

HL987 Film Type Manual V1.1

1、Safety instruction

Please read the operation manual and related sewing machinery data sheet carefully before correct use.

- 1.1 (1) Power voltage and frequency: please refer to motor and control box nameplate.
(2) Interference from electromagnetic wave: please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to miss operation.
(3) Grounding: to avoid the noise obstructions or leakage of electricity accident(including sewing machine,motor,control box and position device).
- 1.2 Please make sure power off at least 1min and then can open control box cover, because there are dangerous high voltage.
- 1.3 Please turn off the power while repairing or wearing needle in order to protect operator's safety.
- 1.4  Used where potential dangers exist.
 Used where high voltage and electric danger exist.

- 1.5 Product warranty period of one year on condition that this machine is operated correctly and no man-made damage.

2、Parameter list of step post-bed sewing machine

No	Project	Content	Setting range	default value	Level
1	Sewing speed	Set sewing speed	200~3000rpm	3000	I
2	Soft-start function	0: No soft-start function 1~9: Soft start stitches	0~9	3	I
3	Soft start enable	0: invalid 1: valid	0/1	1	I
5	Needle bar swing towards	swing 0: off 1: on	0/1	0	III
6	Step motor original position	Step motor original position	0~4000	1000	I
7	Upper roller compensation	Upper roller compensation	0~100	50	I
8	Lower roller compensation	Lower roller compensation	0~100	50	I
9	rotation	Rotation 0: off 1: one	0/1	0	I
10	Down roller rotation	Rotation 0: off 1: one	0/1	0	I
11	Needle angle	Needle angle	0~200	180	I
12	Upper angle	Upper angle	0~360	300	I
13	Layout angle settings	Layout angle settings	0~180	40	II
14	Layout angle setting	Layout angle setting	180~360	195	II
15	Start Up roller stitch length	Start sewing small stitch function Up roller stitch length	0~50	10	II
16	Start Up roller stitch length	End sewing small stitch function down roller stitch length	0~50	10	II
17	Loose electromagnet duty cycle	Loose electromagnet duty cycle	10~100	60	II
18	End down roller stitch length	End sewing small stitch function Up roller stitch length	0~50	10	II
19	End down roller stitch length	End sewing small stitch function down roller stitch length	0~50	10	II
20	Start sewing small stitch gauge	The number of Start sewing small stitches	0~10	1	II
21	Soft-start speed 1	Soft start first stitch speed	200~800rpm	600	I
22	Soft-start speed 2	Soft start second stitch speed	900~1200rpm	1000	I
23	Soft-start speed 3	Soft start the 3rd ~ 9th needle speed	1300~1800rpm	1500	I
24	Function of soft-down of presser foot	0: invalid 1: valid	0/1	1	I
25	Enable presser foot lift	Pressure foot enable to set 0: invalid 1: valid	0/1	1	I
26	End sewing small stitch gauge	The number of end sewing small stitches	0~10	1	II
27	Up -position function	0: invalid 1: valid	0/1	1	I
28	Safety switch signal mode	Head turned up the switch signal pattern set 0:1: normally open normally closed 2: protection is prohibited	0/1/2	0	I
29	The time of soft-down of pressure foot	The longer the time, the slower the foot drop	10~500ms	150	II
30	bobbin thread length function	0: invalid 1: valid	0/1	0	I
31	Initial baseline setting	Baseline initial value setting	200~4000	1600	I
32	Start sewing small stitch speed	Start sewing small stitch speed	200~1800rpm	1000	II
33	End sewing small stitch speed	End sewing small stitch speed	200~1800rpm	1000	II
34	Standard bartacks,pedal speed source choice	0: automatic sewing speed 1: pedal speed	0/1	0	II
35	Piece-rate setting	0: no piecework function 1 ~ 20: piecework by multiple +1	0~50	0	I
36	Initial set piece count	Initial value setting of counting number	0~1000	1000	I
38	piece selection Settings	0: piece plus 1: piece minus	0/1	1	I
39	Start sewing small stitch towards	Start sewing small stitch towards	0/1	0	II
40	End sewing small stitch towards	End sewing small stitch towards	0/1	0	II
41	Slow speed	Pedal minimum speed	150~300rpm	200	I
42	Pedal curve selection	0: normal 1: slow acceleration 2: fast acceleration	0/1/2	0	I
43	Maximum stitch length setting	0: invalid 1: valid	0/1	0	I
44	Cutting speed	Cutting speed	100~500rpm	250	I
45	Soft drop duty ratio	Soft drop duty ratio	1~30	10	I
46	Delay Sewing time,when presser foot down	Delay in confirming that the foot has been lowered	0~800ms	100	II
47	Press the foot to lift the duty cycle	Press the foot to lift the duty cycle	50~95	94	II
48	Full pressure time of lifting foot	Total pressure output time of lifting foot	0~800ms	120	II
49	Presser foot rise level	Presser foot lifter soft rise level	0/1/2/3	0	II
50	Lift hold time	Force off when lifting foot holds	0~12s	12	II
51	Presser foot magnet voltage output duty cycle	Lift pin output duty cycle	0~60	30	II
52	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	200~2000rpm	1600	II
