⚠ Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. All the instruction marked with sign ⚠ must be observed or executed; otherwise, bodily injuries might occur.
3. The product should be installed and pre-operated by well trained persons.
4. For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.
5. When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250 VAC and matches the rated voltage indicated on the motor's name plate.
   ※Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.
7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.
8. Don't operate in area with heavy dust, corrosive substance or volatile gas.
9. Avoid power cord being applied by heavy objects or excessive force, or over bend.
10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
11. All the moving portions must be prevented to be exposed by the parts provided.
12. Turning on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
13. Turn off the power before the following operation:
    (1) Connecting or disconnecting any connectors on the control box or motor. (2) Threading needle.
    (3) Repairing or doing any mechanical adjustment. (4) Machines idling
14. Repairing and high level maintenance work should only be done by electronic technicians with appropriate training.
15. All the spare parts for repairing work must be provided or approved by the manufacturer.
16. Don't use any objects to hit or ram the product

Guarantee Time

Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

Warranty Detail: Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period

Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product

Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments

Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

＊ Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this all a failsafe device. (Such as residual current breaker).

We hereby declare that the products are in conformity with the provision of the EC directives as following

－EC Low Voltage Directive (73/23/EEC)
－EC Electromagnetic Compatibility Directive (89/336/EEC)
－EC Machinery Directive (98/37/EC)

Applied harmonized standards

EN 60204-31 : Electrical equipment of industrial
EN 292-1: Safety of machines
EN 292-2: Safety of machines, technical guidelines and specifications.
EN 61000-6-2: EMS for industrial environment
EN 61000-6-3: EMI for residential environment

Declaration of Conformity for Concentration Limits for Certain Hazardous Substances

We hereby declare that the products are complies with the following directives and requirements: European Union RoHS Directive (2002/95/EC and the concentration limits for certain hazardous substances (2005/618/EC) SJ/T 11363-2006

People's Republic of China Electronic Business Standard: Requirements for concentration limits for certain hazardous substances in electronic information products (SJ/T 11363-2006)

Our product itself (motor, control box) or its packing materials and accessories (box, screws package, user manual, sticker, label, print…etc.) or the suppliers of parts and raw materials are all in conformity with the provision of the European Union RoHS Directive and People's Republic of China Electronic Business Standard to conform the following concentration limits for the six hazardous substances:

The concentration of lead in the lead-free process for PCB shall be less than 800 ppm.

Hazardous Substance	Permissible Values
Lead（Pb）	Less than 240ppm
Mercury（Hg）	Less than 800ppm
Cadmium（Cd）	Less than 80ppm
Hexavalent chromium（Cr VI）	Less than 800ppm
Polybrominated Biphenyl（PBB）	Less than 800ppm
Polybrominated Diphenyl ether（PBDE）	Less than 800ppm

For packing materials shipped with our products or parts, the hazardous substances shall be 80 ppm or less in sum of Pb+Hg+Cd+Cr VI.

Catalog

1、ISPLAY AND OPERATION INTERFACE

NO.	ICON	DESCRIPTION	REMARKS
1		User parameter setting key	
2		Left shift key	Modify Parameter down key (decreasing)
3		Speed setting key	
4		Upper shift key	Change parameter value raised key (sliding scale)
5		Enter key/ Language Selection key	
6		Shift down key	Change parameter value down key (decreasing
7		Right shift key	Modify Parameter raised key (sliding scale)
8		Selvage induction selection key	
9		Mode conversion key	
10		Trimming mode adjustment key	
11		Trimming suction mode adjustment key	
12		Cloth feed mode adjustment key	
13		LED brightness adjustment key	
14	Indicator	F-SENSOR B-SENSOR RUN SAFE	1: When the front sensor touches the fabric, F-sensor lamp should be bright, otherwise the lamp is off. 2: When the back sensor touches the fabric, B-senor lamp should be bright , otherwise the lamp is off. 3: When the motor is running, Run lamp should be bright, when the motor stops running, it is off. 4: When it alarms， safe lamp should be bright。

2、USER PARAMETER MODIFICATION

When users press the【P】4 seconds, enter the user parameter adjustment mode via【◁】And【▷】To modify the parameter item, press【△】And【▽】To modify the corresponding parameter value, press【S】to confirm

3、FULL AUTOMATIC / SEMI-AUTOMATIC

Single user presses the【 】Button, the system enters the modification automatic mode and semi-automaTic mode screen. When continuously press this button will cycle in fully automatic and semi-automatic modes. Set up, press【S】 to determine the save.

4、SENSOR MODE MODIFICATION

The user presses the fabric edge selection key【 】; can be modify the selvage sensor function. Every time you press the button, the system will turn the cycle: open, closed mode.. Setting is completed, press【S】to confirm the save. Press the button for 3 seconds to enter the induction intensity viewing mode, press 【S】 to confirm the exit.

⚠ Note: It is full manual mode when the sensor is off. According to the manual or the anti shear line out (tangent line loose sewing process) .Under this mode: If you need modify the parameter after the machine starts, you should full heel back the treadle once, or else the panel has no response.

