



# Operations Manual

Eagle 800 High-Speed Strapping Machine



**READ ALL INSTRUCTIONS CONTAINED IN THIS  
MANUAL PRIOR TO MACHINE INSTALLATION!**

# Contents

	<i>page</i>
<b>1. Machine Specifications</b>	<b>3</b>
<b>2. Machine Safety Information</b>	<b>4</b>
2.1 Operational Safety	4
2.2 Environmental Considerations	4
2.3 Machine Transportation	4
2.4 Operator Position	4
<b>3. Machine Operation</b>	<b>5</b>
3.1 Control Panel Functions	5
3.2 Feeding Strap	6
3.3 Machine Operation	7
<b>4. Maintenance &amp; Troubleshooting</b>	<b>8</b>
4.1 Routine Maintenance	8
4.2 Lubrication	8
4.3 Decelerator	8
4.4 Proximity Switch	8
4.5 Strap Feed	9
4.6 Position Adjustments	9
4.7 Troubleshooting	10
<b>5. Main Parts, Illustrations &amp; Parts List</b>	<b>12</b>
5.1 Commonly Replaced Parts	12
<b>6. Main Parts, Parts Illustrations &amp; Parts List</b>	<b>13</b>
6.1 Carriage Drive Assembly	13
6.2 Slide Assembly	16
6.3 Top Body Assembly	17
6.4 Left Top Knife Assembly	18
6.5 Middle Top Knife Assembly	19
6.6 Right Top Knife Assembly	20
6.7 Spindle Assembly	21
6.8 Heating Body Assembly	22
6.9 Heating Section & Slide Plate	23
6.10 Heating Section Assembly	24
6.11 Strapping Force Assembly	25
6.12 Strapping Pendulum Bar	26
6.13 Pre-Strap Feeding Mechanism	27
6.14 Pendulum Mechanism	28

## 1. Machine Specifications

Power Supply	220VAC @ 60Hz (Three Phase)
Arch Size	33.4in x 23.6in
Strapping Speed	29 straps per minute
Strapping Force	0-132lbs (0-60kg)
Strap Size (Width)	1/2-5/8in (12-15mm)
Strap Size (Thickness)	0.6-0.9mm
Core Size	8in x 8in
Machine Dimensions	56in x 24in x 60.6in
Machine Weight	441lbs (200kg)
Tabletop Height	39.53in (750mm)
Minimum Carton Size	4in x 2in
Noise Level	≤ 75db
Operating Environment (Temperature)	32-104°F (0-40°C)
Operating Environment (Humidity)	0-98%

## 2. Machine Safety Information

The Eagle 800 high-speed strapping machine employs a PLC for manual, automatic and continuous operation. Easy to use and high-speed strapping features make the Eagle 800 suitable for a wide range of applications including, but not limited to the chemical fiber field, tobacco leaf redrying, pharmaceutical companies, publications, refrigeration, household appliances, ceramics, hot work, etc...

### 2.1 Operational Safety

1. Verify all electrical connections and verify the machine is connected to an appropriate power source.
2. Do not place any part of your body into the archway.
3. Do not touch the heating element.
4. Do not allow excess moisture to build up in or on the machine. Do not rinse out the machine with water.
5. Do not make unnecessary adjustments to the machine or any of its components.
6. Roll any used strap back onto the spool while the machine is not in use. This will prevent deformation of the strap.
7. Machine parts and components listed in the manual should be lubricated regularly.
8. Do not apply lubricant to the roller wheel surfaces.
9. While not in use, disconnect the machine from the power source.

### 2.2 Environmental Considerations

The machine should be located in an area that is free of smoke, corrosive material, and excess moisture. Normal operating environment should be between 32-104°F (0-40°C) and 0-98% humidity.

### 2.3 Machine Transportation

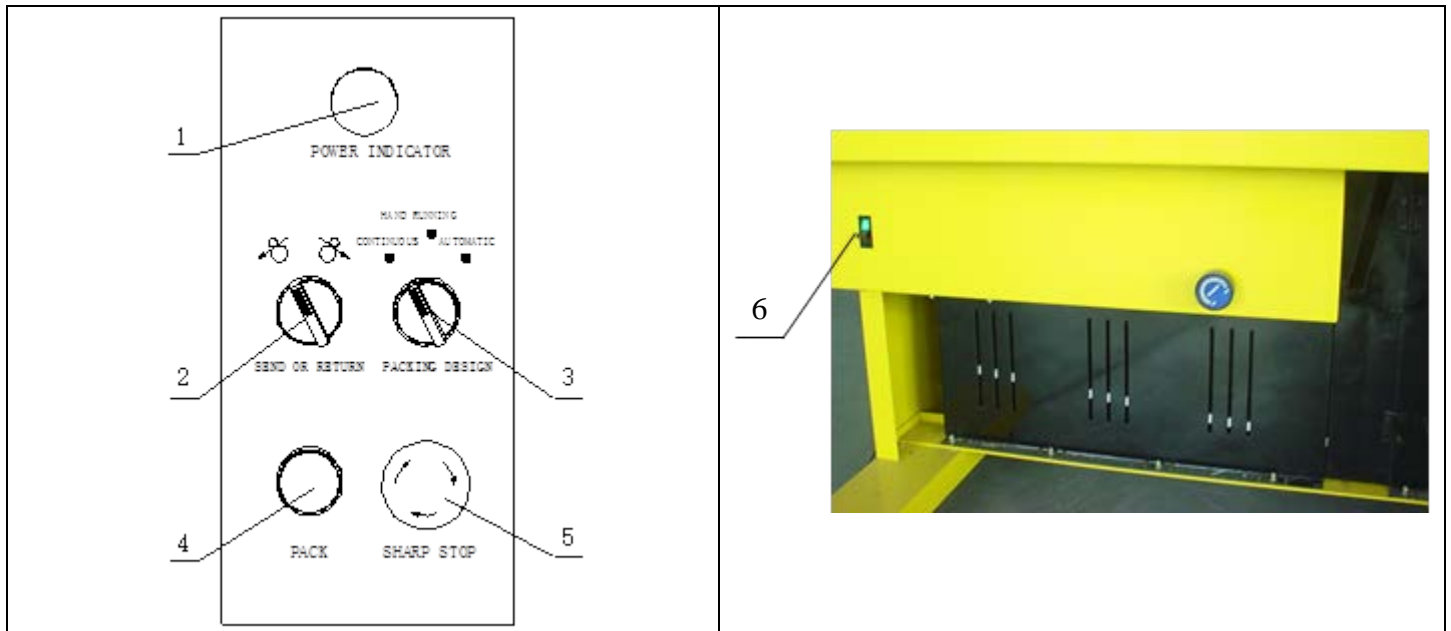
When moving the machine with a forklift or tow motor, lift by placing the forks under the caster wheels or feet. If equipped with caster wheels, be sure all wheels are in the locked position before lifting or transporting the machine.

### 2.4 Operator Position

While operating the machine, the operator must stand to the front of the machine with at least 1/2in (10cm) clearance between the machine and operator.

