


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. Turing 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)Raising the machine head.
 - 4)Repairing or doing any mechanical adjustment.
 - 5)Machines idling.
 14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
 15. All the spare parts for repair must be provided or approved by the manufacturer.
 16. Don't use any objects or force to hit or ram the product.

WARRANTY TERMS

Warranty period of this product is 1 year dated from purchasing (2 years for EX version)

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:

1. 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.

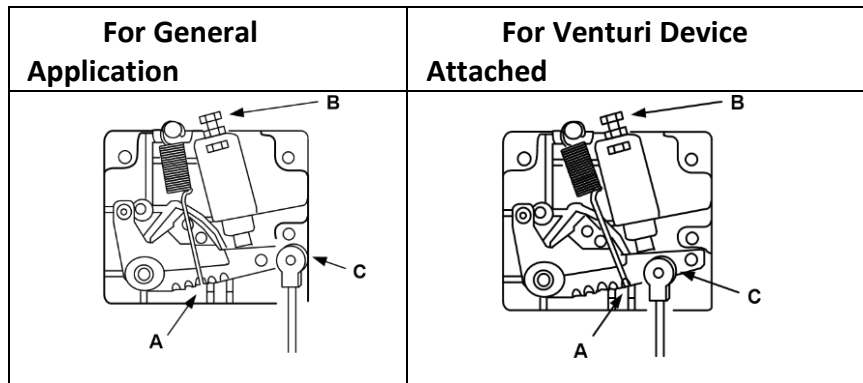
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.

3. 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 product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker).

1. Installation

1.1: Speed Control Unit

Adjustment Spring A: Downward force adjustment



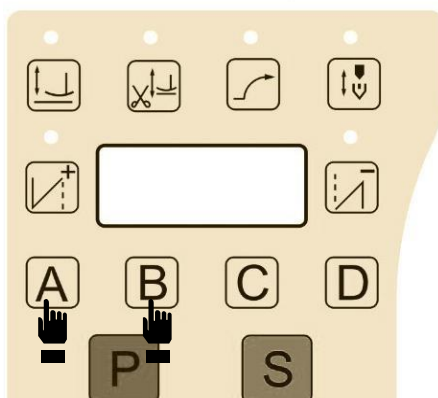
Bolt B: Heeling back force adjustment

Hole C: Pedal stroke adjustment

In case of connecting with an air switch on the pedal rod to activate a Venturi Device, please shift the position for A and C as shown below.

2. Operation

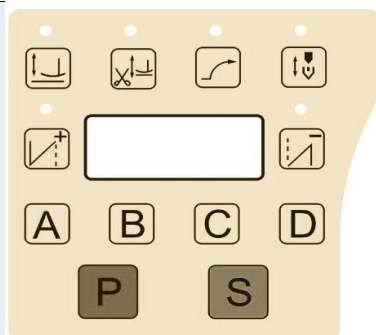
2.1 Reset Factory Defaults



Press [A], [B] boot display P 44 double-click [S] confirmed that the shutdown

Reboot to restore the factory settings





2.2 Parameter Saving









To adjust the parameter P28, press [**Upper and lower**] key to display P29 shutdown restart.

2.3 Operation Panel Display









2.3.1 Operation Panel Keys Function

Function	Key	OPERATION OF SEWING MACHINE
Enter and save the value		Enter to the parameter value, press [S] key for confirmation and save if the parameter value adjustment.
Enter parameter value Selection		1. Under normal mode by pressing [P] [enter parameter mode user area] 2. Hold down the [P] boot into parameter mode Technician area
Trimming presser foot		1, hold down the LED lights when the cut line after the completion of the automatic presser foot lift. 2, press and hold the LED is not lit, no automatic presser foot lift function.
Stop presser foot		1. hold down the LED lights when the motor is stopped when sewing presser foot lift automatically. 2. press and hold the LED is not lit, no automatic presser foot lift function.



