5、THREAD TRIMMING SUCTION MODE MODIFICATION

The user presses, trimming air suction Mode Key【 】, you can modify the cut line air suction mode. When the button is pressed continuous; the system will: air suction before trimming after trimming air suction, air suction around the cut line, long air suction, closed cycle conversion. Press the【S】to confirm the save.

6、TRIMMING MODE SETTING

The user presses, shear line Mode Key【 】can modify the cut line mode. continuous press the button, the system will: Before shear line after shear line, front and rear cut line, closed circulation mode conversion. Setting is completed, press【S】to confirm the save.

Note: The side type shear line is loose mouth under signal line signal(No front loose wire action)

7、CLOTH FEEDING MODE MODIFICATION

The user presses, Raab mode button【 】can modify the filibuster mode. continuous press the button, the system will: sewing, after sewing, closed loop transformations and other modes. Setting is completed, press【S】to confirm the save.

Note: No front loose wire action.

8、ROTATE SPEED SETTING

The user presses speed setting button【 】To enter the setup mode the motor running speed. Press【△】And【▽】Can modify the speed, Each press of will be 50 (rpm) is incremented / decrement. Setting is completed, press【S】to confirm saving

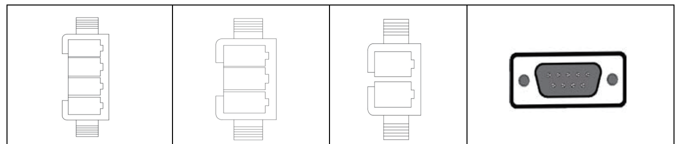
9、TECHNICIAN PARAMETER SETTING

When a user hold down the【P】Key while turning the power, the display shows [P26] to enter the technician parameter mode. By【◁】And【▷】To modify the parameter item; press【△】And【▽】To modify corresponding parameter values, then press【S】to confirm save.

10、RESET TO FACTORY DEFAULTS

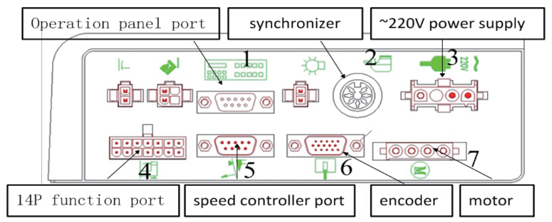
When a user hold down the【◁】And【▷】Simultaneously boot; the display shows [P26]. Press【S】to confirm; then shutdown restart, then the system restored to factory settings.

11、PORT ILLUSTRATION

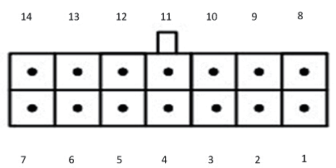


4P port	3P port	2P port	Needle selection box port
port No.	port name		Port type
A	LED/ manual trimming port		4P port
B	Presser foot safety switch		3P port
C	Emitter		4P port
D	After receiving the 2 #		2P port
E	Former receiver 1 #		2P port
F	Sewing table safety switch		3P port

Outlet Diagram



Function port illustration



Presser foot lifter :7、14
Suction cut line :6、13
Suction selvage :2、9
Thread trimming (Loose line) :1、8

12、PARAMETER TABLE

a. The sword models feature parameters.

No.	Function parameters	Range	Default	Description
User parameter				Press the P key for 4 seconds to enter
1	Max rotate speed	100-7000	5500	
2	Needle stop positioning selection	0-1	0	0:Up needle position 1：Needle position down
3	Sewing speed	100-7000	2500	
4	Start up mode	0-1	0	0：Automatic mode 1：Foot control mode
5	Automatic/semi-automatic mode selection	0-1	1	0：Semi-automatic 1：Automatic
6	Auto sensing switch	0-1	1	0：OFF 1：ON
7	Automatic cutting line	0-3	2	0：OFF 1：First cutting 2：Later cutting 3：First and later cutting
8	Auto suction	0-4	3	0：OFF 1：Front suction 2：Rear suction 3: Front and rear suction 4：Suction Cutter Suction long
9	Automatically lift the foot	0-2	0	0: off 1: seam in the pull cloth 2: seam after the cloth
10	Auto presser foot lifting	0-3	0	0：OFF 1：First lifting 2：Later lifting 3：First and later lifting
11	Lift the presser foot after the sewing stop	0-1	0	0：OFF 1：ON
12	Lift the presser foot after trimming	0-1	0	0：OFF 1：ON
13	Lifting the presser foot when half heal back the treadle	0-2	2	0：Half back step, carry presser foot 1：lay down 2：Reverse step up presser foot
14	Manual control suction	0-2	1	0：No suction 1：Suction 2：Front suction and rear suction
15	Head lamp brightness	0-8	3	
16	Low air pressure mode	0-8	3	0: Normal mode 1:The low pressure mode is on
17	Semi automatic continuous sewing	0-2	1	1：Continuous sewing when toe down the treadle 0：OFF
18	Semi automatic constant rate trimming	0-1	0	0：Close 1：fixed speed before and after the shear
19	Electronic control software version number			
22	Front Receiver (Receiver E #) Turns off the option	0-1	0	0: Indicates that it is not closed 1: Indicates that it is off
23	Intermittent suction opening time（100ms）	1-600	20	Intermittent suction (suction ago) open time
24	Intermittent air suction off time (100ms)	0-600	0	Intermittent air suction (air suction selvage) closing time (valid at P46 = 1 case), 0 for no intermittent air suction
26	The stitches number between two sensors	1-600	100	
27	Before blowing open cut line pin number	0-50	1	The smaller the number, more in advance, in front of the tangent thread longer(front sensor trigger)
28	After blowing needles cut line delay	0-50	3	The smaller the number more in advance, the shorter the thread behind the tangent