## 3. Machine Operation

### 3.1 Control Panel Functions



1. Power Indicator
2. Strap Feed / Return Switch
3. Work Mode Switch
  - a. Use this switch to change between the modes; Manual, Automatic, Continuous
4. Pack Button (Manual Strap Activation)
  - a. This button is used to activate the strapping mechanism while the Work Mode Switch is in the Manual mode.
5. Emergency Stop button
  - a. To reset the Emergency Stop button, turn the button in the direction indicated by the arrows.
6. Air Switch

## 3. Machine Operation

### 3.2 Feeding Strap



Fig. 3-1



Fig. 3-2



Fig. 3-3

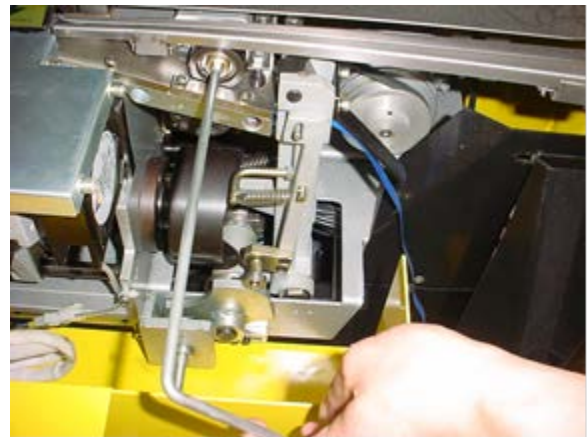


Fig. 3-4

1. Load the spool of strapping material onto the strap stool. The strap should feed from the bottom-rear of the spool as viewed from the front of the machine. Using Figure 3-1 as a reference, feed the strap through the guide, roller and pre-strap feeding roller.
2. Use the lever (Fig. 3-2) to release tension on the strap feeding mechanism so that strap can be fed through the rollers and into the machine.
3. Open the cover to the collection chamber (Fig. 3-3) to feed strap into the strain swing rocker (Fig. 3-4). Feed strap into the strain swing rocker by rotating the wheel while feeding the strap.
4. Once strap is loaded into the strain swing rocker, turn the strap direction knob to "Send" to complete strap feeding.

## 3. Machine Operation

### 3.3 Machine Operation

1. Connect the machine to the power source.
2. Thread straps according to the method listed in “Feeding Strap” on previous page.
3. Set the air switch to the “On” position.
  - a. If strap has been loaded properly, machine will begin to fill the collection chamber with strapping material until it is full.
  - b. If the machine does not fill the collection chamber and it is not full, turn the strap feed switch to “Send” to feed strap.
4. The heating element within the machine takes approximately 30 seconds to reach operating temperature. The machine will not operate until the heating element has reached its operating temperature.
5. Set the operating mode.
6. Place the package to be strapped into the center of the archway.
  - a. Continuous Mode – Machine will apply strapping material any time an item is placed within the strapping archway. Helpful for large volume work flow.
  - b. Manual Mode – Machine will apply strapping material only when the “Pack” button is pressed. Useful for occasional or when slow speed strapping is needed.
  - c. Automatic Mode – Strapping occurs only 1) when carton activates ball switch on the machine or 2) when operator activates the foot switch.

## 4. Maintenance & Troubleshooting



**ALWAYS DISCONNECT POWER SOURCE FROM EQUIPMENT PRIOR TO PERFORMING ANY MAINTENANCE OR REPAIR**

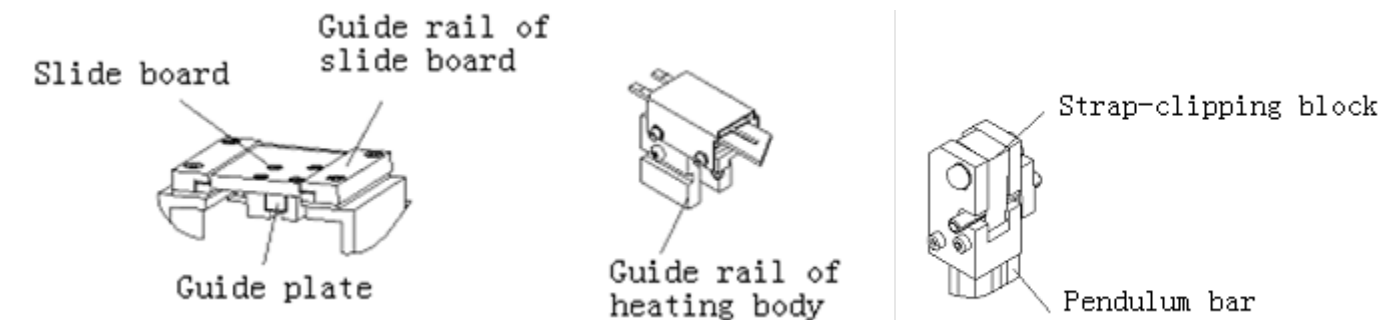
### 4.1 Routine Maintenance

Extended machine lifespan and trouble-free operation is possible by properly maintaining the strapping mechanisms contained within the Eagle 800 strapping machine.

### 4.2 Lubrication

The Eagle 800 is a high-speed strapping machine and due to its operating requirements, the moving parts require regular lubrication with oil (No. N68 oil is recommended). The following parts require regular maintenance and lubrication for trouble-free operation.

1. Slide Board and Guide Plate (see below)
2. Operating surface and roller of all cams
3. Guide rail of heating body (see below)
4. Strap-clipping block (see below)
  - a. Apply oil to both sides and inside hole of the strap-clipping block



### 4.3 Decelerator

Check the oil reservoir to verify fluid levels. If over-filled, machine performance will be affected.

### 4.4 Proximity Switch

Periodically examine the proximity switch sensitivity and detection speed. If the proximity switch is not positioned properly due to loose fittings or misalignment, it will cause a change to the stop position of the strap sensor. This will reduce machine efficiency and requires adjustment if misaligned.



## 4. Maintenance & Troubleshooting

### 4.5 Strap Feed

1mm strap can be used by adjusting the gap between the crown bar and pry bar to 0.3mm (Fig. 4-1). Additionally, the gap between the main motor and the brake should be set between 0.2mm and 0.3mm (Fig. 4-2).

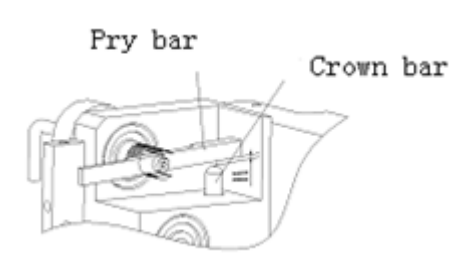


Fig. 4-1

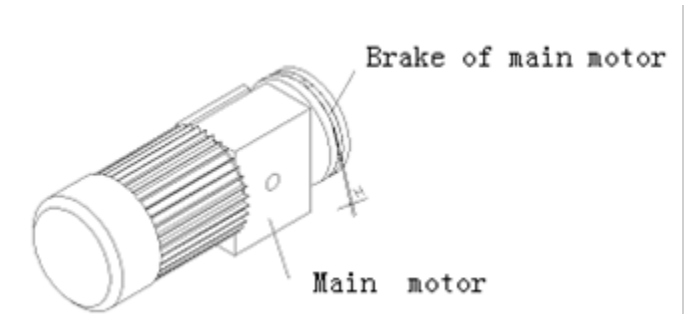


Fig. 4-2

### 4.6 Position Adjustments



Fig. 4-3

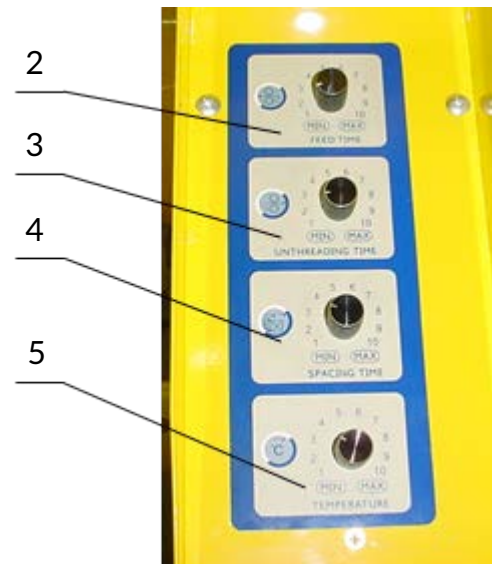


Fig. 4-4

1. Cover Plate
2. Feed Time Adjustment
3. Unthreading Time Adjustment
4. Spacing Time Adjustment
5. Temperature Adjustment

To access the knobs for machine timing adjustment, remove the cover (1) to access the time adjustment knobs (2-5).

