USER MANUAL

PALLET STRETCH WRAPPING MACHINE
MODEL: G1

CONTENTS

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1. GENERAL INFORMATION

1.1 NOTE OF INSTALLATION

To make sure safety and correct operation, please check below conditions before install the machine:

Power source capacity must be equal of the machine need.

1) Machine standard power is 1PH 220V (+/-10%).

2) Machine standard power hertz is 50 Hz (+/-2%).

3) Machine is workable under the temperature between —10～50℃, humidity: 35～85%RH

4) Make sure the wire is tidy on the ground.

5) There should not have vibration beside the machine during the installment, and make sure the ground is flat.

6) Keep out of direct sunlight, corrosive gases, flammable gas, oil mist, steam and water drop. Keep out of salty environment. Clean the dry particles on the machine regularly.

7) Read and follow the instruction of the installment.

1.2 SAFETY NOTES

To have good protection for the operator, please make sure the following conditions:

1) Before operating, please read the user manual carefully.

2) Make the there is no object put on the power cable.

3) Make sure there is no object put on the film carriage.

4) Avoid any damp object or water around electric parts.

5) Avoid film winded into the turntable.

6) Do not stand on or across the machine during operation.

7) Machine check and maintenance can only be done after 5 minutes from power cut off.

8) Only certified electrician or trained is allowed to open electric box for maintenance.

2 SPECIFICATIONS

2.1 MACHINE DESCRIPTIONS
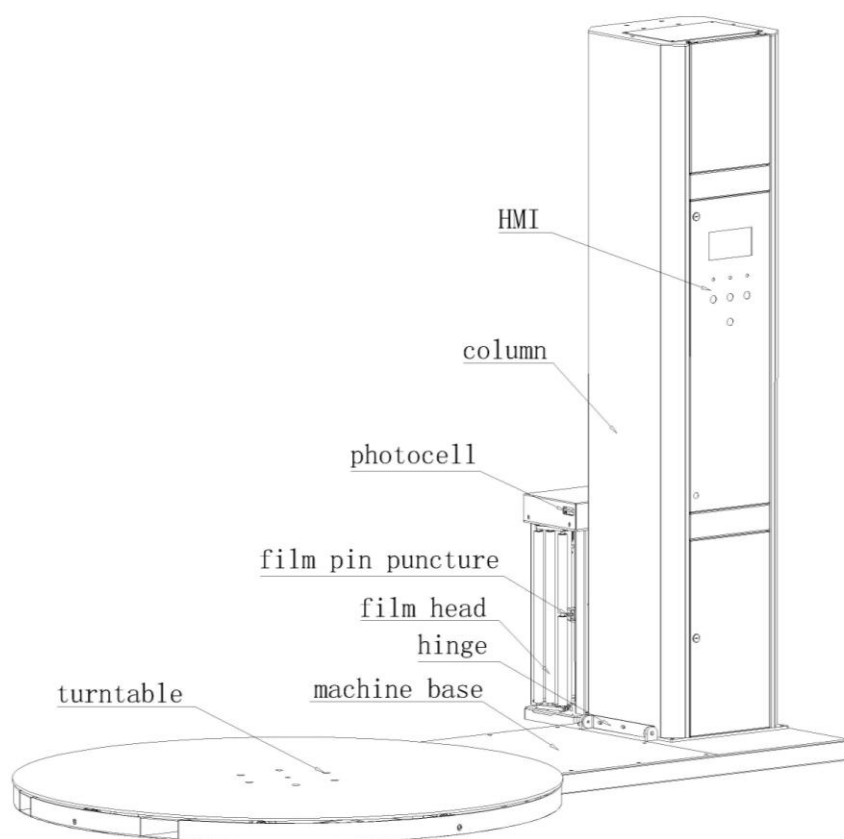
2.2 SPEC TABLE

Model	G1
Product	semi-automatic pallet stretch wrapping machine
Turntable diameter	1500mm
Turntable speed	3 – 15 RPM, soft start & stop
Max wrapping height	2100mm
Max wrapping size	1200 * 1200mm
Film carriage type	power stretch, 250%
Film tension	Adjustable on panel
Film carriage speed	Adjustable on panel
Turntable height	78mm
Turntable rotation direction	clockwise
Power	1PH 220VAC, 50Hz
Overall power consumption	1.35kw
Turntable motor output	0.75kw
Lifter motor output	0.37kw
Pre-stretch motor output	0.2kw
Air pressure	0.4-0.7kw
Machine dimensions	2450mm L * 1500mm W * 2200mm H

| Machine weight	550kgs
Applicable film	LLDPE stretch film, T(17-23)microns * W(450-500)mm, max gross weight 18kgs

2.3 MACHINE FEATURES

G1 is a general purpose pallet wrapping machine with PLC control (programmable logic control), with main features below:

1) automatic / manual wrapping mode choices.

2) programmed with 5 groups of programs. User could set 9 groups of programs at most. Editable items for each group of program: overall cycles, top reinforcement wraps, bottom reinforcement wraps and over wrap. Text panel displays set value (SV) with performed value (PV).

3) PLC counts and displays total number of loads performed and rotations for present load.

4) installed with pre-stretch film head, pre-stretch ratio 300%. Film tension is variable through knob on human machine interface (HMI).

5) turntable speed and lifter speed is variable through knob on human interface. Turntable soft stop & soft stop.

6) automatic film tear off after wrapping.

7) machine home position.

8) extra safety features: film head safety panel to avoid a possible hit an object put beneath the film head; machine auto stop when film head door is opened.

9) column is hinged onto the turntable during transport for fast installation.

