



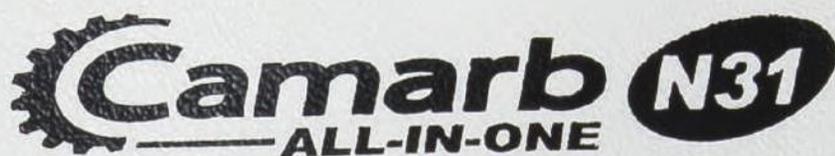
MANUALE PROGRAMMAZIONE

PROGRAMMING

MANUAL

N31E-N32E-N33E

A L L - I N - O N E





This manual is valid for all models and subclasses indicated in the "Technical Specifications" chapter.

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## N31E-N32E-N33E SERIES OVERVIEW



## 01 STARTUP SCREEN.



Description of the STARTUP SCREEN icon.



Stitching confirmation button. Click this button, the machine will find the source and the system will enter sewing mode.



Factory setting button. Press and hold this button, the system will enter the factory setting mode (indicated individually).



System info. Press and hold the button and the system will enter information mode. The information mode includes the system software version and any updates.

## 02 STITCHING SCREEN.

The sewing interface is divided into three categories:  
FREE STITCHING - OVERLAPPING STITCHING - PROGRAMMED STITCHING.

Fig.1 FREE STITCHING INTERFACE.



Fig.2 OVERLAPPING STITCHING INTERFACE.



Fig.3 PROGRAMMED STITCHING INTERFACE.



## 2.1 DESCRIPTION OF THE BUTTONS.



### INITIAL BACKTACK.

When the icon is white it indicates that this function is enabled and when it is dark grey it indicates that it is disabled.



### FINAL BACKTACK.

When the icon is white it indicates that this function is enabled and when it is dark grey it indicates that it is disabled.



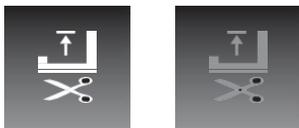
### NEEDLE POSITION.

The position of the needle while the machine is stopped. The first icon indicates that the needle is under the material to be sewn while the second indicates that it is above the material.



### FOOT POSITION AFTER SEWING STOP.

Pressing this icon activates the function "Foot in high position after thread cutting", when the function is active the icon is white and the foot is raised after cutting, when it is deactivated, it is dark grey and the foot is not raised. In standard mode it is not activated.



#### FOOT POSITION AFTER THREAD CUTTING.

This icon activates the function "Foot in high position after thread cutting". When the icon is activated it is white and the foot is raised after cutting, when it is deactivated, it is dark grey and the foot is not raised. In standard mode, it is not activated.



#### THREAD TRIMMER DEVICE.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. This icon activates or deactivates the thread cutting function.



#### NUMBER OF REVOLUTIONS.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. This allows you to adjust the maximum speed for each individual sewing area, active only in the same area. When activated, click  to find the speed setting element. The speed can be changed with the + and - keys. In free stitching mode, you can change the start, end backtack and speed of the current segment. Only the current segment speed can be changed in the overlapping stitching and the programmed stitching.



#### REVERSE STITCHING.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. This icon allows you to activate or deactivate the reverse stitching. It is used to program sewing and pattern change. In programmed stitching, it is used to instantly change the direction of the current sewing segment. When changing the pattern, it is used to set the stitching direction of the current programming section, and the stitching is activated in the reverse direction, not the normal stitching direction.



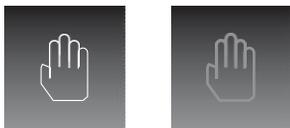
#### SETTING THE FIXED POSITION OF THE NEEDLE.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. When the fixed position function of the needle is required, set the 14th parameter and activate it. Then activate the button of the same icon. For setting the fixed angle of the needle, refer to the “method of setting the fixed angle of the needle”, described in the following chapters of the manual.



#### FREE HAND SYSTEM SWITCH.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. When activated in programming stitching mode and overlapping stitching mode, the free hand system switch can be used to change the sewing section in the modified pattern.



#### STITCHING PROGRAM INTERRUPTION.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. This icon is used in the programmed stitching mode, the current interruption of the stitching program is no longer counted, then, by pressing the feeding pedal, the machine will stitch freely based on the data of the sewing section at the time of interruption. Once deactivated the program will continue.



#### LOCKING

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. Activate this button in free stitching mode to wind the thread, in this way the upper and lower feeding are locked in the same way.



