


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:
 - a) Connecting or disconnecting any connectors on the control box or motor.
 - b) Threading needle.
 - c) Raising the machine head.
 - d) Repairing or doing any mechanical adjustment.
 - e) 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.

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:

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)

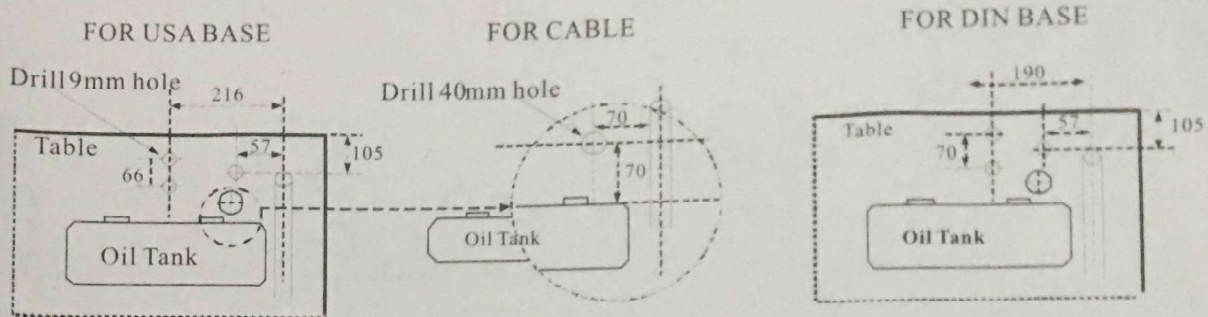
1 Installation

1.1 Power Connection

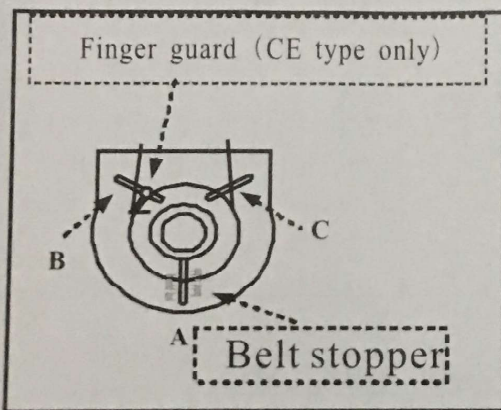
△ For countries or regions with unstable power supply, it is proposed to install a power stabilizer.

1.2 Motor Installation:

1.2.1 Installation of External Motor



Recommended Drilling Diagram



As shown in the diagram above, after drilling 3 - $\Phi 9$ mm holes and 1 - $\Phi 40$ mm hole on the machine table, install and fix the motor under the table, and NOTICE:

1. Pulleys of motor and machine must properly align.

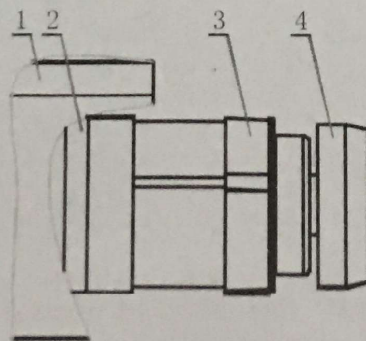
2. Cable pass through under the working table must be secured to avoid the V-belt to be rubbed.

Installation and Adjustment of Belt Cover

1) Adjust the stopper A on the cover properly and leave about 5-10mm space from the v-belt.

2) As factory defaults, [Finger Guard] is set at position B to avoid rubbing with the v-belt and pulley.

1.2.2 Installation of Internal Motor



- 1: Sewing machine heads
- 2: A flange
- 3: The motor
- 4: Hand wheel

1.3 Installation and Adjustment of Synchronizer

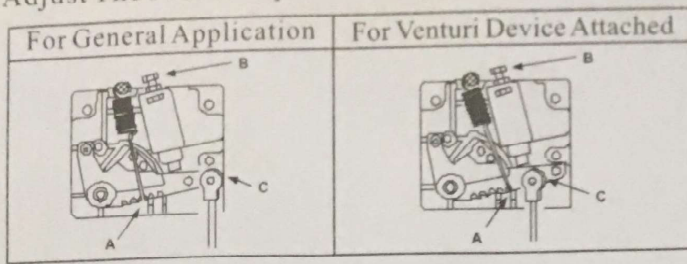
a) Installation: Mount the synchronizer onto the flange of machine pulley and fasten the rotor by fixed screws so that no vibration is found at rotating.

b) Adjustment: Release the fixed screws on the top shell and remove the top shell.

c) Needle Up/Down Positioning Adjustment: Aim the green mark toward the fixed point on the machine head. If it is not accurate, adjust the location magnets of Needle Up/Down. (Refer to Parameter Mode B)

△ Attention: Make sure the power is off before the installation.

