AC Servo motor

User Manual V1.1

Model：WR501&506

1. Notes on safety

Please read carefully User's Guide and the manual of sewing machinery accompanied before use. Installation and operation by trained professionals and correct use are required.

Read carefully the following instructions for proper use. EasyDriver servomotor series can only be used for designated sewing machinery, with no exception.

1.1 (1) Power Supply:Please follow the 200V—240V indicated on the nameplates of motor and control box.

(2) Electromagnetic wave interference: Keep away from high frequency electromagnetic wave machines or electric wave emitter so as to avoid interference.

(3) Humidity and temperature: **a.** Working environment: 5℃~ 45℃, room temperature **b.** Keep away from sun light, indoor use only.**c.** Keep away from (electric) heating appliances **d.** Relative humidity: 30％~95%, keep away from dew.

(4) Air：**a.** Keep away from dusty or corrosive environment. **b.** Keep away from volatile substance.

1.2 (1) Motor, control box: follow the steps indicated in the manual

(2) Accessories: power off and unplug power cord before installing any optional accessories.

(3) Power cord: **a.** Avoid pressure or over distortion.

b. Keep the power cord at least 3 cm away from upper roller.

c. Make sure that supply voltage is between 200V—240V.

(4) Earthing: **a.** Handle earthing (including sewing machine, motor, control box, locator) correctly to avoid interference or creepage.

b. The earthing cord of power cord must be connected to user's system earthing cord with proper conducting wire and joint and fixed permanently.

1.3 (1) Operate at low speed to check if rotation direction is correct when the sewing machine is powered on for the first time.

(2) Do not touch the upper roller or needles when the sewing machine is running.

(3) All movable components must be isolated by protection apparatus provided to avoid unnecessary contact and nothing shall be put inside the machine.

(4) No operation is allowed in the absence of belt guard and other security apparatus

1.4 Turn off power before conducting the following operations:

(1) Removing motor or control box, or plugging of unplugging any plugs from the control box.

(2) There is hazardous high voltage inside the control box. Do not open the control box until the power has been off for at least 1 Minute.

(3) Moving machine head, replacing needles or shuttle or threading.

(4) Repairing or any mechanical adjustment.

(5) The machine is not running.

1.5 (1) Repair and maintenance can only be performed by trained technicians.

(2) No irrelevant articles should be put near the motor's air vent, the back vent head, in particular, shall be kept free of dust, waster paper, broken fabric, etc to avoid overheating of the motor.

(3) Do not hammer this machine or motor (motor) spindle.

1.6 ⚠ Used where potential dangers exist.

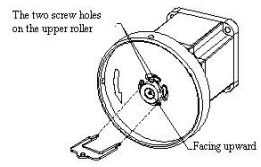
Used where high voltage and electric danger exist.

1.7 Free repair service up to 12 months since leaving factory on condition that this machine is operated correctly and no human error occurs to it.

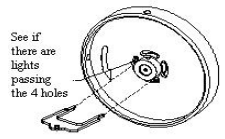
2. Installation and Adjustment

2.1 Handwheel Installation and Adjustment

(1) Fasten the bolt when the first hole along the direction of handwheel coincides with the tangent plane of the spindle, as shown in the picture.



(2) With regard to initial position of needle adjustment, use tools to adjust clockwise or anti-clockwise until satisfied, as shown in the picture.



2.2 Adjustment of pedal

The parts of pedal are as shown in the right figure.

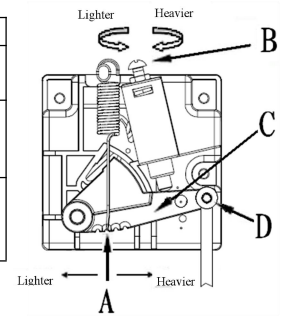
A、Operation spring

B、Bolt for heeling adjustment

C、Pedal lever

D、Ball joint link

No.	Adjustment	Result
1	Adjustment of toeing force	Move spring A to the right to increase the toeing force. Move spring A to the left to reduce the toeing force.
2	Adjustment of heeling force	CCW turn the bolt to reduce the heeling force. CW urn the bolt to increase the heeling force.
3	Adjustment of pedal stroke	Secure the ball joint link D to the right hole to increase the pedal stroke. Secure the ball joint link D to the left hole to reduce the pedal stroke.

