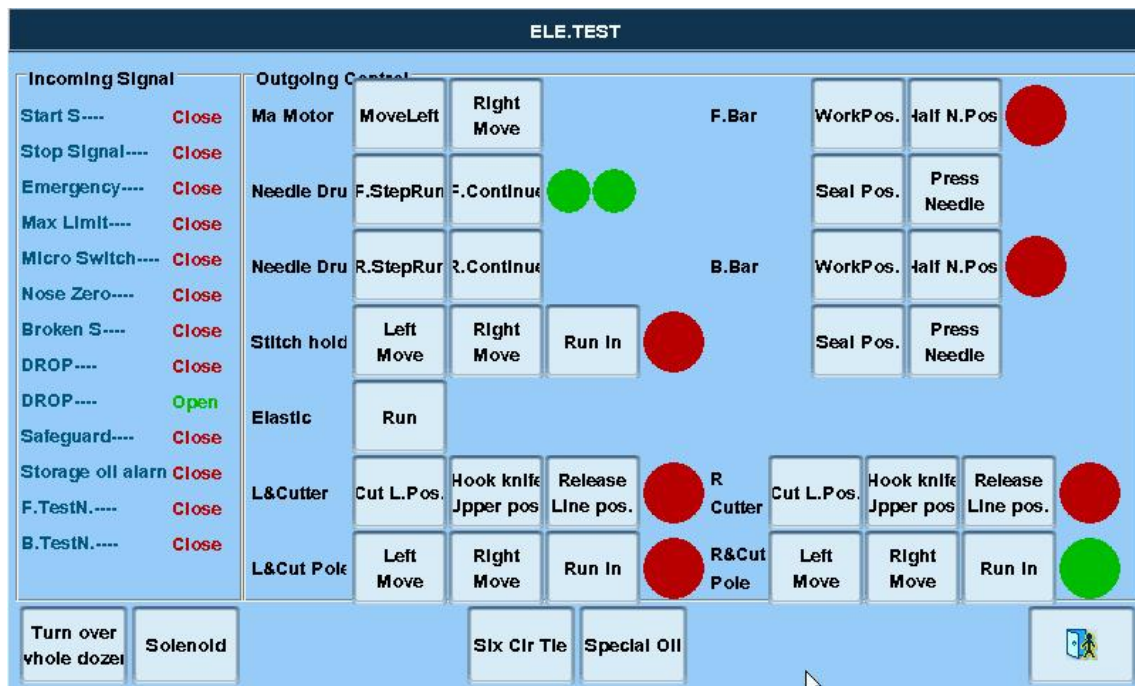
### 3.2.3 Adjustable Knitting Speed

When “Allow knitting speed adjustment” parameter in pattern parameter is “Yes”, click the “Knitting speed” button   in the right area to adjust the current glove knitting speed.

# Chapter 4 Electrical Test

## Chapter 4 Electrical Test

Click “Electrical test” button on the homepage to enter electrical test window.



Electrical test: Check if the motors can realize the corresponding actions; for example, spindle motor left run means left movement of spindle; left scissor motor in cutting position means the left cutting motor has reached yarn cutting position. Red button: Zero position. Click the red button to reset the motor.

Buttons under electrical test interface: “Flip finishing”, “Electromagnet”, “6-color knotting” and “Specific fueling”.

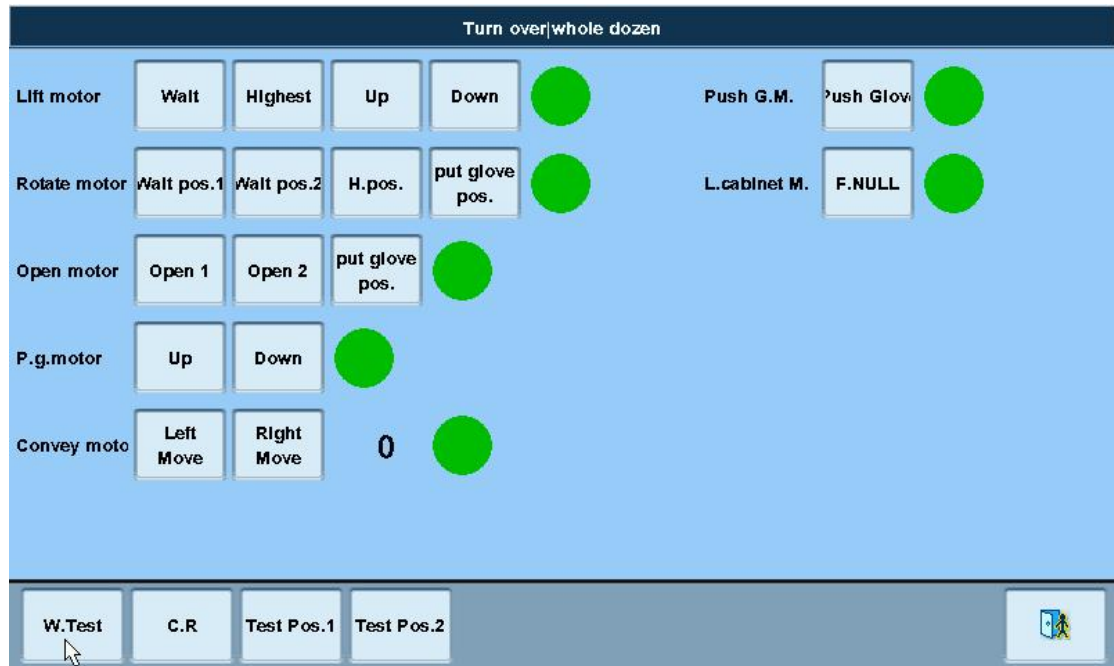
“Flip finishing”: Test the functions of each motor of flip finishing machine.

“Electromagnet”: Test the separation and actuation of electromagnet.

“6-color knotting”: Test the function of 6-color knotting.

# Chapter 4 Electrical Test

## 4.1 Flip Finishing



Click "Test" button to realize the corresponding functions; click the green circular button to reset; after resetting, the circular button will turn red.

# Chapter 4 Electrical Test

## 4.2 Electromagnet



Click the corresponding buttons to test electromagnet, air valve and indicator.

## 4.3 6-color Knotting



Click the corresponding positions to start knotting of relevant knotters.

# Chapter 5 Pattern Management


## Chapter 5 Pattern Management

Click “Glove setting” button on the main running interface to enter the pattern management window, select knitting pattern, create a new pattern, edit program, delete single pattern, clear pattern and sort patterns.

The pattern list in this window can display 6 patterns at most; click the page up/down button to view or manage other patterns.

Memory Pattern Management Window			
ShortC	DName	Etab Time	
1	13M-32	2022-07-12 14:20:56	
2	10M-2	2022-07-07 10:45:03	
3	10M-1	2022-07-07 10:41:31	
4	BW85	2006-01-01 00:00:00	
5			
6			

Name:10M-1      Dsn Num: 4      Page: 1/1      Free Space: 51705856      Upload      TeleDesign

Select Design    Create Design    Work    Edit Design    Delete Design    Page Up    Page Down    Clear All    Sort by Name    

### 5.1 Select Pattern

Double click one unselected pattern (as shown in picture above) or click “Select pattern” button to select this pattern as the pattern under knitting; meanwhile, the select pattern will enter selected status.

If preset knitting quantity already exists, it will pop up “Are you sure to clear the set quantity and completed quantity?”; select “Yes” or “No” button to set the selected patterns as the pattern under knitting.

For any inconsistency between the selected pattern and number of needles, it is unable to set the pattern as pattern under knitting and a prompt box that “Selected pattern is inconsistent with number of needles” will pop up.

# Chapter 5 Pattern Management

## 5.2 Create Pattern

Click “Create pattern” button to pop up the password input window, enter the correct password and confirm it, and the pattern name input window will pop up.

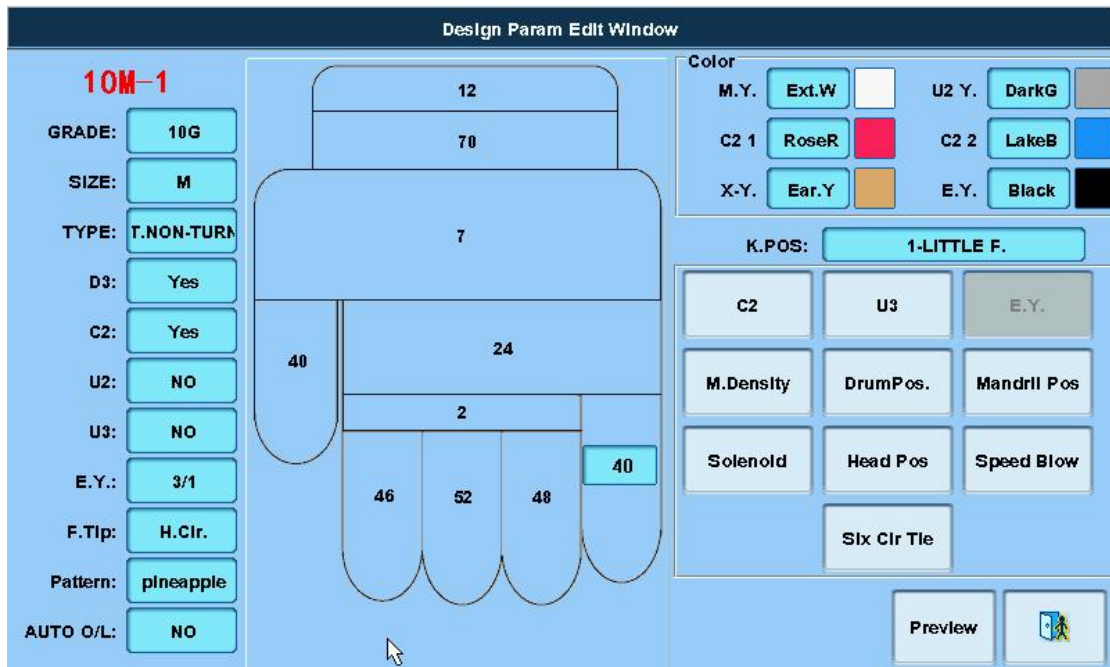
The screenshot shows a software interface titled "Input Name". It features a "Design No" field containing the number "4". Below this is a "DName" input field containing the text "21S1-4". To the right of the "DName" field, there is a note: "Length is 1-8 characters or numbers.". A numeric keypad is displayed on the right side of the dialog, with buttons for digits 1-9, 0, "Back Space", "Clear", "Shift", "(", "-", and ")". At the bottom right of the dialog, there are two buttons: a red "X" (cancel) and a green checkmark (confirm).

User can create a new pattern name as required. Firstly, the Equipment's size must be clear; the meaning of pattern name column: The 7<sup>th</sup> pattern of 13M code; the figure at the end will increase progressively if it is not set, or it can be set by user. While modifying the specific value, user should firstly locate the cursor, then delete and input the contents through the right keypad. **(Note: As the aluminum roller, needle number and layout may vary along with the Equipment's model and size, please confirm the code in this interface firstly in order to avoid any damage. The codes should be modified by professional technicians only).**

# Chapter 5 Pattern Management

## 5.3 Edit Pattern

Click “Edit pattern” button to enter the edit window of selected pattern parameter (this window is also entered when pattern is created).



### 5.3.1 Pattern Information

The left half area of window shows the parameters of current pattern as follows:

- ◆ Level: Be generated based on “Needle quantity per inch”.
- ◆ Size: Specified when creating a pattern.
- ◆ Type: It is “Backhand” by default; it can be switched to “Forehand” by clicking the type data box.
- ◆ Low fork, hot melting, double color, U3 and rubber band: The five parameters above are generated automatically based on pattern parameter.
- ◆ U2: It is “No” by default; it can be switched to “Yes” by clicking parameter data box.
- ◆ Rubber band: It is 2 in every 1 by default.
- ◆ Fingertip: “Semicircle” by default; it can be switched to “Complete circle” by clicking the parameter data box.
- ◆ Pattern color: No color by default; it can be set as pineapple pattern.

