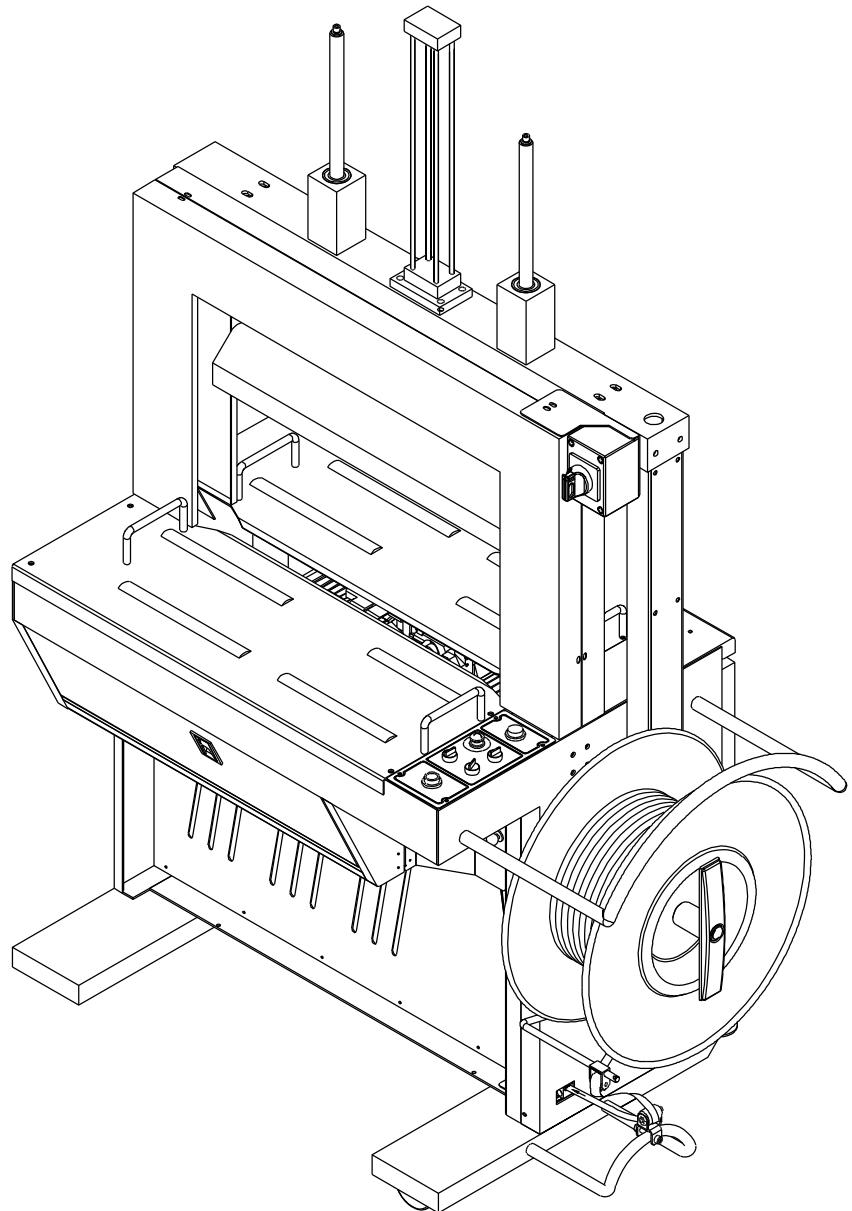


# **LP9XP850400**

## **Fully-auto Strapping Machine**

## **Instructional Manual & Parts List**



# Instructional Manual

## Fully-auto Strapping Machine LP9XP850400

<u>Table Contents</u>	<u>Page No.</u>
<b>Chapter 1: Preface .....</b>	<b>3</b>
<b>Chapter 2: Important Safeguards .....</b>	<b>4</b>
Installation and environment.....	4
1. Safeguards .....	5
2. Danger warning label .....	5
3. Instruction label.....	6
<b>Chapter 3: Specification .....</b>	<b>8</b>
1. Specification and machine size .....	8
2. Available sizes of arch .....	9
3. Electrical diagram .....	10
(1) Three Phase.....	10
<b>Chapter 4: Transportation and Installation .....</b>	<b>12</b>
1. Transportation .....	13
2. Installation procedure .....	14
(1) Power supply installation: .....	14
(2) Strap loading & threading.....	15
(3) Function of control panel.....	18
(4) PCB panel operation.....	19
<b>Chapter 5: Adjustment .....</b>	<b>20</b>
1. Strap length in pool box .....	20
2. Tension adjustment .....	20
3. Temperature adjustment.....	20
4. Limit switch adjustment.....	21
5. Strap thickness.....	22
6. Strap width .....	22
7. Time of strap feeding and reversing.....	23
8. Time of motor auto stop .....	23
<b>Chapter 6: Maintenance .....</b>	<b>24</b>
1. Period of maintenance .....	24

**Chapter 7: Suggested Spare Parts .....****26****Chapter 8: Troubleshooting .....****27**

(A) The strapping machine doesn't work after pressing START .....	27
(B) Improper strap reversing .....	29
(C) Improper strapping.....	31
(D) Loose strapping.....	32
(E) Improper cutting.....	33
(F) Improper welding and taping .....	34
(G) Improper strap feeding.....	35
(H) Improper strap storing.....	37
(I) Failure in the positioning of cam after strapping .....	39
(J) PP strap diverging or napping .....	40

**Chapter 9: Part Diagram & List.....****41**

Fig. 1. Cam Unit.....	42
Fig. 2. Slide Table Unit .....	45
Fig. 3. Press Unit .....	48
Fig. 4. Heater Unit.....	51
Fig. 5. Control Frame Unit .....	53
Fig. 6. Tension Unit.....	55
Fig. 7. Feed Unit.....	58
Fig. 8. Bandway Unit .....	61
Fig. 9. Arch Unit .....	64
Fig. 10. Pool Unit (1) .....	67
Fig. 10. Pool Box Unit (II) .....	70
Fig. 11. Reel Unit .....	73
Fig. 12. Body Unit.....	76
Fig. 13. Electric Unit.....	78
Fig. 14. Control Box Unit.....	81
Fig. 15. Top Press Unit.....	84

# Chapter 1: Preface

First of all, thank you very much for purchasing our automatic strapping machine, LP9XP850400. Each machine's interior and exterior structure is designed, assembled and well tested by our experienced technicians in order to attain brilliant strapping performance.

The functions are listed as follows:

**1. No grease:**

The mechanical driven part in this series (fully auto strapping machine) is conducted with the precise bearing transmittal. When each main machine parts, cutting, sliding, and pushing are working, the friction is greatly reduced to minimum. Therefore, it is unnecessary to grease.

**2. The unique feeding and reversing strapping system:**

The feeding and reversing system manipulates two wheels (a fixing wheel and an eccentric wheel) to automatically adjust PP strap's thickness. This mechanism enhances the smoothness while feeding and reversing are conducted. Moreover, the arch track, made of the durable and reliable aluminum alloy, can lower the resistance and enhance the strapping speed.

**3. The amount of PP strap storage is auto-adjustable and is thus user-friendly. In addition, strap-storage adopts an accurate auto-scale method which never deforms the PP straps.**

**4. Low failure rate and easy maintenance:**

The mechanism is well designed by our experienced engineers. The material is very unique and no need to grease. This makes the machine durable for a long time.

Notification: Please note the following information before the personnel use this machine.

- A. Please turn off the power first before replacing a new PP strap and maintenance.
- B. Please keep machine clean and dry.
- C. Although there is no regular PP strap specification for this series of auto-machine, the over-bendy or fragile strap is unsuitable and unacceptable. That is, customers are highly encouraged to adopt the PP strap which supplier suggests.

This manual includes detail description about assembly and operation. All operators need to carefully read and understand the instructions before operating. This is to ensure working safety and the machine's life.

# **Chapter 2: Important Safeguards**

## **Installation and environment**

Packway Limited Warranty does not apply to products that not obey the items as below.  
(Including the mechanism and component of interior electrical broken.)

1. Keep the machine in a well-ventilated area, and avoid corrosive gases, airborne dust, fluid splashing, and directly sunlight to affect machine's running and life of electric component. Guarantee will not apply to the damages caused by lightening stroke, flood, wind damage, earthquake or other nature disasters.
2. Do not install the machine in a place subjected to vibration or electromagnetic interference, for example electromagnetic noise, high-frequency equipment etc. Please take defensive measures to avoid machine damage.
3. Temperature requirement: 10°C ~ 45°C. Humidity requirement: 40% ~ 80% RH. (Non-Condensing and not frozen)
4. To be ensure the machine leveling and do not place on a slant position to prevent machine damage and personal injury. Please take defensive measures if the required temperature is unable to meet.
5. Please do not re-equip the mechanism, wires, spare parts etc. without the authorization from the original manufacturer. This machine is installed, wiring and modify by authorized operators only, to avoid any misuse happened causes operators' injury by not understanding the operation instructions related to each part of the machine.
6. It is forbidden to add external power supplies or modify interior power supplies in the electric control box to avoid operators' injury during operation.

## **1. Safeguards**

- (1) Before operating this machine, operators should read this manual very thoroughly.
- (2) Before maintaining this machine, the technicians should read the maintenance description.
- (3) Turn off the power first before replacing a new PP strap and maintaining the machine.
- (4) Keep the machine clean and dry to prolong the machine's life.
- (5) Although there is no regular PP strap specification for this series of auto-machine, the over-bendy or fragile strap is unsuitable and unacceptable. That is, customers are highly encouraged to adopt the PP strap which supplier suggests.

## **2. Danger warning label**

- (1) The “Voltage Warning” label, shown in Fig.2.2.1, is attached on the Electrical Control Box and inlet of Power Cord. The label warns only authorized and qualified personnel can operate, inspect, and maintain this machine.



Fig.2.2.1 “Voltage Warning”

- (2) The “Hands Away” label, shown in Fig.2.2.2, is attached on control box or turning parts. The label warns the operator to keep hands out of this area when the machine works. Make sure the machine is stopped before repairing.



Fig.2.2.2 “Hands Away”

### 3. Instruction label

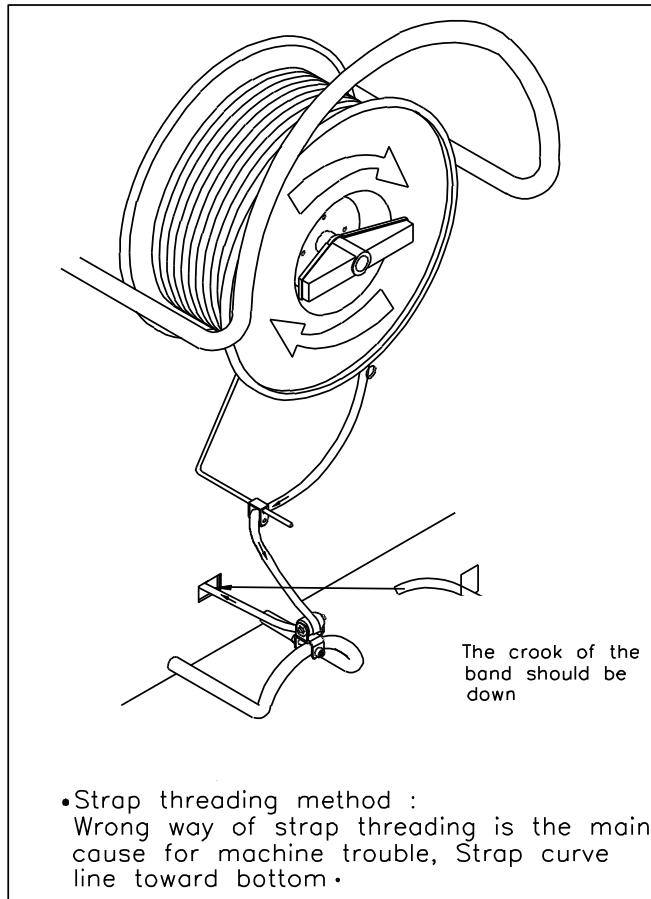


Fig.2.3.1 Strap Threading

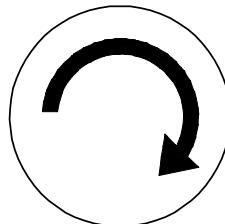


Fig.2.3.2 The switching direction of strap-storage bracket

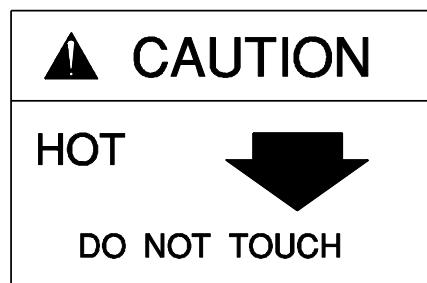
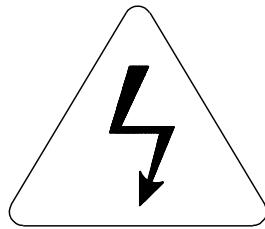


Fig.2.3.3 Warning-heat



# DANGER

HIGH  
VOLTAGE  
ELECTRICAL  
PANEL



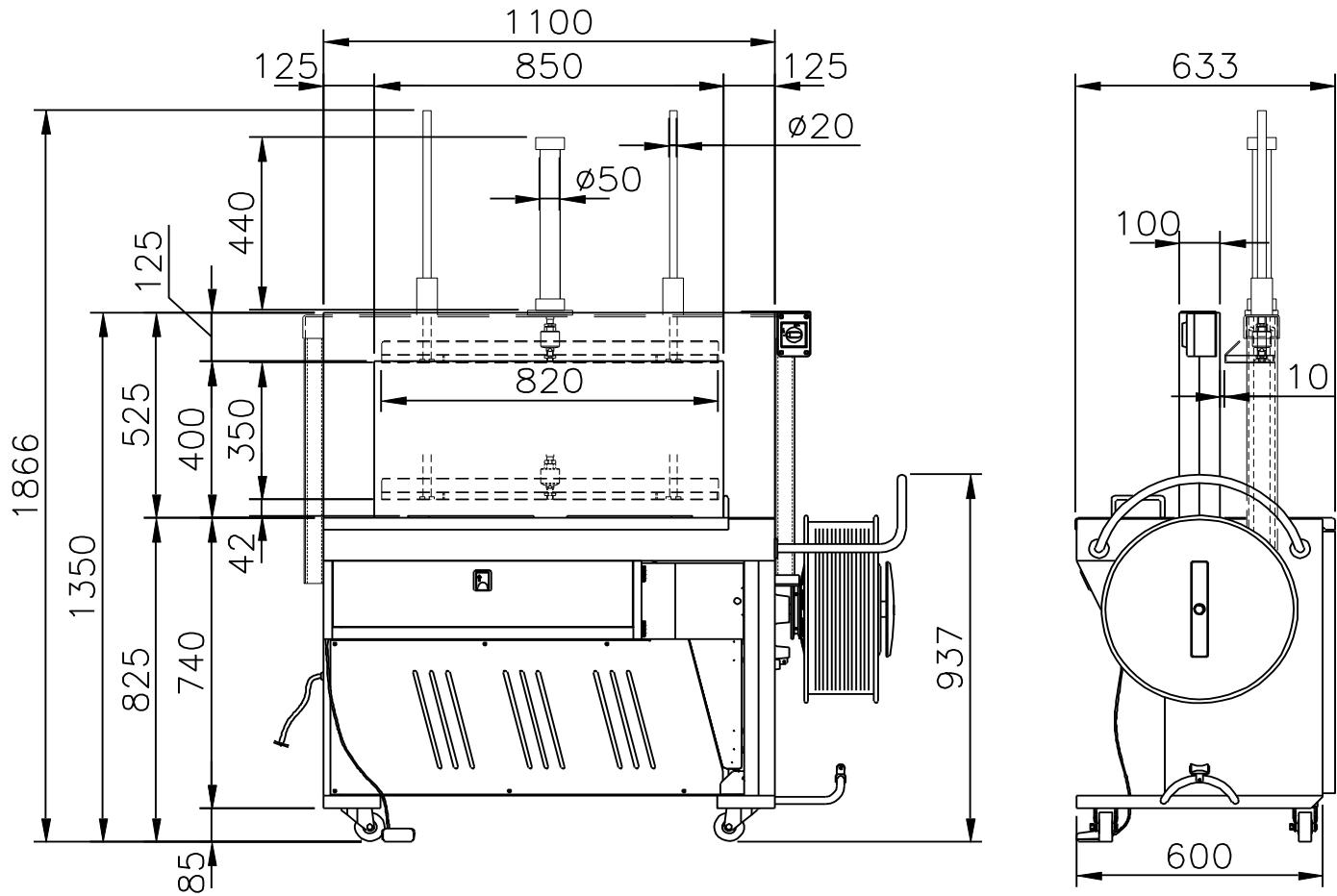
ONLY AUTHORIZED AND QUALIFIED  
PERSONNEL SHOULD SERVICE  
THIS MACHINE

TURN OFF SUPPLY POWER BEFORE  
SERVICING THIS ENCLOSURE.

Fig.2.3.4 Electric warning sign

# Chapter 3: Specification

## 1. Specification and machine size



<b>Model</b>	<b>LP9XP850400</b>
Power Supply	* Three phase, 480V, 60Hz
P.P Strap Width	* 9 mm ;12mm
Strapping Tension	Use “loose/tight tension button” to adjust, 0.5~70 KGS
Strapping Speed	*1.6 sec/per cycle; 2220 cycles/per hour (this speed varies based on different arch size)
Min. Package Size	W 100 mm x H 30 mm
Max. Package Size	According to the arch size
Machine Size (L x W x H)	* L 1420 x W 633 x H 1866 mm
Net Weight / Gross Weight	200 KGS / 280 KGS

Note: The above 「\*」 sign is the standard specification of LP9XP850400.

## 2. Available sizes of arch

The size of arch can be varied according to the different-sized packaging article's width.

