

## PAPER GUILLOTINE

Type No.

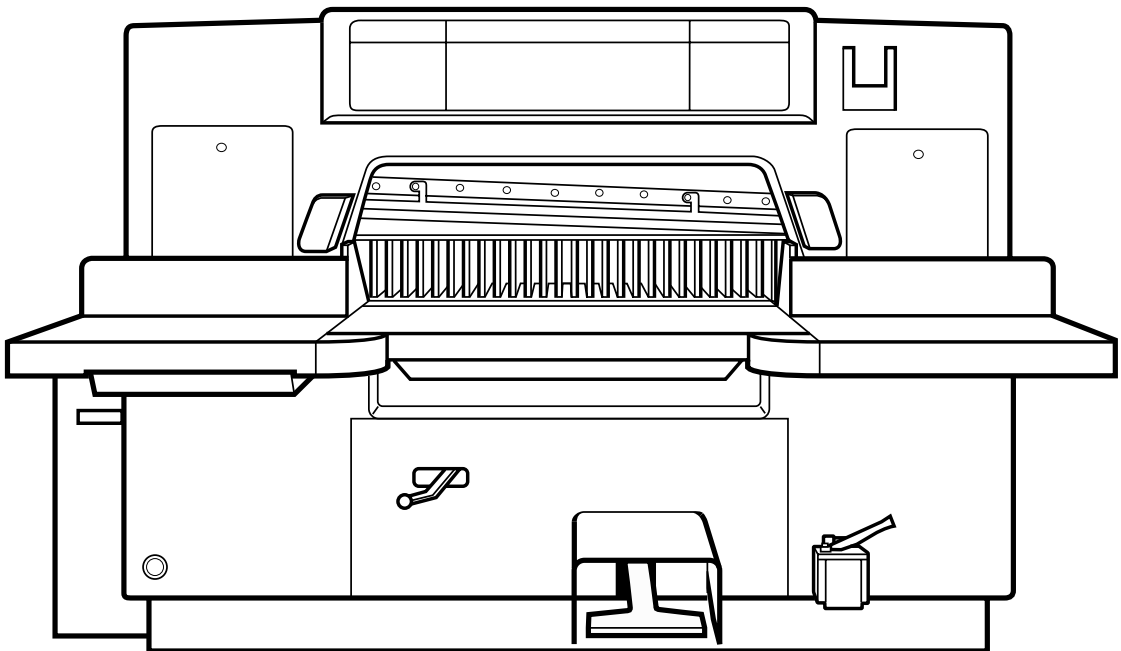
# RC-100DX

## INSTRUCTION MANUAL



Read this instruction manual carefully and understand the contents thoroughly before starting operation, inspection and maintenance or servicing of this product.

The operator and supervisor for this product must not have any person who does not understand the contents of this product operate this machine.



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# Introduction

## Foreword

- This manual is a guide book for using this product safely.
- Before using this product, be sure to read this manual and thoroughly understand the operation, checkup or inspection and maintenance or servicing.
- Operation or the like that is different from the description given in this manual, if performed, may lead to serious accidents resulting in death or injury.
- In various portions in this manual, a description is given of the precautions as indicated below.

These indications are the precautions for maintaining operational safety in particular.

Upon thorough understanding, you are requested to start operations work.



### WARNING

If this machine is used carelessly, serious injury or serious disasters or accidents may occur.

The operator and maintenance personnel should read this manual carefully before starting operation or maintenance work for this machine.

This manual should be kept handy near the machine always for easier reference.

The machine should not be operated or maintained before this manual can be understood perfectly.

Where this manual was lost or damaged, contact our company or our local agent immediately for ordering.

If this product is transferred, be sure to attach this manual therewith and transfer this product to the subsequent owner.

## Safety Precautions

### ● Classification of Warning Indication

To understand this instruction manual and product warning labels much better, the warning indication is classified properly as follows. Understand these contents and observe the respective instructions.



#### **WARNING**

This warning is used in the safety precautions and warning labels at the sections in the potential hazard state that may cause death or serious injury if not avoided.

These safety precautions involve the preventive action that must be taken to avoid possible danger.



#### **CAUTION**

This caution is used in the safety precautions and warning labels at the sections indicating the potential hazard state that may inflict slight injury or medium trouble if not avoided.

These safety precautions involve the preventive action that must be taken to avoid possible danger.

These warning labels must be attached or provided so that they are always seen clearly.

If these labels are peeled or fouled, replace them with new ones. When replacing, contact our company or our local agent.

### ● Environment in which this machine is used

Cutting materials, such as paper, may frequently be stacked near or around the machine; it is, therefore, necessary to pile up those materials firmly and take care not to suffer from a disaster by stumbling or bumping.

Do not put the machine in a place exposed to rain and an extremely moist place. Also, avoid using the machine in a wet state.

Do not use the machine where combustible liquid and gas are present nearby.

Keep any infant and children away from the machine.

Since extremely high precision is required for cutting operations work as well as operational safety, it is necessary to provide adequate lighting that is not flickering or dazzling.

Since paper powder scatters around during operations work, it is necessary to give care to ventilation and draft as well.

### ● Transportation, Setup and Installation

This product is transported by local agent's appointed carrier, and representative engineer is responsible for setup and installation of this product.

It is, however, necessary to always ask the firm having the electric work engineer licence for electric works.

For electrical capacity, see the "Specifications" paragraph on page.