## Chapter 5 Pattern Management

The data of glove pattern in window indicate the total rows for each part of glove; it means the number of turns of finger or palm. The initial default values of each part are shown in picture above. The “1- little finger” position is selected by default when entering the window for the first time; click it to select other part (one part is selected when data edit box appears); the right “Knitting part” shows the part name; meanwhile, the part data button (2-color insertion, U3, rubber band, ejector pin density, drum position, ejector pin position, electromagnet, machine head position, speed & blow and 6-color knotting) will be disabled/enabled. Click the data box of selected part to pop up the keypad and modify the total rows.

### ◆2-color Insertion

Click “2-color insertion” button to enter the “2-color insertion” parameter window. Other parts of the parameter can be viewed and edited, except for “8+ - hot melting” that is disabled.

The 2-color insertion window includes color number, start row, end row, 2-color scissors and hot melting scissors. Input color number as 1 in order to insert 2-color palm, and 2-color scissors will work; input color number as 2 in order to insert 2-color finger, and hot melting scissors will work (color number 1 means the RR lower yarn nozzle; color number 2 means FL lower yarn nozzle); if parameter setting is required, the parameter window can be entered to modify values. If these parameters are not required, click the clear button below to clear data.

---

# Chapter 5 Pattern Management

C2											
Color N0. S.circle num. NoThrum E.circle num. NoTr					C2 Cutter X-YCutter M.Y.CUT M.s.r.Line M.Y.CUT E.s.r.Line						
01	0	0	0	0	0	01	0	0	0	0	0
02	0	0	0	0	0	02	0	8	0	0	0
03	0	0	0	0	0	03	0	0	0	0	0
04	0	0	0	0	0	04	0	0	0	0	0
05	0	0	0	0	0	05	0	0	0	0	0
06	0	0	0	0	0	06	0	0	0	0	0
07	0	0	0	0	0	07	0	0	0	0	0
						08	0	0	0	0	0

Page Up Page Down 1/4 Press ">>" to copy the whole row.,Param Range:[0, 999]  
No Thrum: 0-None 1-Have 2-Front Have 3- Back Clear

The initial value of 2-color insertion parameter is 0 by default, 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.



Click copy button “>>” on keypad to copy the value of current data item as the data in current row, in order to accelerate the data input process.

Click “Clear” button to clear all 2-color parameters at current position.

## Chapter 5 Pattern Management

C2										
Color N0.	S.circle num.	NoThrum	E.circle num.	NoTr	C2 Cutter	X-YCutter	M.Y.CUT	M.s.r.Line	M.Y.CUT	E.s.r.Line
01	155					0	0	0	0	0
02	0					0	0	0	0	0
03	0					0	0	0	0	0
04	0					0	0	0	0	0
05	0					0	0	0	0	0
06	0					0	0	0	0	0
07	0	0	0	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0	0	0	0

Page Up Page Down 1/4 Press ">>" to copy the whole row.,Param Range:[0, 999]  
No Thrum: 0-None 1-Have 2-Front Have 3- Back Clear

As shown in picture above, input 155 in “color number” item, click copy button to copy 155 as the data of entire row.

Similarly, the “2-color scissors, hot melting scissors, main yarn scissors, main scissors unreeling, electrical scissors, electric scissors unreeling” can be modified and copied.

### ◆U3 parameter

Click “U3” button to enter “U3” parameter window. Other parts of the parameter can be viewed and edited, except for “8+ - hot melting” that is disabled.

## Chapter 5 Pattern Management

	Cycle Line	Insert Line	Start L.	End L.
01	0	1	0	0
02	0	1	0	0
03	0	1	0	0
04	0	1	0	0
05	0	1	0	0
06	0	1	0	0
07	0	1	0	0
08	0	1	0	0

U3

Page Up Page Down 1/4 Press ">>" to copy the whole row.,Param Range:[0, 999] Clear

The default value “inserted row” of U3 parameter is 1, while other parameters are 0; 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-color insertion” parameter, U3 parameter also supports parameter copy and value clearing.

### ◆ Rubber Band

Click “Rubber band” button to enter “Rubber band” parameter window; this parameter can be viewed and edited in three parts of “7-5 fingertip”, “8- rubber band” and “(8+)- hot melting”.

The rubber band window includes rubber band proportion, insert row, scissors command, start row, end row, rubber band output coefficient and scissors unreeling row; the current rubber band is 2, which means, one circle of rubber band will appear after knitting for 2 cycles; the rubber band output coefficient refers to the proportionality factor between rubber band output and machine head move stroke, which is 50 by default, to adjust the rib top width.

## Chapter 5 Pattern Management

User can click value to enter parameter window and modify parameters as required. If these parameters are not required, click the clear button below to clear data.

ELASTIC YARN							
	Elastic ratio	Insert Col.	Sc. Instruction	Start L.	End L.	Elastic output	Sci.rel.lne
01	3	1	1	1	28	50	01 1
02	0	1	0	0	0	50	02 0
03	0	1	0	0	0	50	03 0
04	0	1	0	0	0	50	04 0
05	0	1	0	0	0	50	05 0
06	0	1	0	0	0	50	06 0
07	0	1	0	0	0	50	07 0
08							08 0

Page Up   Page Down   1/4   Press ">>" to copy the whole row.,Param Range:[0, 999]   Clear

The initial default value of “rubber band” parameter varies in each part; the default value of “8- Rubber band” is shown in picture above. 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-color insertion”, the “Rubber band” parameter also supports parameter copy and data clearing.

### ◆Ejector Pin Density

Click “Ejector pin density” button to enter the “Ejector pin density” parameter window, to view and edit the parameter at each part.

## Chapter 5 Pattern Management

**M.Density**

	F.Den.Val	Start L.	End L.		B.Density Val	Start L.	End L.
01	0	0	0	01	0	0	0
02	0	0	0	02	0	0	0
03	0	0	0	03	0	0	0
04	0	0	0	04	0	0	0
05	0	0	0	05	0	0	0
06	0	0	0	06	0	0	0
07	0	0	0	07	0	0	0
08	0	0	0	08	0	0	0

Page Up   Page Down   1/2   Param Copy   Press ">>" to copy the whole row.,Param Range:[0, 999]   Clear

The initial “Ejector pin density” parameter is 0 by default. 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

“Ejector pin density” supports copy of entire row and data clearing; besides, click “Copy parameter” button to copy the “Ejector pin parameter” of current part to other finger parts.

### ◆ Drum Position

Click “Drum position” button to enter the window of drum position parameter, to view and edit the parameter at each part.

## Chapter 5 Pattern Management

DrumPos.							
	Jump pln num.	Repeat	Insert	Start	End	Action pos.	ActNum
01	0	6	3	0	0	0	0
02	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0

Page Up   Page Down   1/8   Param Copy   Press ">>" to copy the whole row.,Param Range:[0,999]   Clear

The initial default value of “Drum position” is “Circulation” and “Insertion”; the first row is “6” and “3” respectively, while other parameters are 0. 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-color insertion” parameter, the “Drum position” parameter also supports parameter copy and data clearing.

### ◆Ejector Pin Position

Click “Ejector pin position” to enter the ejector pin position window, to view and edit this parameter at each part.

This window includes front/rear ejector pin: Type, circulation, insertion, start coil, end coil and action point. The parameter window can be entered to modify the value. If these parameters are not required, click the clear button below to clear data.

# Chapter 5 Pattern Management

Mandrill Pos												
	FMan						BMan					
	Type	Repeat	Insert	Start	End	ActPos	Type	Repeat	Insert	Start	End	ActPos
01	0	0	0	0	0	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0	0	0	0	0	0

Page Up    Page Down    1/8    Press ">>" to copy the whole row.,Param Range:[0, 999]  
Type:1-Half2-Sea13-Work;ActPos:0-Left1-Right    Clear    

The initial default value of “Ejector pin position” is 0; 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-color insertion”, the “Ejector pin position” parameter also supports parameter copy and data clearing.

## ◆ Electromagnet

Click “Electromagnet” button to enter electromagnet parameter window, to view and edit the parameter at each part.

This window includes electromagnet type, circulation, insertion, start coil, end coil, action position and execution action; the window parameter can be entered to modify the value. If these parameters are not required, click the clear button below to clear data.

## Chapter 5 Pattern Management

Solenoid							
	Type	Repeat	Insert	S.circle num.	E.circle num.	Action pos.	Act
01	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0
07	0	0	0	0	0	0	0
08	0	0	0	0	0	0	0

Page Up    Page Down    1/8    Press ">>" to copy the whole row.,Param Range:[0, 999]  
Type:1-MainLeft2-Melt3-Elastic4-Color5-U3 6-    Clear    

The initial “Electromagnet” parameter is 0 by default; 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-colour insertion”, the “Electromagnet” parameter also supports parameter copy and data clearing.

### ◆ Machine Head Position

Click “Machine head position” to enter the machine head position parameter window, to view and edit the parameter at each part.

This window includes start oil, end coil, left A and left B. The parameter window can be entered to modify value. If these parameters are not required, click the clear button below to clear data.

## Chapter 5 Pattern Management

Head Pos				
	Start	End	Left A	Right B
01	0	0	0	0
02	0	0	0	0
03	0	0	0	0
04	0	0	0	0
05	0	0	0	0
06	0	0	0	0
07	0	0	0	0
08	0	0	0	0

Page Up   Page Down   1/8   Press ">>" to copy the whole row.,Param Range:[0, 999]   Clear

The initial “Machine head position” parameter is 0 by default; 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

Similar with “2-color insertion”, the “Machine head position” parameter also supports parameter copy and data clearing.

### ◆ Speed & Blow

Click “Speed & blow” button to enter the speed and blow window, to view and edit the parameter at each part.

The window includes speed, blow, start row and end row. The parameter window can be entered to modify the value. If these parameters are not required, click the clear button below to clear data.

## Chapter 5 Pattern Management

Speed Blow						
	Speed	Blow				
	Speed	Start L.	End L.	Blow	Start L.	End L.
01	0	0	0	0	0	0
02	0	0	0	0	0	0
03	0	0	0	0	0	0
04	0	0	0	0	0	0
05	0	0	0	0	0	0
06	0	0	0	0	0	0
07	0	0	0	0	0	0
08	0	0	0	0	0	0

Page Up   Page Down   1/5   Press ">>" to copy the whole row.,Param Range:[0, 999]   Clear

The initial “Speed & blow” parameter is 0 by default; 8 rows of data are displayed per page; click page up/down button to view or edit the data in other pages. Click one parameter item to pop up the keypad, enter the data and confirm to finish data modification.