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3 INSTALLATIONS

Step 1

Unpack and truck the machine out of wooden crate. Forklift sockets are at front and back of machine, as below.
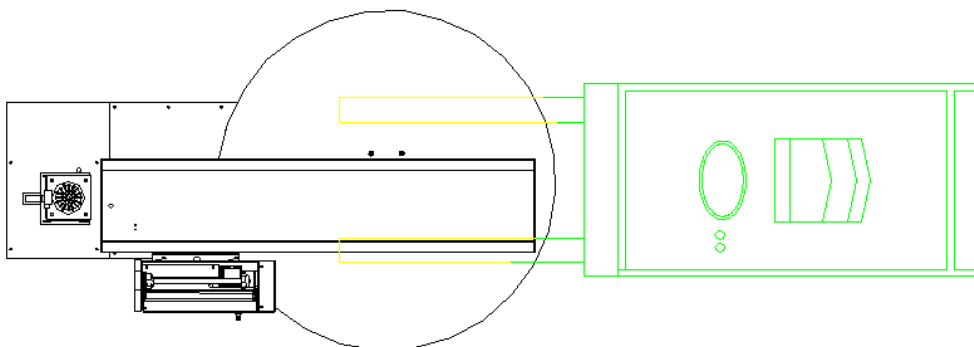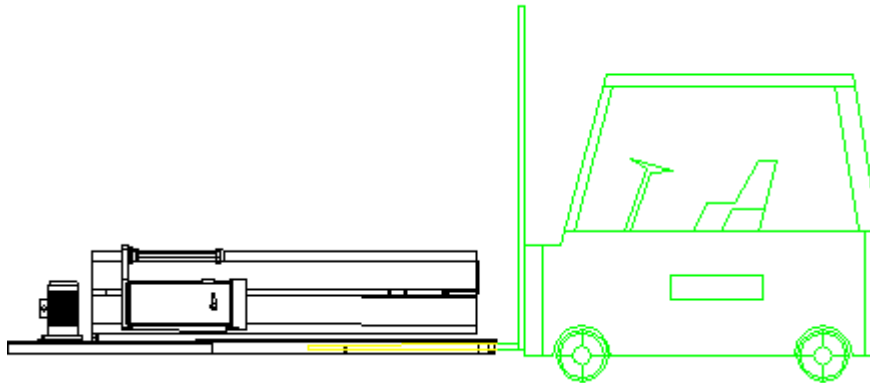
Fig.3-1

Step 2

Put the machine onto the ground. Please make sure the ground is solid and even. Erect the column as below picture indicate. Fasten the four bolts to fix the column onto machine base.
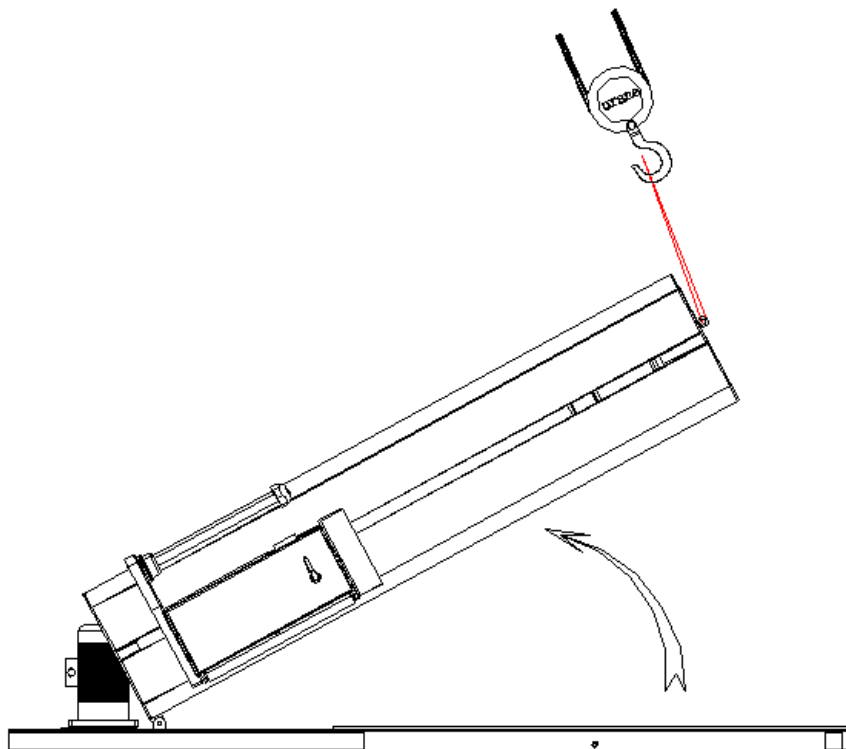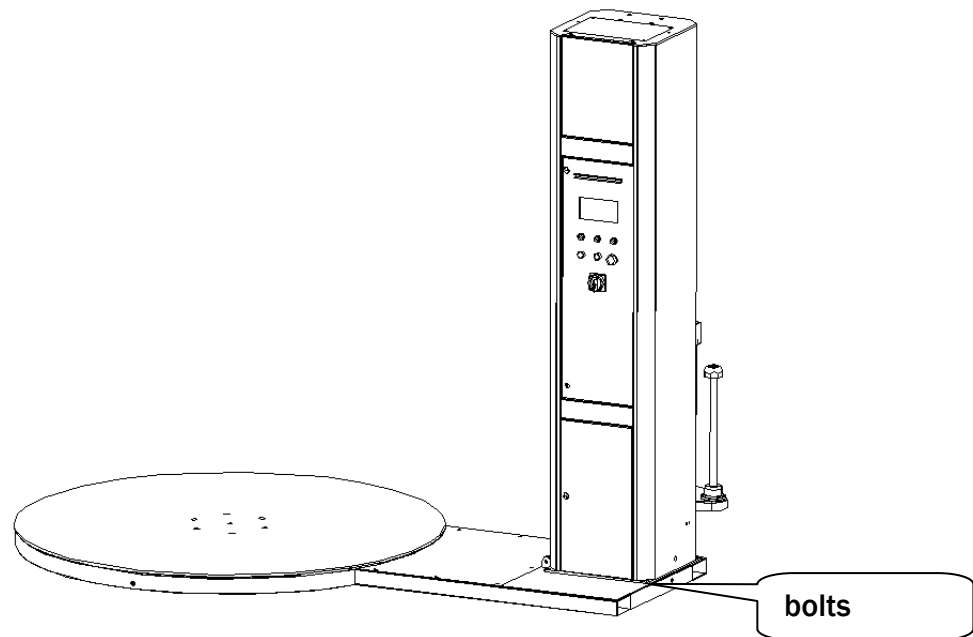

