EAGLE 2000B EAGLE 2000BE EAGLE 2000EBT

MUST READ MANUAL PRIOR TO INSTALLING MACHINE

Contents

5/18/2012   - - 2 - -

1 Machine Safety Information

1.2 Specifications

ITEM	SPECIFICATION EAGLE 2000B
Power Supply	110VAC, 60Hz
Turntable Speed	12 rpm
Turntable Motor	1 HP 750W 1420 RPM 220V 1:30 Gearbox
Turntable Diameter	59"
Turntable Diagonal	70"
Turntable Height	3.4"
Turntable Gear	1:5
Turntable Chain	60-1 ANSI or 12A-1 ISO
Carriage Up/Down	1/3 HP 1390 RPM 220V 1:60 Gearbox
Carriage Up/Down Chain	08B-1 ISO
Prestretch Motor	1/3 HP 1390 RPM 220V 1:20 Gearbox
Prestretch Gear Ratio	1:30
Prestretch Chain	06B-1 ISO
Film Stretch	250% pre-stretch with adjustable load force
Film Lift	Photo-eye controlled to match package height
Film Width	20" (standard) or 30" (option)
Adjustable Internal Limit Switches	8" Top & Bottom Rails
Max Film Height	89.5"
Mast Height	94.5"
Max Turntable Weight Capacity	5000 lbs
Max Package Height (W/2" Overlap)	89" *
Machine Dimensions	97.5" X 59" X 99"
Shipping Weight	1295 lbs
Attachment	Ramp or Custom Heavy Duty **
Noise	≤75 DB
Environment	Humidity ≤98% Temperature 32-104°F

* Please note black product requires custom photo-eye installation for an additional fee
**Factory ramp is for hand pallet jacks only with a total (pallet jack + product) max weight under 1300lbs (See page 5 for details). Custom heavy duty ramps are available for an additional fee.

ITEM	SPECIFICATION EAGLE 2000BE
Power Supply	110VAC, 60Hz
Turntable Speed	12 rpm
Turntable Motor	1 HP 750W 1420 RPM 220V 1:30 Gearbox
Turntable Diameter	59"
Turntable Diagonal	70"
Turntable Height	3.4"
Turntable Gear	1:5
Turntable Chain	60-1 ANSI or 12A-1 ISO
Carriage Up/Down	1/3 HP 1390 RPM 220V 1:60 Gearbox
Carriage Up/Down Chain	08B-1 ISO
Prestretch Motor	1/3 HP 1390 RPM 220V 1:20 Gearbox
Prestretch Gear Ratio	1:30
Prestretch Chain	06B-1 ISO
Film Stretch	250% pre-stretch with adjustable load force
Film Lift	Photo-eye controlled to match package height
Film Width	20" (standard) or 30" (option)
Adjustable Internal Limit Switches	8" Top & Bottom Rails
Max Film Height	110"
Mast Height	118.5"
Max Turntable Weight Capacity	5000 lbs
Max Package Height (W/2" Overlap)	108" *
Machine Dimensions	99" X 59" X 120.5"
Shipping Weight	2060 lbs
Attachment	Ramp or Custom Heavy Duty **
Noise	≤75 DB
Environment	Humidity ≤98% Temperature 32-104°F

* Please note black product requires custom photo-eye installation for an additional fee
**Factory ramp is for hand pallet jacks only with a total (pallet jack + product) max weight under 1300lbs (See page 5 for details). Custom heavy duty ramps are available for an additional fee.

ITEM	SPECIFICATION EAGLE 2000EBT
Power Supply	110VAC, 60Hz
Turntable Speed	12 rpm
Turntable Motor	1 HP 750W 1420 RPM 220V 1:30 Gearbox
Turntable Diameter	59"
Turntable Diagonal	70"
Turntable Height	3.4"
Turntable Gear	1:5
Turntable Chain	60-1 ANSI or 12A-1 ISO
Carriage Up/Down	1/3 HP 1390 RPM 220V 1:60 Gearbox
Carriage Up/Down Chain	08B-1 ISO
Prestretch Motor	1/3 HP 1390 RPM 220V 1:20 Gearbox
Prestretch Gear Ratio	1:30
Prestretch Chain	06B-1 ISO
Film Stretch	250% pre-stretch with adjustable load force
Film Lift	Photo-eye controlled to match package height
Film Width	20" (standard) or 30" (option)
Adjustable Internal Limit Switches	8" Top & Bottom Rails
Max Film Height	110"
Mast Height	118.5"
Max Turntable Weight Capacity	5000 lbs
Max Package Height (W/2" Overlap)	108" *
Machine Dimensions	137.25" X 78.5" X 120.5"
Shipping Weight	2125 lbs
Attachment	Ramp or Custom Heavy Duty **
Noise	≤75 DB
Environment	Humidity ≤98% Temperature 32-104°F

* Please note black product requires custom photo-eye installation for an additional fee
**Factory ramp is for hand pallet jacks only with a total (pallet jack + product) max weight under 1300lbs (See page 5 for details). Custom heavy duty ramps are available for an additional fee.

1.3   Outline and Application Field

This machine uses PLC control. The electric subassembly uses world famous products such as OMRON, LG and TE components. This provides a reasonable, high reliability and convenient use for the machine. It can advance production efficiency and prevent goods from being damaged during transportation. This machine has a wide range of applications and is used in the following industries: chemical, fiber, tobacco, pharmaceutical, publishing, refrigeration, etc.

1.4   Position of Operation (Fig 1)

The operator must stand in front of the operating screen, away from the turntable and carriage. The operator must insure that no other individual or devices such as the forklift are at risk during operation.

Operating Screen
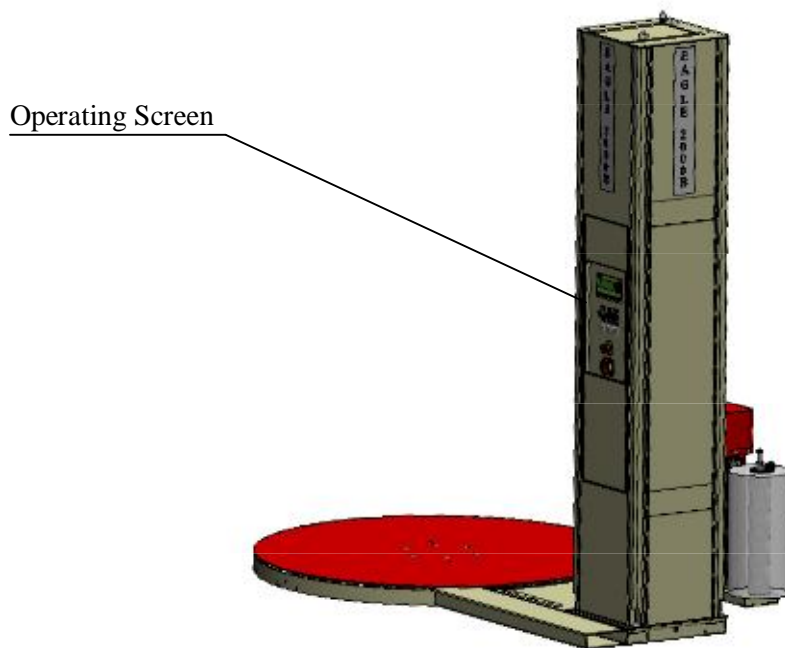
Fig 1

1.5   Safety Precautions Prior to Operating Machine

1. Verify the power supply for the machine. This machine uses 110V, 60Hz, single phase power.
2. Do not plug into an extension cord.
3. Do not step on the machine when it is running
4. Do not install this machine on soft ground.
5. Install on a level surface.
6. Do not put the object to be wrapped on the edge of the turntable.
7. Turn off the power after done using the machine.
8. In an emergency, press the emergency stop button. This will cease movement of the machine.
9. Clean the machine once a day.
10. Only a Qualified Technician should change or test the wiring and/or electrical components.

