

# HIGH TABLE SEMI-AUTOMATIC STRAPPING MACHINE

# **USER'S MANUAL**



Read carefully and understand all **ASSEMBLY AND OPERATION INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

# Item# 22063

Thank you very much for choosing a Wel-Bilt<sup>™</sup> product. For future reference, please complete the owner's record below:

Model: \_\_\_\_\_ Purchase Date: \_\_\_\_\_

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This air compressor is designed for certain applications only. The distributor cannot be responsible for issues arising from modification. We strongly recommend this item not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use this product until you have first contacted the distributor to determine if it can or should be performed on the product.

For technical questions, please call 1-800-222-5381.

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# **TECHNICAL SPECIFICATIONS**

Item	Description
Packing Speed	<3 second/cycle
Min Package	2 3/8in. (60mm)
Tension Force	17.6lbs110lbs. (8kgs-50kgs)
Width of PP Tape	0.24in.–0.6in. (6-15mm)
Thickness of PP Tape	0.02in0.033in. (0.5mm-0.85mm)
Power Voltage	AC110V
Power Frequency	60HZ Single phase
Power	<0.4kw
Machine Weight	<220lbs. (100KG)
Ambient Temperature	41°F-104 °F (5-40 °C)
Relatively Humidity	35-85%RH
Transportation/ Storage Temperature	-13° - +131°F (-25- +55°C)

# **GENERAL SAFETY REGULATIONS**

1. Keep the work area clean and dry. Damp or wet work areas can result in injury.

2. Keep children away from work area. Do not allow children to handle this product.

3. Store idle equipment. When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment, and keep out of reach of children.

4. Use the right tool for the job. Do not attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. Do not modify this equipment, and do not use this equipment for a purpose for which it was not intended.

5. Check for damaged parts. Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace damaged or worn parts immediately.

6. Do not overreach. Keep proper footing and balance at all times to prevent tripping, falling, back injury, etc.

7. DO NOT use the equipment when tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating this equipment may result in serious personal injury.

8. Industrial applications must follow OSHA requirements.

# SPECIFIC OPERATION WARNINGS

#### WARNING: Read and understand all instructions BEFORE operating.

WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.



- 1. Before operating the machine, pleases fit over voltage and under voltage protection to the machine.
- 2. Wear eye or face, and hand protection. Do not wear loose clothing.
- 3. Keep hands or other parts of the body out of the strap chute area during operation.
- 4. The temperature of the heater plate is very high. Do not touch.
- 5. Do not insert strap while there is not a package on the operation table.
- 6. Do not replace any safety parts of different specifications.
- 7. Shut off all electric power after machine operation or servicing machine.
- 8. Do not use water or steam to clean the machine.
- 9. Do not remove the electric control box cover if not necessary. Only trained engineers are allowed to open the electric box. Before opening, be sure to pull the power plug off.
- 10. Keep this operation manual at your strapping machine. Refer to it often.

# INSTALLATION

One set of tools and spare parts is packed with each machine for use in making adjustments and for replacement of parts as needed. Please compare your supplied tools with the following list:

SPECIFICATION	NAMES	QTY
EX102	FUSE 2A	1
EX103	FUSE 3A	1
EX115	FUSE 15A	1
EW001	MICRO-SWITCH, WITHOUT IDLER WHEEL	1
EW002	MICRO-SWITCH, WITH IDLER WHEEL	1
HL101122	LONG PULLED SPRINGФ1.0*Ф10.8*22	1
HL121020	SHORT PULLED SPRING Φ1.2*Φ10*20	1
HL050565	GALVANOTHERMY SMALL SPRING Ф0.5*Ф5*6.5	1
GB25	HEXAGON SPANNER M2.5	1
GB30	HEXAGON SPANNER M3	1
GB40	HEXAGON SPANNER M4	1
GB50	HEXAGON SPANNER M5	1
GA04	CROSS LAW APPROVED 4	1

Installation of the machine requires that the machine be uncrated, placed in its proper position and secured in place (see Fig 1 for reference). Remove the screw on the top cap of speed reducer for ventilation. Make sure the power cord is plugged into the appropriate electrical outlet.



Fig1. Installation Dimension

# START-UP

# **1. INTRODUCTION TO THE CONTROL PANEL**

The control panel is at the upper left corner of the machine front plate (see Fig.2).



#### Fig.2 Control Panel

#### (1) Power switch

Turn on the switch. Power switch lights up in red indicating all electrical circuits and the electric motor are active. Then you can operate the machine.

Turn off the switch, cut down the power, then the machine stops.

(2) Manual retracting/reset button

The button has either green or yellow light to indicate the 2 status alternatively.

When its green light is on, press the button, the straps will be retracted and the light turns to yellow.

When its yellow light is on, press the button, the machine will be reset and the light changes to green.

(3) Manual feeding

When the machine is in the "reset" model (the Manual retracting/reset button's green light is on), press the button (3), the straps can be fed manually.