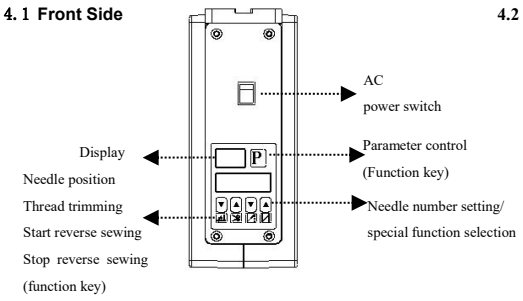


3. Connection & Earthing

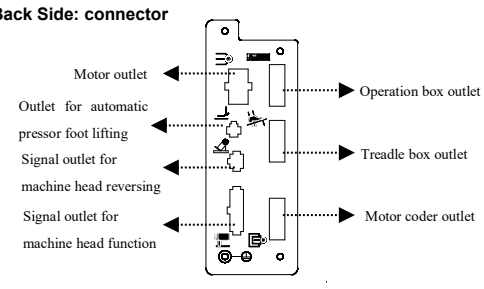
Qualified electric engineering professionals must be invited for system earthing.

4. Names of Chassis Components

4.1 Front Side



4.2 Back Side: connector

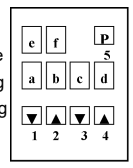


Plug wires in accordance with connector requirements; make sure that all plugs, DB in particular, have been fastened correctly.

5. Instructions for the Operation Panel of the Chassis

Layout of the operation box of chassis, 6 digital tubes (abcdef) and 5 keys (12345)

5.1 Setting of Sewing Functions



Press key 1234 and digital tube abcd to set needle position, thread-cutting, starting reinforcing-sewing, ending reinforcing-sewing respectively.

1：Needle position a: **0** upper needle position; **1** lower needle position 2：thread-cuttings b: **0** unavailable; **1** available

3：Starting reinforcing-sewing c: **0** unavailable; **1** AB double reinforcing-sewing; **2** ABAB quadruple reinforcing-sewing

4：Ending reinforcing-sewing d: **0** unavailable; **1** CD double reinforcing-sewing; **2** CDCD quadruple reinforcing-sewing

The four settings are not necessarily valid for different working mode and sewing mode.

1）System runs with operation box of the machine head. Only needle position option is valid, others need to be set through the operation box of the machine head.

2）System runs without operation box of the machine head.

a) the 4 settings for free-style sewing, preset sewing are all valid .b) only thread-cutting setting is valid for continuous reinforcing-sewing. c) none of the 4 settings are all valid for plain sewing.

3）Automatic test mode: all 4 settings are valid.

The system will enter automatic test mode if key P and power button are pressed at the same time, and the settings for operation box of the machine head aren't valid, the settings related to automatic test can only be done through the operation box of chassis. Press key P and 4 to switch automatic running.

Display functions of digital tube ef:

1）Digital tube e: indicate the status of turn/lift switch No display for invalid turn/lift switch, animated pictures for valid turn/lift switch, which means that machine head has been lifted and system running is forbidden

2）Digital tube f: distinguish different sewing modes "E" for plain sewing, "A" for automatic test, no display for other modes

5.2 Setting of Parameters

Under setting mode for sewing functions, i.e. default mode of the operation box of chassis, keep pressing key P to enter setting mode for parameters. Digital tube abcd display parameter values which can be modified by pressing key 34; digital tube ef display parameter numbers which can be modified by pressing key 12, and previous parameters will be saved at the same time. Press key P to exit setting mode for parameters, and the current parameter values will be saved.

Note: the setting mode for parameters can not be entered into when the system is running; exit to enter setting mode for parameters. See the parameter list of locksmith sewing machine for details.

5.3 System monitoring status

Under the default mode of the HMI of chassis, press key P and key 1 at the same time to enter system monitoring status. Digital tubes abcd display monitoring values; digital tubes ef display monitoring parameter number, press key 12 for modification.

ef	1	2	3	4
abcd	speed	Current	voltage	count
unit	spm	A	V	piece

5.4 Status of System Error

System will stop when an error is detected and error code will be displayed by the operation panel of chassis. Digital tube abcd display error number. See error code list for details.