## 4. Maintenance & Troubleshooting

### 4.7 Troubleshooting

Strap does not adhere properly

1. Improper temperature adjustment setting
2. Deformation of the heating element (Fig. 4-5)
3. Split end on strapping
4. Insufficient pressure on middle top body, possibly cracked
5. Strapping material is too thin for use

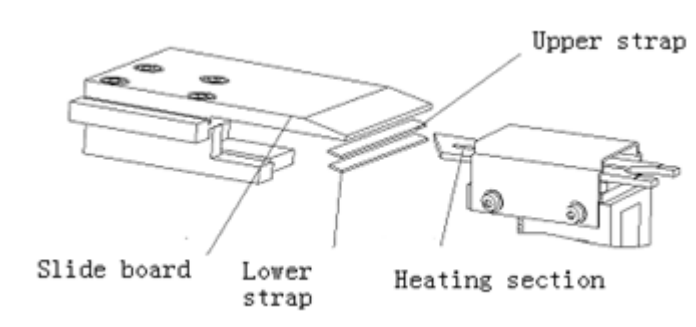


Fig. 4-5

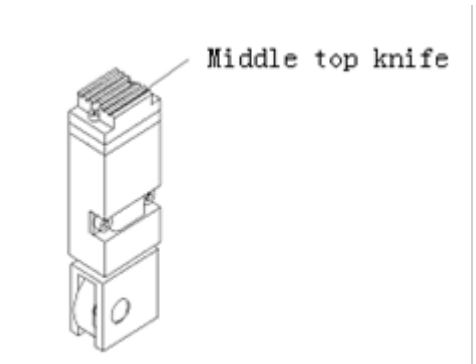


Fig. 4-6

Strap does not feed properly

1. The position of the crown bar is too high
  - a. If not on strap-withdrawing, the gap between crown and pry bar should be 0.3mm. (Fig. 4-1)
2. Insufficient strap storage volume in strap collection bin.
  - a. Improper adjustment of pre-strap feeding mechanism
  - b. Pre-Strap feeding mechanism not drawing enough strapping material into collection bin
3. Strapping material end is split
  - a. If end is split, Pre-Strap feeding mechanism may not be able to draw in the strapping material.
4. Strap press plate is too low (Fig. 4-7)
  - a. If adjusted such that that is minimal gap between the press plate and the swing link, strapping material may not be able to pass through and into the machine.

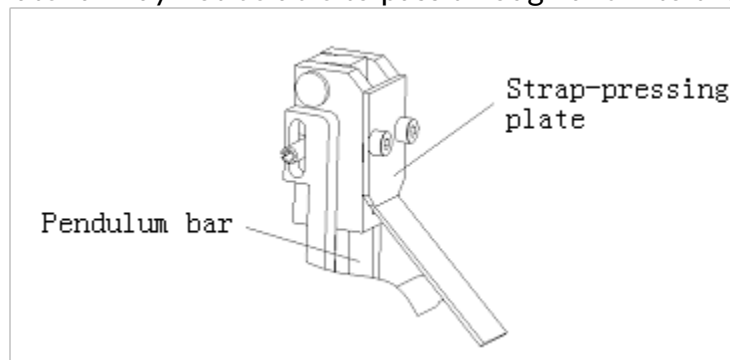


Fig. 4-7

## 4. Maintenance & Troubleshooting

### 4.7 Troubleshooting (Continued)

Strap does not feed properly (Continued)

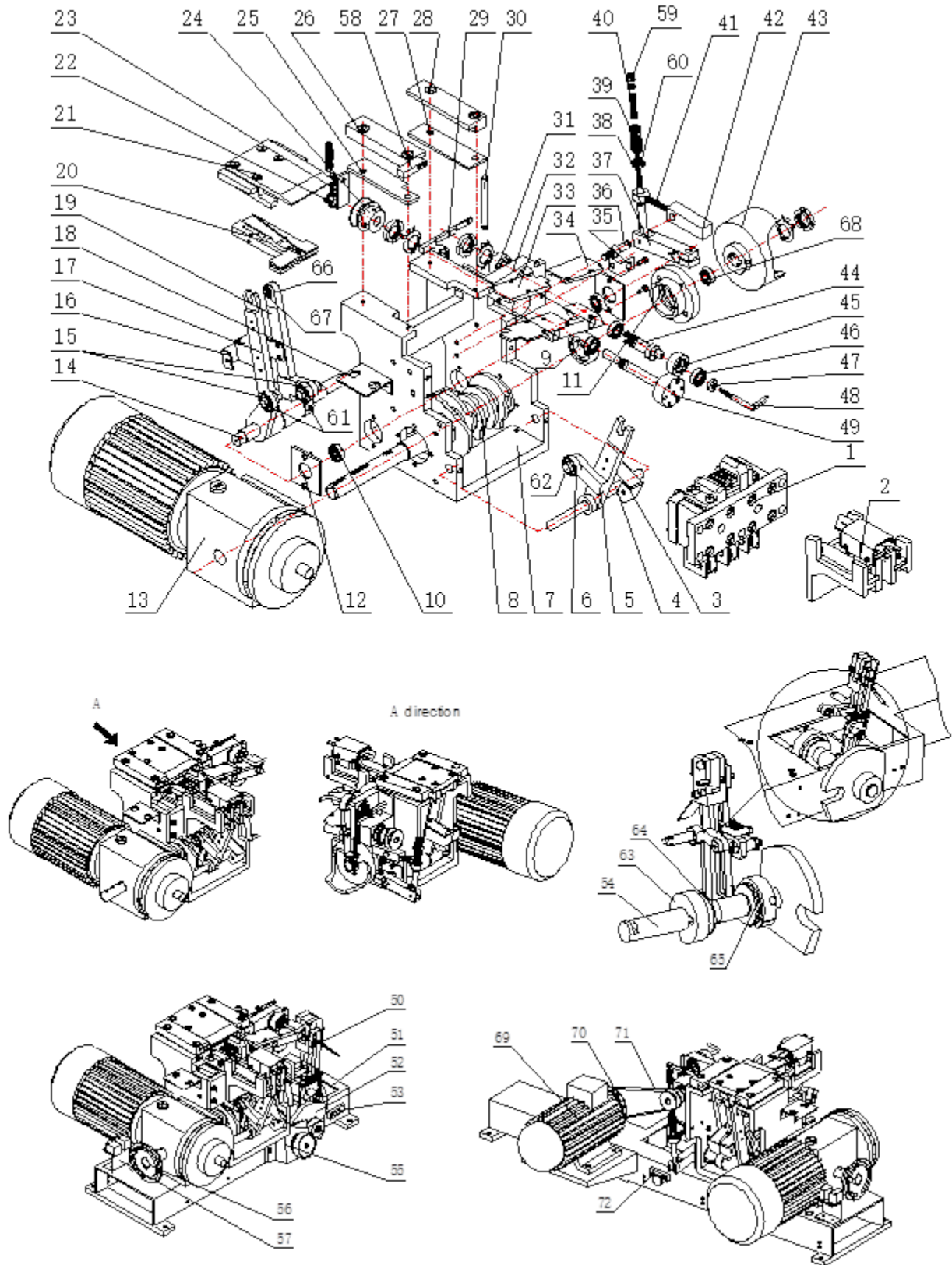
5. Middle top knife is not affixed properly
  - a. If not aligned properly, the middle top knife on the middle body will lean against another knife board. Resetting the machine will not correct the issue as it causes the T guide plate to move out of position.
6. Improperly sized strapping material
  - a. Width or thickness of strapping material is too large