53	Speed of bartack at the start of sewing	Front reinforcement joint speed	200~1800rpm	1500	I
54	Bartack at the start of sewing compensation 1	Front stitching stitch compensation parameters	0~100	0	I
56	Speed of bartack at the end of sewing	After reinforcement joint speed	200~1800rpm	1500	I
57	Bartack at the end of sewing compensation 1	Stitch compensation parameters for back stitches	0~100	0	I
59	Overlapped sewing speed	Continuous reinforcement joint speed	200~1800rpm	1500	I
60	Overlapped sewing speed compensation 1	Needle compensation parameters for continuous solid stitches	0~100	0	I
61	Overlapped sewing speed compensation 2	Needle compensation parameters for continuous solid stitches	0~100	0	I
62	Pedal travel upon start	The starting position of the pedal relative to the stroke when the pedal is centered	10~50	25	II
63	Pedal travel upon acceleration	The pedal position at which the acceleration begins, relative to the stroke when the pedal is in neutral	10~100	50	II
64	Pedal travel at highest rotation speed	Run to the highest speed pedal position relative to the middle pedal stroke	10~150	110	II
65	Pedal travel upon presser foot lift	The pedal position of the foot lift, relative to the stroke when the pedal is in the middle	-10~-100	-20	II
66	Pedal travel upon presser foot lowering	The pedal position of the foot release action, relative to the stroke when the pedal is in the middle	5~50	10	II
67	Pedal travel 1 upon thread trimming	When there is no foot lift function, the position of the pedal for cutting line is relative to the stroke when the pedal is in the middle	-10~-100	-30	II
68	Pedal travel 2 upon tread trimming	When the foot is raised, the position of the pedal for cutting the line is relative to the stroke when the pedal is in the middle	-10~-100	-60	II
69	Down needle positioning position	Lower stop needle position adjustment	0~200	60	I
70	Reverse needle lift function	0: invalid 1: valid	0/1	0	I
71	Reversal of needle lift angle	Reverse lift Angle	0~45°	20	I
72	Machine Lubricating Switch	0: invalid 1: valid	0/1	0	I
74	Bottom line rate setting	0: invalid 5/10/15/2 0	0~20	0	I
75	Needle position adjustment	Adjust needle position	0~240°	0	I
76	Stop needle position minor adjustment	Stop the needle and fine tune	0~200	100	I
77	Needle bar maximum angle	Upper dead center Angle	0~360	290	I
78	Key switch function selection	0: fixed seam turnover 1: filling needle	0/1/2	0	III
79	return to factory-set parameter	5/8: restore factory parameters	0~15	0	I
80	highest speed of sewing	Maximum sewing speed	200~3000rpm	2500	II
81	Needle bar swing angle	Needle bar swing angle	50~70	66	II
84	Motor weighting	1~6Strength regulation	1~6	1	II
85	Starting adjustment of shear line	Cutting line suction angle setting	0~200	60	III
86	duty cycle of shear electromagnet	duty cycle of shear electromagnet	10~100	80	III
87	Cut-off adjustment	Setting of release angle of shear line	300~360	345	III
88	Starting adjustment of loose line	Starting Angle of Loose Line	0~360	300	II
89	Loose end adjustment	Loose ends angle	0~360	350	II
92	Pedal presser foot lift confirm time	Step on the back of the pedal to confirm the time when the foot lift command is effective	10~300ms	80	II
93	Dial line / clip line Type selection	Pedal neutral position fine tuning	85~115	100	II
94	Mode selection	Automatic test mode setting 0: Standard time mode 1: Stitch number mode (P98 sets the number of stitches) 2: Simple time mode 3: Factory aging mode (do not use this mode on the machine head)	0/1/2/3	3	III
96	Running speed	Automatically test the maximum speed setting	200~3000rpm	2200	III
97	Pause time	Automatic test pause time setting	0~360	20	III
98	operation hours	Automatic test run time	0~360	30	III
100	Positive compensation for the first needle of the upper roller	Positive compensation for the first needle of the upper roller	20~40	20	II
101	Positive compensation for the first needle of the lower roller	Positive compensation for the first needle of the lower roller	20~40	20	II
102	Negative compensation for the first needle of the upper roller	Negative compensation for the first needle of the upper roller	0~40	0	II
103	Negative compensation for the first needle of the lower roller	Negative compensation for the first needle of the lower roller	0~40	0	II
104	High-speed current of the upper roller	High-speed current of the upper roller	1~5	4	II
105	High-speed current of lower roller	High-speed current of lower roller	1~5	4	II
106	Upper roller low speed current	Upper roller low speed current	1~5	3	II
107	Lower roller low speed current	Lower roller low speed current	1~5	3	II
109	Right compensation upper scroll wheel value	Right compensation upper scroll wheel value	0~70	0	I
110	Right compensation lower scroll wheel value	Right compensation lower scroll wheel value	0~70	0	I
111	Number of right compensation	Number of right compensation stitches	0~9	0	I

