

HL989-FS Instructions v1.1

1. Safety instruction

- Please read the operation manual and related sewing machinery datasheet carefully before correct use.
- (1) Power voltage and frequency: please refer to motor and control box nameplate.
 - Interference from electromagnetic wave please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.
 - Grounding: to avoid the noise obstructions or leakage of electricity accident(including sewing machine,motor,control box and positioner).
 - Please make sure power off at least 1min and then can open control box cover, because there are dangerous high voltage.
 - Please turn off the power while repairing or wearing needle in order to protect operator's safety.
 - Used where potential dangers exist.
 - Used where high voltage and electric danger exist.

2. Operation box use

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
Fixed seam pattern key		After this function is enabled, the front and rear fixed seams can be sewn according to the self-editing pattern
Continuous Reinforcing-sewing		circulation:w sewing Free seam
Close stitch function		Close stitch function on and off.After opening,add one more stitch,Enhance the reinforcing-sewing effect and reduce the thread
Anti-nest function		Anti-nest function on and off,is suitable for the machine with Anti-nest equipment
Presser foot function cycle key		Foot presser function cycle: middle stop lifting foot/cutting line after lifting foot/middle stop cutting line after lifting foot/closing
Parameters setting key		1. Enter the level of different parameters (parameters are divided into 3) sewing set interface under short press P into the parameter interface, the level for the 1 parameter display parameter list. Long press the "P" button in the sewing setting interface to enter the "password input interface". After entering the correct maintenance password, press the "P" button to enter the "parameters interface". At this time, the parameters of level I and II in the parameter list are displayed
Identify key		1) identify key 2) for the belt clip line function model, the strength of long press this button to display the thread clamp, LCD display "[L7]", press the key again to exit
Left or right key		1.At the free sewing interface, can adjust the speed by the left and right keys, the left button to reduce speed, the right button to increase speed. 2.At the free sewing interface,press S to enter 3333,setting the number of fixed stitches as the left and right keys. 3.When setting fixed long stitch, multisegments are showed to switch left and right. 4.When setting beauty stitch, multisegments are showed to switch left and right.
add-subtract key		Under normal sewing interface 1. Adjust the stitch size 2. According to several numerical and subtract (S key seam free mode into the display number segment) 3. The parameter value plus or minus 4. Pattern edit value add and subtract
Trigger function key Settings		1. Effective (on/off) in fixed-length seam mode (one-section seam, multi-section seam, multi-section seam self-knitting pattern) 2. W seam mode Open automatically
Soft start		Press short:soft start on and off
free sewing		Press short:free sewing
LED brightness adjustment		Press short:LED brightness adjustment,divided into 5 grades, 0-5 cycles
Stop needle selection key		Up and down needle selection key
Motor Angle adjustment/trial teaching function		1. Debug mode shortcut key in free seam mode (long press for more than 3 seconds) 2. In fixed-length seam mode, try teaching mode (press for longer than 1 second)
Three - segment mode switching		Short press to switch one-stitch sewing/multi-stitch sewing/Circulation 1. Able to set several sections of several stitches, each section can set a range of 0 ~ 99 stitches. 2. Able to set several sections of several stitches, each section can set a range of 0 ~ 99 stitches. 3. Able to set several sections of number sewing, each section can set the range of 0 ~ 99 stitches, each section of stitch length pattern can be knitting
Thread clamp function		Thread clamp function on and off.Electronic tension is enabled after open it
Reset setting		Under standby interface, long press the Reset button for 1.5 seconds
Scissors function key		Scissors function on and off

3. Mode Settings

Debug mode: After entering the normal sewing mode, press the right side 4 seconds "T", enter debug mode.If you want this pattern to return to normal mode, press "P" key to exit into normal mode

Stitch length Adjustment Mode: After entering sewing mode normally, long press "T" 3seconds, Entering debug mode, press "+" or "-", switch to parameter P-6, press S, then the machine can be zero position correction,switch to parameter P-7, press S can correct the go-stitch length; switch to parameter P-8, press S can correct the reverse-stitch length. all the corrections are saved to exit by press S.