## 5. Replacement Parts

### Commonly Replaced Parts

	Description	Notes
1	Heating section combination	
2	Strap-clipping block	
3	Various fuse	
4	Back and forth cover plate	
5	Strap-shielding plate	
6	Belt of main motor	Japan Mitsubishi
7	Belt of strap-feeding and withdrawing motor	Switzerland Habasit
8	Belt of pre-strap-feeding motor	Switzerland Habasit
9	Pre-strap-feeding motor	Taiwan Dongli or Chengbang
10	Brake strap	Switzerland HABASIT
11	Torsion spring on left and right strap path	
12	Compression Spring of Middle Knife	
13	Tension Spring of Middle Knife	
14	Tension Spring of Middle Knife	
15	Middle Relay	Japan OMRON
16	Tension Spring of Large Swing Link	
17	Tension Spring of Brake	

## 6. Main Parts, Components Illustration & Parts List



## 6. Main Parts, Components Illustration & Parts List

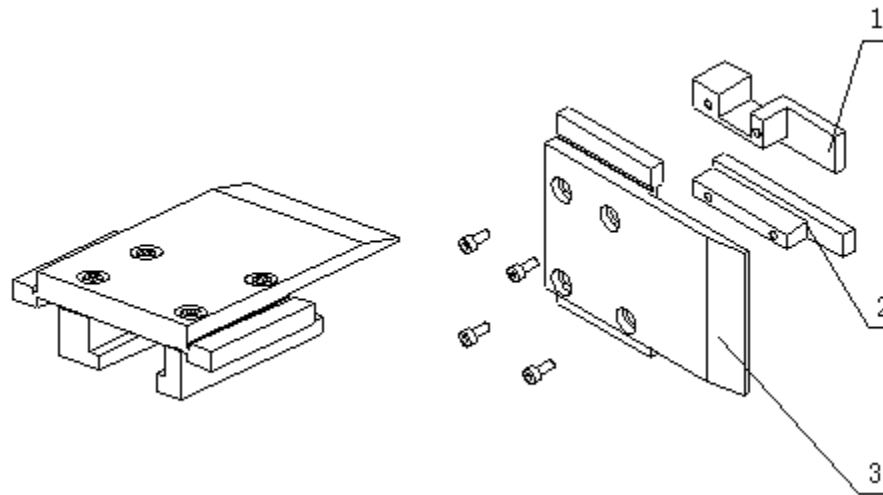
	Description	Part Number	Qty
1	Top body combination	-	1
2	Heating body combination	-	1
3	L Plank	01-221	1
4	Spindle	01-131	1
5	Heating bracket	-	1
6	Bearing	80100	1
7	Large bracket	01-1	1
8	Parts of principal shaft	-	1
9	Bearing	80104	2
10	Bearing	80102	2
11	Bearing pedestal	01-14	2
12	Baffle plate	01-18	2
13	Motor and decelerator	-	1
14	Spindle	01-17	1
15	Bearing	80100	2
16	L Plank	01-221	2
17	Pendulum bar of guide plate	01-224	1
18	Support plate	01-67	1
19	Pendulum bar of slide plate	01-217	1
20	T guide plate	01-226	1
21	Slide plate combination	-	1
22	Bent plate	01-33	1
23	Hexagonal screw	-	1
24	Belt wheel	01-39	1
25	Left guide plate	01-24	1
26	Left guide rail	01-22	1
27	Right guide plate	01-25	1
28	Right guide rail	01-23	1
29	Pry bar	01-32	1
30	Crown bar	01-51	1
31	Bearing	50102	4
32	Roller wheel rack	01-1-2	1
33	Front lid	01-56	1
34	Back lid	01-57	1
35	Bent plate	01-40	1
36	Spindle	01-50	1

## 6. Main Parts, Components Illustration & Parts List

	Description	Part Number	Qty
37	Clamping arm	01-200	1
38	Drag bar	01-197	1
39	Spring	-	1
40	Spring	-	1
41	Knuckle bearing	-	1
42	Pendulum block	01-196	1
43	Edge cam	01-11	1
44	Eccentric shaft	01-35	1
45	Roller wheel	01-36	1
46	Bearing	80100	1
47	Clamping ring	01-38	1
48	Wrench	01-42	1
49	Roller wheel spindle	01-37	1
50	Strapping swing link	-	1
51	Channel steel	-	1
52	Orientation tray	01-68	1
53	Limit board	01-69	1
54	Spindle	01-45	1
55	Adjustment device of strapping force	-	1
56	Sonde bracket	-	1
57	Switch bracket	01-65	1
58	block	-	1
59	Nut	-	1
60	Sleeve	-	1
61	Shaft	-	2
62	Shaft	-	1
63	Shield ring	-	2
64	Bearing	-	1
65	Bearing	-	1
66	Bearing	-	1
67	Shaft	-	1
68	Bearing	-	1
69	Motor	-	1
70	Belt wheel	-	1
71	Belt	-	1
72	Orientation board	-	1