Fig.3-2

bolts

Fig.3-3

Step 3 machine trial run and commissioning

Plug to power supply 1PH 220VAC, 50Hz, 10A, and be aware of proper protective earthing. Then start machine commissioning of each section.

1) turntable should rotate smoothly, with no abnormal noise. Speed dial works smooth.

2) lifter should ascend and descend smoothly, with no abnormal noise. Film feeding works smooth, no film tear off during wrapping. Speed dial works smooth.

3) after individual section of tested ok, do overall commissioning.

4) machine is pre-programmed with 5 groups of settings, and can have maximum 9 groups. User could do the programming to have programs to best suit actual needs and stored in PLC for further use.

4 OPERATIONS

4.1 Start Up
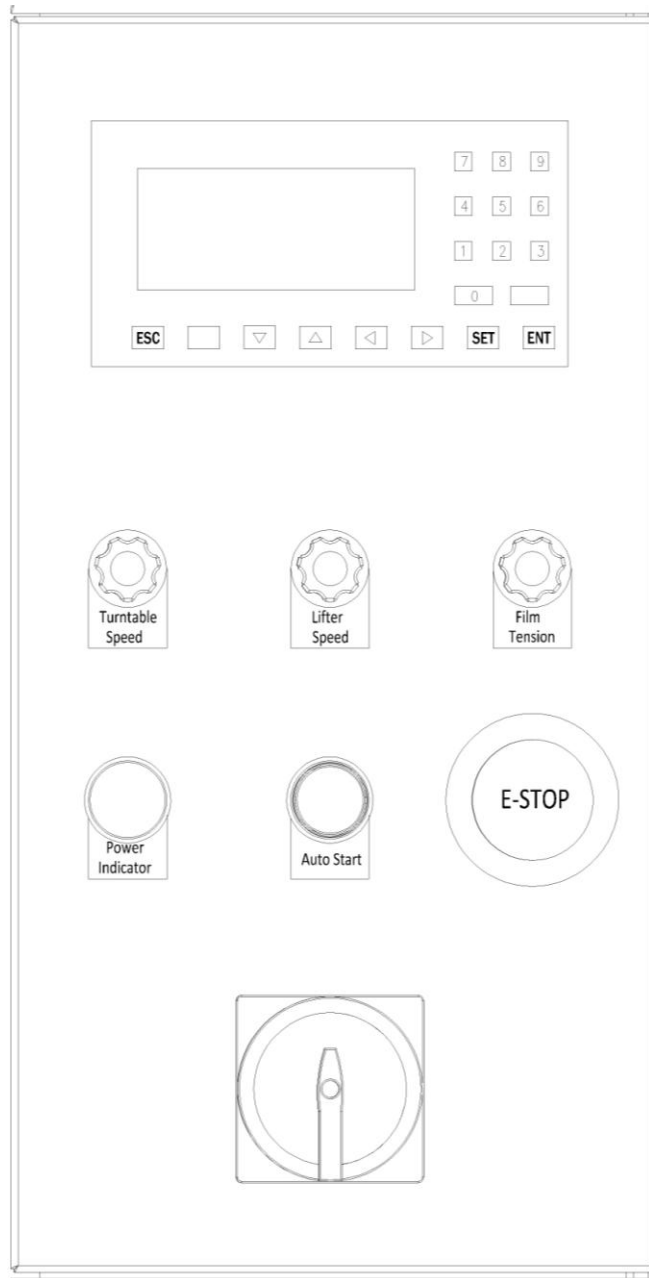
a. Connect to power supply, and switch to ON, check if power indicator is on.
   When power indicator not on:
      1) check if there is power,
      2) check if leakage switch is connected. If not, re-connect.

b. Check E-stop is pushed down;

c. Push AUTO START to start wrapping a load;
   If machine not started when AUTO START activated: check if turntable and film carriage at home position;
   d. After wrapping of all loads, switch off the machine.
   If no motion, check: 1）if E-stop is pressed down; 2) if circle besides <9> is filled up – if yes, press <9> to clear. Then press 8 to HOME position.

NOTE: to auto start the machine, machine must be in HOME position.

e. Manual /Automatic wrapping process

➢ Manual: this model has Manual wrapping mode for wrapping of loads irregular shape or special wrapping needs. Operator could choose any position to start wrapping process. Manual mode is programmed with TURNTABLE START, CARRIAGE UP and CARRIAGE DOWN.

Caution: when machine is running, do NOT interfere with Manual touch points.

➢ Automatic: press Auto-start to start automatic wrapping process. Wrapping will be done to pre-set programs. Machine will stop at home position after wrapping of one load for next load.

Note: the machine could set 9 groups of programs to meet different wrapping needs.