Restore Factory settings: Long press "P" enter parameter interface, enter "P79" will displays "0". Press "+" to "8", press S display "no", Then press "+" to "yes", press S

Pattern editing settings interface: After entering the normal sewing mode, press the "Z" Key for 2 seconds, screen display "d1", press "+" toggle the d1-d9 pattern. Select the pattern to be set Press "S" to enter the setting, screen display "1 3.0 01". In this case, the number of stitches and the stitch length of the first stage can be carried out.In this case, the number of stitches and the stitch length of the first stage can be carried out. Press left or right to select the item to be set: The first paragraph is set up. Press left or right to switch to the left. the number flashes. Press the plus or minus key to switch to other segments settings. If the current number of stitches is zero, the next setting can not be made; After all the needle distance and frame count settings are complete, press the "S" key to save and return to the "d1" screen. Press the "P" key to exit without saving. If you want this pattern to return to normal mode, press "P" key to exit into normal mode.

4. Error codes

Error Code	Contents	Possible reasons	Checking and treatment
E011 E012	Motor signal error	Motor position sensor signal failure	If electric engine plug is well contacted; if electric engine signal detecting device has been broken; if sewing machine handwheel correctly installed.
E021 E023	Motor overload	motor stall motor overload	If electric engine plug is well contacted; if machine head or thread-cutting mechanism has been blocked completely; if materials are too thick; Electrical signal detection signal whether the normal.
E101	Hardware drivers fault	Current detection abnormal Driving hardware error	Current detection loop system is working properly;Whether the damage to the device driver.
E111 E112	Voltage too high	High input voltage Brake circuit fault Voltage detection error	System into line voltage is too high; Braking resistance are working properly; System voltage detection circuit are working properly.
E121 E122	Voltage too low	Actual low voltage Voltage detection is wrong	If the voltage on the inlet wire is too low Whether the system voltage detection circuit the normal work.
E131	Current circuit fault	Current detection abnormal	Current detection loop system is working properly.
E133	Oz circuit fault	Oz circuit fault	Oz circuit system is working properly.
E134	DBFLT malfunction	Automatic resistance circuit failure	Brake resistor plug is in good contact Brake resistance is damaged
E201	over current	Current detection error	Current detection loop system is working properly Electrical signal is normal.
E211 E212	Abnormal motor operation	Current or voltage detection error	If electric engine plug is well contacted If electric engine signal
E301	Communication error	Sci circuit error	if operation box plug is well contacted; if operation box components are damaged.
E302	Operation inner failure	Sci circuit error	check whether the operating box is damaged.
E303	SPI Communication breakdown	Sci circuit error	check whether the main control board is damaged.
E304	HMI From the main chip communication failure	Sci circuit error	check whether the operating box is 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.
E502	Fuel fault alarm	Fuel fault alarm	Add oil Tips
E601	Hardware drivers fault	Feed motor STEP2 hardware overcurrent	Current detection loop system is working properly;Whether the damage to the device driver.
E602	Hardware drivers fault	Feed motor STEP2 software overcurrent	Current detection loop system is working properly;Whether the damage to the device driver
E603	Hardware drivers fault	Feed motor STEP2 Current detection circuit	Current detection loop system is working properly;Whether the damage to the device driver.
E604	Motor signal error	Feed motor STEP2 The initial mechanical angle	Feed motor connector is a good contact
E605	Motor signal error	Feed motor STEP2 at the start, Encoder or rotor stuck	Feed motor connector is a good contact Machinery is stuck
E606	Hardware drivers fault	Feed motor STEP2 Motor winding circuit	Current detection loop system is working properly;Whether the damage to the device driver.
E607	Hardware drivers fault	Presser foot trimming motor STEP1 hardware overcurrent	Current detection loop system is working properly;Whether the damage to the device driver.
E608	Hardware drivers fault	Presser foot trimming motor STEP1 software overcurrent	Current detection loop system is working properly;Whether the damage to the device driver.
E609	Hardware drivers fault	Presser foot trimming motor STEP1 Current detection circuit	Current detection loop system is working properly;Whether the damage to the device driver.
E610	Motor signal error	Presser foot trimming motor STEP1 The initial mechanical angle	Presser foot trimming motor connector is a good contact
E611	Motor signal error	Presser foot trimming motor STEP1 at the start,Encoder or rotor stuck	Presser foot trimming motor connector is a good contact Machinery is stuck
E612	Hardware drivers fault	Presser foot trimming motor STEP1 Motor winding circuit	Current detection loop system is working properly;Whether the damage to the device driver.
E613	Hardware drivers fault	The feed motor STEP2 is running, Encoder or rotor stuck	Feed motor connector is a good contact Current detection loop system is working properly;Whether the damage to the device driver.
E614	Hardware drivers fault	The Presser foot trimming motor STEP1 is running, Encoder or rotor stuck	Feed motor connector is a good contact Current detection loop system is working properly;Whether the damage to the device driver.
P.oFF	Power off Display	Power off	Wait for power supply to resume.
EvAL	Trial expired	Trial expired	Contact the dealer processing
L.bob	The bottom line tips	The bottom line count value is negative	After replacing the bottom line, press P to cancel the Alert Status Press S key to enter the interface, and long press "front seam" button for more than 2 seconds to cancel the prompt state
P.bob	Remind of counting by piece	The number of counting is 0	