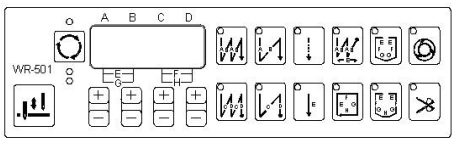
6. Status of System Error

Error codes	Contents	Checking and treatment	Error codes
E011 E012 E013 E014	electric engine 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 E022 E023	Electric engine overload	Motor stall electric engine 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 of non-normal Driving through the device	Current detection loop system is working properly Whether the damage to the device driver
E111 E112 E113	Voltage too low	High-voltage reality Brake failure loop Motor testing is wrong	If the voltage on the inlet wire is too high Braking resistance is the normal work Whether the system voltage detection circuit the normal work
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	Circuit fault detection circuit	Current detection of non-normal	Current detection loop system is working properly
E141	Failure to read and write data system	Non-normal data systems to read and write	Current detection loop system is working properly Whether the data chip damage
E151 E152	magnet error	Electromagnet return flow Electromagnet non-normal conduction	If machine head magnet suffers short circuit Electromagnet circuit is working properly
E201	Motor current excessive	Current detection of non-normal The normal functioning of non-motor	Current detection loop system is working properly Electrical signal is normal
E211 E212	Abnormal electric engine operation	Abnormal electric engine operation	If electric engine plug is well contacted If electric engine signal is matched
E301	Poor operation box communication	The digital of operation box communication missing	if operation box plug is well contacted if operation box components are damaged
P.oFF	Power-fail	Power-down	Wait for power supply to resume
L.oiL	Oiling hint	it has operated for Remind to add oil	long press the chasis panel button P to cancel the oiling hint after add oil

Note: consult technical support if errors still exist.

7. Instructions for Operation Box

7.1



Functions	Keys	Description
Starting reinforcing-sewing		Execute starting reinforcing-sewing 2 times, to and fro
		Execute starting reinforcing-sewing 1 times, to and fro
ending reinforcing-sewing		Execute ending reinforcing-sewing 2 times, to and fro
		Execute ending reinforcing-sewing 1 times, to and fro
free-style sewing		Press treadle ahead for normal sewing, stop in the middle, behind for thread-cutting and thread wiping
continuous reinforcing-sewing		1、Press treadle ahead for automatic sewing, to and fro, which is set at E and can reach 99 times. 2、Continuous reinforcing-sewing is in trigger mode by default, treadle doesn't need to be kept being pressed, and corresponding trigger light of preset sewing is solid lit. 3、Previous ending reinforcing-sewing setting is invalid if this function is valid
preset sewing		1.Press treadle ahead to execute sewing times set at E or E, F, G, H. 2.Sewing will stop immediately if treadle is lifted; press treadle again, it will go on with the rest. 3.Ending reinforcing-sewing (if selected), thread-cutting and thread wiping will be automatically executed after sewing is completed
Setting needle number/check options		1.Press the key to switch between value of upper, middle and lower needle number setting displayed on the screen. Upper: Needle number at A, B, C, D sections is indicated by horizontal light;Middle:Needle number at E, F sections is indicated by horizontal light;Lower: Needle number at G, H sections is indicated by horizontal light. 2.A, D sections,ranging 0～15, 1~15 for the Needle number at B, C sections. A, b, C, d, E, F stand for 10, 11, 12, 13, 14, 15 needles 3.Reflect the Needle number at E, F, G, H sections, ranging 0～99.
needle-lifting/stitch compensation		1、 Free-style sewing mode: Half needle, one needle and continuous compensation as required. 2、 preset sewing : a. Stop machine when sewing is not completed; press the key for needle-lifting.b. Press the key for one or continuous stitch compensation when sewing at this section is completed
preset sewing trigger		1.For preset sewing. Trigger treadle and the system will automatically conduct sewing at E, F, G, H sections; the treadle doesn't need to be kept being pressed.2.Solid light for continuous reinforcing-sewing mode means that it is trigger mode by default.
thread-cutting selection		Set or cancel thread-cutting function.
speed key		Speed down. Keeping pressing to lower speed, the display will automatically switch to speed set. Free-style sewing valid.
		Speed up. Keeping pressing to increase speed, the display will automatically switch to speed set. Free-style sewing valid.