While the Manual retracting button (2) is functioning (its yellow light is on), press the Manual feeding button (3) will stop retracting and start feeding straps.

### (4) Length adjustment knob

Rotating the knob can adjust the feeding length of the straps automatically, so that you can set up a standard length of the strap to fit the same packages.



### (5) W1: Motor Stop Time Adjustment Switch

WARNING: Before making any switch changes, power must be OFF.

This machine can automatically switch off after a while of inactivity and restart as the strap is inserted. Please follow the steps below to adjust the time for the motor to switch off automatically. The switch (W1 in Fig 3 is used to make this adjustment).

Time for the machine in inactivity will be longer before the motor switches off automatically by turning the switch (W1) clockwise, while time will be shorter by turning the switch (W1) anticlockwise. The time can be adjusted from 10 seconds to 60 seconds.

### 2. INSTALLATION OF THE STRAP COIL

- 1. Screw off the hand wheel and take off the plastic flange B.
- 2. Place a coil of strap on the plastic flange A with correct direction allowing the shaft to poke through the plastic wrap. Make sure the straps wheel inner diameter clip in reel center claw. If the inner diameter is wrong, adjust it as below.



### Fig. 3 Dispenser Assembly

Please follow instructions below to adjust the reel center claw for various inner coils. Refer to Fig. 4.

- 1. For 200mm inner coil diameter, position 2 holes on the reel center claw to #1 and #3 holes of the plastic flange A.
- For 230mm inner coil diameter, position 2 holes on the reel center claw to #2 and #4 holes of the plastic flange A.

3. For 280mm inner coil diameter, position 2 holes on the reel center claw to #3 and #5 holes of the plastic flange A.



Fig.4 Reel Hole Site

### 3. FEEDING STRAPS (as shown in fig. 5)



- 1. Turn off the machine by press power switch (1) as shown in fig.2 and pull the cord plug off the electric outlet to cut off the power supply.
- 2. Open the door on the left side (see fig.3), and put the loaded strap reel in the case with the right direction, so that the reel should turn clockwise when the straps are pulled off. (refer to detailed Notes on how to assemble the straps onto the reel as stated below)
- 3. Close the left side door and open the right side door, pull the PP straps end until about 1 meter (3 fee ) straps are off the reel.
- 4. Put the end of the straps through ring (B) to transition wheel (C), and make it go out from the side face, then close the right side door.
- 5. Plug the cord into the appropriate electrical outlet and press the Power switch on.
- 6. Press the Manual feeding button (3), the machine will run. In the way indicated by the arrows in fig. 2, let the end of the straps go through the slot (D).Feed the straps manually, the machine will pull the straps in. Do not release the button until the end of straps comes out from point E.

# OPERATION



#### Fig.6 Sample Operation

- 1. Install coil A on dispenser (Refer to Section 2, "Installation of the Strap Coil" in START-UP).
- 2. Feed the strap (Refer to Section 3, "Feeding Straps" in START-UP).
- 3. Connect power plug F to power source (AC 110V, 60Hz).
- 4. Turn on the power switch G and run the machine for 5 seconds to warm up to the operating temperature.
- 5. Place package K on the table top, directly above the sealing head. Allow the package to contact the two package stops.
- 6. Manually pull the strap L to encircle the package. Or press feed button L to gain enough for encircling package.
- 7. Insert strap end into slot M, then machine will work automatically. Keep your hands away of the strap and slot M during strapping.
- 8. After strapping, take the package away.

**NOTE:** Some adjustments may be required to let the machine work well. Please refer to the below section ADJUSTMENT INSTRUCTIONS to adjust accordingly.

# **ADJUSTMENT INSTRUCTIONS**

#### **1. TEMPERATURE ADJUSTMENT**

Open the top cover of the machine and find the switch for temperature adjustment.

The temperature increases when turning the switch on the transformer clockwise (The larger the number pointed is, the higher the temperature is). The adhesive affection will not be very good if the temperature too high or too low, so adjust in small increments. Normally, switch it on 4-6.

**NOTE:** If the temperature is adjusted too high (above 6), the high temperature heating filament is easy to be burnt out.

### 2. TENSION ADJUSTMENT

Find the switch for tension adjustment on the backside of the machine)

Adjust the screw cap (Fig. 6) on the backside of the machine. Tighten the tension by turning clockwise, while loosen by anticlockwise. The change can also be seen from the pointer (Fig. 7).



Fig.6 Screw cap

Fig.7 Pointer

#### 3. WIDTH ADJUSTMENT

This machine is designed specially for use with PP straps with length between 0.24in. (6mm) and 0.6in. (15mm).

Adjust the width of strap guide to fit various width of PP strap by the two ways below. Refer to Fig. 8.

1. Loosen the socket head cap screws (item #5& #6) and put the upper strap guide (item #3) against the side of main body block (item #9). Place PP strap between upper strap guide (item #3) and lower strap guide (item #4) properly. Screw the two socket head cap screws (item #5& #6) tightly.

