

Double step flat car English manual (Membrane keypad Style) v1.0

1. Safety instruction

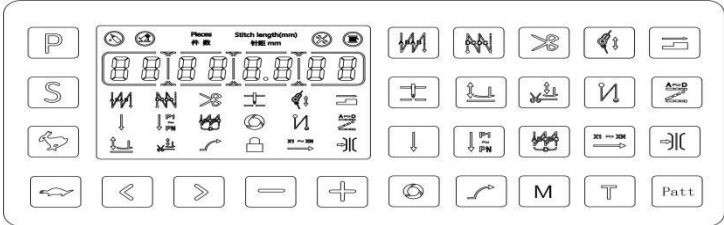
- Please read the operation manual and related sewing machinery datasheet carefully before correct use.
- 1.1 (1) Power voltage and frequency: please refer to motor and control box nameplate.
- (2) Interference from electromagnetic wave:please keep far away strong magnetic or high radiation environment in order to avoid obstructions and make to misoperation.
- (3) Grounding: to avoid the noise obstructions or leakage of electricity accident(including sewing machine,motor,control box and positioner).
- 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 safty.
- 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.System parameter list:

NO.	Project	Content	Setting range	Default value	Level	Model
P-01	Sewing speed	Set sewing speed	200`5000 (rpm)	3700	1	1968
			200`3500 (rpm)	3000		1968H
P-02	Soft-start function	1`9: Soft start stitches	1`9	2	1	All
P-04	Fixed-length seam sewing speed	Set fixed-length seam sewing speed	200`4000 (rpm)	3000	1	All
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	100	1	All
P-07	Positive needle distance correction value	Magnification positive sewing distance (Sewing needle fixed distance)	50`150 (%)	100	1	All
P-08	Anti-needle distance correction value	Enlarge reverse stitches Distance Scale (Sewing needle fixed distance)	50`150 (%)	100	1	All
P-09	Back stitch speed limitation	can keep needle from breaking while back stitching	500`1500 (rpm)	800	1	All
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	All
P-12	Intermediate presser foot lift height	Sewing intermediate stopping clamp height setting	0`100	60	2	All
P-13	The maximum lifting height of the presser foot	After trimming , the presser foot maximum height setting	0`100	65	2	All
P-14	Presser foot lift speed	Presser foot lift stepping rates	20`300 (rpm)	200	2	All
P-15	Presser foot down speed	Presser foot down stepping rates	20`300 (rpm)	120	2	All
P-17	Loose wire electromagnet duty cycle	Loose wire electromagnet intensity adjustment(Thin cloth)	0`100	50	2	All
P-18	Front and rear lock stitch sewing reinforcement connection settings	Before the end of the suture immediately after stepping after trimming without suture function setting 0: invalid 1: effective	0/1	0	1	All
P-19	Solid after before sewing stop	0: invalid 1: effective	0/1	0	1	All
P-21	soft start speed 1	speed of the 1" needle of soft start	100`3000 (rpm)	400	1	All
P-22	soft start speed 2	speed of the 2" needle of soft start	100`3000 (rpm)	1000	1	All
P-23	soft start speed 3	speed of the 3"9" needle of soft start	100`3000 (rpm)	1500	1	All
P-25	Presser foot lift function	0: invalid 1: effective	0/1/2	1	1	All
P-27	Power on and positioning	0: invalid 1: effective	0/1	0	1	All
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	0	1	All
P-30	Bottom line count enabled	0:invalid 1: effective	0/1	0	1	All
P-31	Bottom line initial value setting	Bottom line initial value setting	10`1000 (0.1m)	400	1	All
P-34	to select standard bar-tacking pedal speed mode	0: Auto bar-tacking speed ; 1: Pedal speed	0/1	0	2	All
P-35	By-piece rate setting	0: No by-piece function 1`20: Plus 1 to by-piece value for each set thread trimming	0`50	1	1	All
P-36	Counting pieces initial value setting	Counting pieces initial value setting	0`1000	100	1	All
P-37	Piece selection setting	0: Piece plus 1: Piece less	0/1	0	1	All
P-41	Low speed	The lowest speed of pedal	100`500 (rpm)	200	1	All
