H8900
ELECTRICAL CONTROL BOX
INSTRUCTION MANUAL

前　　言

感谢您选用本公司的产品，该手册提供了此系统所需的操作指导说明。

为了您更好地使用该产品，在使用之前请仔细阅读本手册。

由于产品的改进，本手册内容可能随时变更，恕不另行通知。您在使用中若有任何疑问或对我们的产品和服务有任何意见，请随时与我们售后服务部联系。

PREFACE

Thank you for selecting our product. The introduction provides necessary knowledge and notes for using.

Please read safety introduction carefully and understand them before using.

The content of the introduction will be amended with the improvement of our product, the notice is not announced.

If you have any doubts or comments about our product and service, please contact after-sale service.

Content

I. Introduction of operation panel button

Name	Key	Indicate
Start Back-tacking Selection		Execute starting back seam B segment or executing back seam(A,B segment) 1 Execute starting back seam(A,B segment)2 times
Slow Launch Setting		Long press this key can set used or cancelled slow launch function
Free Sewing		Press this key, as the treadle is toed down, machine will start sewing. Once the treadle return to neutral, machine will stop immediately. As the treadle is heeled back, machine will automatically start trimming cycle
Constant Stitch Sewing		Long press this key can execute section E constant stitch sewing
Trimming Switch		Press this key can enable or disable the trimming cycle
Clamp Function Setting		Long press this key can set used or cancelled clamp function
End Back-tacking Selection		Execution starting back seam C segment or executing back seam(C,D segment)1 Execution starting back seam(C,D segment)2 times
Needle Stop Position Selection		Long press this key can set needle stop position
Continuous Back Seam Shortcuts		Press this key can set consecutive reverse sewing function
Multi-section Sewing		Long press this key, the function will in four section sewing, seven section sewing, eight section sewing and user-defined multi-section sewing between the switch
Automatic Presser Foot Lifting Setting		1. Automatic presser foot lifting after trimming function when ✂┊⏚ icon is lighting; 2. Automatic presser foot lifting after pause function when ┊┊⏚ icon is lighting; 3、Automatic presser foot lifting after pause function or trimming function when two icons are lighting; 4、Presser Foot is inactive when two icons are not lighting

Automatically Trigger Button		Long press this key, (In Constant-stitch sewing) When the icon is on, the function is turned on. Toe down the pedal to finish the rest section until it finish pattern
Parameter Increase/ Speed Increase		Increase the parameter/ Increase the sewing speed
Parameter Decrease/Speed Decrease		Decrease the parameter/ Decrease the sewing speed
Left key		Parameter left shift
Right key		Parameter right shift
Function parameter Edit		Press this key to enter or exit function parameter edit mode. Long-press key to save parameter values
Enter and determine / save button		Enter parameter values such items and their contents change after adjustment, need to press this key to save the confirmation

II. System function setting details

1. Adjust technical parameter

(1) After machine starts, click icon (P), "P-01" will be shown on the panel screen, press (+) (−) to select the parameter needed to adjust.

(2) When the parameter selection is OK, click (S) to enter, the parameter value will be shown . click (+) (−) to adjust the parameter value.

(3) After the adjusting, click (S) to confirm, then click (P) again to exit.

2. Start sewing thread clamp force shortcut

P-37　　0:　　No Action
　　　　1:　　Wiper Action
　　　　2-11:　Thread Clamp action and the pressure gradually increased)

3. Sewing speed adjustment function (parameters P-1，4，5，6，9)

1) Maximum speed of machine sewing (parameter P-01)
2) The tacking sewing speed setting (parameters P-04，05，06)
　P-04 initial fixed sewing speed setting
　P-05 terminate tacking sewing speed setting
　P-06 continuous tacking sewing speed setting
　(note) If fixed sewing speed setting is too high, it will affect the stitch performance.
3) Fixed length sewing speed setting (parameter P-09)
　　The variety of fixed length sewing speed setting parameters.

4. Soft start function (parameters P-07，P-08，P-14)

If the needle distance is relatively short or coarse , it may   cause   off-line   at sewing start . Increasing the stitch performance can be achieved by limiting the sewing speed.

P-08   ：   soft start stitches.

P-07 ：   soft start sewing speed setting

P-14 ：   soft start setting

5.Needle Stop position setting (parameters P-72, 73)

1) The up needle position adjustment (parameter P-72)

Turn the handwheel to stop needle position   and press icon ⓢ   to save

2) low Needle position adjustment (parameter P-73)

Turn the handwheel to Under needle position and press icon ⓢ   to save

6 .Presser foot soft release setting(parameter P-71, 117)

When use presser foot lift function, in order to avoid the light-duty or flimsy cloth is damaged by presser foot when it releases too fast , you can slow down the speed of release of the presser foot lift function.