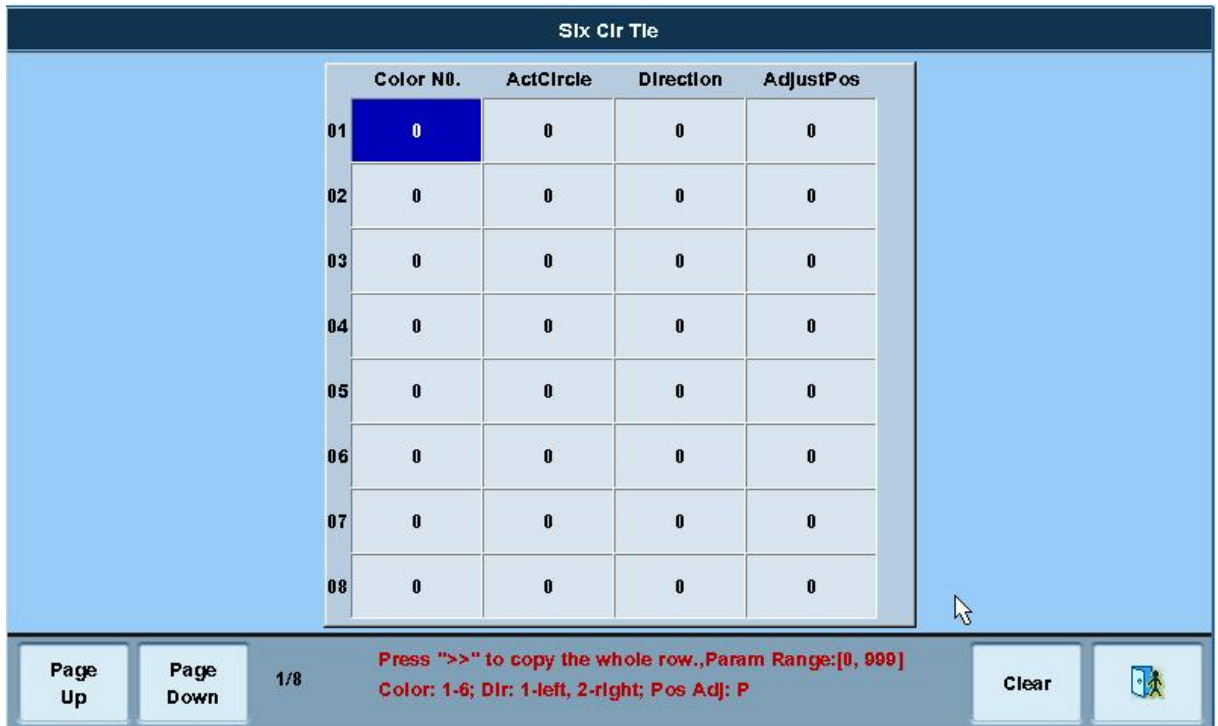
Similar with “2-color insertion”, the “Speed & blow” parameter also supports parameter copy and data clearing.

### ◆ 6-color Knotting

Click “6-color knotting” button to enter the window of 6-color knotting, to view and edit the parameter at each part.

This window includes color number, action coil, direction and fine position adjustment. The parameter window can be entered to modify the value. If these parameters are not required, click the clear button below to clear data.

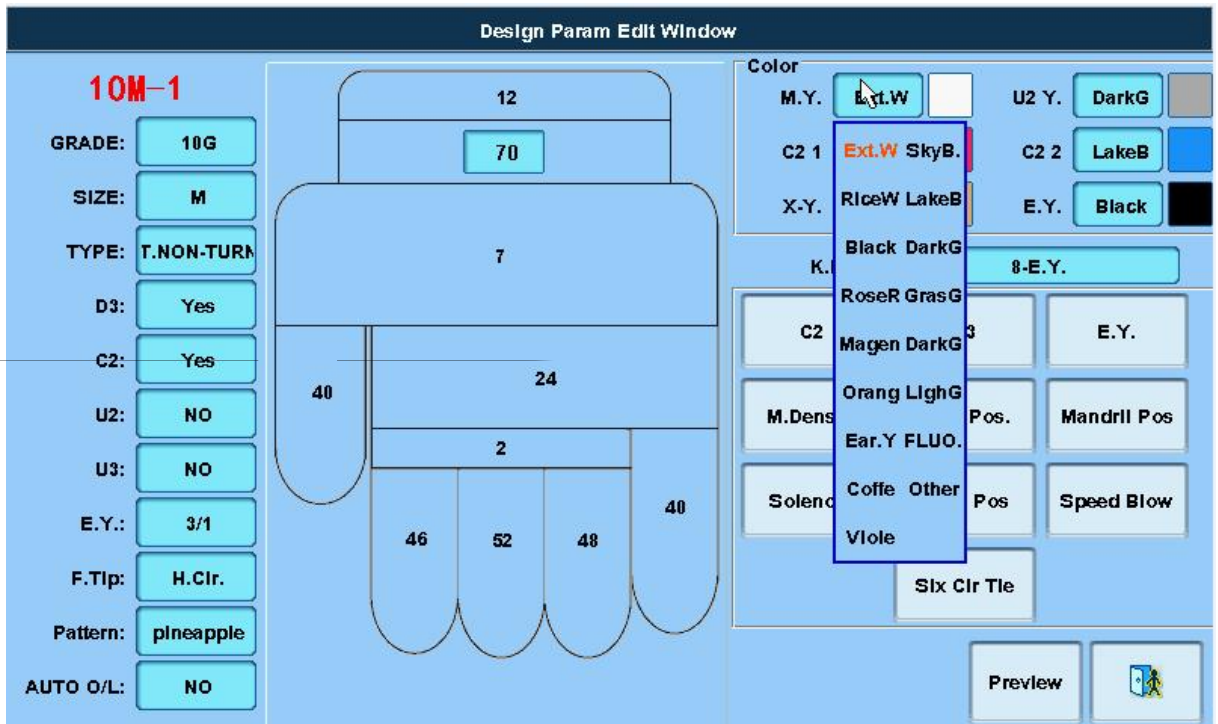
# Chapter 5 Pattern Management



Similar with “2-color insertion”, the “6-color knotting” parameter also supports parameter copy and data clearing.

## 5.3.2 颜色

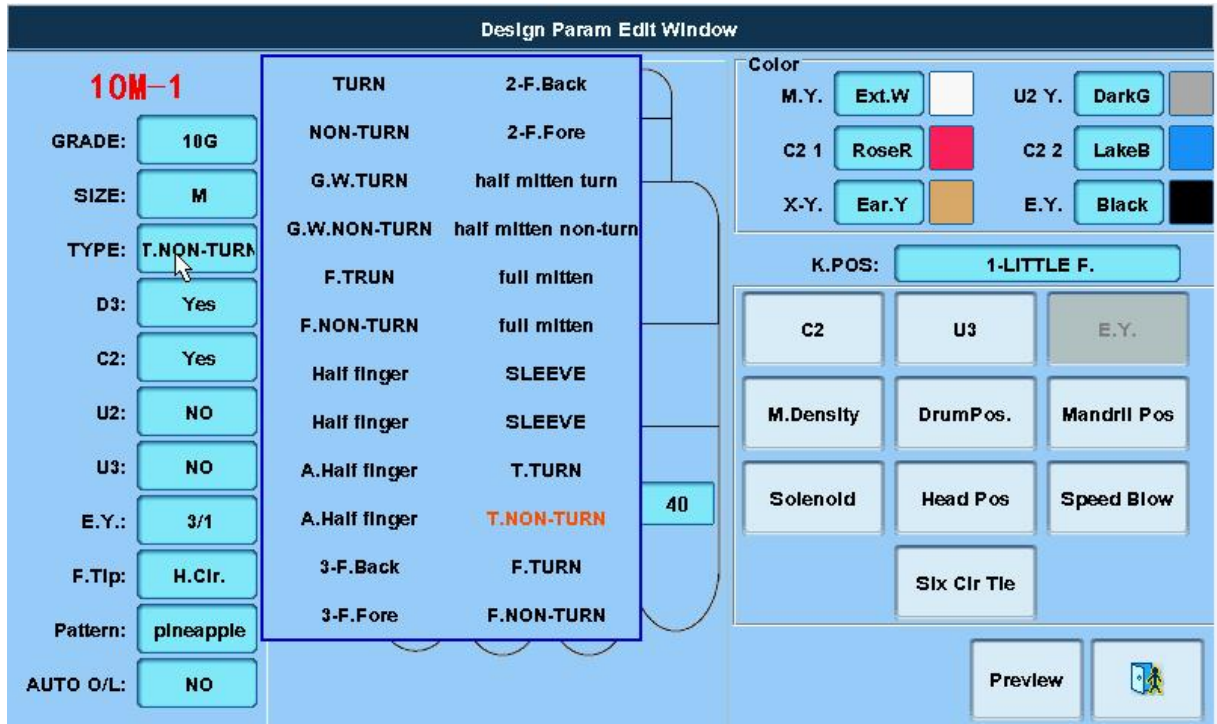
### 5.3.2 Color



# Chapter 5 Pattern Management

The upper right corner of screen is color area, which has 6 pattern names, all of which are list type parameters. Click one parameter data box to pop up the parameter list, select one list to finish modification of material color; meanwhile, it will display the corresponding colors.

## 5.3.3 Glove Type

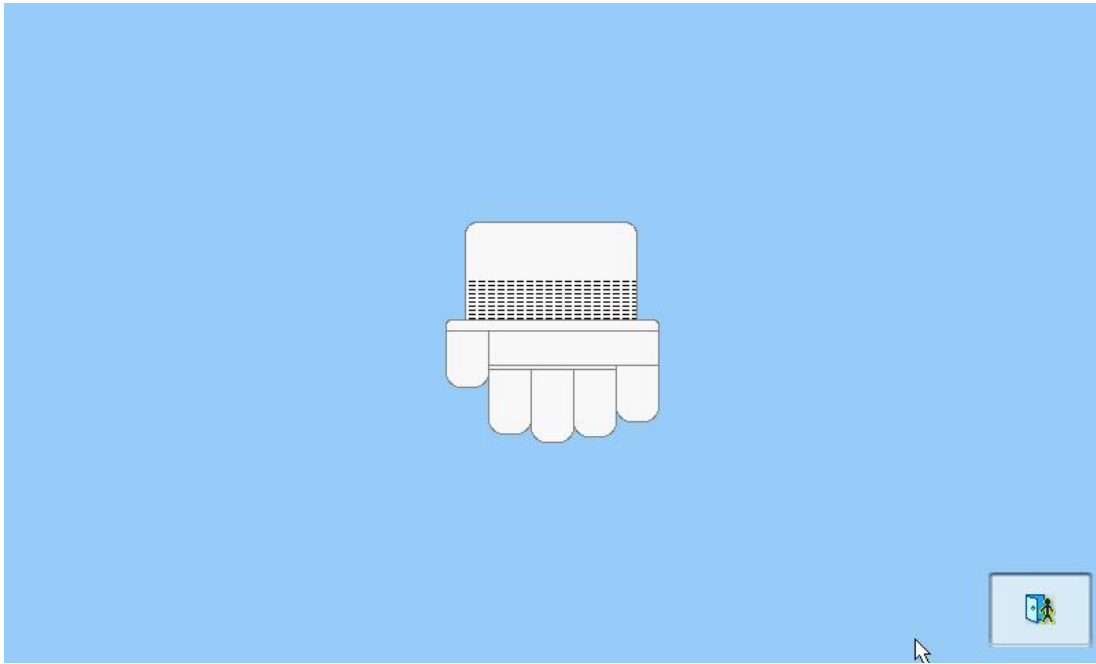


Click “Glove type” to pop up the options of setting glove type, such as “Normal forehand”, “Loop backhand” and “Pattern backhand”.

## 5.3.4 Pattern Preview

Click “Preview” to pop up the glove pattern after parameter setting, to see if glove setting is correct.

## Chapter 5 Pattern Management



### 5.4 Delete Pattern

Click “Delete pattern” button to pop up the confirmation box of deleting message. Once message is confirmed, the selected patterns will be deleted from the memory.

Note: Knitting pattern will not be deleted through this operation.

### 5.5 Clear Pattern

Click “Clear pattern” button to pop up the message confirmation box. Confirm the message and clear all patterns in memory.

### 5.6 Sort Pattern

The pattern list in pattern management window is sorted by pattern creation time by default; press “Sort by name” to enter pressed status of button, and the pattern list will be sorted by name. Click “Sort by name” button again to bounce the button, and the pattern list will be sorted by creation time.

## Chapter 6 Glove Parameter

### 6.1 Glove Parameter Management

Click “Glove parameter” button on the homepage to enter the glove parameter management window.