P-42	Pedal curve selection	0: normal 1: Slow acceleration 2: Quick acceleration	0/1/2	2	1	All
P-44	thread-cutting speed	thread-cutting speed	100`500 (rpm)	300	1	All
P-45	Reverse sewing speed limit switch	Reverse sewing speed limit switch processing can prevent reverse sewing needle breakage 0: infinite speed 1: have the speed limit	0/1	0	1	All
P-46	Delay Sewing time,when presser foot down	Delay Sewing time,when presser foot down	0`800 (ms)	100	2	All
P-49	Presser foot magnet lift holding time	Presser foot magnet lift holding time	1`60 (s)	25	2	All
P-53	starting reinforcing-sewing speed	starting reinforcing-sewing speed	100`3000 (rpm)	2200	1	1968
			100`2000 (rpm)	1800		1968H
P-56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100`3000 (rpm)	2200	1	1968
			100`2000 (rpm)	1800		1968H
P-59	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100`3000 (rpm)	2200	1	1968
			100`2000 (rpm)	1800		1968H
P-62	Pedal travel upon start	Pedal position upon start Travel relative to medium pedal	10`50 (0.1)	25	2	All
P-63	Pedal travel upon acceleration	Pedal position upon start acceleration Travel relative to medium pedal	10`100 (0.1)	50	2	All
P-64	Pedal travel at highest rotation speed	Pedal position at highest rotating speed Travel relative to medium pedal	10`150 (0.1)	110	2	All
P-65	Pedal travel upon presser foot lift	Pedal position upon pedal lift Travel relative to medium pedal	~100`~10 (0.1)	~30	2	All
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)	~30	2	All
P-68	Pedal travel 2 upon tread trimming	Pedal position upon start thread trimming with presser foot function Travel relative to medium pedal	~100`~10 (0.1)	~60	2	All
P-69	Down needle positioning position	To adjust down needle position	120`240	175	1	All
P-70	Reverse needle lift function	0: invalid 1: effective	0/1	0	1	All
P-71	Reversal of needle lift angle	Reversal of needle lift angle	0`45	20	1	All
P-72	Thread clamp strength adjustment	0: Clip line function is invalid 1`9: Three Intensity Adjustment	0`9	3	1	All
P-73	Thread pressing actuation angle	Thread pressing actuation angle	10`150	70	1	All
P-74	Thread pressing release angle	Thread pressing release angle	160`300	180	1	All
P-75	Needle position adjustment	Needle position adjustment	0`240	33	1	All
P-79	return to factory-set parameter	5: restore the current level factory parameters 8: restore the current level and sewing factory parameter set According to S button, select yes, then press the S key execution	0`15	0	1	All
P-80	highest speed of sewing	highest speed of sewing	300`5000 (rpm)	4000	2	1968
			300`3500 (rpm)	3000		1968H
P-88	Loose line suction Angle	Loose line suction Angle	150`250	180	2	All
P-89	Loose line release Angle	Loose line release Angle	200`360	350	2	All
P-90	Language selection setting	Language selection setting 0:Chinese 1:English	0`1	0	2	All
P-91	Change pitch selection	Change pitch selection 0:Changes Allowed 1:Allowed to change	0`1	0	2	All
P-92	Pedal presser foot lift confirm time	Pedal presser foot lift confirm time	10`300 (ms)	80	2	All
P-93	The neutral position of the pedal	Trimming the neutral position of the pedal	~15`15 (0.1)	0	2	All
P-95	dial line / clip line Type selection	Type selection; 0: dial line 1: clip line	0`1	0	2	All
P100	Knee switch function	Knee switch function 0: invalid 1: effective	0/1	1	2	All
P101	Knee switch start position sensor voltage	Knee switch presser start voltage value(unit:0.01V)	0`500	270	2	All