P-71   Efforts to ease foot pressure release time

P-117   Pressure foot release buffer time(ms)。

7.Automatic up needle position when power on (parameter P-56)

When turn on the machine, it will run to the up needle position automatically to make the operation convenient, If the needle is already at up position, then no action.

8 Reverse Needle function (parameter P-46, P-47)

P-46   After trimming, reverse run the machine;

P-47   Adjust the reverse angle.

When sewing heavy duty material, the cloth touch the needle cannot quit successfully, need to use this function.

(Note) when the needle is up to the top position, the skip stitch will happens in next operation,. Please re-adjust the trimming thread-end length.

9. Parameters to restore the factory default values

Press icon ⓢ long time(More than 3 seconds.),System parameters restored to factory default.

III. System parameter list

Parameter	Parameter Function	Range	Default	Description
P01	Maximum Sewing Speed（rpm）	100-4100	4100	Maximum speed of machine sewing
P02	Speed Curve Adjustment（%）	10-100	80	The Lager the value, the faster to increase speed
P03	Needle UP/DOWN	UP/DN	DN	UP: Needle Stops at Up Position DN: Needle Stops at Down Position
P04	Start Back-Tacking Speed（rpm）	200-3200	1800	Start Back-Tacking Speed Adjustment
P05	End Back-Tacking Speed（rpm）	200-3200	1800	End Back-Tacking Speed Adjustment
P06	Bar-Tacking Speed（rpm）	200-3200	1800	Repeat Bar-Tacking Speed Adjustment
P07	Soft Start Speed（rpm）	200-1500	400	Soft Start Speed Adjustment
P08	Stitch Numbers for Soft Start	0-99	2	Soft Start Stitches Setting(one unit-half stitch)
P09	Automatic Constant-Stitch Sewing Speed（rpm）	200-4000	3700	Constant-Stitch sewing speed[034.SMP] is set at A(or when one shot signal is active)
P10	Automatic End Back-Tacking Sewing(Can invalidate the stitch correction function)	ON/OFF	ON	The Stitch-Correction is valid in sewing stop. Note: Valid only when the[O.11 RVM]must set on B. ON: Invalid(Constant-Stitch sewing, it can automatic continue action as CD function) OFF: Valid(Can't continue execute CD function)
P11	Back-Tacking Mode Selection	0/1	0	0:In the middle of the car to stop the middle of the time to stop when the inverted seam 1: That is, in the vehicle to perform the reverse operation of the seam, in the end of the time to stop the needle
P12	Start Back-Tacking Mode Selection	0-3	1	1: One shot to pedal, it will automatic execute Start Back-Tacking 0: Pedal-controlled and motor can stop Arbitrarily
P13	Mode Selection at the end of Start Back-Tacking	CON/STP	CON	CON: At the end of Start Back-Tacking, machine continues sewing if pedal pressed or START signal on(standing operation) STP: At the end of Start Back-Tacking, machine stops
P14	Soft Start	ON/OFF	OFF	ON: Slow start feature is turned on OFF: Slow start function off
P15	Make up pin mode	0-4	2	0:Semi-pin:1:a pin 2:Continuous filling half needle 3:Continuous injection
P16	Manual Inverted seam Speed limit	0-3200	0	0:Close
P17	Automatic Count	0-50	1	0：P41 Counter Increase progressively Automatic Count 1：P41 Counter No Count
P18	Stitch Balance for Start Back-Tacking 1	0-200	131	A starting back seam segment stitches compensation 0-200 movement gradually lag; the larger the value, A short last longer needle, B section of the first needle is shorter
P19	Stitch Balance for Start Back-Tacking 2	0-200	165	Starting back seam B segment stitches compensation 0-200 movement gradually lag; he larger the value, paragraph B last longer needle
P20	Mode Selection for End Back-Tacking	0-3	1	1: Pedal full heeling ,it will automatic execute end Back-Tacking
P21	Step Voltage before pedal	30-1000	520	
P22	Foot pedal without foot point voltage	30-1000	418	
P23	Half step voltage of foot pedal	30-1000	248	