2. Loosen the socket head cap screws (item #7& #8). Place PP strap between strap guide (item #2) and adjusting strap (item #1). Adjust item #1 to a proper room for the PP strap then tighten the socket head cap screws (item #7& #8).



### 4. FEED ROLLERS AND TENSION ROLLERS ADJUSTMENT

To make the machine work well with PP straps with different thickness, please adjust the rollers following the instructions as below. Refer to Fig. 9.

- (1) The adjustment must be done after the machine is set to zero.
- (2) Adjust the four lock nuts 1 and 2 upward, the clearance of the tension rollers is smaller.
- (3) Adjust the four lock nuts 1 and 2 downward, the clearance of the tension rollers is larger.
- (4) Normally, keep the clearance 0.05MM-0.1MM more than the thickness of strap.

### (5) It is important to note:

- A. Do not tighten the lock nuts 1 and 2 too much each time.
- B. Always leave 0.3MM-0.5MM gap between the nuts and the holder arm.
- C. Make sure that the idler wheels assembly can move smoothly up and down.



Fig. 9 roller assembly adjustment details

# ELECTRICAL DESCRIPTION

A circuit diagram of the electrical description is illustrated in the DIAGRAM & PARTS LIST section. Below are functions of each main switch on circuit. Refer to Fig. 10.

LS1: It's at the left hand of board. The machine begins to pack when strap head hits the touch-contact switch through inserting slot.

LS2: It is magnetic switch which positions between up and down rollers. LS2 will sent out signal twice if magnet rotates one circuit.

LS3: Retract straps when this switch is open, while cool when off.

LS5: It is beside of LS3. The contact point will be pushed by cam of micro-switch when the machine is set to zero. After one packing, the electromagnet will be activated, then the strap can be fed automatically.

Quick heater system: Quick heater system is upon the bottom plate. It can make the machine to get the suitable temperature in 30 seconds.



#### Fig. 10

# PARTS CLEANING

#### **UPPER SLIDE**

Always keep the upper slide well fitted with both guides, and keep it move smoothly. Thus it is important to keep the upper slide clean. Do the cleaning following the instructions below. Refer to Fig. 11.

Remove the pull springs on the swaying rocker.  $\geq$ 

- > Take out the upper and lower slides.
- > Wipe the slot between slides and guides.
- > Insert the lower slide into upper one, then screw the upper slide to the slot of lower one.
- Slide both slides to the lots of both guides, then fix the spring pin with ungula slot of the upper slide.
- > After the slides are set down, put on the springs.
- Check if the upper slide moves smoothly. If not, keep the right guide stay and adjust the left guide till the upper slide works well.
- > Add some oil or light lubrication to the slot between slides and guides.
- If the upper slide can move smoothly, but cannot move back, check if the pull spring is flexible fatigue. If so, change it or cut it shorter.



#### MIDDLE KNIFE AND FRONT POINT KNIFE

Middle knife and front point knife must cooperate precisely to cut off strap. So it is very important to keep them clean. Do the cleaning following the instructions below. Refer to Fig. 12.

- > Remove the pull springs of middle knife and front point knife.
- > Move back the upper slide, take out the middle knife first and then the front point knife.
- > Wipe the middle knife, front point knife and grooves clearly.
- > After cleaning, assemble the front point knife, and then the middle knife and the springs.
- > Add some light lubrication around middle knife, front point knife and rear knife around.
- If the machine has been used for long time, and the middle knife and front point knife can not cut off the strap smoothly, take out the middle knife, remove the screws of spring and assemble them to the other side, then reassemble the middle knife.



# MAINTENANCE AND LUBRICATION

The machine requires periodic maintenance and lubrication. Do not keep the product in the wet and moist place in order to prevent the danger of fine or electrical damage. Always keep it dry.

- 1. On a weekly basis, clean out the rubbish in the machine.
- 2. On a monthly basis, make the cleaning to the parts in PARTS CLEANING section.
- 3. On three-month basis, lubricate axis and bearings.
- 4. On two-year basis, make up the machine oil in gearbox.
- 5. Do not add oil to the parts below.
  - A. Feeding rollers and tension rollers
  - B. All belts and pulleys
  - C. Skid piece and around
  - D. All the gears
  - E. Electromagnetic clutch and clutch disc
- 6. Do not add too much oil once, or oil may go into micro-switches causing malfunction.

**WARNING:** Only trained or professional personnel can service the machine. Make sure the machine is cool and the wire plug has been disconnected before servicing.