5. System Parameter Table:

Project	Content	Setting range	step pitch	The default value	Level
P-01	Sewing speed	Set sewing speed	200-5000(rpm)	100	3700 I
P-02	Soft-start function	1-9: Soft start stitches	0-9	1	2 I
P-04	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	200-4000(rpm)	100	3000 I
P-06	Zero pitch correction value	When the needle pitch is set to 0mm, fine the value so that the actual sewing needle pitch is zero	50-150	1	100 I
P-07	Positive needle distance correction value	Magnification positive sewing distance (Sewing needle fixed distance)	50-150(%)	1	100 I
P-08	Anti-needle distance correction value	Enlarge reverse stitches Distance Scale (Sewing needle fixed distance)	50-150(%)	1	100 I
P-09	Back stitch speed limitation	can keep reverse from breaking while backstitching	500-1500(rpm)	50	800 I
P-10	Set the length of the stitch from the set number	0:Set the number of stitches to set the value 1:When the length is set to self-made, the number is the number of the pattern, that is, the total number of stitches is the number of stitches × set the value	0/1	1	1 I
P-12	Height of middle presser foot lifting (valid stepping)	Setting height of presser foot lifting when sewing half	0-100	1	60 II
P-13	Maximum height of presser foot lifting (valid stepping)	Setting Maximum height of presser foot lifting after trimming	0-100	1	65 II
P-14	Speed of presser foot lifting (valid stepping)	Stepping speed of presser foot lifting	20-300(rpm)	10	200 II
P-15	Speed of presser foot releasing (valid stepping)	Stepping speed of presser foot releasing	20-300(rpm)	10	120 II
P-16	Loose wire electromagnet duty cycle	Loose wire electromagnet intensity adjustment(Thin cloth)	0-100	1	8 II
P-17	Cut and loosen duty cycle	Cutting line for electromagnet When the shear line loose line duty ratio (too small will affect the shear line electromagnet suction strength) Cutting line for step: Loose line efforts to adjust the (light)	0-100	1	50 II
P-18	Front reinforcing-sewing setting after the front fixed joint is connected	Immediately after the end of front reinforcing-sewing, step on the cutting line without the function setting of back reinforcing-sewing 0: unavailable 1: available	0/1	1	0 I
P-19	Solid after before sewing stop	0: unavailable 1: available	0/1	1	0 I
P-20	Function selection of machine head button	0: invalid 1: Manual thread cutting while standby 2: Manual presser foot after trimming	0/1/2	1	0 I
P-21	soft start speed 1	speed of the 1st needle of soft start	100-3000(rpm)	50	400 I
P-22	soft start speed 2	speed of the 2nd needle of soft start	100-3000(rpm)	50	1000 I
P-23	soft start speed 3	speed of the 3rd-9th needle of soft start	100-3000(rpm)	50	1500 I
P-24	Presser foot soft lowering function	Setting to protect damaged the fabric to slow down the presser foot lowering speed	0/1	1	1 I
P-25	Presser foot lift function	0: unavailable 1: available	0/1/2	1	1 I
P-26	Function of over thickness	Setting the function of over thickness 0: unavailable 1: available	0/1	1	0 I
P-27	Power on and positioning	The function setting of automatically finding the needle position when the power is on 0: unavailable 1: available	0/1	1	0 I
P-28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close 2: forbid a protection	0/1/2	1	0 I
P-29	Presser foot soft lowering time	To set presser foot soft lowering time The longer time the lower speed of the presser foot	100-500 (ms)	5	50 II
P-30	Baseline count enable	0: unavailable 1: available	0/1	1	0 I
P-31	Baseline initial value setting	Baseline initial value setting	20-4000 (0.1m)	20	1600 I
P-34	Standard joint speed mode selection	Select 0 automatic for standard joint speed mode; 1 pedal control	0/1	1	0 II
P-35	multiple ratio of counting by piece	Setting of multiple ratio of counting by piece	0-50	1	0 I
P-36	Setting initial value of counting by piece	Setting initial value of counting by piece	0-1000	5	100 I
P-37	Time of thread wiper	Time of thread wiper	0-800 (ms)	10	40 II