#### PROGRAM STOP.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. Activation of this button during programmed stitching indicates that the current segment will automatically stop when stitching is complete. If not activated, the programmed model will be stitched continuously until the end of the program.



#### STITCHING WITH PEDAL.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. By pressing this button in the programmed stitching mode, the pedal will automatically lock and the machine will automatically stitch the entire pattern.



#### STITCH COUNTER.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. Activate the button in programmed stitching mode, use the scroll icon  to find the corresponding setting, and change the number of stitches in the current stitching section.



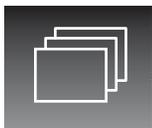
#### START SOFT STITCHING.

When the icon is white it indicates that it is turned on, when it is dark grey it indicates that it is turned off. When this button is activated the soft start function is activated.



#### CHOICE OF STITCHING MODE.

Free stitching, overlapping stitching and programmed stitching. At the end of the program or at the end of the forced cut, press the button to scroll back and forth through the different types of stitching.



#### SCROLL BUTTON.

This button can be used to switch between stitching modes. The prerequisite is that the setting must be enabled.



#### INCREASE BUTTON

Button to increase a value.



#### DECREASE BUTTON.

Button to decrease a value.



#### EDIT MODEL BUTTON.

Press and hold this button to enter pattern edit mode (model). See the following selections for the step-by-step operation.



#### SETTINGS BUTTON.

Press and hold this button to enter parameter setting mode.



#### LOCK AND UNLOCK TOUCH SCREEN.

Lock and unlock button. The first icon indicates that the touch screen is locked. At this point, with the exception of the unlock button, the other buttons are no longer selectable. After pressing the unlock button, the other buttons on the touch will be enabled again. The second icon indicates the unlock button and in this status the icons displayed on the LCD panel are available. After pressing the unlock button, the touch will be locked. Or set the automatic touch lock time, the system will automatically lock after a time set by the user.



#### VIEWING AND SETTING THE WORKPIECES TO BE MACHINED.

This icon will show the initial value of the piece count after its activation. See next chapter for setup mode.



#### STITCHING LINE REMAINING.

The line display and setting buttons are listed in the following sections. When the stitching counter function is activated, this icon will display the amount of thread remaining.



#### BACK BUTTON.

Back button.



UPPER ROLLER



LOWER ROLLER-FEED DOG



The corresponding number under this icon indicates the current model number.



The corresponding number under this icon indicates the stitching speed of the current segment.



The corresponding number under this icon indicates the number of stitches in the current segment

**S-1**

This icon indicates the segment number currently being stitched.

## 03 BASIC OPERATIONS

### 3.1 FREE STICHING.



Fig.4 Free stitching interface.

#### 3.1.1 Adjustment of the wheel parameters.

As shown in the figure above, clicking or long pressing “+” and “-” will change the current values of the lower and upper wheels. The red box indicates the adjustment button of the "Upper wheel", the yellow box indicates the adjustment button of the "Lower wheel". The interval between the values of the upper and lower wheel does not exceed 1.0 mm.

#### 3.1.2 BACKTACK SETTINGS.



Fig.5 Free stitching interface - initial backtack settings.

To set the initial backtack, first activate the initial backtack button



Click the icon



to change the setting interface. The red box sets the section "A", the yellow section "B" and the green section "R". R-values are 2-4, 2 is stitching AB and 4 is stitching ABAB.



Fig.6 Final backtack interface.

If you need to set the final backtack, turn on the final backtack function first.

 Then click the button  to change the settings interface. The setting method is the same as the initial one.

### 3.1.3 SPEED SETTINGS.



Fig.7 Free stitching interface.

To set the speed, activate the speed button. Then click on the button   to change the settings interface. The red box is set to the initial backtack speed, the yellow box is set to the final backtack speed. The black box is set to the speed of the free stitching part.

### 3.1.4 FREE STICHING.



Fig.8 Free stitching interface - fixed needle position setting.

If necessary, use the fixed position function of the needle. First set the 14th parameter "Enable needle position" in the spindle parameter to 1 and activate this function. Then activate the needle fixed position setting button. Press  and hold this button to access the needle fixed position setting interface. As shown in Fig.8, the interface shows the current position. Use the handwheel to rotate the needle bar to the position where it is needed, then press the OK button to save the set value, then press the back key  to return to the previous screen.

### 3.2 OVERLAPPING STITCHING.



Fig.9 Overlapping stitching interface - wheel value setting.