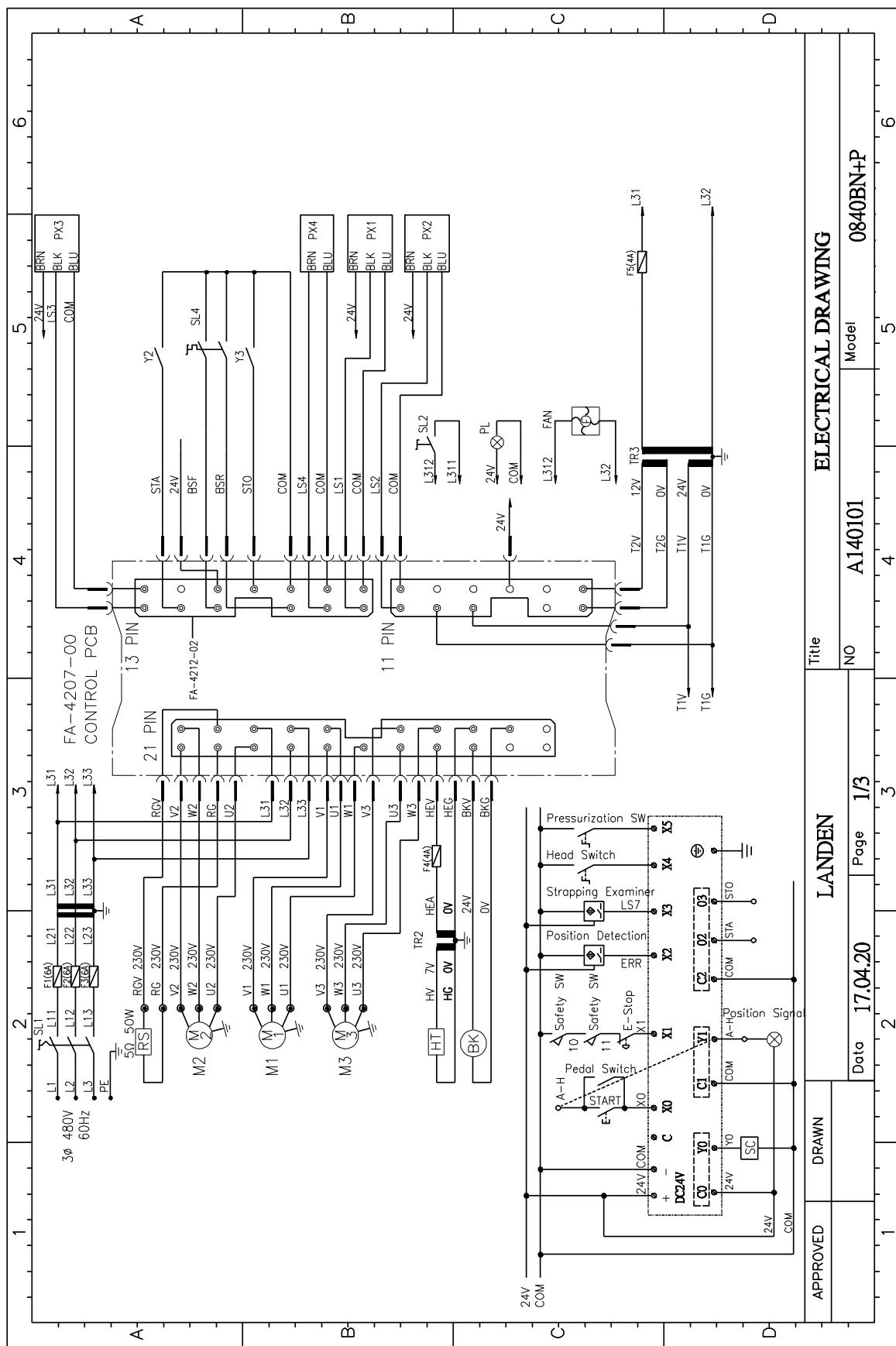
H	300	400	600
W	*	*	S
650			

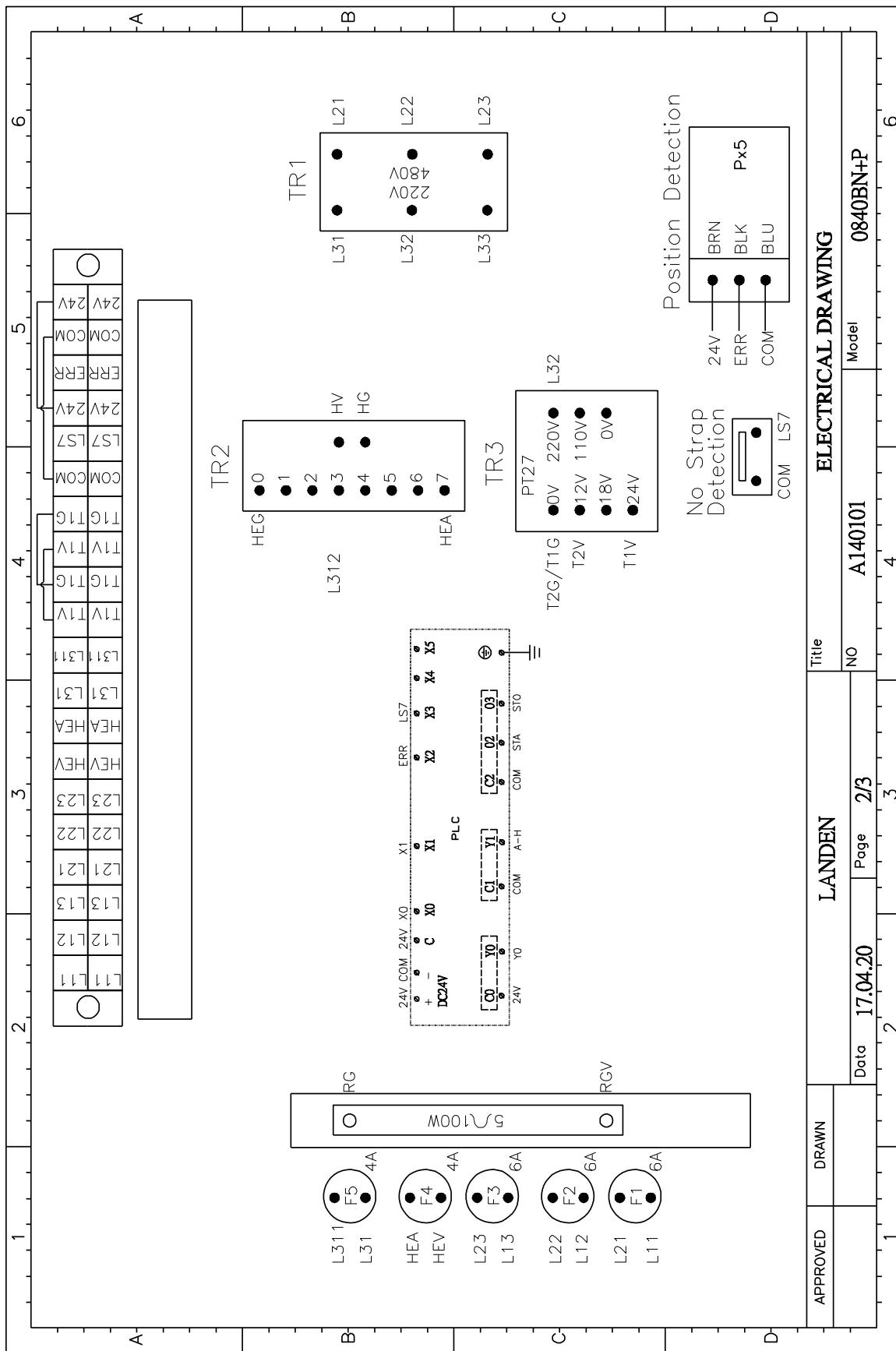
**S** : Standard model

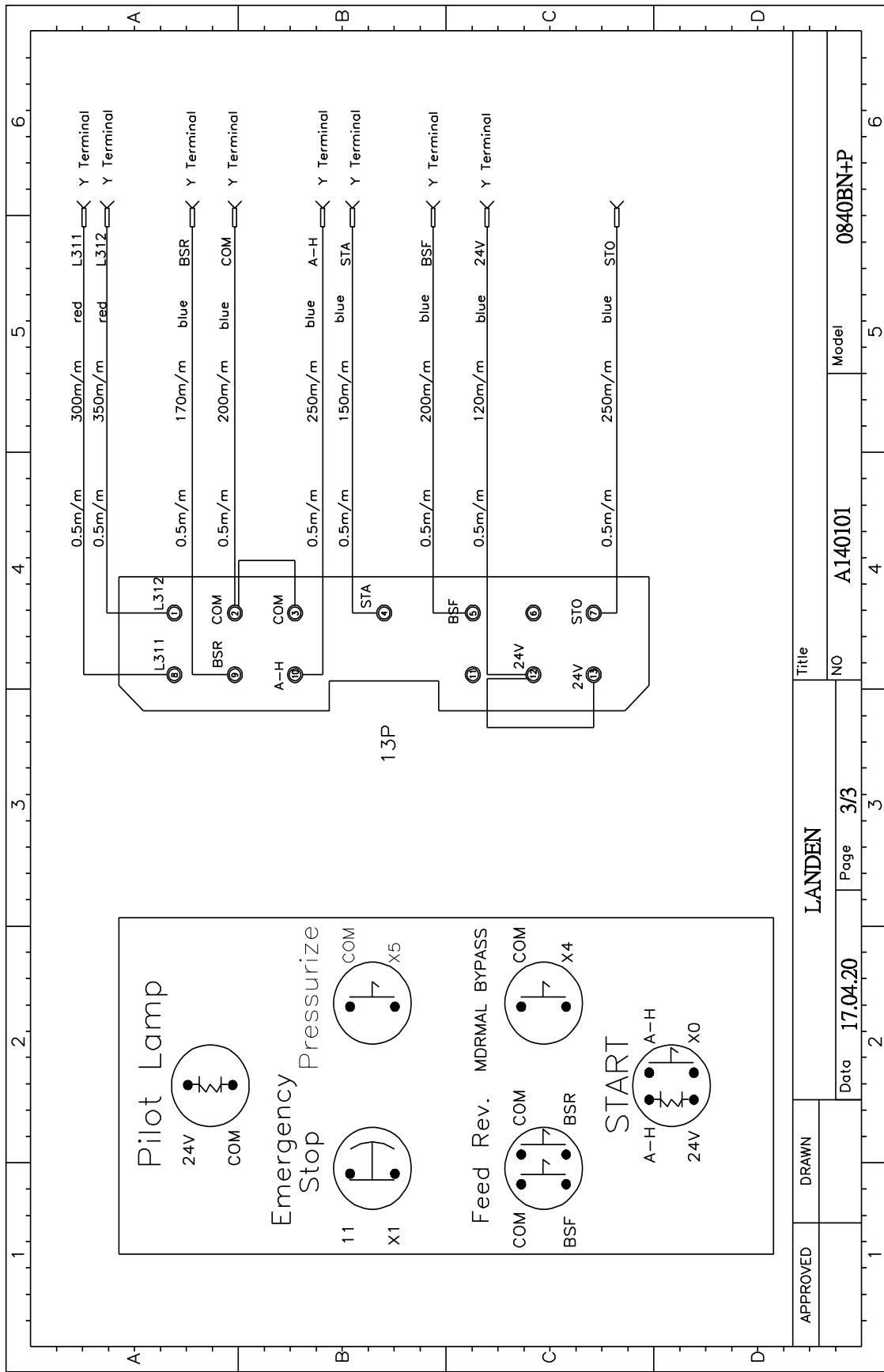
**\*** : Made by order

### **3. Electrical diagram**

## (1) Three Phase





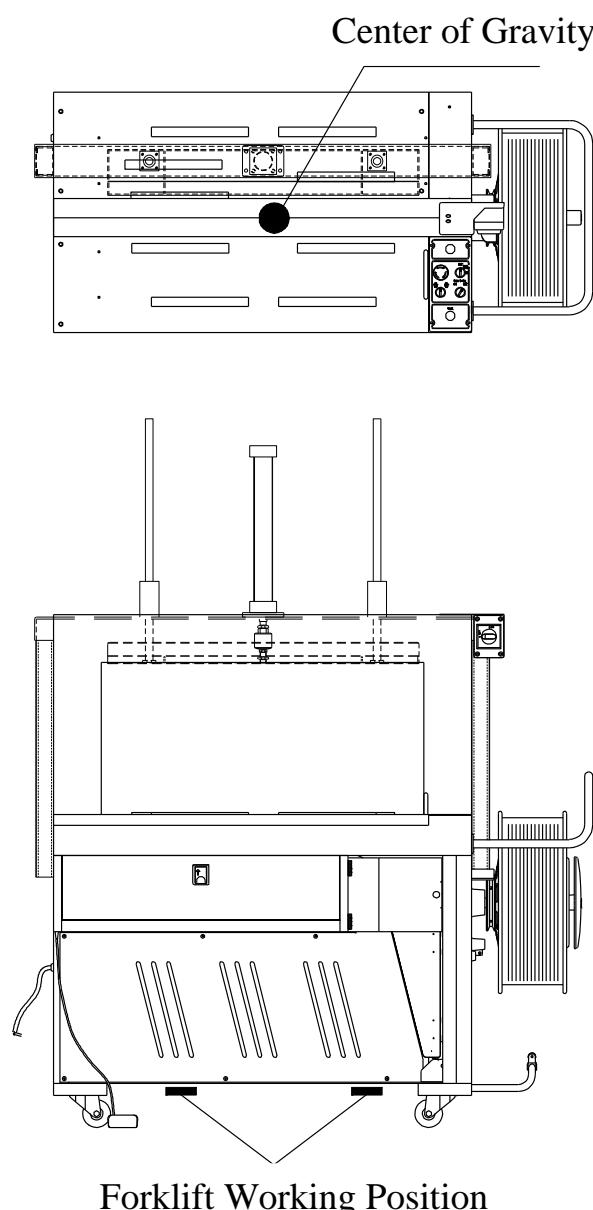


# Chapter 4: Transportation and Installation

## 1. Transportation

- (1) The machine structure is made of sheet metal.
- (2) The machine comes with casters (bottom wheels). It can be moved by manpower on a flat ground.
- (3) If the machine needs to be transported up or down the truck, please use forklift or crane for loading or unloading.

Working position is as bellow:



## **2. Installation procedure**

### **(1) Power supply installation:**

※ Note the power supply of the machine you have purchased is three phase.

- A. This step is not required for single phase machine. However, make sure the voltage is **110V** or **220V**.
- B. Three phase machine requires installation. Before installing, make sure the machine's voltage frequency. If three phase power is used, make sure that it is a No-fuse Switch (Auto Circuit Breaker 3P 20A 5.0KWIC 2.5KA) in order to guard the safety.  
**Do not use extended wire or general plug for installation.**
- C. After installing, check if PP straps are installed in the machine or not. If there are straps installed, out-feed and clean out the PP straps and then turn on No-fuse Switch. Once the pool's motor starts to run, check the rotating direction, which should be clockwise . If it is not in clockwise direction, turn off the No-fuse Switch, and vary it into R.S.T three phase wires by just switching two of the wires.
- D. Turn on No-fuse Switch. The Pool's motor should rotate clockwise . If it is, start to load the PP straps (shown in next page).

## (2) Strap loading & threading

1. Press the Emergency Stop button before strap loading and threading.
2. Strap loading and threading procedure is listed as below:
  - A. Remove the reel handle (③) in counter-clockwise direction and remove the reel (②).
  - B. Mount a new coil of strap (④). Mount the reel (②) back to the machine and lock the reel handle (③) in clockwise direction.  
**\*\*\*The direction of strap head should aim at the same direction as shown in Fig.4.2.2.1**
  - C. Thread the PP strap head (⑤) through the slide roller (⑥). The bended head downwardly goes through the double-U-shaped guide roller (⑦) into the machine.  
**\*\*\*Notes: The strap head should be set downward. Improper threading always causes machine breakdown.**

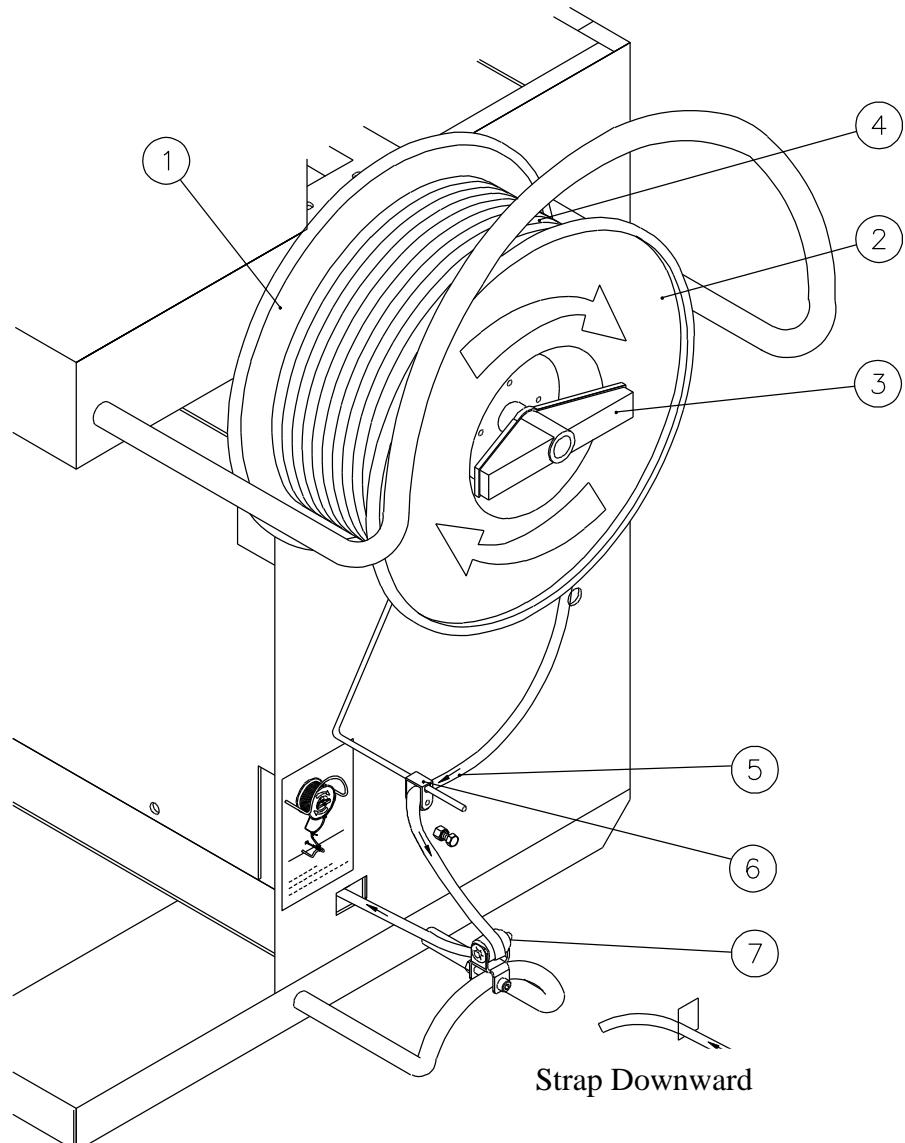


Fig.4.2.2.1

3. Thread the PP strap into the pool shooter from ① through ②. While threading, press the pool weight (③) up to the bottom position. Pull approximately one meter strap passing through the slit of back pool (④).

**\*\*\*Be aware, do not make the PP strap in backward position or deformed or bended.**  
Finally, feed the strap through tension shooter (⑤) from the back pool.

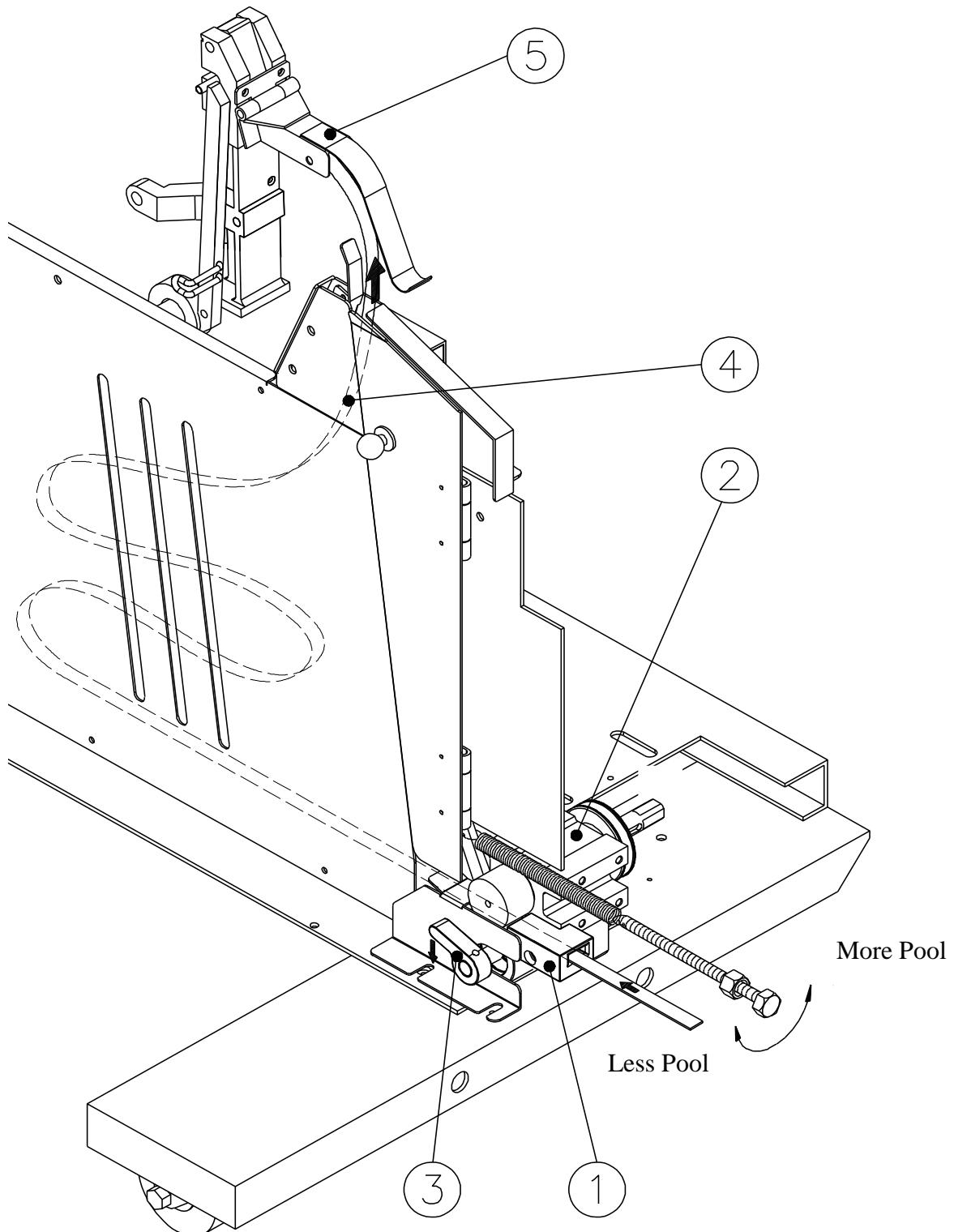


Fig.4.2.2.2

4. Feed the PP strap from ① to feed roller (②). The feeding is completed (standby action).

**\*\*\*When threading the PP strap through ②, use hands to adjust ③. The strap can thus be threaded.**

When the PP-threading is completed, turn on the main power: Switch the power “ON” (See Fig.4.2.3.1, on the next page), and rotate the “STOP (⑤)” rightward (See Fig.4.2.3.2, on the next page). As the strap enters the pool box and enough strap is stored, the feeding process will stop automatically. Now press the Feed/Reverse button (④) (Fig.4.2.3.2, on the next page), the PP strap will be sent to the arch and the preparatory work before strapping is completed.

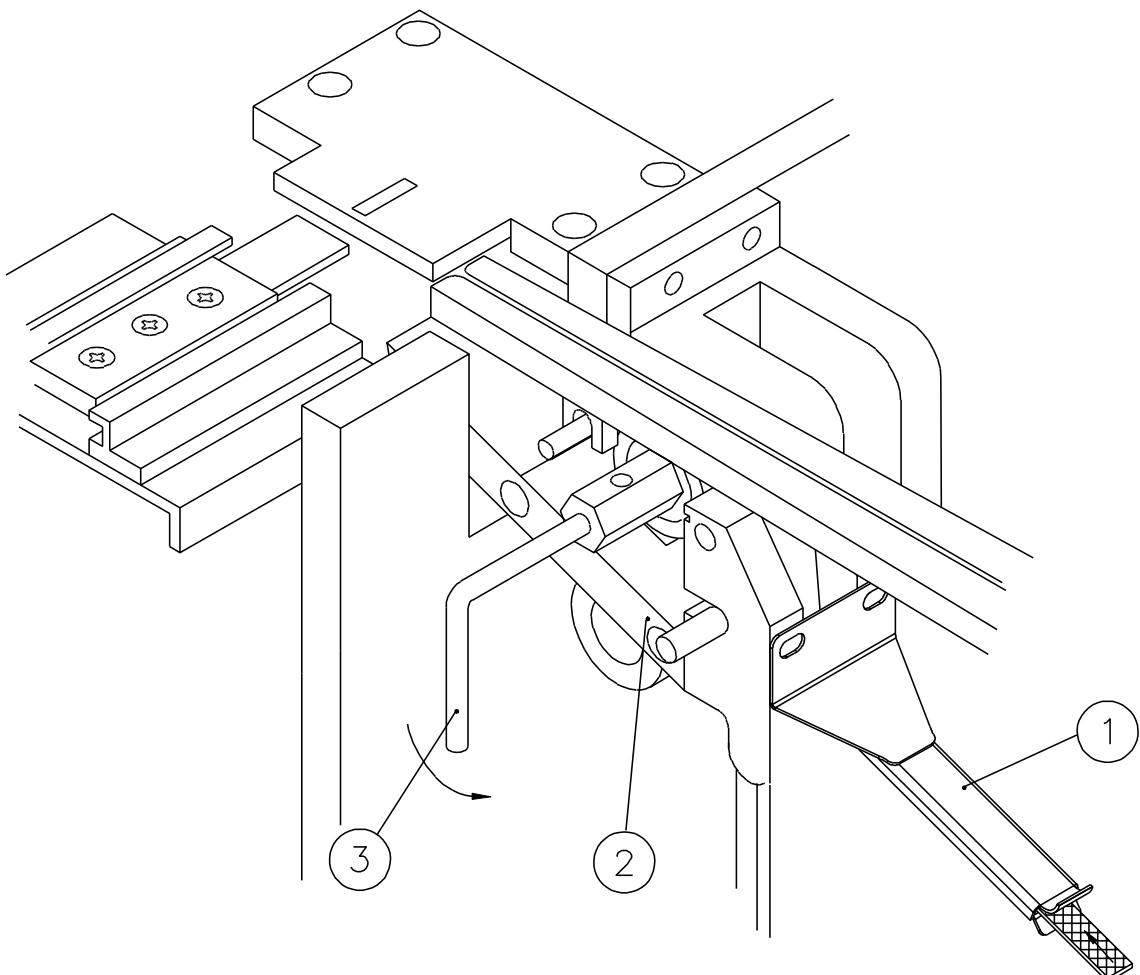


Fig.4.2.2.3

### (3) Function of control panel

Before using the machine, functions of each button below should be understood completely. The details are as follow:

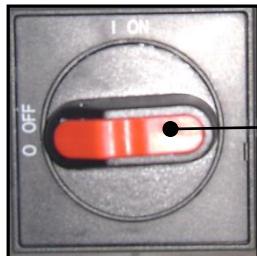


Fig.4.2.3.1

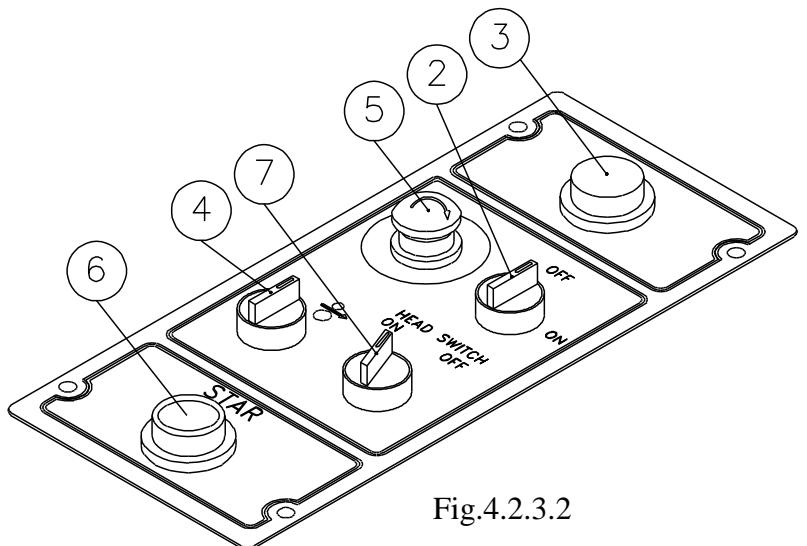


Fig.4.2.3.2

1. **POWER SWITCH-** The switch is mounted at the right hand side of arch. Before operating the machine, switch it to “ON” so that the power enters the control PCB panel. See Fig.4.2.3.1.
2. **PRESS CONTROL(OFF/ON)** - Press “ON” or “OFF” can be controlled manually by PRESS CONTROL knob.
3. **LAMP-** It is illuminated when the Power SWITCH is ON.
4. This button has two major functions:  
**BACK** (switch right) - The strap can be reversed to the pool box by pressing this button.  
**FEED** (switch left) - If the strap-threading process is correct, press this button and the machine will automatically feed the strap into the arch and be ready to strap.
5. **STOP-** Press this button to stop the machine immediately as an emergency stop. To reset the machine, turn this button clockwise and let go.
6. **START-** Press this button for strapping operation. Whenever this button is pressed for one time, one process of strapping is completed. (No more than 2 seconds)
7. **HEAD SWITCH-** “ON” means the machine automatically performs feeding position detection function. “OFF” means the machine stops to perform this function.

#### (4) PCB panel operation

The control panel consists of various switch and buttons, and their functions should be understood completely before using the machine.

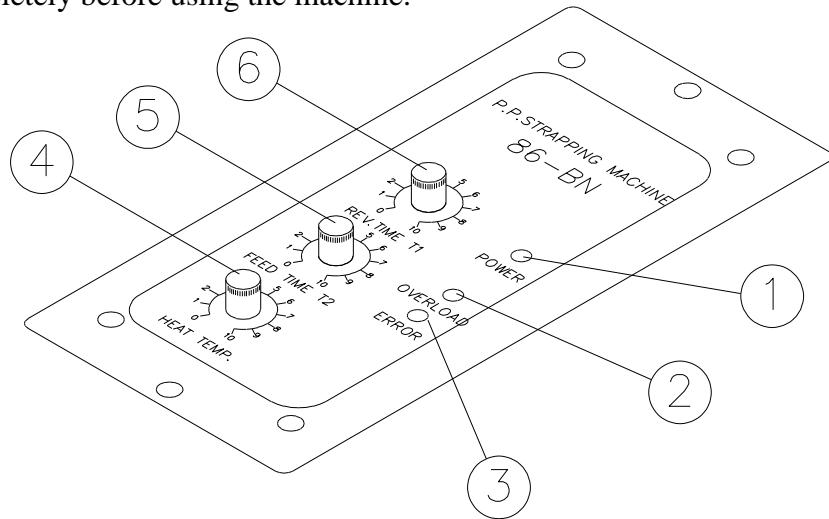


Fig.4.2.4.1

- 1. Power Switch** — This switch can be found inside the machine. Turn on POWER SWITCH before operating and the pilot lamp of it will light up.  
(See Fig.4.2.4.1)
- 2. Over Load** — The lamp lights up when the voltage is overloaded.
- 3. Error** — Lights up when motor breakdown occurs. Consult the technicians.
- 4. Temperature Knob** — General setting is 3~4 scale.
- 5. T2 Feed Time** — Time Adjustment of strap feeding.
- 6. T1 Reverse Time** — Time Adjustment of strap reversing.

# Chapter 5: Adjustment

## 1. Strap length in pool box

Pull out the PP strap. The total length must be 1.5 times longer than the total length of the arch. Loosen the knurled nut and adjust it in counter-clockwise direction to increase the storage amount. (Clockwise to decrease the storage amount)

Please refer to Fig.5.1. Normally, we measure the storage amount by eye-sight, and view 5-7 cycles of the PP strap in the pool box as a standard.

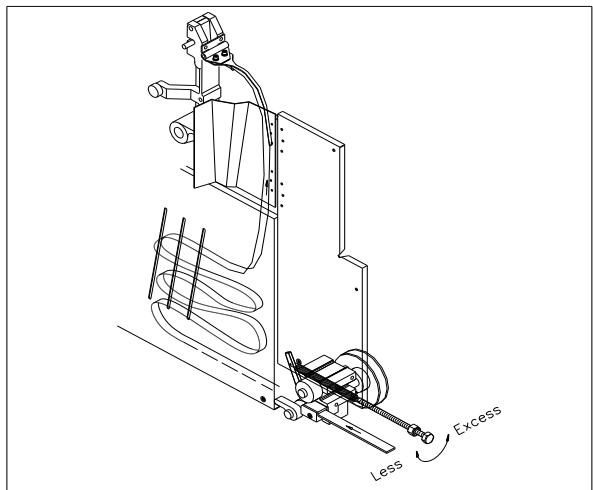


Fig.5.1

## 2. Tension adjustment

The tension of the machine is adjustable to meet user's needs by turning tension dial clockwise or counter-clockwise. The optimum value is 4 or 5. Pull out the tension adjustment cam and turn to the desired scale and push back. (See Fig.5.2)

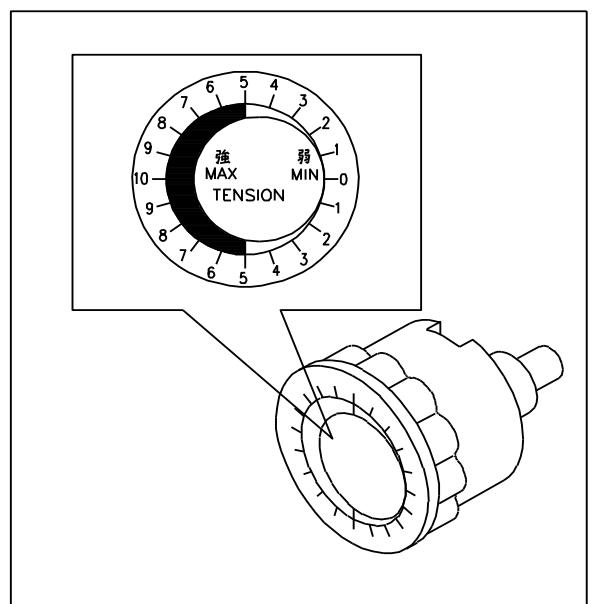


Fig.5.2

## 3. Temperature adjustment

Temperature knob is divided into 10 scales. Adjusting this knob depending on the adhering condition of PP strap. Bigger number indicates higher temperature.

The default setting is scale 3 to scale 4, which is the optimum value. Normally, the thicker the straps, the higher the temperature it requires. Fig. 5.3

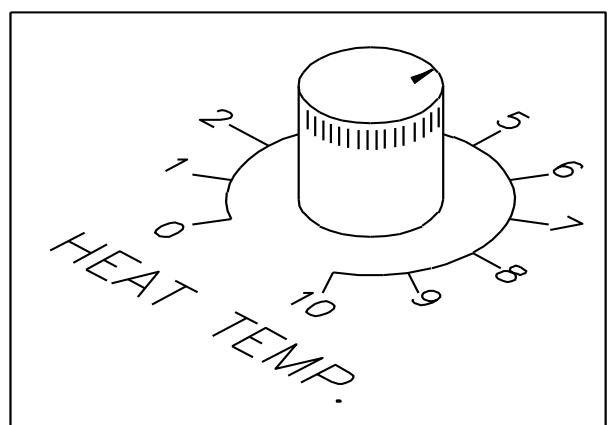


Fig.5.3

## 4. Limit switch adjustment

(\*\*\*only experienced technicians are allowed to)

There are three Limited Switches used on the machines: LS1, LS2 and LS3 (See Fig.5.4). They are for strap resetting, reversing and strap feeding. Their functions are described as below.

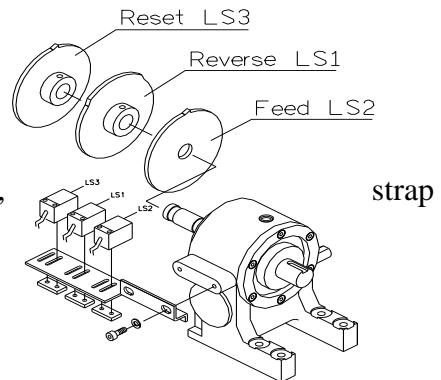


Fig.5.4

**LS1:** It (①) functions as a start point of heating-strap period (the welding cycle). When LS1 activates, main shaft stops running. Front clamp bar stops at the highest point to stuck the PP strap in the lower position of upper slide. The guide strap pool moves backward and the left strap way opened. Meanwhile, the strap starts reverses. The arm shaft (③) stops at the starting point of ④. That is, we use the limit switch ② to control the activation of LS1(See Fig.5.5).

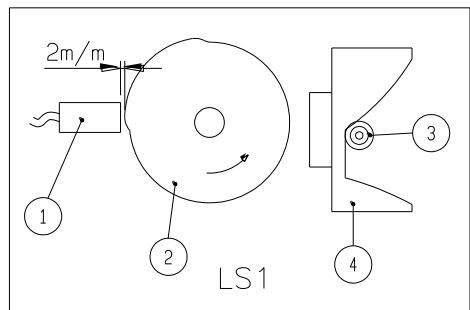


Fig.5.5

**LS2:** LS2 is the start point of strap-feeding. We use ② to adjust the action time. When LS2 is working, the arm shaft (③) is stopped at the highest position of ④(See Fig.5.6).

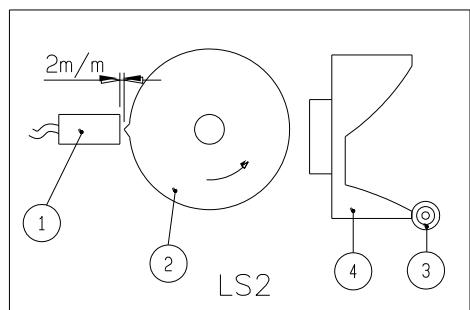


Fig.5.6

**LS3:** LS3 decides whether the control assembly returns to the home position. We adjust the limit switch cam (②) to control the action time(See Fig.5.7).

\*\*\*The gap distance between the limit switch and the cam is generally about 2 mm.

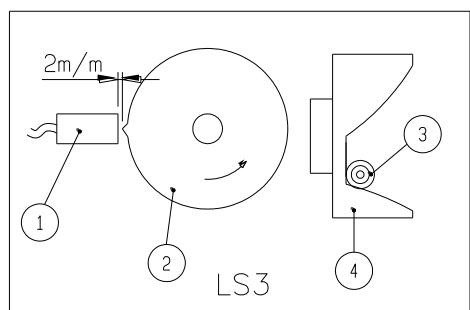


Fig.5.7

## 5. Strap thickness

(\*\*\*only experienced technicians are allowed to)

The strap thickness of this machine has already been set up between 0.6~0.8 mm. If the strap thickness is not within such range, adjust it by following the steps below:

- (1) Ensure the machine is on “Reset” position, and then thread the strap through the place between upper roller and feed roller.
- (2) Loosen the screws (②) of RH block arm (①) to adjust/move press arm shaft (③).
- (3) Adjust out-feed tension spring (④ also called upper shaft spring hook) and spring fixing pole (⑤ also called upper adjusting weight spring). The gap between ④ and ⑤ is about a strap thick.
- (4) Tighten the screws.

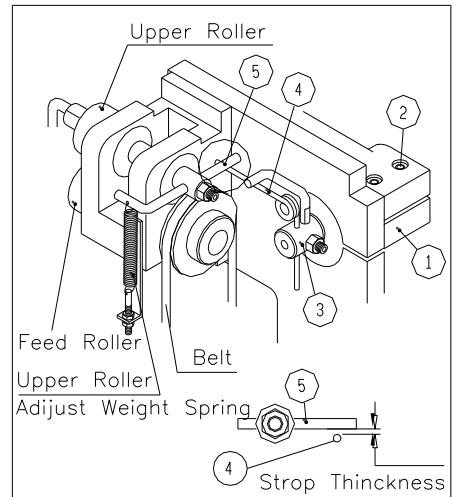


Fig. 5.5

## 6. Strap width

(\*\*\*only experienced technicians are allowed to)

The strap guide width of this machine has been manufactured according to your request Nevertheless, you can convert the strap width to meet the size of your packaging items. Please inquire your supplier for assistance and purchase parts required to be changed. Fig. 5.6

Parts required to be changed are listed below:

	Description	9 mm	12 mm	15 mm	19 mm
<b>1</b>	Slide Table with Proximity SW	0204-06	0204-02	0204-02	0204-09
<b>2</b>	Front Blade	0304-00	0304-00	0304-00	0304-19
<b>3</b>	Feed Upper Roller	0702-09	0702-12	0702-15	0702-15
<b>4</b>	Feed Shooter (with Tungsten Bar)	0710-091U	0710-121U	0710-151U	0710-191U
<b>5</b>	R.H. Bandway	0801-09	0801-12	0801-15	0801-19
<b>6</b>	L.H. Bandway	0802-07	0802-00	0802-00	0802-00
<b>7</b>	Pool Feed Shooter	1053-09	1053-12	1053-15	1053-19
<b>8</b>	Pool Box Balance Bar	1008-09	1008-12	1008-15	1008-15
<b>9</b>	Pool Tension Collar	1042-09 ( x 11 pcs)	1042-12 ( x 11 pcs)	1042-15 ( x 11 pcs)	1042-09 ( x 22 pcs)

Fig. 5.6

## 7. Time of strap feeding and reversing

(\*\*\*only experienced technicians are allowed to)

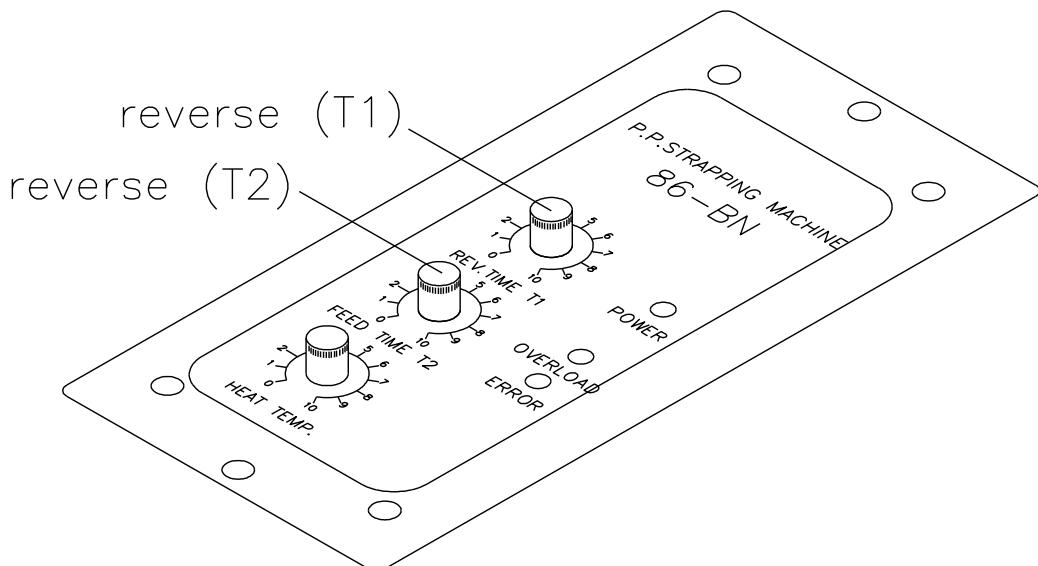


Fig. 5.7

W	650	
H	Reverse	Feed
300	0.09	0.27
400	0.10	0.30
600	0.12	0.36

\*\*\*This table is for reference. It is more ideal to change of T1 and T2's parameter according to the different thickness and different adjustment methods.

## 8. Time of motor auto stop

1. The machine will shut off automatically if no operation has done within the time setup for motor auto stop.
2. Four-level time set: (1) 15S (2) 30S (3) 60S (4) 120S

# Chapter 6: Maintenance

## 1. Period of maintenance

Item	Treatment	Period	Per Day	Per Week	Per Month	Per Year	Note
Strap bits	Clean with brush or vacuum cleaner		●				Fig 8.1.1
Dirt in Heater & Heater Slide guide.	Dismantle R.H Heater slide guide and use a screwdriver to eliminate the dirt.				●		Fig 8.1.2
Add grease in rotating parts and friction parts.	Add grease or lubricant in all cams.			●			Fig 8.1.3
Gear Motor Oil Check	Open the cover on the top of the gearbox. Use oil-ruler to check the height. It's at least over half. If not, add machine oil (SAE 40) in.					●	Fig 8.1.4
Filter Unit – Release The Water	Press single valve under water filter with fingers to release water.			●			Fig 8.1.5

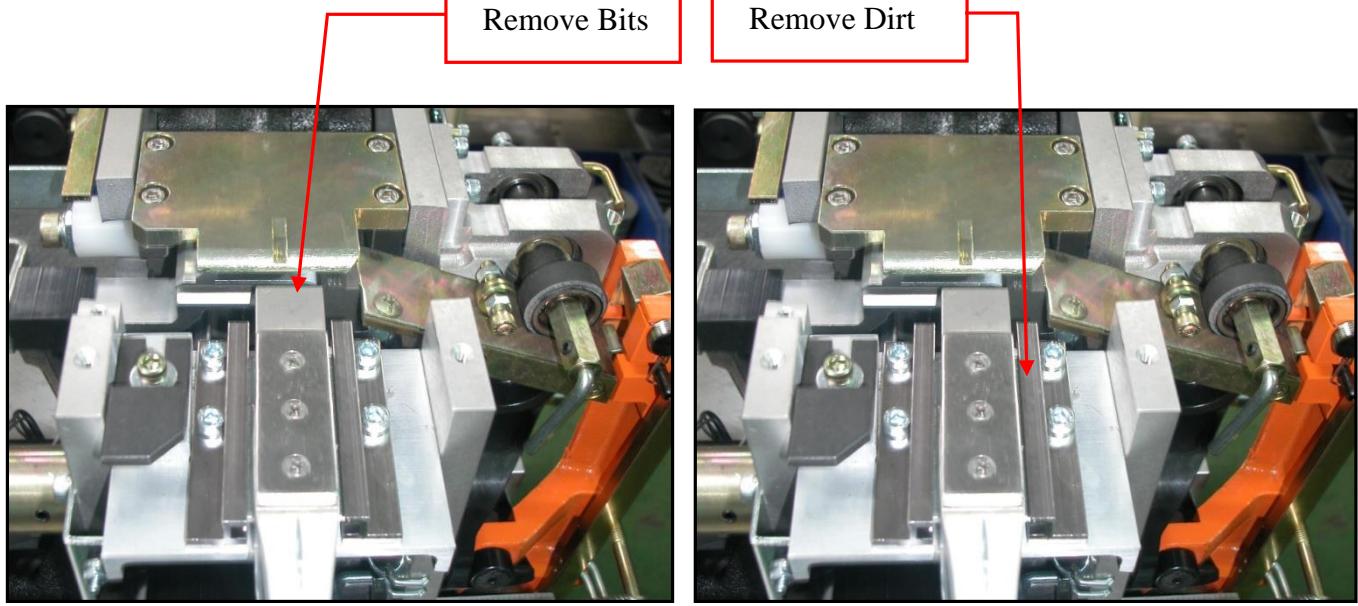


Fig 8.1.1

Fig 8.1.2

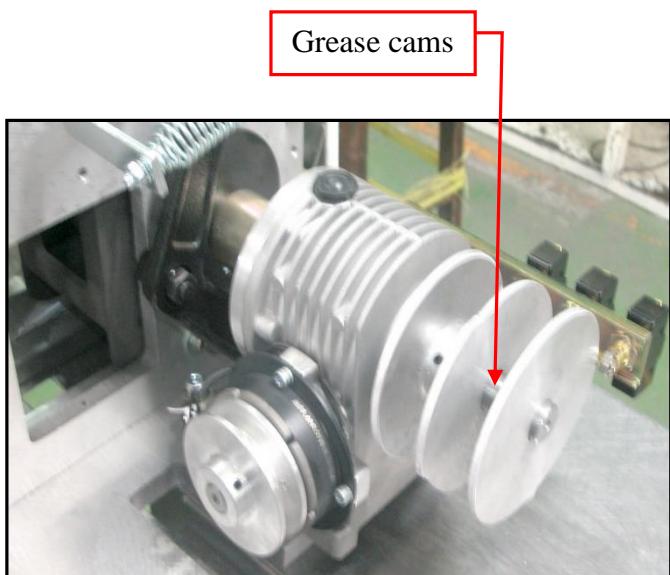


Fig 8.1.3



Fig 8.1.4

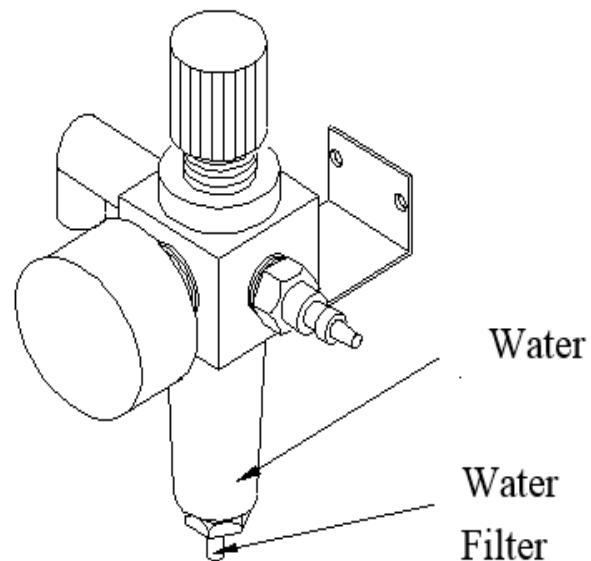


Fig 8.1.5

## Chapter 7: Suggested Spare Parts

Item	Part number	Description	Specifications	Q'ty	Remark
1	FA-0304-00	Front Blade	9,12,15 mm	1	According to PP strap
2	FA-0309-00	Press Blade Plate		1	
3	FA-0315-00	Press Blade Tension Spring		1	
4	FA-0409-02	Heater Plate set		1	
5	FA-0606-U	Tension Jaw set		1 set	
6	FA-0615-00	Tension Jaw Spring		1	
7	FA-0617-00	R. and L. Adjustment Arm Spring		1	
8	FA-0710-091U	Feed Shooter	9 mm	1	According to PP strap
9	FA-0710-121U	Feed Shooter	12 mm	1	According to PP strap
10	FA-1739-K17	Feed/Reverse Motor Belt	K17	1	3Ø
11	FA-0722-00	Feeding Tension Spring		1	
12	FA-0808-00	R.H. Bandway Flap Spring		1	
13	FA-0810-00	L.H. Bandway Lower Spring (Weak)		1	
14	FA-0913-00★	Arch Flap Spring		2	
15	FA-1053-09	Lower Pool Feed Shooter	9 mm	1	According to PP strap
16	FA-1053-12	Lower Pool Feed Shooter	12 mm	1	According to PP strap
17	FA-1125-00★	Brake Spring		1	
18	FA-1112-3US	Small Strap Guide Bracket (set)		1 set	
19	FA-1113-3US	Strap Guide Double-U Bracket (set)		1 set	
20	FA-1126-00	Brake Belt		1	
21	FA-1234-01	Roller Bearing	White	10	
22	FA-0228-03	Proximity SW	PSO-5N	3	FOTEK
23	FA-4231-04	Fuse 4A(20 mm)	4A(20 mm)	1	
24	FA-4231-06	Fuse 6A(20 mm)	6A(20 mm)	3	
25	FA-4207-04	Power PCB Board	WIN-168	1	
26	FA-4207-05	Control PCB Board	WIN-169	1	
27	C-56706-055	Solenoid Valve 24V	SMC	1	DC-24V
28	C-58705-06	Governor JSC-1003	JSC-1003	2	
29	C-56711-002	Straight Coupling	EPC-1002	3	
30	C-56713-002	Bendy Coupling	SPL-1002	2	

# Chapter 8: Troubleshooting

## (A) The strapping machine doesn't work after pressing START

### Cause:

(1) Insufficient phase

### Remedy:

- a. Plug is loose.
- b. Replace the broken wires.
- c. Use the voltmeter to measure if three wires of R.S.T has the same voltage.

(2) Main motor

- a. Control motor's (M1) pulley needs to be tighten.
- b. Check if screws on M1 are loose.
- c. Check if belt is loose or broken.

(3) Safety device

- a. Pool safety door is not closed.
- b. Safety door switch may be out of order.
- c. Screws are loose or badly connected.

(4) Start

- a. Start switch is out of order or has bad connection .
- b. Screws are loose.
- c. Y-terminal is loose.

(5) PCB electric control

- a. Check whether the terminal is fixed firmly.
- b. OVERLOAD (refer to Fig. A-1)

Normally the lamp does not light up (well operation).

If the lamp lights up, turn off the machine about 1 minute and restart.

### ★ c. OVERLOAD

The lamp lights up when the motor is overloaded; the lamp light is off when it is in normal situation.

### ★ d. ERROR

The lamp lights up when the pool motor is idly running. When the idle running time of the motor is too long (over 30 seconds), the motor will stop automatically.

### ★ e. If the above-mentioned situation happens, shut down the machine, and restart.

**Cause:**

(6) PCB circuit error

**Remedy:**

- a. Pilot lamp doesn't work.
  - a-1 Fuse, nearby the transformer, may be burnt out.  
Open transformer cover, and then check it.
  - a-2 Fuse, inside the PCB, may be burnt out.  
Open PCB cover, and then check it.
- Replace a new PCB board after the examinations are executed and no mistake is found.**
- b. DC24V does not output voltage. Check it.  
Check if the screws of PT27 transformer are loose.
- c. Replace a transformer if there is no voltage.

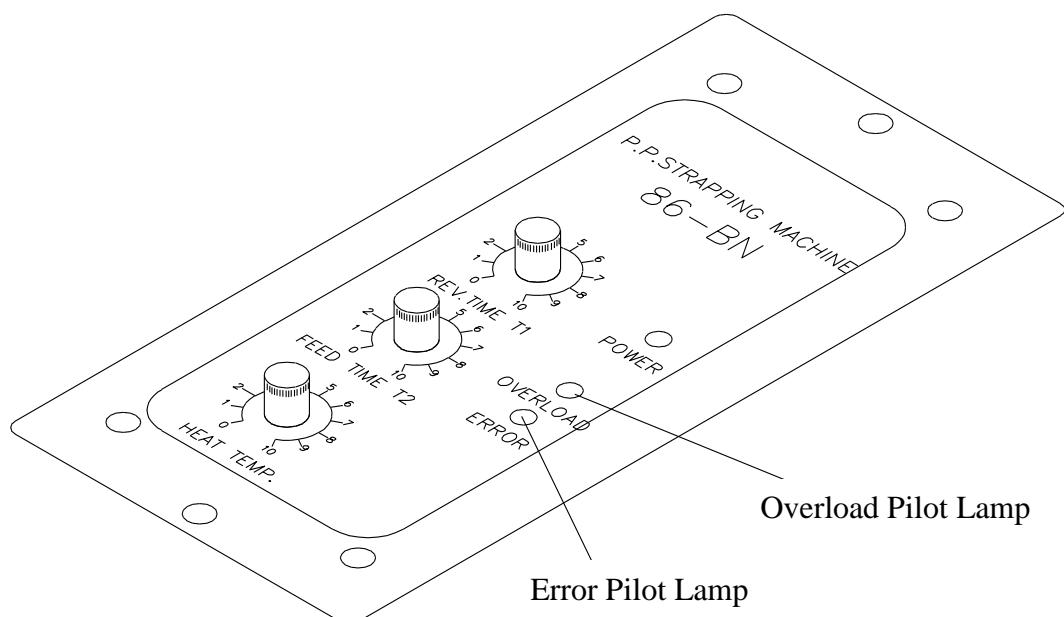


Fig.A-1

## (B) Improper strap reversing

**Cause 1:** Improper distance/gap between LS1 and reverse cam.

Judging: Check if the screws on reverse cam are loose.

Remedy:

- As indicated in Fig. (B-1), the initiation of LS1 is the start point of heating-strap period (the welding cycle). When LS1 (①) activates, the main shaft stops running. The front blade stops at the highest position and stocks the PP strap at the bottom place of upper slide. The band guide reverses and left bandway open. At the same time, the strap starts reversing. Meanwhile, the bearing of tension arm (③) stops at the tension cam (④). Likewise, we also use reverse cam (②) to adjust the LS1.
- The gap distance between limit switch and reverse cam is too big. Generally, it's 2 mm.

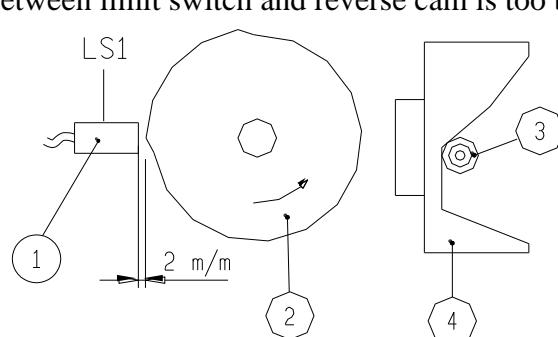


Fig. (B-1)

**Cause 2:** Insufficient pressure on reversing.

Judging: When there are PP straps in the arch, check if the gap between reversing tension spring and spring fixing pole is larger than strap thickness.

Remedy: Adjust gap procedure, as shown in Fig. (B-2)

- After making sure the machine is in reset position, thread the PP strap through the place between upper feed roller and lower feed roller.
- Loosen the two screws (②) on the front blade arm (①) to move the blade arm shaft (③).
- Adjust the gap between reverse tension spring and spring fixing pole to the thickness of one strap.
- Tighten the screws.
- Experienced technicians can replace the feed shooter if it is scratched.

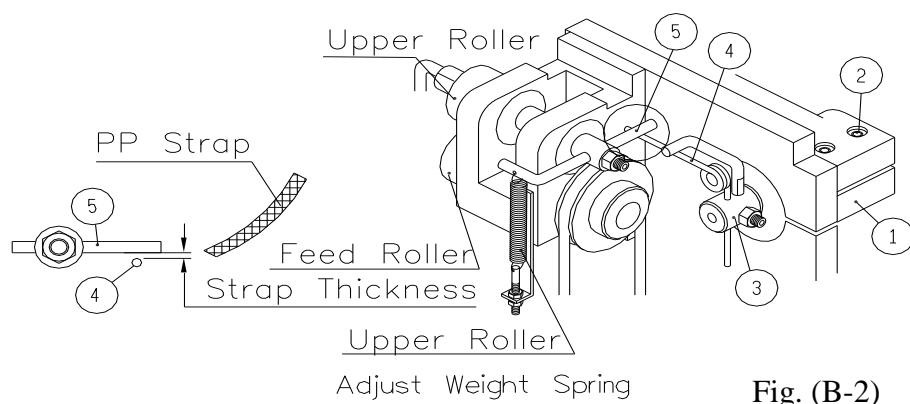


Fig. (B-2)

**Cause 3:** Arch flap spring is fastened too tight or stuck.

Judging: Check if the arch flap spring is screwed too tightly to be opened by hand.

Remedy: Loosen the arch flap spring or adjust the gap between flap and flap bracket.

See Fig. (B-3)

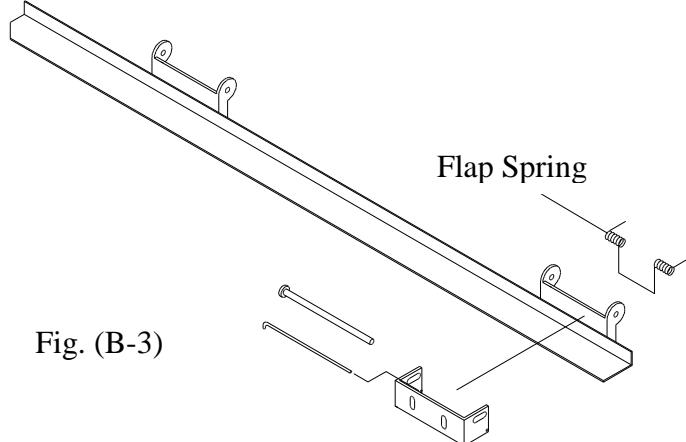
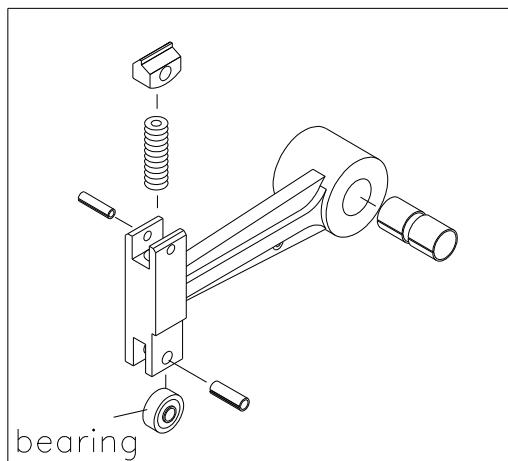


Fig. (B-3)

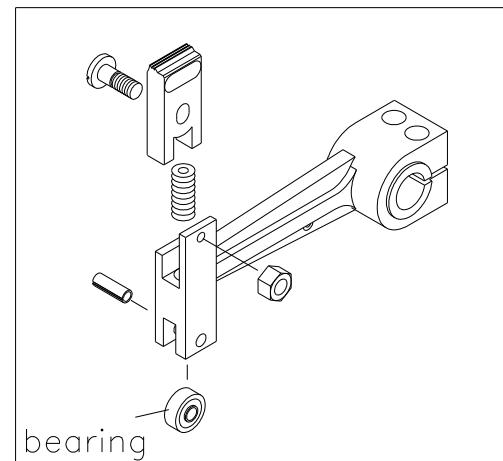
**Cause 4:** The bearing of front blade and heater blade is broken.

Judging: Observe whether the cutter up works smoothly or not. If it is jumping, this means the bearing is broken.

Remedy: Replace it with a new bearing. See Fig. (B-4).



Heater Blade Set



Front Blade Set

Fig. (B-4)

**Cause 5:** LS1 position is erroneous.

Judging: Turn the power off. Use hands to turn the belts. When LS1 activates, the cam (②) will move in counterclockwise direction. The front blade stops at the highest point and stuck the PP strap in the lower table slide. Tension arm shaft (③) stays at the climbing point of tension cam (④)(See Fig. (B-1)).

Remedy: Loosen the screws of tension cam and then adjust its position. (See Fig. (B-1))

## (C) Improper strapping

**Cause 1:** The abrasion of feed shooter or strap jams.

Judging: Unusual sound appears during feeding or reversing of strapping. Inspect feed shooter, feed upper roller and feed roller.

Remedy: Replace feed shooter, feed upper roller and feed roller.

**Cause 2:** Arch flap spring is fastened too tight.

Judging: Use hands to check if the arch flap spring is fastened too tight.

Remedy: Loosen the arch flap spring one round. See Fig. (B-3).

**Cause 3:** Insufficient reversing pressure.

Judging: Check if the gap between upper roller adjust weight spring (④) and upper shaft spring hook is set bigger than the strap thickness. See Fig. (C-1).

Remedy: See Fig. (B-2) shown below to adjust the gap.

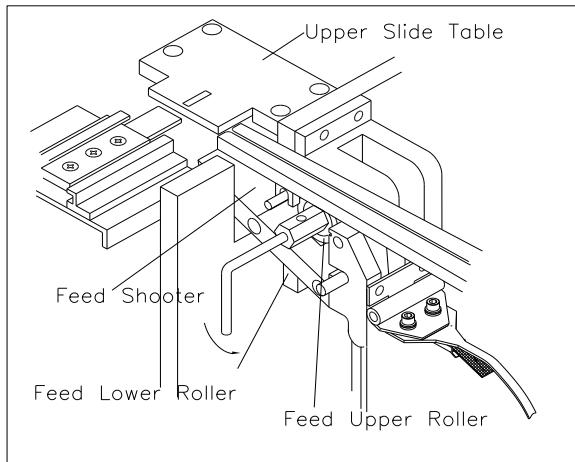


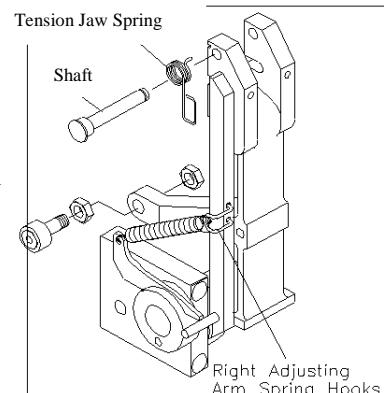
Fig. (C-1)

## (D) Loose strapping

**Cause 1:** Tension jaw spring is bounced or bended.

Judging: Visually inspect the spring. See Fig. (D-1)

Remedy: Replace parts.



**Cause 2:** Tension adjust arm spring hook is broken or tension adjust arm spring is broken

Judging: Check if the above springs are broken or not. Fig. (D-1)

Remedy: If it is broken, replace the springs.

Fig. (D-1)

**Cause 3:** Tension jaw is worn out or has dirt on it.

Judging: Check the gear wheel shape of the tension jaw. Fig. (D-2)

Remedy: 1. Clean the dirt or replace a new tension jaw.

2. Replace the jaw spring pin if it is worn out.

3. Clean the rusty part. See Fig. (D-1) and Fig. (D-2).

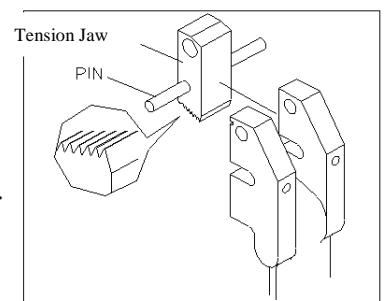


Fig. (D-2)

**Cause 4:** Improper adjustment of the degree of tightness.

Judging: Check the tension adjustment cam. See Fig. (D-3)

Remedy: Based on different strapping articles, choose proper degree. Degree 4 and degree 5 is the moderate digits.

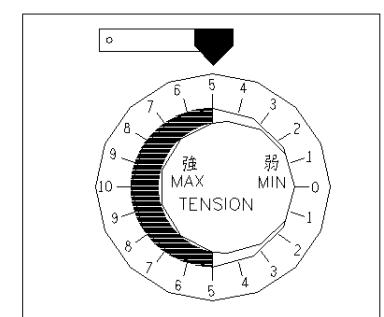


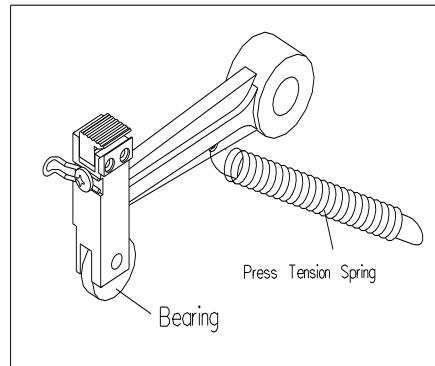
Fig. (D-3)

## (E) Improper cutting

**Cause 1:** Spring of front and press blade are loose or broken.

Judging: Visually inspect the spring is installed properly.

Remedy: Hook or Pull the Press Tension Spring to the right position with a little piece of strap. If the spring is broken, replace it with a new one. See Fig. (E-1).



**Cause 2:** Ball Bearing of press blade is broken.

Judging: Strap cannot adhere properly or press blade is unable to work smoothly.

Remedy: Replace it with a new bearing, shown in Fig. (E-1)

Fig. (E-1)

**Cause 3:** Improper distance set between front blade and press blade. The blades are dull or the pull-blade spring is loose or broken.

Judging: Check if there is napping edge on the strap or there are thin lines on the edge of the strap.

Remedy: Adjust the gap. Fine-tune the nut to reach a suitable tension (tighter). Or replace front blade and press blade.

If pull-blade spring is broken, replace it with a new one.

If the screw of the press blade is loose, re-adjust it, as shown in Fig. (E-2)

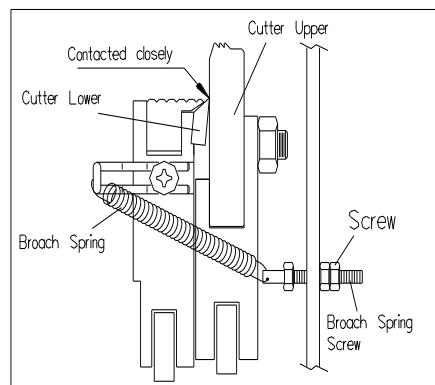


Fig. (E-2)

**Cause 4:** Upper slide table's screws are loose.

Judging: Check if the four screws on slide table are loose, As shown in Fig. (E-3)

Remedy: Fasten the screws tightly

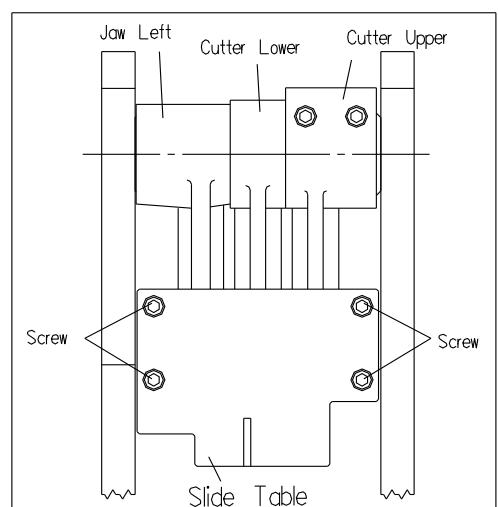


Fig. (E-3)

#### **(F) Improper welding and taping**

**Cause 1:** Screws on the upper slide table is loose. Screws on heater plate or its terminal are loose.

Judging: Check if the screws on slide table, heater plate and terminal are loose.

Remedy: Fasten the screws tightly, see Fig. (F-1) a, b, c.

**Cause 2:** Bandway is adjusted improperly

Judging: PP strap is not adhered properly.

**Remedy:**

1. Adjust the distance between slide table and band guide to about 0.5~1 mm wider than strap's width.
  2. To align LH & RH bandway by adjusting the screws under RH bandway, as shown in Fig. (F-1).

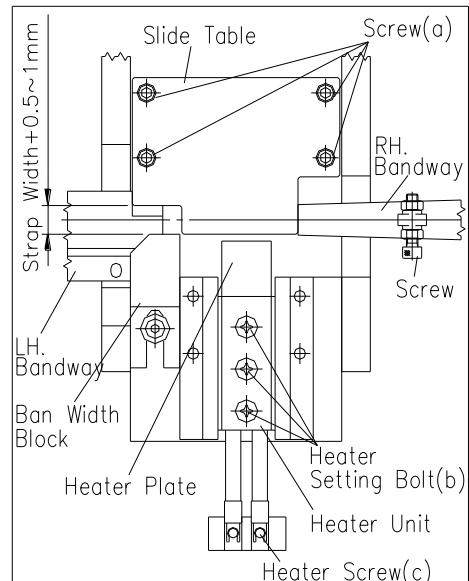


Fig. (F-1)

**Cause 3:** Due to serious carbonization, the heater plate cannot be heated easily.

Judging: Heater plate becomes black.

Remedy: Turn the power supply off.

1. Check if the screws Fig. (F-1 b) fixed in the heater plate are loose or not.
  2. Check if the heater plate oxidizes or not.
  3. Check if the terminal screws Fig. (F-1 c) in heater plate are loose or not.
  4. Check if the screws in heater transformer are loose or not (wires 1, 2, R2, T2).
  5. Raise up temperature switch (next to the control box), normally No. 2 ~ No. 3 (about 320 °C).
  6. Check if the temperature switch and the wires of heater inverter are screwed tightly.

**Cause 6:** Heater inverter is burn out and heater plate is broken.

Judging: Heater plate is still black color after turning up temperature. See Fig. (F-2)

Remedy: Replace a new Heater Transformer or Heater Plate.

#### **Cause 7:** Poor quality of PP straps.

Judging: Check if the color and thickness of straps is fairly even.

Remedy: Replace it with better quality PP straps.

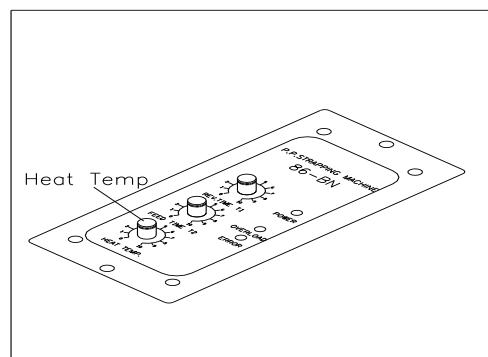


Fig. (F-2)

## (G) Improper strap feeding

**Cause 1:** LS2 is defective or improper distance set between limit cams.

Judging:

1. LH bandway is not closed. Straps are rushing out.
2. When LS2 is activating, tension bearing stops at the highest place of tension cam.

Remedy: As shown in Fig. (G-1), LS2 controls strap feeding.

We use position switch cam (②) to adjust the activation time. To make LS2 (①) activate, the tension bearing (③) will stop at the highest position of tension cam (④).

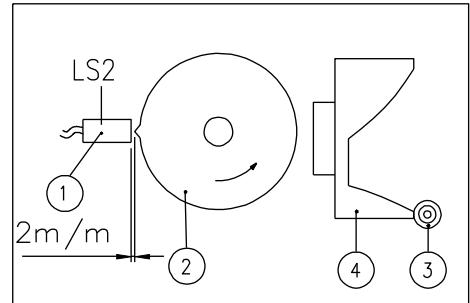


Fig. (G-1)

**Cause 2:** The pressure for feeding spring is insufficient

Judging: Check if the feeding spring is loose or not

Remedy: Adjust it to the right position. See Fig. (G-2)

**Cause 3:** Strap cannot be sent to the right position

Judging: The inside of the feed shooter is scrapped by the strap.

Remedy: To replace feed shooter, we need to know the strap's width. If the bearing (6202ZZ) gets stuck or cannot run smoothly, please replace it.

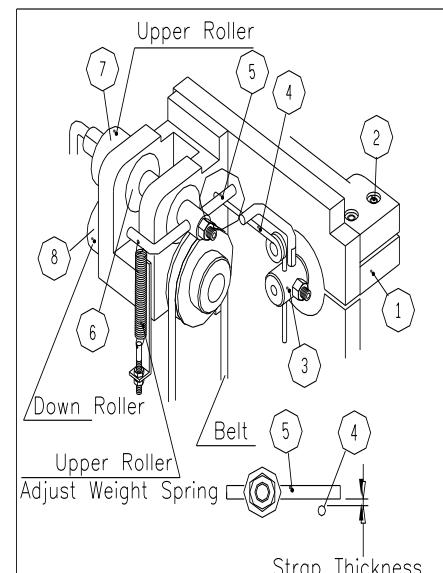


Fig. (G-2)

**Cause 4:** The springs in the Arch Flap are broken or fatigued.

Judging: The strap couldn't be sent to the fixed position. Arch flap will jam the PP strap.

Remedy: Replace or adjust the spring and arch flap. Please see Fig. (G3)

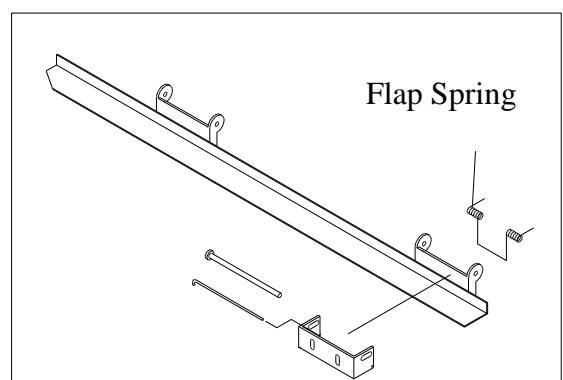


Fig. (G-3)

**Cause 6:** PP strap is seriously curved and cannot be sent to the position of lower slide.

Judging: Cut 2.9M long strap and check the curvature of strap, which cannot exceed 38 mm,

As can be seen in Fig. (G-4)

Remedy: Use better quality of PP strap instead. Cut the curved strap off.

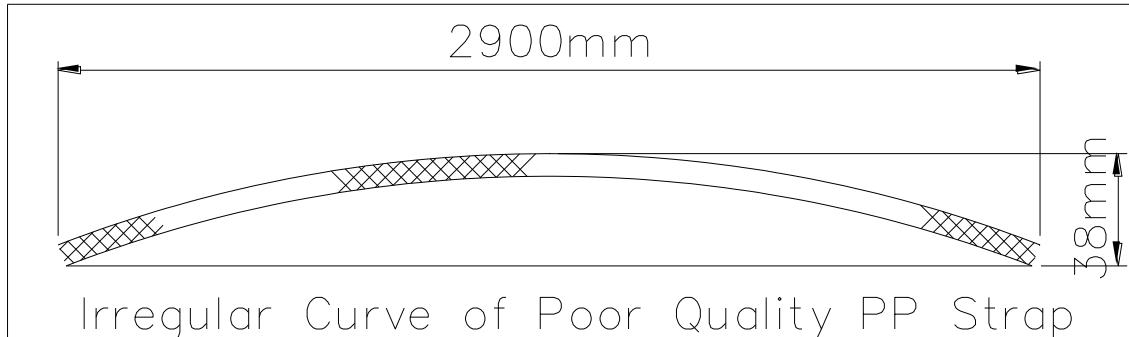


Fig. (G-4)

**Cause 7:** Insufficient storage of strap.

Judging: Pull out the PP strap from the pool box. The total length of strap storage in pool box should be 1.5 times longer than arch's length (stored PP strap should be 5-7 cycles), as shown in Fig. (G-5)

Remedy: When strap storage is insufficient, loosen the screws in clockwise direction to get more straps. When strap storage is more than enough, loosen the screw in counter clockwise direction. (The default setting is in the middle position, 0.7 mm thick as a standard)

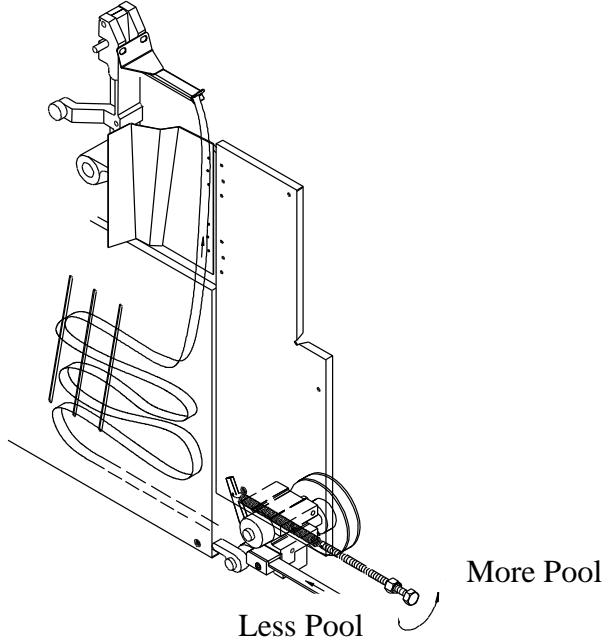


Fig. (G-5)

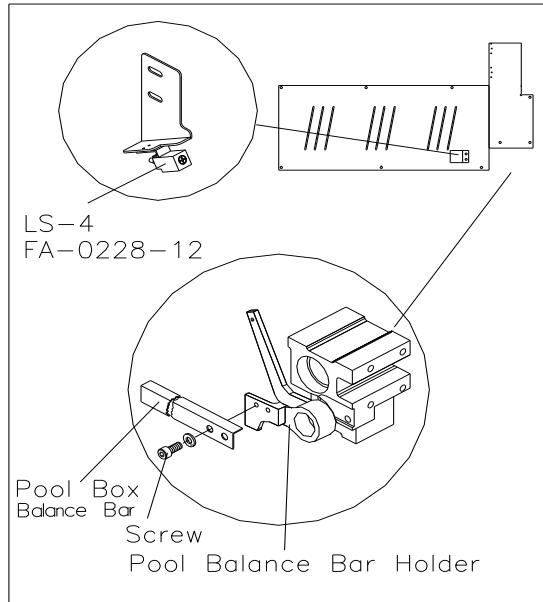
**Cause 8:** There is residue of straps in the arch.

Judging: If there is residue of straps in the arch it will feed strap improperly.

Remedy: When changing the new strap, please check if there is residue of straps in the arch or not. If yes, please clean up the reel first before replacing it with a new one.

## (H) Improper strap storing

Fig. (H-1)



### Cause 1: Screws on pool box balance bar are loose.

Judging: Check if the two screws on pool box balance bar are loose, shown in Fig. (H-1).

Remedy: Make sure the pool box balance bar is not stuck at the side of pool box when fasten the screws.

### Cause 2: Incorrect adjustment on LS4.

Judging: Incessant strap storing or No strap stored. See Fig. (H-1)

Remedy: Adjust LS4 position or replace it.

### Cause 3: Pool box balance bar bends and gets stuck at the side of pool box.

Judging: Pool box balance bar is not working smoothly. See Fig. (H-1)

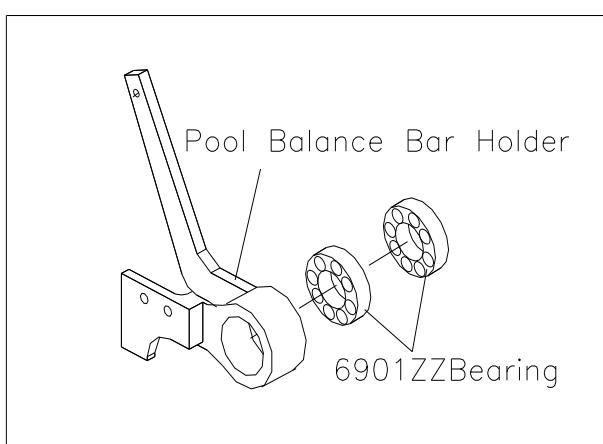
Remedy: Adjust pool box balance or replace it.

### Cause 4: Bearing of pool balance bar holder is broken.

Judging: Check if pool balance bar holder improperly swings, shown in Fig. (H-2)

Remedy: Replace it with a new bearing.

Fig. (H-2)



**Cause 5:** Insufficient storage of strap.

Judging: The total length of strap storage in pool box should be 1.5 times longer than arch's total length. See Fig. (H-3). If straps are stored again every time after the strapping is completed, this means the strap storage is insufficient.

Remedy:

1. When the storage of strap is insufficient, loosen the screws counterclockwise to get more straps in. On the contrary, when the storage of strap is excessive, loosen the screws clockwise.
2. If the adjustment screw of pool box does not work, replace the pool box spring.

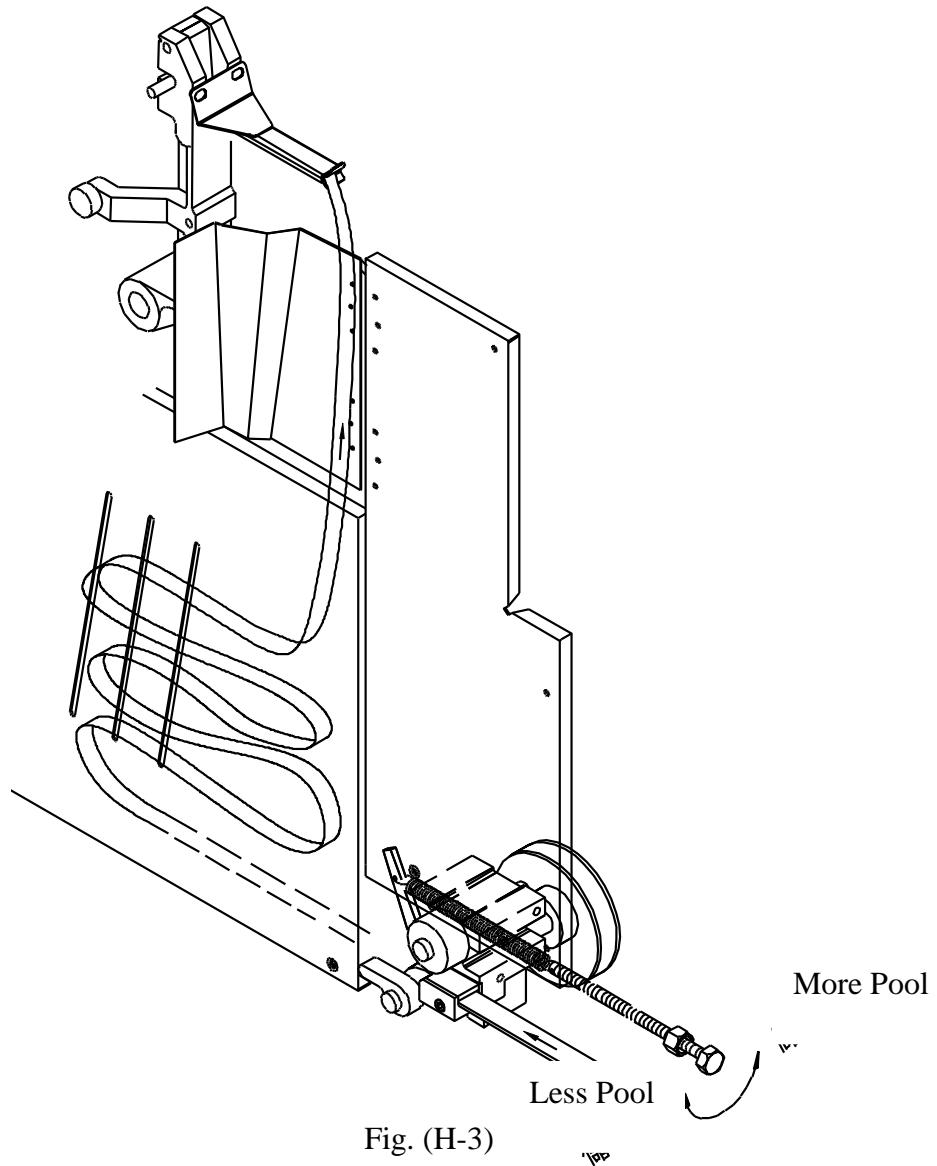


Fig. (H-3)

**Cause 6:** The scratches on the feed shooter (FA-1053-06-19) result in strap stored improperly.

Judging: Replace it with a new one which meets the strap width.

**Cause 7:** The motor is out of order.

## (I) Failure in the positioning of cam after strapping

**Cause 1:** LS3 is defected or the distance between the LS3 and the rest cam is improperly set.  
Judging: After turning on the Start button, the machine does not work at all or the machine occurs incessant working. Check whether the function of LS3 is normal or not.

Remedy: As indicated in Fig. (I-1), LS3 (①) determines if control set is able to return to the home position. We adjust rest cam ② to control the action time of LS3 (①).

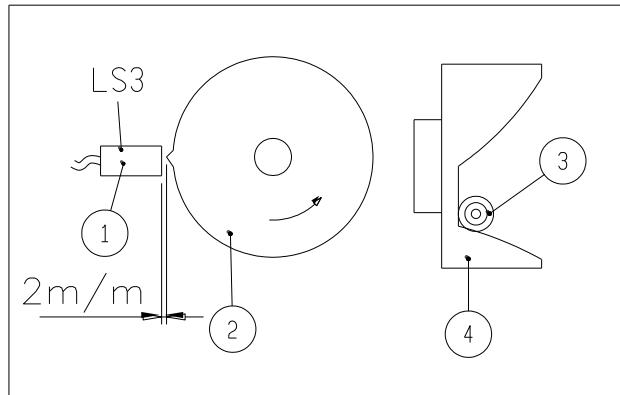


Fig. (I-1)

**Cause 2:** Improper clearance set between magnetic brake or the failure of the brake.

Judging: Measure the clearance with thickness gauge.

Remedy: 1. The appropriate clearance between magnetic brake is 0.3 mm. (see Fig.I-2)  
2. Use a voltmeter to check whether voltage is DC 20V or not. If it is, replace the magnetic breaker. If no voltage is measured, replace the transformer.

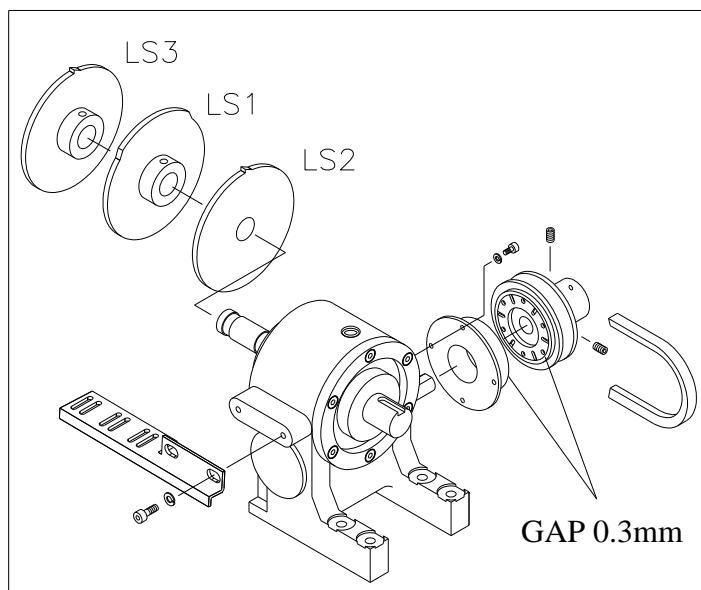


Fig. (I-2)

## (J) PP strap divaricating or napping

**Cause 1:** Napping shape (rough) edge on arch.

Judging: Check if the strap is napping.

Remedy: 1. File rough edge away with abrasive paper.

2. Clean R.H bandway with abrasive paper.

**Cause 2:** The press blade is dull.

Judging: The cutting place is badly-shaped, torn or shredded.

Remedy: Please refer Fig. (E-2).

**Cause 3:** LH bandway is not fully opened due to improper setting on LS1, or unfinished edge on RH & LH bandway.

Judging: Check if the strap by LH bandway is shredded after articles are strapped.

Remedy: 1. Adjust LS1 position to make LH bandway fully open.

2. File RH & LH bandway rough edge away with abrasive paper. See Fig. (J-1).

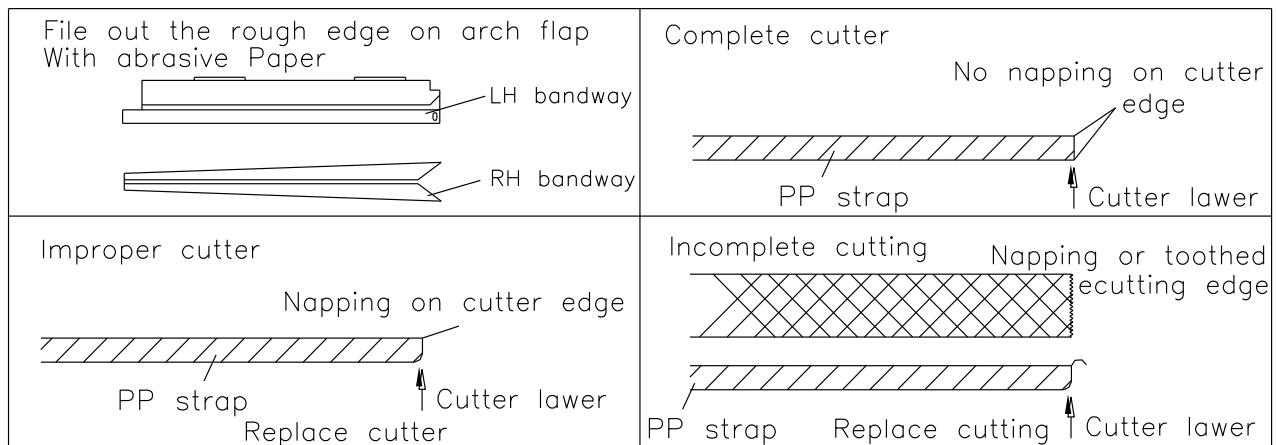
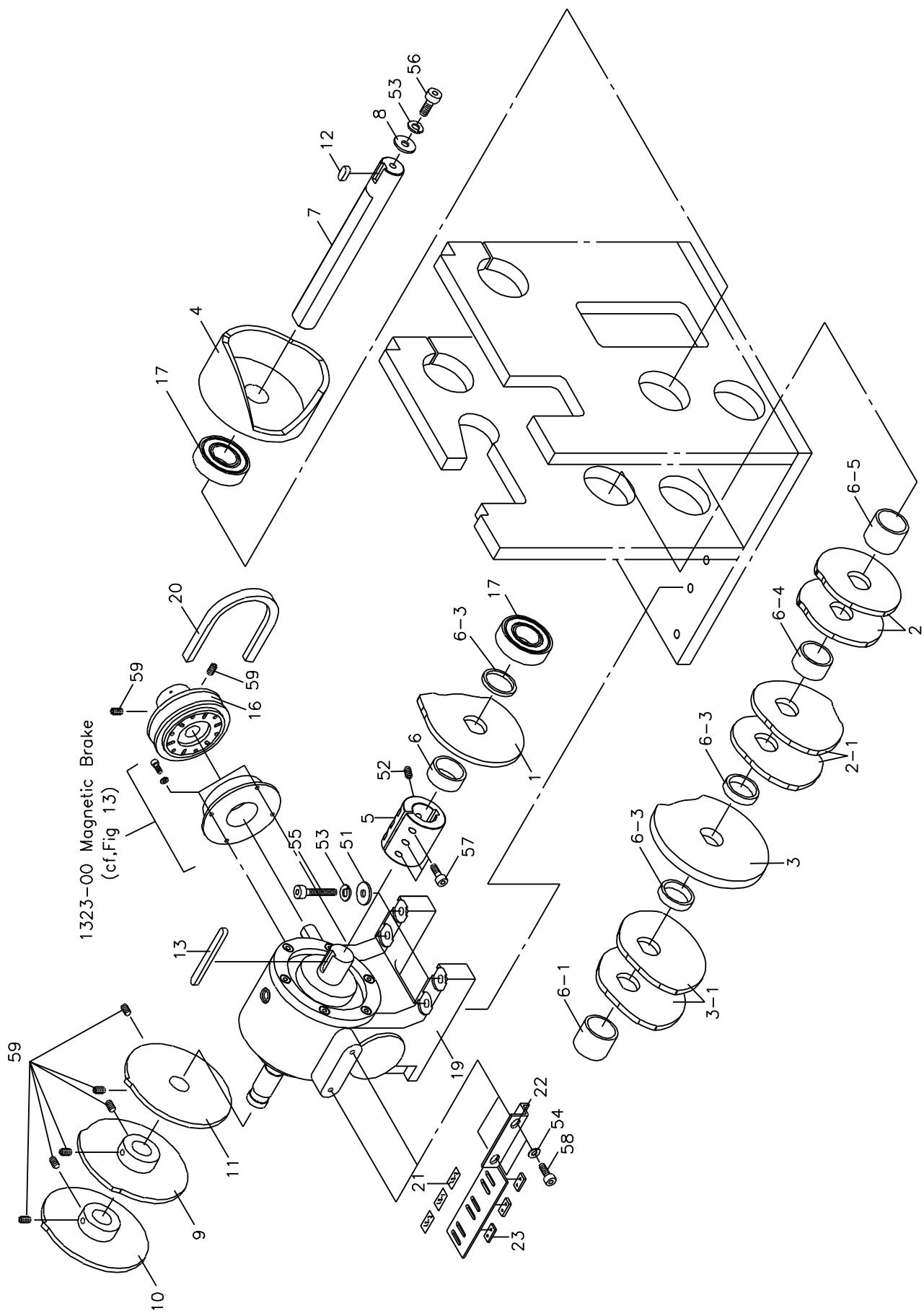


Fig. (J-1)

# **Chapter 9: Part Diagram & List**

	<b>Page No.</b>
<b>Fig. 1. Cam Unit.....</b>	<b>42</b>
<b>Fig. 2. Slide Table Unit.....</b>	<b>45</b>
<b>Fig. 3. Press Unit.....</b>	<b>48</b>
<b>Fig. 4. Heater Unit .....</b>	<b>51</b>
<b>Fig. 5. Control Frame Unit .....</b>	<b>53</b>
<b>Fig. 6. Tension Unit .....</b>	<b>55</b>
<b>Fig. 7. Feed Unit.....</b>	<b>58</b>
<b>Fig. 8. Bandway Unit.....</b>	<b>64</b>
<b>Fig. 9. Arch Unit .....</b>	<b>64</b>
<b>Fig. 10. Pool Unit (1).....</b>	<b>67</b>
<b>Fig. 10. Pool Box Unit (II).....</b>	<b>70</b>
<b>Fig. 11. Reel Unit .....</b>	<b>73</b>
<b>Fig. 12. Body Unit.....</b>	<b>76</b>
<b>Fig. 13. Electric Unit .....</b>	<b>78</b>
<b>Fig. 14. Control Box Unit.....</b>	<b>81</b>
<b>Fig. 15. Top Press Unit.....</b>	<b>84</b>

**Fig. 1. Cam Unit**



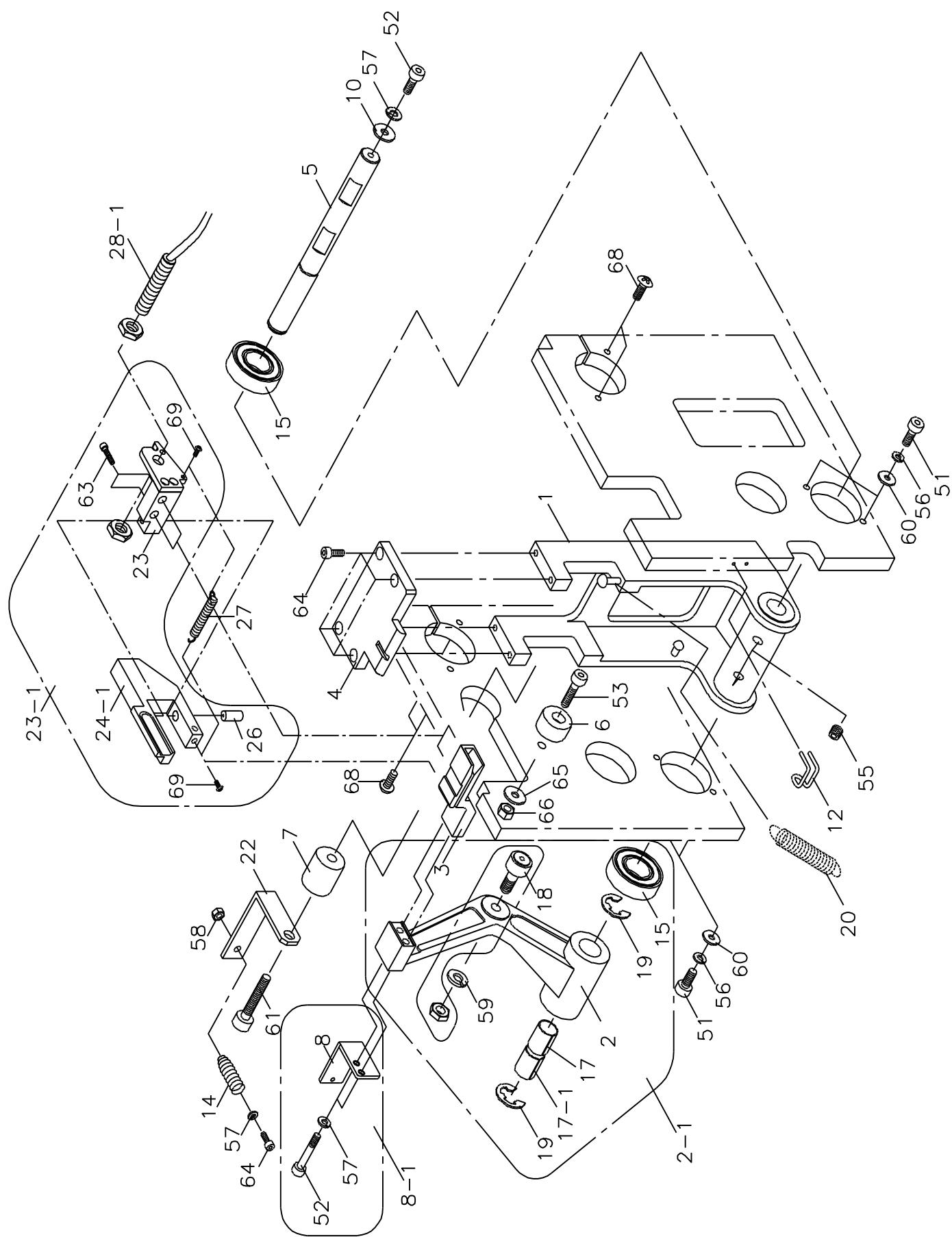
## Fig. 1. Cam Unit

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
1	FA-0101-001N	Slide Table Cam	1
2	FA-0102-001N	Right Press Cam (Front Blade)	2
2-1	FA-0102-011N	Center Cam (Press Blade)	2
3	FA-0103-001N	Heater Cam	1
3-1	FA-0103-011N	Left Press Cam (Heater Blade)	2
4	FA-0104-03	Tension Cam (lower 19 mm)	1
5	FA-0105-00	Cam Shaft Coupling	1
6	FA-0106-075	Cam Collar 10.75 mm thick (for 4.5T cam)	1
6-1	FA-0106-074	Cam Collar 25 mm thick (for 4.5T cam)	1
6-3	FA-0106-073	Cam Collar 6.25 mm thick (for 4.5T cam)	3
6-4	FA-0106-072	Cam Collar 16 mm thick (for 4.5T cam)	1
6-5	FA-0106-071	Cam Collar 26 mm thick (for 4.5T cam)	1
7	FA-0107-01	Cam Shaft	1
8	FA-0108-00	Cam Shaft End Plate	1
9	FA-0109-00	Reverse Limit Cam (LS1)	1
10	FA-0110-00	Reset Limit Switch Cam (LS3)	1
11	FA-0111-00	In-feed Limit Switch Cam (LS2)	1
12	TS-KEY-070716N	Tension Cam Key (7 x 7 x 16)	1
13	TS-KEY-070748N	Slide Table Cam Key (7 x 7 x 48)	1
16	FA-0116-00	Reducer Pulley (A 76 Ø)	1
17	FA-1604-00	Ball Bearing 6205zz	2
19	FA-0119-00	Reducer	1
20	FA-1739-A28	Control Motor Belt A28	1
21	FA-0121-00	Proximity Switch Cam Label	1
22	FA-0133-00	Limit Switch Bracket	1
23	FA-0133-01	Fixing Plate of Proximity Switch	3

## **Fig. 1. Cam Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
51	TS-PW-0822G	PW M8 x 22 (Plain Washer)	4	
52	TS-HSS-0810D	HSS M8 x 10 (Hexagon Socket Headless Set Screw)	1	
53	TS-SW-0008G	SW M8 (Spring Washer)	1	
54	TS-SW-0006G	SW M6 (Spring Washer)	3	
55	TS-HBS-0845G	HBS M8 x 45 (Hexagon Square Head Bolt)	4	
56	TS-HBS-0820G	HBS M8 x 20 (Hexagon Square Head Bolt)	1	
57	TS-HBS-0512G	HBS M5 x 12 (Hexagon Square Head Bolt)	8	
58	TS-SW-0005G	SW M5 (Spring Washer)	8	
59	TS-HBS-0620G	HBS M6 x 20 (Hexagon Square Head Bolt)	3	
60	TS-HBS-0616G	HBS M6 x 16 (Hexagon Square Head Bolt)	2	
61	TS-HBS-0610G	HBS M6 x 10 (Hexagon Square Head Bolt)	1	
62	TS-TMS-0410G	TMS M4 x 10 (Truss Head Machine Screw)	6	
63	TS-SW-0004G	SW M4 (Spring Washer)	6	
64	TS-PW-0619G	PW M6 x 19 (Plain Washer)	1	
65	TS-HSS-0610D	HSS M6 x 10 (Hexagon Socket Headless Set Screw)	8	

**Fig. 2.** Slide Table Unit



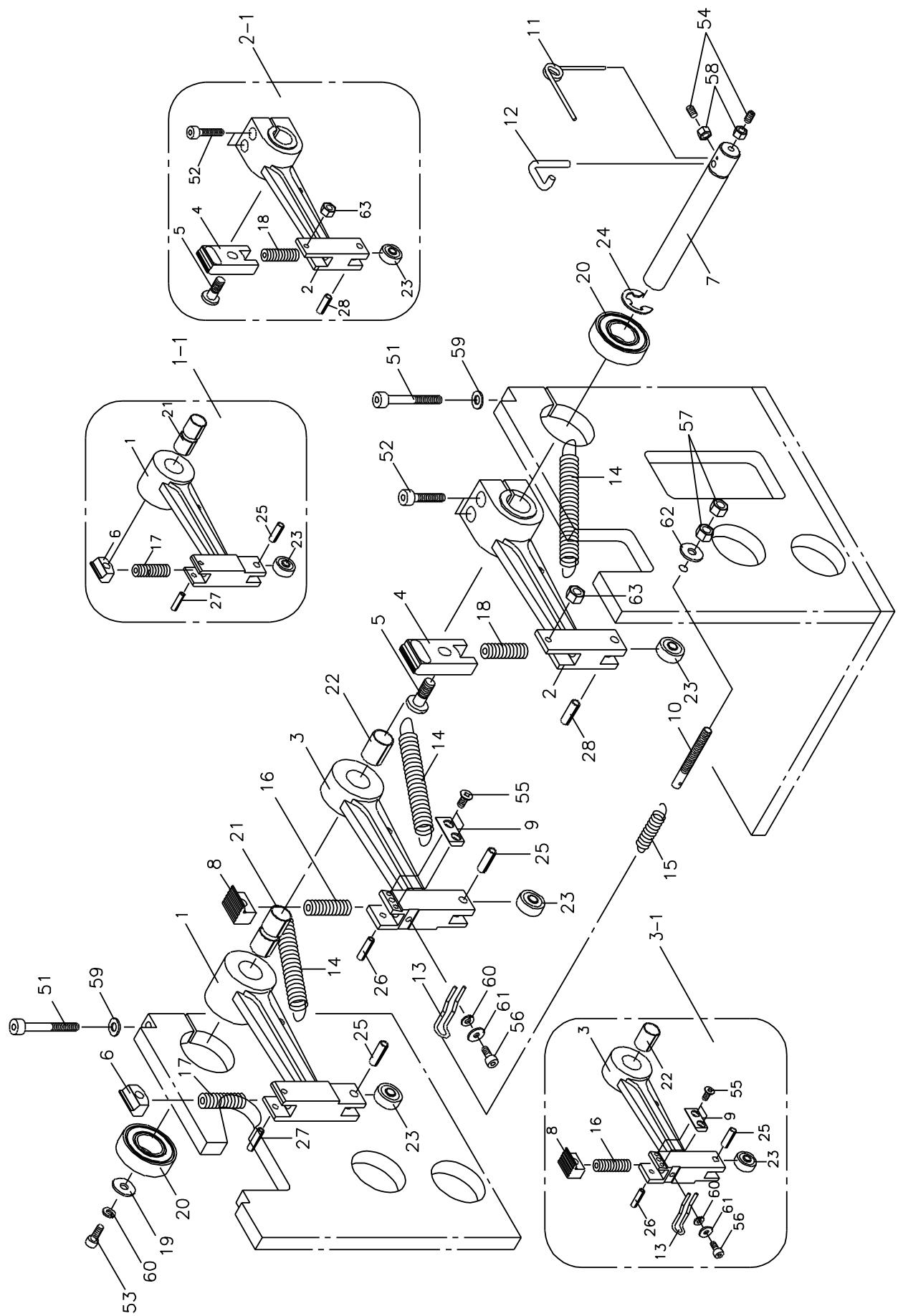
## Fig. 2. Slide Table Unit

Ref. No.	Parts No.	Description	Q'ty Remark
1	FA-0201-00	Slide Table Frame	1
2	FA-0202-00	Band Guide Arm	1
2-1	FA-0202-U	Band Guide Arm Set	1
3	FA-0203-01	Band Shooter	1
4	FA-0204-02	Upper slide Table with Detection (12/15 mm)	1
4	FA-0204-06	Upper slide Table with Detection (6/9 mm)	1
5	FA-0205-00	Slide Table Frame Shaft	1
6	FA-0206-00	Slide Table Stopper	1
7	FA-0207-00	Slide Table Back Adjuster	1
8	FA-0208-00	Flap Connecting Spring Bracket	1
8-1	FA-0208-U	Flap Connecting Spring Bracket (set)	1
10	FA-0210-00	Slide Table Shaft Cushion (same as 0319)	1
12	FA-0212-00	Slide Table Frame Spring Hook	1
14	FA-0214-00	Feed shooter Spring	1
15	FA-1605-00	Bearing 6304ZZ	2
17	FA-1613-00	Oil Bearing MB20 x 20	1
17-1	FA-1614-00	Oil Bearing MB20 x 25	1
18	FA-1607-00	Bearing KR 22 x LL	1
19	TS-ETW-0015D	Retaining Ring	2
20	FA-0220-00	Slide Table Tension Spring	1
22	FA-0222-00	Band Guide Spring Bracket	1
23	FA-0223-01	Proximity Switch Bracket	1
23-1	FA-0223-1U	Proximity Switch Bracket (SET)	1
24-1	FA-0224-01	Switch Lever	1
26	FA-0226-00	Pin	1
27	FA-0227-00	Proximity Switch Spring	1
28-1	FA-0228-011	Proximity Switch	1

## **Fig. 2. Slide Table Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
51	TS-HBS-0512S	HBS M5 x 12 (Hexagon Square Head Bolt)	4	
52	TS-HBS-0645S	HBS M6 x 45 (Hexagon Square Head Bolt)	2	
53	TS-HBS-0830S	HBS M8 x 30 (Hexagon Square Head Bolt)	1	
55	TS-HSS-0810S	HSS M8 x 10 (Hexagon Socket Headless Set Screw)	2	
56	TS-SW-0005S	SW M5 (Spring Washer)	1	
57	TS-SW-0006S	SW M6 (Spring Washer)	5	
58	TS-HN-0006S	HN M6 (Hexagon Nut)	1	
59	TS-SW-0010S	SW M10 (Spring Washer)	1	
60	TS-PW-0619S	PW M6 x 19 (Plain Washer)	4	
61	TS-HBS-1050GH	HBS M10 x 50 (Hexagon Square Head Bolt)	1	
63	TS-HBS-0410S	HBS M4 x 10 (Hexagon Square Head Bolt)	2	
64	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	5	
65	TS-SW-0008S	SW M8 (Spring Washer)	1	
66	TS-HN-0008S	HN M8 (Hexagon Nut)	2	
68	TS-TMS-0610S	TMS M6 x 10 (Truss Head Machine Screw)	4	
69	TS-TMS-0304S	TMS M3 x 4 (Truss Head Machine Screw)	2	

**Fig. 3. Press Unit**



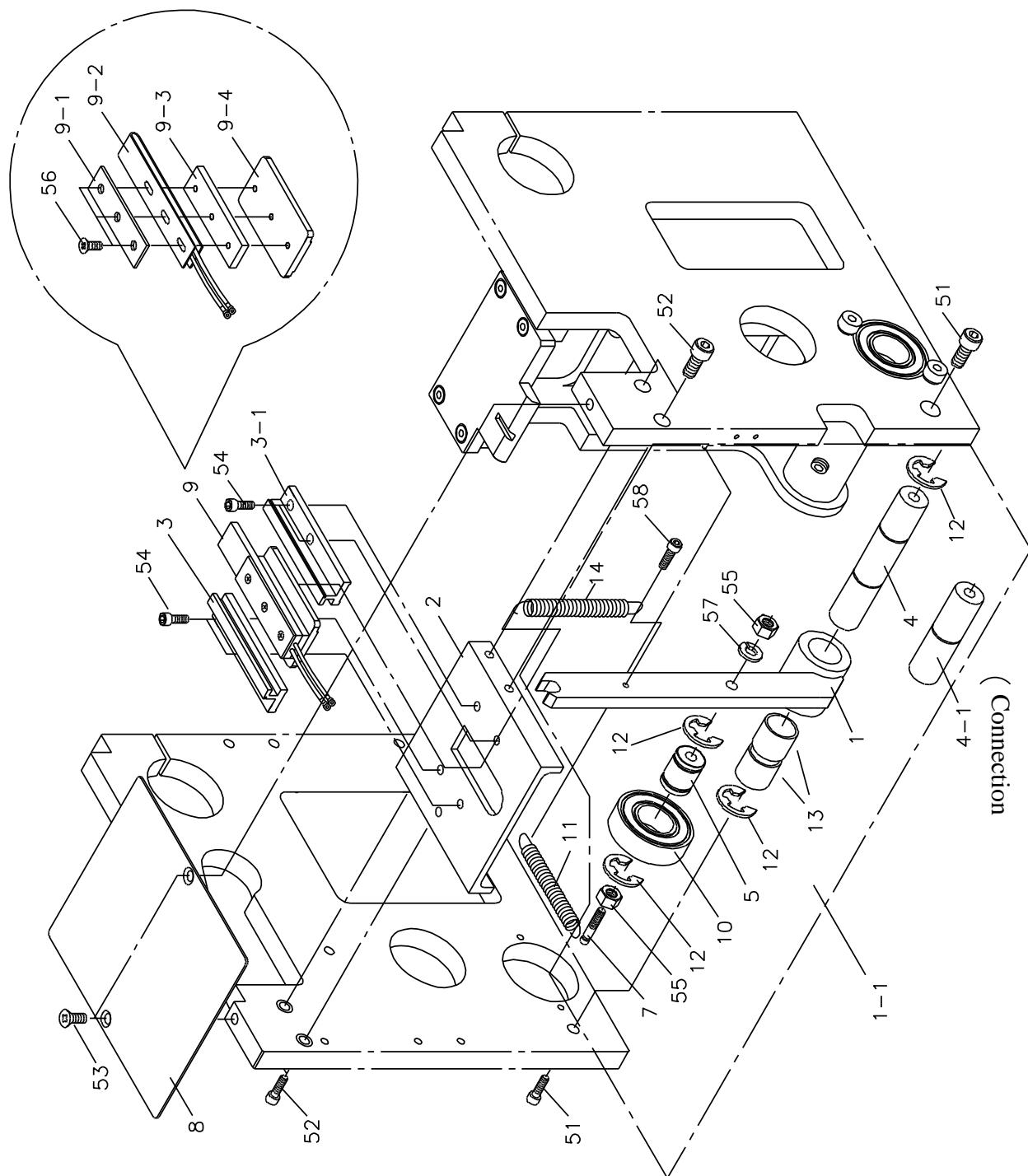
### Fig. 3. Press Unit

Ref. No.	Parts No.	Description	Q'ty	Remark
1	FA-0301-00	Heater Blade Arm	1	
1-1	FA-0301-U	Heater Blade (set)	1	
2	FA-0302-00	Front Blade Arm	1	
2-1	FA-0302-U	Front Blade Arm (set)	1	
3	FA-0303-00	Press Blade Arm	1	
3-1	FA-0303-U	Press Blade Arm (set)	1	
4	FA-0304-00	Front Blade (for 9 mm, 12 mm, 15 mm)	1	
5	FA-0305-00	Fixing Screw of Front Blade	1	
6	FA-0306-00	Heater Blade	1	
7	FA-0307-00	Press Arm Shaft	1	
8	FA-0308-00	Upper Pressing Plate of Press Blade	1	
9	FA-0309-00	Press Blade	1	
10	FA-0310-00	Feed Tension Adjustment Screw (same as FA-0708-00)	1	
11	FA-0311-00	Reversing Tension Spring	1	
12	FA-0312-00	Spring Adjuster	1	
13	FA-0313-00	Press Blade Spring Hook	1	
14	FA-0314-00	Press Tension Spring	3	
15	FA-0315-00	Press Blade Tension Spring	1	
16	FA-0316-00	Press Blade Inner Spring	1	
17	FA-0317-00	Heater Blade Inner Spring	1	
18	FA-0318-00	Front Blade Inner Spring	1	
19	FA-0210-00	Slide Table Shaft Spacer	1	
20	FA-1605-00	Bearing 6304ZZ	2	
21	FA-1613-00	Oil Bearing MB 20 x 20	2	
22	FA-1614-00	Oil Bearing MB 20 x 25	1	
23	FA-1601-01	Bearing	3	
24	TS-ETW-0015D	Retaining Ring	1	
25	TS-CP-0820D	Spring Pin 8 x 20	2	

### **Fig. 3. Press Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
26	TS-CP-0622D	Spring Pin 6 x 22	1
27	TS-CP-0624D	Spring Pin 6 x 24	1
28	TS-CP-0824D	Spring Pin 8 x 24	1
51	TS-HBS-0860GH	HBS M8 x 60 (Hexagon Square Head Bolt)	2
52	TS-HBS-0835S	HBS M8 x 35 (Hexagon Square Head Bolt)	2
53	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	1
54	TS-HSS-0616S	HSS M6 x 16 (Hexagon Square Head Bolt)	2
55	TS-FHS-0508S	FHS- M5 x 8 (Flat Hexagon Screw)	2
56	TS-HBS-0610G	HBS M6 x 10 (Hexagon Square Head Bolt)	1
57	TS-HN-0008S	HN M8 (Hexagon Nut)	2
58	TS-HN-0006S	HN M6 (Hexagon Nut)	2
59	TS-SW-0008S	SW M8 (Spring Washer)	2
60	TS-SW-0006S	SW M6 (Spring Washer)	2
61	TS-PW-0616S	PW M6 x 16 (Plain Washer)	1
62	TS-PW-0822S	PW M8 x 22 (Plain Washer)	1
63	TS-HN-0010S	HN M10 (Hexagon Nut)	1

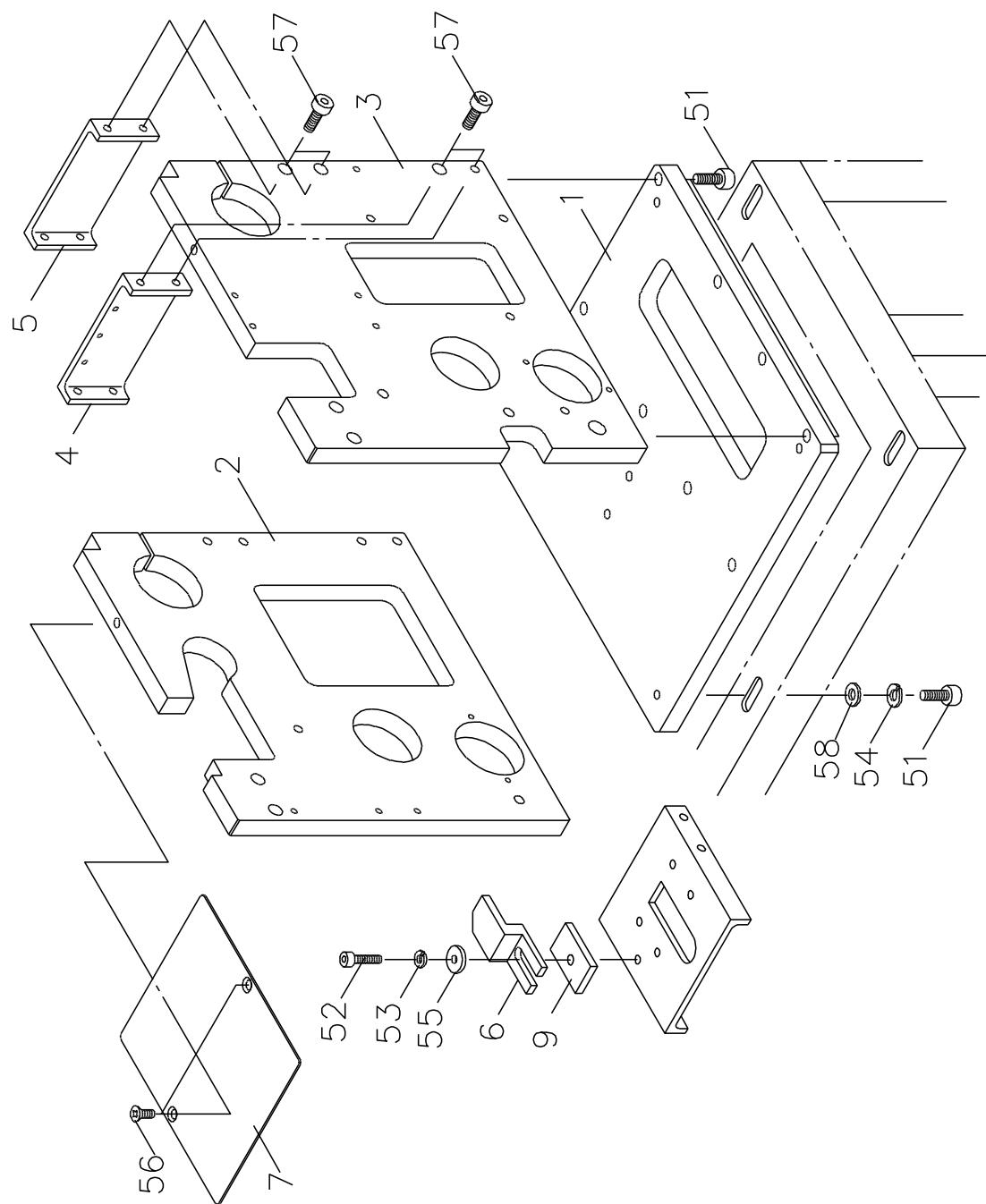
**Fig. 4. Heater Unit**



## Fig. 4. Heater Unit

Ref. No.	Parts No.	Description	Q'ty Remark
1	FA-0401-00	Heater Crank	1
1-1	FA-0401-U	Heater Crank (Complete set)	1
2	FA-0402-00	Heater Slider Base	1
3	FA-0403-00	LH. Heater Slider Guide	1
3-1	FA-0403-01	RH. Heater Slider Guide	1
4	FA-0404-00	Heater Crank Shaft	1
4-1	FA-0404-01	Heater Crank Shaft (Connect)	1
5	FA-0405-00	Heater Crank Roller Shaft	1
7	FA-0407-00	Shaft Fixing Screw	1
8	FA-0408-00	Heater Cover	1
9	FA-0409-U	Heater Plate (set)	1
9-1	FA-0409-01	Heater Upper Plate	1
9-2	FA-0409-02	Heater Plate with Wire	1
9-3	FA-0409-03	Heat Insulation Plate	1
9-4	FA-0409-04	Heater Lower Plate	1
10	FA-1605-00	Ball Bearing 6304zz	1
11	FA-0411-00	Heater Crank Spring	1
12	TS-ETW-0015D	Retaining Ring (E15)	4
13	FA-1612-00	Oil Bearing MB 20 x 20	2
14	FA-0958-00	Flap Spring	1
<hr/>			
51	TS-HBS-0820S	HBS M8 x 20 (Hexagon Square Head Bolt)	2
52	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	4
53	TS-FMS-0510S	FMS M5 x 10 (Flat Machine Screw)	2
54	TS-HB-0610S	HB M6 x 10 (Hexagon Bolt)	4
55	TS-HN-0008S	HN M8 (Hexagon Nut)	2
56	TS-FMS-0420S	FMS M4 x 20 SUS (Flat Machine Screw)	3
57	TS-SW-0008S	SW M8 (Spring Washer)	1
58	TS-HBS-0406S	HBS M4 x 6 (Hexagon Square Head Bolt)	1

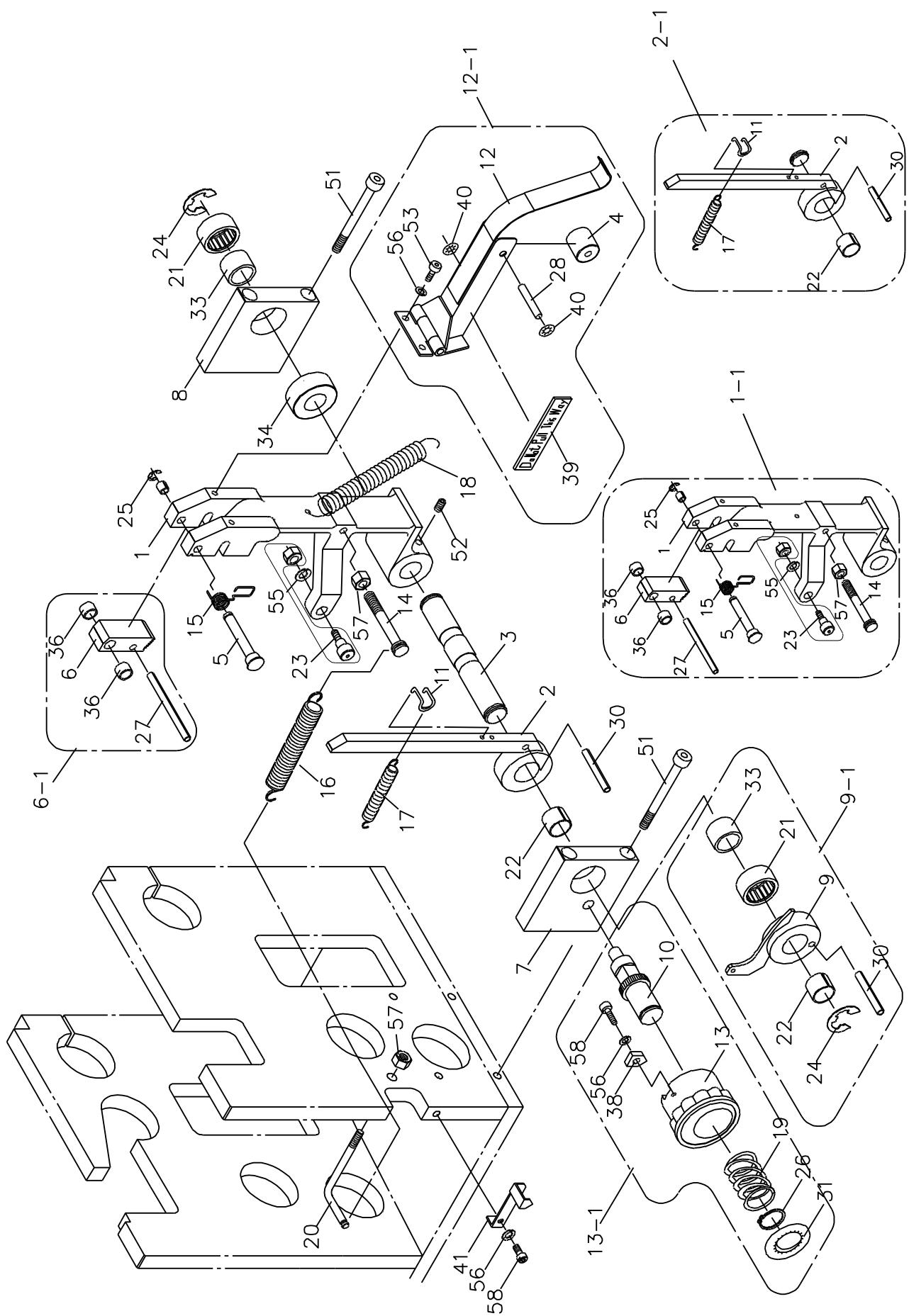
**Fig. 5. Control Frame Unit**



## Fig. 5. Control Frame Unit

Ref. No.	Parts No.	Description	Q'ty	Remark
1	FA-0501-00	Control Lower Base	1	
2	FA-0502-00	Control Left Frame	1	
3	FA-0503-00	Control Right Frame	1	
4	FA-0504-00	Press Arm Spring Hook	1	
5	FA-0505-00	RH. & LH. Frame Support	1	
6	FA-0506-01	Strap Adjusting Block (for 9, 12, 15, 19 m/m)	1	
7	FA-0507-00	Upper Slide Table Cover	1	
9	FA-0509-00	Block	1	
<hr/>				
51	TS-HBS-0820G	HBS M8 x 20 (Hexagon Square Head Bolt)	8	
52	TS-HBS-0625G	HBS M6 x 25 (Hexagon Square Head Bolt)	1	
53	TS-SW-0006G	SW M6 (Spring Washer)	1	
54	TS-SW-0008G	SW M8 (Spring Washer)	4	
55	TS-PW-0616G	PW M6 x 16 (Plain Washer)	1	
56	TS-FMS-0510G	FMS M5 x 10 (Flat Machine Screw)	2	
57	TS-HBS-0616G	HBS M6 x 16 (Hexagon Square Head Bolt)	7	
58	TS-PW-0822G	PW M8 x 22 (Plain Washer)	4	

**Fig. 6. Tension Unit**



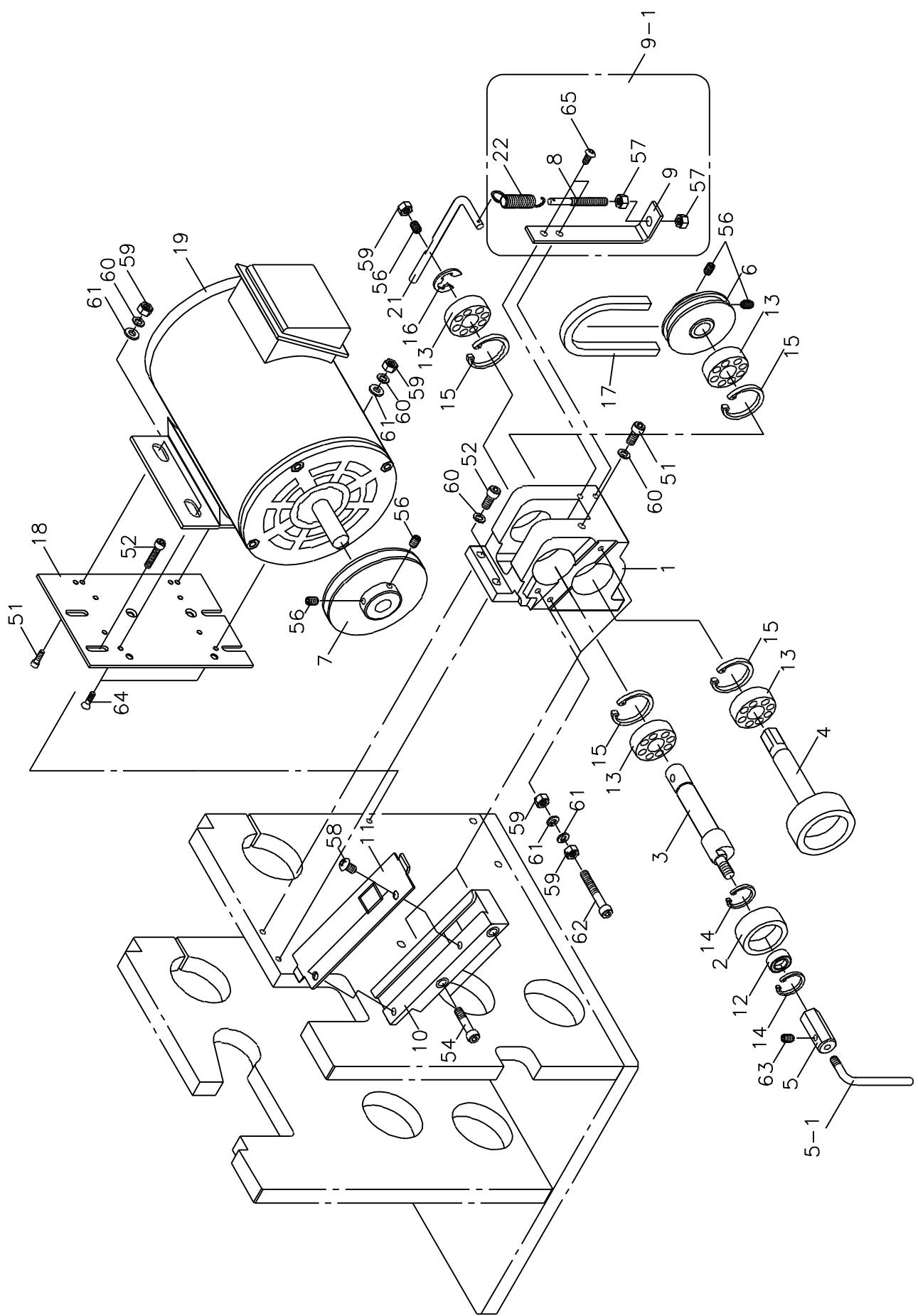
## Fig. 6. Tension Unit

Ref. No.	Parts No.	Description	Q'ty Remark
1	FA-0601-00	Tension Arm	1
1-1	FA-0601-U	Tension Arm (set)	1
2	FA-0602-00	Tension Right Adjust Arm	1
2-1	FA-0602-U	Tension Right Adjust Arm (set)	1
3	FA-0603-00	Tension Arm Shaft	1
4	FA-0604-00	Small Guide Roller	1
5	FA-0605-00	Tension Jaw Shaft	1
6	FA-0606-00	Tension Jaw	1
6-1	FA-0606-U	Tension Jaw (set)	1
7	FA-0607-00	Tension Arm Left Bearing Bracket	1
8	FA-0608-00	Tension Arm Right Bearing Bracket	1
9	FA-0609-00	Tension Arm (Left Adjustment)	1
9-1	FA-0609-U	Tension Arm (set)	1
10	FA-0610-00	Tension Adjust Cam Shaft	1
11	FA-0611-00	Tension Adjust Arm Spring Hook	1
12	FA-0612-00	Tension Arm Shooter	1
12-1	FA-0612-US	Tension Arm Shooter Set	1
13	FA-0613-00	Tension Adjustment Cam	1
13-1	FA-0613-U	Tension Adjustment Cam (set)	1
14	FA-0614-00	Tension Arm Spring Hook	1
15	FA-0615-00	Tension Jaw Spring	1
16	FA-0616-00	Tension Arm Spring (long)	1
17	FA-0617-00	R. and L. Adjustment Arm Spring (short)	1
18	FA-0722-00	Feeding Tension Spring	1
19	FA-0619-00	Inner Spring of Adjustment Cam	1
20	FA-0620-00	R.H. Plate Spring Hook	1
21	FA-1606-00	Bearing (HK2516)	2
22	FA-1612-00	Oil Bearing (MB2015)	2
23	FA-1607-00	Bearing (KR22LL)	1
24	TS-ETW-0015D	Retaining Ring (E15)	2
25	TS-ETW-0006D	Retaining Ring (E 6)	1

## Fig. 6. Tension Unit

Ref. No.	Parts No.	Description	Q'ty Remark
26	TS-STW-0020D	Retaining Ring (S15)	1
27	TS-CP-0675D	Spring Pin	1
28	SR-0012-00	Small Guide Roller Shaft	1
30	TS-CP-0645D	Spring Pin	2
31	FA-0631-00	Nameplate (Tension Gradation)	1
33	FA-1608-00	Needle Bearing Inner (IR202516)	2
34	FA-0634-00	Tension Arm Spacer	1
36	FA-1609-00	Oil Bearing (MB0808)	2
38	FA-0638-00	Tension Cam Fixing Plate	1
39	YBS-0000-17	Nameplate (Strap-enter Pool)	1
40	TS-SPN-0006D	Retaining Ring	2
41	FA-0641-00	Tension Gauge	1
<hr/>			
51	TS-HBS-0875GH	HBS M8 x 75 (Hexagon Square Head Bolt)	4
52	TS-HSS-0810D	HSS M8 x 10 (Hexagon Socket Headless Set Screw)	1
53	TS-HBS-0510G	HBS M5 x 10 (Hexagon Square Head Bolt)	2
55	TS-SW-0010G	SW M10 (Spring Washer)	1
56	TS-SW-0005G	SW M5 (Spring Washer)	4
57	TS-HN-0008G	HN M8 (Hexagon Nut)	3
58	TS-HBS-0516G	HBS M5 x 16 (Hexagon Square Head Bolt)	2

**Fig. 7. Feed Unit**



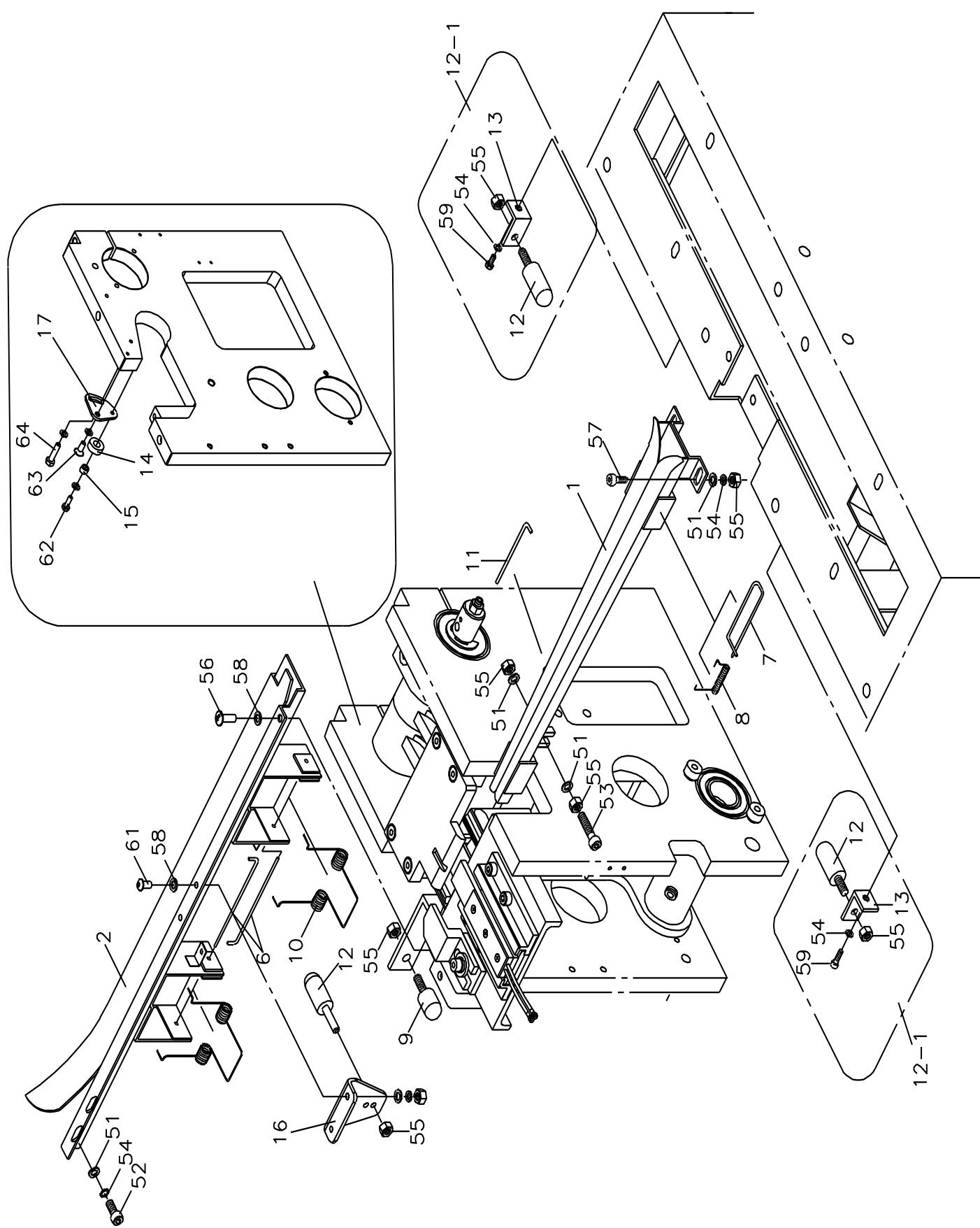
## Fig. 7. Feed Unit

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
1	FA-0701-00	Feed Roll Bearing Case	1	
2	FA-0702-09	Feed Upper Roller (9 mm)	1	
	FA-0702-12	Feed Upper Roller (12 mm)	1	
3	FA-0703-00	Feed Upper Roller Shaft	1	
4	FA-0704-00	Lower Feed Roller	1	
5	FA-0705-00	Upper Roller Grip	1	
5-2	FA-0705-01	Strap Threading Lever	1	
6	FA-0706-01	Feed Roller Pulley (K45Ø )	1	
		(when ordering this part, please inform motor voltage, phase, speed, 50 or 60HZ)		
7	FA-0707-01	Feed Motor Pulley (K85Ø , Ø 11 holes) (inform motor voltage, phase, speed, 50 or 60HZ when order)	1	
8	FA-0310-00	Feed Tension Adjustment Screw (same as FA-0708-00)	1	
9	FA-0709-00S	Adjustment Screw Fixing Bracket	1	
9-1	FA-0709-US	Adjustment Screw Fixing Bracket (set)	1	
10	FA-0710-091U	Feed Shooter (9 mm)	1	
	FA-0710-121U	Feed Shooter (12 mm)	1	
11	FA-0711-00	Feed Shooter Cover	1	
12	FA-1601-00	Bearing (628ZZ)	1	
13	FA-1603-00	Bearing (6202ZZ)	4	
14	TS-RTW-0024D	Retaining Ring (R24)	2	
15	TS-RTW-0035D	Retaining Ring (R35)	4	
16	TS-ETW-0012D	Retaining Ring (E12)	1	
17	FA-1739-K17	Feed/Reverse Motor Belt (K17)(K45ØPulley) Motor Pulley K85, Upper Bracket Pulley K45)	1	
18	FA-0718-01S	Motor Plate	1	
19	FA-0739-01	Feed/Reverse Motor 3/230V 1/3HP 0.22KW 50/60HZ	1	
21	FA-0721-00	Spring Fixing Rod	1	
22	FA-0722-00	Feeding Tension Spring (weak)	1	

## **Fig. 7. Feed Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
51	TS-HBS-0630G	HBS M6 x 30 (Hexagon Square Head Bolt)	4
52	TS-HBS-0625G	HBS M6 x 25 (Hexagon Square Head Bolt)	6
54	TS-HBS-0645G	HBS M6 x 45 (Hexagon Square Head Bolt)	2
56	TS-HSS-0610D	HSS M6 x 10 (Hexagon Socket Headless Set Screw)	4
57	TS-HN-0008G	HN M8 (Hexagon Nut)	2
58	TS-TMS-0610G	TMS M6 x 10 (Truss Head Machine Screw)	2
59	TS-HN-0006G	HN M6 (Hexagon Nut)	8
60	TS-SW-0006G	SW M6 (Spring Washer)	8
61	TS-PW-0616G	PW M6 x 16 (Plain Washer)	6
62	TS-HBS-0650G	HBS M6 x 50 (Hexagon Square Head Bolt)	1
63	TS-HSS-0606D	HSS M6 x 6 (Hexagon Socket Headless Set Screw)	1
64	TS-FMS-0620S	FMS M6 x 20 (Flat Machine Screw)	2
65	TS-TMS-0512G	TMS M5 x 12 (Truss Head Machine Screw)	2

**Fig. 8. Bandway Unit**



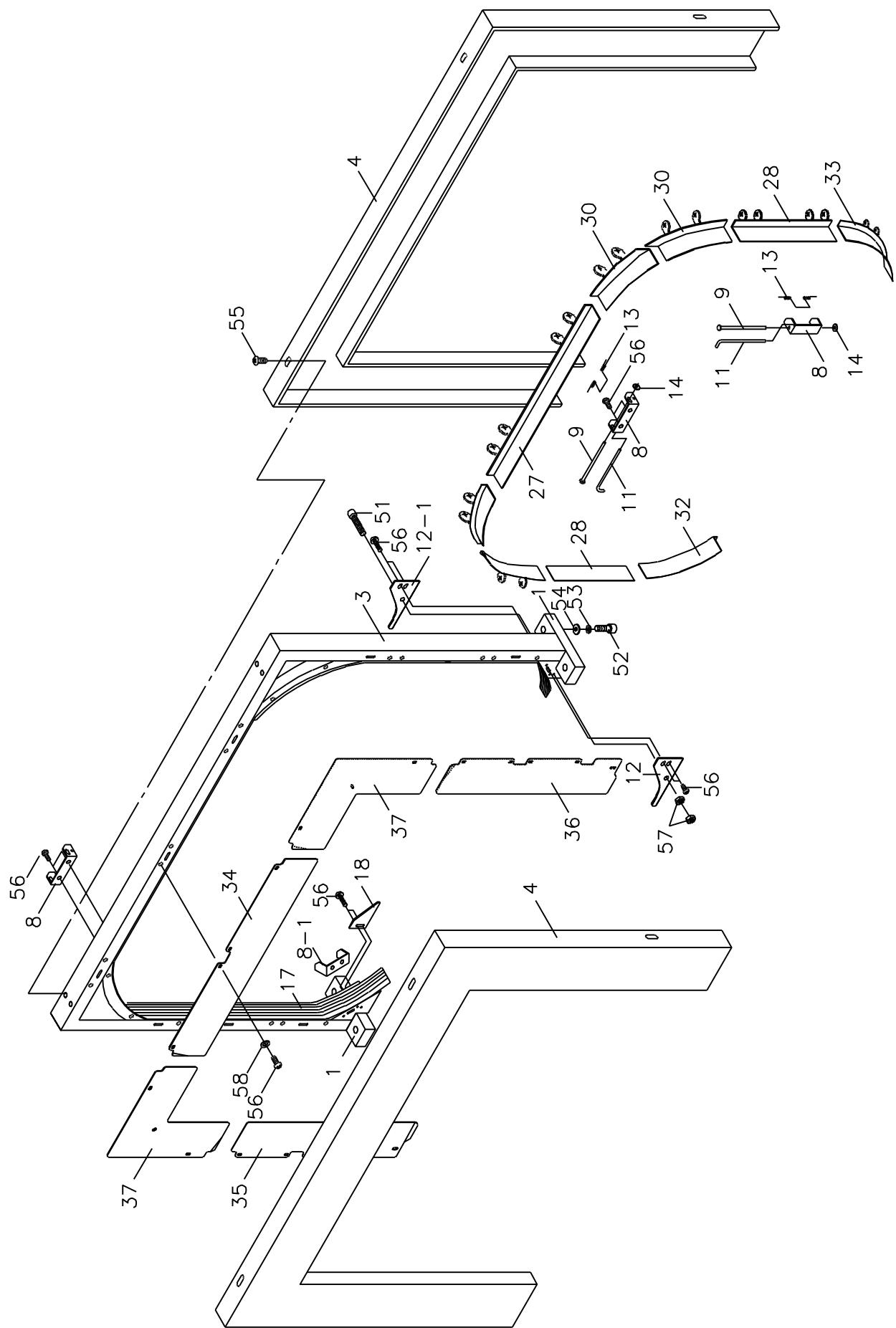
## **Fig. 8. Bandway Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
1	FA-0801-09	R.H. Bandway (9 mm)	1	
	FA-0801-12	R.H. Bandway (12 mm)	1	
2	FA-0802-00	L.H. Bandway (12 mm)	1	
	FA-0802-07	L.H. Bandway (9 mm)	1	
6	FA-0806-00	L.H. Bandway Spring Locating Pin	2	
7	FA-0807-00	R.H. Bandway Spring Locating Pin	2	
8	FA-0808-00	R.H. Bandway Flap Spring	2	
9	FA-0809-00	Buffering Rubber Cushion (short)	1	
		Modified from FA-0812-00		
10	FA-0810-00	L.H. Lower Spring (weak) (standard)	2	
11	FA-0911-00	R.H. Bandway Flap Locating Pin	2	
12	FA-0812-00	Buffering Rubber Cushion (long)	2	
12-1	FA-0812-U	Buffering Rubber Cushion (set)	2	
13	FA-0813-00	Rubber Fixing Plate	2	
14	C-50306-00	Positioning Roller	1	
15	C-50307-00	Inner Roll of Positioning Roller	1	
16	FA-0815-00	Limit Adjusting Plate for L.H. Bandway	1	
17	FA-0815-01	L.H. Bandway Buffering Base	1	

## **Fig. 8. Bandway Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
51	TS-PW-0613S	PW M6 x 13 (Plain Washer)	6	
52	TS-HBS-0612S	HBS M6 x 12 (Hexagon Square Head Bolt)	4	
53	TS-HBS-0650S	HBS M6 x 50 (Hexagon Square Head Bolt)	1	
54	TS-SW-0006S	SW M6 (Spring Washer)	6	
55	TS-HN-0006S	HN M6 (Hexagon Nut)	8	
56	TS-HBS-0512S	HBS M5 x 12 (Hexagon Square Head Bolt)	1	
57	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	2	
58	TS-PW-0513S	PW M5 x 13 (Plain Washer)	1	
59	TS-HB-0612S	HB M6 x 12 (Hexagon Bolt)	2	
60	TS-SW-0005S	SW M5 (Spring Washer)	1	
61	TS-THS-0616S	THS M6 x 16(Truss Head Machine Screw)	2	
62	TS-HB-0412S	HB M4 x 12 ( Hexagon Bolt)	1	
63	TS-FMS-0512S	FMS M5 x 12 (Flat Machine Screw)	1	
64	TS-HB-0516S	HB M5 x 16( Hexagon Bolt)	1	

**Fig. 9.** Arch Unit



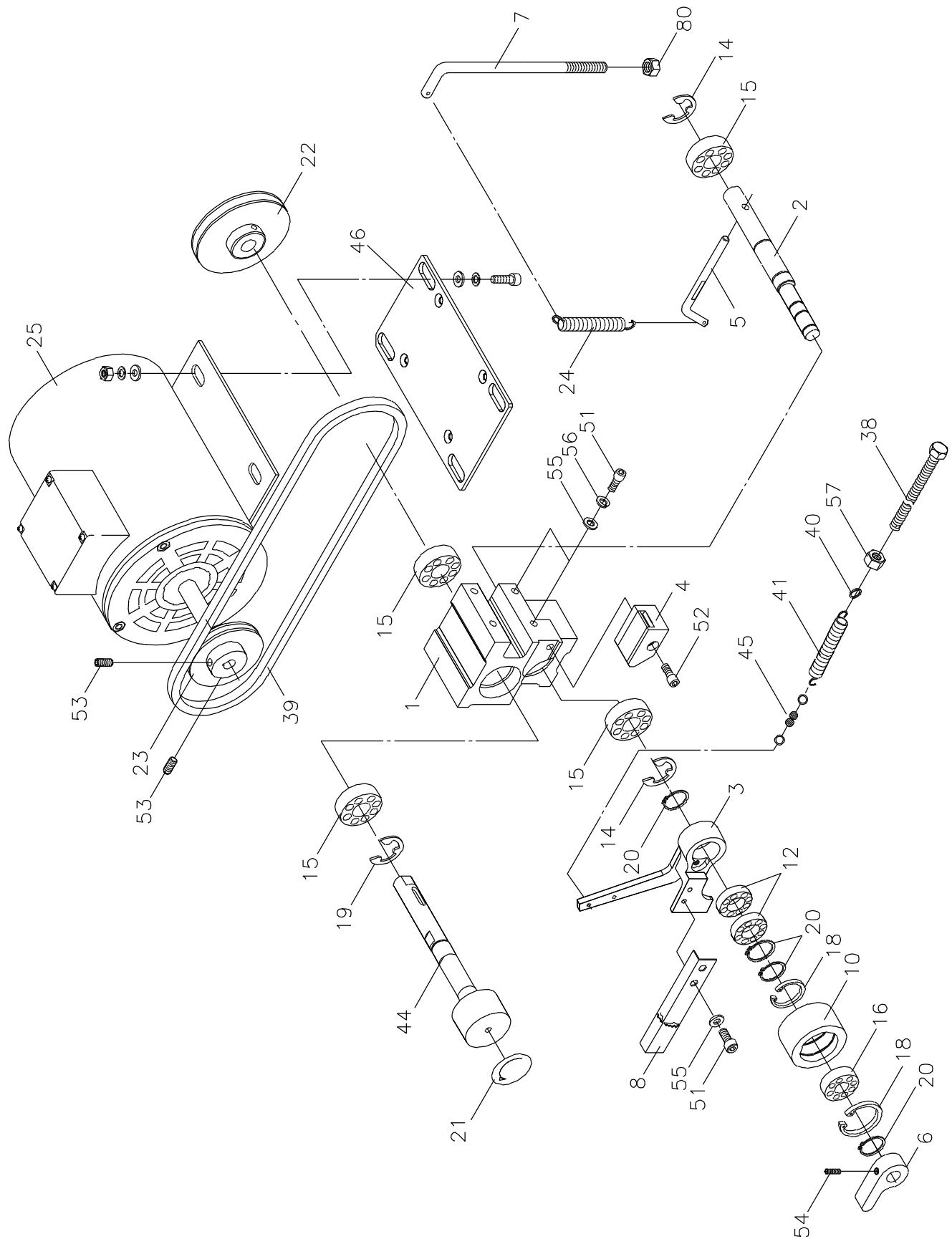
## **Fig. 9. Arch Unit (Flat)**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
1	FA-0901-00	Arch Fixed Block	1
3	F-0840-1S	Arch Frame (when ordering this part, please inform desired added/decreased section)	1
4	F-0840-2S	Arch Cover (when ordering this part, please inform desired added/decreased section)	1 set
8	FA-0908-00	Flap Spring Bracket	9
8-1	FA-0908-01	Flap Spring Bracket (Lower Left)	1
9	FA-0909-00	Flap Spring Pin	10
11	FA-0911-00	Spring Locating Pin	10
12	FA-0912-00S	Strap Guide Plate (lower right corner) (front)	1
12-1	FA-0912-01S	Strap Guide Plate (lower right corner) (rear)	1
13	FA-0913-00	Arch Flap Spring	10
14	TS-SPN-0004D	Retaining Ring	10
17	FA-0917-01	Aluminum Arch Bandway (2.5 M)	1
	FA-0917-08	Bandway Fixing Block	9
18	FA-0918-00S	Strap Guide Plate (lower left corner)	1
27	FA-0927-00	Arch Flap (Upper) (standard) 578 mm	1
28	FA-0928-03	Arch Flap (Left) ( -1 section ) 145 mm	2
30	FA-0930-00	Corner Flap—Upper 192mm	4
32	FA-0932-00	Corner Flap (lower left corner) 108mm	1
33	FA-0933-00	Corner Flap (lower right corner) 106mm	1
34	FA-0934-00S	Arch Guide Plate (Upper) (standard) 570 mm	1
35	FA-0935-01S	Arch Guide Plate (left)( -1 section ) 230 mm	1
36	FA-0936-01S	Arch Guide Plate (right)( -1 section ) 230 mm	1
37	FA-0937-00S	Arch Guide Plate (upper corner)	2

## **Fig. 9. Arch Unit (Flat)**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
51	TS-HBS-0650S	HBS M6 x 50 (Hexagon Square Head Bolt)	1
52	TS-HBS-0820S	HBS M8 x 20 (Hexagon Square Head Bolt)	4
53	TS-SW-0008S	SW M8 (Spring Washer)	4
54	TS-PW-0816S	PW M8 x 16 (Plain Washer)	4
55	TS-TMS-0510S	TMS M5 x 10 (Truss Head Machine Screw)	8
56	TS-TMS-0410S	TMS M4 x 10 (Truss Head Machine Screw)	59
57	TS-HN-0006S	HN M6 (Hexagon Nut)	2
58	TS-PW-0412S	PW M4 x 12 (Plain Washer)	59

**Fig. 10. Pool Unit (1)**



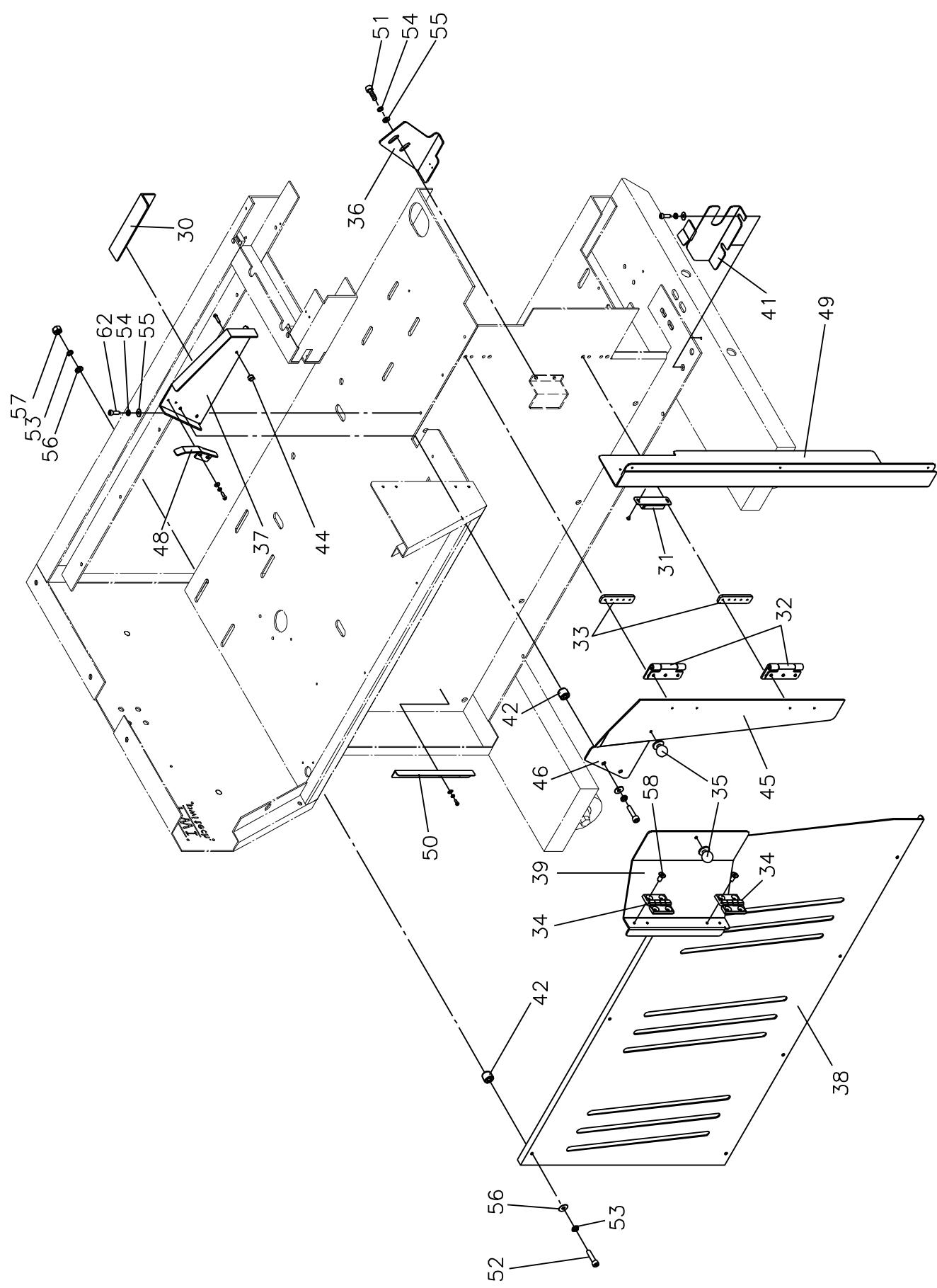
## Fig. 10. Pool Box Unit (I)

Ref. No.	Parts No.	Description	Q'ty Remark
1	FA-1050-00	Pre-set Bearing Bracket	1
2	FA-1051-00	Lower Pulley Shaft	1
3	FA-1052-00	Balance Fixing Arm	1
4	FA-1053-09	Lower Feed Shooter Jaw (9 m/m)	1
	FA-1053-12	Lower Feed Shooter Jaw (12m/m)	1
5	FA-1054-00S	Pool Box Pressure Adjustment Rod	1
6	FA-1055-00	Strap-threading Adjustment Arm	1
7	FA-1056-S	Pool Box Spring Adjustment Rod	1
8	FA-1008-09	Balance Rod (9 mm)	1
10	FA-1003-00	Lower Pulley	1
12	FA-1616-00	Bearing 6902ZZ	2
14	TS-ETW-0015D	Retaining Ring E15	2
15	FA-1603-00	Bearing 6202ZZ	4
16	FA-1602-00	Bearing 6201ZZ	1
18	TS-RTW-0032D	Retaining Ring R32	2
19	TS-ETW-0012D	Retaining Ring E12	1
20	TS-STW-0012D	Retaining Ring S12	4
21	FA-1201-00	Nameplate (Direction)	1
22	FA-1007-03	Pool Motor Pulley (K58Ø , 15Ø hole) (when ordering this part, please inform motor voltage, phase, speed, 50 or 60HZ)	1
23	FA-1007-02	Upper Pulley (K45Ø ,11Ø ) (when ordering this part, please inform motor voltage, phase, speed, 50 or 60HZ)	1
24	FA-0722-00	Pool Box Spring	1
25	FA-0739-01	Feed/Reverse Motor 3/230V 1/3HP 0.22KW 50/60HZ	1
38	FA-1058-00SS	Pool Box Adjustment Screw	1

## **Fig. 10. Pool Box Unit (I)**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
39	FA-1739-K25	Belt (K25)	2
40	FA-1133-00	Spring Cap	1
41	FA-0722-00	Pool Box Spring	1
44	FA-1044-00	Upper Guide Roller Shaft	1
45	FA-1059-00	Clasp	1
46	FA-1034-04	Pool Motor Plate	1
<hr/>			
51	TS-HBS-0610D	HBS M6 x 10 (Hexagon Square Head Bolt)	6
52	TS-HBS-0635D	HBS M6 x 35 (Hexagon Square Head Bolt)	1
53	TS-HSS-0610D	HSS M6 x 10 (Hexagon Socket Headless Set Screw)	2
54	TS-HSS-0508D	HSS M5 x 8 (Hexagon Socket Headless Set Screw)	1
55	TS-PW-0616G	PW M6 x 16 (Plain Washer)	6
56	TS-SW-0006G	SW M6 (Spring Washer)	4
57	TS-HNW-0008G	HNW M8 (Safety Nut)	1

**Fig. 10. Pool Box Unit (II)**



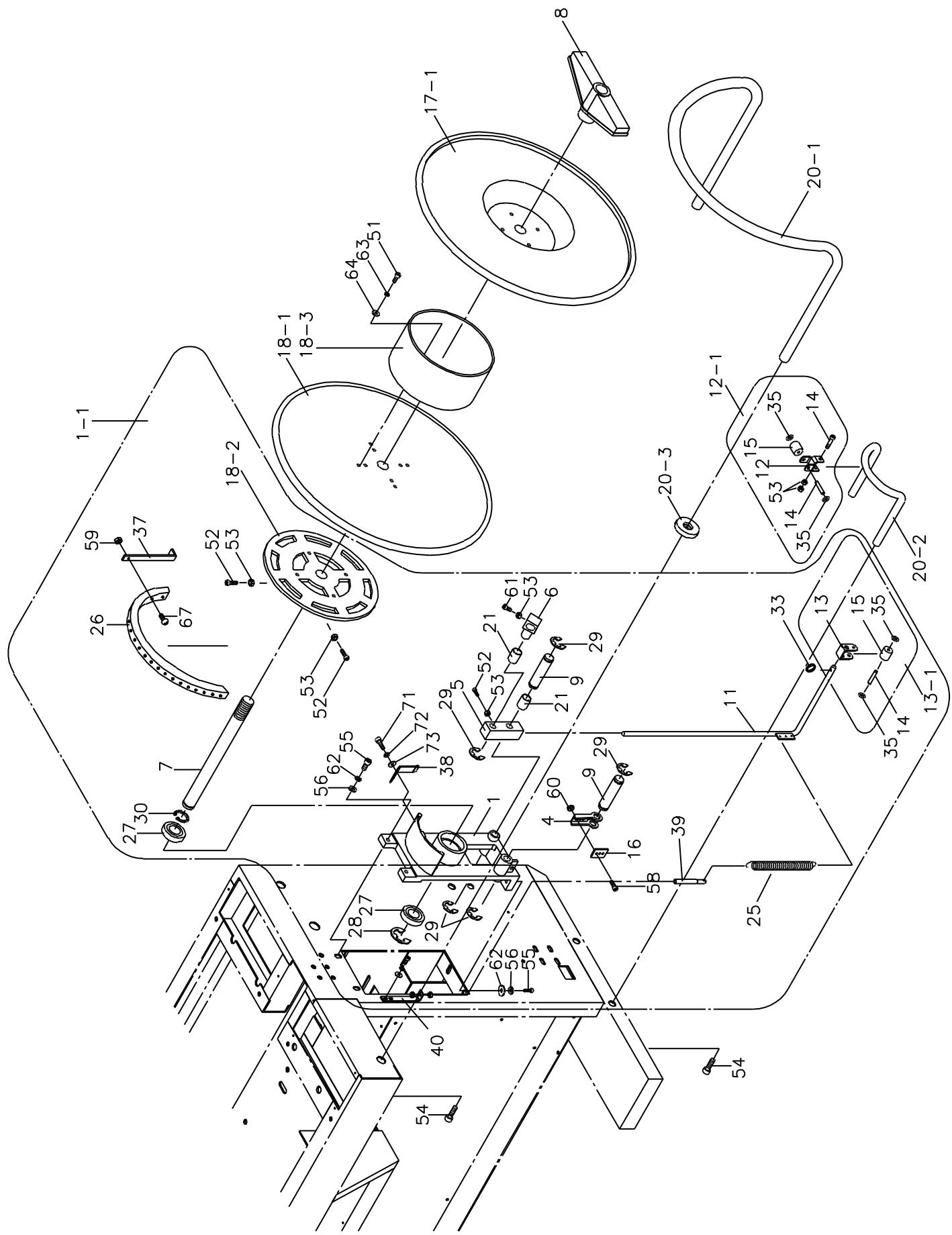
## Fig. 10. Pool Box Unit (II)

Ref. No.	Parts No.	Description	Q'ty	Remark
30	FA-1061-00S	Tension Arm Slide Plate	1	
31	SP-0005-00	Door Magnet	1	
32	C-55467-00S	Hinge 3/16#T10	2	
33	FA-1025-50-2S	Door Hinge Spacer (for 9mm)	2	
	FA-1025-50-3S	Door Hinge Spacer (for 12mm)	2	
34	FA-4179-01S	Hinge B-226-3	2	
35	FA-1515-00	Door Handle	2	
36	FA-4102-34S	Pool Box Proximity SW Bracket	1	
37	FA-4118-082S	Pool Box Rear Plate	1	
38	FA-4114-082S	Pool Box Front Plate	1	
39	FA-4186-08S	Pool Box Outer Side Cover	1	
41	FA-4117-001S	Pool Box Cover	1	
42	FA-1042-09	Pool Box Collar (9 mm)	11	
	FA-1042-12	Pool Box Collar (12 mm)	11	
44	C-59464-72	Magnet SMB1610-1	1	
45	FA-4115-082S	Pool Box Right Plate	1	
46	FA-4116-001	Pool Box Front Small Cover	1	
48	FA-1023-0821S	Pool Box Auxiliary Guide Plate	1	
49	FA-4197-00S	Machine Right Side Cover	1	
50	FA-1060-09	Rear Baffle (9 mm)	1	
	FA-1060-12	Rear Baffle (12 mm)	1	
51	TS-HBS-0508S	HBS M5 x 8 (Hexagon Square Head Bolt)	4	
52	TS-HBS-0630S	HBS M6 x 30 (Hexagon Square Head Bolt)	9	
53	TS-SW-0006S	SW M6 (Spring Washer)	18	
54	TS-SW-0005S	SW M5 (Spring Washer)	4	
55	TS-PW-0513S	PW M5 x 13 (Plain Washer)	4	
56	TS-PW-0616S	PW M6 x 16 (Plain Washer)	18	
57	TS-HN-0006S	HN M6 (Hexagon Nut)	9	
58	TS-FHS-0508S	FHS M5 x 8 (Flat Hexagon Screw)	4	
59	TS-HBS-0416S	HBS M4 x 16 (Hexagon Square Head Bolt)	4	
60	TS-SW-0004S	SW M4 (Spring Washer)	4	

### **Fig. 10. Pool Box Unit (II)**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
61	TS-PW-0411S	PW M4 x 11 (Plain Washer)	4	
62	TS-HBS-0512S	HBS M5 x 12 (Hexagon Square Head Bolt)	3	

**Fig. 11.** Reel Unit



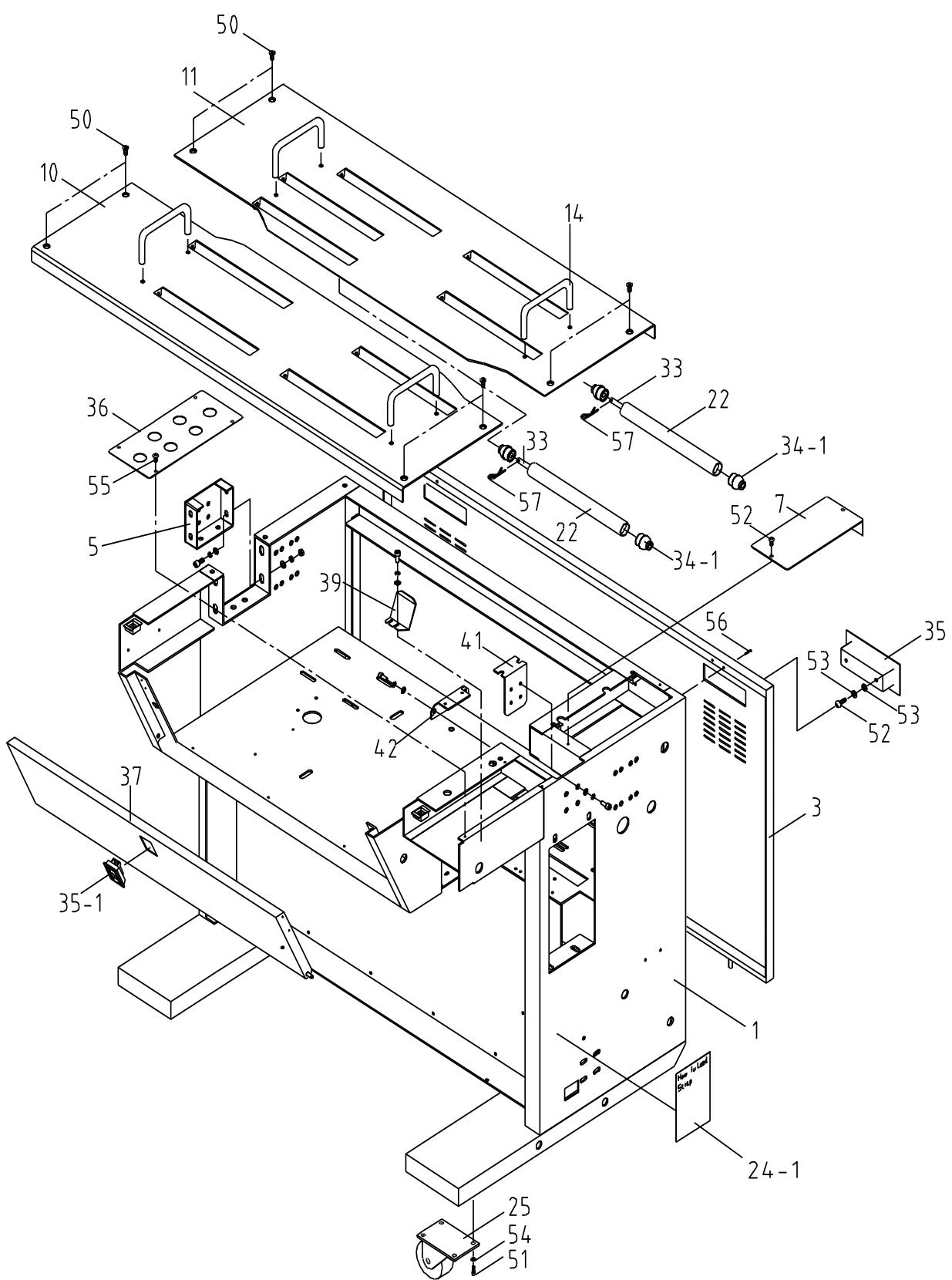
## Fig. 11. Reel Unit

Ref. No.	Parts No.	Description	Q'ty	Remark
1	FA-1101-00	Reel Unit Base	1	
4	FA-1104-00	Brake Belt Holder	1	
5	FA-1105-01	Aluminum Brake Bar	1	
6	FA-1106-00	Brake Belt Adjustment Iron	1	
7	FA-1107-00	Reel Shaft	1	
8	FA-1108-00	Plastic Reel Shaft	1	
9	FA-1109-00	Brake Belt Fixing Shaft	2	
11	FA-1111-08	Brake Support	1	
12-1	FA-1112-3US	Small Strap Guide Roller Bracket (set)(long)	1	
12	FA-1112-03	Small Strap Guide Roller Bracket	1	
13-1	FA-1113-3US	Strap Guide Double-U Bracket (set)(long)	1	
13	FA-1113-03	Strap Guide Double-U Bracket	1	
14	TS-HBS-0660S	HBS M6 x 60 (Hexagon Square Head Bolt)	2	
15	FA-0604-03	Small Guide Roller	2	
16	FA-1116-00	Brake Belt Fixing Plate	1	
17	FA-1118-9US	Reel Unit 9" (480 mm)	1	
17-1	FA-1119-02S	Outside Reel (iron dispenser) 9"	1	
18-1	FA-1118-00S	Inner Reel Plate(iron dispenser)	1	
18-2	FA-1103-00	Aluminum Brake Roller (iron dispenser)	1	
18-3	FA-1124-01S	Dispenser Inner Bracket (iron dispenser) 9"	4	
20-1	FA-1134-00SS	Upper Reel Protector	1	
20-2	FA-1135-00SS	Lower Reel Protector	1	
20-3	FA-1136-00SS	Dispenser Protector Washer	2	
21	FA-1611-00	Oil Bearing (MB15x25)	2	
25	SM-0008-00	Brake Tension Spring (horizontal)	1	
	FA-1125-00	Brake Tension Spring (strong)	1	
26	FA-1126-00	Break Belt	1	
27	FA-1604-00	Ball Bearing 6205ZZ	2	
28	TS-ETW-0019D	Retaining Ring E19	1	

## Fig. 11. Reel Unit

Ref. No.	Parts No.	Description	Q'ty Remark
29	TS-ETW-0012D	Retaining Ring E12	5
33	FA-1133-00	Brake Tension Spring Ring	1
35	TS-HNW-0006S	HNW M6 (Safety Nut)	2
37	FA-1127-00	Brake Belt Adjustment Iron	1
38	FA-1129-00S	Plate	1
39	FA-0310-00	Feed Tension Adjustment Screw (same as FA-0708-00)	1
40	FA-0709-00	Adjustment Screw Fixing Bracket	1
<hr/>			
51	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	8
52	TS-HBS-0620S	HBS M6 x 20 (Hexagon Square Head Bolt)	4
53	TS-HN-0006S	HN M6 (Hexagon Nut)	5
54	TS-HBS-1425S	HBS M14 x 25 (Hexagon Square Head Bolt)	2
55	TS-HBS-0820S	HBS M8 x 20 (Hexagon Square Head Bolt)	4
56	TS-SW-0008S	SW M8 (Spring Washer)	4
57	TS-HBS-1825S	HBS M18 x 25 (Hexagon Square Head Bolt)	2
58	TS-HBS-0420S	HBS M4 x 20 (Hexagon Square Head Bolt)	3
59	TS-HN-0004S	HN M4 (Hexagon Nut)	3
60	TS-HN-0004S	HN M4 (Hexagon Nut)	3
61	TS-HBS-0625S	HBS M6 x 25 (Hexagon Square Head Bolt)	1
62	TS-PW-0822S	PW M8 x 22 (Plain Washer)	4
63	TS-SW-0006S	SW M6 (Spring Washer)	8
64	TS-PW-0616S	PW M6 x 16 (Plain Washer)	8
65	TS-TR-RI-5-6	Rivet	18
66	TS-PW-0408S	PW M4 x 8 (Plain Washer)	18
67	TS-PMS-0420S	PMS M4 x 20 (Pan Machine Screw)	1
68	TS-HBS-0635S	HBS M6 x 35 (Hexagon Square Head Bolt)	1
71	TS-HBS-0512S	HBS M5 x 12 (Hexagon Square Head Bolt)	2
72	TS-SW-0005S	SW M5 (Spring Washer)	2
73	TS-PW-0513S	PW M5 x 13 (Plain Washer)	2

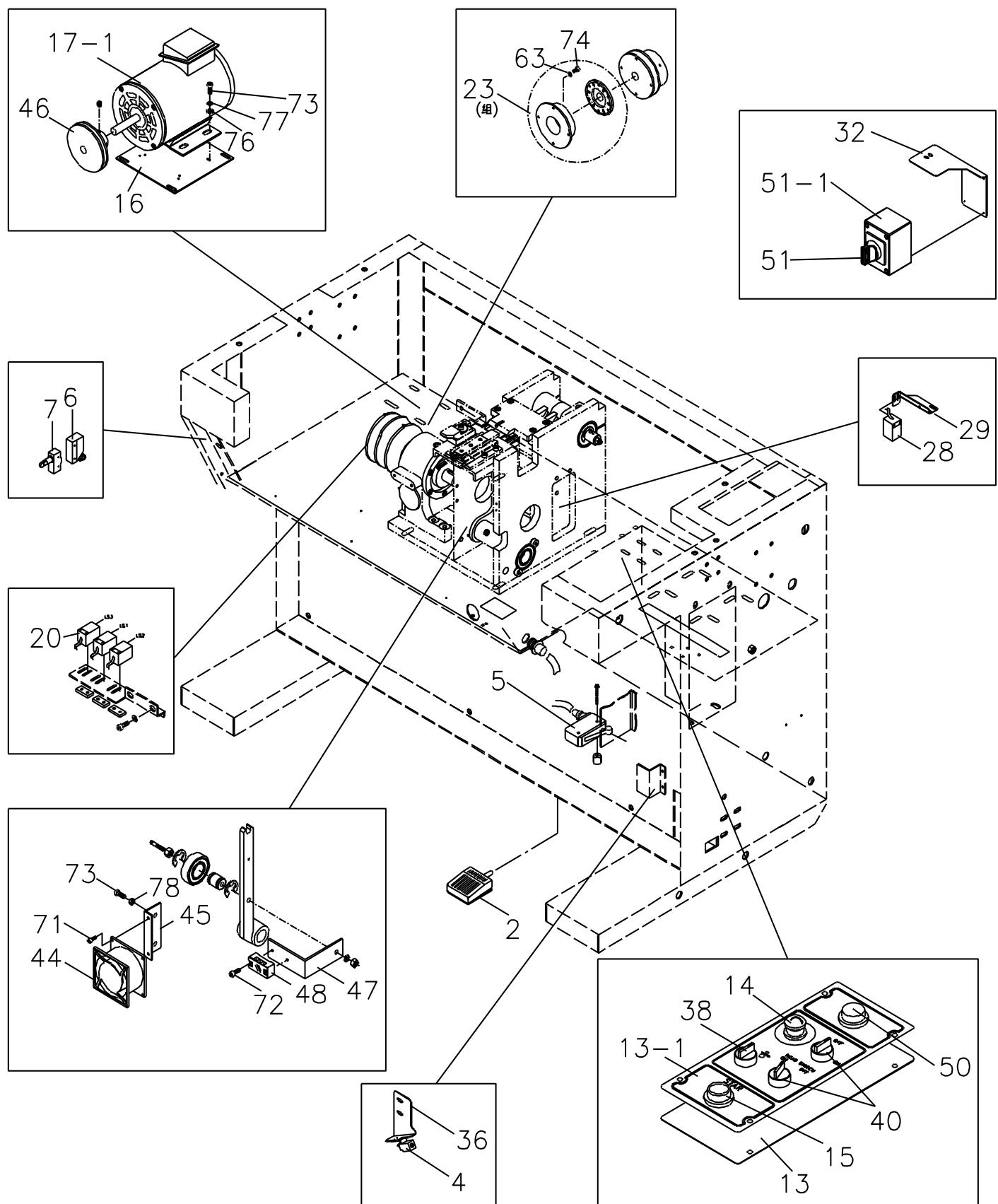
**Fig. 12. Body Unit**



## Fig. 12. Body Unit

Ref.No.	Parts No.	Description	Q'ty	Remark
1	FA-4202-01SS	Body Frame 0840BN+P	1	
3	FA-5135-00S	Rear Side Body Frame	1	
5	FA-1227-02S	Left Arch Support	1	
7	FA-4107-10S304	Panel Side Board	1	
10	FA-4112-00S304	Front Panel	1	
11	FA-4113-101S304	Rear Panel	1	
14	FA-4122-00S	Panel Handle	4	
22	FA-1222-01	Aluminum Roller	9	
24	FA-1224-00	Nameplate (Threading)	1	
25	FA-1225-01S	Caster with no brake 3"	4	
33	FA-1233-00S	Roller Shaft	9	
34-1	FA-1234-01	Roller Bearing (white)	18	
35	FA-4120-00	Handle Set KM076	2	
35-1	FA-4120-01	Handle A 175-2-A-55-A-25	1	
36	FA-1322-063S	Base Plate of Operational Panel	1	
37	FA-5206-01S	Slide Door	2	
39	FA-4128-01S	Guide Plate	1	
41	FA-41106-00S	Right Fixing Bracket	1	
42	FA-41108-00S	Right Bandway Fixing Bracket	1	
<hr/>				
50	TS-FMS-0615S	FMS M6 x 15 (Flat Machine Screw)	4	
51	TS-HBS-0612S	HBS M6 x 12 (Hexagon Square Head Bolt)	16	
52	TS-PMS-0616S	PMS M6 x 16 (Pan Machine Screw)	10	
53	TS-PW-0616S	PW M6 x 16 (Plain Washer)	10	
54	TS-SW-0006S	SW M6 (Spring Washer)	16	
55	TS-TMS-0410S	TMS M4 x 10 (Truss Head Machine Screw)	4	
56	TS-HBS-0608S	HBS M6 x 8 (Hexagon Square Head Bolt)	2	
57	TS-SSP-0008S	Pin (Roller Shaft Pin)	18	

**Fig. 13. Electric Unit**



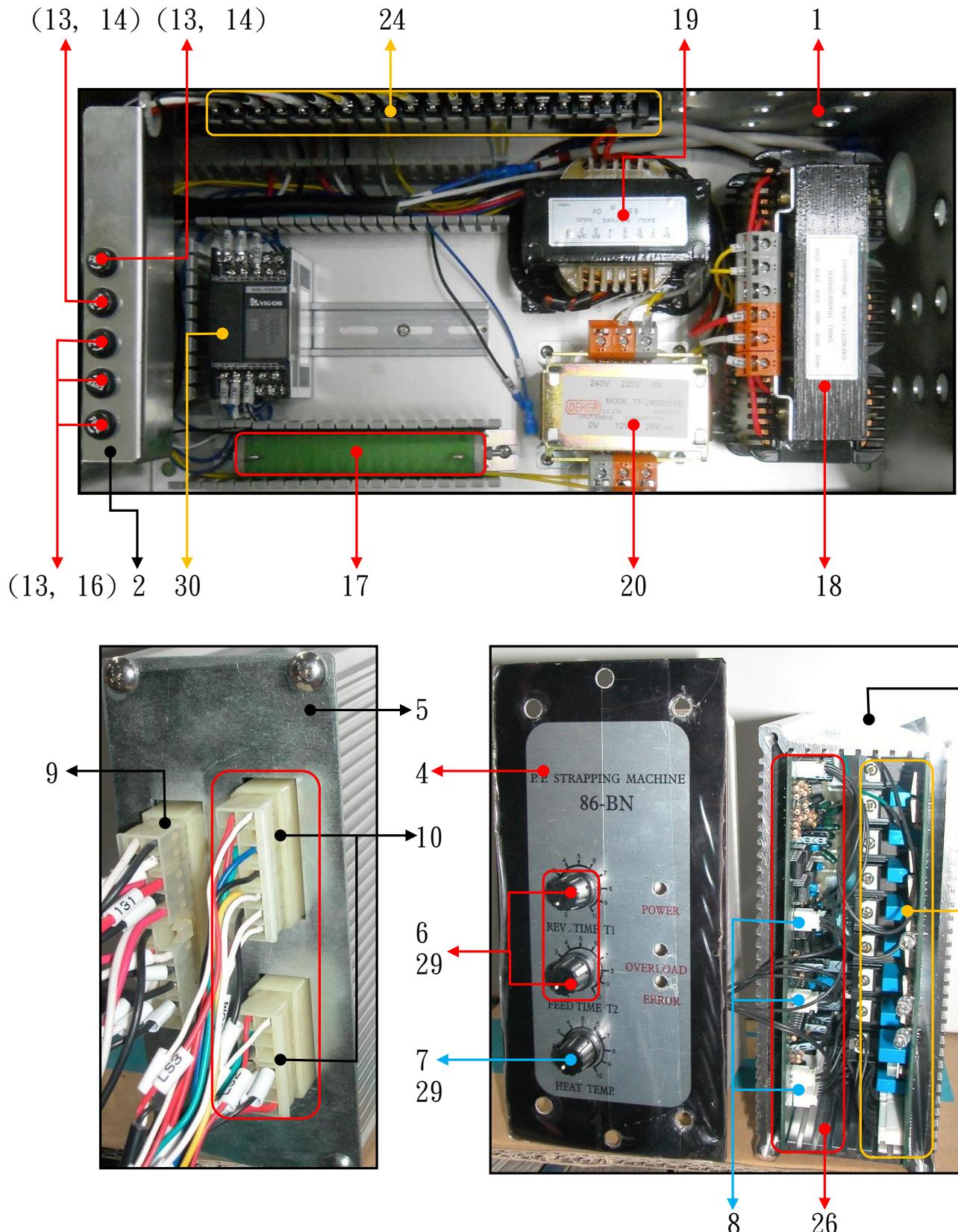
### Fig. 13. Electric Unit

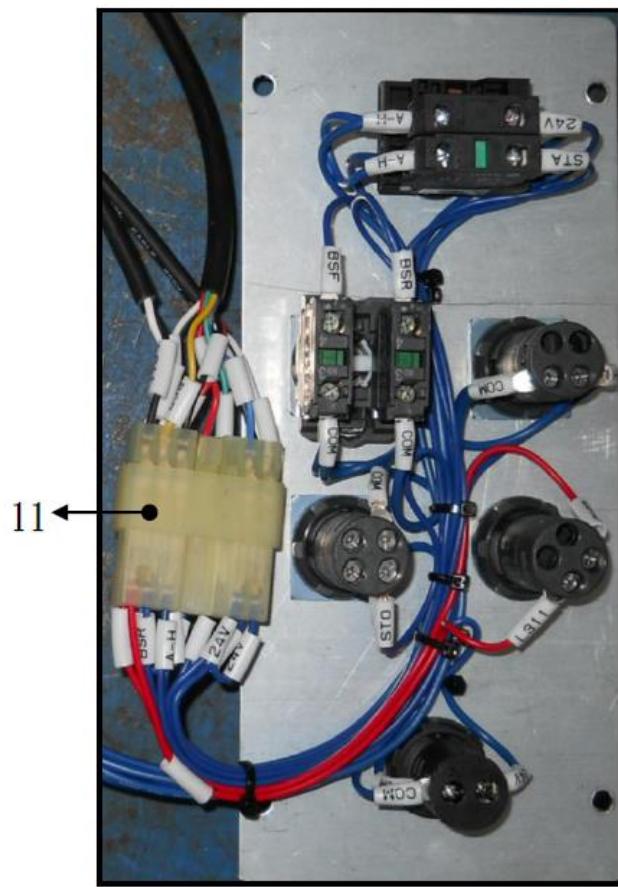
Ref. No.	Parts No.	Description	Q'ty	Remark
2	FA-1341-U	Foot Switch	1	
4	FA-0228-12	Proximity SW (TPC b with JD-18T05 G2 NC Contact 10-30V DC 150mA)	1	
5	SE-0028-00	Safety SW (HL1704)	1	
6	FA-1319-00	Micro Switch Cap	2	
7	FA-1320-00	Micro Switch	1	
13	FA-1322-063S	Control Panel Base Plate	1	
13-1	FA-1322-06PJ	Control Panel Sticker(BN) America	1	
14	TSW-S02R-01	Emergency Stop button 2b	1	
15	TSW-F10GA-03	Start Button 1a	1	
16	FA-4123-00S	Control Motor Plate	1	
17-1	FA-1317-01	Control Motor 230V 1/2HP 50HZ IP54	1	
20	FA-0228-03	Proximity SW (FOTEK PS-05N)	3	
23	FA-1323-00	Electromagnetic Brake	1	
28	FA-0228-16	Proximity SW FOTEK PS-05NB NPN 10- 30VDC B contact	1	
29	FA-4102-471S	Proximity SW Bracket	1	
32	FA-4262-00S	Power Fixing Bracket for Iron Arch	1	
36	FA-4102-34S	Pool Switch Upper Supporter	1	
38	TSW-3120B-04	3 Level Reset SW 2a black	1	
40	TSW-2010B-04	2-level Head SW 1a black	2	
44	FA-1344-00	Exhaust Fan	1	
45	FA-1345-00S	Exhaust Fan Bracket	1	
46	FA-1302-04	Control Motor Pulley (A1120 )	1	
47	FA-1304-00	Heater Wire(L-supporter)	1	
48	FA-1305-00	Heater Terminal Bracket	1	
50	TSW-L22WA-02	Pilot Lamp DC24V white	1	
51	FA-4230-00	Power SW (ABB OT16ET3 OHG2PJ)	1	
51-1	FA-4230-01	Wiring Box	1	

### **Fig. 13. Electric Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty</b>	<b>Remark</b>
71	TS-TMS-0408G	TMS M4 x 8 (Truss Head Machine Screw)	4	
72	TS-PMS-0616G	PMS M6 x 16 (Pan Machine Screw)	8	
73	TS-HBS-0610G	HBS M6 x 10 (Hexagon Square Head Bolt)	4	
74	TS-HBS-0616G	HBS M6 x 16 (Hexagon Square Head Bolt)	8	
75	TS-HSS-0610G	HSS M6 x10 (Hexagon Socket Headless Set Screw)	6	
76	TS-PW-0616G	PW M6 x 16 (Plain Washer)	16	
77	TS-SW-0006G	SW M6 (Spring Washer)	14	
78	TS-HN-0006G	HN M6 (Hexagon Nut)	5	
79	TS-PMS-0430G	PMS M4 x 30 (Pan Machine Screw)	2	
80	TS-PW-0408G	PW M4 x 8 (Plain Washer)	1	

**Fig. 14. Control Box Unit**

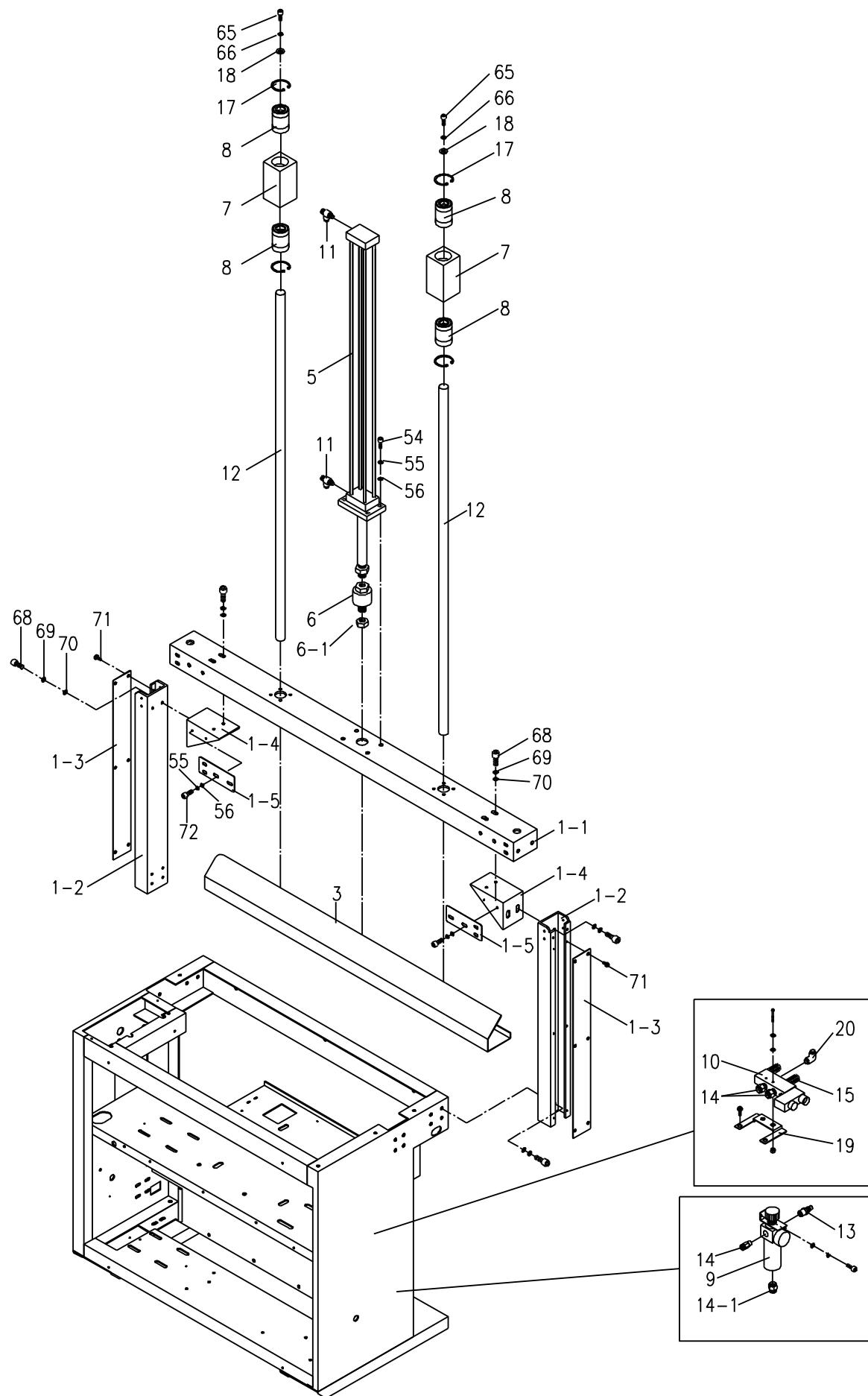




**Fig. 14. Control Box Unit**

Ref. No.	Parts No.	Description	Q'ty Remark
1	FA-4102-361S	Control Box	1
	FA-4102-39S	Control Box Cover	1
2	FA-4102-38S	Fuse Box in Control Box	1
3	FA-4207-4AS	PCB Control Panel Set	1 set
4	FA-4201-001S	PCB Control Panel Sticker Plate	1
	FA-4201-00PJ	PCB Control Panel Sticker	1
5	FA-4204-00S	Control Box Base Cover	1
6	FA-4215-00	500K Resistor	2
7	FA-4214-00	250K Resistor	1
8	FA-4213-00	Resistor Winding Displacement 2P BN	3
9	FA-4208-00	Wiring Displacement (21P)	1
10	FA-4209-00	Wiring Displacement (13P) (11PN)	1
11	FA-4210-00	Wiring Displacement (13PN) (Operation Box)	1
13	FA-4231-00	Round Fuse Bracket 13Ø	5
14	FA-4231-04	Fuse 4A(20 mm)	2
16	FA-4231-06	Fuse 6A(20 mm)	3
17	FA-4211-00	Wire Wound Resistors 100W/5Ω	1
18	FA-1335-013	Inverter (3 phase) (5A/230/480V)	1
19	FA-1306-00	Heater Transformer (220V)	1
20	FA-1916-001	Transformer (PW-1427)EU standard	1
24	FA-1305-07	Terminal Block 20P	1
25	FA-4207-04	Power PCB (WIN-36 Proximity)	1
26	FA-4207-05	Control PCB (WIN-37 Proximity)	1
27	FA-4102-39	Electric Control Box Cover	1
29	FA-4217-00	Knob WIN-1178	3
30	G-71718-12	PLC VH-10MR	1

**Fig. 15. Top Press Unit**



## Fig. 15. Top Press Unit

Ref. No.	Parts No.	Description	Q'ty	Remark
1-1	FA-1920-013S	Top Press Bracket (upper plate) (Stainless Steel)	2	
1-2	FA-1920-02S	Top Press L./R. Support (Stainless Steel)	2	
1-3	FA-1920-03S	L./R. Support Cover (Stainless Steel)	2	
1-4	FA-1920-04S	L./R. Fixing Plate (Stainless Steel)	2	
1-5	FA-1920-05	Cushion	2	
3	FA-9979-04SS	Top Press Plate (Stainless Steel)	1	
5	FA-9833-00	Air Cylinder CDA2F50-350	1	
6	FA-9833-01	Floating Coupling	1	
6-1	FA-9833-02S	Nut M18x1.5 (SMC)	2	
7	FA-9904-03	Adjustment Flange	2	
8	FA-9992-01-20	Linear Bearing RJUJP-01-20TW	4	
9	C-56704-08	Filter Unit BFR2000	2	
10	C-56706-055	Solenoid Valve 24V	2	
11	C-58705-06	Governor (3/8") JSC-1003	2	
12	FA-9992-081	Liner Guide Rod φ20 x 900L	2	
13	C-56714-00	Handy Coupling APM20 1/4PT	1	
14	C-56711-002	Straight Coupling EPC-1002	3	
14-1	C-56711-004	Straight Coupling EPC-601	1	
15	C-56717-00	Muffler A01	2	
17	TS-RTW-0032D	Retaining Ring	8	
18	FA-0108-00	Cam Shaft End Cushion	8	
19	C-56706-050	Fixing Plate of Solenoid Valve	2	
20	C-56713-002	Bendy Coupling APL-1002	1	

## **Fig. 15. Top Press Unit**

<b>Ref. No.</b>	<b>Parts No.</b>	<b>Description</b>	<b>Q'ty Remark</b>
51	TS-HBS-0830S	HBS M8 x 30 (Hexagon Square Head Bolt)	8
52	TS-SW-0008S	SW M8 (Spring Washer)	8
53	TS-PW-0816S	PW M8 x 16 (Plain Washer)	8
54	TS-HBS-0620S	HBS M6 x 20 (Hexagon Square Head Bolt)	30
55	TS-SW-0006S	SW M6 (Spring Washer)	30
56	TS-PW-0616S	PW M6 x 16 (Plain Washer)	30
57	TS-FHS-0820S	FHS M8 x 20 (Flat Hexagon Screw)	8
58	TS-PMS-0420S	PMS M4 x 20 (Pan Machine Screw)	4
59	TS-SW-0004S	SW M4 (Spring Washer)	4
60	TS-PW-0411S	PW M4 x 11 (Plain Washer)	4
61	TS-HN-0004S	HN M4 (Hexagon Nut)	4
62	TS-HBS-0512S	HBS M5 x 12 (Hexagon Square Head Bolt)	4
63	TS-SW-0005S	SW M5 (Spring Washer)	4
64	TS-PW-0513S	PW M5 x 13 (Plain Washer)	4
65	TS-HBS-1025S	HBS M10 x 25 (Hexagon Square Head Bolt)	8
66	TS-SW-0010S	SW M10 (Spring Washer)	8
67	TS-HN-0006S	HN M6 (Hexagon Nut)	6
68	TS-HBS-0812S	HBS M8 x 12 (Hexagon Square Head Bolt)	16
69	TS-SW-0008S	SW M8 (Spring Washer)	16
70	TS-PW-0816S	PW M8 x 16(Plain Washer)	16
71	TS-PMS-0610S	PMS M6 x 10 (Pan Machine Screw)	24
72	TS-HBS-0616S	HBS M6 x 16 (Hexagon Square Head Bolt)	8

# SCREW BOLT NUT WASHER

	Classification	Name
	PMS	Pan Machine Screw
	TMS	Truss Head Machine Screw
	FMS	Flat Machine Screw
	HB	Hexagon Bolt
	HBS	Hexagon Square Head Bolt
	HSS	Hexagon Socket Headless Set Screw
	HN	Hexagon Nut
	HCN	Hexagon Cap Nut
	HNW	Safety Nut
	PW	Plain Washer
	SW	Spring Washer
	TW	Toothed Washer
	FST	Hat Self Tapping Screw
	THS	Truss Hexagon Square Head Bolt
	TS	Truss Head Screw
	FHS	Flat Hexagon Screw

**02 March 2022**