## 6. Main Parts, Components Illustration & Parts List

### 6.2 Slide Assembly

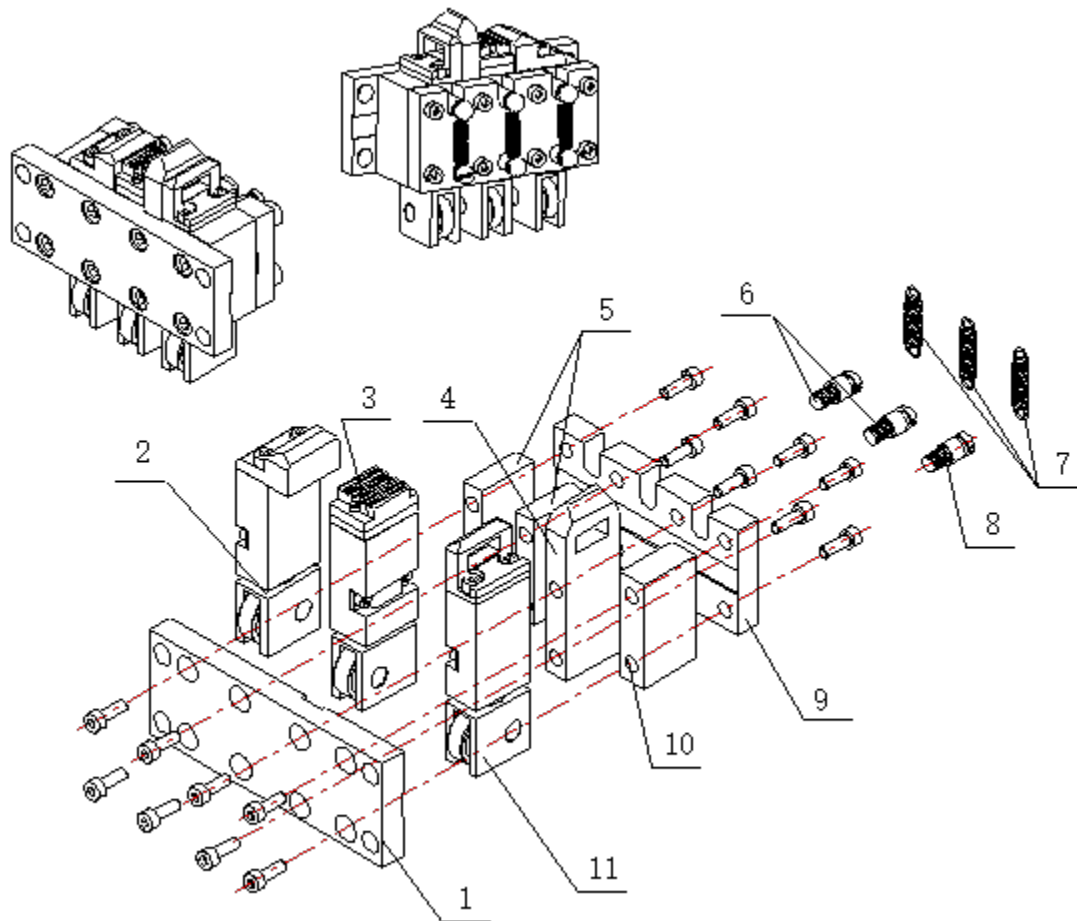


	Description	Part Number	Qty
1	Right rail of guide plate	01-27	1
2	Left rail of guide plate	01-26	1
3	Slide plate	01-20	1



## 6. Main Parts, Components Illustration & Parts List

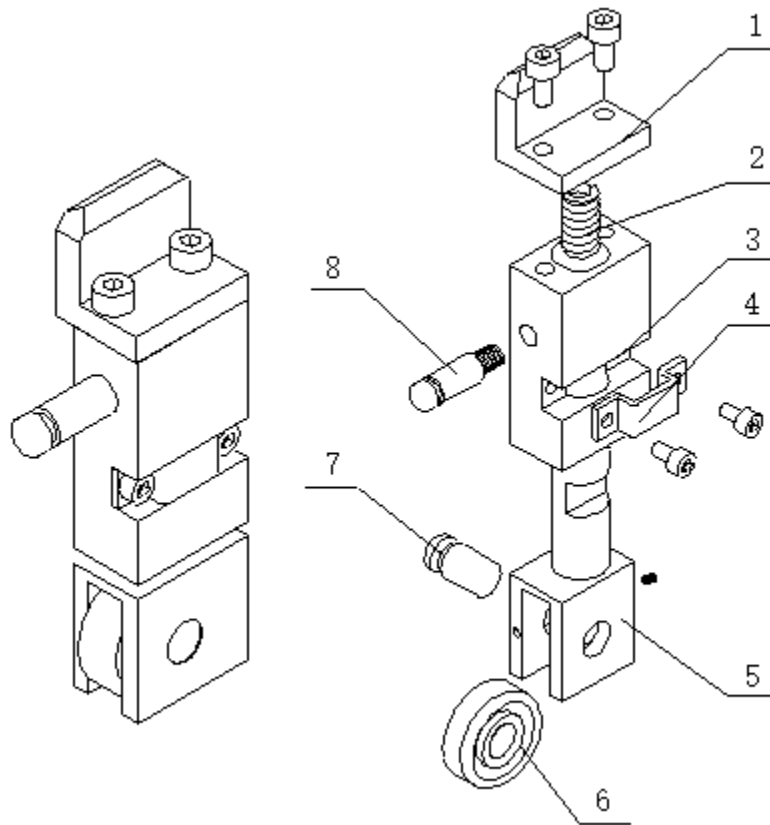
### 6.3 Top Body Assembly



	Description	Part Number	Qty
1	Front plate	01-90	1
2	Left top knife combination	-	1
3	Middle top knife combination	-	1
4	Right partition board	01-93	1
5	Left partition board	01-92	2
6	Post	01-95	2
7	Tension spring	01-97	3
8	Post	01-96	1
9	Back plate	01-91	1
10	Baffle plate	01-94	1
11	Right top knife combination	-	1

## 6. Main Parts, Components Illustration & Parts List

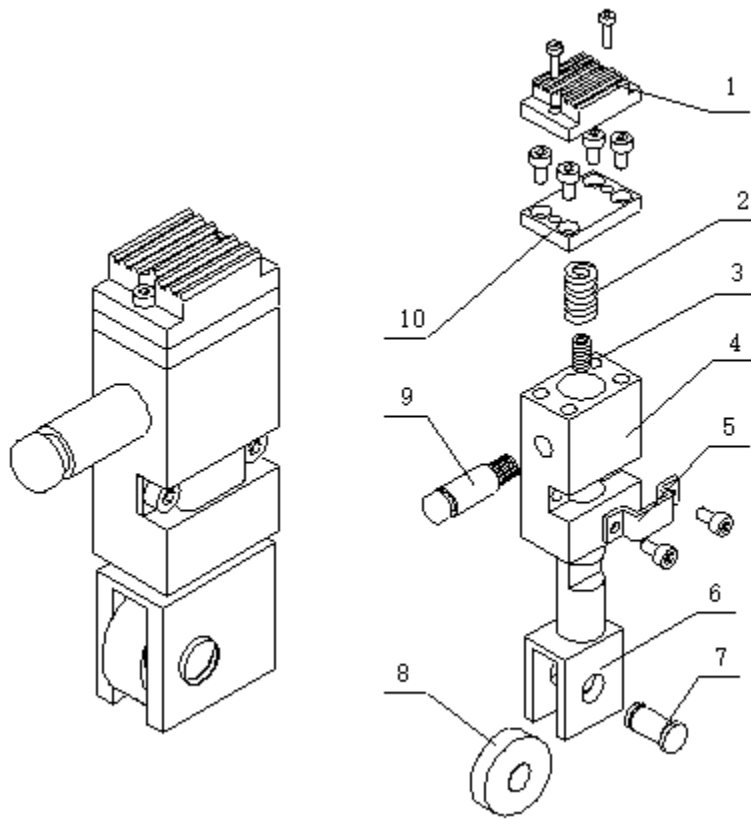
### 6.4 Left Top Knife Assembly



	Description	Part Number	Qty
1	Left Jack Catch	01-112	1
2	Compression spring	01-104	1
3	Cavity	01-101	1
4	Limit stop	01-105	1
5	Spring pedestal	01-100	1
6	Bearing	80100	1
7	Small spindle	01-106	1
8	post	01-109	1