If you need to change the data for a particular segment, click the point in the corresponding segment. At this point, the corresponding position is displayed with white text on a black background highlighting that the current segment is selected. When the segment is selected, the button and the relevant data on the page concern only the current segment. As shown in Fig.9, segment A is selected and the area to the right of the screen shows the wheel and feed dog values of segment A (red box). The value of the wheel can be increased or decreased using the + and - buttons in the red box. The number of stitches and the speed setting are the same as those of free stitching. You must first start the corresponding button and press the scroll button to change. When the button is started, the system will automatically stop at the end of each stitching segment. Reposition the pedal to the neutral position and then press it to the stitching position to continue sewing. If this function is not required, disable it by pressing the icon. When the icon is started, press the pedal once and the system will automatically stitch all patterns to the end. If this is not required, disable the function.



Fig.10 Overlapping stitching interface - fixed needle setting.

Activate the function  if it is necessary to use the fixed position of the needle in the overlapping stitching. Press  the key to go to the needle fixed position setting page and use the + and - keys to manually change the desired value. The required angular value can be determined by inserting the fixed needle setting page of the free stitching and rotating the flywheel to observe the position.

Note : Each of the overlapping stitching can be set separately, varying speed - number of stitches - cut - stop position and whether to cut. Make sure that the model to be stitched has the same setting before programming.



Fig.11 Overlapping stitching interface - Number of segments

Using the overlapping stitching: Segment A refers to the initial stitching part and segment B to the final stitching part. The number below the word "SEG" indicates the stitching segment. For example, if SEG is 1, only segment A will be stitched, if SEG is 2, segment AB will be stitched. A value of 3 indicates ABA and so on. You can set a total of 8 segments, the arrows in the red box add or delete segments.

### 3.3 PROGRAMMED STITCHING.



Fig.12 Programmed stitching interface.

As shown in the figure above, the red box in the programming stitching interface indicates the number of the pattern currently in use. The number above the blue box on the right between the screen, indicates the total number of segments of the current model. The number below indicates the segment number currently displayed on the LCD display. Once a stitching program is finished, you can select the different models stored in the system using the "+" and "-" keys under the red box.

If the selected model has multiple segments, you can select them using the two "+" and "-" keys under the blue box. Only in the stitching interface can you edit the data, except add segment, delete segment, and the ring stitch function. After changing, the parameters become effective in real time. It should be noted that the first two models in the stitching programming, No.1 and No.2 are fixed and cannot be eliminated. Each model can be increased to 3 segments. The stitching of each segment is a free stitch mode. After adding several segments, you can move between them with the home button, free hand system or LCD panel. If necessary, the head button or free hand system to go back and forth between the segments in the programmed stitching mode, you must first activate the function or the system will not perform the switching action. Multiple segments can be set to a different point distance. The method of switching different segments using the LCD panel will be described on its own. As shown in fig. below, pattern 1 is added in 3 segments.



Fig.13 Programmed stitching interface, multi-stage switching.

When using the LCD panel to switch between segments, you must first activate the "programmed stitching stop" button and use the  "+" and "-" keys in the red box to select the segment number to be stitched.



Fig.14 Programmed stitching interface - multi-stage switching.

As shown in the figure above, the interface after the transition to the second segment is displayed as S-2. The next digits after Y correspond to the selected segment number. Only in this way the segment change is effective. If the stop key is not  activated, after selecting the segment number, the number after does not match the correct segment number. Therefore there will be no real data on the switching models, the segment data page will be changed, the stitching information will not be sent to the lower controller.



Fig.15 Programmed stitching interface - initial backtack preset.

In the programmed stitching, the initial and final backtack is arranged in a similar way to the free stitch. The difference is that in the programming mode, the speed and number of repetitions of the initial and final reinforcement (backtack) cannot be changed. If you change this information, you must access the program's edit mode and select the corresponding model to change.

## 04 PARAMETER SETTINGS.

Press and hold the  button to access the parameter setting interface.

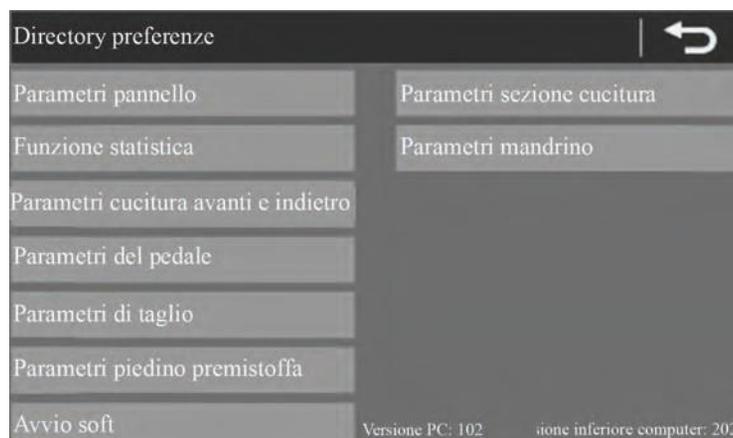


Fig.16 Parameter selection interface.

