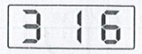


Fig 4.2 monitor parameters

Step 3: In the monitoring parameter interface, in addition to press (1key) of any key, returns to the monitoring parameter index interface. Press (1key), returned to the idle state of interface.

Step 4: Repeat step 2 for other monitoring parameters or step 3 exits to monitor mode.

6、Error playback

The controller could save the recent 8 error occurrence. Index 0 shows the most recent fault code. Index 1 stores the error code occurred before index 0's error. Fault code and fault relation, see table 3.

Step 1: In idle state , first press (1key) and hold on, then press (5key) ,Two keys are pressed at the same time, digital tube display see figure 5.1

Fig 5.1 error playback index

Step 2: Under error playback index, press (4key)、(5key) to modify digital tube display to the needs of error playback index number (0-7) . Error index number display correctly, press (2key) entered the error recording interface, view the index number of the recorded fault code, see figure 5.2.

Fig 5.2 fault code display

Step 3: In the failure code display interface, press any key except (1key), return to error playback index interface. Press (1key) returned to the idle state of interface.

7、Automatic test

In the idle state interface, The first press (1key) and (2key)combination, then step on

the pedal controller immediately enter into the automatic test status. The controller will run according to setting about test mode and test time operation, until the end of test.Press (1key) and (2key) combination again the controller will exit the test mode until the run time exhausted.

8、Transmission ratio and the initial angle test

Under idle state,press (1key) and (3key) combination. You can enter the technical parameter:

The initial angle test: P18 parameters adjusted to 2 (test the initial angle), the pedal is pressed to start the test, the test after the parameter back to 0 to (normal operation mode).

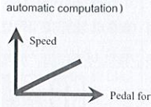
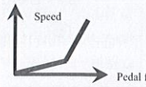
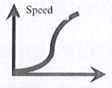
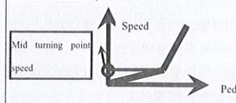
Transmission ratio test: P18 parameter adjustment 3 (test drive), depressing the pedal to start the test, the test after the parameter back to 0 (normal operation mode).

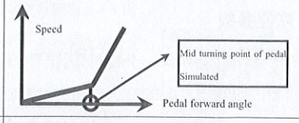
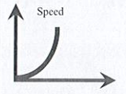
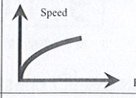
9、Operation note

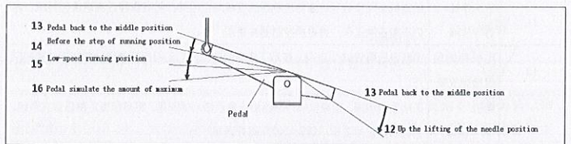
To make the system running at peak performance, the customers for the first time using the recommended test again the initial angle and transmission ratio. R & D parameters so as not to be freely modified, and you incorrectly modify the normal use.

Table 1: Technician mode parameter:

	Index No.	Default	Rang	Comment
Speed	0	20	10-80	Minimum sewing speed (display value*10)
	1	350	20-700	Maximum sewing speed (display value*10)
	2	2	1-9	Soft start stitch number
	3	13	10-80	Soft start maximum sewing speed (display value*10)
	4	13	1-20	System accelerate sensitivity (Direct drive transmission can be set up to a large value; belt transmission don't set large value or too much noise and vibration. This parameter do not affect the electrical)
	5	20	1-80	System decelerate sensitivity (Direct drive transmission can be set up to a large value ; belt transmission don't set large value or too much noise and vibration. This parameter do not affect the electrical)

	7	6	2-200	The needle stop speed down limit .(display value * 10)
Pedal	8	2	0 / 1 / 2 / 3	Pedal Curve mode setup: 0: Auto Calculated liner Curve (According to the highest speed automatic computation)  1: Two segment liner Curve.  2: Arithmetic Curve  3: S curve 
	9	300	20-400	Two segment controls the speed slope: mid turning point speed RPM (two segment of turning point speed) , the parameter[8] set to 1 effective。 

Pedal	10	800	0-999	Two segment controls the speed slope: mid turning point of pedal Simulated value, the parameter[8] set to 1 effective, the value is between[15]and[16]. 
	11	1	1 / 2	Arithmetic Curve supplementary parameter: the parameter[8] set to 2 effective, 1: Square (the low speed control is very well, slow start after fast) ;  2:Square root(Responding speed is fast, fast start after slow); 
	12	190	0-999	Up stop needle position after pedal (set value shall not be higher than【13】)
	13	460	0-999	Pedal back mid position (set value between【12】and【14】)
	14	480	0-999	Pedal step upon running position (set value between【13】and【15】)
	15	680	0-999	Pedal low speed running position (upper) (set value between【14】 and【16】)
	16	940	0-999	Pedal simulation the largest of value (set value shall not be less than【15】)



custom setup 1	17	1	0 / 1	Run to up needle position after Power on: 0: no action 1: action
	18	0	0 / 1 / 2 / 3 4	Special Running Mode setup: 0:free sewing mode;1:simple sewing mode;(without stopping operation mode in the synchronous sensor fault cases using); 2:calculate initial angle of motor (do not uninstall strap); 3: calculate motor/machine head run rate mode ;(synchronizer, do not uninstall strap)4: The control system only in the current loop control running, speed open-loop.
	19	0	0-31	Torque boost up at low speed : 0: normal function 1~31: 31 levels Torque boost up
	20	1	0 / 1	Stop pin mode: 0: Constant speed tackle mode (in the belt transmission, Parking is not precision) 1: back pull mode (PMX)
	21	40	10-80	On the needle lifting speed
	22	350		Automatic test speed
	25	0	0 / 1	Electric steering: 1: reversal; 0 : forward
Machine head parameter	26	100	10~500	motor/machine head run rate: 0.001 (if automatic calculation of motor/machine head run rate has done, the Parameter value in control box maybe different with that in HMI) (display value * 10)
	27	0	0-359	Up needle position mechanical angle
	28	175	0-359	Down needle position mechanical angle
	29	9	0-359	Thick material afterburner start angle