The glove parameter management window shows 18 parameters at most per page; click “Speed setting”, “Function setting” and “Parameter setting” button to view and set other parameters (Note: The picture above shows the parameters in “Speed setting” page).

#### 6.1.1 Speed Setting

Glove Param	
Finger Speed [10,260] 180	ColorChange Speed [60,180] 120
4PalmS [10,260] 220	Heal Speed [10,200] 100
5PalmS [10,260] 220	Elastic Begin Speed [10,200] 150
Switch Speed [10,250] 180	Pressure knife Speed [10,150] 120
Elastic Speed [10,260] 180	DROPS [10,250] 150
X-YARN S [10,230] 150	*Shift speed mode Mode 1(H.Speed)

Speed
FuncSet
ParamSet
ParamSet
⏏

Some speed parameters represent the Equipment’s speed when knitting this position. For example, finger speed 100 means the Equipment’s speed is 100 rpm when knitting the little finger, ring finger, middle finger, index finger and thumb of glove; palm speed 220 means 110 circles per minute. Modification of finger speed: Click finger speed, enter the parameter edit window, delete the previous speed, input the target speed and press return button; this also applies to other speed parameters, in order to view and modify them correctly.

**Gear shift mode:** Click it to switch between Mode 1 (high speed) and Mode 2 (low speed)

# Chapter 6 Glove Parameters

## 6.1.2 Function Setting

Glove Param		
Drop detect enable Open	*Main yarn control mode Right	*normal middle ring finger back half ne Close
Screen Auto OFF Disable	Shearing and sealing sequence(Left Cu Shearing first	Elastic H&L speed Close
Allow to modify knitting speed Yes	Shearing and sealing sequence(Right C Shearing first	
Drop glove take off order Back take off	*Right electric scissors enable Disable	
X-yarn Selected Front X-yarn	*Right electric scissors pole enable Close	
*Tricolor Close	*Drum waiting function Close	

Speed **FuncSet** ParamSet ParamSet

**Drop detection:** Determine whether glove is dropped normally; click it to enable or disable this function. Once this function is disabled, one glove needs to be prepared and glove drop cycle should be finished before next glove is processed. Once this function is enabled, it will stop glove drop process immediately and knitting the next glove will continue when one glove finishes glove drop stage and glove drop signal is detected.

**Display auto off:** Click the button to enter parameter input window, press the up/down button to select disabling or set time. Select “Disable” and the display will be normally on; “Set time” starts counting since the last operation, the display will turn off automatically when reaching the set time, the Equipment’s working status is not changed, press the display again to wake it up.

**Allow knitting speed adjustment:** It includes “Yes” and “No” option, click it to switch; when this option shows “Yes”, the knitting speed can be adjusted on the homepage; otherwise, read-only mode is entered and it is not allowed to adjust the knitting speed.

**Grove drop and unseating sequence:** The sequence is includes “Front drop first” and “Rear drop first”, which can be switched through clicking; when it shows “Rear drop first”, it means normal needle removal; when it shows “Front drop first”, the needle removal will be later by “Rear drop first” by one row.

## Chapter 6 Glove Parameters

Hot melting selection: It is divided into front hot melting and rear hot melting. Please select rear hot melting when glove requires U5 finger 2-color hot melting. Front hot melting nozzle is used for weaving finger 2-color. Click it to change the mode. **(Note: Hot melting must be matched with the Equipment's hot melting yarn nozzle; otherwise, the Equipment may report an error).**

**3-color mode:** This mode has “ON” and “OFF” option, click it to switch the modes. When 3-color mode is “ON”, 3-color knitting is allowed and it will switch yarn nozzle when machine head is located at the right side; otherwise, 3-color mode is not supported.

**Main nozzle control mode:** This control mode is divided into “Left finishing” and “Right finishing”; click it to switch the mode. When “Left finishing” is entered, the main nozzle will act when machine head reaches the left side; otherwise, the main nozzle will act when machine head reaches the right side.

**Sequence of yarn cutting and sealing (left scissor):** The yarn cutting and sealing sequence of left scissor is “Cutting before sealing” and “Sealing before cutting”, which can be switched by clicking the button; when “Cutting before sealing” is entered, the yarn will be cut prior to sealing; otherwise, the yarn will be sealed before cutting.

**Sequence of yarn cutting and sealing (right scissor):** The yarn cutting and sealing sequence of right scissor is “Cutting before sealing” and “Sealing before cutting”, which can be switched by clicking the button; when “Cutting before sealing” is entered, the yarn will be cut prior to sealing; otherwise, the yarn will be sealed before cutting.

**Enable right electrical scissor:** The right electrical scissor is divided into “Disabled” and “Enabled”, which can be switched by clicking the button. When electrical scissor is “Enabled”, the “Electrical scissor” in homepage is enabled; otherwise, it is disabled. Generally, the right electrical scissor applies to low fork type, to realize yarn cutting at little finger when 3-finger palm is ended. It should be used along with the right scissor rod.

**Enable right electrical scissor rod:** It is divided into “Disabled” and “Enabled”, which can be switched by clicking it. Generally, the right scissor rod applies to low-fork knitting at littler finger position, and realizes yarn cutting along with right scissor.

**Roller waiting function:** This function is divided into “Enabled” and “Disabled” function, which can be switched by clicking this button. Generally, this parameter is

# Chapter 6 Glove Parameters

“disabled” for equipment with closed-loop drum, or “enabled” for equipment with open-loop drum.

**Middle finger second half needle of forehand ring finger:** It is divided into “Enabled” and “Disabled” function, which can be switched by clicking it. When this function is “enabled”, the second half needle of forehand ring finger and middle finger is enabled; otherwise, this function is disabled.

**Fast/slow rubber band:** It is divided into “Enabled” and “Disabled”, which can be switched by clicking it. When it is “enabled”, this function is on; otherwise, this function is off.

## 6.1.3 Parameter Setting 1

Glove Param			
<b>DROP Line</b> [0,500] 4	*Front press needle depth. [0,800] 10	*Front M.Density Adj. [-32,+32] 0	
<b>Scissor release line</b> [1,500] 1	*Back press needle depth. [0,800] 10	*Back M.Density Adj. [-32,+32] 0	
<b>Scissor hook line</b> [1,100] 1	*NON-TURN Elastic yarn cutter start pol [0,350] 0	*Left Cut Pos Adj [-300,+300] 0	
<b>Left Scissor trimming line</b> [1,100] 1	*NON-TURN Elastic yarn cutter end pol [0,350] 0	*Right Cut Pos Adj [-300,+300] 0	
<b>Left Cutter End Displacement(mm)</b> [0,100] 5	*Front Half Needle Density [0,32] 5	Tie Speed [10,180] 80	
<b>Elastic Interval</b> 2 To 1	*Front Half Needle Rod height Adj.(mm) [-0.5,+0.5] -0.1	Tie Low Speed Circle [1,10] 3	

Speed
FuncSet
ParamSet
ParamSet

**Turn number of glove drop:** It means the number of turns when machine head drops glove without nozzle once glove knitting is done.

**Turn number of main scissor unreeling:** It means the turn number from the first turn to the scissor opening and yarn release. Generally, the backhand glove turn number is over 16, while the forehand glove is 1-2 turns.

**Turn number of main scissor line drawing (hot melting):** This parameter can set the turn number of main scissor line drawing during hot melting. Sometimes, the turn number of

## Chapter 6 Glove Parameters

line drawing can be different from turn number of scissors based on pattern requirements and they can be set separately.

**Turn number of left scissor yarn cutting (hot melting):** This parameter can set the turn number of main scissor yarn cutting during hot melting. Sometimes, the turn number of line drawing can be different from turn number of scissors based on pattern requirements and they can be set separately.

**Displacement when left scissor finishes yarn cutting (mm):** This parameter can set the inward movement distance of scissor rod when the main scissor finishes knitting and cuts yarn; this action can reduce the knitting thread of gloves.

**Horizontal interval of rib top rubber band:** This parameter can set the needle withdrawing type of rubber band knitting, including 1 by 1 and 2 by 1.

**Front probe depth:** It means the depth of front ejector pin probe when probe has action; generally, it can be set as 1-32.

**Rear probe depth:** It means the depth of rear ejector pin probe when probe has action; generally, it can be set as 1-32.

**Start point of forehand rubber band cutter:** The machine head position when forehand rubber hand has no thread and electromagnet of rubber band cutter is actuated.

This action is disabled when set as 0.

**End point of forehand rubber band cutter:** The machine head position when forehand rubber band has no thread and electromagnet of rubber band cutter is separated.

This action is disabled when set as 0.

**Density of first half probe:** The density of front density ejector pin at half pin.

**Height compensation of first half ejector pin:** Make compensation to density of first half ejector pin.

**Correction of front ejector pin density:** Add a correction value to the front ejector pin density. Range: -32~32.

**Correction of rear ejector pin density:** Add a correction value to the rear ejector pin density. Range: -32~32.

**Correction of left scissor position:** Correct the position of left scissor rod. Range: -300~300.

# Chapter 6 Glove Parameters

**Correction of right scissor position:** Correct the position of right scissor rod. Range: -300~300.

**Knotting speed:** The speed of machine head at decelerated running during knotting.

**Turn number of low-speed knotting:** The turn number of decelerated running during knotting; it will recover to the normal speed after reaching the set turn number.

This window also has other modifiable parameters. Click it to enter parameter edit window, delete the previous speed, input the target speed and press return button to finish it. Other parameters can be set in the same way, in order to view and modify them quickly.

## 6.1.4 Parameter Setting 2

Glove Param		
Elastic thinning function Close	3Palm seal function Open	Little finger C2 right cutter move pos. [0,+300.0] 0
Finger Cut Move Distance [0,+50.0] +5.0	4Palm seal function Open	Number of gloves stacked alarm(dozen) [0,65535] 2
New automatic locking function Close	5Palm seal function Open	Begin Whole dozen pos. LUOKOU
*Allow glove set Yes	Special Finger Run In Knit Function Close	Mandril Density Refine Function Close
LUOKOU end L--M.Y. cut L. Close	4Palm main cut line function Close	Drop glove mode select Normal M.
Drop blow function Close	5Palm main cut line function Close	Finger fork moving function Close

Speed FuncSet ParamSet ParamSet

**Rubber band refining:** Enable the rubber band refining function, to improve the control resolution of rubber band motor.

**Movement speed of finger yarn cutting:** Set the movement distance of scissor rod when cutting yarn. When yarn cutting between fingers is done, the scissor rod will move for certain distance, in order to reduce the thread length. This action is disabled if set as 0.

**New auto overlock function:** Enable/disable the new auto overlock function; it is standby temporarily.

**Allow glove setting:** Enable/disable glove setting. Glove edit function is disabled when it is disabled.

## Chapter 6 Glove Parameters

**Left main yarn cutting at completion of rib top:** Enable/disable this function. Based on this function, the main yarn cutting function can be executed at the left side of knitting area after rubber band is finished during hot melting.

**Cloth drop and blowing function:** Enable/disable the cloth drop and blowing function. When it is enabled, air blowing will be implemented in glove drop stage; otherwise, air blowing is not implemented.

**Sealing function of 3-finger palm, 4-finger palm and 5-finger palm:** Enable/disable the sealing function of 3-finger palm, 4-finger palm and 5-finger palm during knitting.

**Special finger grinding & knitting:** Set the finger cylinder knitting function of each finger. Once this function is enabled, unplug the electromagnet cable of main yarn nozzle to enter continuous knitting of finger cylinder.

**4-finger palm and 5-finger palm yarn cutting function:** Enable/disable the main scissor yarn cutting function of 4-finger palm and 5-finger palm.

**Movement position of little finger 2-color right scissor rod:** Set the movement position of right scissor rod during 2-color knitting of little finger.