1.4 Adjust The Force Required To Operate The Foot Pedal



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.

1.5 Comparison Table of LCD Display Fonts and Actual Fonts

Arabic Numerals :


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

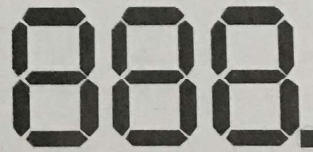
English Alphabet


Actual	A	B	C	D	E	F	G	H	I	J
Display	A	b	C	d	E	F	G	H	.	J
Actual	K	L	M	N	O	P	Q	R	S	T
Display	t	L	n	n	o	P	q	r	S	r
Actual	U	V	W	X	Y	Z				
Display	U	u	W		Y	≡				

1.6 Upper and lower stop debugging, Slow start joint debugging







In normal operating interface, when the button  on the screen the indicating lamp was lit in the parking position, the indicator light is off the time parking for lower needle stop



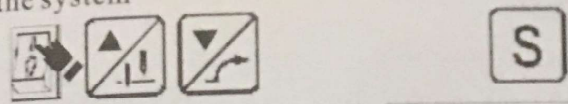
In normal operating interface, when the button  on the screen the indication lamp is lit up the slow play slot open, the indicating lamp is off the slow play off the seam.

2 Keys function

Entering and saving the parameter value		Enter into the parameter value and save the changed parameter values.
Entering the parameter mode		Press the P key in the Normal Mode can enter into the Users Parameter Mode(parameter value in Parameter Table 4.1) Press the P key and turn on the power can enter into the Technician Parameter Mode(parameter value in Parameter Table 4.2)
On the adjustment key		1. Choose the region parameter items incrementing key 2. Parameter setting value incrementing key 3. Select the shortcut needle position
Under the adjustment key		1. Choose the region parameter items of diminishing key 2. Is decremented key parameter settings 3. Slow play seam selection shortcuts

3 Operating instructions

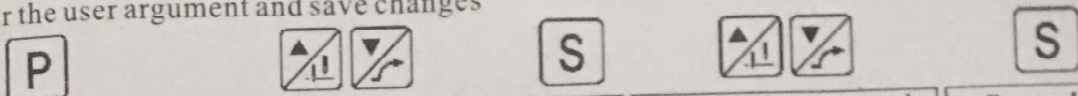
3.1 Reset the system



Press and hold the upper and lower adjustment key while turning the power

Press [S] to confirm ; shutdown restart

3.2 Enter the user argument and save changes



Under normal mode Press [P] to enter user parameters

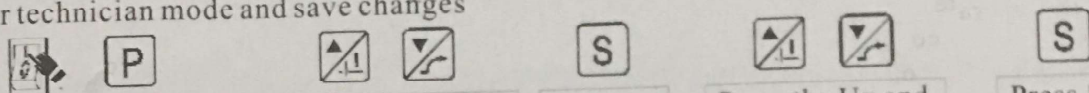
Press the upper and lower adjustment key ; modify parameter items

Press[S] key to enter

Press the upper and lower adjustment key ; modify parameter values

Press [S] key to confirm the save

3.3 Enter technician mode and save changes



Press and hold the [P] key to boot into the technician parameters

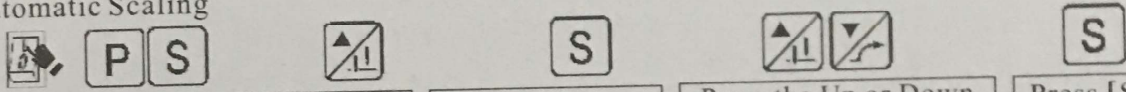
Press the Up and Down keys to adjust ; Modify parameter items

Press [S] key to enter

Press the Up and Down keys to adjust ; modify parameter values

Press [S] key to confirm the save

3.4 Automatic Scaling



Press [P], [S] key to turn the display [P19]

Press the adjustment key raised to [P22]

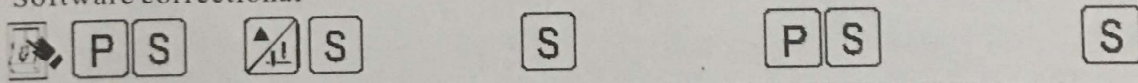
Press [S] key to enter automatically find the ratio

Press the Up or Down keys to adjust ; automatically find proportion a circle

Press [S] key to confirm the save

Note: under the hang machine model (fission) due to the size of the head pulley different proportion are not allowed to be out of control phenomenon for parking, after installed at this time to let control system automatically find proportion, shut electric restart.