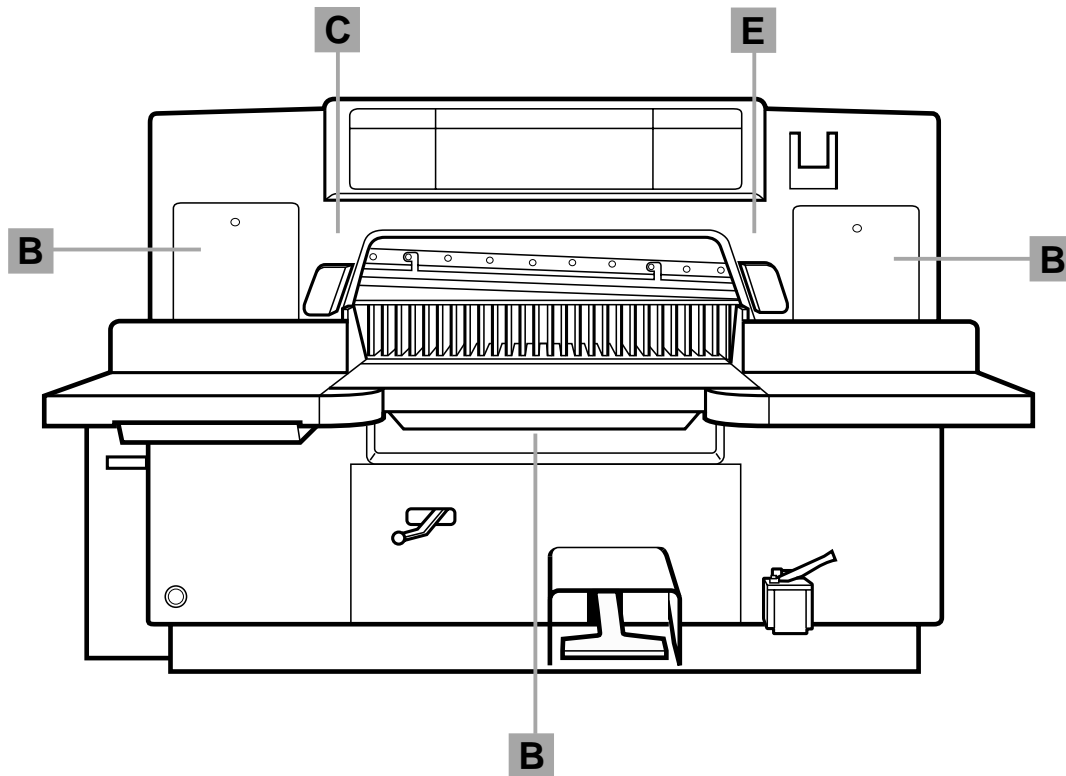
To move and transfer this product, contact our representative.

### ● Repair Service

If an abnormal condition should be found in the machine, contact our local agent.

Do not use the machine until the abnormality is recovered.

## Warning Label

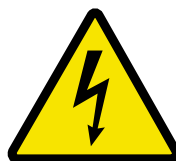


The hazardous places in this product are indicated, using 6 types of warning indicator label.

Thoroughly understand these hazardous places and indicated contents, and use this product correctly, observing the respective instructions.

**A**

**CAUTION**



Risk of electric shock  
DO NOT TOUCH !

Since you may receive electric shocks, absolutely avoid touching any live part.

**B**

**CAUTION**



Risk of hands getting caught !  
Keep hands away from movable parts

Since your hand may be caught in the movable part during operation, never hold out your hands.

**C**

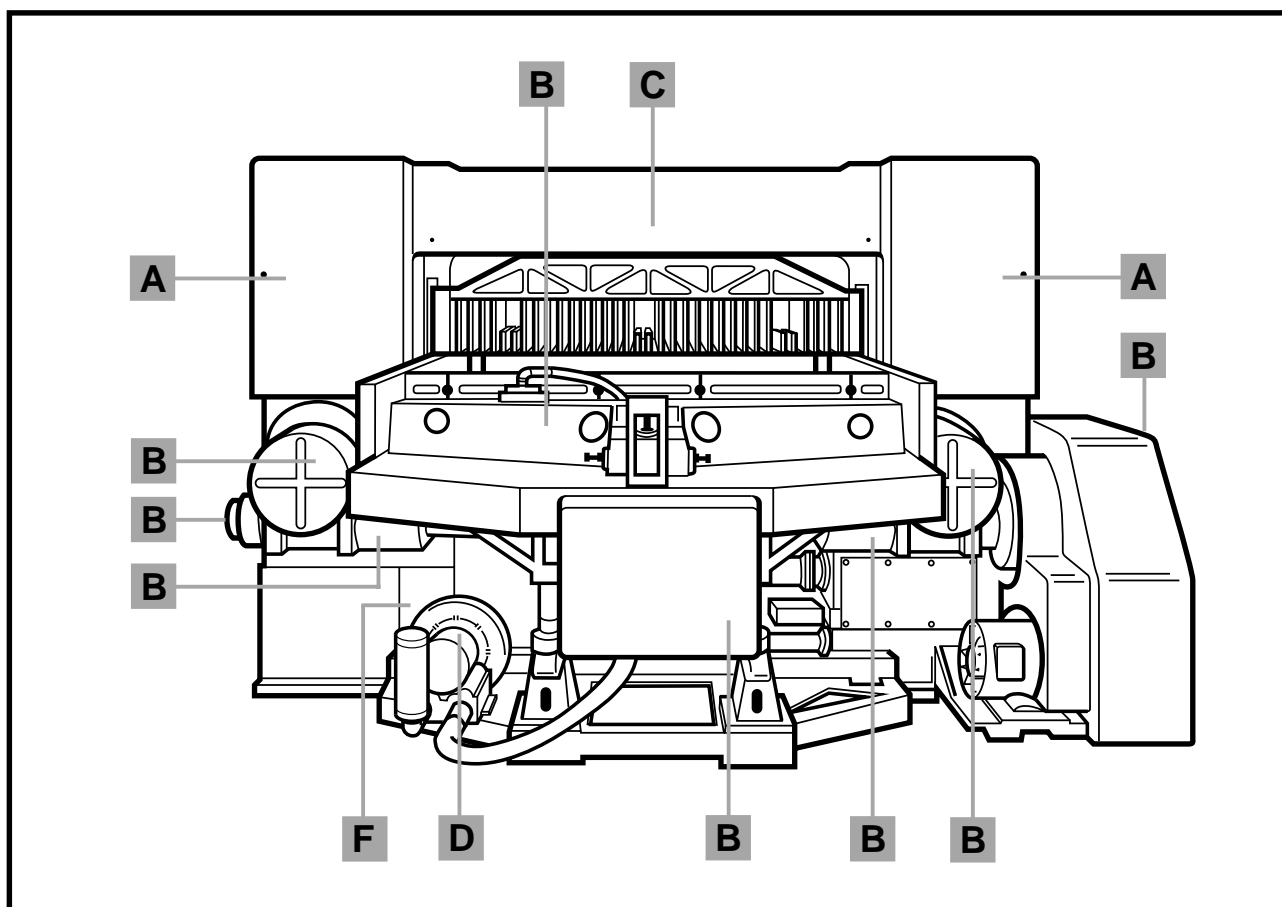
**WARNING**



Risk of fingers getting caught  
Keep hands away from lifting parts while operating

Since your hand may be caught in the clamp retainer, never hold out your hands to the vertical moving part of clamp retainer during operation.