**Glove stacking alarm threshold (dozen):** The Equipment that is fitted with finishing machine will give out alarm and stop when reaching the set stacking quantity of glove. The finishing machine function is disabled when set as 0.

**Finishing start position:** Set the action start position of horizontal finishing machine; this function applies to horizontal finishing machine only and has no action on mechanical arm finishing machine.

**Density refinement of ejector pin:** Enable/disable the refinement of ejector pin; it can also improve the motor control accuracy of ejector pin.

**Select glove drop mode:** Switch the modes of glove drop, including vertical mode and common mode, which depend on the installation mode of glove drop detection sensor.

**Fork movement function:** Whether retract the fork. Once the function is enabled, the fork will retract when reaching the shared needle position, and then insert again after sealing.

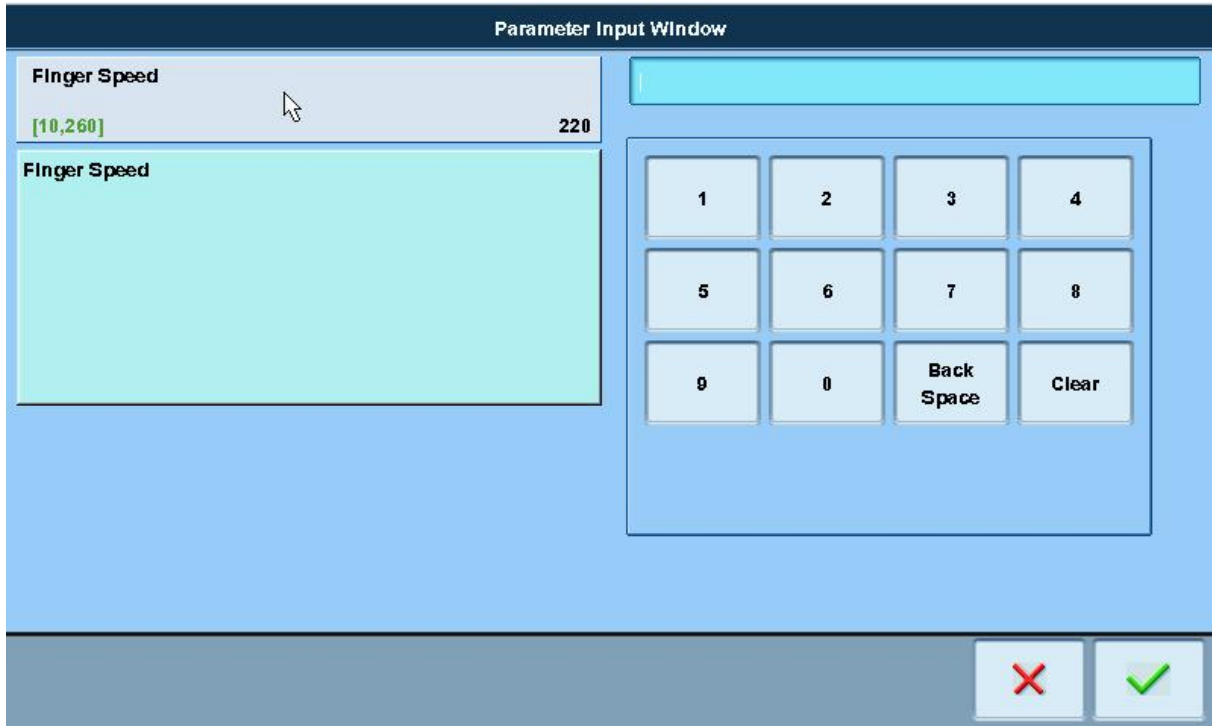
### 6.1.5 Parameter Setting Method

对于列表型参数，点击参数会自动切换参数值。例如，“落下检测功能”参数为列表型参数，当前参数值为“关闭”，在参数上点击会切换为“开启”。

## Chapter 6 Glove Parameters

For list type parameter, the parameter value will be switched automatically when clicking the parameter. For example, the parameter of “Drop detection function” belongs to list type parameter; when current parameter value is “disabled”, click it to switch to “enabled” status.

For value parameter, click it to pop up the parameter input window. Enter the new value through the keypad in window to finish the parameter modification.



The value input window of “Finger speed” is shown in picture below; the parameter value range is [10,300]; enter a legal value based on the realities, confirm it to finish the modification of “Finger speed”.

## Chapter 7 System Management

# Chapter 7 System Management

Click “System management” button on the homepage to enter the system management window.

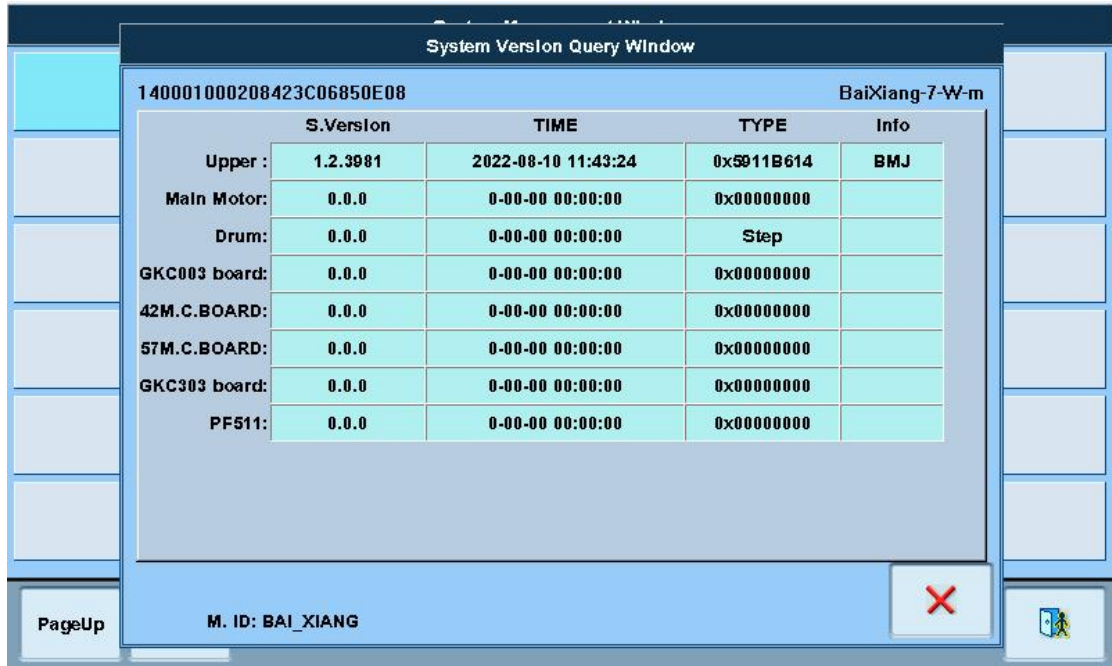


The system management window has 12 modules, which are introduced as follows:

### 7.1 View System Version

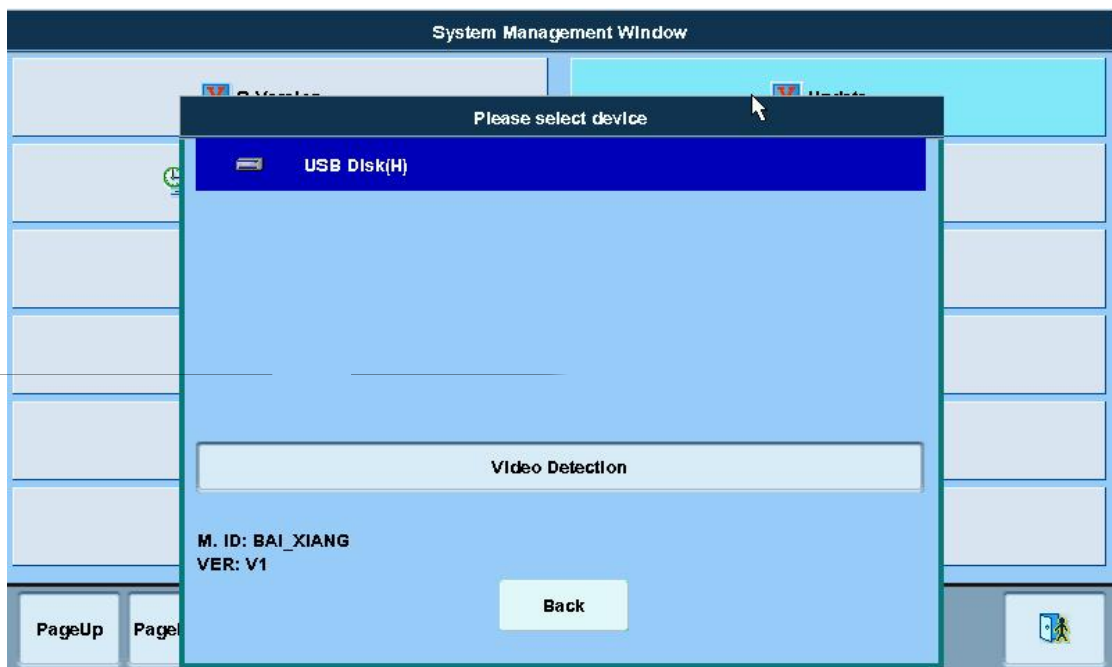
Click “System version” to view the information, such as version and time of upper computer, spindle, drum, GKC003 board, 42# motor control board and 57# motor control board.

# Chapter 7 System Management



## 7.2 System Upgrade

Click "Upgrade" to upgrade the software of upper computer, lower computer and servo drive.



## Chapter 7 System Management

Upper computer upgrade is divided into data program upgrade and startup image upgrade of upper computer.

**Data program upgrade of upper computer:** Click data program upgrade of upper computer to pop up USB upgrade; if USB transmission tool exists, the system will open USB to select the corresponding programs for upgrade.

**Startup image upgrade:** Click startup image upgrade to pop up USB upgrade; if USB transmission tool exists, the system will open USB to select the corresponding programs for image upgrade.

The lower computer upgrade is divided into GKC003 board, 42# motor control board and 57# motor control board.

**GKC003 board:** Click GKC003 board to pop up USB upgrade; if USB transmission tool exists, the system will open USB to select the corresponding programs for image upgrade.

**42# motor control board:** Click 42# motor control board to pop up USB upgrade; if USB transmission tool exists, the system will open USB to select the corresponding programs for image upgrade.

**57# motor control board:** Click 57# motor control board to pop up USB upgrade; if USB transmission tool exists, the system will open USB to select the corresponding programs for image upgrade.

Serve drive upgrade is divided into spindle and drum, both of which are upgraded via USB as above.

**(Note: The new programs can be added through USB data transmission.**

**Once upgrade succeeds, reboot the Equipment and the program will take effects)**

### 7.3 Time Management

Click “Time management” to enter time management window in order to set system time.

# Chapter 7 System Management



The options below the time management window include “Select year, select month, select day, select time, select min, select second”; the year/month/day can be modified directly above; when modifying hour, minute and second, select the corresponding options, select minute and second, click to show the cursor, then click it again to input different values; click progressive increase to increase the date by 1 day; or click progressive decrease to decrease the date by 1 day. Once operation is done, make sure to click “OK” to take effects; click the “Return” button near “OK” to return to system management window.

## 7.4 Installment Payment Information

Click “Installment payment information” to enter the installment payment information window. User can carry out installment after negotiating with the Company. The system and equipment will be locked if user fails to make payment in time.


