

AF User Manual

Safety instructions

1. The user should carefully read this operation manual before installing and using this product.
2. This product should be installed or operated by personnel receiving proper training.
3. All power supply should be turned off when installation is implemented and do not operate with electricity.
4. Implement according to the instruction book for all instructions marked with ⚠ to avoid unnecessary damage.
5. Before connecting the power line, the voltage should be determined to be less than AC250V and conform to the rated voltage value stipulated by this operation.
6. When firstly switch on this machine after installation, firstly cut off tangent function, operate the sewing machine by lightly pedaling and in low speed, and check whether the rotation direction is correct and rotation is steady or not.
7. Please turn off system power supply before implementing the following operations:
 - ◆ Insert or extract any attachment plug on the controller. ◆ Lift up the hand piece of the sewing machine.
 - ◆ The machine sits idle. ◆ Thread a needle. ◆ Repair the machine or make any adjustment of this machine.
8. Repair or maintenance of high level should be implemented only by trained mechanical and electrical technicians. All elements for repair could not be used until being provided or approved by our company.
9. Please stay away from high frequency electromagnetic wave and radio transmitter etc. when using this product to avoid generated electromagnetic wave disturbing the servo driver and causing malfunction.
10. Requirements of production application environmental temperature and humidity:
 - ◆ Do not operate it in the room temperature of over 45℃ or less than 5℃.
 - ◆ Do not operate it beside the heating installation (electric heater).
 - ◆ Do not operate it in the place of direct sunlight or outside.

Warranty period

The warranty period of this product is one year starting from the date of purchase or two years from the month when the product left the factory.

Warranty content

During warranty period, given the product is in normal condition and no operation with human error, we provide repairing service for customers with no charge until the product operates normally. But for the following conditions, repairing fees will be charged during warranty period:

1. Improper use including connecting with high voltage power supply in mistake, using this product for other purpose, disassembling by users themselves, maintaining, changing, or not using according to specifications, invaded by water or oil or other materials.
2. Damages caused by natural disasters or improper environment such as fire, earthquake, lightning, hurricane, flood, salt corrosion, damp, abnormal voltage and others.
3. Customers make this product fall after purchasing, or damages caused by transportation by customers themselves (or by the transportation company entrusted).
- This product has been under maximum effort and strictly control in both production and testing in order to meet the standard of high quality and high stability, but external electromagnetics or electrostatic interference or unstable voltage supply may still affect or damage this product. Therefore the grounding system of the operation site must be well set, and users are advised to install fail-safe device (like leakage protection device).

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DISPLAY AND OPERATION INTERFACE



NO.	ICON	DESCRIPTION	REMARKS
1		user parameter setting key	
2		left shift key	
3		speed setting key	
4		upper shift key	
5		confirm key	
6		shift down key	
7		right shift key	
8		automatic selection key	

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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		F-SENSOR	Front sensor contact with the cloth, F-SENSOR light is on, otherwise the light is off.
15		B-SENSOR	Back sensor contact with the cloth, B-SENSOR light is on, otherwise the light is off.
16		RUN	When the motor runs, the RUN light is on, when the motor stops, the light is off.
17		SAFE	The SAFE light is on, the machine does not run.

USER PARAMETER MODIFICATION

After the user press the P key()for 2 seconds, it will enter into user parameter modification mode: To press the left shift key()and right shift key()to select the parameters, to press the upper shift key ()and shift down key ()to change the value, then press the confirm key()to confirm the modification.

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FULL AUTOMATIC/SEMI-AUTOMATIC

After the user press the mode conversion key () , it will enter into full automatic/semi-automatic mode. To press the key again and again, two modes will be in a continuous loop: full automatic and semi-automatic. After setting, press the confirm key () to save the modification.

SENSOR MODE MODIFICATION

When the user press the sensor mode modification key () , he can modify the automatic sensor functions. To press the key again and again, two modes will be in a continuous loop: ON and OFF. After setting, press the confirm key()to save the modification.

Note: it is full manual mode when the sensor is off. Under this mode: if you need modify the parameter after the machine starts, you should full heel back the treadle once, otherwise modify the parameters is not valid.