4.2 Text Panel

Press <ENT> Key   Enter system

main page
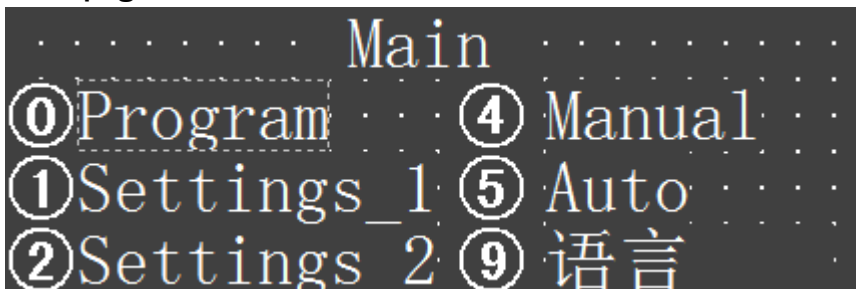
<0 Program>: press to enter programming page to set programs 1 – 9. These groups of programs will be memorized in PLC for further use.

<1 Settings_1>: press to enter monitor and setting page 1.

<2 Settings_2>: Press to enter setting page for overwrap time setting and descending time delay after finish of odd cycles. Switch between Settings Page 1 and Page 2 by <↓> and

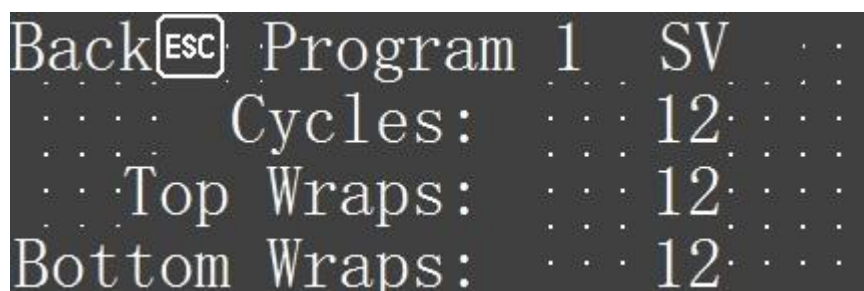<↑> on the text panel.

<4 Manual> : press to enter manual page.

<5 Auto>: press to enter automatic page.

<9 Language>: press to enter language selection page.

Programming page <0 Program>

Totally 9 groups of programs (Program 1 – 9) could be pre-set. Programming page as below.

Cycles: to set wrapping cycles of one of the programs. When set to 1 cycle, carriages travels bottom to top, 2 cycles means bottom => top => bottom.
Top Wraps: to set top wrapping circle.
Bottom Wraps: to set bottom wrapping circle.

Press key <↓> on text panel to enter setting of next program.
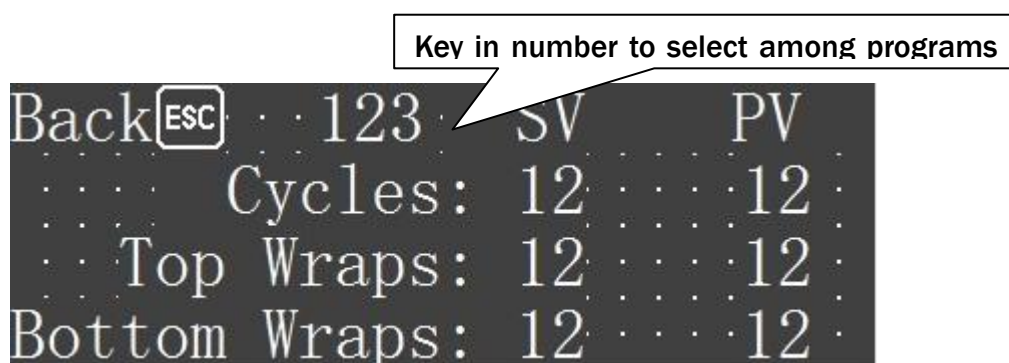Press key <↑> on text panel to return to previous program.

Settings

Press <1> and <2> in key pad to enter settings page, and switch between <Setting_1> and <Setting_2> page by <↓> and <↑> in the key pad.
How to select program? As below:
Enter <Settings_1>, push SET key on text panel, enter number from 1 – 9 to choose among programs 1 – 9. Then press enter.

Key in number to select among programs

Key in <0> to modify programs:

Cycles   SV: to adjust wrapping cycles.

Top Wraps   SV: to adjust top wraps.

Bottom Wraps   SV: to adjust bottom wraps.

When a program is selected:

Cycles   PV: indicates the actual cycles finished.

Top Wraps   PV: indicates the actual top wraps finished.

Bottom Wraps   PV: indicates the actual bottom wraps finished.

NOTE: SV is short for set value; PV is short for performed value.

Page <Settings_2>

Over Wrap: to set extra time elapse when photocell detects top of loads.

Down Delay: to set descending time delay after finish of odd cycles.

Manual operations
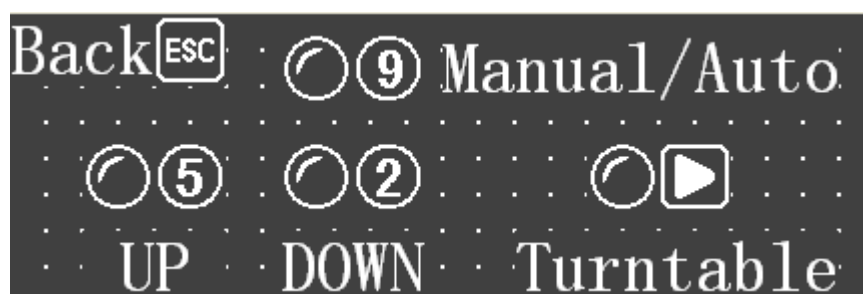
Press <9> to switch between Manual and Automatic wrapping modes. The indicator besides <9> indicates the mode selected: clear means Manual and white means Auto.

In Manual mode:

Press <5> to have carriage up. Film carriage will stop when reach upper limit. Or press again to stop.

Press <2> to have carriage down. Film carriage will stop when reach lower limit. Or press again to stop.

Press<→> to have turntable start, press again to stop.

Auto operations

Press <9> to switch between Manual and Auto modes.