P102	Knee switch sensor voltage maximum stroke	Knee switch sensor voltage maximum stroke value(unit:0.01V)	0`500	60	2	All
P103	Line tension/ loose line function switch	0 :Line tension control 1 :Ordinary loose line electromagnet control	0/1	1	2	All
P104	Pattern stop function is enabled	0: invalid 1: Need to stop the need to finish the current pattern stitch	0/1	0	2	All
P105	Presser foot height sensor function setting	0: invalid 1: effective	0/1	1	2	All
P106	Presser foot height sensor start voltage adjustment	Presser foot height sensor start voltage adjustment(unit:0.01V)	0`250	215	2	All
P107	Thickness detection sensitivity setting	Too thick presser foot height detection sensor voltage settings(unit:0.01V)(With respect to the zero voltage)	0`500	100	2	All
P110	Fabric thickness and Tension Control	Appropriate to increase the tension of sewing cloth	0`10	0	2	All
P111	Too thick sewing speed	When too thick,the speed limit processing	500`3000 (rpm)	1500	2	All
P112	Too thick Needle distance compensation coefficients	When the fabric is too thick, needle distance compensation	50`150 (%)	120	2	All
P113	Fill needle gauge mode	0: invalid 1: effective (PI14 Set the stitch length)	0/1	0	1	All
P114	Fill needle pitch setting	Sewing machine needle distance 5mm model parameter range (1.0mm 5.0mm) Sewing machine needle distance 7mm model parameter range (1.0mm 7.0mm)	10`~50 (70) mm	35	1	All
P115	Reverse sewing button function setting	0: reverse sewing 1: tightly sewn 2: reverse sewing 3:reverse sewing+reverse sewing	0`3	0	2	All
P116	fill needle button function setting	0: reverse sewing 1: tightly sewn 2: reverse sewing 3:reverse sewing+reverse sewing	0`3	2	2	All
P117	Dense needle pitch setting	Head button stitch stitch set	50`150	110	2	All
P118	Number of pretty sewing needle setting	Number of pretty sewing needle setting	1`10	1	2	All
P119	Pretty sewing needle distance setting	Pretty sewing needle distance setting	50`150	110	2	All
P121	Start trimming angle of Paragraph 1	Start trimming angle of Paragraph 1	200`300	230	2	All
P122	Paragraph 1 stroke of trimming	Paragraph 1 stroke of trimming	0`100	40	2	All
P123	Start trimming angle of Paragraph 2	Start trimming angle of Paragraph 2	250`360	330	2	All
P124	Paragraph 2 stroke of trimming	Paragraph 2 stroke of trimming	0`100	65	2	All
P129	Setting the display back light	Setting the display back light	0`10	5	1	All
P130	Sound choice	0: invalid 1: effective	0`1	1	1	All
P135	Midway reverse function selection	0.invalid 1.effective	0`1	0	1	All
P136	The number of midway stitch set	Pin setting	1`50	4	1	All
P137	Seam midway down the number of times back and forth set	Set times	1`10	1	1	All
P140	Prevent the nest Hook before the delay	The delay time when the thread trimmings ends to the hook action	0`~500ms	50	2	All
P141	Prevent the nest Hook action time	The action time of the hook electromagnet	0`~500ms	50	2	All
P142	Prevent the nest Hook time delay	Hook wire electromagnet off delay time	0`~500ms	50	2	All
P143	Prevent the nest Hook line duty cycle	Adjust the action force of the hook electromagnet	0`~100	100	2	All
P144	Prevent the nest Inspiratory action time	The operating time of the suction valve	0`~2000ms	250	2	All
P145	Prevent the nest Straight line action time	Straight line electromagnet action time	0`~500ms	50	2	All
P150	The maximum stitch length setting	Sewing machine needle distance 5mm model parameter range (1.0mm 5.0mm) Sewing machine needle distance 7mm model parameter range (1.0mm 7.0mm)	10`~50 (70) mm	50	2	All