# Chapter 7 System Management

Instalment Window

Confirm current time! 2022-08-24 08:59:12 MFT: SN: 0000000000000000 V2

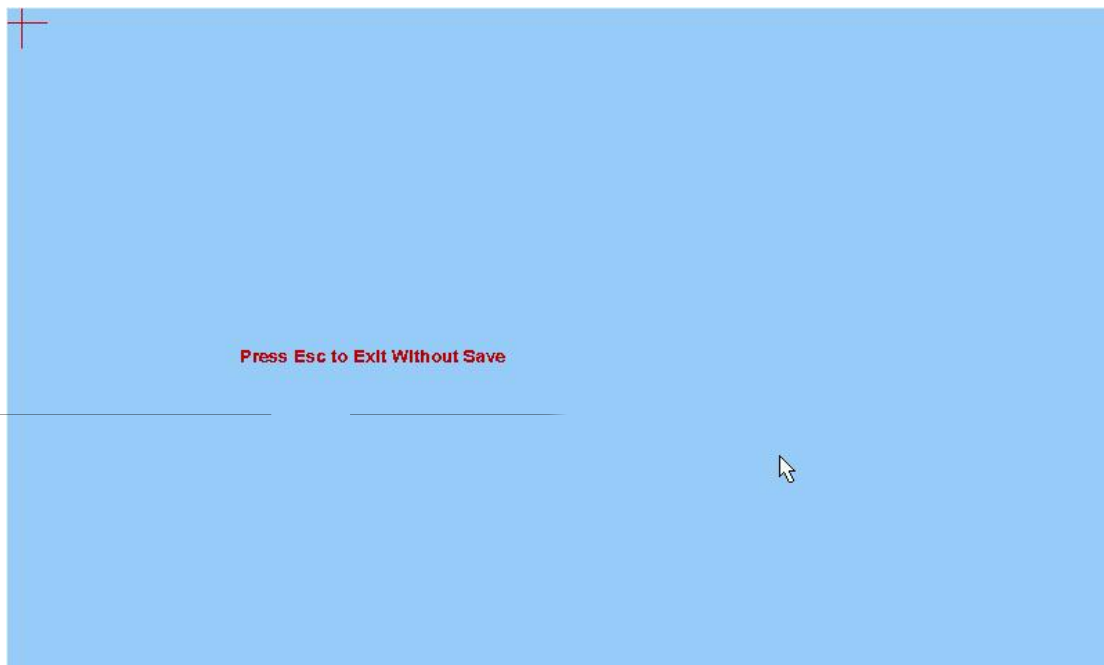
1	Unset	19	Unset
2	Unset	20	Unset
3	Unset	21	Unset
4	Unset	22	Unset
5	Unset	23	Unset
6	Unset	24	Unset
7	Unset	25	Unset
8	Unset	26	Unset
9	Unset	27	Unset
10	Unset	28	Unset
11	Unset	29	Unset
12	Unset	30	Unset
13	Unset	31	Unset
14	Unset	32	Unset
15	Unset	33	Unset
16	Unset	34	Unset
17	Unset	35	Unset
18	Unset	36	Unset

Init Import Import Password  
Import Lock Unlock Unlock



## 7.5 Touch Screen Calibration

When touch screen operation is insensitive, click “Touch screen calibration” to enter the touch screen calibration window for calibrating.



# Chapter 7 System Management

Click the cross cursor to move the cursor to the next position, keep clicking until all calibration points are finished, the window will quit automatically to finish calibration. (Note: Do not use this function if there's no button failure).

## 7.6 Language Selection

Click “Language selection” to enter language selection window and switch to other languages, including Chinese, English, Korean, Vietnamese and Russian.



## 7.7 Disk Management

Click “Disk management” to switch to “Disk selection window”; if U disk is inserted, it will prompt “Please insert disk and wait for scanning.”

Once U disk is detected, the system will display the main parameters such as U disk capacity and remaining space.

# Chapter 7 System Management



U disk management



## 7.8 Error Management

Click "Error management" to enter error management window.

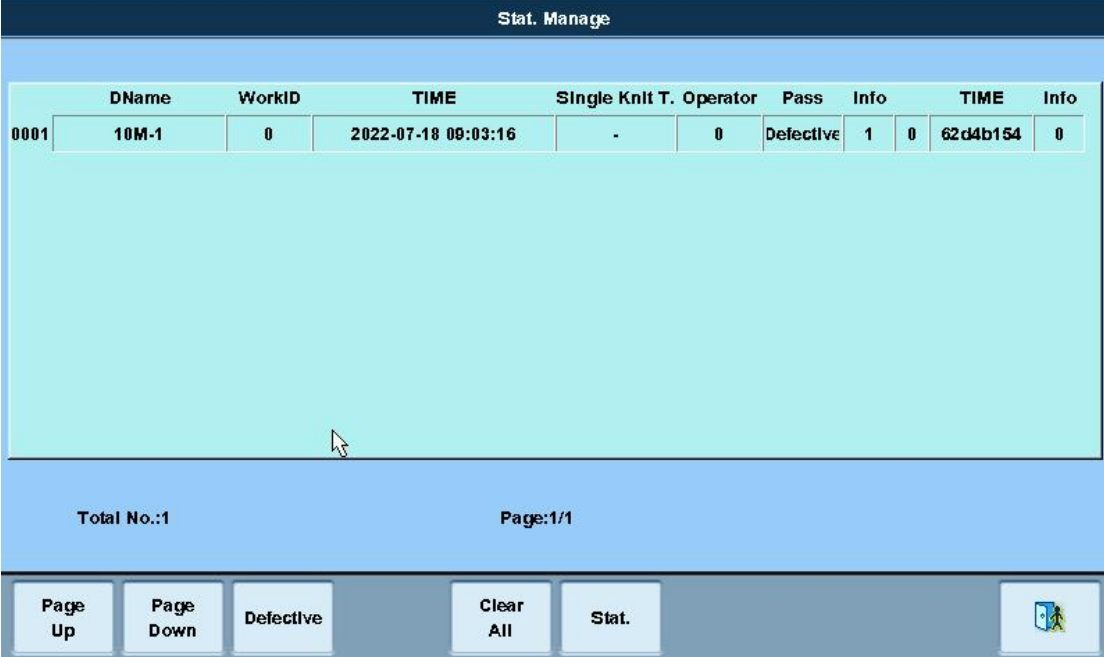


## Chapter 7 System Management

Click “Statistics” button and the error statistics window will pop up in order to view the error description, error times, percentage of total error times, machine shutdown period, finished knitting period and total shutdown period.

### 7.9 Statistics Management

Click “Statistics management” to enter the statistics management window.



The screenshot displays the 'Stat. Manage' interface. At the top, there is a title bar 'Stat. Manage'. Below it is a table with the following data:

DName	WorkID	TIME	Single Knit T.	Operator	Pass	Info	TIME	Info
0001	10M-1	0	2022-07-18 09:03:16	-	0	Defective	1 0	62d4b154 0

Below the table, there is a status bar showing 'Total No.:1' and 'Page:1/1'. At the bottom, there is a control panel with buttons for 'Page Up', 'Page Down', 'Defective', 'Clear All', and 'Stat.', along with a small icon on the right.

The picture above shows the statistical information of the Equipment’s patterns and 15 statistics information can be displayed per page; click “Last” and “Next” button to view the statistical information of other patterns.

Click “Clear all” button to clear the statistical information of pattern.

Click “Statistics” button and the statistics window will pop up in order to view the detailed statistics information of patterns. This interface includes production date, number of qualified gloves and defective products, glove qualification rate, total knitting period, total shutdown period, startup rate, theoretical output, actual output, single glove time, standard difference, glove length, standard deviation and product name, in order to master the glove quality and output directly and comprehensively.

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STAT.		
Mac Name:	Mac Num:	Fac Time:
Pro Data:From	<input type="text" value="2022-07-18 09:03:16"/>	To <input type="text" value="2022-07-18 09:03:16"/>
	Interval:	<input type="text" value="00:00:00"/>
Pro Name:	<input type="text" value="0"/>	
Quality No.	<input type="text" value="0"/>	Work Time: <input type="text" value="00:00:00"/>
Defect No.	<input type="text" value="1"/>	Stop Time: <input type="text" value="00:13:35"/>
Pass Percent:	<input type="text" value="0.00%"/>	Work Percent: <input type="text" value="0.00%"/>
	Theory Outp:	<input type="text"/>
	Actual Outp:	<input type="text" value="0.00 Dozen"/>
One Time:	<input type="text" value="00:00:00"/>	
Devlation:	<input type="text" value="00:00:00"/>	
G.LEN.:	<input type="text" value="0.0mm"/>	
Devlation:	<input type="text" value="0.0mm"/>	

Drive parameter, equipment parameter, model parameter, system parameter and curve compensation parameter are controlled by the manufacturer and not opened to user.

## 7.10 Flip finishing Machine

Click “Equipment parameter”, and enter password to enter the interface. Click flip finishing machine to enter setting interface.

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Turn over whole dozen		
Press glove motor wait distance(mm) [0,+200.0] +30.0	First telescopic distance adj.value [0,100] 35	Rotate motor test speed [1,10] 3
Pile up glove number [0,50] 24	Clamp drop glove line [0,10] 2	Open close motor test speed [1,10] 3
Normal Glove thickness(mm) [0,+500.0] +150.0	Convey motor pos.1 [0,60000] 2000	Press glove motor test speed [1,10] 3
Press Glove thickness(mm) [0,+500.0] +70.0	Convey motor pos.2 [0,60000] 4000	Clamp glove elastic yarn countdown line [1,40] 5
Drag distance(mm) [0,300] 120	Rotate motor zero offset [0,1000] 210	Clamp down head wait function Close
Below the platen distance(mm) [0,100] 20	Lift motor test speed [1,10] 8	Begin drag num. [0,10] 3

Param Group1

Param Group2

Action S.



**Wait distance of glove pressing motor:** The distance of press plate relative to the top glove stacked.

**Number of stacked gloves:** Set the quantity of stacked gloves; the transmission belt will arrange the next stack of gloves after reaching one stack of gloves.

**Normal glove thickness:** The thickness of glove at normal status.

**Pressed glove thickness:** The thickness of glove at pressed status.

**Dragging and pressing distance:** The glove pressing and dragging distance when placing a clamp in glove.

**Distance below press plate:** The distance of clamp below pressure plate when press plate is lifted to waiting position, mechanical arm swings out and lifting motor is stretched.

**Turn number of clamp drop glove:** Set the turn number when lifting motor drops glove.

**Transmission motor position 1, transmission motor position 2:** The movement position of transmission motor during glove stacking. This parameter applies to stepping transmission belt and has no action on DC motor transmission belt.

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**Rotary motor zero offset:** Set the offset position of rotary motor relative to zero position. This offset applies to glove stacking, dragging and pressing. It can be used for adjusting the looseness of glove pressing.

**Lifting motor test speed, rotary motor test speed, opening motor test speed and glove press motor test speed:** Set the motor speed during reset.

**Countdown turn number of clamping glove rubber band:** Set the countdown turn number of clamp motor when rubber band is clamped.

**Machine head waiting while ascending clamp:** Enable/disable machine head waiting function when descending the clamp.

**Start number of dragging and pressing:** Set the glove number to start dragging and pressing.

Turn over whole dozen		
Push glove motor speed [1,10]      5	Stack misplace end num. [0,30]      0	Palm 5 reciprocal action num. [1,100]      5
Lift cabinet motor speed [1,10]      5	Extended glove length [0,30]      0	Rotary motor current [+1.0,+3.0]      +2.0
Push glove pos. [0,30000]      2000	Rotary Motor Subdivision [0,60000]      0	Press glove motor hold current [+0.1,+1.0]      +0.9
Lift cabinet distance [0,50000]      0	Glove movement check timing(S) [0,+5.0]      +3.0	
Stack misplace num. [-5000,+5000]      0	Glove movement alarm duration(S) [5,15]      10	
Stack misplace begin num. [0,30]      0	Sensorless conveyor belt travel time [0,+20.0]      0	
Param Group1	Param Group2	Action S.