2. Machine Installation

2.1 Assembly, Installation, Transportation and Storage

2.1.1 Machine Structure and Main Components Illustration (Fig 2-1)

1. Mast

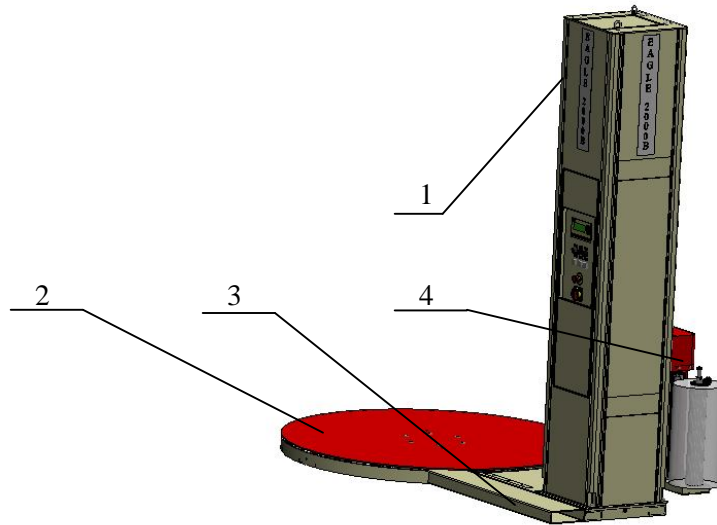2. Turntable

3. Base Frame

4. Carriage

Fig 2-1

2.1.2 Transportation

WARNING: Always use OSHA handling procedures for handling the stretch wrapper

You must have at least 4 ft fork tubes or tube extensions fully inserted into the machine and a forklift rated at 3,000 Lbs to transport the machine safely. Do not raise the load more than 6" off of the ground. See Figure 2-2.
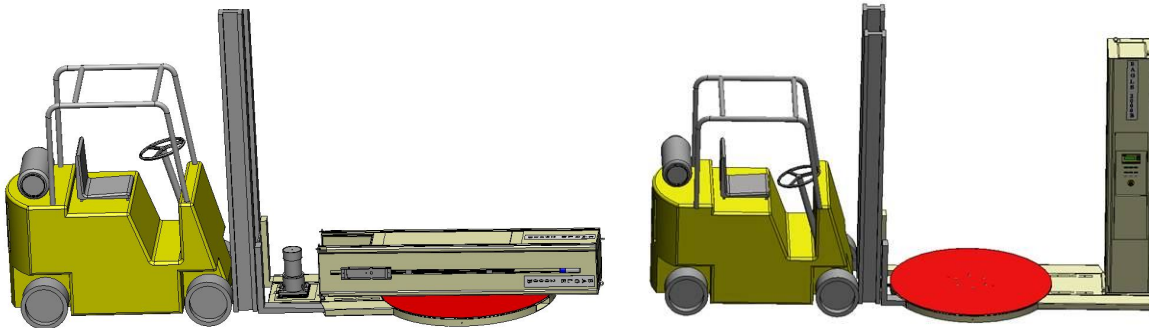
Fig 2-2

****ALWAYS** pick up machine at the turntable end. ****

****NEVER** pick up the machine on the mast end. ****

2.1.3 Installation
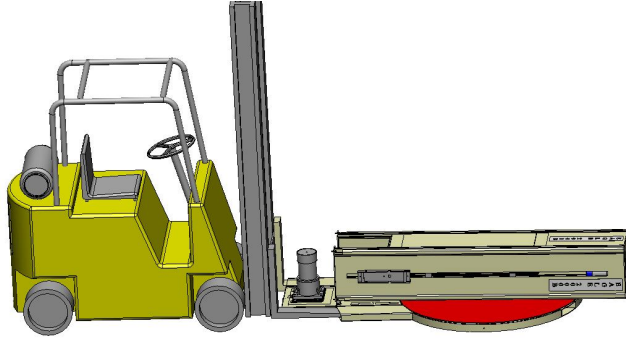
Fig 2-3

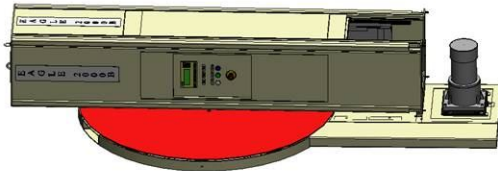1. Place the machine in the desired location with a tow motor or crane capable of handling a load of 3,000 lbs.

WARNING
MUST FOLLOW THE INSTALLATION INSTRUCTIONS ON PGS 4–7 IN THE MACHINE MANUAL. FAILURE TO DO SO COULD CAUSE DAMAGE AND VOID WARRANTY. THIS PANEL MUST BE REMOVED PRIOR TO STANDING UP THE MACHINE.
WARNING

Fig 2-4   **Fig 2-4a**

2. Remove lower rear panel prior to lifting mast. This panel is located on the end of the machine next to the turntable motor. (Fig 2-4) The panel has a sticker on it (Fig 2-4a)
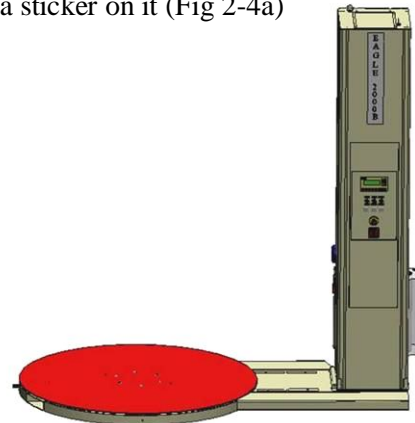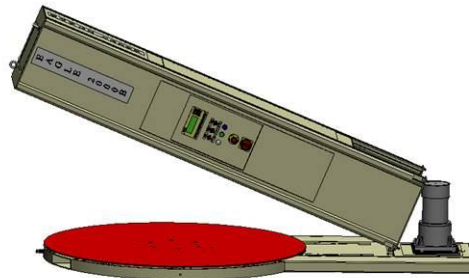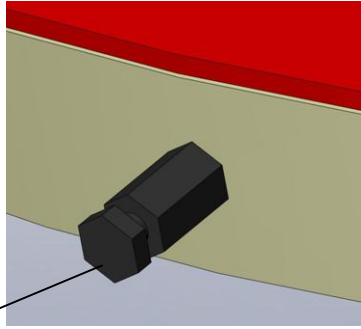