P-38	Setting function of choosing counting by piece	0: add 1: subtract	0/1	1	0 I
P-41	Low speed	The lowest speed of pedal	100-500(rpm)	10	200 I
P-42	Pedal curve selection	Pedal speed adjustment 0: normal 1: Slow acceleration 2: Quick acceleration	0/1/2	1	2 I
P-44	thread-cutting speed	thread-cutting speed	100-500(rpm)	10	300 I
P-45	Back-tracking speed limit function	Back-tracking speed processing can prevent reverse sewing needle breakage	0/1/2	1	0 I
P-46	presser foot lifting delays sewing	delay with presser foot lowered	0-800(ms)	10	100 II
P-47	When running, the knee presses the foot to judge the speed	When running, the knee presses the foot to judge the speed	200-1000(rpm)	50	500 II
P-48	When running the knee is raised by the foot	When running the knee is raised by the foot	1-100	1	0 II
P-49	Press foot holding time	Lift the pressure foot after holding time to force off	1-60(s)	1	25 II
P-50	output time of total pressure of presser foot lifting	output time of total pressure of presser foot lifting	0-800(ms)	10	150 II
P-51	output duty cycle of presser foot lifting hold time of presser foot lifting	output duty cycle of presser foot lifting hold time of presser foot lifting	0-100	1	40 II
P-53	starting reinforcing-sewing speed	starting reinforcing-sewing speed	100-3000(rpm)	50	2200 I
P-56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100-3000(rpm)	50	2200 I
P-59	Continuous reinforcing-sewing speed	Continuous reinforcing-sewing speed	100-3000(rpm)	50	2200 I
P-60	Bartack stitch cancel speed limit	0: The software has speed limited 1: No speedlimited (The stitch length may be unstable when stitch length is large and the speed is high)	0/1	1	0 I
P-61	A switch to cancel the angle limit when change stitch length	0: Change the stitch length within the limiting angle 1: Vhange stitch length at any angle (The stitch length may not coincide, or the needle may break)	0/1	1	0 I
P-62	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal	10-50(0.1°)	1	25 II
P-63	Pedal travel upon acceleration	Pedal position upon start acceleration Travel relative to medium pedal	10-100(0.1°)	1	50 II
P-64	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal	10-150(0.1°)	1	110 II
P-65	Pedal travel upon presser foot lift	Pedal position upon pedal lift Travel relative to medium pedal	-100-10(0.1°)	1	-30 II
P-67	Pedal travel 1 upon thread trimming	Pedal position upon start trimming without presser foot function Travel relative to medium pedal	-100-10(0.1°)	1	-30 II
P-68	Pedal travel 2 upon thread trimming	Pedal position upon start thread trimming with presser foot function Travel relative to medium pedal	-100-10(0.1°)	1	-60 II
P-69	Down needle positioning position	To adjust down needle position	0-240	1	175 I
P-70	Reverse needle lift function	Reversal of needle lift function after thread trimming 0: unavailable 1: available	0/1	1	0 I
P-71	Reversal of needle lift angle	Reversal of needle lift angle	0-45°	1	20 I
P-72	Thread clamp strength adjustment	Adjust the thread clamp strength size 0: Clip line function is invalid 1-9: Three Intensity Adjustment	0-9	1	7 I
P-73	Thread pressing actuation angle	Thread pressing actuation angle	10-150°	5	100 I
P-74	Thread pressing release angle	Thread pressing release angle	160-300°	5	270 I
P-75	Needle position adjustment	Needle position adjustment	0-240	1	33 I
P-77	Setting of beauty sewing	0: unavailable 1: available	0/1	1	0 I
P-78	Beauty sewing (close sewing) mode setting	1: Close stitch on start sewing 2: Close stitch on end-sewing 3: Close stitch on both start and end sewing	1/2/3	1	2 II
P-79	return to factory-set parameter	Special functional parameters 5/8; Restore factory parameters	0-15	1	0 I
P-80	highest speed of sewing	highest speed of sewing	300-5000(rpm)	100	4000 II
P-81	Pedal speed percentage	Pedal speed percentage	50-100	1	100 II
P-83	Strength function	Try if the needle can't penetrate the cloth. 0: invalid; 1-15: intensity adjustment	0-15	1	0 II