## 6. Main Parts, Components Illustration & Parts List

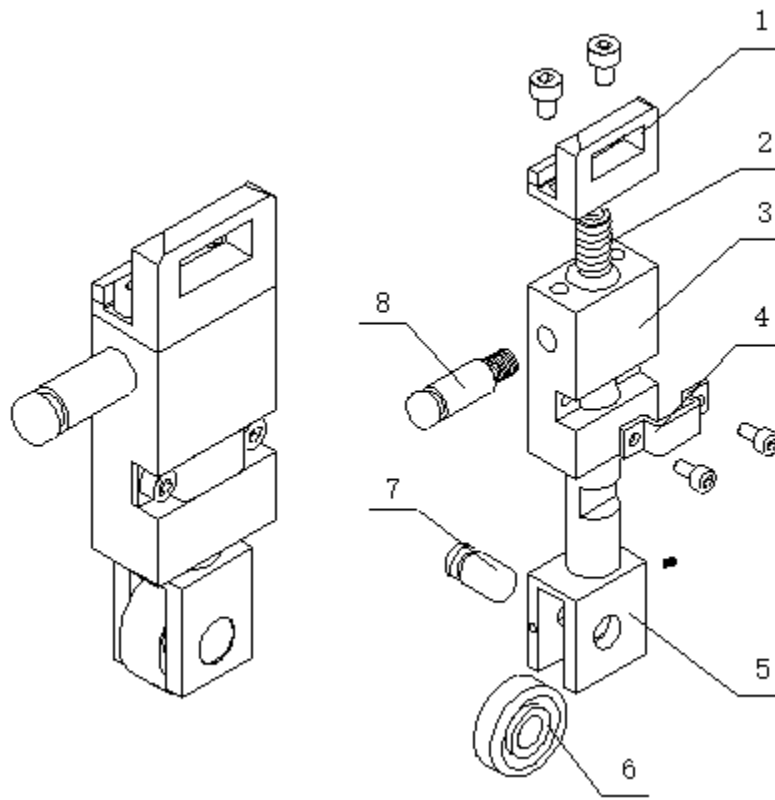
### 6.5 Middle Top Knife Assembly



	Description	Part Number	Qty
1	Top body	01-114	1
2	Compression spring	01-104	1
3	Compression spring	01-103	1
4	Cavity	01-102	1
5	Limit stop	01-105	1
6	Spring pedestal	01-100	1
7	shaft	01-107	1
8	Bearing	80100	1
9	Small spindle	01-106	1
10	Seat board	01-113	1

## 6. Main Parts, Components Illustration & Parts List

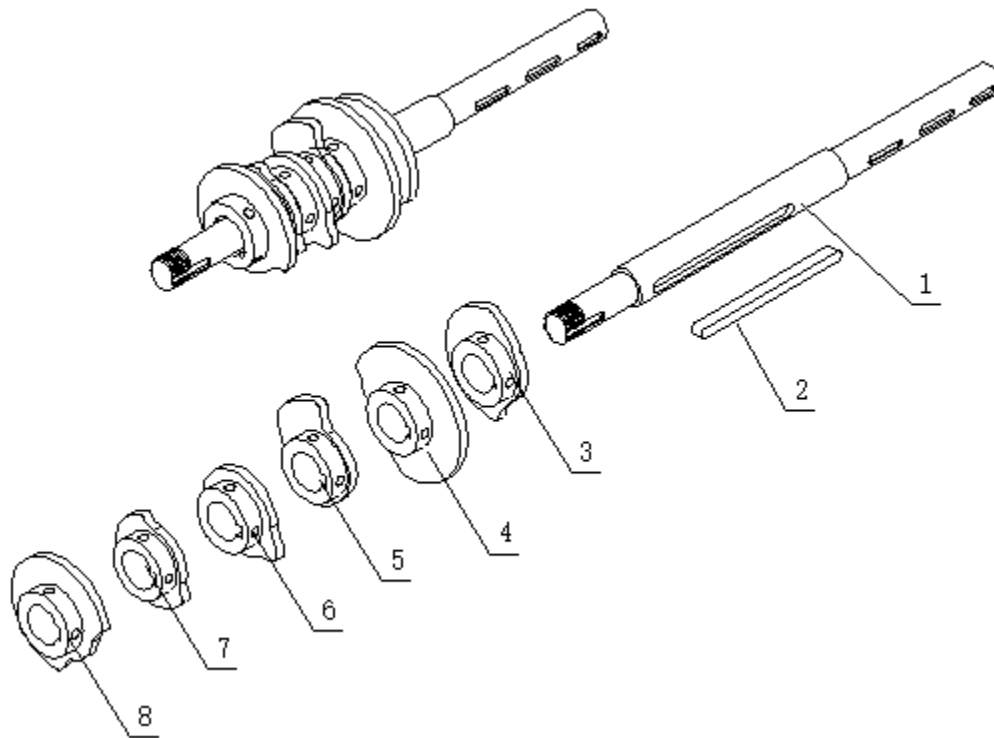
### 6.6 Right Top Knife Assembly



	Description	Part Number	Qty
1	Right Jack Catch	01-115	1
2	Compression Spring	01-104	1
3	Cavity	01-101	1
4	Limit stop	01-105	1
5	Spring pedestal	01-100	1
6	Bearing	80100	1
7	Small spindle	01-106	1
8	post	01-109	1

## 6. Main Parts, Components Illustration & Parts List

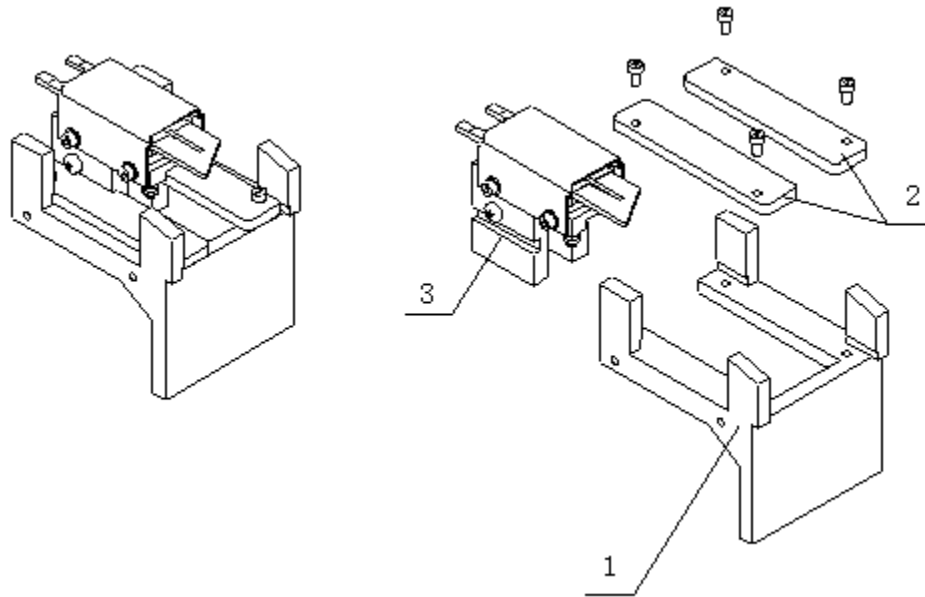
### 6.7 Spindle Assembly



	Description	Part Number	Qty
1	Main spindle	01-27	1
2	Key	-	1
3	Cam	01-6	1
4	Cam	01-7	1
5	Cam	01-8	1
6	Cam	01-9	1
7	Cam	01-10	1
8	Cam	01-5	1