# TROUBLESHOOTING

#### Trouble phenomena: Band is not inserted properly.

Cause	Troubleshooting		
1. Blocked with a lot of foreign materials.	Remove any debris.		
2. Clutch works abnormally	Low voltage.		
2. Clutch works abhormany.	The clearance of clutch is too big.		
3. Something wrong with PCB.	Replace PCB.		
Trouble phenomena: Strap can not be fed automatically.			
Cause	Troubleshooting		
1. Length adjustment knob was turned to	Turn the knob in clockwise direction to lengthen the strap. Gradation is		
zero.	about 40" (1m).		
2. Food the strap in wrong way	Re-feed the strap according to the instructions in STRAPS FEEDING		
2. Teeu the strap in wrong way.	section.		
3. Blocked with many foreign materials.	Remove any debris.		
4. Improper clearance between idler	Adjust the clearance according to ADJUSTMENT INSTRUCTIONS		
wheels.	section ADJUSTMENT FOR IDLER WHEELS OF FEEDING/		

	RETRACTING STRAP .
5. PP strap is too thin or too thick.	Use straps with a length from 0.24in. (6mm) to 0.6in. (15mm).
	Check if the electromagnet contact point falls off or burns out.
6. Electromagnet worked abnormally.	Check if the electromagnet moved away or was blocked by crumbs.
	Check PCB.

# Trouble phenomena: Strap can not be cut off.

Cause	Troubleshooting
1. The bearing of middle knife is broken.	Replace the bearing.
2. The middle knife is dull.	Bring new cutting surface into play according to PARTS CLEANING section MIDDLE KNIFE AND FRONT POINT KNIFE .
3. Tension is too large.	Adjust according to ADJUSTMENT INSTRUCTIONS section TENSION ADJUSTMENT.
4. There is oil on belts and pulleys.	Remove it and wipe the oil, then reinstall.
5. Drive belt is loose.	Tighten the belt by taking down the belt seat or moving backward the motor.
6. Strap is too thick or clearance of the idler wheels is too large.	Adjust the clearance according to ADJUSTMENT INSTRUCTIONS section ADJUSTMENT FOR IDLER WHEELS OF FEEDING/ RETRACTING STRAP.
7. LS2 is malfunctioned.	While retracting strap, the reset button doesn't work, and the manual feeding button works. That means the LS2 doesn't work.

#### Trouble phenomena: Strap can not be retracted.

Cause	Troubleshooting	
1. Blocked with many foreign materials.	Remove any debris.	
2. Improper adjustment damaged the rail	Only trained or professional percention can carrying the machine	
bearing.	Only trained of professional personnel can service the machine.	
2 Impropor electropec between idler	Adjust the clearance according to ADJUSTMENT INSTRUCTIONS	
	section ADJUSTMENT FOR IDLER WHEELS OF FEEDING/	
wheels.	RETRACTING STRAP .	

### Trouble phenomena: Strap can not be completely sealed.

Cause	Troubleshooting	
	Adjust according to ADJUSTMENT INSTRUCTIONS section	
1. Improper temperature.	TEMPERATURE ADJUSTMENT .	
	Repair or replace the fan if the temperature is too high.	
2. Unnormal voltage.	The rated voltage is 110V. The range for the power voltage is $\pm 5-10\%$ .	
3. The spring on galvanothermy loses	Replace the spring.	
efficacy.		
4. The bearing of middle knife is broken.	Change the bearing.	
5 Hoat resisting wire was wrongly	Check if the nut is loose. If so, coat it with conductive adhesive and	
installed or burned out	tighten it.	
	Replace a new heat-resisting wire.	
6 Tension is too large	Adjust according to ADJUSTMENT INSTRUCTIONS section	
	TENSION ADJUSTMENT .	

# Trouble phenomena: Strap is cut off when strapping is not strong.

Cause	Troubleshooting
1. Tension is too small.	Adjust according to ADJUSTMENT INSTRUCTIONS section TENSION
	ADJUSTMENT .
2. LS3 fails.	The machine cannot detect position when retracting strap, so it can not stop.
3. PCB fails.	Replace PCB.

# **DRAWING & PART LIST**





NO.	Specification	Description	Qty
1	AS1-11	1#knife combination	1
2	AS1-12	2#knife combination	1
3	AS1-13	3#knife combination	1
4	AS1-14	lower slide combination	1
5	AS1-15	gripping device assembly	1
11	AS1-101	cutting head	1
12	AS1-102	right plate	1
13	AS1-103	left plate	1
14	AS1-104	upper slide	1
15	AS1-105	upper slide baffle plate	1
16	AS1-106	start up switch	1
17	AS1-107	start up switch contact plate	1
18	AS1-108	screw with hole	1
19	AS1-109	micro-switch contact plate screw	2
20	AS1-110	knife block	1
21	AS1-111	knife block platen	1
22	AS1-112	L-type knife adjustment	1
23	AS1-113	knife block spring frame	1
24	AS1-11	1#knife	1
25	AS1-115	knife neck	3
26	AS1-116	knife screw	3
27	AS1-12	2#knife	1
28	AS1-13	3#knife	1
29	AS1-119	lower slide	1
30	AS1-120	lower slide shrapnel	1
32	AS1-122	gripping device	1
33	AS1-123	gripping device bushing	2
34	AS1-124	gripping device screw	1
101	SY512	socket head screw M5*12	4
102	SY56	socket head screw M5*6	1
103	SY516	socket head screw M5*16	2