## Warning Label



**D**

**⚠ WARNING**




Risk of severe burn.  
Keep hands away.

Since there is a danger of burns due to a high temperature, absolutely avoid touching.

**E**

**⚠ CAUTION**




Do not touch  
Keep hands away from drive parts while operating

Since the knife is movable, never hold out your hand to the movable part during operation.

**F**

**⚠ CAUTION**

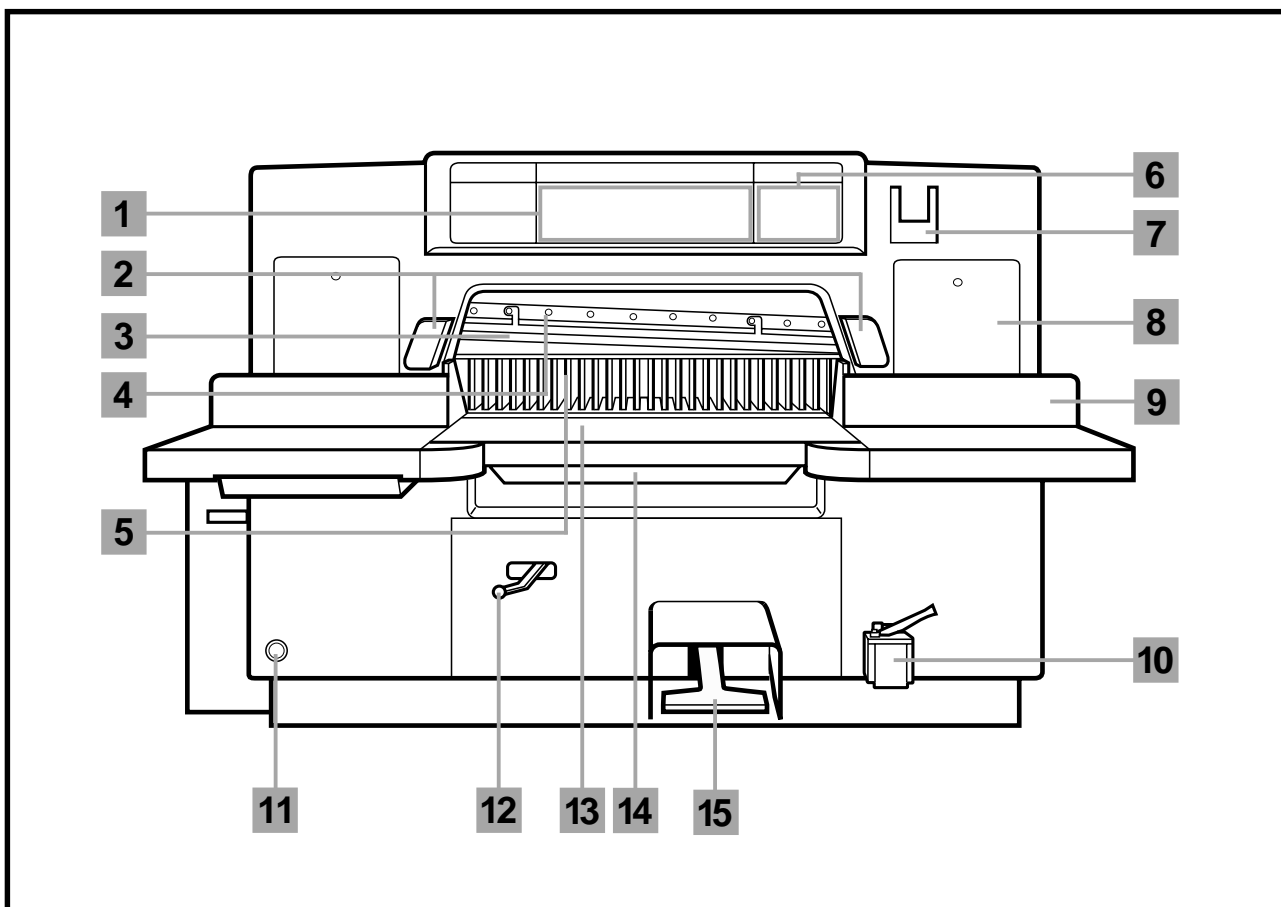


Make sure of ground connection

Since there may arise fault current and computer malfunctions, be sure to set up a grounding conductor.

# Parts Identification and Functions

## Main Body Front Panel



**1 Operation panel 1**

**2 Safety beam guard**

If the optical axis using LED (light-emitting diode) is interrupted, the knife comes to an instant halt.

**3 Knife carrier**

Sets the knife

**4 Knife**

**5 Backgauge**

Allows precise paper positioning.

**6 Operation panel 2**

**7 Card rack**

**8 Knife height adjusting window**

Adjusts the knife height.

**9 Front plate**

This front plate is used when the paper is arranged properly.

**10 Central lubrication pump**

Works once before start.

**11 Hydraulic oil level gauge**

**12 Knife change lever**

Used to change the lever.

**13 Table**

Since this chrome plated table is provided with an air blowoff nozzle, paper is easy to handle.

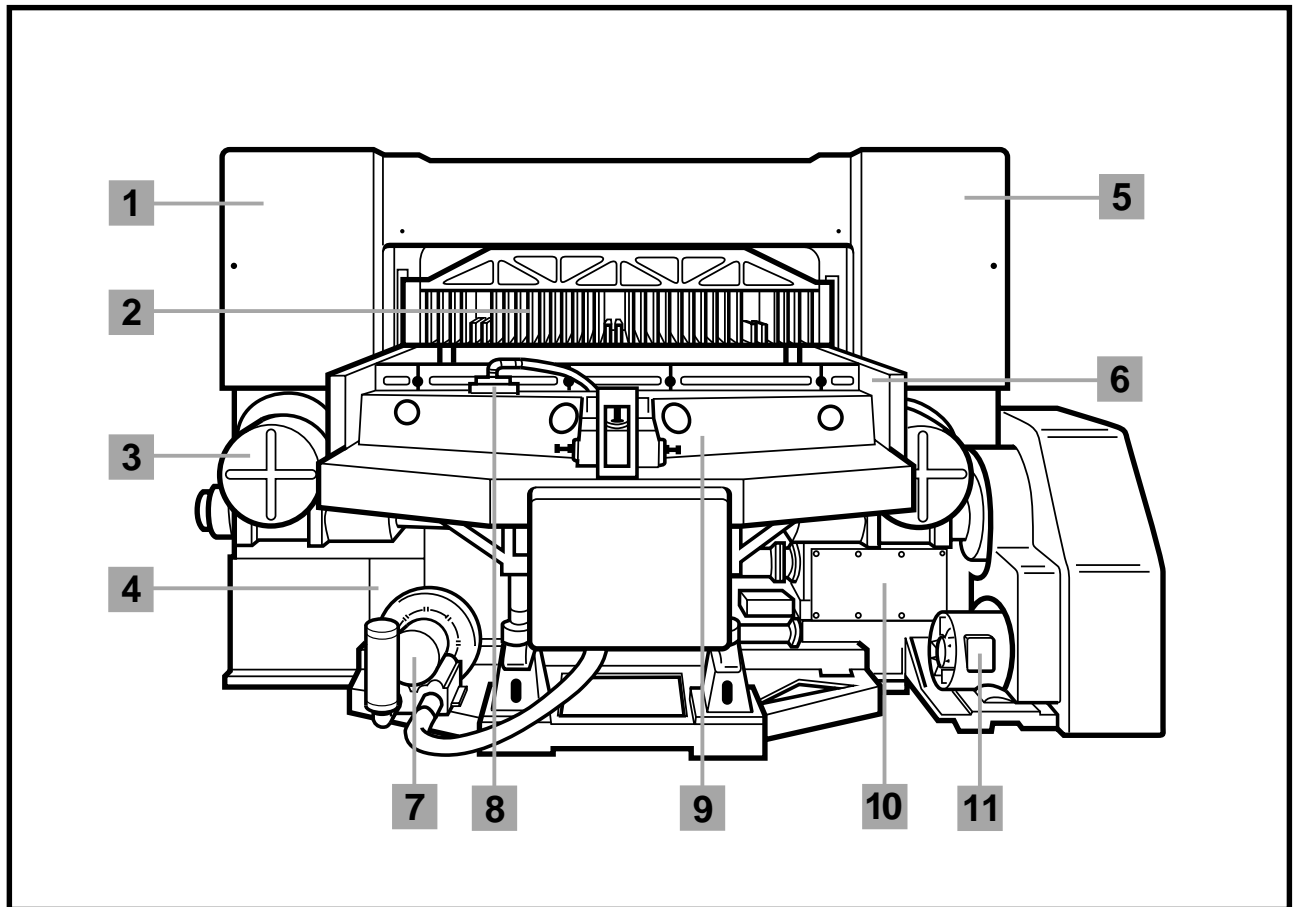
**14 Cutting buttons panel**

**15 Clamp pedal**

The clamp lowers by working the pedal.



## Rear View of Main Body



**1** Electric box 1

**2** Clamp presser  
Presses paper when cutting it.

**3** Gear box

**4** Power box

**5** Electric box 2

**6** Side guide  
Used to arrange paper.

**7** Blower motor

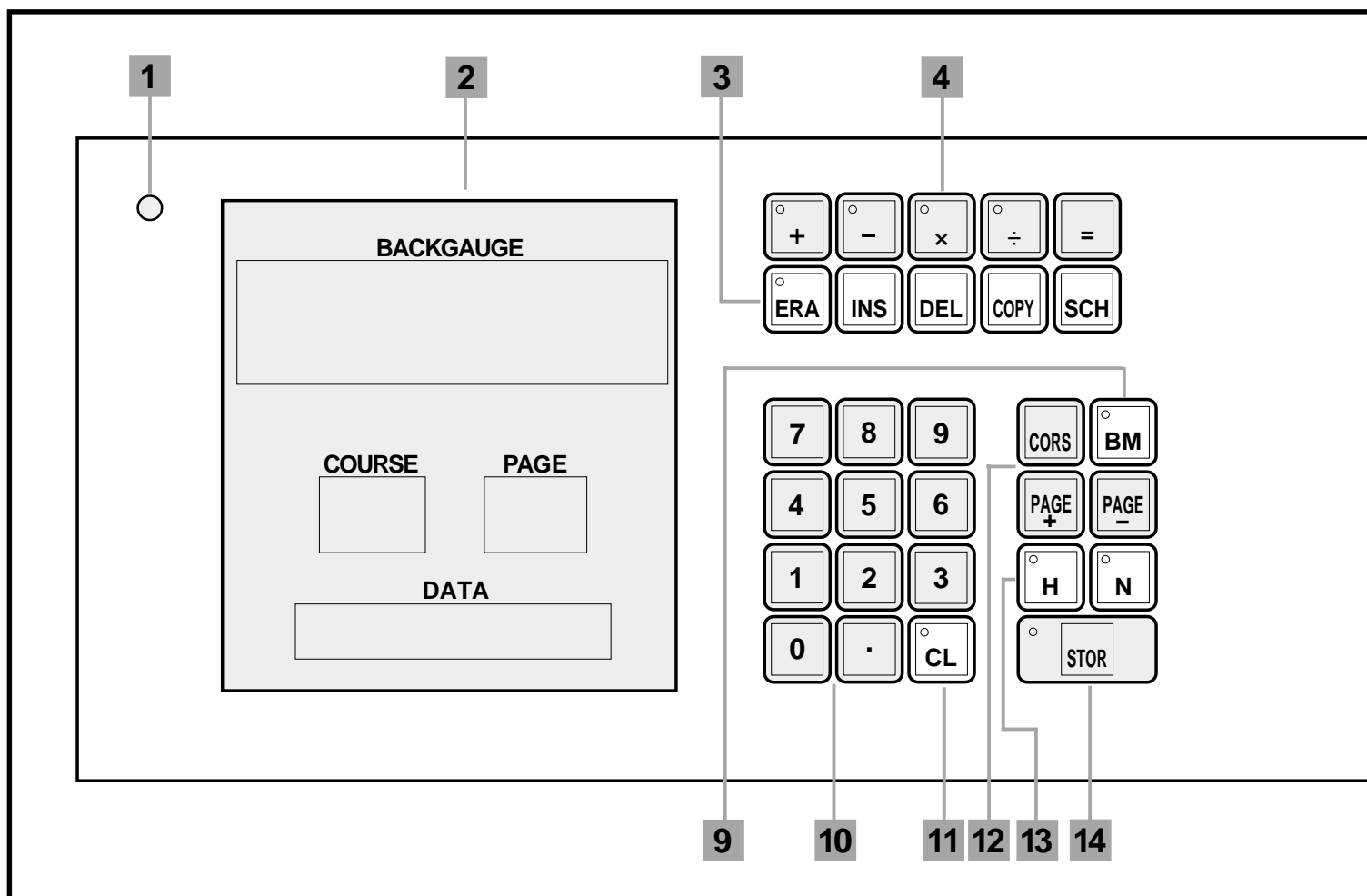
**8** Central lubrication pump  
Operated once before starting.

**9** Backgauge  
Positions paper accurately.

**10** Oil tank

**11** Main motor

## Operation Panel



### 1 Power lamp

### 2 Display panel

Displays the backgauge size, course, page and data value.

### 3 Data correction key

ERA Erases the data.<sup>34</sup>  
 INS Adds the data. <sup>36</sup>  
 DEL Deletes the data.<sup>37</sup>  
 COPY Copies the data to another page.<sup>50</sup>  
 SCH Accesses the empty course and corrects the error.<sup>31 33</sup>

### 4 Calculation key

Calculates the data, and can also store the results thus calculated in memory.

### 5 Mode key

DS Stores the data in memory.  
 MN Allows all manual operations.  
 SA Allows automatic positioning.  
 FA Allows automatic operation.<sup>49</sup>  
 FAA Confirmation key for selecting the full-automatic operation mode.<sup>49</sup>

### 6 UNIT <sup>30</sup>

Changes the units of millimeter and inch.

### 7 SPEED <sup>29</sup>

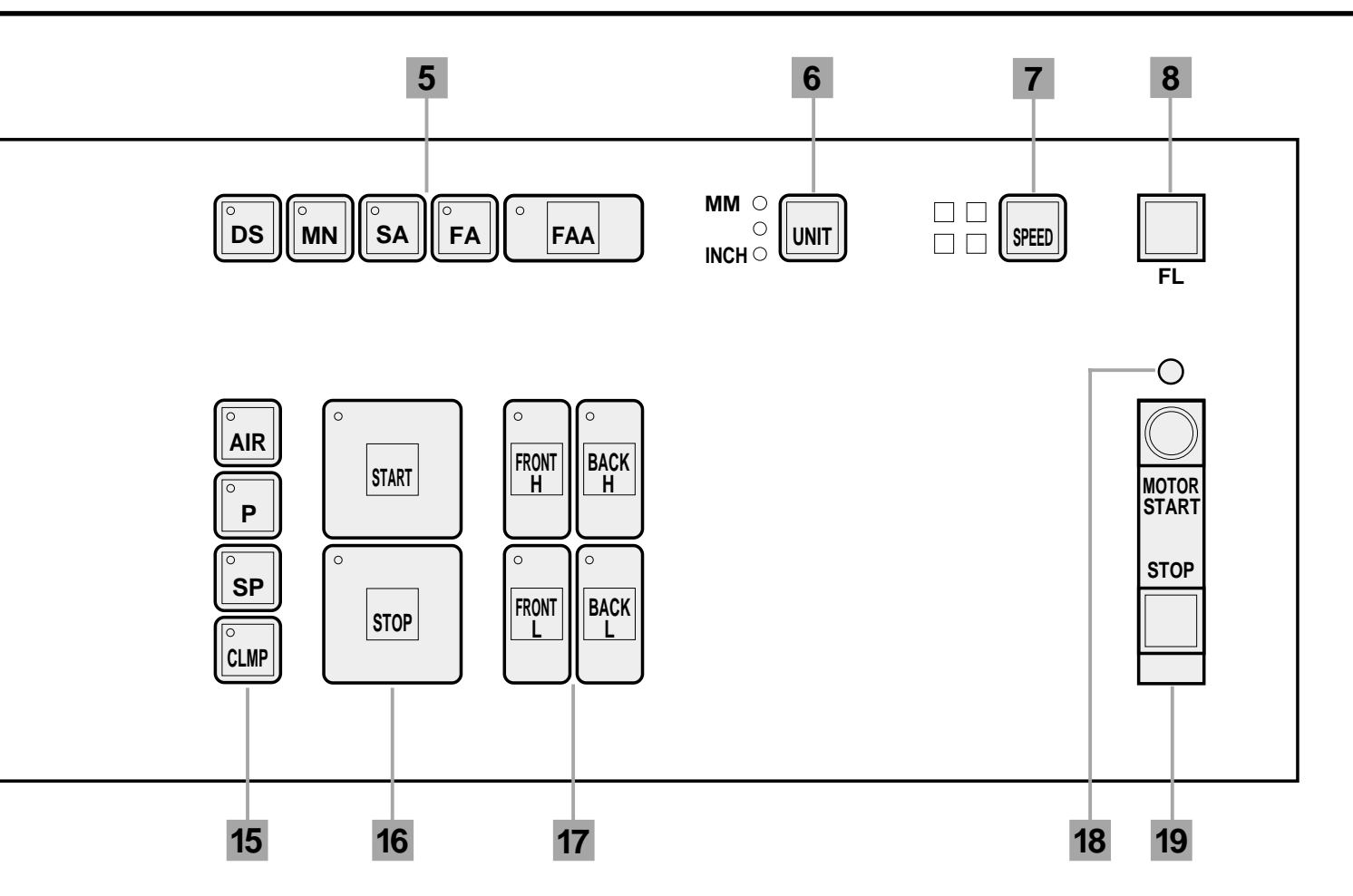
Selects the backgauge speed.

### 8 FL

Changes the fluorescent lamp and cut line.

### 9 BM

Corrects the error between the exactsize and indicated size.



### 10 Ten-key

Inputs the data, course and page.

### 11 CL

Cancels the data.

### 12 CORS & page keys

Call the course and page.

### 13 H & N<sup>39</sup>

Send out the backgauge at the constant size.

### 14 STOR

Stores the data in memory.

### 15 Function keys

AIR Lets out air.<sup>39</sup>  
 P Allows push-out.<sup>45</sup>  
 SP Allows stacking position setting.<sup>46</sup>  
 CLMP Allows air bleeding setting.<sup>48</sup>

### 16 START/STOP keys

Start and stop machine operation.

### 17 Backgauge operation keys

Allows manual operation of the backgauge.

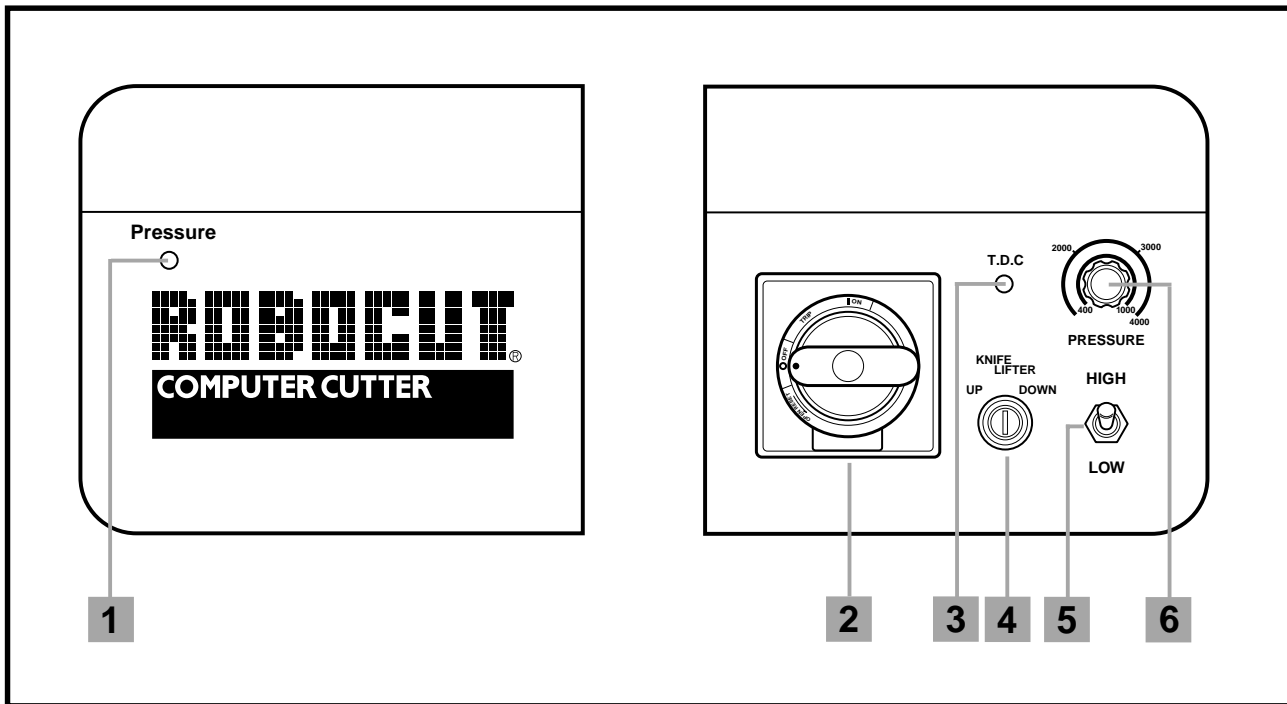
### 18 Hydraulic motor lamp

Lights up during hydraulic motor rotation.

### 19 Hydraulic motor switch

Starts and stops the hydraulic motor.

## Operation Panel 2



### 1 Pressure lamp

The lamp lights up if the hydraulic circuit monitor function for monitoring the state of the hydraulic circuit during operation of the knife button detects an error.

The knife buttons do not function if the Pressure lamp is lit.  
Press the reset button at the main body operation part to reset.

### 2 Power switch

### 3 T.D.C lamp

The lamp lights up when clutch adjustment maintenance related to the middle plate stopper function, a safety mechanism for the knife driving unit, draws near.

If the T.D.C. lamp lights up, contact the nearest service center or service division of our headquarters, branch or sales outlet.

### 4 Knife lifter switch (Option)

### 5 Clamp pressure adjusting knob

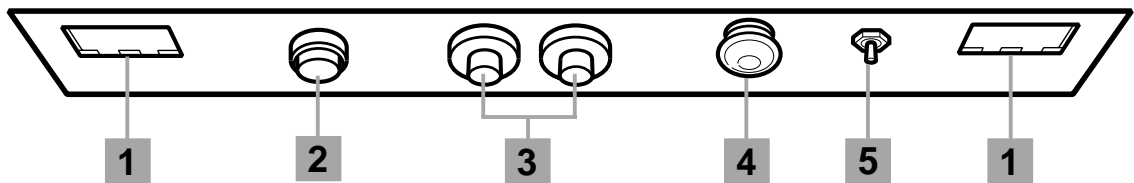
Allows stepless adjustment of clamp pressure between 400 and 2,500 kg.

### 6 Clamp pressure level selector switch

Selects the high and low clamp pressure: by setting this switch at "HIGH-PRESS", 2-step clamping is carried out.

By setting this switch at "LOW-PRESS", the pressure is 1/4 of the clamp pressure adjust knob set value.

## Cutting Buttons Panel



### **1 Cutting button**

Lowers the knife with the right and left buttons depressed at the same time. By pressing either button, the air is stopped. <sup>39</sup>

### **2 Reset button**

The clamp hold circuit for holding the clamp in the position upon an emergency stop in a cutting cycle, is reset. Error detection of the hydraulic circuit monitor function is also reset.

### **3 Knife support bolt**

Used for knife change.

\* Not provided for models with a knife lifter.

### **4 Blower button <sup>39</sup>**

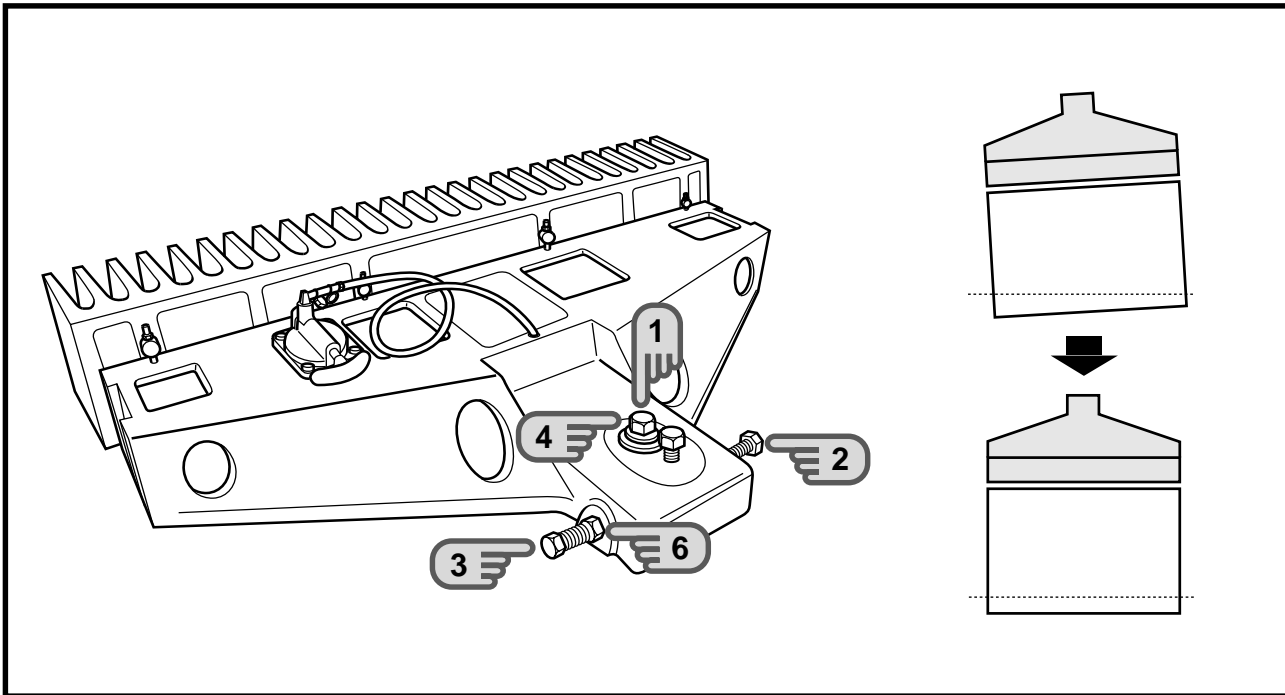
Lets out table air.

### **5 Air selector switch**

Selects blower motor startup and air blow method.

# Adjustment Method

## Backgauge Right & Left Adjustment 1



When the backgauge left is protruding as viewed from the main body front panel

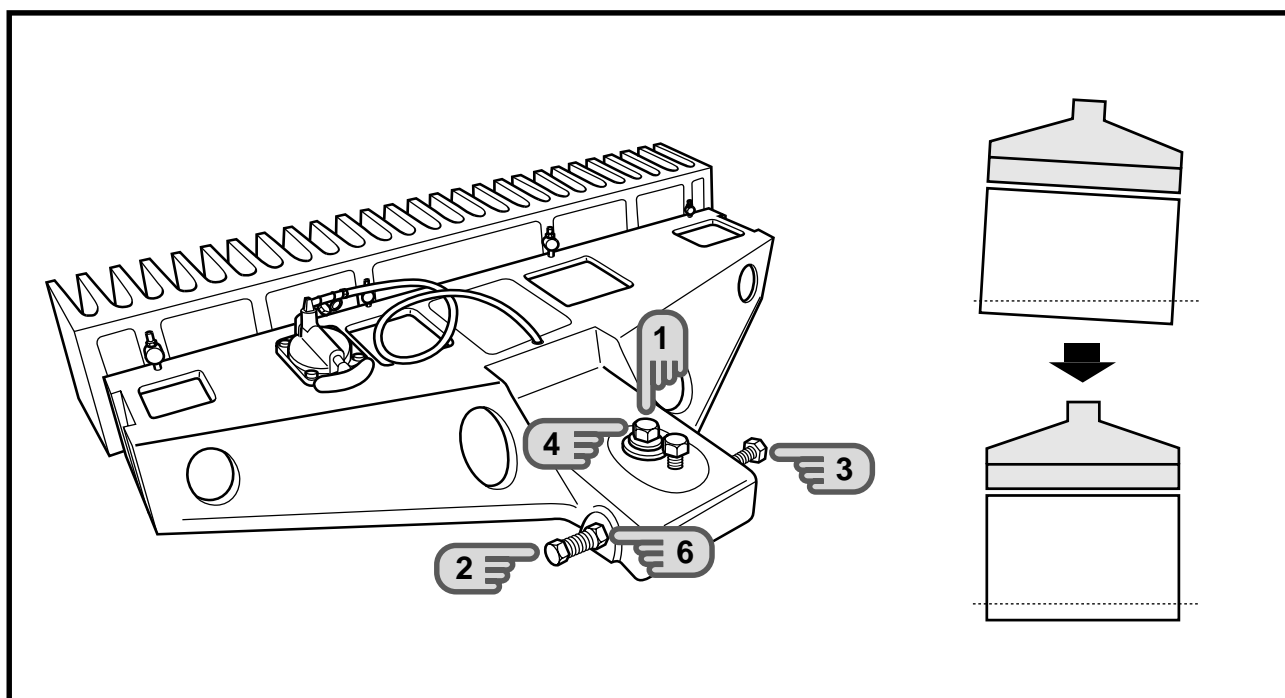
### CAUTION

Be sure to use the supplied spanner. Do not apply excessive force to the spanner; for example, do not rest your weight thereon. Excessive tightening results, thus leading to damage on the backgauge.

- 1** Loosen the fixing bolt by turning it counterclockwise.
- 2** After loosening the lock nut, turn the left-side right & left adjusting screw counterclockwise by the amount of errors to loosen it.  
The right & left adjusting screw is adjusted 0.1 mm per approx. 3 degrees.
- 3** After loosening the lock nut, turn the right-side right & left adjusting screw clockwise by the amount loosened in step 2 above to tighten it.

- 4** Turn the fixing bolt clockwise to fix it.
- 5** Check the adjusted results.  
When the reverse error occurred due to excessive adjustment, follow the "Backgauge Right & Left Adjustment 2" paragraph on the following page.
- 6** After completion of this adjustment, tighten the lock nut of right & left adjusting screw on both sides.

## Backgauge Right & Left Adjustment 2



When the backgauge right is protruding forward as viewed from the main body front panel

### CAUTION

Be sure to use the supplied spanner. Do not apply excessive force to the spanner; for example, do not rest your weight thereon. Excessive tightening results, thus leading to damage on the backgauge.

**1** Loosen the fixing bolt by turning it counterclockwise.

**2** After loosening the lock nut, turn the right-side right & left adjusting screw counterclockwise by the amount of errors to loosen it.

The right & left adjusting screw is adjusted 0.1 mm per approx. 3 degrees.

**3** After loosening the lock nut, turn the left-side right & left adjusting screw clockwise by the amount loosened in step 2 above to tighten it.