P-84	Function of cutting line and adding force	Effective when the cutting wire is an electromagnet; 0: invalid; 1-15: intensity adjustment	0-15	1	0 II
P-88	Loose line suction Angle	Loose line suction Angle	0-360	2	180 II
P-89	Loose line release Angle	Loose line release Angle	0-360	2	350 II
P-90	Language selection setting	Setting of language, 0: turn off 1: Chinese 2: English	0-2	1	1 II
P-91	Change pitch selection	Change pitch selection 0:Changes Allowed 1:Allowed to change	0-1	1	0 II
P-92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	10-300(ms)	10	80 II
P-93	The neutral position of the pedal	Trimming the neutral position of the pedal	-15-15(0.1degree)	1	0 II
P-95	Anti-nest function selection	Anti-nest function selection; 0: head clamp type 1: Anti-next type 2: thread wipe type	0/1/2	1	0 II
P-100	Knee by function setting	Knee by function setting; 0: unavailable 1: available	0/1	1	1 II
P-101	The voltage at the zero position of the knee sensor	The voltage at zero position of knee by's presser foot (Unit:0.01V)	0-500	5	270 II
P-102	Knee sensor's voltage of maximum travel distance	Knee sensor's voltage of maximum travel distance (unit:0.01V)	0-500	5	60 II
P-103	Line tension / loose line function switch	0: Line tension control 1: Ordinary loose line electromagnet control	0/1	1	1 II
P-104	Pattern stop function enable	0: unavailable 1: Stop the needle need to go through the current number of pattern stitches	0/1	1	0 II
P-105	Presser foot height sensor function setting	Presser foot height sensor function setting 0: unavailable 1: available	0/1	1	1 II
P-106	The voltage adjustment at zero position of presser foot height sensor	The voltage adjustment at zero position of presser foot height sensor (unit:0.01v) (presser foot drop, feed dog is under the table)	0-250	1	215 II
P-107	Overthickness detection sensitivity setting	Presser foot height sensor's voltage setting of overthickness detection (Unit:mv) (Relative to the zero position voltage)	0-500	5	100 II
P-109	Force adjustment of electromagnet for presser foot lifting	Force adjustment of electromagnet for presser foot lifting (Cushion when presser foot is absorbed)	50-100	1	80 II
P-110	Material thickness and tension control	Increase tension when sewing thick material	0-10	1	0 II
P-111	Overthickness sewing speed	Limit speed of overthickness	500-3000(rpm)	50	1500 II
P-112	Overthickness stitch offset coefficient	Overthickness stitch offset deals	50-150(%)	1	120 II
P-113	Needle compensate stitch length mode	Needle compensate stitch length mode 0: Invalid;vaild (press P11 to set stitch length)	0/1	1	0 I
P-114	Needle compensate stitch length setting	Needle compensate stitch length setting Parameter range of Stitch length 5mm type(1.0mm~5.0mm) Parameter range of stitch length 5mm type(1.0mm~7.0mm)	10-50 (70)	1	35 I
P-115	Reverse sewing button function setting	0: reverse sewing 1: tightly sewn 2: reverse sewing 3:reverse sewing+reverse sewing	0-3	1	0 II
P-116	fill needle button function setting	0: reverse sewing 1: tightly sewn 2: reverse sewing 3:reverse sewing+reverse sewing	0-3	1	2 II
P-117	Dense needle pitch setting	Head button stitch set set	50-150	1	110 II
P-118	Number of pretty sewing needle setting	Number of pretty sewing needle setting	1-10	1	10 II
P-119	Pretty sewing needle distance setting	Pretty sewing needle distance setting	50-150	1	110 II
P-121	Start trimming angle of Paragraph 1	Start trimming angle of Paragraph 1	200-300	2	230 II
P-122	Paragraph 1 stroke of trimming	Paragraph 1 stroke of trimming	0-100	1	40 II
P-123	Start trimming angle of Paragraph 2	Start trimming angle of Paragraph 2	250-360	2	330 II
P-124	Paragraph 2 stroke of trimming	Paragraph 2 stroke of trimming	0-100	1	65 II
P-125	Stop and trimming during fixed-length sewing	0: invalid 1: valid	0/1	1	0 II
P-126	loose thread enable when start sewing	0: invalid 1: valid	0/1	1	1 II
P-127	Delay before start-sewing loose thread	Delay before start-sewing loose thread			