When film carriage is not at HOME position, machine can't start in Auto mode. Then press <8> to have the machine to return to home position. Then Auto start.

Start <→>: press to start the wrapping in Auto mode. This is same as Auto-start button in the panel.

Parcel Laps: to show number of circles performed.

Output: to show number of loads wrapped.

NOTE: push down E-stop, and then press Auto-start for 5 seconds, output value will be reset to 0.

Language selection
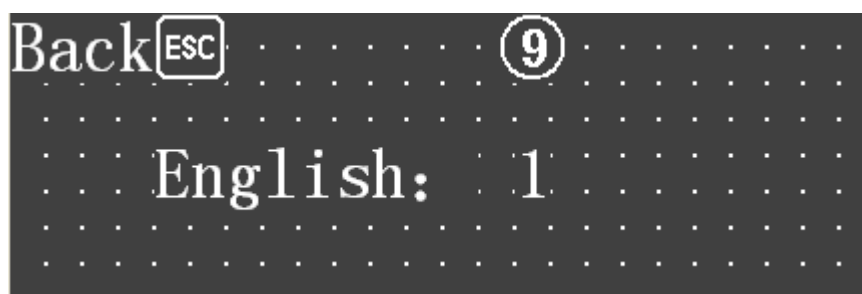
Press <SET> and then <0> or <1> in the text panel to select between English and Chinese.

       0   English

       1   Chinese

Press <9> in this page to select position of pin puncture.

Turntable turns one circle means 128 pcs.

Start pcs: to set position where pin activates. Suggest to set as 56

Stop pcs: to set pre-stretch motor stop time. Suggest to set as 92.

X: set to 0 to cancel pin puncture fuction

Start pcs: to set time duration for pin to put forward. Suggest to set 0.1s - 0.5s