Soft Start		1. The related LED ON, the soft start is turn on. 2. the related LED OFF without soft start function.
Upper and Lower parking		The related LED ON indicate stopping machine at the upper stop needle position. The related LED OFF indicate stopping machine at the lower stop needle position.
A median adjusted		In the case of modifying parameters, when you press the button A digital control starts flashing, which means that you can modify the bit value.
B median adjusted		In the case of modifying parameters, when you press the button B digital control starts flashing, which means that you can modify the bit value.
C median adjusted		In the case of modifying parameters, when you press the button C digital control starts flashing, which means that you can modify the bit value.
D median adjusted		In the case of modifying parameters, when you press the button D digital control starts flashing, which means that you can modify the bit value.

2.3.2 Comparison Table of LCD Display Fonts and Actual Fonts

Arabic Numerals:

Actual	0	1	2	3	4	5	6	7	8	9
Display										

English Alphabet:

Actual	A	B	C	D	E	F	G	H	I	J
Display										
Actual	K	L	M	N	O	P	Q	R	S	T
Display										
Actual	U	V	W	X	Y	Z				
Display										

3. Control System (Users' parameter & Technician parameter)

3.1 Users' Parameter

Param. Code	Parameter Function	Range/unit	Default	Key	Description
P01	Maximum Sewing Speed (spm)	100 ~ 7500	4500	<input type="checkbox"/> + <input type="checkbox"/> -	Maximum speed of machine sewing
P02	Speed Curve Adjustment (%)	1 ~ 100%	10	<input type="checkbox"/> + <input type="checkbox"/> -	The speed controller climbing slope setting. The large of slope value = the fast of the speed. The small of slope value = the slow of the speed.
P03	Needle UP/ DOWN	UP / DN	UP	<input type="checkbox"/> + <input type="checkbox"/> -	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P07	Soft Start Speed (spm)	200 ~ 1500	400	<input type="checkbox"/> + <input type="checkbox"/> -	Soft Start Speed Adjustment
P08	Stitch Numbers for Soft Start(SLS)	0 ~ 99	4	<input type="checkbox"/> + <input type="checkbox"/> -	Soft Start Stitches Setting (one unit = half stitch)
P11	Air suction feature selection	J / B	B	<input type="checkbox"/> + <input type="checkbox"/> -	J: Close Air suction function B: Open the Air suction function
P14	Soft Start	ON / OFF	OFF	<input type="checkbox"/> + <input type="checkbox"/> -	ON: Soft start function is turn on. OFF: Soft start function is turn off.
P20	Solenoid, air valve selection	A/M	M	<input type="checkbox"/> + <input type="checkbox"/> -	A: air valve drive M: Solenoid Driver
P37	(upper blade)tangent output of function setting	ON / OFF	ON	<input type="checkbox"/> + <input type="checkbox"/> -	ON: There are lines on the knife movement OFF: No action on knife-line
P38	(lower blade)tangent output of function setting	ON / OFF	ON	<input type="checkbox"/> + <input type="checkbox"/> -	ON: There are actions under the knife line OFF: No action line under the knife
P39	Presser Foot UP / Down at intermediate stop	UP / DN	DN	<input type="checkbox"/> + <input type="checkbox"/> -	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P40	When the knife is stopped, select the presser foot output	UP / DN	DN	<input type="checkbox"/> + <input type="checkbox"/> -	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P41	Display the sewing finished quantity	0 ~ 9999	0	<input type="checkbox"/> + <input type="checkbox"/> -	Counting the finished-sewing quantity
P42	Sewing Speed Display		0	<input type="checkbox"/> + <input type="checkbox"/> -	Displaying the current sewing speed (the speed only for reference)
P43	Setting Direction of Motor Rotation	CW / CCW	CW	<input type="checkbox"/> + <input type="checkbox"/> -	CW: Clockwise CCW: Counter Clockwise