Information about the software version of your computer is displayed in the lower-right corner of the parameter selection interface. Take the first parameter as an example: after clicking on "Parameter Panel", access the panel parameter setting interface.

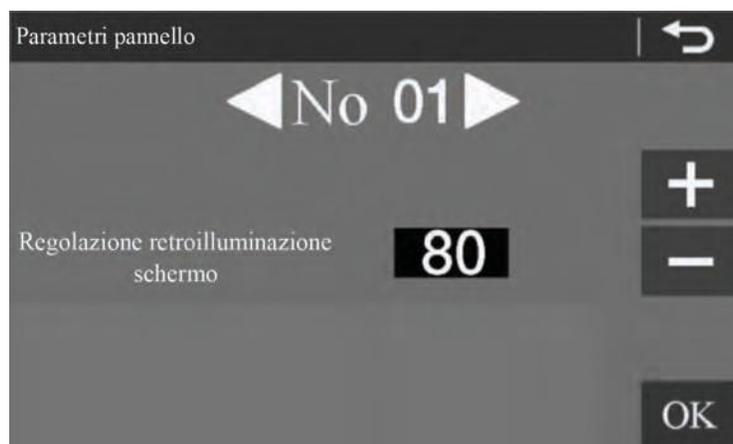


Fig. 17

Click the white button to the left or right as shown above.

The interface jumps to the set interface of the previous or next parameter, and the number after No. will follow the change. Select the parameter entry you want to change, use the "+" and "-" key on the right to change the parameter value. After completing the change, click the OK button to save it. If you change the parameter entry without clicking OK or quit, the parameter will not be saved. The method of setting the other parameters is the same.

## 05 PROGRAMME EDITING.

Holding down the icon for a long  time brings you to the “program editing” directory page

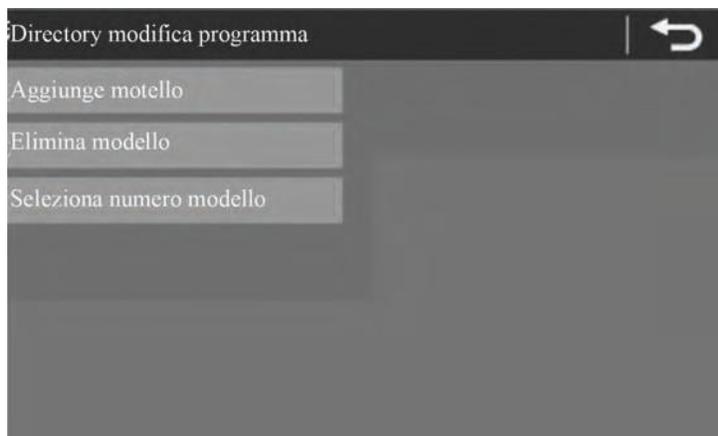


Fig.18 Program editing directory

### 5.1 ADD MODEL.

Press “add model” to display the screen as below:



Fig.19 Adding a model

As shown in the picture, 04 in P04 indicates the model number you are adding, click the “+” button and add the model 04. Once the add is complete, the model number to be added proceeds to the next one. If no further additions are required, press the back button.

## 5.2 DELETE MODEL.

Press "Delete model" as highlighted in the following screen:



Fig.20 Delete model

Press the "+" and "-" button to select the model to delete, then press the TRASH CAN icon to delete the model. Models 1 and 2 cannot be deleted.

## 5.3 EDIT MODEL.



Fig.21 Selecting the model to be programmed

Press   to choose the model number that needs to be changed, then press the green confirmation button and enter the edit menu. Press the red exit key to exit.

### 5.3.1 EDIT.



Fig.22 Model edit.

The model editing method is similar to the setting method in the stitching interface described in the previous chapter. First check how many segments this model needs, if more than one segment, you need to add the number of segments. Press the icon  to access the page  and increase or decrease the segments.



Fig.23 Adding or deleting segments

Press the “+” and “-” keys under ADD SEGMENT - DELETE SEGMENT to add or delete a segment. Press the “+” and “-” keys under the RING STITCH item to set the circular stitch pattern. The cyclic stitching can only be set after setting the number of segments. After setting the number of segments, press the “+” and “-” keys below the segment number on the left to select the segment to change.