5 PART LISTS

5.1 Column

1-1

COLUMN EXPLOSIVE DIAGRAM

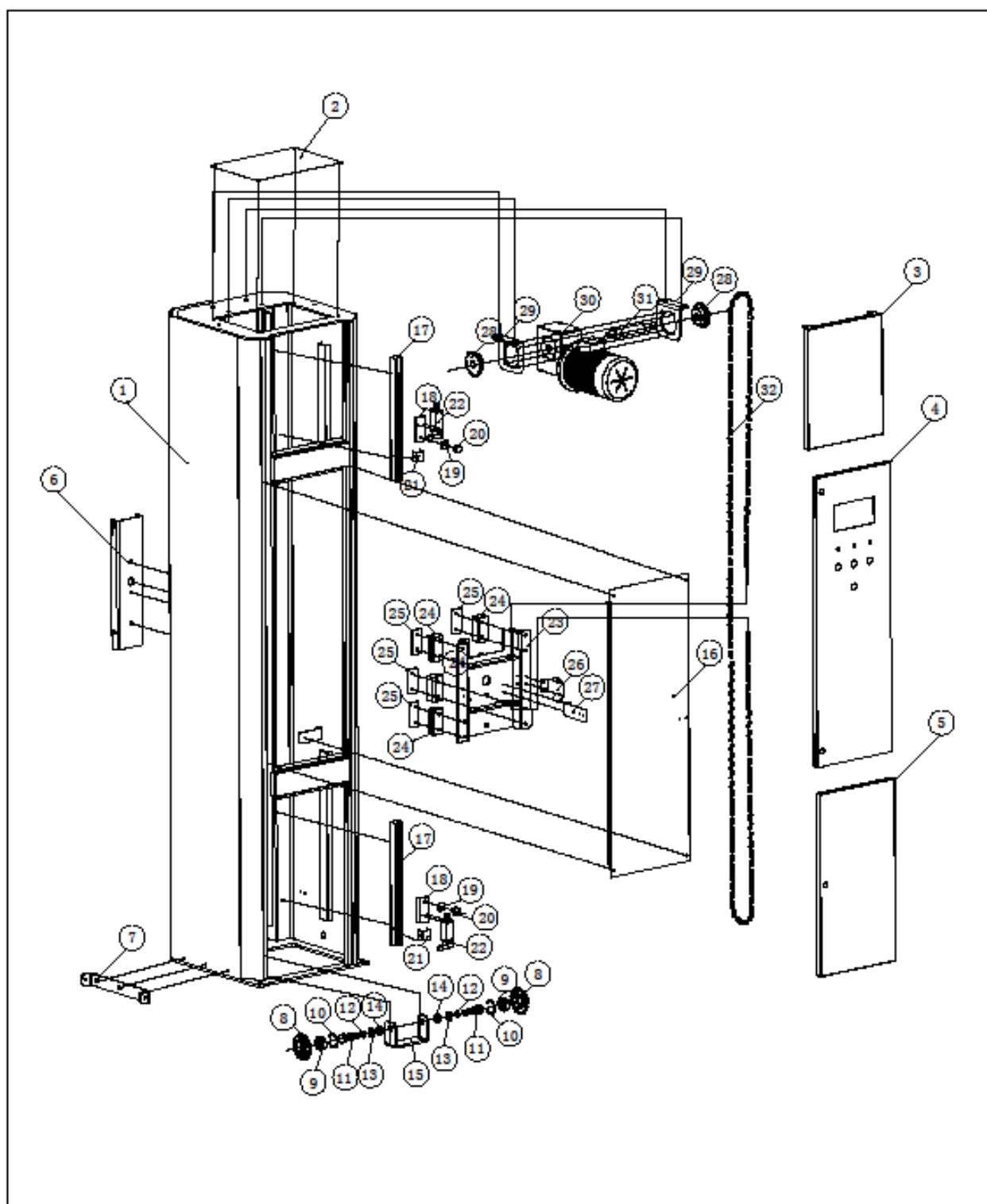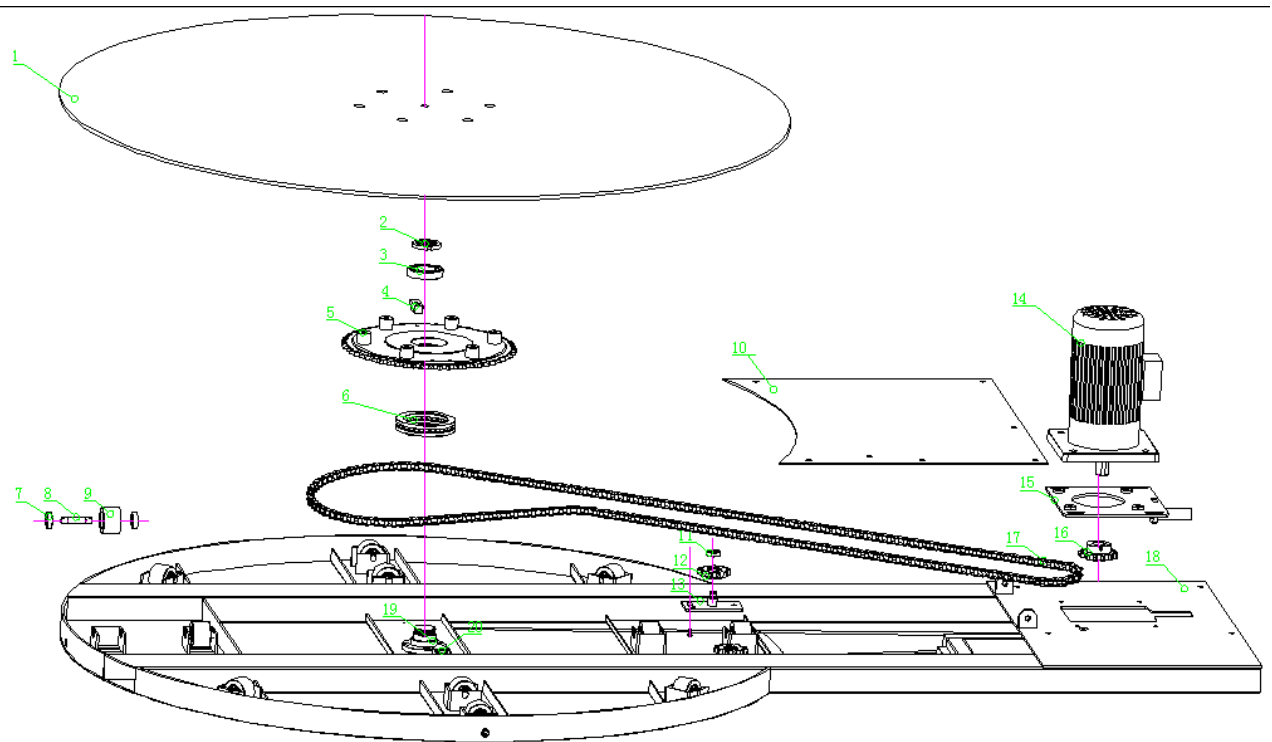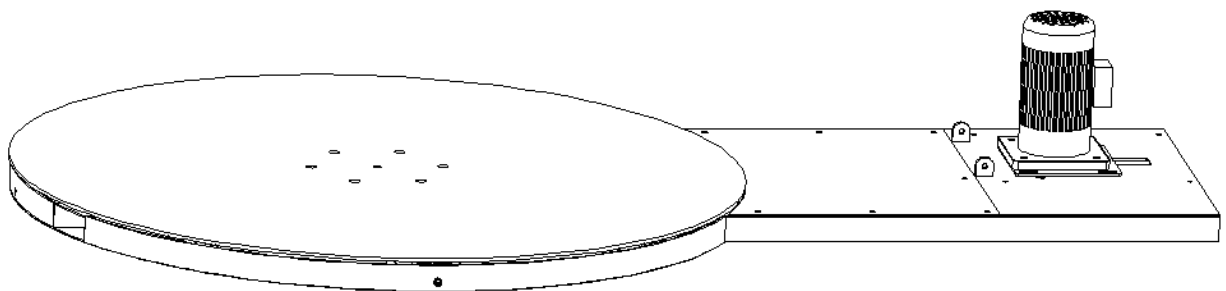| NO.	PART DESCRIPTIONS	SPECIFICATIONS	REF NO.	Q'TY	REMARK
1	column body		M120-0201	1	
2	top plate		M120-0201-02	1	
3	upper door		M120-0217	1	
4	control panel		M120-0215	1	
5	lower door		M120-0216	1	
6	film head socket		M120-0207	1	
7	hinge		M120-0214	1	
8	sprocket	08B19Z		2	
9	bearing	6004		2	
10	inner snap ring	B-C-42-15		2	
11	shaft		M120-0210	2	
12	outer snap ring	B-C-S-20-10		2	
13	washer	B-P-M16		2	
14	nut	B-M16		2	
15	bracket		M120-0202	1	
16	plate		M120-0206	2	
17	limit switch socket		M120-0213	2	
18	limit switch bracket		M120-0227	2	
19	handle base		M120-0226	2	
20	handle			2	
21	bracket		M120-0213	2	
22	limit switch	B-TLSM-B104		2	
23	lifter plate		M120-0205	1	
24	nylon block		M120-0229	4	
25	nylon block bracket		M120-0230	4	
26	limit switch plate		M120-0209	1	
27	plastic bellows bracket		M120-0220	1	
28	sprocket	08B-19Z		1	
29	motor bracket		M120-0203	1	
30	motor	B-T-050-MOPAR		1	
31	motor shaft		M120-0210	1	
32	chain	08B		2	