# Chat 1 Knife and slide combination (1/2)

No.	Specification	Description	Qty
104	SY520	socket head screw M5*20	2
106	SY625	socket head screw M6*25	2
107	SY650	socket head screw M6*50	2
108	SJ68	tightening screw M6*8	2
109	SP416	cross pan head screw M4*16	1
111	SP316	cross pan head screw M3*16	2
112	ML03	hexagon nut M3	2
113	ML04	hexagon nut M4	1
114	ML05	hexagon nut M5	1
115	ML08	hexagon nut M8	2
116	DT03	spring washer φ3	2
117	DT04	spring washer φ4	4
118	DT05	spring washer φ5	6
119	DT08	spring washer φ8	1
120	DT06	spring washer φ6	5
123	SY416	socket head screw M4*16	1
124	SP48	cross pan head screw M4*8	2
125	DP410	flat washer φ4*10	2
126	HY231042	spring in knife 2.3*10*42	3
127	HL121020	short pull spring1.2*10*20	1
128	HL101122	long pull spring φ1.0*φ10.8*22	4
129	EW001	Micro-switch ,no idler wheel	1
130	ZC635	bearing 635ZZ	4
131	XG414	barrel bolt 4*14	1
132	XG520	barrel bolt 5*20	1
133	XG514	barrel bolt 5*14	3
134	XG318	barrel bolt 3*18	5
135	SP35	cross pan head screw M3*5	2
136	DP38	flat washer φ3*8	2

# Chat 1 Knife and slide assembly (2/2)





No.	Specification	Description	Qty
1	AS1-21	reducer combination	1
2	AS1-22	cam combination	1
3	AS1-23	motor fan combination	1
11	AS1-201	clutch strap wheel	1
12	AS1-202	aluminum reducer	1
14	AS1-204	cam burnish axes	1
15	AS1-205	1#knife cam	1
16	AS1-206	2#knife cam	1
17	AS1-207	3#knife cam	1
18	AS1-208	Heating grippinf device jaw	1
19	AS1-209	Gripping device jaw	1
20	AS1-210	Refeed jaw	1
21	AS1-211	Big bearing base	1
22	AS1-212	Small bearing base	1
23	AS1-213	motor strap wheel	1
24	AS1-214	motor fan	1
25	AS1-215	micro-switch base plate	1
27	AS1-217	micro-switch spacer	1
28	AS1-218	clutch iron washer	1
101	SP412	cross pan head screw M4*12	9
102	DT04	spring washer φ4	9
103	ML10H	hexagon nut M10 thickening	2
104	DT10	spring washer φ10	1
105	ML03	hexagon nut M3	2
106	SS625	socket head screw(with washer) M6*25	6
107	DP410	flat washer φ4*10	2
108	DT06	spring washer φ6	12
109	ML06	hexagon nut M6	8
110	SS620	socket head screw(with washer) M6*20	2
112	SJ610	tightening screw M6*10	2
113	SY512	socket head screw M5*12	2

# Chat2 Cam and gearbox assembly (1/2)

No.	Specification	Description	Qty
114	SY620	socket head screw M6*20	3
115	SY645	socket head screw M6*45	1
116	SP330	cross pan head screw M3*30	2
118	DP512	flat washer φ5*12	2
119	DT03	spring washer φ3	2
120	DP616	flat washer φ6*16*2	12
121	KS17	retainer S-7	4
122	ZC62012	bearing 6003ZZ	2
123	EA001	Motor 110/220V 60Hz	1
124	ZC6003	bearing 6003ZZ	2
125	DH12164	Pad ring 12*16*4	1
126	DW12172	steel washer φ12*17*0.2	1
127	JY5514	Double round key 5*5*14	1
128	JY5580	Double round key 5*5*80	1
129	JY5516	Double round key 5*5*16	2
130	DJ17296	glue washer φ17*29*6	1
131	DJ172910	glue washer φ17*29*10	3
132	DJ172912	glue washer φ17*29*12	2
133	DH12168	pad ring 12*16*8	1
135	OF16M	reducer oil plug	1
136	OF16	O type apron φ16	1
138	EW002	Micro-switch, with idler wheel	2
139	SL616	socket head screw M6*16	3
140	DJ17298	glue washer φ17*28*8	1
141	DP38	flat washer φ3*8	2
142	SZ38	cross pan head screw M3*8	1
143	EM006	06clutch loop	1
144	EM001	06clutch acetabula	1
145	EM000	06brake block	1