Example: Change a 3-segment model.

First segment: 6 stitches, 3mm stitch length, initial backtack and segment stitching speed is 2000rpm

Second segment: 8 stitches, stitch length 3.5 mm, the stitching speed of the segment is 2100rpm.

Third segment: 10 stitches, stitch length 4.0 mm, the stitching speed of the segment is 2200 rpm.



Fig.24

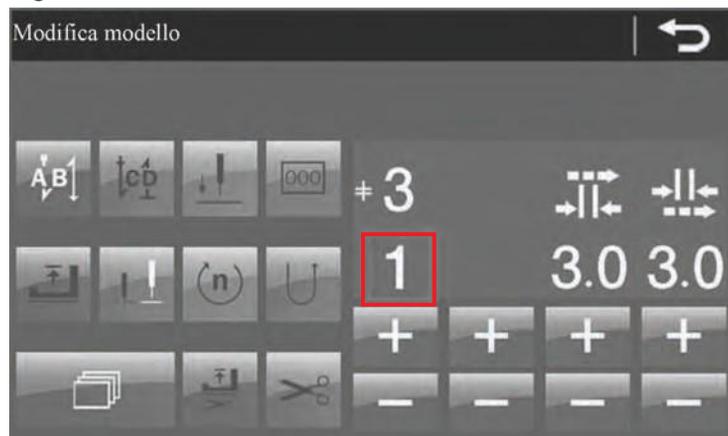


Fig.25



Fig.26



Fig.27



Use the scroll icon to navigate through the settings. The setup of the second and third section is set as for the first. You only need to change the segment number that needs to be changed. When you finish editing, it is important to save the model.



Fig.28

Save the model after editing.

#### 5.4 MODEL EXPORT.

Exports the edited model to the current computer on disk U. This operation allows you to export an edited model to other machines. The models that can be exported start from number 3 in ascending order. Insert the model into the U disk in the memory of the current machine. The numbers of patterns will be sorted based on the patterns that already exist on this machine.

## 06 DESCRIPTION OF THE MACHINE PARAMETERS.

- 1- Back panel lighting adjustment : 30%-100% Default: 100%
- 2- Panel screen lock adjustment:  
120 Sec-180 Sec-240 Sec-300 Sec-OFF: Default 120 Sec
- 3- Main switch:  
ON/OFF Default ON
- 4- Disable large stitch length: ON/OFF  
Default:ON
- 5- Bobbin counter enabling:  
ON/OFF: Default:OFF
- 6- Machined workpiece counter  
enabling: ON/OFF: Default:OFF
- 7- Machine lubrication warnings enabling: ON/OFF:  
Default:OFF
- 8- Initial value of the bobbin thread:  
200-9999 Default:3000
- 9- Initial piece value:  
0-9999 Default:0
- 10- Lubrication settings warnings: 50-1000 Default:100
- 11- Initial backtack speed: 700-1500 Default:1500 rpm
- 12- Final backtack speed: 700-1500 Default : 1500 RPM
- 13- Backtack stitching speed: 700-1500  
Default: 1500 RPM
- 14- Backtack interruption mode: 0-1 Default:0
- 15- Backtack speed mode: 0-1 Default:0  
0: Stitching at set speed. 1: Pedal stitching speed.

- 16- Initial backtack angle: 176-186 Default:180
- 17- Adjusting the pedal speed curve: 1-10 Default:8
- 18- Adjusting the pedal range: 0-200 Default:40
- 19- Cutting speed 20-400 Default:200
- 20- Trimming: 0-1 Default:0
- 21- Initial cutting angle: 100-250 Default:140
- 22- Final cutting angle: 0-80 Default:40
- 23- Initial angle of the thread tension: 0-359 Default:5
- 24- Final angle of the thread tension: 0-359 Default:48
- 25- Solenoid setting (cutting): 25-100 Default:80
- 26- Cutting mode:Regular cut-Knot stitch cut: Default. Normal cut
- 27- Knot stitch direction: Forward-Backward Default. Back
- 28- Knot stitch length: 1-10 Default:3
- 29- Number of cut stitches with knot stitch: 1-3 Default:1
- 30- Enabling initial stitching tension: ON-OFF Default:OFF
- 31- Final tension angle of the initial stitching: 100-359 Default:200