112	Left compensation upper scroll wheel value	Left compensation upper scroll wheel value	0~70	0	I
113	Left compensation lower scroll wheel value	Left compensation lower scroll wheel value	0~70	0	I
115	Number of left compensation stitches	Number of left compensation stitches	0~9	0	I
120	Stop angle	Stop angle	180~360	360	II
121	Main motor original position	Main motor original position	0~200	0	II
122	Motor weighting	0: invalid 1: valid	0/1	0	II
123	Motor weighting	1~15 Strength regulation	0~15	2	II
124	Model selection	Model selection	0~99	1	II
129	Display backlight brightness Setting	Display backlight brightness Setting	0~10	5	I
135	machine type	Single/double needle 0: Single 1: double	0/1	0	II

3、System Info

Operation panel default mode, press the button at the same time in P made sewing needle trigger select key, enter the system monitoring state through the + key choose need to look at the project, according to the S button to enter/exit the selected projects such as the need to exit monitoring interface, according to P keys can be.

show frame numbers	Item Name	unit	show frame numbers	Item Name	unit
JJ	Plan number	piece	U7	Master control program version/ Head type	/
U1	speed of motor control	rpm	U8	Head type/ Master control program version	/
U2	Motor Current	0.01A	U9	Dsp no	/
U3	Motor Voltage	V	VEr	Operation box version of the program	/
U4	Pedal voltage	0.01V	TYPE	Software no	/
U5	Mechanical Angle with	limit	DX	bobbin thread length	/
U6	Motor initial Angle	limit	JP	Counting piece	piece

4、Operation box use

Function	Pres s button	Description
Sewing mode switch key		Contact switchable W seam / pattern seam / free seam;
Parameter keys		One key into the internal parameter settings;
Identify key		identify key
Reset setting		Under standby interface, long press the Reset button for 1.5 seconds
Left or right key		Long press:speed adjust, short press:Use as a cursor
add-subtract key		Adjust the stitch size /The parameter value plus or minus
front Reinforcing-sewing		circulation: front Reinforcing-sewing / front double Reinforcing-sewing /front Four solid Reinforcing-sewing /turn off
back Reinforcing-sewing		circulation: back Reinforcing-sewing / back double Reinforcing-sewing /back Four solid Reinforcing-sewing /turn off
Debug mode shortcut key		Debug mode shortcut key in free seam mode (long press for more than 3 seconds)
Compensation left and right		Shortcut keys for left and right corner compensation;
Soft Start Function Key		Soft start function on / off;
Upper and lower needle selection		The function switch between the upper stop needle position and the lower stop needle position;
Key to Lift Foot Function		Automatic lifting foot function on and off;
Scissors Function Key		Scissors function on/off;
Lift the foot after the middle pause		The function of lifting and pressing the foot after cutting the wire in the middle is on / off;
Close stitch function keys		Front stitch / rear stitch / front stitch / close;
Trigger key		Continuous fixed seam mode, this key corresponding to the light, indicating that the continuous fixed seam mode default to trigger mode;
pattern editing		In pattern sewing model ,Editing sewing pattern
N/C pattern Sewing model		N : multi-pattern sewing model, C: pattern sewing Circular model, free sewing
Stop		Pattern swing stop and restart the sewing pattern
Pattern reserved		Factory D1-D9 pattern