5.2 Machine Base

2-1

2-2

MACHINE BASE EXPLOSIVE DIAGRAM

NO.	PART DESCRIPTIONS	SPECIFICATIONS	REF NO.	Q'TY	REMARK
1	turntable		M120-0101	1	
2	nut	D45		1	
3	bearing	6010	M120-0217	1	
4	proximity switch contact			1	
5	sprocket		M120-0107	1	
6	bearing		51308	36	
7	bearing		6202	1	
8	nylon wheel Shaft		M101-0304	12	
9	nylon wheel		M101-0303	12	
10	cover plate		M120-0105	1	
11	bearing	6002		2	
12	tensioning sprocket	12A11Z		2	
13	tensioning sprocket regulator		M120-0304	1	
14	motor			1	
15	motor base plate		M120-0103	1	
16	main sprocket	12A13Z		1	
17	chain			1	
18	base			1	
19	nearing block			1	
20	proximity switch			1	

5.3 Film Head

Anti-stretch

Pre-stretch
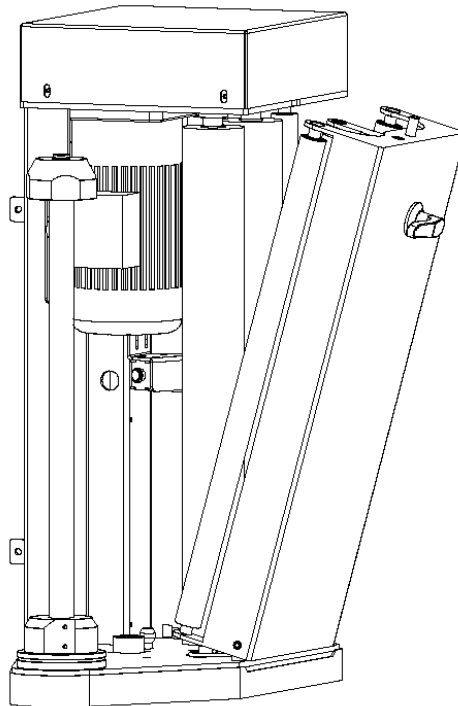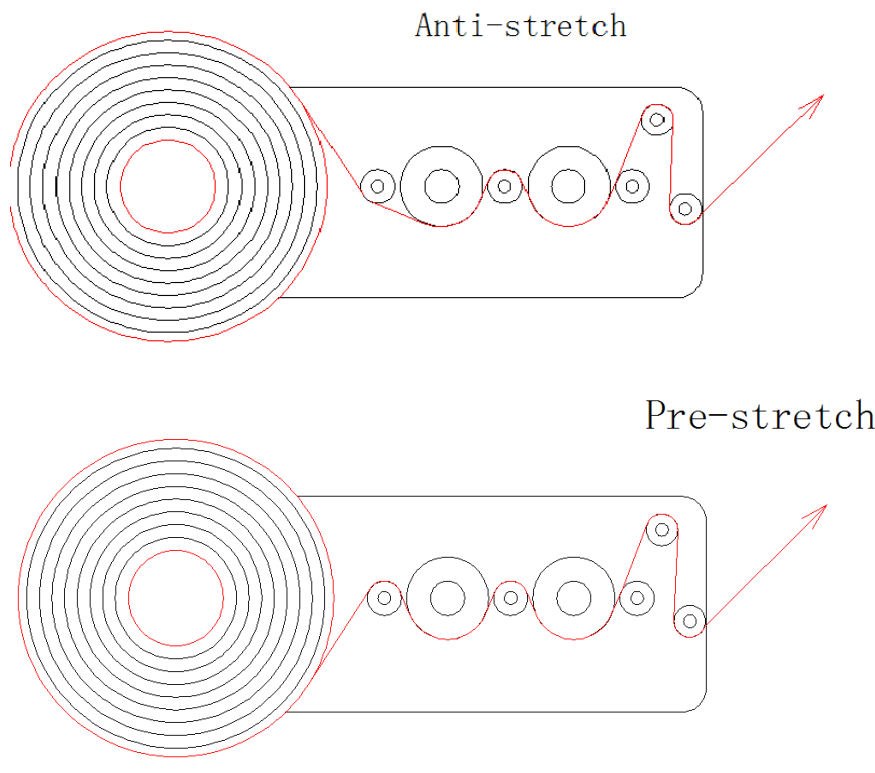
3-1
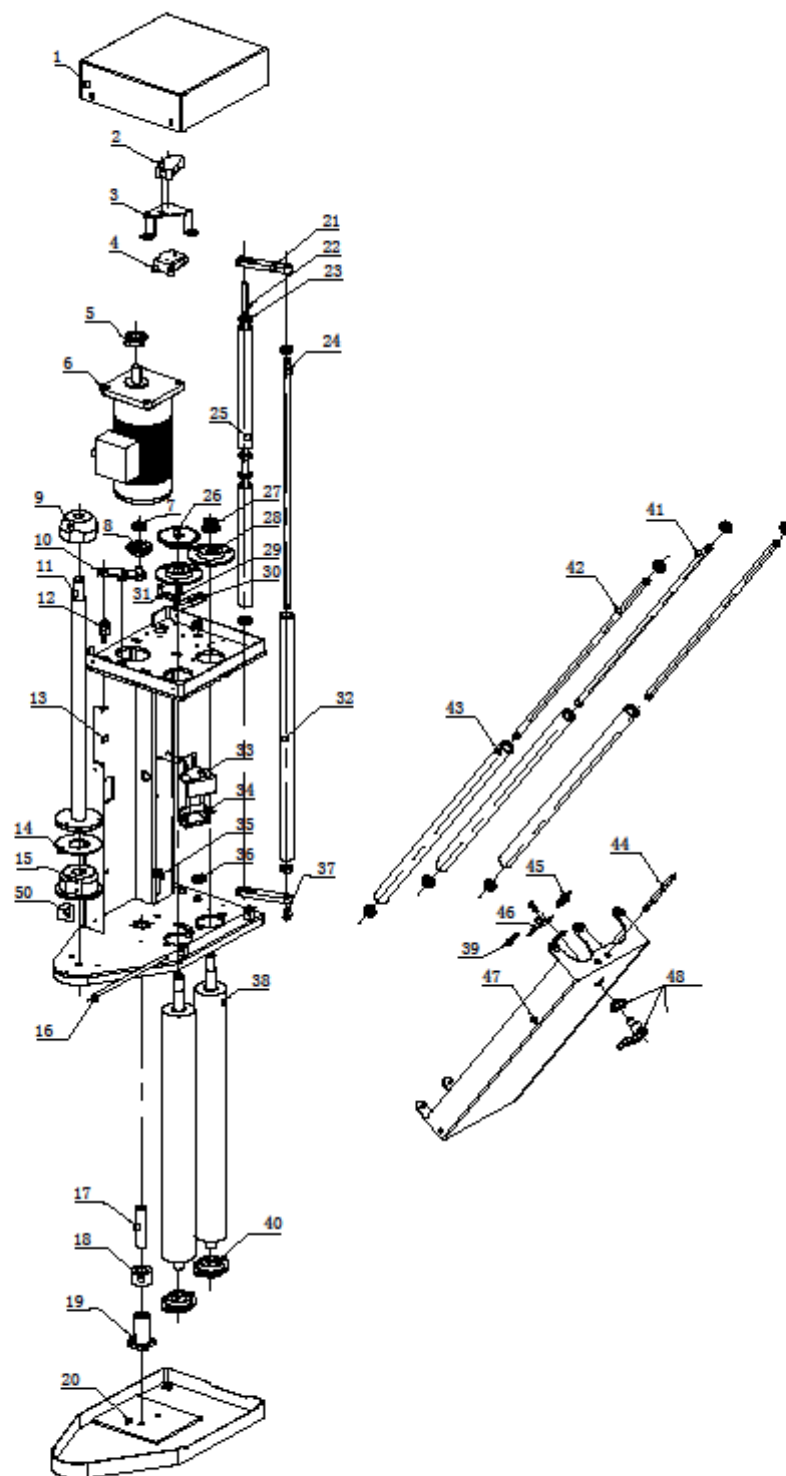
FILM HEAD EXPLOSIVE DIAGRAM