- 32- Solenoid tension: 5-100  
Default:100
- 33- Wheel enabling:  
ON-OFF Default:  
ON
- 34- Wheel slowdown enabling:  
ON-OFF Default:OFF
- 35- Delayed stitching start when selected: 0-25  
Default:8
- 36- Wheel lifting time: 3-15 Default:8
- 37- Solenoid pressure: 10-  
140 Default:20
- 38- Wheel slowdown time: 20-200  
Default:50
- 39- Soft start enabled: ON-  
OFF Default:OFF
- 40- Soft start stitch numbers: 1-99  
Default:1
- 41- Soft start initial stich speed: 100-1800  
Default:600
- 42- Speed of the second stitch with the soft start: 100-  
2000 Default:1500
- 43- Speed after the third stitch with soft start: 100-2200  
Default:1500
- 44- Auto-run enabling: 0-1 Default:0
- 45- Auto-run time: 2sec-6sec  
Default:3
- 46- Auto-run stop time: 2sec-4sec Default:2
- 47- Feeding angle: 95-115  
Default:100

- 48- Difference:  
10-25 Default:10
- 49- Maximum speed:  
1000-3000 Default:2500
- 50- Minimum speed:  
1000-3000 Default:200
- 51- Positioning speed: 1000-  
3000 Default:100
- 52- Acceleration factor: 1-  
100 Default:20
- 53- Deceleration factor: 1-  
100 Default:20
- 54- Motor thrust enabling: ON-  
OFF Default:OFF
- 55- Drive shaft inversion enabling after thread cutting: ON-  
OFF Default:OFF
- 56- Drive shaft inversion angle after thread cutting: 10-40  
Default:10
- 57- Drive shaft retention function: 0-2  
Default:0
- 58- Needle thread fall protection enabling: ON-OFF  
Default:OFF
- 59- The length of the stitch to prevent the thread from falling from  
the needle: 1-10 Default:3
- 59- Stitch numbers to prevent the thread from falling from  
the needle: 1-3 Default:1
- 60- Positioning of the  
stitches: ON-OFF  
Default:OFF
- 61- Contrast stitch mode: 0-1  
Default:0
- 62- Needle angle under the material:  
80-150 Default:102

63- Angle of needle bar in low position: 100-200  
Default:130

49- Angle of needle bar in high position: 0-100  
Default:60

## 06 ERROR CODE LIST

- 3100 Unauthorised software.
- 3101 Parameter out of range. INITIALIZE PARAMETER
- 3110 Pedal setting error or malfunction. THE VALUE OF THE PEDAL IS INCORRECT.
- 3111 Malfunction of the encoder or the reference point sensor or the motor. CHECK BOTH ISSUES.
- 3112 Data error  
ERROR IN THE DATA PROCESS, RESET THE STITCHING PARAMETER.
- 3113 Zero position sensor error.  
CHECK THAT THE SPINDLE SHAFT IS LOCKED.
- 3114 The head of the machine is open.  
THE MACHINE HEAD IS UPSIDE DOWN OR THE HEAD TILT SENSOR IS NOT WORKING PROPERLY.
- 3118 Solenoid malfunction.  
CHECK THAT THE COIL IS NOT IN SHORT CIRCUIT.
- 3119 Spindle shaft anomaly.  
ANOMALY AFFECTING THE SPINDLE SHAFT OR ENCODER.
- 3120 Pendulum motor anomaly.  
CHECK THAT THE PENDULUM IS NOT BLOCKED.
- 3121 Malfunction in data exchange.  
DOES NOT RECEIVE PANEL RETURN DATA.
- 3122 Report the data verification error. THE DATA RECEIVED IS INCORRECT.
- 3123 Spindle shaft transmission anomaly. CHECK SPINDLE MOTOR OVERLOAD.

- 3124 Pendulum anomaly.  
PENDULUM MOTOR OVERLOAD.
- 3125 Model transfer error.
- 3126 Error transferring the program.
- 3127 Change of stitching free hand system failed.  
THE PANEL DOES NOT RESPOND WHEN THE STITCHING SEGMENT IS MOVED.
- 3128 Abnormal position of the pendulum.  
THE PENDULUM POSITION DOES NOT FALL WITHIN THE STANDARD RANGE.
- 3129 Overvoltage  
THE SUPPLY VOLTAGE IS TOO HIGH.
- 3130 Undervoltage
- 01 Panel error code.
- 21 The control box cannot find the zero point.  
CHECK WHETHER THE SPINDLE IS RUNNING OR NOT, CHECK THE PENDULUM.





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Version 11 - 2020