P24	Foot pedal reverse voltage	30-1000	130	
P25	Stitch Balance for End Back-Tacking 3	0-200	131	Starting back seam segment stitches compensation C,0-200 movement gradually lag; the larger the value, the shorter the C section of the first pin
P26	Stitch Balance for End Back-Tacking 4	0-200	158	D starting back seam segment stitches compensation 0-200 movement gradually lag; the larger the value, C section last a longer needle, the first needle is shorter segment D
P27	Auxiliary function setting	N10 Backlight brightness Settings	3	
		N11 Backlight extinguishing time setting	30	
P28	Mode Selection for Bar-Tacking	0-3	1	Continuous back seam segment, rewind solenoid operation timing: O:controlled by the pedal can be arbitrarily stopping and starting; 1:Touch the pedal, automatically performs back-tacking action; 2:pause mode
P29	Tangent after braking force	1-45	20	
P30	Thick material angle	0-100	0	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities
P31	Cutting angle	0-100	40	The larger the value the greater the intensity, the adjustment is too large may cause the motor abnormalities
P32	Stitch Balance for Bar-Tacking 5	0-200	131	Start back-tacking A(C)paragraph stitch compensation,0-200 movement gradually lag; the larger the value, A(C)the last paragraph of a needle longer; B(D)of the first paragraph, the shorter pin
P33	Stitch Balance for Bar-Tacking 6	0-200	158	Starting back seam B(D)segment stitch compensation,0-200 movement gradually lag; the larger the value, B(D)last paragraph a longer needle, C section of the first needle is Shorter
P34	Mode Selection for Constant-Stitch Sewing	A/M	A	A: One shot to pedal, it will automatic execute Constant-Stitch M: Pedal-controlled and motor can stop Arbitrarily
P35	Thread tension release output when presser foot lifting function setting	0-1	1	0: OFF 1: ON
P36	Slack line output function setting(loose line power set)	0-11	5	0:no loose wire operation 1 to 11 and gradually increases the intensity of loose wire
P37	Wiper Function Selection or Thread Clamp Pressure Setting	0-11	8	0:No Action 1:Wiper Action 2-11:Thread Clamp action and the pressure gradually increased)
P38	Trimmer Function Selection	ON/OFF	ON	ON: Trimmer Valid OFF: Trimmer Invalid
P39	Presser Foot UP/Down at intermediate stop	UP/DN	DN	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P40	Presser Foot UP/Down after Trimming	UP/DN	DN	UP: Presser foot goes up automatically DN: Presser foot keeps down (Controlled by heeling pedal)
P41	Display the sewing finished quantity	0-9999		Counting the finished-sewing quantity
P42	Information Display			N01 Electrically controlled version serial Numbers N02 Selected needle cassette version

				N03　　Speed N04　　Pedals AD N05　　Positioning angle N06　　Under the positioning angle N07　　Bus voltage AD N12　　Knee position sensor AD
P43	Setting Direction of Motor Rotation	CCW/CW	CCW	CW: Clockwise CCW: Counter Clockwise
P44	Parking efforts	1-45	16	Efforts to stop the machine when selecting
P45	Back-seam operation duty cycle （%）	1-50	25	Back-seam action to periodic power output
P46	Motor stops with a reverse angle after trimming	ON/OFF	OFF	ON: It will automatic as reverse function after trimming
P47	Adjustment of reverse angles after trimming	50-200	160	Adjusting at reverse direction after trimming
P48	Low(Positioning)Speed(rpm)	100-500	210	Setting Positioning Speed
P49	Trimming Speed （rpm）	100-500	300	Adjusting trimming speed
P50	The time of Foot lifting	10-990	200	Adjustment of foot lifting action
P51	Lift foot full force time （%）	1-50	25	Adjustment for Duty-Cycle of Foot Lifter/ Back-Tacking(Fine tuning can reduce the over-heating)
P52	The time of Foot down	10-990	120	Delay starting motor, ensure that the foot is put down
P53	Cancel Foot Lifting when Half-Heeling the Pedal	ON/OFF	OFF	ON: Pedal half heeling without foot lifting function OFF: Pedal half heeling with foot lifting Function
P54	Trimming Time （ms）	10-990	200	Trimming sequence time setting
P55	Setting Wiper Timing	10-990	30	Wiper sequence setting
P56	Needles Goes Up Automatically as Power turned on	0-2	0	O:always not to find a position 1:always looking for positioning 2:If the motor is positioned on the no longer find location(only with magnet motor)
P57	Protection time for foot lifter(s）	1-120	10	It will automatic come down when foot lifter keep lift over the setting time
P58	Up Position Adjustment	0-1439	120	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	0-1439	710	Down Position Adjustment The needle will advance stop when the value　decreased The needle will delay stop when the value increased
P60	Testing Speed（rpm）	100-3700	3500	Setting testing speed
P61	Testing A	ON/OFF	OFF	Option of Testing A, after setting press [060. TV] to set the speed keep running
P62	Testing B	ON/OFF	OFF	Option of Testing B, after setting press [060. TV]to set the speed execute the cycle of Start-Sewing-Stop-Trimming
P63	Testing C	ON/OFF	OFF	Option of Testing C, after setting press [060. 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	Setting running time of testing B and C
P65	Stop Time of Testing B and C	1-250	20	Setting stop time of testing B and C
P66	Machine Protection Switch Testing	0-2	1	O:Disable,l:Testing zero signal, 2:Testing positive signal
P67	Trimming Protection Switch Testing	ON/OFF	OFF	OFF: Disable ON: Enable
P70	The factory Type Selection			