3.2 Technician Parameter Table

Param. Code	Parameter Function	Range/ unit	Default	Key	Description
P44	Machine's Pulley Dimension (mm)	0 ~ 31	8	⊕ ⊖	Setting machine pulley size
P45	Motor's Pulley Dimension (mm)	1 ~ 100	65	⊕ ⊖	Setting motor pulley size
P47	Adjustment of reverse angles after trimming	50 ~ 200	160	⊕ ⊖	Adjusting at reverse direction after trimming
P48	Low (Positioning) Speed (spm)	200 ~ 400	230	⊕ ⊖	Setting Positioning Speed
P50	Full-On Time Setting for Foot Lifter (ms)	10 ~ 990	100	⊕ ⊖	Timing adjustment for Full-On time of Automatic Foot Lifter actives.
P51	Duty-Cycle Setting for Foot Lifter (%)	10 ~ 90	20	⊕ ⊖	Adjustment for Duty-Cycle of Foot Lifter (Fine tuning can reduce the over-heating)
P52	Running-Delay Time Setting	10 ~ 990	120	⊕ ⊖	Running-Delay time adjustment for Automatic Foot Lifter
P53	Cancellations (half-pedal) function of presser foot	0-2	0	⊕ ⊖	0: When a half pedal, there presser foot lift output of 1: When pedal a half later, no presser foot lift output of 2: a half, all-trans pedal presser foot output of
P54	(lowerblade) tangential action time (ms)	10 ~ 990	80	⊕ ⊖	Under the knife line timing required action time (ms)
P55	(upperblade) tangential action time (ms)	10 ~ 990	100	⊕ ⊖	The knife-line timing required action time (ms)
P56	Needles Goes Up Automatically as Power turned on	ON / OFF	ON	⊕ ⊖	ON: Power turned on, needle goes up position automatically OFF: No Function.
P57	Presser foot protection time (s)	1 ~ 120	10	⊕ ⊖	Presser foot lift over a continuous set time automatically fall
P58	Up Position djustment	40 ~ 180	80	⊕ ⊖	Up Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P59	Down Position Adjustment	40 ~ 180	75	⊕ ⊖	Down Position Adjustment The needle will advance stop when the value decreased. The needle will delay stop when the value increased.
P60	Testing Speed (spd)	100 ~ 7500	2000	⊕ ⊖	Setting testing speed

P61	Testing A	ON / OFF	OFF	<input type="checkbox"/> <input type="checkbox"/>	Option of Testing A, after setting press 【P60. TV】 to set the speed keep running.
P62	Testing B	ON / OFF	OFF	<input type="checkbox"/> <input type="checkbox"/>	Option of Testing B, after setting press 【P60. TV】 to set the speed execute the cycle of Start – Sewing –Stop - Trimming
P63	Testing C	ON / OFF	OFF	<input type="checkbox"/> <input type="checkbox"/>	Option of Testing C, after setting press 【P60. TV】 to set the speed execute the cycle of Start – Sewing –Stop without positioning function
P64	Running Time of Testing B and C	1 ~ 250	20	<input type="checkbox"/> <input type="checkbox"/>	Setting running time of testing B and C
P65	Stop Time of Testing B and C	1 ~ 250	20	<input type="checkbox"/> <input type="checkbox"/>	Setting stop time of testing B and C
P66	Machine Protection Switch Testing	0~2	0	<input type="checkbox"/> <input type="checkbox"/>	0: Disable, 1: Testing zero signal, 2: Testing positive signal
P67	Trimming Protection Switch Testing	ON / OFF	ON	<input type="checkbox"/> <input type="checkbox"/>	0: Disable, 1: Enable
P69	Start delay time upper blade	10~990	50	<input type="checkbox"/> <input type="checkbox"/>	The lower blade cut line, how much time, upper blade starts to operate