THREAD TRIMMING SUCTION MODE MODIFICATION

When the user press the thread trimming suction mode key () , he can modify the trimming suction mode. To press the key again and again, four modes will be in a continuous loop: front suction, rear suction, front and rear suction and OFF. After setting, press the confirm key () to save the modification.

TRIMMING MODE SETTING

When the user press the trimming mode key () , he can modify the trimming mode. To press the key again and again, four modes will be in a continuous loop: first trimming, later trimming, first and later trimming and OFF. After setting, press the confirm key () to save the modification.

CLOTH FEEDING MODE MODIFICATION

When the user press the cloth feeding mode key () , he can modify the feeding mode. To press the key again and again, three modes will be in a continuous loop: sewing, after sewing and OFF. After setting, press the confirm key () to save the modification.

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ROTATE SPEED SETTING

Press the speed setting key () , he can modify the rotate

speed mode. Press upper shift key once, the speed will increase 50rpm.Press shift down key once, the speed will decrease 50rpm.After setting, press the confirm key () to save the modification.

TECHNICIAN PARAMETER SETTING

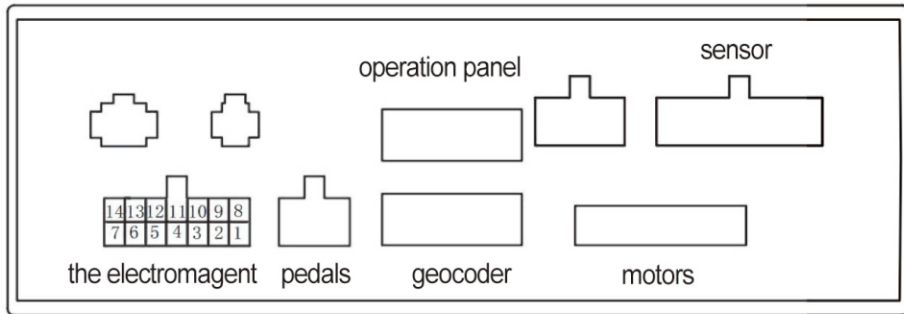
When the user press the P key () and turn on the power at the same time, the display will show P26. To press the left shift key () and right shift key () to select the parameters, to press the upper shift key () and shift down key () to change the value, then press the confirm key () to confirm the modification.

RESET TO FACTORY DEFAULTS

When the user press the left shift key () and right shift key () at the same time. Press the confirm key () to exit, the system will be reset to factory defaults.

PORT ILLUSTRATION

Outlet Diagram



The electromagnet function port specification table

1. 8	thread trimming	2. 9	suction
6. 13	presser foot lifter	7. 14	

Note:

1. The rear sensor (receiver 2) must be triggered before the front sensor (receiver 1) finished the setting needles, otherwise the motor will be automatically shut down.

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PARAMETER TABLE

No.	function parameters	range	default	description
user parameter				press the P key for 2 seconds to enter
1	max rotate speed	100-7000	5500	
2	needle stop positioning selection		needle position down	up needle position/needle position down
3	sewing speed	100-7000	3500	
4	start up mode	0-1	automatic	0: automatic mode 1: foot control mode
5	automatic/semi-automatic mode selection	0-1	automatic	0: semi-automatic 1: automatic
6	auto sensing switch	0-1	on	0: off 1: on
7	auto trimming	0-3	first and later trimming	0: off 1: first trimming 2: later trimming 3: first and later trimming
8	auto suction	0-3	front suction	0: off 1: front suction 2: rear suction 3: front and rear suction
9	retain			
10	auto presser foot lifting	0-3	first and later lifting	0: off 1: first lifting 2: later lifting 3: first and later lifting
11	Lift the presser foot after the sewing stop	0-1	off	0: off 1: on
12	Lift the presser foot after trimming	0-1	off	0: off 1: on
13	Lifting the presser foot when half heel back the treadle	0-1	off	0: off 1: on
14	manual suction control	0-1	on	0: off 1: on
15	head brightness	0-8	4	numerical increase brightness increase
16	semi-automatic continuous sewing	0-1	off	0: off 1: on
17	semi-automatic constant rate trimming	0-1	on	0: off 1: on
18	electric control box version number			
19	panel screen brightness	0-8	4	numerical increase brightness increase
20	display version number			
technician parameter				press P key and power on to enter
26	the sensitivity of first sensor	0-255	200	
27	the sensitivity of later sensor	0-255	200	
28	the response time of first sensor	50-990	50	
29	front sensor emission intensity	0-50	50	
30	rear sensor emission intensity	0-50	50	