# Chat2 Cam and gearbox assembly (2/2)



Chat 3 Strap feeding/ retracting and tension assembly

No.	Specification	Description	Qty
1	AS1-31	up extension combination	1
2	AS1-32	down extension combination	1
11	AS1-301	up extension fore axle	1
12	AS1-302	down extension rear axle	1
13	AS1-303	up extension	1
14.1	AS1-304	Roll, 40mm	2
14.2	AS1-304A	Roll, 39.5mm	2
15	AS1-305	small glue gear	2
16	AS1-306	up extension thin iron gear	1
17	AS1-307	up extension fore and after conduction band piece	2
18	AS1-308	up extension middle conduction band piece	1
20	AS1-310	up-down extension coupling shaft	1
21	AS1-311	turbine pulley axis	1
22	AS1-312	down extension short axis	1
23	AS1-313	down extension long axis	1
24	AS1-314	down extension	1
25	AS1-315	big glue gear	1
27	AS1-317	down extension thick glue gear	1
28	AS1-318	wheel glue slide	1
29	AS1-319	up extension front and down conduction band piece	1
30	AS1-320	up extension front and up conduction band piece	1
31	AS1-321	up extension middle conduction band piece	1
32	AS1-322	up extension after and down conduction band piece	1
33	AS1-323	up extension after and up conduction band piece	1
100	SP316	cross pan head screw M3*16	1
101	SP48	cross pan head screw M4*8	6
102	SC46	cross pan head screw M4*6	2
103	SC48	cross pan head screw M4*8	10
105	SY512	socket head screw M5*12	1
106	SJ58	tightening screw M5*8	2

# Chat 3 Strap feeding/ retracting and tension assembly (1/2)

# Chat 3 Strap feeding/ retracting and tension assembly (2/2)

No.	Specification	Description	Qty
108	DT06	spring washer φ6	4
109	SY620	socket head screw M6*20	4
110	ET002	magnetism armature spring switch	1
111	DT04	spring washer φ4	1
112	DP410	flat washer φ4*10	7
114	DT05	spring washer φ5	1
116	DP621	flat washer φ6*21*2	1
117	SJ68	set screw M6*8	1
119	ML04	hexagon nut M4	2
120	SP420	cross pan head screw M4*20	1
121	DT03	spring washer φ3	1
122	DP38	flat washer φ3*8	1
123	ZC6002	bearing 6002ZZ	8
124	DJ15225	glue washer φ15*22*5	3
125	DW152110	steel washer 15*21*10	4
126	DJ15224	glue washer φ15*22*4	6
127	JY5512	double round key 5*5*12	1
128	JY5516	double round key 5*5*16	5
129	JP5532	crue cut key 5*5*32	1
130	KS15	Retainer S-15	9
131	KS10	Retainer S-10	2
132	JY5514	double round key 5*5*14	1
135	EU01	alnico	1
137	JY5510	double round key 5*5*10	1



Chat 4 Transmission and extension adjustment assembly

NO.	Specification	Description	QTY
12	AS1-402	spring plastic cover nut	2
13	AS1-403	elastic outposting cover nut	1
14	AS1-404	elastic outposting sleeve	1
15	AS1-405	Tension control roll	1
16	AS1-406	elastic outposting pointer	1
17	AS1-407	big tension strap wheel	1
18	AS1-408	tight bundle strap wheel with climb	1
19	AS1-409	small tight bundle strap wheel	2
20	AS1-410	repeating slide	2
27	AS1-417	transmission frame connect axis	1
28	AS1-418	Transmission frame polished axis	1
29	AS1-419	transmission frame aluminum base	1
30	AS1-420	transmission frame	1
31	AS1-421	dicolpate strap wheel	1
32	AS1-422	monocolpate strap wheel	1
35	AS1-425	glue bushing	1
102	SY616	Socket head screw M6*16	5
103	SL670A	hexagonal head screw M6*70	1
104	SJ610	set screw M6*10	4
105	SJ66	set screw M6*6	1
106	ML06	hexagon nut M6	5
111	DT06	spring washer φ6	7
112	DP616	Flat washer φ6*16*2	6
113	DP613	flat washer φ6*13	1
118	KR32	Ouch(hole used) R-32	1
120	HY453952	elastic spring φ4.5*φ39*52	1
121	FV19K	strapK-19	2
122	FV30M	strapM-30	1
123	ZC6002	bearing 6002ZZ	4
125	ZC60000	bearing 6000ZZ	1
126	KS15	ouch(axis) S-15	2
127	202A122105	flat washer 12*21*0.5	2
131	SY58	socket head screw M5*8	2
132	DT05	spring washer φ5	2

### Chat 4 Transmission and extension adjustment assembly



Chat 5 Galvanothermy and straps feeding tension assembly

NO.	Specification	Description	Qty
1	AS1-51	galvanothermy sway rocker assemble	1
2	AS1-52	quick-heater sheet steel combination	1
3	AS1-53	rail combination	1
5	A 91 55	adjustable plastic conduction band groove	1
5	AG1-55	combination	I
11	AS1-501	galvanothermy side iron	1
12	AS1-502	galvanothermy sway rocker	1
13	AS1-503	galvanothermy sway rocker screw	1
14	AS1-504	galvanothermy white iron frame	1
15	AS1-505	quick-heater sheet steel	1
16	AS1-506	strong or not nut	1
17	AS1-507	rail	1
18	AS1-508	bullet combination	1
21	AS1-511	rail spring glue sleeve	4
22	AS1-512	electromagnet semi-automatic angle iron	1
23	AS1-513	rail screw	1
26	AS1 516	adjustable conduction band groove main body	1
20	AS1-510	glued	1
	A Q1 517	adjustable conduction band groove adjust block	1
21	A31-317	glued	
28	AS1-518	adjustable conduction band groove stator	1
29	AS1-519	adjustable insert strap slot up piece	1
30	AS1-520	adjustable insert strap slot down piece	1
101	SL690A	hexagon nut M6*90	1
102	SL6105A	hexagon nut M6*105	1
103	SY650	socket head screw M6*50	1
104	SP416	cross pan head M4*16	1
105	SY512	socket head screw M5*12	5
106	DT05	spring washer 5	9
107	ML04S	stainless hex nut M4	7
108	ML05	hexagon nut M5	2