3. Operation box button description



	Function keys		Pretty sewing set key
	OK key		Pattern suture button
	Motor speed adjustment (fast SLOW)		Free sewing mode button
	Left and right keys		Segmented sewing mode key
	Plus or minus key		W lock stitch button
	Front/After lock stitch button		Segmented self seam pattern mode
	Set or cancel thread-cutting function.		Clip the line strength fast set
	Solenoid thread tension setting button		Rigger key
	Too thick function keys		Soft start to set shortcut keys
	Set the needle position shortcut keys		Debug function keys
	Presser foot to set shortcut keys		Set or cancel the teaching function.
	The shear line and presser foot set shortcut keys		Pattern editing button

4. Monitor mode: Under normal circumstances, press the “Ⓟ + Ⓜmode key” to enter the monitoring mode. Press the up and down arrow keys to display related monitoring parameters.

Display	Project name	Unit	Display	Project name	Unit
U1	Motor speed	rpm	U11	Step pressure foot current	0.01A
U2	Motor current	0.01A	VER	HMI the main chip version	vlxx
U3	bus voltage	v	TYPE	HMI model	Clxx
U4	Pedal voltage	0.01V	AD1	Knee sensor voltage	lmV
U5	Nose mechanical angle	degree	AD2	Presser foot height sensor voltage	lmV
U6	Motor initial angle	degree	H1	HMI slave chip version number	Vlxx
U7	Head model	J1A	H2	Model	196X
U8	DSP version number	Vlxx	JJ	Number of pieces (plus)	Pieces
U9	DSP model	F73	JP	Number of pieces (minus)	Pieces
U10	Stepping version number	Vlxx	DX	Bottom line detection	cm

5.Mode setting

- Reset:** Press “P” key to enter the parameter interface, “0” will be displayed when entering “P79” parameter, and then press “Add / subtract key” to “8”. Press “S” Plus and minus key “to” yes “, then press” S “key.
- Bottom line detection mode:** Under normal circumstances, the P31 parameter to “1” (baseline detection function is turned on), can enter the monitoring interface to the function display interface “dx” its bottom line value 400 [P31 parameter default value, press the plus or minus key to modify the number Value], “dx” value is zero, the operation interface displays “Lbob” error message. Press the key to enter the “dx” interface and press the key for more than 2 seconds to clear the bottom line.
- Knee sensor voltage correction:** Under normal circumstances, press “P+ Ⓜ mode key” to enter the monitoring mode. Press the up and down arrow keys to AD1. Manually rotate the handwheel so that the operation box display interface appears , press , key, the interface displays PASS that the calibration is complete.
- Line tension electromagnet shortcut setting:**Normally enter the sewing mode, press the key to enter the line tension force adjustment mode, the key line tension default value is 35/50/70 cycle switch. key to modify the current value, automatically saved.
- Piece counting mode (add / subtract):**Under normal circumstances, press “P + ” key”, enter the piece counting mode JJ / Jp. The value displayed on the interface is the current number of items, press the plus and minus keys to modify the value of the item, and press and hold the key to count the number of items. Press “P” key to return to sewing mode.
- Note: Subtraction function “Jp” This function displays the value of 100 [P36 parameter default value, press the plus / minus button to modify the value], change the value of zero Times Pbob error prompt, press the key to enter the “ Jp ”interface and then press key for more than 2 seconds, the bottom line number is cleared.
- Pattern editing settings interface:** Normally enter the sewing mode, press and hold key for 2 seconds, LCD display “d1”, press + - key to switch d1~d9 patterns, select the pattern to be set Press S key to enter setting, the LCD displays “1 3.0 0.1” , Then you can make the first stitch number and stitch value, press the left and right button to select the item you want to set blinking; a period of setting is completed, press the left and right button to switch to the leftmost digit flashes, press the plus and minus button to switch to other segments Set, if the current number of stitches is zero, can not be set for the next paragraph; All stitches and stitches are set Press to save and return to the “d1” interface, press to exit without saving. To return from this mode to normal mode, press to exit to normal mode.
- Password mode:** Press “P” key to enter the password mode (press “P” key after entering the parameter), the LCD displays 0000, press the left and right arrow keys to change the position, press the up and down keys to change the corresponding position value, if the password is correct, press “” Key, you can view the advanced parameters.
- Note: Class I parameters need no password; Class II parameters password is “1111”

6.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;f 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 E133	Current circuit fault Oz circuit fault	Current detection abnormal Oz circuit fault	Current detection loop system is working properly. Oz circuit system is working properly.
E134	DBFL 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 is matched.
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	To check whether the operating box is damaged..
E303	SPI Communication breakdown	Sci circuit error	To check whether the operating box is damaged..
E304	HMI From the main chip communication failure	Sci circuit error	To 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 thestart,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 STEP 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