7.2 Notices

a. when the machine is powered on the system will perform self test and all LED lights turn on, "8888" will be displayed on the screen, buzzer sounds, the whole process will last around 500 milliseconds before returning to normal interface.

b. keys on operation box become valid, related lights turn on, indicating that the function is selected, the buzzer sounds for each pressing. A complete sewing function includes: starting reinforcing-sewing once, to and fro, free-style sewing and ending reinforcing-sewing once, to and fro. All needed is to press corresponding icon. Press the icon again to cancel a selected function.

c. set needle numbers at A, D sections to 0 for signal reinforcing-sewing

d. before thread-cutting, cancellation of previously set ending reinforcing-sewing (if set already) becomes valid immediately.

e. rotating setting/view conditions for "setting of needle number/view options" key: No switch for free-style sewing; The rotating switch of preset sewing, one-section sewing, continuous reinforcing-sewing can only be realized at upper and middle LED lights;The rotating switch of other preset sewing mode can be realized at upper, middle and lower LED light.

F. The selection of continuous reinforcing-sewing makes previous ending reinforcing-sewing invalid.

G. Under free-style sewing mode , keep pressing preset sewing trigger key for at least 3 seconds to return factory-set parameters of the operation box

H. "Erro" will be displayed if parameter-reading by operation box goes wrong, other errors will be notified by operation box of the chassis, seek technical support if that occurs.

8. Parameter list of lockstitch sewing machine

No.	Items	Contents	Settings range	Default
1	highest speed of free-style sewing	set the highest speed for machine head	300~4000(spm)	3500
2	Soft Start	soft start setting for starting sewing 0: no Soft Start 1~9: needle number of soft start	0~9	1
3	soft start speed	soft start speed for starting sewing	100~3000(spm)	1000
4	highest speed for preset sewing	highest speed for preset sewing	300~4000(spm)	3000
5	sewing mode	sewing mode setting(valid in the absence of operation box of the machine head) 0 ： free-style sewing 1 ： continuous reinforcing-sewing 2：preset sewing 3： plain sewing	0~3	0
6	number of starting reinforcing-sewing and obverse-sewing	number of starting reinforcing-sewing and obverse-sewing(valid in the absence of operation box of the machine head)	0~32(needles)	3
7	number of starting reinforcing-sewing and reverse-sewing	number of starting reinforcing-sewing and reverse-sewing(valid in the absence of operation box of the machine head)	1~32(needles)	3
8	number of ending cing-sewing and reverse-sewing	number of ending reinforcing-sewing and reverse-sewing(valid in the absence of operation box of the machine head)	1~32(needles)	3
9	number of ending reinforcing-sewing and obverse-sewing	number of ending reinforcing-sewing and obverse-sewing(valid in the absence of operation box of the machine head)	0~32(needles)	3
10	number of preset sewing sections	setting of the number of preset sewing sections and needle number of each section (valid in the absence of operation box of the machine head)	1~6(sections)	1
11	needles of the 1st section		1~99(needles)	15
12	needles of the 2nd section		1~99(needles)	15
13	needles of the 3rd section		1~99(needles)	15
14	needles of the 4st section		1~99(needles)	15
15	needles of the 5th section		1~99(needles)	15
16	needles of the 6th section		1~99(needles)	15
18	trigger mode of preset sewing	setting of preset sewing trigger (valid in the absence of operation box of the machine head) 0: trigger function unavailable 1: trigger function available	0/1	0
20	switch mode for Reinforcing-sewing	setting of switch mode for Reinforcing-sewing 0:Reinforcing-sewing 1:stitch compensation when machine stopping ,Reinforcing-sewing when machine running	0/1/2	0
25	control mode for pressor foot lifting	settings of pressor foot lifting mode 0: pressor foot lifting unavailable 1: treadle pressor foot lifting 2: automatic pressor foot lifting after thread-cutting 3: automatic pressor foot lifting after treadle pressor foot lifting and thread-cutting 4: automatic pressor foot lifting after machine stopping and thread-cutting 5: automatic pressor foot lifting after treadle pressor foot lifting, machine stopping and thread-cutting	0~5	0
27	Power on and positioning	Setting of machine head moving to upper needle position when powered on 0: unavailable 1: available	0/1	1
28	signal mode for turn/lift switch	Setting of signal mode of turn/lift switch of machine head 0: always open 1: always close	0/1	0
30	Presser foot soft lowering function.	Setting to low down the lowering speed of presser foot to prevent damage to the cloth 0: unavailable 1: available	0/1	0
36	piecework display	Piecework number	0~9999	0
37	Hold time for thread wiping	Hold time for thread wiping	0~800(ms)	40
41	low speed	lowest speed of treadle	100~1000(spm)	200
42	adjustment of treadle functions	adjustment of the speed adjustment functions of treadle	10~100	60
*44	thread-cutting speed	thread-cutting speed	100~500(spm)	250