	30	57	0-359	Thick material afterburner end angle
Start/Stop mode	31	Stop position 0: up needle position ; 1: down needle position		
	32	Soft start 0: Off; 1: On.		
Automatic test	33	0	1	Automatic test mode select : 0: needle NO.; 1: time
	34	30	0-999	Automatic test total time setting (10 minute)
	35	50	1-999	Running time (0.1second) / needle NO.
	36	10	1-999	Stop time (0.1second)
Parameter saves recovery	37	0	0-11	Parameter reload(0: Lockstitch straight drive; 3: thick material; 6: 360 Lockstitch straight drive; 7: 360 lockstitch belt; 10: Nested package stretch sewing; 11: roller; 12: Double needle direct drive; 13: Overedge belt machine; 14: Nested package overedge sewing
	38	0-1		Parameter transfer: 1:read data; 0:write data
R&D parameter	72	0	0 / 1	Automatic test transmission ratio
	73	280	0-999	Foot lifter position
	74	10	0-999	Pedal foot lifter confirm time (10ms)
	75	10	0-999	Pedal foot down confirm time (10ms)
	76	1	0-999	Electromagnet 1 chopping open time
	77	1	0-999	Electromagnet 1 chopping close time
	78	80	0-600	Electromagnet 1 solenoid protect time(100ms)
	79	800	0-999	Electromagnet 1 full output time
	80	1	0-3	Electromagnet 1 function 0:off; 1: foot lifter; 2:sunction: 3:+24V output
	81	1	0-999	Electromagnet 2 chopping open time
	82	1	0-999	Electromagnet 2 chopping close time
	83	80	0-600	Electromagnet 2 solenoid protect time(100ms)
	84	800	0-999	Electromagnet 2 full output time
	85	2	0-3	Electromagnet 2 function 0:off; 1: foot lifter; 2:sunction: 3:+24V output

	86	20	20-300	Plus stitch speed
	87	150	1-999	Plus half stitch delay time
	88	150	1-999	Plus a stitch delay time
	89	0	0-2	Input 1 function 0:off; 1: safe SW.; 2:plus stitch:
	90	0	0-1	Input 1 effective level

Table 2: Monitor mode parameter (show only the highest of 3 bit)

Index NO.	Comment	until
0	Bus voltage	V
1	Mechanical speed	10r/m
2	Q axis current	0.01A
3	Initial angle	degree
4	Mechanical angle	degree
5	Pedal analog sampling value	——
6	Transmission ratio	0.001
7	Version number	

Table 3: error code

error code	Error Definition	Solution
01	Hardware overload	Shut down the controller, Re-power it after 30s interval, if the controller still works abnormally, replace it and inform manufacturer.
02	Software overload	
03	Low voltage	Shut down the controller, check input power voltage, if the voltage is lower than 190V, please restart the controller after the voltage is normal, if the controller still work abnormally after the voltage is recovered to the normal level, please replace it and inform manufacturer.
04	Voltage is too high while stopping	Shut down the controller, check the input voltage is high (above 245V). If the power supply voltage is high, Restart controller after recovery, if the controller still cannot work normally please replace it and inform manufacturer.
05	Voltage is too high during Operation	
07	Current detection loop circuit fault	Shut down the controller, Re-start it 30s interval, if the controller still can not work normally replace it and inform manufacturer.
08	Motor stalled	Shut down the controller, check the motor power cord whether it is broken off,

		loosen, damaged, or be tangled on the machinery by other stuffs. Restart controller after recovery, if the controller still cannot work normally please replace it and inform manufacturer.
09	Dynamic Braking failure	Shut down the controller, check the motor power cord whether it is loosen, which is tightly inserted after restart controller , if the controller still cannot work normally please replace it and inform manufacturer.
11	Synchronizer failure	Shut down controller power, check if the connection wire between synchronizer and controller is loosened; if the controller still work abnormally after restart please replace it and inform manufacturer.
12	Initial motor angle detection failure	Restart for 2~3 times, if the controller still work abnormally, Please inform manufacturer.
13	HALL failure	Shut down the controller, check the motor power cord whether it is loosen, return normal after restart controller , if the controller still cannot work normally please replace it and inform manufacturer.
14	DSP access failure EEPROM	Shut down the controller, Re-start it1 attempts, if the controller still work abnormally, Please inform manufacturer.
15	Motor over speed protection	Shut down the controller, Re-start it 30s interval, if the controller still work abnormally, Please inform manufacturer.
16	Irregular motor operation	Shut down the controller, Re-start it 30s interval, if the controller still work abnormally, Please inform manufacturer.
18	Motor overload	Shut down the controller, Re-start it 30s interval, if the controller still work abnormally, Please inform manufacturer.

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