## 6. Main Parts, Components Illustration & Parts List

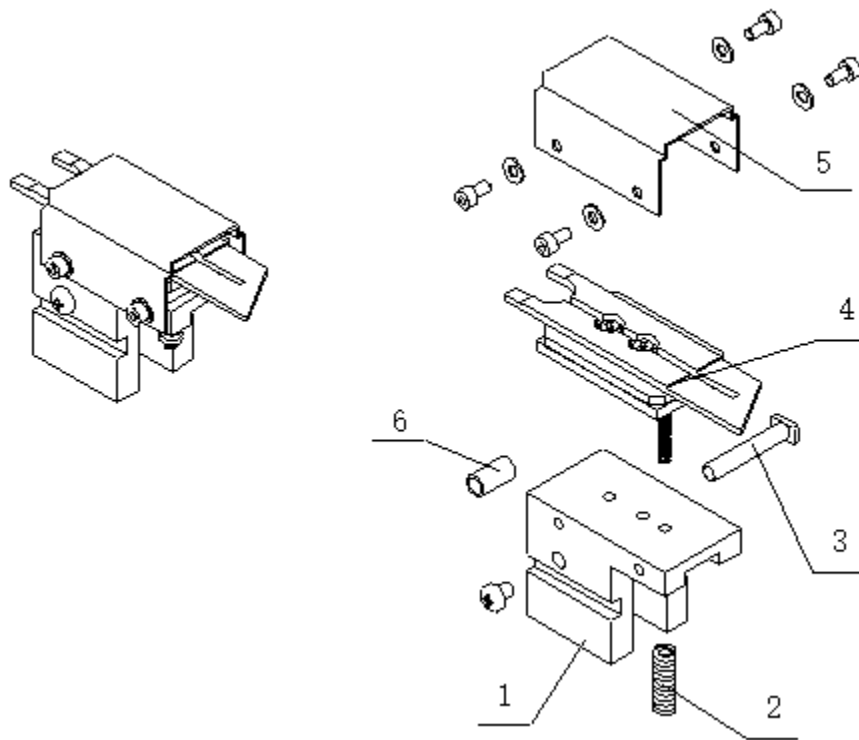
### 6.8 Heating Body Assembly



	Description	Part Number	Qty
1	Bracket	01-130	1
2	Guide Plate	01-132	2
3	Heating Section & Slide Plate Assembly	-	1

## 6. Main Parts, Components Illustration & Parts List

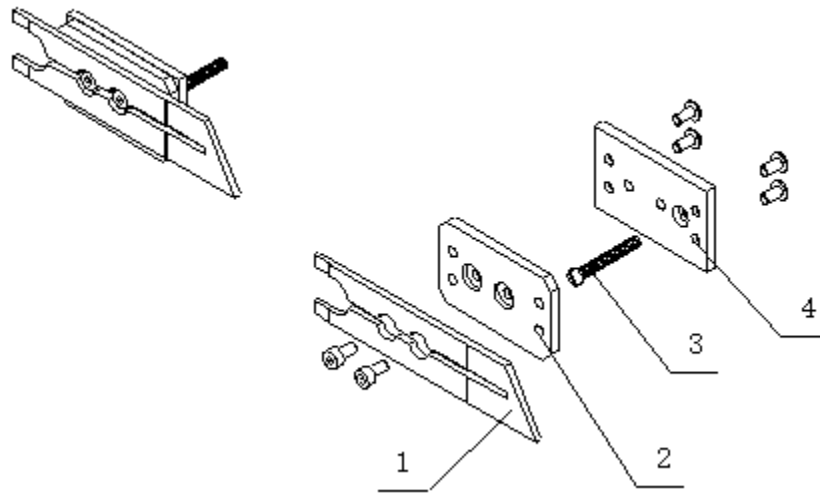
### 6.9 Heating Section & Slide Plate Assemblies



	Description	Part Number	Qty
1	Slide	01-137	1
2	Compression spring	01-140	1
3	Spindle	01-138	1
4	Heating section combination	-	1
5	Cover	01-142	1
6	Axle sleeve	01-139	1

## 6. Main Parts, Components Illustration & Parts List

### 6.10 Heating Section Assembly

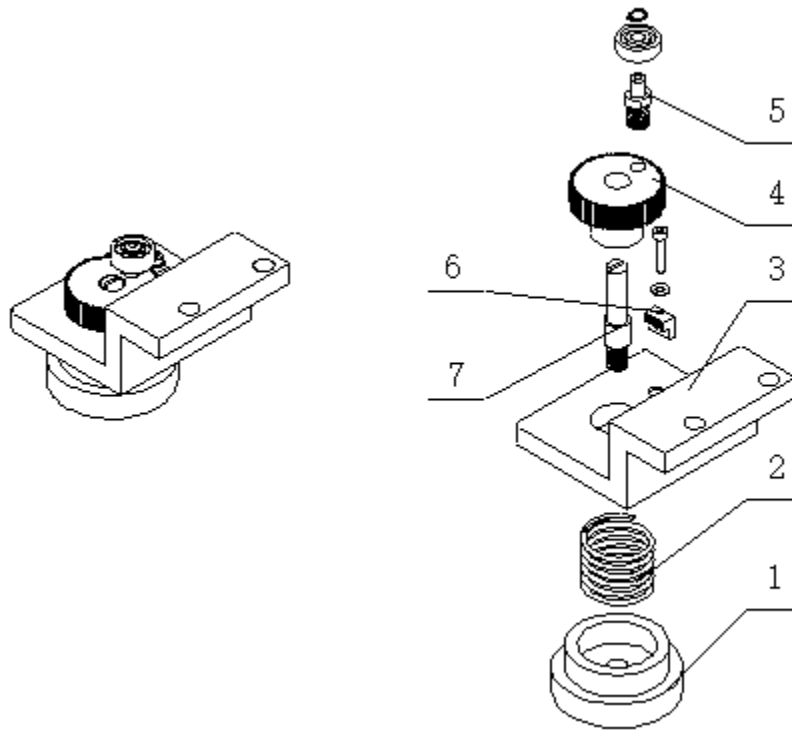


	Description	Part Number	Qty
1	Heating Section	01-207	1
2	Insulation Board	01-150	1
3	Bolt	01-152	1
4	Base Plate	01-151	1



## 6. Main Parts, Components Illustration & Parts List

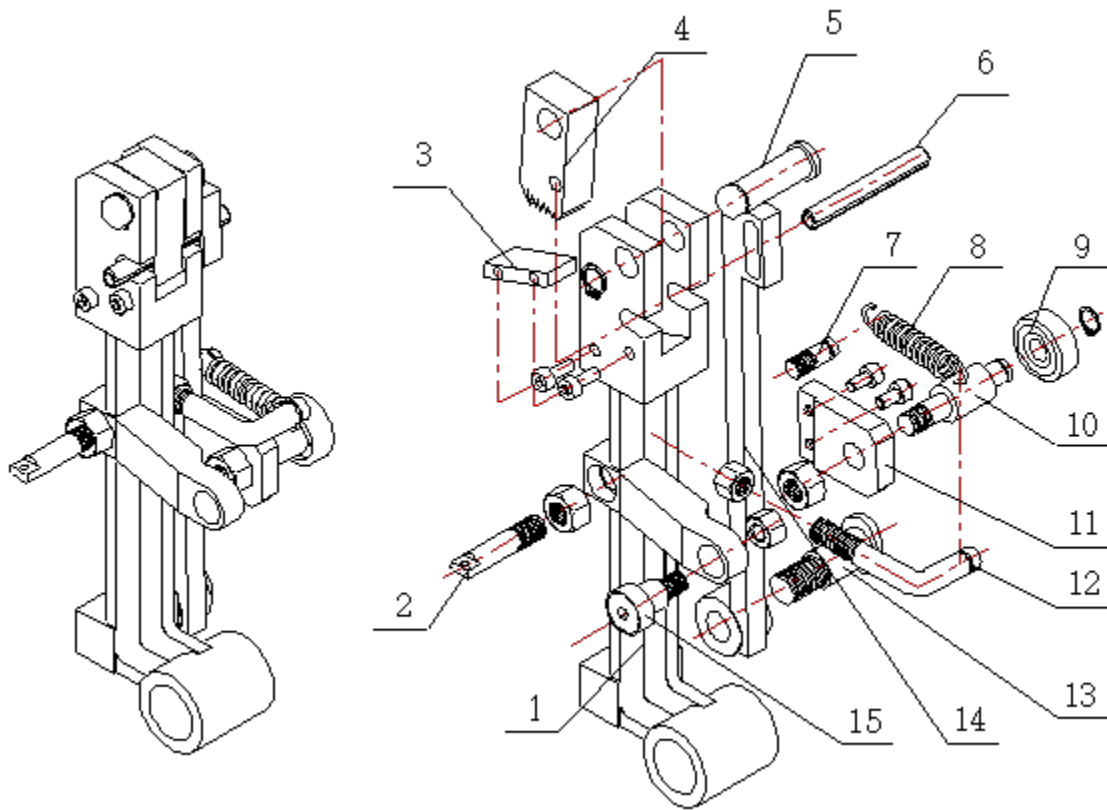
### 6.11 Strapping Force Assembly



	Description	Part Number	Qty
1	Knob	01-205	1
2	Compression spring	01-207	1
3	Bracket	01-204	1
4	Gear	01-209	1
5	Small spindle	01-210	1
6	Direct rack bar	01-211	1
7	Spindle	01-206	1