No.	Items	Contents	Settings	Default
46	pressor foot lifting delays sewing	delay with pressor foot lowered	0~800(ms	200
47	output time of total pressure of pressor foot lifting	output time of total pressure of pressor foot lifting	0~800(ms	100
48	output duty cycle of pressor foot lifting	output duty cycle of pressor foot lifting	0~100	40
49	hold time of pressor foot lifting	forced shut-down after hold time of pressor foot lifting	1~60(s)	12
50	output time of total pressure of reverse-sewing	output time of total pressure of reverse-sewing	0~800(ms	150
51	output duty cycle of reverse-sewing	output duty cycle of reverse-sewing	0~100	60
52	Hold time of reverse-sewing	forced shut-down after hold time of reverse-sewing	1~60(s)	12
53	Starting reinforcing-sewing speed	starting reinforcing-sewing speed	100~2000	1500
54	starting reinforcing-sewing compensation 1	parameter of starting reinforcing-sewing stitch compensation	0~15	12
55	starting reinforcing-sewing compensation 2	parameter of starting reinforcing-sewing stitch compensation	0~15	9
56	ending reinforcing-sewing speed	ending reinforcing-sewing speed	100~2000	1500
57	ending reinforcing-sewing compensation 1	parameter of ending reinforcing-sewing stitch compensation	0~15	12
58	ending reinforcing-sewing compensation 2	parameter of ending reinforcing-sewing stitch compensation	0~15	9
59	continuous reinforcing-sewing speed	continuous reinforcing-sewing speed	100~2000	1500
60	continuous reinforcing-sewing compensation1	parameter of continuous reinforcing-sewing stitch compensation	0~15	10
61	Continuous reinforcing-sewing compennsatio2	parameter of continuous reinforcing-sewing stitch compensation	0~15	9
69	lower needle position	Adjustment of lower needle position	120~240	177
70	Reverse needle lift function	0: unavailable 1: available	0/1	0
71	Reversal of needle lift angle	Reversal of needle lift angle	0~45(°)	20
79	parameter of special functions	parameter of special functions(valid after holding 2s) 5: return to factory-set parameter	0~15	0

* Marked Items are used for repair and maintenance, modification of factory-set value may do damage to the machine or lead to decline of performance. Professionals must be consulted if modification is necessary. However, set values may be modified anytime for improvement of the functions and performance of sewing machine.

9. Instructions for System Configuration

9.1 Adjustment of Sewing Speed (parameter No.1, 4, 41~42, 53, 56, 59, 80)

1） highest speed of free-style sewing (parameter No.1)

Setting of the highest speed of treadle under free-style sewing mode, the max value is subject to parameter No.80.

Press the speed adjustment key on the operation box of the machine head to modify this parameter.

(Note) lifetime of the sewing machine may be reduced by unnecessary high speed

2） setting of reinforcing-sewing speed(parameter No.53, 56, 59)

No.53 setting of starting reinforcing-sewing speed

No.56 setting of ending reinforcing-sewing speed

No.59 setting of continuous reinforcing-sewing speed

(Note) the appearance of reinforcing-sewing stitch may be affected by unnecessary high speed of reinforcing-sewing.

3） Setting of preset sewing speed (parameter No.4)

Parameters of various preset sewing speeds

4） low speed setting (parameter No.41)

Treadle's starting and running speed. It will be easy to conduct needle compensation with treadle

5） adjustment of the speed adjustment performance of treadle(parameter No.42)

User can customize speed adjustment performance of treadle, bigger parameter leads to higher acceleration of treadle, otherwise lower. Too big value may make working uncomfortable; too small may fail the highest speed set.