# Chat 5 Galvanothermy and straps feeding tension assembly (1/2)

No.	Specification	Description	Qty
109	DT04S	spring washer φ4,stainless	6
110	ML06	hexagon nut M6	13
111	DT06	spring washer φ6	11
112	ML08	hexagon nut M8	1
113	DT08	spring washer φ8	1
114	SP416	cross pan head screw M4*16	1
115	SY425	socket head screw M4*25	2
116	SL512	hexagon screw M5*12	6
117	DP512	flat washer φ5*12	2
118	DP613	flat washer φ6*13	2
119	DG4103	copper washerφ4X10X0.3	4
120	DP616	flat washer φ6*16*2	1
121	DP621	flat washer φ6*21*2	1
122	HL050565	galvanothermy small spring 0.5*0.5*6.5	1
123	HL101122	long-pulled spring φ1.0*φ10.8*22	1
124	HY081251	strong or not compressed spring 0.8*12*51	2
125	ZC635	bearing 635ZZ	2
126	HY402439	rail spring φ4*φ24*39	1
127	KE12	ouch(axis used) E-12	1
129	HL161026	electromagnet spring φ1.6*φ10*26	1
130	XG440	bolt 4*40	2
131	XG520	bolt 5*20	1
132	ES001	electromagnet 24VDC	1
133	OF16	O-model leather ring φ16	1
134	SL410S	stainless hexagon screw M4*10	4
136	XG414	bolt 4*14	1
137	SY616	socket head screw M6*16	4
138	DP512	flat washer φ5*12	8
139	DP410	flat washer 4*10	1

# Chat 5 Galvanothermy and straps feeding tension assembly (2/2)



Chat 6 Frame work assembly

Chat 6	Frame	work	assembly	(1/2)
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No.	Specification	Description	Qty
11	AS1-1101	AS-11case	1
14	CD50	magnet	4
15	AS1-605	stopper plastic	1
16	AS1-1106	AS-11,13 stainless cover	1
17	LA75	plateau versatile-truckle	2
17	LB75	plateau brake versatile-truckle	2
18	AS1-608	door holder plastic	2
19	AS1-609	module motherboard	1
20	AS1-601	door used of conduction band groove	1
21	AS1-611	circular arc support	1
22	AS1-612	lift cover support cyrto-set	1
23	SY613RA	semi-socket head screw M6*13	2
24	AS1-614	lead belt pulley	1
25	AS1-615	lead belt pulley axis	1
26	AS1-624	AS-11,12 lead-belt pulley frame	1
27	AS1-617	de-energize micro-switch spacer (option)	1
	ΔS1-618	de-energize micro-switch de-energize stainless	1
20	A31-010	iron (option)	1
29	AS1-1102	AS-11,13front plate	1
101	SS612	hexagon nut(with washer) M6*12	18
102	DT06	spring washer φ6	8
104	ML06	hexagon nut M6	7
107	SS620	hexagon nut (with washer) M6*20	6
108	DP410	flat washer φ4*10	2
109	SP412	cross pan head screw M4*12 (option)	4
110	DT03	spring washer φ3	8

No.	Specification	Description	Qty
111	XG520	bolt 5*20	1
112	SP310	cross pan head screw M3*10	8
113	DP38	flat washer φ3*8	8
114	DP616	flat washer φ6*16*2	10
115	SY616R	semi-socket head screw M6*16	1
116	DC04	external-tooth washer φ4 (option)	2
117	SY612	socket head screw M6*12	2
118		power line's plug optioned as per manufacturing cell	1
120	ML04	hexagon nut M4	2
121	SP516	cross pan head screw M5*30 (option)	2
122	HY078021	compression spring to break φ0.7*φ8.2*20.5	2
123	MD06	butterfly nut M6	2
124	DT04	spring washer φ4	2
125	SP516	cross pan head screw M5*16	8
126	DP512	flat washer φ5*12	8
127	DT05	spring washer φ5 (option)	10
129	ML05	hexagon nut M5 (option)	8
130	ML03	hexagon nut M3	8