4 Error Code List:

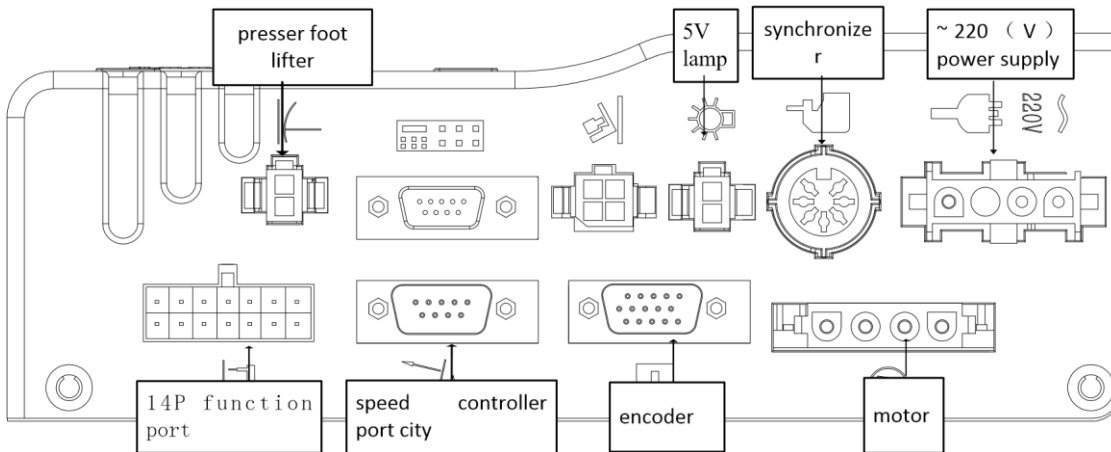
4.1 Error Code and Measurement

Error Code	Problem	STATUS / MEASUREMENT
E1	Power Module is faulty. Abnormal over current or voltage. Resistor is damaged or F1 fuse is blown.	System will be shut down until the power resets on. Please check the power board in detail.
E7	a) Bad connection at the motor connector. b) Synchronizer signal error c) Machine locked or object stuck in the motor pulley. d) Sewing material is too thick. e) Module output is abnormal.	System will be shut down until the power resets on. Please check the motor connectors, synchronizer situation and machine situation.
E8	Manual Back-Tacking lasts for 15 sec.	System will be shut down until the power resets on.
E9	Synchronizer signal error.	Please check the positioning signal or the condition of pulley.
E11	Auto Needle Up is malfunction as power on.	Motor still can run, but it automatically starts the clutch mode. All constant-stitch sewing pattern and trimmer /wiper function is invalid. Please check the synchronizer.
E12	Power is turned on without the synchronizer signal.	Motor still can run, but it automatically starts the clutch mode. All constant-stitch sewing pattern and trimmer /wiper function is invalid. Please check the synchronizer.

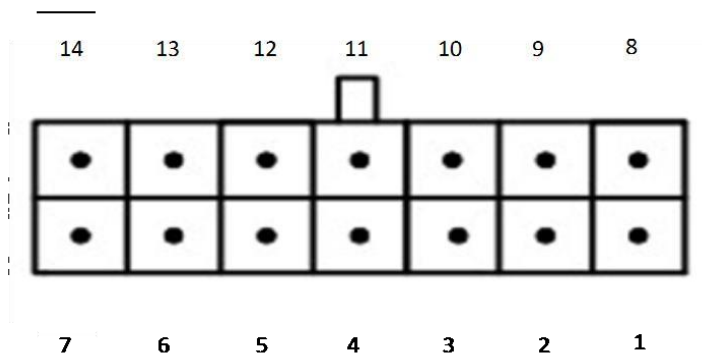
E14	Encoder signal error.	Please check the encoder signal or change the encoder.
E15	Abnormal over current protection for Power Module.	System will be shut down until the power resets on. Please check the power board in detail.
E16	Trimmer switch error.	Please check the trimmer switch whether turn in the correct position.
E17	Machine head switch error.	Please check if the machine head whether raised or if the machine head switch is damaged.

5 Port Outline Diagram

5.1 Flat seaming machine connector illustration :

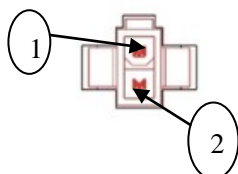


5.2 14P Function Port Table



- ① Lower cutter electromagnet : 1、 8
- ① Upper cutter electromagnet : 2、 9
- ② Ventilation electromagnet : 6、 13
- ④ Trimming Protection switch : 7(Signal)、 14(SGND)、 3 (Trimming safety switch 5V)
- ⑤ GND:10

5.3 Sewing machine lamp Socket illustration



Sewing machine lamp connector	
1	(+5V)
2	(0V)