Increase the parameter if treadle is unable to reach the highest speed.

9.2 Soft Start (parameter No.2~3)

Top stitches and bottom stitches of starting sewing may be unable to link if needle distance is too short or needle is too thick, which can be improved by limiting the highest starting sewing speed.

No.2 setting of needle number of soft start 0 Soft Start invalid

1~9 needle number of soft start, i.e. limit speed with certain needle number under starting sewing mode

No.3 setting of soft start speed

(Note) Soft Start is invalid if starting reinforcing-sewing has been set

9.3 Setting of Needle positioning (parameter No.69)

selection of upper and lower needle position

By default, the 1st key on the lower left controls stopping needle position, corresponding upper figure display the value set

0 upper needle position 1 lower needle position

adjustment of lower needle position(parameter No.69)

Setting of lower needle position, deviation angle relative to upper needle position

9.4 Sewing Mode setting in the Absence of Operation Box (parameter No. 5~18)

Special pattern may be realized by setting parameters in the absence of operation box of the machine head.

(1) selection of sewing mode(parameter No.5)

0 Free-style sewing: Able to keep running after treadle has been pressed, no needle number will be counted.

1 continuous reinforcing-sewing: number of obverse-sewing (parameter No.6), number of reverse-sewing (parameter No.7),totalnumber of obverse-sewing and reverse-sewing(parameter No.11)

2 Preset sewing: the machine automatically stop when reach certain needle number, stopping times (parameter No.10) and needle number (parameter No.11~17) of stopping can be set.

3 Plain sewing: stopping needle position is free, no needle number will be counted, reinforcing-sewing mode invalid, manual reverse-sewing and automatic pressor foot lifting is available. This mode will be useful if the synchronizer of machine head is damaged.

(2) starting reinforcing-sewing and ending reinforcing-sewing

a. Function setting: by default, the 2nd key on the lower right controls starting, ending reinforcing-sewing, corresponding upper figure display the mode set. 0 reinforcing-sewing invalid 1 reinforcing-sewing 2 times 2 reinforcing-sewing 4 times

b. Setting of needle number: number of starting reinforcing-sewing and obverse-sewing (parameter No.6), number of reverse-sewing (parameter No.7); number of ending reinforcing-sewing and reverse-sewing (parameter No.8), number of obverse-sewing (parameter No.9).

(3) setting of number of preset sewing sections and needle of each section(parameter No.10~17)

Section number for preset sewing (parameter No.10): 1~7; needle number for each section (parameter No.11~17): 1~99.

(4) trigger function of preset sewing (parameter No.18)

Decide whether sewing will be completed without stop at each section under preset sewing mode. Machine can be stopped at each section during running if this function is invalid.

(5) setting of thread-cutting

By default, the 2nd key on the lower left control thread-cutting function, corresponding upper figure display the value set.

0 thread-cutting unavailable 1 thread-cutting available

(Note) If there is operation box of the machine head available, sewing settings will be determined by the operation box of the machine head, parameter setting is invalid. It is recommended to use operation box of the machine head for pattern sewing even if parameter settings support pattern sewing.

9.5 Pressor Foot Lifting Mode setting (parameter No.25)

Set the operation mode of the magnet of pressor foot lifting.

0 magnet operation unavailable 1 Only treadle command can conduct pressor foot lifting 2 automatic pressor foot lifting after thread-cutting

3 treadle operation, automatic operation after thread-cutting 4 automatic operation after machine stopping and thread-cutting

5 treadle operation, automatic operation after machine stopping and thread-cutting

(Note) set parameter No.25 to 0 if the magnet of pressor foot lifting is unavailable

9.6To set the presser foot soft lowering(parameter No.30)

The function to slow down the presser foot magnet release speed after presser foot magnet lift function to prevent sewing thin material or easy damaged material to be damaged for too quick presser foot release.

9.7Automatic Top Positioning When Powered-On (parameter No.27)

When powered on, the machine head will automatically move to upper needle position, which can facilitate sewing.

No action if needle position is around upper needle position.