3.5 Software correctional



Press [P], [S] key to turn the display [P19]

Press the button raised to [P27], press [S] to enter the on positioning setting mode

Turn handwheel; adjusted to on location; press [S] to confirm saving





Press [P]; adjusted [P28] Press [S] to enter; lower positioning setting mode

Turn the hand wheel; adjusted to lower location; press [S] to confirm saving



























4 User Parameter & Technician Parameter

4.1 User Parameter

Parameter	Parameter Function	Range	Default	Key	Description
P01	Maximum speed	010-400	350		set the max sewing speed (show the actual number *10= speed)
P02	needle stop position selection	000-001	001		Set the needle stop position(0: needle up 1:needle down)
P03	soft start switch	000-001	000		soft start switch setting(0:OFF 1: ON)
P04	soft start sewing speed	010-150	040		soft start sewing speed setting(show the actual number *10= speed)

Parameter	Parameter Function	Range	Default	Key	Description
P05	stitches number of soft start	000-099	004	 	set the stitches number of soft start, each unit is half stitch
P06	motor rotate direction	000-001	000	 	motor rotate direction setting (0:clockwise 1:counter-clockwise)

4.2 Technician Parameter

Parameter	Parameter Function	Range	Default	Key	Description
P07	Rate			 	
P08	Synchronizer type selection	000-001	001	 	Synchronizer type setting(0: single position 1:double position)
P09	auto running speed	010-600	200	 	auto running speed setting(show the actual number *10= speed)
P10	auto running time	001-250	020	 	set the auto running time in testing
P11	auto running stop time	001-250	020	 	set the auto running stop time in testing
P12	Item A test	000-001	000	 	Item A test setting(continue running with constant speed)
P13	Item B test	000-001	000	 	Item B test setting(carry out the set loop running)
P14	Item C test	000-001	000	 	Item C test setting(carry out the unset running)
P15	Machine Protection Switch Testing	000-002	000	 	0 : Disable ; 1 : Testing zero signal ; 2 : Testing positive signal
P16	No positioning mode selection	000-001	000	 	0: the positioning mode 1: no positioning mode
P17	setting the up of location	040-250	040	 	
P18	setting the down of location	040-250	040	 	
P19	Select machine types		2	 	1: Direct - drive Lockstitch Sewing Machine 2: Split Lockstitch Sewing Machine 4: Split Stretch Sewing Machine 7: [stretch sewing] direct - drive 5: Fission overlock sewing machine; 8: Sewing a direct-drive (747); 10: Sewing a direct-drive (EX)

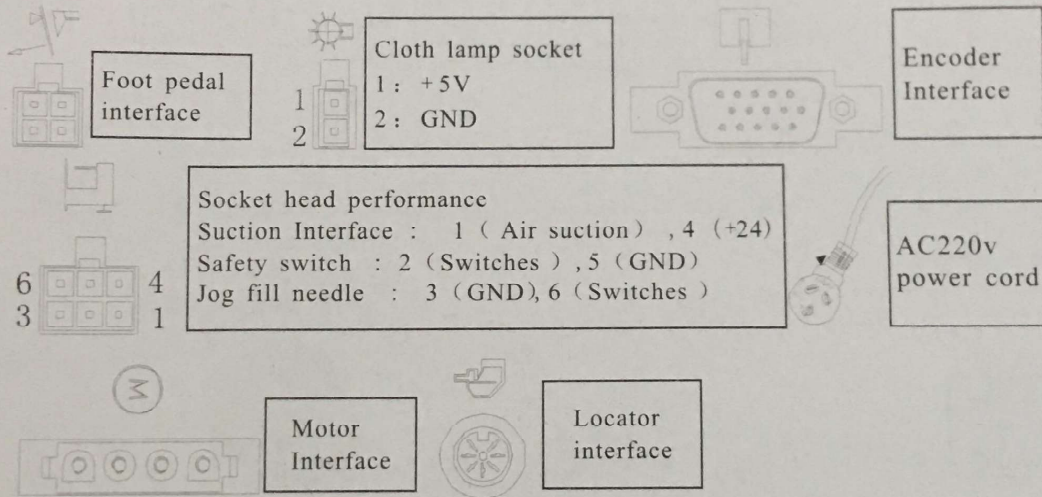
5 Error Code Table:

Error	Problem	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. Synchronizer signal error. Machine locked or object stuck in the motor pulley. Sewing material is too thick. Module output is abnormal.	Module driver output and sewing machine head output should be shut down until the power reset on. (Please check the sewing machine is jammed or synchronizer, motor, module driver single is abnormal.)