P71	Presser foot release buffer duty cycle (%)	0-50	5	Efforts to ease foot pressure release time
P72	The needle position correction	0-1439		Turn the handwheel to stop needle position and press icon S to save
P73	Under needle position correction	0-1439		Turn the handwheel to Under needle position and press icon S to save
P74	The machine number 2			
P75	The machine number 1			
P76	Backstitch output of full time(ms)	10-990	200	Beginning of reverse seam, action time of full output
P77	Freedom sew back seam even terminate pause time(ms)	20-350	100	
P78	The Thread Clamp release angle	5-359	100	The positioning angle of starting clamp
P79	Clamp start action angle	5-359	270	The positioning angle of release
P80	Shear line in feed is angle	5-359	18	Shear line in feed is angle setting(under defined As 0º)
P81	Cut the line start angle	5-359	130	Afterburner trimming angle setting
P82	Retract angle cut line	5-359	172	Afterburner trimming angle setting
P84	Thick start angle	0-359	9	
P85	The thick end angle	0-359	57	
P92	Encoder start angle		160	Check the instructions 1.5 chapter Read starting angle of encoder，exit factory settings，Do not change at will （Parameter values cannot be changed manually，Random changes may cause abnormal or damaged control boxes and motors).
P93	Delay time of half-step function	10-900	200	
P101	Loose line starting angle	1-359	30	Loose line starting angle (Zero lower positioning computation)
P102	Loose line end angle	1-359	180	Loose line end angle (Zero lower positioning computation, need to be greater than P101 parameter value)
P117	Pressure foot release buffer time(ms)	0-990	0	
P119	Selection of over current protection for electromagnet	0-1	1	0: No detection 1: detection

Note: the initial values of parameters are for reference only. The actual values of parameters are based on the actual objects.

IV. Error Code List

Error Code	Problem	Strategies
E01	1) When power ON, detected main voltage too high 2) When the supply voltage is too high	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage.) If correct, please replace the control box and inform the Factory.
E02	1) When power ON, detected main voltage too low. 2) When the supply voltage is too low.	Turn off the system power supply, and detect whether the supply voltage is correct. (Or exceed the rated voltage) If correct, please replace the control box and inform the Factory.
E03	Operation panel and CPU transmission communication exception	Turn off the system power, check the operation panel interface is loose. If contact is good, please change the operation panel. If it is not operated, the control box is damaged, please change.
E05	Speed control unit connection is abnormal	Turn off the system power supply, please check the speed control unit connector if loose or fall off, Will resume normal. after the restart system. If you still cannot work normally, please replace the speed control unit and notify the manufacturer.
E07	a) Bad connection at the motor connector. b) Machine locked or object stuck in the motor pulley c) Sewing material is too thick. d) Module output is abnormal.	Please check the machine head to see if objects stuck in the motor pulley. If stuck it is not the machine head machinery fault. If normal running, please check the encoder connector and motor power cord connector if loose. If loose please tight connection. If connection well, please check supply voltage whether abnormal or setting speed too high. If have please modify. If normal, please replace the control box and notify the manufacturer.
E08	Continuous manual pour over 15 seconds	Back sewing electromagnet time is too long, can restart.
E10	Over current protection of electromagnet	Turn off the power supply of the system and check whether the solenoid (solenoid valve) is damaged or short-circuited.
E09 E11	Synchronizer signal error.	Turn off the system power supply, please check motor encoder. connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture.
E14	Encoder signal error.	Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture.
E15	Abnormal over current protection for Power Module.	Turn off the system power supply, renew to normal then restart system. If still not work, please replace the motor and notify the manufacture.
E17	The sewing table safety switch is not in the correct position	Please check sewing table is open or not, the sewing table safety switch is damage or not, the socket is abnormal or not.
E20	Power motor failed to start	Power off the system, check the motor encoder interface and motor power connector is loose or fall off, it was back to normal after restarting the system. If it still does not work, replace the control box and inform the manufacturer.