**Glove motor push speed, lifting cabinet motor speed:** Set the motor speed.

**Staggered stacking distance:** Set the staggered stacking distance of gloves.

**Start number of staggered stacking:** Set the glove number to start staggered stacking of glove.

**End number of staggered stacking:** Set the glove number to finish staggered stacking.

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**Stretch amount of lengthened glove:** Adjust the action deviation of clamp lifting motor when handling lengthened glove.

**Rotary motor refinement:** Enable the motor refinement function. The rotary motor refinement should be matched with hardware and not be modified randomly.

**Glove movement monitoring period:** Set the glove detection period of sensor when gloves are being transferred on the transmission belt.

**Glove movement alarm period:** Set the timeout period of detecting gloves on transmission belt. If infrared induction is not detected after exceeding the timeout period, an alarm will be triggered.

**Transmission belt running period without sensor:** The running period of sensor without a sensor. This parameter can record the running period of transmission belt when DC motor is used in transmission belt.

**Countdown turn number of 5-finger palm action:** Set the countdown turn number to start action of 5-finger palm of finishing machine. It applies to action setting of 5-finger palm.

Click “Action setting” to enter the action setting interface, to set the execution of rotary motor, lifting motor, opening motor and press motor at different knitting status.

The motor status in sheet consists of thumb unreeling, 5-finger palm, rubber band, start yarn drop and 2-circle yarn drop. The motor action parameters can be configured independently for each part.

The example of “Action setting” is shown in picture below:

The first page of action setting

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Action S.									
	No	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed
Thumb put lline1	1	1	1	1	1	1	1	1	1
Thumb put lline2	2	2	2	2	2	2	2	2	2
Thumb put lline3	3	3	3	3	3	3	3	3	3
Thumb put lline4	4	4	4	4	4	4	4	4	4
Thumb put lline5	5	5	5	5	5	5	5	5	5
Thumb put lline6	6	6	6	6	6	6	6	6	6
Thumb put lline7	7	7	7	7	7	7	7	7	7
Thumb put lline8	8	8	8	8	8	8	8	8	8
5 Palm1	0	0	0	0	0	0	0	0	0
5 Palm2	0	0	0	0	0	0	0	0	0

Page Up    Page Down    1/4    Press ">>" to copy the whole row.    Param Range:[0, 60000]

Four actions 1~4 are set for thumb unreeling 1~8 and the action will be executed from 1 to 4 by sequence; take the picture above as example, the rotary motor reaches the target position 335 at speed 5; meanwhile, the opening motor reaches position 400 at speed 1, then lifting motor will reach 6400 at speed 5; meanwhile, the opening motor will reach 420 at speed 1. When number is 3, the rotary motor will reach 335 at speed 3; if the original position is target position, the rotary motor will stop action, the lifting motor will reach 9850 at speed 5, while opening motor will reach position 680 at speed 1. If number is 4, there will be no action.

The second page of action setting

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Action S.									
	No	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed
5 Palm3	0	0	0	0	0	0	0	0	0
5 Palm4	0	0	0	0	0	0	0	0	0
5 Palm5	0	0	0	0	0	0	0	0	0
5 Palm6	0	0	0	0	0	0	0	0	0
5 Palm7	0	0	0	0	0	0	0	0	0
5 Palm8	0	0	0	0	0	0	0	0	0
Elastic B.1	1	1	1	1	1	1	1	1	1
Elastic B.2	2	2	2	2	2	2	2	2	2
Elastic B.3	3	3	3	12000	3	3	3	3	3
Elastic B.4	4	4	4	4	4	4	4	4	4

Page Up   Page Down   2/4   Press ">>" to copy the whole row.   Param Range:[0, 60000]

As shown in the picture above, the 5-finger palm has no action process if no action is set. The rubber band part has 3 actions which will be executed from 1 to 3. Take rotary motor as example, it will reach the target position 285 at speed 3; the rotary motor will not execute action if the rotary motor speed in other S/N is 0.

The third page of action setting

Action S.									
	No	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed
Elastic B.5	5	5	5	5	5	5	5	5	5
Elastic B.6	6	6	6	6	6	6	6	6	6
Drop B.1	1	1	1	1	1	1	1	1	1
Drop B.2	2	2	2	2	2	2	2	2	2
Drop 2L.1	1	1	1	1	1	1	1	1	1
Drop 2L.2	2	2	2	2	2	2	2	2	2
Drop 2L.3	3	3	3	3	3	3	3	3	3
Drop 2L.4	4	4	4	4	4	4	4	4	4
Drop 2L.5	5	5	5	5	5	5	5	5	5
Drop 2L.6	6	6	6	6	6	6	6	6	6

Page Up   Page Down   3/4   Press ">>" to copy the whole row.   Param Range:[0, 60000]

It means 2 actions are set when glove drop is started. The actions will be executed from 1 to 2. The picture above shows No. 2 has no motor action when glove drop starts.

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The fourth page of action setting

Action S.									
	No	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed	Target pos.	Speed
Drop 2L.7	7	7	7	7	7	7	7	7	7
Drop 2L.8	8	8	8	8	8	8	8	8	8
Drop 2L.9	9	9	9	9	9	9	9	9	9
Drop 2L.10	10	10	10	10	10	10	10	10	10
Drop 2L.11	11	11	11	11	11	11	11	11	11
Drop 2L.12	12	12	12	12	12	12	12	12	12
Drop 2L.13	13	13	13	13	13	13	13	13	13
Drop 2L.14	14	14	14	14	14	14	14	14	14
Drop 2L.15	15	15	15	15	15	15	15	15	15

Page Up   Page Down   4/4   Press ">>" to copy the whole row.   Param Range:[0, 60000]

The two charts above indicate that 12 actions are set for 2-circle glove drop and they will be executed from 1 to 12; this action is not executed for the speed in 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> command is 0.

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## Common Alarms & Troubleshooting

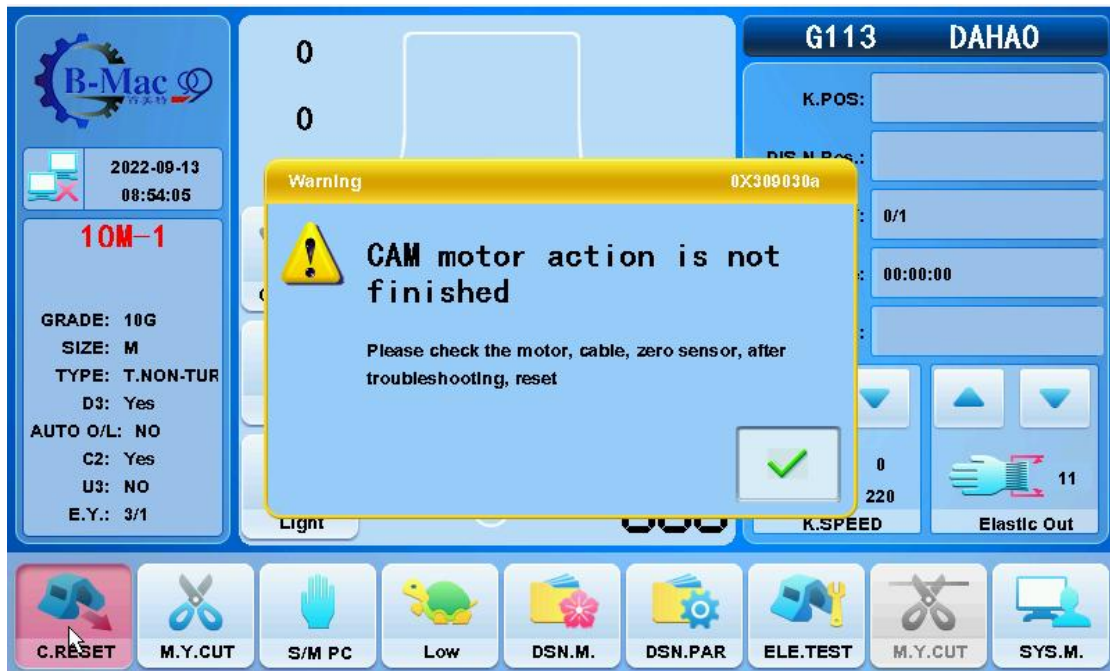
The error type is roughly divided into 3 types:

The errors marked “(i)” are general errors which can be solved directly based on prompts, and the green button can be pressed to continue the knitting, as shown in picture below:



The errors marked “(ii)” are general errors which can be solved directly based on error prompts. Once the problem is solved, the Equipment needs reset to continue knitting, as shown in picture below:

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The errors marked “(iii)” are important errors. Check the specific fault point based on error prompt or enter error management and solve the problem, then power on again to continue knitting, as shown in picture below:



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### Error Information Summary and Troubleshooting:

#### Type A

Error Prompt	Cause	Troubleshooting
(i) Broken yarn alarm	1. The main yarn, rubber band and hot melting line are broken; 2. Wrapping of rubber band is too tight	1. Connect the broken yarn 2. Arrange the wrapped rubber band
(i) The machine head is deviated to the left side, please move it to the right within the pin range of 0-50	The machine head is deviated to the left	Unplug the handle, run the machine head to the right side, but make sure it will not exceed the right limit position
(i) Motor yarn nozzle is occupied	The stepping motor has a fault	Inspect and debug the stepping motor
(i) Please turn on the emergency stop switch ✓		
(i) The set quantity is finished!		
(i) Glove drop error	1. The glove is blocked on the hopper of glove length detection device; 2. Glove drop detection is not enabled; 3. The glove scissors fail to cut off excessive yarn; 4. Glove fiber is mounted on the needle board 5. Optical fiber device has poor sensitivity	1. Check if glove is suspended on the hopper; if so, remove it; 2. Enable the glove drop detection device; 3. Check if scissors are normal; 4. Check if glove fiber is hooked on needled board and remove it, if any 5. Adjust the sensitivity of optical fiber
(i) Be started at manual mode	Fail to push the handle to home position while the Equipment is running	Push the handle to home position

#### Type B

Error Prompt	Cause	Troubleshooting
(ii) Motor rotation error	The stepping motor is blocked	Check if mechanical parts are blocked or overloaded
(ii) Motor reset error	The mechanical reset fails to enter zero position	Check if mechanical parts are blocked or overloaded and if the Hall board indicator is on

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(ii) Max. limit alarm of spindle	The machine head movement exceeds the left and right max. limit position	Reboot the Equipment, unplug the handle and run the machine head to the right side, but make sure it will not exceed the right limit position
(ii) The ejector pin motor of front/rear rubber band fails to finish operation	The rubber band ejector pin fails to reach zero position	1. Check if Hall board indicator is on; 2. Check if the cam is blocked or overloaded
(ii) The machine head fails to reach the return point	Fail to reach the return point within 3s after main controller issues stop command	Caused by mechanical blockage
(ii) The motor of front density ejector pin has action timeout	The density ejector pin fails to reach the zero position	Check if Hall board indicator is on
(ii) The motor of rear density ejector pin has action timeout	The density ejector pin fails to reach the zero position	Check if Hall board indicator is on
(ii) The front density motor has action timeout	The front density motor fails to reach zero position	Check if Hall board indicator is on
(ii) The rear density motor has action timeout	The rear density motor fails to reach zero position	Check if Hall board indicator is on
(ii) The flip type motor has action timeout	The flip type motor fails to reach zero position	Check if Hall board indicator is on
(ii) The drum has reset timeout	Fail to send the signal within the specified time, or sensor fails when returning to zero position	Please inspect zero position signal or roller motor
(ii) The infrared motor has action timeout	The infrared motor fails to reach zero position	Check if Hall board indicator is on

### Type C

Error Prompt	Cause	Troubleshooting
(iii) CAN0 busbar error	Communication cable is unconnected	Please inspect the communication cable
(iii) Busbar voltage is 0	Busbar voltage may become 0 after max. limit alarm of spindle	Please power it off to inspect the limit switch and cable and then reboot. Replace the main control box if fault