Fig 2-5

3. Lift the mast using hoisting tools. A tow motor or hoist rated for at least 3,000 lbs. Once the machine is fully upright one person needs to stand on the side (in front of screen) of the machine and hold the mast in place while another person fastens the four M10 bolts (30 ft-lbs torque) into the corresponding positions on the base. (Fig 2-5)

Fig 2-6

D

4. D in Fig 2-6 is the ramp shoulder bolt. If there is a ramp, insert the slot in the ramp over the ramp shoulder bolt. It is recommended to anchor both the machine and the ramp to the floor.
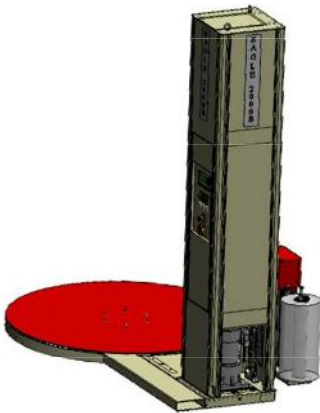

Fig 2-7

Fig 2-8

5. Fix the carriage onto the corresponding position on the mast and fasten with four M8 bolts. (Fig 2-7) Insert the connector plugs on the front of the carriage into the correct receptacles shown in Fig 2-8. Do not force the connectors together.

Fig 2-9

6. Insert the connector plug inside the bottom of the mast into the correct receptacles. (Fig 2-9)
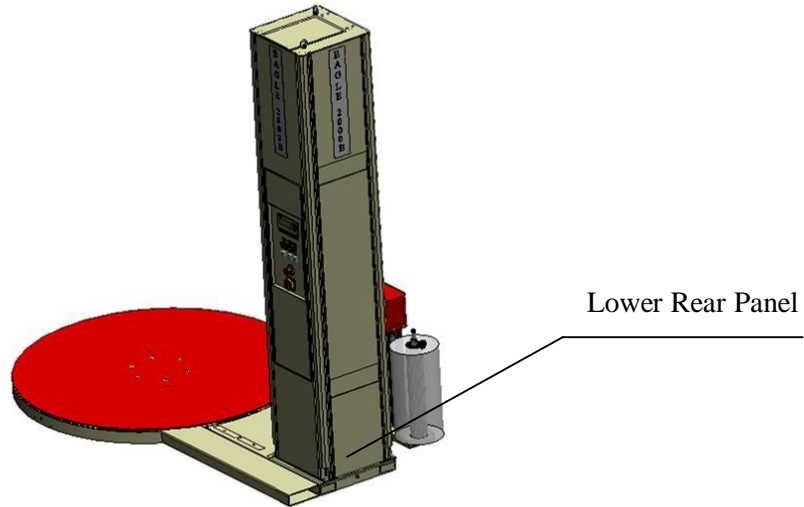
Lower Rear Panel

Fig 2-10

7. Fasten the lower rear panel into the corresponding position on the post using the pin (Fig 2-10)

8. Make sure to tighten every screw. After confirmation, turn on the power. Then check to see if the power indicator is on and there is text on the display.

2.1.4 Operation Environment Conditions

Machine should be far from smoke, preferably in a dry, well ventilated area.

Normal environment temperature should be within 32-104° F.

No special requirements for electromagnetic radiation.

3   Operation

3.1 Operation Steps

1. Before starting, press the emergency stop button and turn the power switch to the off position.
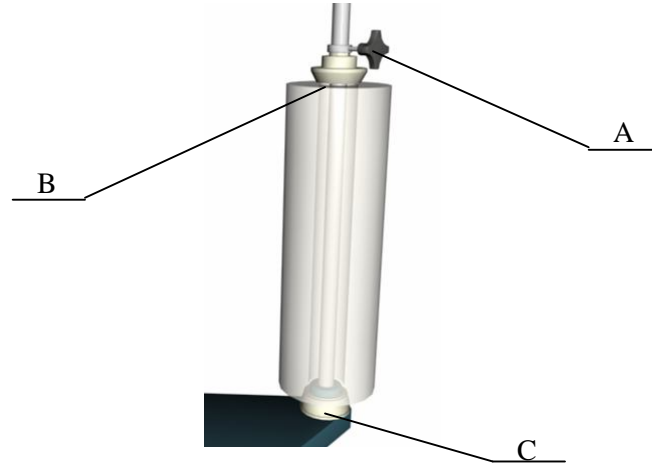

Fig 3-1

1. Loosen fastening screw A, take off roll holder B.

2. Center the film core over the film shaft and lower onto the lower orientation plate C of the film shelf.

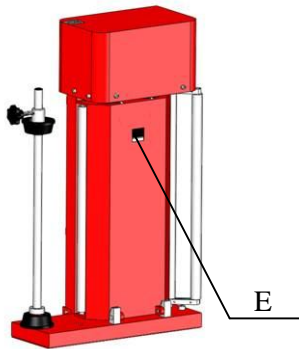3. Mount roll holder B and tighten fastening screw A.

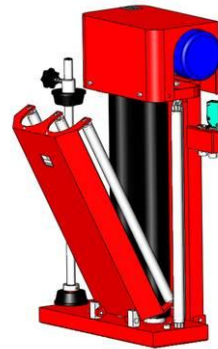**Fig 3-2**   **Fig 3-3**

4. Push down handle E to open the cover, then pass the film through in the direction of the arrow (Fig 3-3) then close the cover. Pass the film behind and around the first roller then between the first and second roller.
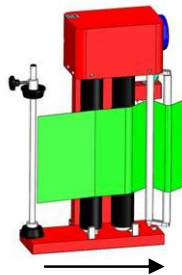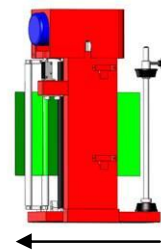

**Fig 3-4**

Adjusting Film Load Force

5. Adjust the turntable speed and the load force knobs to achieve the desired film tension. The speed and load force work in conjunction. If the table speed is turned up, the load force will need to be turned down to maintain the same amount of tension. If the table speed is turned down the load force will need to be turned up to maintain the same amount of tension.

3.2 Text Screen Operation
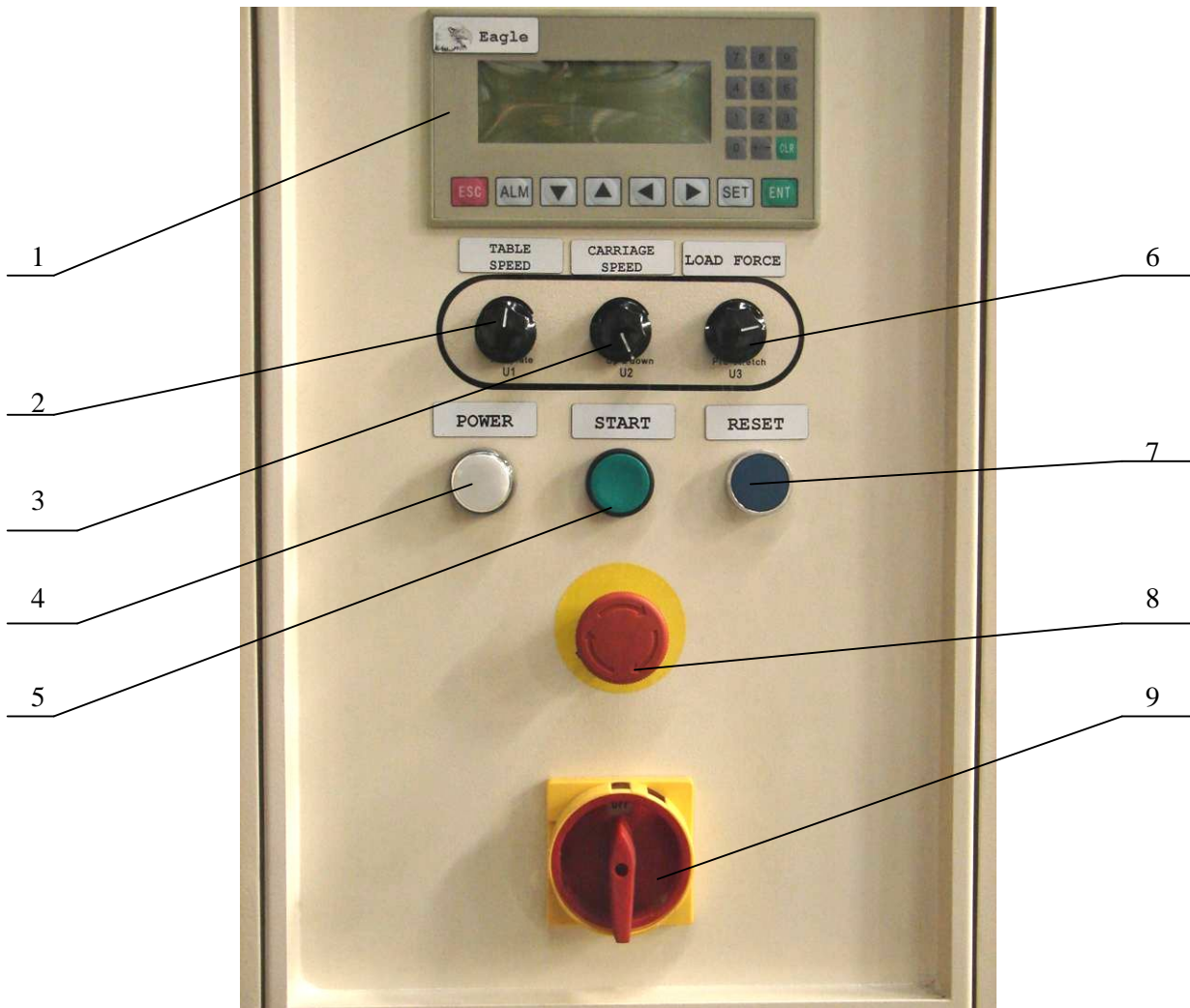
1. Screen Controller   6. Load Force

2. Table Speed   7. Reset Button

3. Carriage Speed   8. Emergency Stop Button

4. Power Indicator   9. On/Off

5. Start Button

Screen Controller
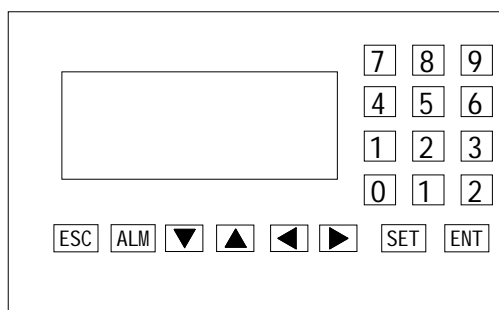
Using the Controller

The screen displays the information used to control the machine and make changes. Keys that are currently active are shown with a circle or square around them. Pressing the corresponding key will execute the function.

Press the ESC key to go back to the previous menu.

To change a setting you must press the SET button. Use the ◄ ► left and right arrows to move the cursor to the place to be changed. Press the number desired or you can use the ▲ ▼ arrows to scroll through the numbers. Use the left and right arrow keys to move the cursor to the next position if needed. When desired number has been entered press the ENT key to save the changes. (Pressing SET at this point will not save the changes.)

Navigating the Screens

When the machine is turned on it defaults to the Auto operation screen. Press ⎡ESC⎤ twice to get to the Menu screen.
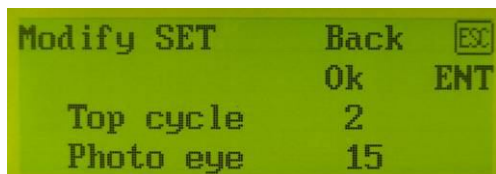
Menu

```
         MENU
①Param set  ②Job mode
③Yield      ④Param show
⑤Password   ⑥Language
```

From the Menu screen you can navigate to these screens: ⎡1⎤ Parameter Setting, ⎡2⎤ Job Mode, ⎡3⎤ Yield, ⎡4⎤ Parameter Show, ⎡5⎤ Password, and ⎡6⎤ Language.

⎡1⎤ Parameter Settings

```
Select parameter: Back⎡ESC⎤
  ☞① Top cycle      2
  ☞② Bottom cycle   2
  ☞③ Up & down num  1
```
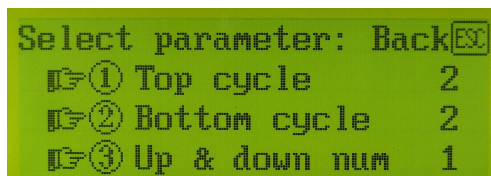
From the Parameter Settings screen you can navigate to: ⎡1⎤ Top Cycle, ⎡2⎤ Bottom Cycle, and ⎡3⎤ Up & Down Number.

⎡1⎤ Parameter Settings ⎡1⎤ Top Cycle

```
Modify SET      Back   ⎡ESC⎤
                0k    ENT
   Top cycle     2
   Photo eye     15
```

From this menu you can set the number of wraps there will be on the top of the package and how far past the top of the package the film will go. To change the settings: Press ⎡SET⎤, enter the amount of time in tenths of a second (15=1.5 seconds) the carriage will continue upwards after the photo-eye ceases to see the package, press ⎡SET⎤, enter the number of times the turntable will rotate at the top of the package, press ⎡ENT⎤. The new settings are now saved.

⎡1⎤ Parameter Settings ⎡2⎤ Bottom Cycle

```
Modify SET      Back ⎡ESC⎤
                0k   ENT
Bottom cycle     2
Position time    10
```

From this menu you can set the number of wraps there will be on the bottom of the package. To change the settings: Press ⎡SET⎤, enter the number of times the turntable will rotate at the bottom of the package, press ⎡ENT⎤. The new settings are now saved. Adjustment of positioning time is not recommended.

1 Parameter Settings 3 Up and Down Number

```
Modify SET        Back  [ESC]
                  Ok    ENT

Up and down num:   1
```

From this menu you can set the number of times the carriage will go up and down during one cycle. To change the settings: Press SET, enter the number of times the carriage will travel up and down the height of the package, press ENT. The new settings are now saved.
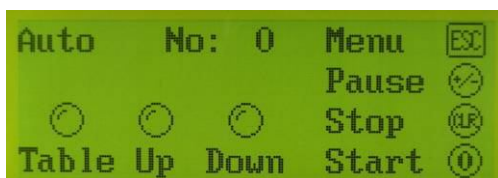
2 Job Mode

```
Job mode          Menu  [ESC]
 ① Auto
 ② Manual   ④ Top-wait
 ③ Single   ⑤ Slow Wrap
```

From this menu you can select the different types of modes the machine has.

2 Job Mode 1 Auto Mode

```
Auto    No: 0   Menu  [ESC]
                Pause ⊘
   ○    ○    ○  Stop  (CLR)
Table  Up  Down Start ⓪
```

This mode is used to automatically wrap packages. Press the Start button on the front panel of the 0 key to start the cycle. The machine will wrap around the package once at the bottom, the carriage will travel up to the top of the package, wrap the number of times set in the top cycle parameters, travel back down to the bottom and wrap the number of times set in the bottom cycle parameters.

2 Job Mode 2 Manual Mode

```
Manual           Menu  [ESC]
                 Stop  (CLR)
    ○       ○      ○
 ⑤Table  ⑨ Up   ③Down
```

This mode is used when you need to wrap goods by hand or use the machine as a turntable. Press 5 Table. The turntable will start to rotate. Press 5 Table again to stop the turntable. To raise the carriage press 9 Up. To stop the carriage press 9 Up again. To lower the carriage press 3 down. To stop the carriage press 3 Down again. To stop all items CLR can be pressed at any time. The front panel buttons are disabled with this function.

2 Job Mode 3 Single Wrap Mode

```
Single  No:  0   Menu   ESC
                 Pause  ⊘
  ⟲    ⟲    ⟲    Stop   Ⓡ
Table  Up  Down  Start  ⓪
```
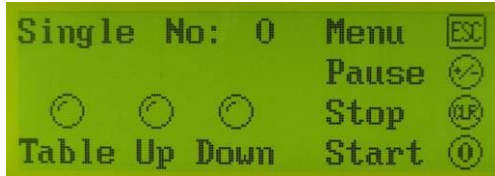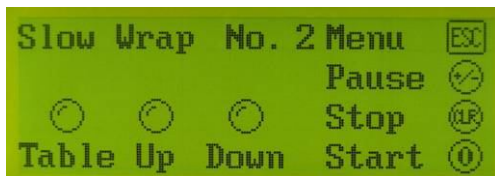
This mode is used when only one wrap going up the package is desired. Press the Start button on the front panel or the 0 key to start the cycle. The machine will wrap around the package once at the bottom, the carriage will travel up to the top of the package, wrap the number of times set in the top cycle parameters, the turntable will stop and the carriage will travel back down to the bottom.

2 Job Mode 4 Top Wait Mode

```
Top-wait  No:  0   Menu   ESC
                   Pause  ⊘
  ⟲     ⟲    ⟲     Stop   Ⓡ
Table  Up  Down   Start   ⓪
```
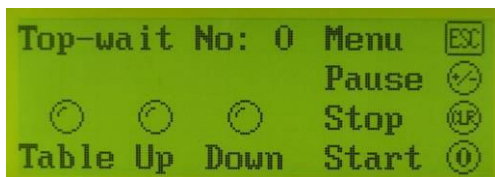
This mode is used when a cover will be placed on the top of the package. Press the Start button on the front panel or the 0 key to start the cycle. The machine will wrap around the package once at the bottom, the carriage will travel up to the top of the package and stop – waiting for the operator to place the cover on the package – then press the Start button or the 0 key. The machine will wrap the number of times set in the top cycle parameters, the carriage will travel back down to the bottom and wrap the number of times set in the bottom cycle parameters.

2 Job Mode 5 Slow Wrap Mode

```
Slow  Wrap  No. 2 Menu   ESC
                   Pause  ⊘
  ⟲    ⟲    ⟲     Stop    Ⓡ
Table  Up  Down   Start   ⓪
```

This mode is used when you have a tall unstable load. Press the start button on the front panel or the 0 key to start the cycle. The machine will wrap around the package very slow; once on the way to the top of the load. When the machine reaches the top of the package it will shift to a normal tension cycle based on your preset parameters and continue wrapping to the bottom of the package.
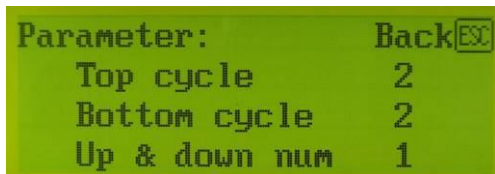
3 Yield

This screen displays the current number of cycles and the total number of cycles of the machine. To reset the current yield press the ▶ key.

4 Parameter Show

This screen is used to view the current parameters of the machine.
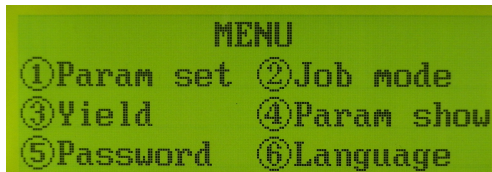
**********New Machine Password as of 4/20/11***********

The factory set password is 1 2 3 4

WARNING: Accidental change of the password without remembering the new password will cause total lockout of the screen menu. The only means of fixing the machine is a factory site visit or exchange of PLC, all at extra cost to the customer.

To Make a New Password:
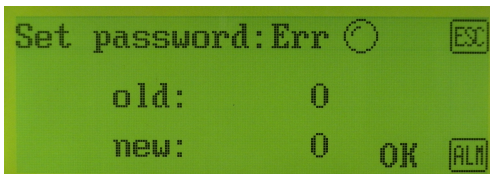
- Press escape **ESC** until you get to Main Menu

- Press **5** to go to password
- Press **SET** (the new # field will be selected with a black outline around the number).

- Type in your new password

```
Set password:Err  ○      ESC
     old:        0
     new:        0    OK  ALM
```

- Press **ENT** (Enter) (a random number will appear for security. The black outline around the number should go to the old password above)

```
Set password:Err  ○      ESC
     old:  ██████  0
     new:    48569    OK  ALM
```

- Type in the old password or if you have not put in a password before, use the factory password (1234) as old password. Press enter **ENT** (a random number will appear for security)

WARNING: Never enter a new password unless you write it down first

- After both # have been entered press **ALM** (Alarm) if there is a problem, at the top of the screen after the words "Set password: **ERR**" the circle will turn black

```
Set password:Err  ●      ESC
     old:        0
     new:        0    OK  ALM
```
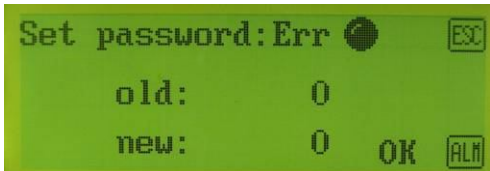
- If everything is OK the circle will stay clear in the center, and the old and new passwords will show "0". The password that you created is now set.
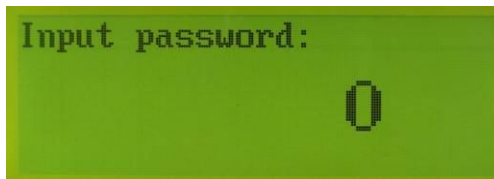
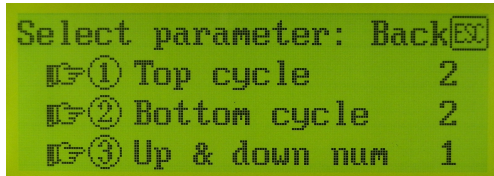```
Set password:Err ○   ESC
     old: 0
     new: 0   OK ALM
```
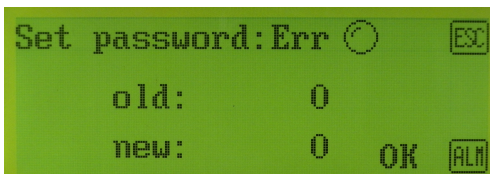
To Use the Password:

1. Use ESC to get to main menu

```
              MENU
 ①Param set  ②Job mode
 ③Yield      ④Param show
 ⑤Password   ⑥Language
```

2. Example pressing **1** for parameter calls up password page

```
Input password:


                 0
```

3. To enter password press SET first. The black outline will disappear, enter your password or use (factory default =1234)

```
Input password:          Input password:

          0                    1234
```

4. Press Enter

```
Select parameter: Back ESC
  ☞① Top cycle      2
  ☞② Bottom cycle   2
  ☞③ Up & down num  1
```

5. IF you make a mistake press Escape ESC and repeat your step beginning with #1 under "To Use the Password" section.

5 Language