## 6. Main Parts, Components Illustration & Parts List

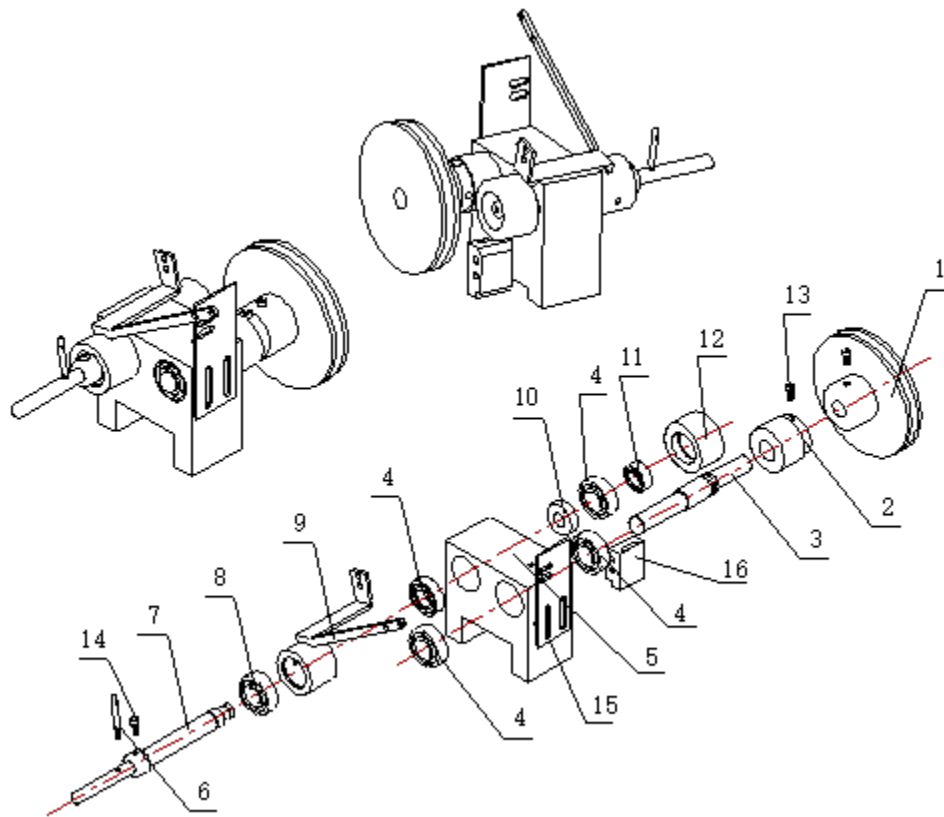
### 6.12 Strapping Pendulum Bar



	Name	Part Number	Qty
1	Pendulum Bar	01-160	1
2	Tension Bar	01-169	1
3	Spacer Plate	01-160-1	1
4	Strap-Clipping Block	01-165	1
5	Spindle	01-166	1
6	Pin	01-160	1
7	Post	01-174	1
8	Tension Spring	01-162	1
9	Bearing	80026	1
10	Small Spindle	01-176	1
11	Pedestal	01-175	1
12	Bent Plate	01-161	1
13	Pull Pole Axle	01-168	1
14	Pull Pole	01-177	1
15	Bearing	CFØ10	1

## 6. Main Parts, Components Illustration & Parts List

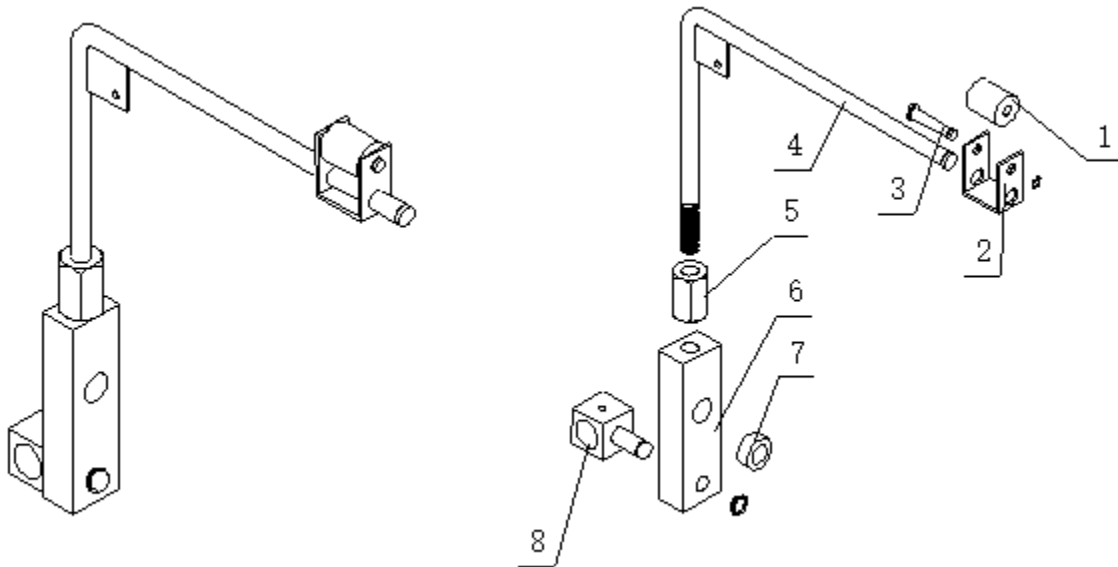
### 6.13 Pre-Strap Feeding Mechanism



	Description	Part Number	Qty
1	Belt Wheel	00-92	1
2	Upper Strap Wheel	00-95	1
3	Upper Axle	00-93	1
4	Bearing	80102	4
5	Base	00-83	1
6	Pendulum Bar	00-97	1
7	Lower Axle	00-94	1
8	Bearing	80100	1
9	Rocker Wheel	00-85	1
10	Distance Sleeve		1
11	Bearing	80101	1
12	Lower Strap Wheel	01-98	1
13	Screw	M6×10	1
14	Screw	M5×6	1
15	Switch Bracket		1
16	Inserting Strap Portal	00-108	1

## 6. Main Parts, Components Illustration & Parts List

### 6.14 Pendulum Mechanism



	Description	Part Number	Qty
1	Roller Wheel	00-134	1
2	Roller Wheel Rack	00-133	1
3	Pin	-	1
4	Pendulum Var	00-130(1)	1
5	Nut	00-129	1
6	Swing Block	00-127	1
7	Bearing	80101	1
8	Belt Clip	00-128	1