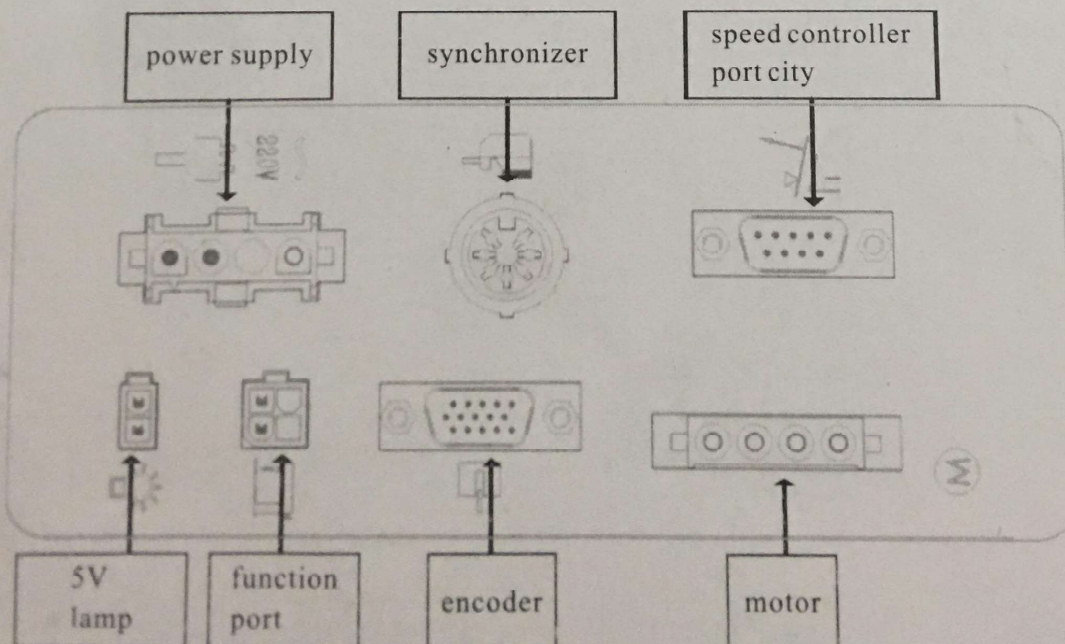
E9	Synchronizer signal error.	Please check the needle up and needle down position single is normal or the belt pulley is too loose.
E11	Auto needle position up when the power on. The synchronizer has connected to the control box, but the needle signal can't be sent out.	Motor still can run, but it automatically starts the no synchronizer 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.
E13	Overheat Protection for Power Module	Please check the connection between power module and heat sink
E14	Encoder signal error	Please check the encoder signal or change the encoder.
E15	Abnormal over current protection for Power Module	Module driver output and sewing machine head output should be shut down until the power reset on. Please check the power board in detail.
E17	Machine head switch position error	Please check if the machine head is raised or if the machine head switch is damaged.

6 Schematic diagram of port

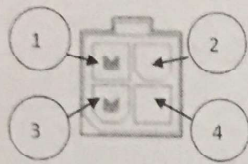
6.1.1 QD693 Each port name:



6.1.2 QD683G Each port name:

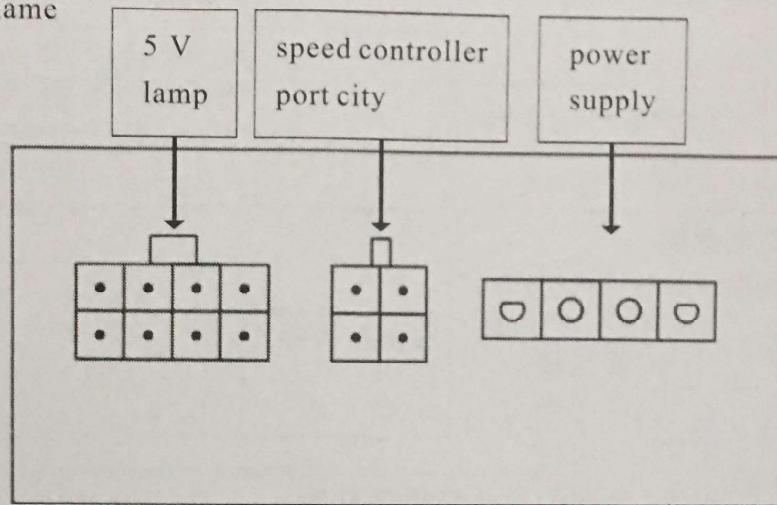


4P function port

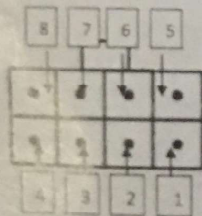


Head Protection	Suction Relay
1	2(+30v)
3	4 (0v)

6.1.3 QD603G Each port name



Lamp Port



4	3	2	1 (GND)
8	7	6	5 (+5V)

6.1.4 QD888G Each port:

