


# **Horizon** BOOK BINDER **BQ-140**

## **Important Information**

- This manual is designed to help you to install, operate and maintain Book Binder BQ-140. Read, understand and keep this manual in a safe and convenient place.
- Do not operate BQ-140 until you read and understand the instructions in this manual.
- Horizon International Inc. shall not be liable for incidental consequential damages resulting from : improper or inadequate maintenance by customer; unauthorized modification or misuse; operation outside of the environmental specifications for the product.
- Horizon International Inc. pursues a policy of continuing improvement in design and performance of the product. Therefore, the product design and specifications are subject to change without prior notice and without our legal obligation.
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This safety alert symbol means **CAUTION, DANGER or WARNING**. Personal injury may result if safety precautions are disregarded and instructions are not carefully read before attempting to operate or repair this machine.

### 1. **Safety Instruction**

#### **WARNING: Roughening Cutter**

Be sure to keep your hand and fingers off the revolving roughening cutter or any other moving parts while they are in operation.

#### **WARNING: Electric Shock**

To avoid electric shock and accidental trouble, be sure to unplug the power cord before replacing the roughing cutter, cleaning and inspecting the machine.

#### **CAUTION: Gluing Box**

Keep your fingers off the molten glue. Otherwise, There is a high risk of burning yourself.

## 2. Major Specifications

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|                        |  |
|------------------------|--|
| Model:                 | BQ-140   |
| Max. Binding Width:    | 400 mm(15.7")  |
| Binding Thickness:     | 1 mm(0.04") to 30 mm(1.18")  |
| Cycle Speed:           | 250 cycles/hour  |
| Max. Cover Dimensions: | 400 mm(15.7") x 620 mm(24.4")  |
| Min. Cover Dimensions: | 100 mm(3.9") x 200 mm(7.9")  |
| Cover Stock Thickness: | Up to 0.5 mm(0.02")  |
| Gluing Temperature:    | 160 °C to 200 °C<br>(Adjustable in a stepless variable fashion)      |
| Adhesive:              | Hot Melt Glue  |
| Power Required:        | 120V 60Hz 6.0A<br>220V 50Hz 5.8A<br>220V 60Hz 4.3A<br>240V 50Hz 5.8A |
| Power Consumption:     | 950W/50Hz, 1050W/60Hz  |
| Dimensions:            | 1,380(W) x 525(D) x 1,025(H) [54.3" x 20.7" x 40.4"]                 |
| Machine Weight:        | 200 kgs (440 lb)   |

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### Standard Equipment

1. Binding Mode Select Switch
2. Roughening Cutter On/Off Switch
3. Cover Setup Detector
4. Self-adjusting Nipper

### Standard Accessories

1. Dust Blower Pump
2. Waste Bag
3. Hot-melt Glue (HM-110)

### Options

1. Smoke Extractor
2. Spine Cooling Blower

### NOTICE

The machine design and specifications are subject to change without prior.

### 3. Installation Instructions

When selecting a site to install this BQ-140, care should be taken to note the following points.

- (1) The installation site should be level.
- (2) The room where this machine is used should be provided with good ventilation.
- (3) Free from any ambient vibration.
- (4) Free from direct exposure to sunshine.
- (5) Free from extremely high temperature and humidity.

3-1 Assemble the pedestal of the machine and then install the machine on the pedestal.

3-2 Install the dust blower to the inside wall of the pedestal and then install the hose to the dust extract port of the roughing unit and the dust bag to the blower pump. And connect the plug of the blower pump to the receptacle provided on the machine.

3-3 Remove the red locking screw. (See Para. 4)

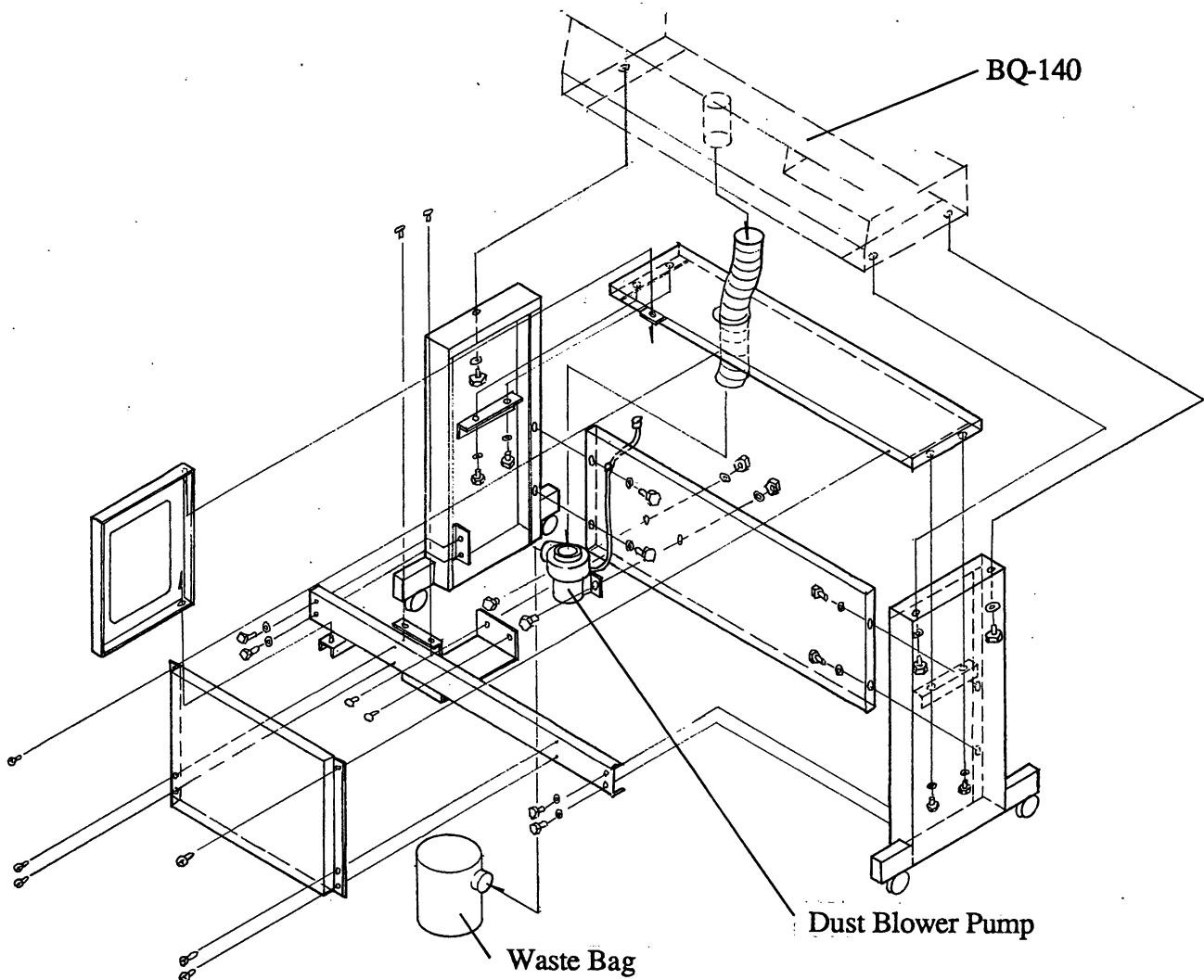


Fig. 3-1

#### 4. Major Machine Parts Descriptions

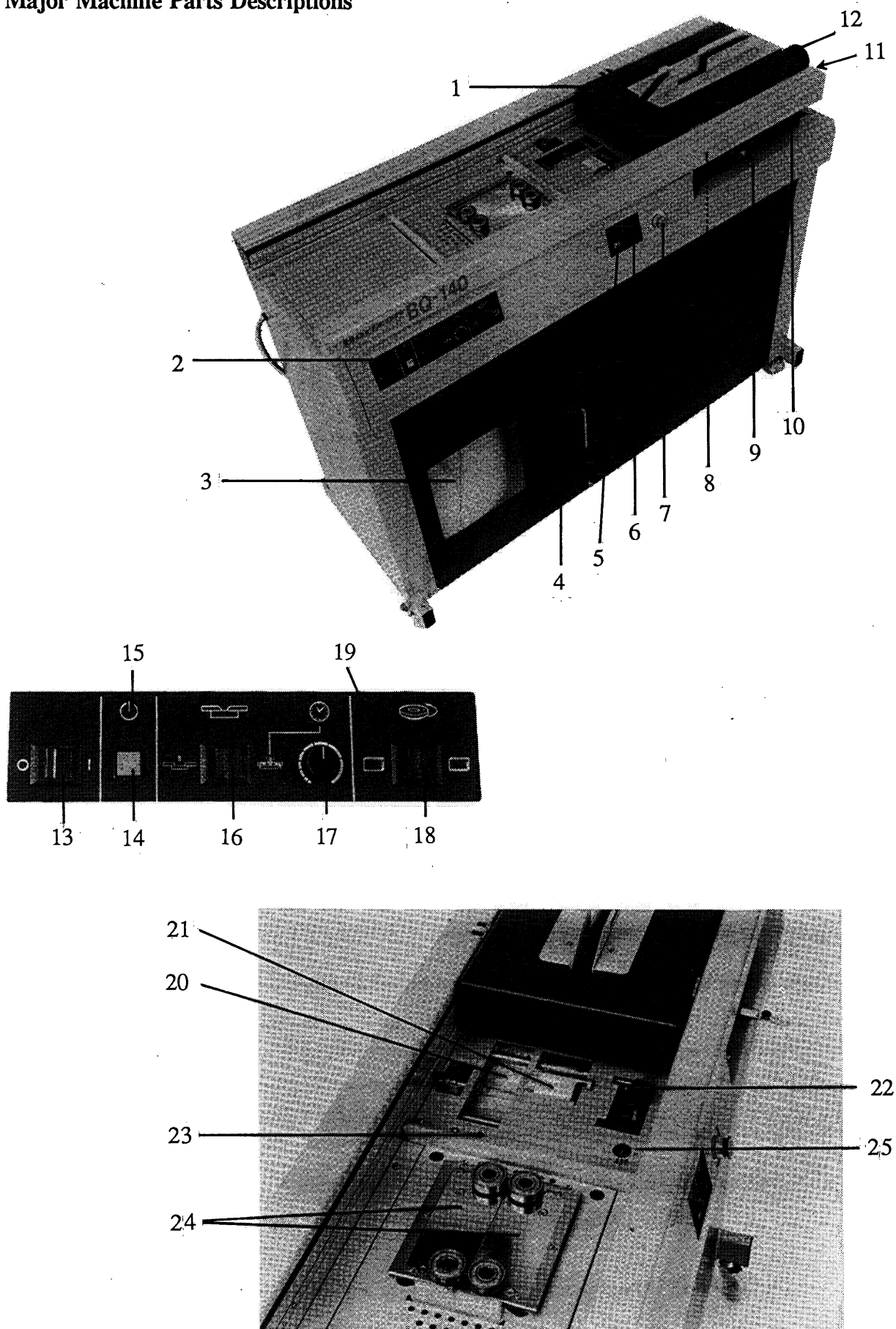
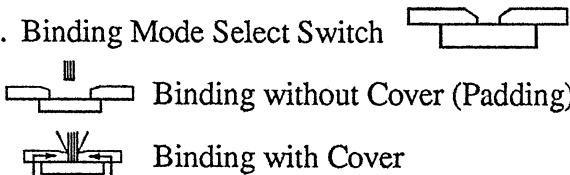
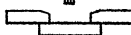


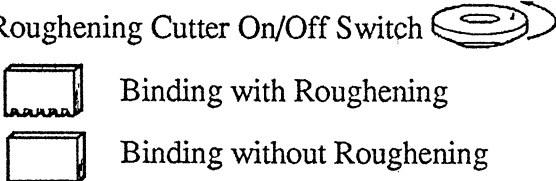




Fig. 4-1

1. Clamper Carriage  
Clamping and transporting a set of assembled pages to the gluing station and returning to the nipping station.
2. Operation Panel
3. Waste Bag  
Collects milled paper dust.
4. Front Door
5. Start Lamp and Binding Start Button  
The start lamp will go on when the machine is waiting for binding. When the binding start button is depressed, the clamper starts traveling according to the binding mode selected.
6. Reset Lamp and Reset Button  
During the reset lamp being on, the reset button is depressed, the nipping device returns to its home position.
7. Emergency Stop Button  
Depressing this button will bring the clamper carriage and the roughing cutter to a halt.
8. Spine Cooling Blower Pipe (Option)  
The spine cooling blower cools the padded spine very quickly.
9. Cover Stopper
10. Nipper  
The cover stock is automatically nipped the book spine without any adjustment of book thickness.
11. Safety Cover  
The machine will not start when this safety cover is open. And the safety cover is equipped with the reset switch and will reset the nipper to its home position after the finished book has been removed out of the clamper carriage.
12. Clamp Handwheel  
Used to close the clamper carriage.
13. Power On/Off Switch
14. Standby Switch  
The machine is left in a standby switch being on, this will keep the hot-melt glue hot and allow for only a 7-minute period to bring the machine to start.
15. Standby Lamp  
This lamp will come on when the standby switch is turned on.
16. Binding Mode Select Switch 
  -  Binding without Cover (Padding)
  -  Binding with Cover
17. Nipping Time Control Knob 

The length of nipping time is adjustable with this knob.
18. Roughening Cutter On/Off Switch 
  -  Binding with Roughening
  -  Binding without Roughening
19. Roughening Cutter Monitor Lamp  
This lamp will come on when the roughening cutter stop at middle of two roughening cutter guides. The machine in a padding operation will not start when this lamp is being on.
20. Place glue here
21. Application Drum  
Applies glue onto the back spine.
22. Glue Adjusting Knob  
Use this adjusting knob to change the amount of glue to be applied.
23. Transport Locking Screw  
Remove the locking screw when installing the machine.
24. Roughing Cutter Guides
25. Gluing Temperature Control Knob  
Used to adjust the glue temperature. Normal working range: 180 °C

## 5. Operation Procedure

- 5-1 Turn the Power Switch on.  
The glue is melted in about twenty minutes and the start lamp comes on.

- 5-2 Set the Binding Mode Select Switch to "Binding with Cover" position. And adjust the nipping time with the nipping time control knob depending on the binding requirement.

### NOTICE

For binding without cover (Padding) operation, set the Binding Mode Select Switch to "Binding without Cover" position.

- 5-3 Set the Roughening Cutter Switch to "On" or "Off" position depending on the binding requirement.

- 5-4 Jog well the back of assembled pages or sections and set the LH-side edge of the book to the left in the clamber carriage.

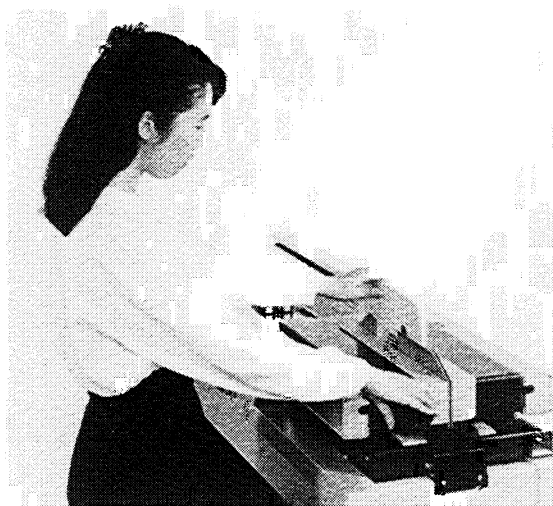
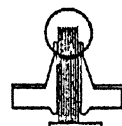


Fig. 5-1

Spine to be  
glues is  
nearly jogged.



Each side  
is raised.



Each side is  
courled down.

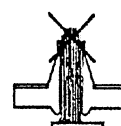


Fig. 5-2

- 5-5 Depress the Binding Start Button.

The clamber carriage starts to travel left side over to the gluing and roughening station and then stay at the left end position.

### NOTICE

In case of the binding without cover (Padding) operation, the clamber carriage returns to its home position.

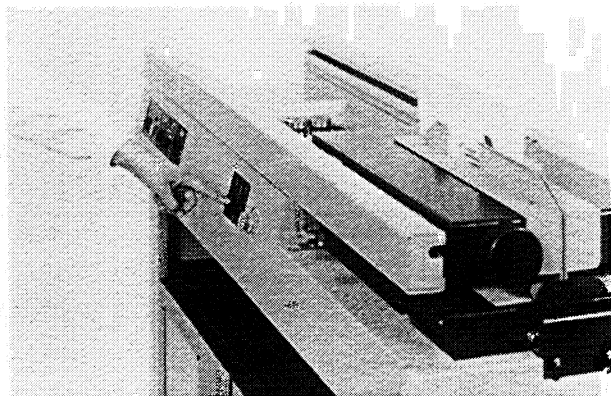


Fig. 5-3

- 5-6 Set up the cover stock on the nipping plate.

Align the LH-side edge of the cover stock to the side guide and set up the Cover Stopper according to cover length of the cover stock to be used.

### NOTICE

In case of the binding without cover (Padding) operation, it is not necessary to set up the cover stock.

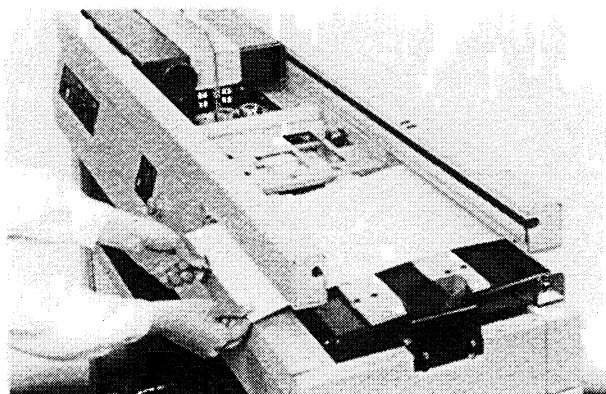


Fig. 5-4

#### 5-7 Depress the Binding Start Button.

The clamber carriage returns to its home position with the spine roughed and applied with the amount of the glue and then the nipping device is raised to fix the cover onto the back spine.

#### NOTICE

The binding start lamp will not come on and the clamber carriage can not be operated even if the binding start button is depressed in case that the cover stock is not set on the nipper.

#### 5-8 The Reset Lamp comes on.

Unclamp the clamber carriage by turning the clamp handwheel counterclockwise and then take out the finished book to right. The nipping device is reset automatically after the finished book has been taken out from the clamber carriage.

#### NOTICE

1. In case that the binding without cover(Padding) operation, the Spine Cooling Blower (Option) starts to blow the spine to cool the hot-melt glue when the clamber carriage returns to its home position. The reset lamp will come on when the blower air has been stopped.
2. Unclamp the clamber carriage and take the finished book away and the nipping device is reset automatically after the finished book has been taken out from the clamber carriage.

Depress the Reset Button when the nipping device is not reset after the finished book has been removed.

#### 6. Gluing Adjustment

Turn the glue adjusting knob counterclockwise and locate it to the desired adjustment position. After adjusting it, fasten the glue adjusting knob.

|                | Adjusting Point    |         |
|----------------|--------------------|---------|
|                | Binding with Cover | Padding |
| Book thickness |                    |         |
| 20 mm Max.     | 1 to 2             | 0 to 1  |
| 20 mm to 30 mm | 2 to 3             | 0 to 1  |

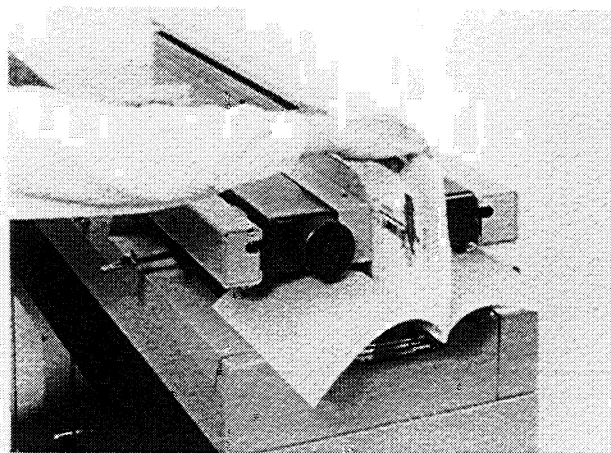


Fig. 5-5

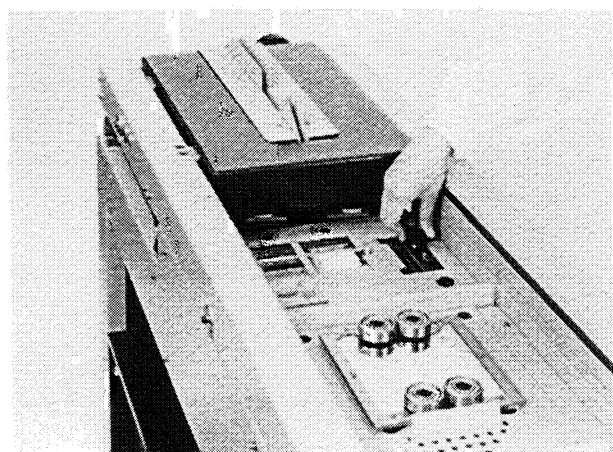


Fig. 6-1



## 7. Standby Switch

To prevent the hot-melt glue from heat damage, turn the power off or turn the Standby Switch on when the machine is not used. The standby switch will allow for a seven-minute period to bring the machine to start. Turn the standby switch off when the binding operation will be started.

## 8. Replenishing the Gluing Tank with Fresh Glue

Replenish the gluing tank with fresh glue when the glue level becomes 1 cm below from the top of the melt-tank fin.

### NOTICE

Be sure not to place an excessive amount of glue in the tank at one time. Keep it to such an extent that the glue will not flow over the red-line level in the tank while the application drum is rotating in order to prevent glue from spilling out of the tank.

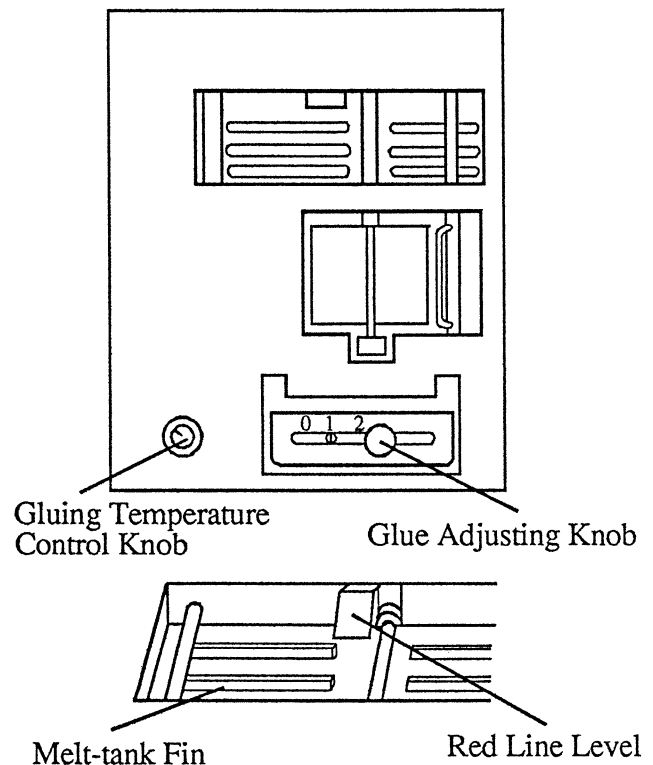


Fig. 8-1

## 9. Maintenance Hints

### 9-1 Draining Used Glue



### CAUTION

Great care must be taken when handling hot molten glue.

It's unnecessary to drain the glue frequently if the machine is constantly used in normal working fashion. In case the glue has been left unused for a long period of time and its quality is found to be greatly deteriorated, you can remove the glue as follows:

- (1) Turn the power off.
- (2) Remove the top and bottom cover of the melt-tank.
- (3) Install a proper container at the end of the drain trough to accept the molten glue.
- (4) Then, loosen the rubber plug holder and remove the rubber plug.
- (5) Turn the power switch on and the glue will flow out. Turn the switch as soon as all glue has been removed.
- (6) Assemble the glue tank in the reverse order of the above disassembly.

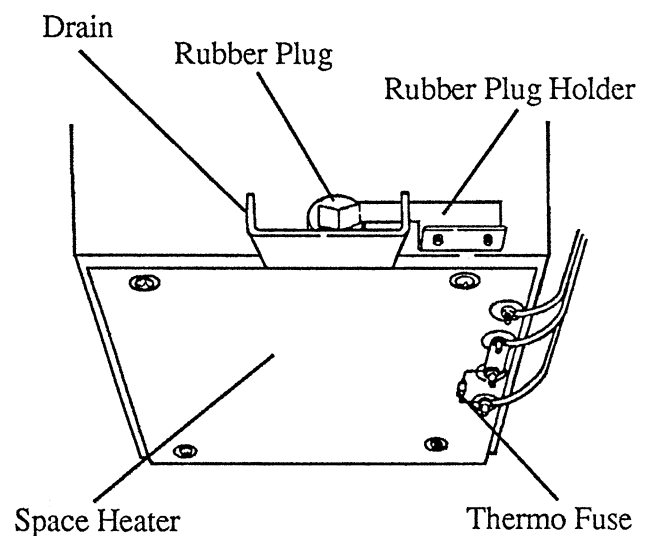


Fig. 9-1

## 9-2 Replacing Roughening Cutter

### WARNING

Whenever replacing or adjusting the Roughening Cutter, be sure to unplug the power cord.

- (1) Remove the roughening cutter guides A, B and covers.
- (2) Loosen the set screw locking the roughening cutter with use of a 2.5mm allen key wrench and the roughening cutter can be removed easily.
- (3) Install a new roughening cutter in the reverse order of the dismounting procedure.
- (4) To adjust the roughening cutter to an optimum operating height, install the cutter guide A and then insert three sheets of paper with 64 gsm between the roughening cutter and the cutter guide. A compression spring is placed at the bottom of the cutter installation hole so that the setscrew must be secured with the roughening cutter being pushed downward and adjusted to an optimum working height.
- (5) After the cutter has been fixed, remove the cutter guide A once and then install the cutter cover and the cutter guides A and B.

### NOTICE

Make sure by turning the cutter disk by hand that the roughening cutter is set up free from any contact with the cutter guides.

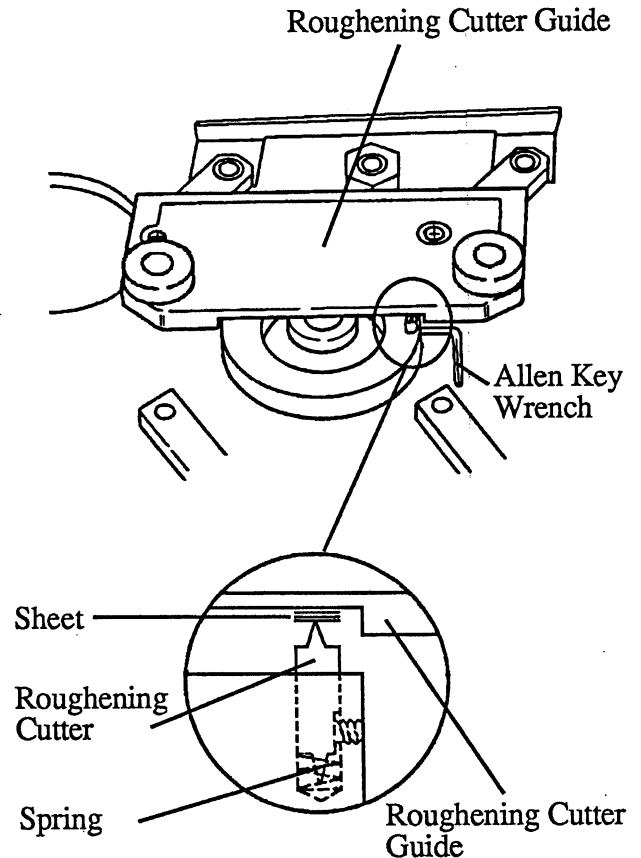


Fig. 9-2

## 9-3 Replacing the fuses

### WARNING

Be sure to unplug the power cord before replacing the fuses.

Remove the top cover to access the fuses.

|   |   |       |                       |
|---|---|-------|-----------------------|
| 2 | A | ----- | Dust Blower           |
| 2 | A | ----- | Step Down Transformer |
| 5 | A | ----- | Heater                |
| 1 | A | ----- | Milling Motor         |
| 2 | A | ----- | Clamper/ Nipper Motor |
| 1 | A | ----- | Transformer           |

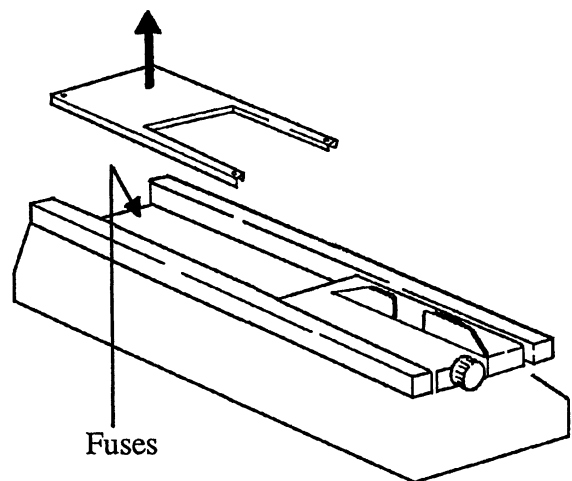


Fig. 9-3