### Chat 6 Frame work assembly (2/2)



Chat 7 Tape reel assembly

# Chat 7 Tape reel assembly

No.	Specification	Description	Qty
11	AS1-700	plastic tape reel	2
13	AS1-703	tape reel claw	3
14	AS1-809	AS-11,12,13tape reel axis	1
16	AS1-706	tape reel washer	1
17	AS1-707	big round head tape reel pin-axis φ8	1
19	AS1-709	tape reel handle	1
20	AS1-710	nylon bracket (left)	1
21	AS1-711	nylon bracket (right)	1
23	AS1-1110	AS-11tape reel left	1
24	AS1-1111	AS-11tape reel right bracket	1
100	KH25	ouch (axis used) S-25	1
101	SY612	socket head screw M6*12	4
102	SY620	socket head screw M6*20	6
103	XR08	galvanization M R model pin08	1
104	SS612	hexagon screw(with washer) M6*12	4





#### Chat 8 Brake assembly

No.	Specification	Description	Qty
11	AS1-801	brake pole pulley axis	1
12	AS1-802	brake pulley	1
13	AS1-803	brake pole pulley frame	1
14	AS1-814	brake rubber-block	1
15	AS1-815	spring seat	1
16	AS1-816	brake pole axis	1
17	AS1-817	AS-11,12brake pole	1
18	AS1-811	AS-11,12brake frame	1
102	DT06	spring washer φ6	4
104	ML06	hexagon nut M6	6
105	SL620	hexagon screw M6*20	2
106	HL121347	brake spring φ1.2*φ13*47	1
107	KE05	ouch (axis used) E-5	2
108	KS10	ouch(axis used ) S-10	3
109	SS620	hexagon screw(with washer) M6*20	2
110	DP616	flat washer φ6*16*2	2



**Chat 9 Electrical system** 

### **Chat 9 Electrical system**

No.	Specification	Description	Qty
1	AS1-56	fan combination	1
12	AS1-902	de-energize switch (option)	1-3
13	AS1-903	fan bracket	1
14	AS1-904	heat proof cover	1
15	AS1-905	heat proof seat	1
16	AS1-906	heat-proof line	2
17	AS1-907	white glue sheath	2
19	AS1-909	galvanothermy transformer cover	1
100	SE416	big flat head self-tapping screw M4*16	3
101	SP416	cross pan head screw M4*16	4
102	SZ38	cross pan head self-tapping screw M3*8	2
106	DP410	flat washer φ4*10	12
107	ML04	hexagon nut M4	4
112	DT04	spring washer φ4	4
115	SP412	cross pan head screw M4*12	4
117	EN001	yellow knob (option)	1
118	EN002	green knob (option)	1
119	EK001	black without light springboard switch	1
121	EP001	potentiometer 500K (option)	1-2
122	UN001	knob (black)	1
124	EF001	micro-fan 24VDC	1
125	EY1101	galvanothermy transformer 110V (option)	1
125	EY2301	galvanothermy transformer 110V (option)	1
126	EL001	double loop de-energize switch (option)	1-3
127	UN002	knob (red) (option)	1-2
128	APC-10D1	PC plate combination ,APC-10D1,110V (option)	1
128	APC-10D	Pc plate combination, APC-10D, 220V (option)	1
129	EK002	red with light springboard switch (option)	1
130	SP516	cross pan head screw M5*16 (option)	2
131	SP56	cross pan head screw M5*6	4
132	DT05	spring washer φ5 (option)	2
134	DP510	flat washer φ5*10 (option)	8
136	ML05	hexagon nut M5 (option)	2
138	SL610	hexagon nut M6*10	2
139	DP613	flat washer φ6*13	2
140	UC001	down -leed groove H35*W25mm	2



Chat 10 Electrical-box assembly

No.	Specification	Description	Qty
11	AS1-B01	AS-10,11,13 e-box	1
12	AS1-B02	AS-10,11,13e-box cover	1
13	DS3575	mat beads (plastic)φ3.5*φ7*5	4
17	APC-10B1	PC plate combination,APC-10B1	1
102	EY1122	control transformer 110V/22V (option)	1
102	EY2322	control transformer 230V/22V (option)	1
104	EX115	fuse 15A (option)	1
105	EX103	fuse 3A (option)	0-1
105	EX102	fuse 2A (option)	1-2
106	EX01	fuse seat	3
108	SY48	socket head screw M4*8	4
109	UE001	speedness cramp(white)	4
112	SC316	cross deep head screw M3*16	4
113	DT03	spring washerφ3	4
114	ML03	hexagon nut M3	8
115	APC-10S	Pc plate combination, APC-10S	1
116	EP001	potentiometer 500K	1
122	UN002	knob (red)	1
124	SP412	cross pan head screw M4*12	2
125	DP410	flat washer φ4*10	6
126	DT04	spring washer φ4	6
127	ML04	hexagon nut M4	2
128	ML05	hexagon nut M5 (option)	4
129	DT05	spring washer φ5 (option)	4
130	DP512	flat washer φ5*12 (option)	4

### Chat 10 Electrical-box assembly

For replacement parts and technical questions, please call **1-800-222-5381**.



# WARRANTY

1-year limited warranty



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