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		remains
(iii) Servo communication error	Spindle communication failure	Please inspect the communication cable
(iii) Encoder of spindle servo motor has error	Cable is unconnected or control box is faulty	Main motor is faulty (fault No.: ); please power it off to check if encoder is connected and then reboot it. Replace the main control box if fault remains
(iii) Spindle drive overcurrent	Mechanical blockage, cable is unconnected or control box is faulty	Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains.
(iii) Spindle drive overvoltage		Please reboot; replace the main control box if fault remains.
(iii) Spindle drive position error		Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains.
(iii) Spindle drive EEPROM error		Please reboot; replace the main control box if fault remains.
(iii) Electronic gear ratio of spindle drive has error	Parameter setting error	Please inspect parameter setting and reboot it.
(iii) Spindle drive overload	Mechanical blockage, cable is unconnected or control box is faulty	Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains
(iii) Speed calculation error of primary servo	Control box has a fault	Please reboot; replace the main control box if fault remains
(iii) Item A AD of primary servo has error	Control box has a fault	Please reboot; replace the main control box if fault remains
(iii) Item B AD of primary servo has error	Control box has a fault	Please reboot; replace the main control box if fault remains

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(iii) Drive board cooling fan is unconnected or faulty	Unconnected or fan is blocked	Please power it off to inspect if fan is blocked or unconnected
(iii) Primary servo curve time is set wrongly	Parameter setting error	Please inspect parameter setting and reboot it.
(iii) Spindle overtemperature	Unconnected or fan is blocked	Please power it off to inspect if fan is blocked or unconnected
(iii) Spindle drive overcurrent	Control box has a fault	Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains
(iii) AB phase error of spindle encoder	Control box has a fault	Please reboot; replace the main control box if fault remains
(iii) Drive board 24V overcurrent	Control box has a fault	Please reboot; replace the main control box if fault remains
(iii) Drive board 24V alarm	Control box has a fault	Please reboot; replace the main control box if fault remains
(iii) Control box fan is unconnected or faulty	Unconnected or fan is blocked	Please power it off to inspect if fan is blocked or unconnected
(iii) Drum hardware overcurrent		Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains.
(iii) Drum software overcurrent		Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains
(iii) Drum overload	机械上有卡顿、控制箱故障 Mechanical block, control box is faulty	Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault remains.
(iii) Drum position is out of tolerance		Please power it off to inspect the machinery and cable and then reboot them; replace the main control box if fault

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		remains.
(iii) Drum cooler overtemperature	Unconnected or fan is blocked	Please power it off to inspect if fan is blocked or unconnected
(iii) Drum busbar overvoltage		Please reboot; replace the main control box if fault remains
(iii) Drum motor overspeed		Please reboot; replace the main control box if fault remains
(iii) Encryption authentication error		Please reboot; replace the main control box if fault remains
(iii) Drum motor type error	Used for distinguishing the secondary servo drum and stepping drum; an error is reported when failing to query the drum type	Please check if motor type is matched

Type A: Error window is in green, it can be canceled to continue the operation.

Type B: Error window is in yellow, reset is required.

Type C: Error window is in red, reboot is required.

**Note: If failing to eliminate the fault by following the instructions above, or other faults exist, please avoid other unspecified operation and contact our after-sales personnel or dealer in time.**

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## Common Faults & Diagnosis

Faults	Analysis	Troubleshooting
CAN busbar error after startup	The cable is not inserted, or control box is faulty	Inspect the cable or replace the control box
Control box is not powered on after connecting power supply	Measure the power cable of control box to see if there's input 220AC, then check if control box fuse is damaged	If there's no 220AC input, inspect the power supply; replace the fuse, if it is damaged
Electromagnet of hot melting yarn nozzle does not work	Check if short circuit is caused by lapping of positive and negative 24V pole of electromagnet; if not, inspect the control box	Replace the cable if there's short circuit; replace the control box if fault remains
Fail to start control box after connecting power supply	Check if power indicator is normally on; if it is on, but other parts are not powered and display is not on, it may have short circuit or plug is not well connected.	Check if plug is inserted correctly or there's obvious open circuit
Rubber band transmission motor does not work	There's no action during test when lock shaft is powered on	Check if cable and parameter are correct before replacing the rubber band transmission motor; please replace the control box if it is still invalid
There's trip after power supply	The control box may have short circuit when plug is installed correctly	Inspect the plug and if it is normal, replace the control box directly
All 57# motors do not work and spindle is not locked after power-on and overall reset	The 57#motor in system version shows "0000", there may have no program	Upgrade the #57 program of lower computer
Main yarn electromagnet is always actuated	Enter the test interface to test the electromagnet of main yarn, the inching has no response; the newly installed electromagnet is still attenuated and has no reaction in test; the circuit board may have a fault.	GK201 Open the control box and replace the circuit board GK201
Electromagnet of hot melting yarn nozzle does not work	The electromagnet of hot melting yarn nozzle does not work during hot melting; it still has no reaction after replacing the electromagnet; the circuit board may be faulty	GK201 Open the control box and replace the circuit board GK201

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Main motor error is reported when running to the ring finger	The machine head and belt may have spindle blockage or motor fault	Check if there's spindle blockage; if so, replace the spindle servo motor
No response after inching	If the spindle motor has no action after inching in test interface, the power cable and encoder plug may not be fully inserted, or the motor may be faulty	Inspect the interface and if it is confirmed correct, replace the spindle motor
Spindle servo motor does not work during reset, display is always under reset status	The spindle encoder cable is not inserted or is inserted incorrectly	Insert the plug of spindle encoder again
The limiter is pressed when moving to the left for the first time	The baffle of spindle limiter is too low	Adjust the baffle upwards
Display Falsh error when upgrading upper computer		Replace the operation head
Blue screen after power-on	There's sudden power outage when upgrading upper computer program and the screen is blue when started again	Hold "OK" button during startup to upgrade the upper computer
Stop button fails	The operation head button may be faulty if user has to hold the stop button during normal knitting process in order to stop the Equipment, and the Equipment may recover its running status after releasing the stop button	Replace the operation head
Display of operation head is reverse; the reverse screen status has no response after moving cursor for calibration	The program may be faulty	Hold "OK" button during startup to upgrade the upper computer
Display of operation head is reverse; the reverse screen status has no response after moving cursor for calibration	The cursor has no reaction when upgrading upper computer program and upgrading fails; the operation head may be faulty	Replace the operation head

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The cursor is located at the lower right corner after power-on; touching fails		Hold confirmation button during startup for calibration; the fault is removed after calibration
Fork motor has 12V short circuit during operation	The motor has electric leakage	The fault is removed after replacing motor
Inching is normal, but motor does not work during rest; it reports error and fork motor has missing turns	The motor has missing items	Eliminate the cable fault and replace the motor
It reports missing turns during operation	Belt is too tight and there's mechanical blockage	Add lubricating oil
12V short circuit occurs after power-on and overall reset	Short circuit may be caused by short distance between 57# motor Hall board and electromagnet	Readjust the position of Hall board
Spindle is blocked when moving scissors motor to the left, reset has no action when moving scissors motor to the right	The motor may have missing items	Replace the scissors motor
Report missing turns of scissors motor	When the Equipment runs at the same part, the scissors motor may have spindle blockage sound, then it reports missing turn of scissors motor; spindle blockage may occur	Readjust the mechanical position or add lubricating oil
It does not work during reset, and reports reset error	Left/right inching is normal during manual test of scissors motor, but the scissors motor does not work during rest; the motor may have missing items.	Replace the scissors motor
Report missing turns in the first action when cam motor is running	The circuit board of motor encoder may be faulty or have continuous welding fault	Check if there's continuous welding or replace the motor directly
It reports missing turn error of	Fail to find the zero position due to spindle blockage when testing the cam motor	Eliminate the mechanical fault; replace the cam motor if

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cam motor during overall reset	rotation manually	fault remains
The cam motor has no action and it fails to report error	Parameter fault	Change the parameters
The main yarn fails to be locked by scissors when main yarn of glove is cut off, leading to false report and broken yarn	When mechanical installation problems are eliminated, the cam motor may be faulty or have missing items	Change the cam motor
The cam motor reports missing turn occasionally and the hook may move upwards for 2 times	The motor may have missing turn due to insufficient torque of cam motor	Change the cam motor
No response after power-on	Motor is faulty	Change the motor
Report fault of drum stepping motor	The motor fails to find the zero position or motor is faulty	Change the motor
Report type error of drum motor	Check if motor power indicator is flickering in green; if not, the motor may not be powered on	The motor is not powered on due to loose plug
Report load of drum motor	Mechanical spindle blockage or wrong parameter may occur	Please replace the drum motor if there's no spindle blockage or parameters are normal
Report drum load	Check if there's mechanical spindle blockage	Please replace the drum motor if there's no mechanical blockage of spindle
Fail to find the original point when resetting drum motor	The electromagnet may have wrong installation position	Recalibrate the position of electromagnet
When zero position of drum motor is set, it will rotate for half circle clockwise after power-on	Eliminate the cable fault and check if DIP1 is at off position	If cable is correct, pull the DIP1 switch to off position
The machine head fail to reach the return point	The Hall board may have wrong installation position	Readjust the installation position

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Drum stepping motor and drum fail to find the original point during overall reset; it reports drum fault	The Hall board may be faulty even if Hall board indicator flickers normally	Replace the Hall board
Drum motor is reset normally, but has no action during operation	Parameter setting error	Select the corresponding codes
12V short circuit occurs after power-on	The electromagnet may have 2-phase short circuit	If so, replace electromagnet
The motor fails to run continuously and may have repeated vibration	Motor line sequence is wrong or there's missing item	Inspect the wiring and line sequence
It is stopped after running for half a circle during reset	It may have mechanical fault or wrong position between gears	Recalibrate the position and adjust the machine
There's sudden power outage during normal operation; it has no response and screen is not on after power-on	Short circuit protection is entered if only power indicator in control box is on after power-on; check if the Equipment has short circuit	Unplug and insert X8, X9, X13 and 14 in turns and power on, find the specific position of short circuit and correct them
The machine head has blank screen suddenly when being moved to the left	Short circuit exists	Unplug and insert X8, X9, X13 and 14 in turns and power on, find the specific position of short circuit and correct them
Sensor indicator is not on	The plug may be loose or have reverse line sequence	Inspect the plug and line sequence
Red indicator is not on when electromagnet reaches the set position	The plug may be loose or have reverse line sequence	Inspect the plug and line sequence
12V short circuit occurs after power-on	Protection is triggered after power-on; only power section in control box is powered on	Unplug and insert X8, X9, X13 and 14 in turns and power on, find the specific position of short circuit and correct them

## Chapter 7 System Management

When the equipment starts hot melting, it reports error and rubber band ejector pin has missing turn	The machine head and ejector pin may have mechanical fault or the motor may be faulty	Replace the motor if there's no mechanic fault
There's sudden power outage during operation and operation head has a black screen	Short circuit occurs; the operation head is not on and has burning after power-on	Unplug and insert X8, X9, X13 and 14 in turns and power on, find the specific position of short circuit and correct the operation head
Report type error or drum motor after power-on	Measure the power switch to see if it has 48V output; the power switch may be faulty	Replace the switching power supply
Report broken yarn error after connecting cable	The plug may be loose or have reverse line sequence	Inspect the plug and line sequence
Safety door gives out alarm when pulling the rod	The safety door may be faulty	Eliminate the circuit problem and then replace the safety door
Report CAN busbar error after power-on	The plug may be wrong or loose	Confirm the plug sequence, then insert and plug it again
When handle is pulled out, rotate it along with the Equipment	The handle limit switch may be damaged	Replace the limit switch if it is damaged

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