```
Select Language Lenguaje

      ☞⓪ English
      ☞① Spanish
```

This screen is used to change the language of the display. To change the language press the 0 key for English or press the 1 key for Spanish.

4 Maintenance and Troubleshooting

Be sure to disconnect all power to the machine prior to any maintenance work
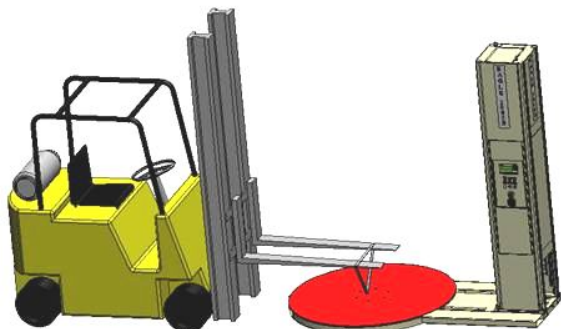

Fig 4-1

Fig 4-2

WARNING: Always follow OSHA forklift procedures

4.1 Remove the 6 M10 Flat head cap screws in the turn table. Screw in one M10 eyebolts rated for lifting into the tapped hole in the turn plate. Lift the turn table using a hoist and chain rated for 500 lb load. (Fig 4-1) Lift the turntable just clear of the frame and use the forklift to remove the table. For safety reasons keep the disk low to the ground. Lubricate the chain and gears. Inspect the items and clean out any debris. Do this every 3 months. (Fig 4-2)

Fig 4-3

4.3. Lubricate the drive chain of the carriage on a monthly basis. (Fig.4-3)
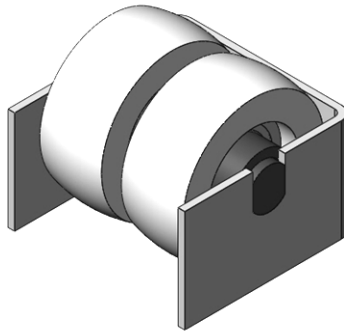
Fig 4-4

4.4 Remove the 24 idler wheels supporting the turntable rotation if there is excessive bearing play. If the diameter is less than 53mm or the rotation noise is abnormal, change the bad contact rollers. Pull the contact rollers from roller shelf (Fig 4-4)

4.5   Safety Warning on Maintenance

1. Be sure to turn off the main power supply.

4.6   Regular Maintenance and Cleaning

1. Regularly check for loose screws.

2. Lubricate the moving parts of the machine on a regular basis.

3. Clean the surface of the machine on a daily basis.

4.7   Frequent Trouble and Troubleshooting

4.7.1 Indicator Light

1. The power is not on – check to see if machine is plugged in/check volt meter is 110 at wall.

4.7.2 Turn table does not run

1. Is the power connected - check the power, check breakers

2. Check if the chain is broken or disconnected.

3. Check for loose wires on control button.

4. Check to see if PLC lights are on.

5. Check to see if the turntable speed knob is at minimum position – if so turn turntable speed knob to a higher setting.

6. Is the Emergency stop switch depressed – if so release emergency stop switch and reset the machine.

7. Make sure the carriage safety switch is not made – if pushed in it acts as an E-stop. Make sure the guard is moving freely.

8. Film door must be completely closed for switch to be made.

4.7.3 Carriage does not run

1. Check to see if the machine is plugged in.

2. Check to see if the chain is broken or disconnected.

3. Carriage sliding block is jammed – realign slide block

4. Check if PLC lights are on

5. Check carriage speed knob is at minimum position – if so turn carriage speed knob to a higher setting

4.7.4 Film breaks

1. Check for cuts in film

2. Move dancer bar without film to see if motor turned on.

3. Pre-stretch chain is broken or jammed – reinstall chain or refasten chain wheel

4. Speed is not set well between load force and turntable speed – adjust the settings

4.8 Items Repaired or Changed by Maintenance Staff

| No.	Name	Part #	Remark
1	Shrink Ring	FG-03A-20	