5、Error codes

Fault display	Fault content	Possible causes of failure	Inspection items, processing
E011 E012	Motor signal malfunction	Motor position sensor signal malfunction	Electrical plugs are in good contact Electrical Signal Detector Damage to Sewing Machine Handwheel Installed
E021 E023	Motor overload	Motor plug motor overload	Whether the motor plug is in good contact with the nose or the shearing mechanism is stuck Sewing fabric over gauge thickness Current detection signal is normal
E101	Hardware-driven failures	Direct- through drive device for current detection	Whether the system current detection circuit is working properly
E111 E112	Over-voltage system	Failure of brake circuit with over-voltage Error in voltage detection	If the incoming voltage of the system is too high, the brake resistance will work properly The system voltage detection loop works properly
E121 E122	Low voltage system	Error in detection of actual low voltage	Low incoming voltage The system voltage detection loop works properly
E131	Fault of Current Detection Circuit	Abnormal current detection	System current detection circuit is working properly
E133	OZ circuit fault	Abnormal OZ circuit	Does the system OZ loop work properly
E134	DBFLT fault	Automatic Resistance Circuit Unnormal	Automatic Resistance Plug in Good Contact with Automatic Resistance Damage
E201	Excessive current motor	Abnormal current detection Abnormal operation of motor	System current detection circuit is working properly Motor signals are normal
E211 E212	Abnormal operation of motor	Abnormal operation of motor	Motor plugs are in good contact with motor signals
E301	Communication error	Sci circuit error	if operation box plug is well contacted; if operation box components are damaged.
E402	Pedal ID fault	Pedal verification fault	Pedal connection is loosen.
E403	Pedal zero position fault	The pedal zero position over range	The pedal is damaged or it is not under stop state when correction
E501	Safety switch fault	Safety switch effective	Put down the head or check turned up switch.
E601	Hardware-driven failures	Hardware overcurrent STEP2 pendulum motor	Whether the system current detection circuit is working properly
E602	Hardware-driven failures	Current STEP2 Software of Swing Needle Motor	System current detection circuit is working properly Damage to drivers
E603	Hardware-driven failures	STEP2 Current Detection Circuit of Swing Needle Motor	Whether the system current detection circuit is working properly
E604	Motor signal malfunction	Initial mechanical angle STEP2 swing needle motor	Electrical plugs are in good contact
E605	Motor signal malfunction	An initial encoder or rotor STEP2 a pendulum motor is stuck	Is the motor plug in good contact with the machine
E610	Failure of the upper roller stepper motor	Hardware overcurrent of upper roller stepper motor	The upper roller stepper motor plug is in good contact Damage to drivers
E611	Down Roller Stepping Motor Failure	Down Roller Stepping Motor Hardware Overcurrent	Whether the lower wheel stepping motor plug is in good contact with the drive device damage
E612	Fan failure	Fan stalled	Whether the fan plug is in good contact Whether the fan blades are contacted by foreign objects and cannot rotate
E613	Needle par motor wrong position	Needle par motor excessive error	Check the needle bar driver step motor original position whether in right position
L.bob	Bottom line tips	The bottom line count is negative	After changing the bottom line, press the S button to cancel the prompt
P.bob	Piecework Tips	The count value is zero	Press the S key to enter the interface, long press the "front fixed seam" key more than 2 seconds to cancel the state of prompt
P.oFF	Power-down display	Power off	Waiting for power to re-open
EvaL	Trial protection failures	Trial time	Contact Agent