29	Before blowing open cut line pin number	1-50	8	
30	Before blowing off time shear line	1-50	16	
31	After blowing suction line cut off delay	100-5000	300	
32	Before the loose line to open the number of pins	1-50	3	The machine starts to loose line, to set the number of stitches to stop loose line
33	Needle suction before opening the total number of stitches	1-50	11	At the start of the machine, the needle plate is sucked and the suction number is stopped
35	The delayed stitches number before the machine stops	1-99	1	
36	The response time of front sensor	10-990	10	
37	The sensitivity of front sensor	1-50	20	Should be greater than the intensity of the sensor to see a group of figures in front of the model
38	The sensitivity of back sensor	1-50	20	Should be greater than the intensity of the sensor to see a group of figures behind the pattern
39	The delaying time of front presser foot lifter	100-2000	100	
40	Starting time for back presser foot lifter	0-2000	120	
41	Full-on time setting for presser foot	10-990	100	
42	Duty cycle time setting for presser foot	10-90	30	
43	The time for the presser foot laying down	10-990	10	
45	Trimming time	10-990	40	
46	Suction when continuous feeding	0-1	0	0: off 1: open
47	Full artificial mode under long inspiratory switch	0-1	0	
48	Needle goes up as power on	0-1	1	
49	Stitch	1-7	3	
50	Up needle position adjustment	40-180	40	
51	Down position adjustment	40-180	40	
52	Test speed	100-7000	2000	
53	Test working time	1-250	20	
54	Test stop time	1-250	20	
55	Item A testing	0-1	0	
56	Item B testing	0-1	0	
57	Item C testing	0-1	0	
58	Table protection switch	0-1	0	0：OFF 1：ON
59	Sewing machine head protection switch	0-1	1	0：OFF 1：ON
60	Electric /air-powered	0-1	1	0：Electric 1：Air-powered
61	Impulses number per circle	600-3000	1440	
62	Rotate direction	0-1	0	0：Forward 1： Reversal
63	Language	0-1	1	0： English 1： Chinese
64	After the loose line delay the number of stitches	0-99	5	Pass the first sensor after a number of needles to start the suction line

65	Anti - needle plate suction switch	0-1	1	0: Close the suction 1: Turn on the suction
68	Speed manual cutter	100-7000	1000	Side cutter model mode, the motor speed manual cutter
70	Model selection	1-3	3	3: Automatic BK
71	Speed limit	100-7000	5500	

13、Error code table:

Error code	Contents	Countermeasure
E01	Mains overvoltage protection. Mains is not normal, over-current or over-voltage. Braking resistor or aluminum resistance] or [F1 fuse exception occurs.	Module drive output and headpiece output will be both shutting down。Wait for the power supply to re-open or reset（Please check functions of the power supply board carefully）
E07	Motor plug wiring bad result does not rotate. head mechanism of deadlock or motor belt bodies involved in death card Processing is too thick, motor torque can not be less than the penetration Module drive output abnormal.	Module driver output and the front output will close all. Waiting for the power to open / reset.(please check the front is jammed or locator, motor, drive signal is abnormal or not)
E09	The locator signal abnormalities	Check on the positioning signal is normal, or belt is too loose
E10	Solenoids, relays, solenoid valves overcurrent	Driver and front output module output will be fully closed. Check the solenoid valve solenoid or relay is abnormal
E11	Power on automatically find location, but the locators are inserted into the control box, the needle signals can not be output	Automatic into the locator, and tangent, sweeping lines, positioning and all stitch style sewing function is invalid. The motor can be normal operation(please check locator is abnormal or not).
E12	The power is turned on, forget to insert locator.	Automatic enter without locator mode operation, and the tangent, sweeping lines, positioning and all the stitch pattern sewing function is invalid. The motor can be normal operation. (please check locator is forget to insert or abnormal)
E14	Encoder signal abnormalities	Detection of encoder signal is normal, or replace the encoder
E15	Power module abnormal over current protection	Module driver output and head output will close all. Waiting for the power to open / reset. (please carefully check power supply board each function)
E16	Foot pressure safety switch is not in the correct position	Check the presser foot mechanism whether to return to the correct position, the sewing table safety switch is damaged, the outlet is abnormal
E17	The sewing table safety switch is not in the correct position	Check the sewing table is lifted, the sewing table safety switch is damaged, the outlet is abnormal
NC	Operation panel and the box of computer communication is not normal	Check operation panel and a computer connecting line is loose, waiting for the power to open / reset