2	Core Holder Washer	FG-03A-21	
3	Core Holder	FG-03A-19	
4	Roll Holder	FG-03A-18	
5	Film Tension Switch	FG-03-11	
6	Idler Wheel	FG-01A-20	
7	Chain	12A	

5 Debug

5.1 Check List Prior to Operation

1. Make sure all nuts and bolts are properly fastened.

2. Make sure the motor and electrical equipment are dry and well ventilated.

3. Make sure the external power is correct for the power supply of the machine.

5.2 Test Operation

For Turntable:

Turn on the power. From the main Menu, Press 2 for Job Mode then 2 for Manual Mode. Press 5 key to turn the turntable. Press 5 key again to stop the turntable. Verify there is no play in the turntable and that the fasteners are tight. The chain tension controls the amount of play in the turntable. The chain should have no more than ±1/4" of play. If greater than 1/4", tighten the chain using the chain adjustment screw located at the back of the base frame.


Fig 5-1
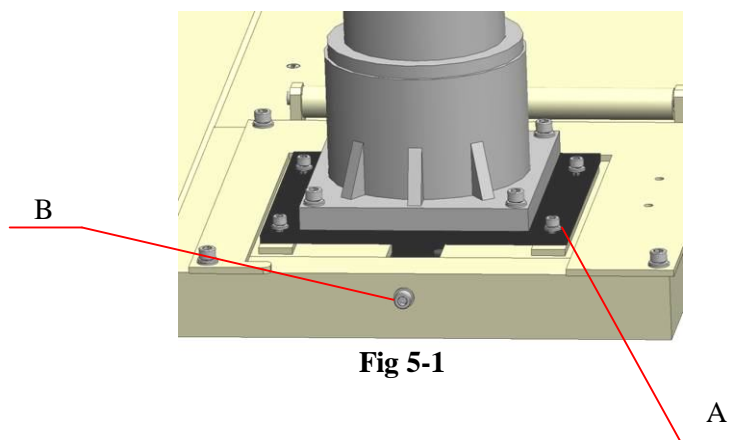
For Carriage:

Press the 9 key to raise the carriage then the 3 key to lower the carriage. Look and listen for smooth and consistent operation. If the action is not smooth, check the carriage chain for obstructions, wear or damage.

Adjusting the table chain: Loosen four holding screws of the turntable motor using a 6mm Allen Wrench (A); Turn the chain tension screw using an 8mm Allen Wrench (B): clockwise adjustment will tighten the chain and counter clockwise will loosen the chain. After adjusting to an appropriate position, tighten the turntable motor holding screws.
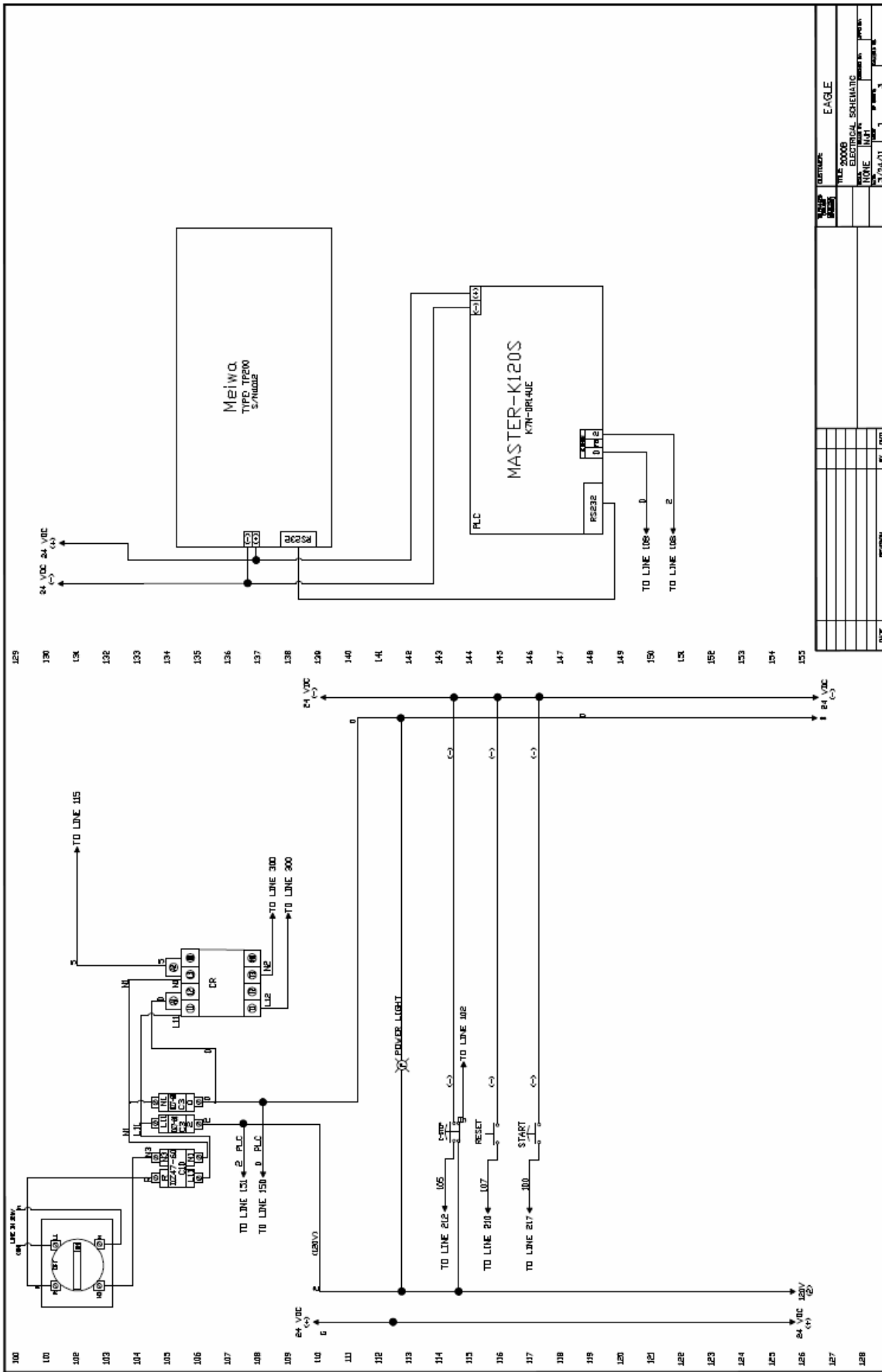
6.2 Mast
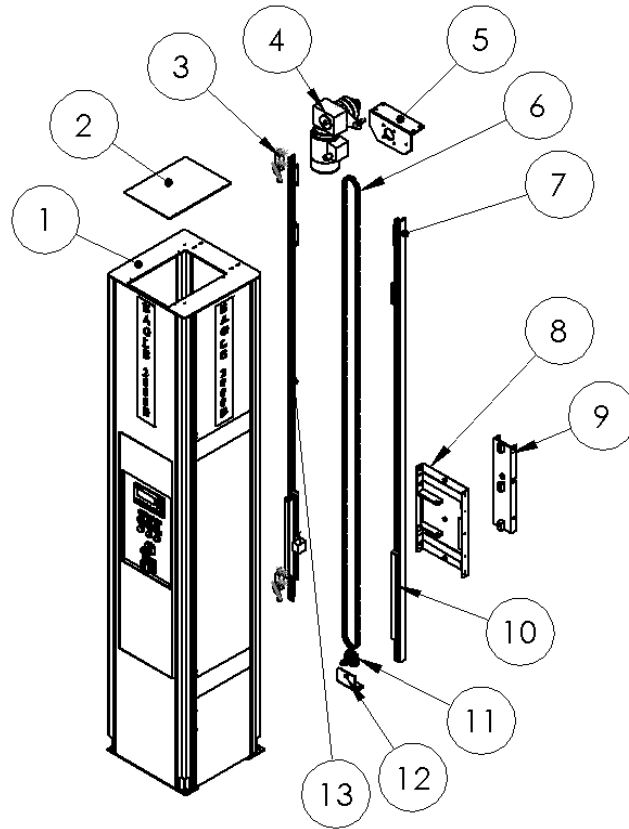
No.	Name	Part #	Qty	Note
1	Mast (Post)	FG-12-01	1	
2	Mast Cover	FG-12-02	1	
3	Upper & Lower Limit Switch	XCKP2145	2	
4	Up-Down Motor	NMRV040/80-YS6344	1	
5	Motor Axis	FG-12-06	1	
6	Chain	08B	2	
7	Slide Rail	FG-AL-01	1	
8	Up-Down Shelf	FG-12-04	1	
9	Transition Shelf	FG-12-05	1	
10	Slide Blocks	FG-12-08	4	
11	Sprocket	FG-12-07	4	
12	Sprocket Bracket	FG-12-06	1	
13	Limit Switch Slide	FG-AL-02	1	

6.3 Carriage
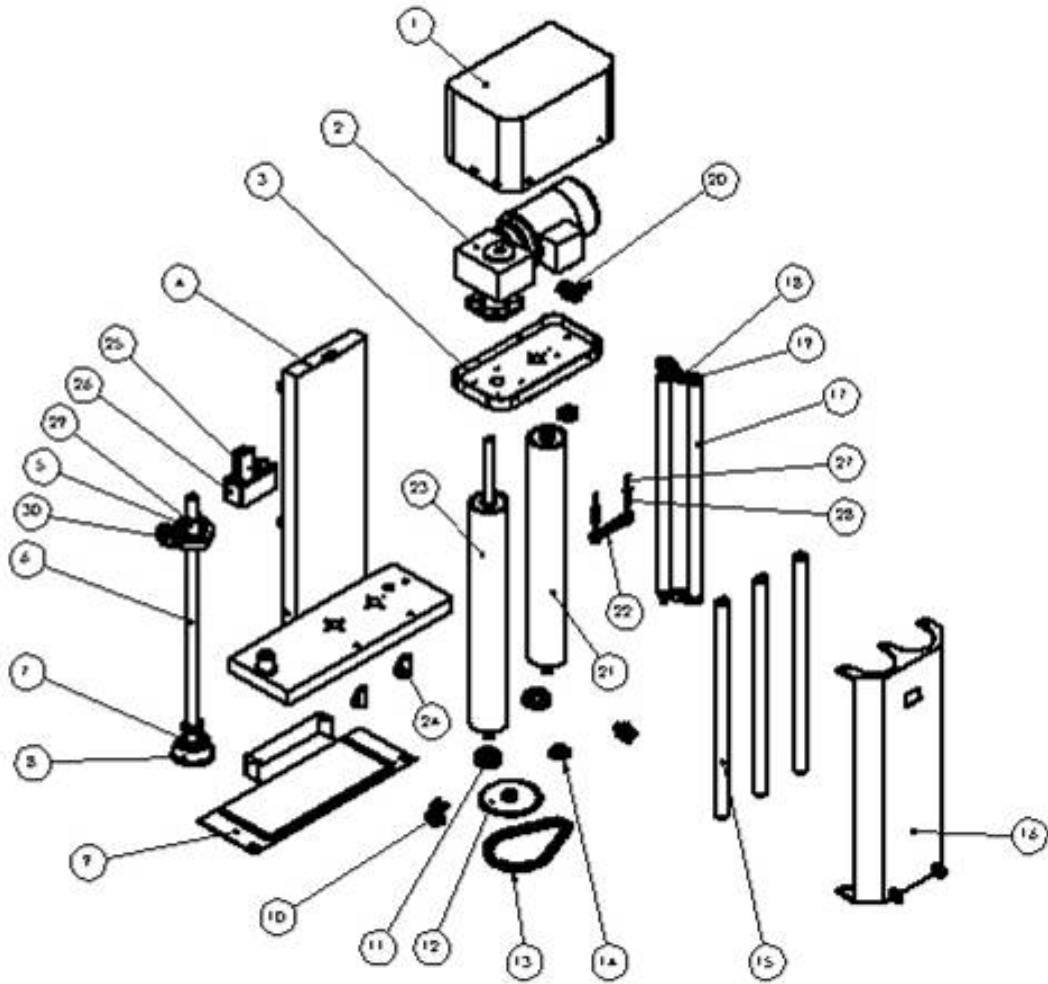
No.	Name	Part #	Qty	Note
1	Motor Cover	FG-08T-20	1	
2	Gear Box	NMRV40-10-YS6344	1	
3	Carriage Top Plate	FG-08T-02	1	
4	Film Lifter	FG-08T-00	1	
5	Roll Holder	FG-03A-18	1	
6	Core Holder Shaft	FG-03A-16	1	
7	Core Holder Washer	FG-03A-21	1	
8	Core Holder	FG-03A-19	1	
9	Protection Plate/Bottom Plate	FG-08T-16	1	
10	Micro Switch	7779K22	2	
11	Roller Bearing	5972K168	1	
12	Large Carriage Gear	FG-03-14	1	
13	Carriage Prestretch Chain	06B	1	
14	Small Carriage Gear	FG-03-12	1	
15	Film Roller Assembly	FG-08-07	1	
16	Roller Door	FG-08-14	1	
17	Extended Roller Assembly	FG-08-08	1	
18	Right Connection Block	FG-08-20	1	
19	Left Connection Block	FG-08-20	1	
20	Film Tension Switch	FG-03-11	1	
21	Main Roller	FG-03-02	1	
22	Pin Release Bar Assembly	FG-08-17	1	
		FG-08-18	1	
		FG-08-19	1	
23	Film Roller	FG-03-03	1	
24	Carriage Door Bracket	FG-08-04	1	
25	Photo Eye Switch	A3R-2MX	1	
26	Photo Eye Bracket	FG-08-21	1	
27	Spring Bolt	FG-08-18	2	
28	Spring	FG-08-17	2	
29	Shrink Ring	FG-03A-20	1	
30	Rivet Bolt	M10	1	