9.8Roll-over Protection (parameter No.28)

Lock machine's functions to prevent unexpected accident when machine head is under roller-over status. Parameter No.28 controls types of roller-over signals.When machine head is under roller-over status, the digital tube on the upper left 1 of the operation panel of chassis will display roller-over picture.

9.9Sewing Piecework (parameter No.35~36)

Counts will increase when thread-cutting is over to calculate finished sewing working procedures.

If No.35 is set to 1, piecework is available; if set to 0, piecework is unavailable.

No.36 display piecework number, press parameter value to clear piecework number for recounting.

9.10Sewing with Delayed Pressor Foot (parameter No.46)

When the magnet of pressor foot lifting operates, press treadle. Since it takes time for magnet to release, sewing machine may have begun running before pressor foot press materials firmly, affecting sewing effects. Parameter can be used to compensate the time for pressor foot lifting to release.

9.11Pressor Foot Lifting Hold Time setting (parameter No.49)

Adjust the hold time of pressor foot, long time operating can reduce the lifetime of magnet.

After pressor foot is lifted, magnet will be automatically stopped to lower pressor foot after the time set by No.49.

9.12 Reverse Sewing Hold Time Setting (parameter No.52)

Adjust the hold time of reverse-sewing; long time operating can reduce the lifetime of magnet.

Reverse-sewing magnet operation will be automatically stopped after the time set by No.52.

9.13adjustment of reinforcing-sewing compensation (parameter No.54~55, No.57~58, No.60~61)

Under reinforcing-sewing operation, adjust corresponding parameters to improve stitch appearance if obverse- and reverse-sewing stitches are not consistent。Before adjustment, please first set the number of obverse-sewing and reverse-sewing to the same, e.g. 3; follow the instructions below to adjust corresponding 2 parameters.

starting reinforcing-sewing No.54 No.55	Connection between obverse and reverse-sewing		Increase parameter No.54, if the number of reverse-sewing decreases or the first stitch becomes short.		Reduce parameter No.54, if the number of obverse-sewing decreases or the last stitch becomes short.
	Connection between reverse- and obverse-sewig		Increase parameter No.55, if the number of obverse-sewing decreases or the first stitch becomes short.		Reduce parameter No.55, if the number of reverse-sewing decreases or the last stitch becomes short.
ending reinforcing-sewing No.57 No.58	Connection between reverse- and obverse-sewig		Reduce parameter No.58, if the number of reverse-sewing decreases or the last stitch becomes short.		Increase parameter No.58, if the number of obverse-sewing decreases or the first stitch becomes short.
	Connection between obverse- and reverse-sewing		Reduce parameter No.57, if the number of obverse-sewing decreases or the last stitch becomes short.		Increase parameter No.57, if the number of reverse-sewing decreases or the first stitch becomes short.
continuous reinforcing-sewing No.60 No.61	Connection between obverse- and reverse-sewing		Increase parameter No.60, if the number of reverse-sewing decreases or the first stitch becomes short.		Reduce parameter No.60, if the number of obverse-sewing decreases or the last stitch becomes short.
	Connection between reverse- and obverse-sewig		Increase parameter No.61, if the number of obverse-sewing decreases or the first stitch becomes short.		Reduce parameter No.61, if the number of reverse-sewing decreases or the last stitch becomes short.

9.15Reverse pick-up needle function (No. 70, No parameters. 71)

Cut the line, reverse sewing machine, let the machine needle rise to near dead spots on the parameters of the No. 71 can adjust the reversal of the Angle.Sewing thick material, cut the line cloth touch after needle cannot successful exit when used

(note) needle rise to near the dead spots, and once again the sewing may cause to take off the line please readjust irrelevant to cut head length.

WR501/WR506 PACKING LIST v1.0

NO.	Product name	Amount	product specification	Confirm	Remarks
1	Ball section connecting	1			
2	Electric control box	1	WR501/WR506		
3	Operating box	1	EP-001		
4	pedal	1	PL-101		with bracket
5	Operation box of stents	1	WR01-02-07		Only for WR501
6	screw	3	M4×8		The supplied pan-head three combination （Only for WR501）
7	screw	3	M5×30		Outside hex flange tapping screws
8	screw	3	M5×23		Outside hex flange tapping screws
9	The instructions	1			
10	certificate	1			
11	cable ties	2	CV-160L		