NO.	PART DESCRIPTIONS	SPECIFICATIONS	REF NO.	Q'TY	REMARK
1	Top cover		M121-0302	1	
2	Photocell			1	
3	Photocell bracket		M121-0304	1	
4	Micron switch			1	
5	Main sprocket		M121-0310	1	
6	Motor			1	
7	Bearing			1	
8	Tensioning sprocket			1	
9	Top nylon block		M121-0320	1	
10	Chain tensioning bracket		M121-0329	1	
11	film loading shaft		M121-0308	1	
12	Nut			1	
13	Film head body		M121-0301	1	
14	Washer		M121-0322	1	
15	Bottom nylon block		M121-0319	1	
16	Hinge pin		M121-0317	1	
17	Chromed bar		M121-0326	1	
18	Nylon washer		M121-0327	1	
19	Bearing seat			1	
20	Safety plate		M121-0316	1	
21	Link plate			1	
22	Micro motion rod			1	
23	Bearing			1	
24	Roller shaft			1	
25	Micro motion roller		M121-0305	1	
26	Sprocket			1	
27	Sprocket			1	
28	Bearing			1	
29	spring			1	
30	Micro motion conact			1	
31	nut			1	
32	Alu roller			2	
33	Pin bracket		M121-0323	1	
34	pin			1	
35	Safety plate contact		M121-0328	1	
36	Washer			2	
37	bolt			6	
38	Rubberized roller			2	
39	screw			6	
40	bearing			2	
41	rod			1	

42	rod			3	
43	Alu roller			3	
44	pin			1	
45	spring			1	
46	lock			1	
47	cover			1	
48	handle			1	

6 TROUBLE SHOOTING

6.1 Machine can't start
1) check if there's power supply.
2) check if upper or lower limit switch is damage, or incorrectly connected.
3) Open electric box, check if fuse LED on. If yes, fuse is burned. Or a multi-meter could be used to check.
4) Check if all inverters work properly.
5) Check if PLC power indicator on and run indicator on.

6.2 Turntable can't start
1) Open electric box, check if PLC output Y2 indicator on. If off, no PLC output.
2) Check if turntable inverter (0.75kw) works. Check if the turntable speed dial at its lowest speed. If yes, dial to a higher speed.
3) Check if the turntable driving chain got stuck or unchained. Unscrew the six bolts, and remove the turntable with care. Please note the turntable is heavy.
4) Judge of the load is over 2 tons, and loading position.

6.3 Film head lifter does not ascend
1) check if upper limit switch is damaged or incorrectly connected.
2) check lifter inverter (0.4kw, left one) works properly.
3) check on the panel if lifter speed dial knob at its lowest speed. Dial to a higher speed.
4) Check if lifter motor and chain work ok.
5) Check if PLC output Y6 indicator on. If off, there's no PLC output.

6.4 Film head lifter does not descend
1) check if lower limit switch is damaged or incorrectly connected.
2) check lifter inverter (0.4kw, left one) works properly.
3) check on the panel if lifter speed dial knob at its lowest speed. Dial to a higher speed.
4) Check if lifter motor and chain work ok.
5) Check if PLC output Y7 indicator on. If off, there's no PLC output.

6.5 No film feeding

1) check if the rollers in the film head is winded improperly by film.

2) check if the gate is closed.

3) Open upper cover, check if micro switch ok.

4) check if pre-stretch motor and chain work ok.

5) check pre-stretch inverter (0.4kw, right one) works properly.