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31	the stitches number between two sensors	1-600	100	
32	the delayed stitches number before the machine stops	1-99	10	
33	retain			
34	retain			
35	retain			
36	the stitches number before the first suction open	1-50	10	
37	the stitches number before the first suction close	1-50	8	
38	the delayed time before of first suction close	0-5000	100	
39	the delayed time before of later suction open	0-5000	50	
40	running time after	100-5000	200	
41	trimming time	10-990	40	
42	the delayed stitches number of first trimming	0-200	30	
43	the delayed stitches number of later trimming	0-50	10	
44	before the presser foot running time	100-2000	300	
45	after the presser foot running time	100-2000	120	
46	after the presser foot delay time	0-2000	50	
47	full-on time setting for presser foot	10-990	100	
48	duty cycle time setting for presser foot	10-90	30	
49	the time for the presser foot laying down	10-990	100	
50	Presser foot protection time	1-30	10	
51	sewing machine head protection switch		effective	effective / Invalid
52	table protection switch		effective	effective/ Invalid
53	retain			
54	manually operate switch	0-1	0	
55	needle goes up as power on	0-1	on	0: off 1: on
56	up needle position adjustment	0-359	20	
57	down position adjustment	0-359	180	
58	test speed	100-7000	3000	
59	test working time	1-250	3	
60	test stop time	1-250	1	
61	Item A testing	0-1	0	
62	Item B testing	0-1	0	
63	Item C testing	0-1	0	
	Air-powered/electric		Air-powered	
64	retain			
66	language	0-1	Chinese	0: English 1: Chinese
67	motor angle	0-359	96	
68	the motor test	0-1	0	

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69	pedal slope (on)	0-100	20	
70	pedal slope (below)	0-100	20	
71	the minimum time step light after	0-200	50	
72	data error	on. off	off	
73	voltage error	on. off	off	
74	Solenoid error	on. off	off	
75	protection switch recovery time	100~9000	1000	
76	retain			
77	panel password		0	
78	shear line after the operation the number of needle	0~100	30	

Fault phenomenon and processing countermeasures

Serial number	Fault phenomenon	Processing method and steps
1	Report “08” error	1. Do the motor coding disc connector and motor power connection become flexible? Motor plug is inserted opposite? If in bad contact, please adjust it.2.Whether a card point motor.3.Check voltage fluctuation. Frequent voltage fluctuation will cause this error.4.The electric cabinet is broken, please change it.
2	Report “0A” error	1. Rotate the machine head to check whether the motor hand wheel gets stuck or not. If yes, firstly rule out mechanical failure of the machine head .2.If the rotation is easy, please check whether the motor coding disc connector and motor power connection become flexible. If yes, please adjust them.3.If in good contact, check whether the network voltage is too low or the rotate speed is too fast. If yes, please adjust them.4.If in normal condition, please change the electric cabinet.
3	Report “09” error	1. Motor plug off, pin is inserted bending.2. The motor encoder or signal line is bad.3.The electric cabinet is broken.
4	Report “11” error	1. Turn off system power supply. With the sensor location spacing is appropriate.2.Motor sensor bad.
5	Report “21” error	Motor overload, check the motor if there is blockage, bad motor.
6	Report “22” error	Motor overload, check the motor if there is blockage, bad motor.
7	Report “23” error	Motor overload, check the motor if there is blockage, bad motor.
8	Report “24” error	Motor overload, check the motor if there is blockage, bad motor.
9	Report “25” error	Sensor error, electric control box bad.

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