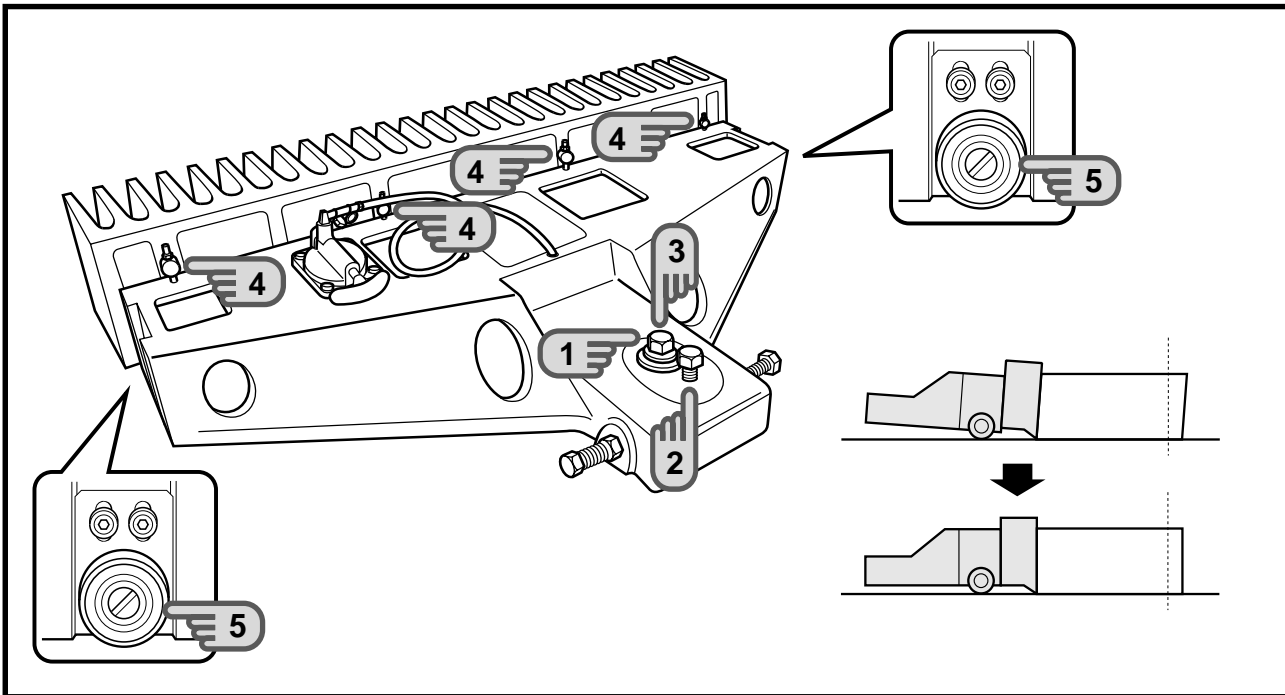
**4** Turn the fixing bolt clockwise to fix it.

**5** Check the adjusted results.

When the reverse error occurred due to excessive adjustment, follow the "Backgauge Right & Left Adjustment 1" paragraph on the preceding page.

**6** After completion of this adjustment, tighten the lock nut of right & left adjusting screw on both sides.

## Backgauge Upper & Lower Adjustment 1



When the backgauge is leaning forward

### CAUTION

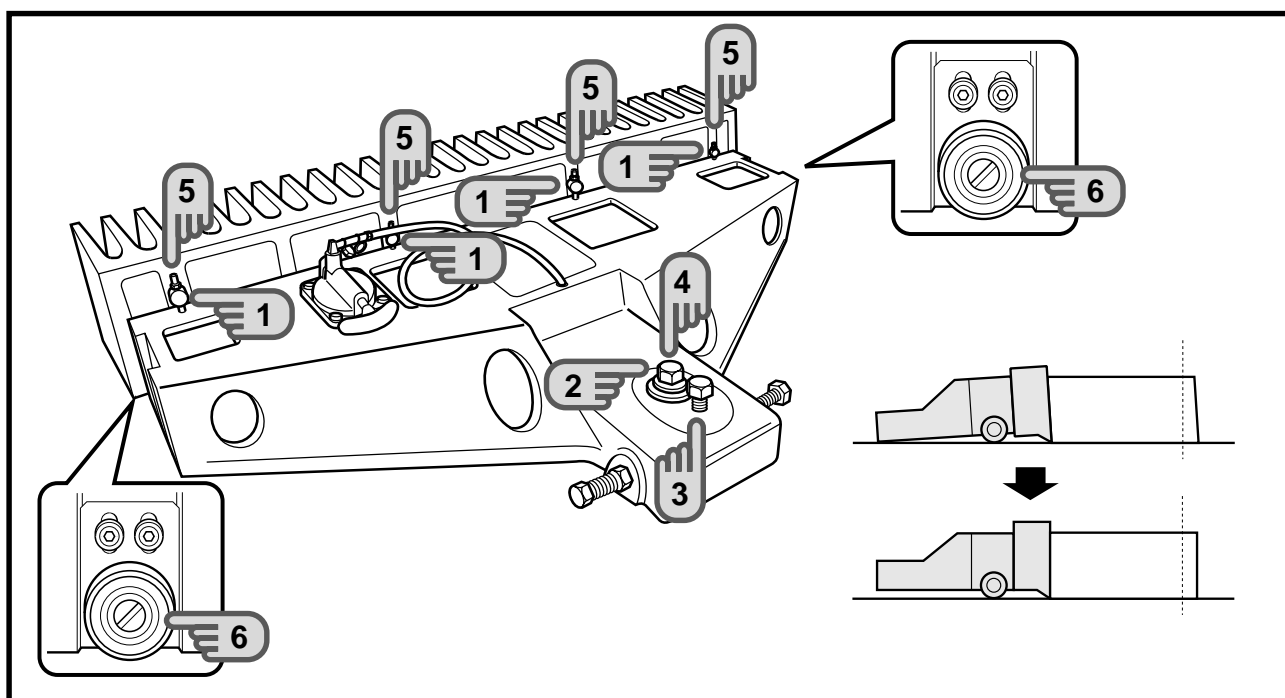
Be sure to use the supplied spanner. Do not apply excessive force to the spanner; for example, do not rest your weight thereon. Excessive tightening results, thus leading to damage on the backgauge.

- 1** Turn the fixing bolt counterclockwise to loosen it.
- 2** Turn the upper & lower adjusting bolt counterclockwise to loosen it.
- 3** Turn the fixing bolt clockwise to tighten it.

- 4** Adjust the clearance between the aft comb tip and table with the aft comb upper & lower adjusting pin.
- 5** Adjust this clearance to an extent such that the guide roller comes into slight contact with the table.



## Backgauge Upper & Lower Adjustment 2



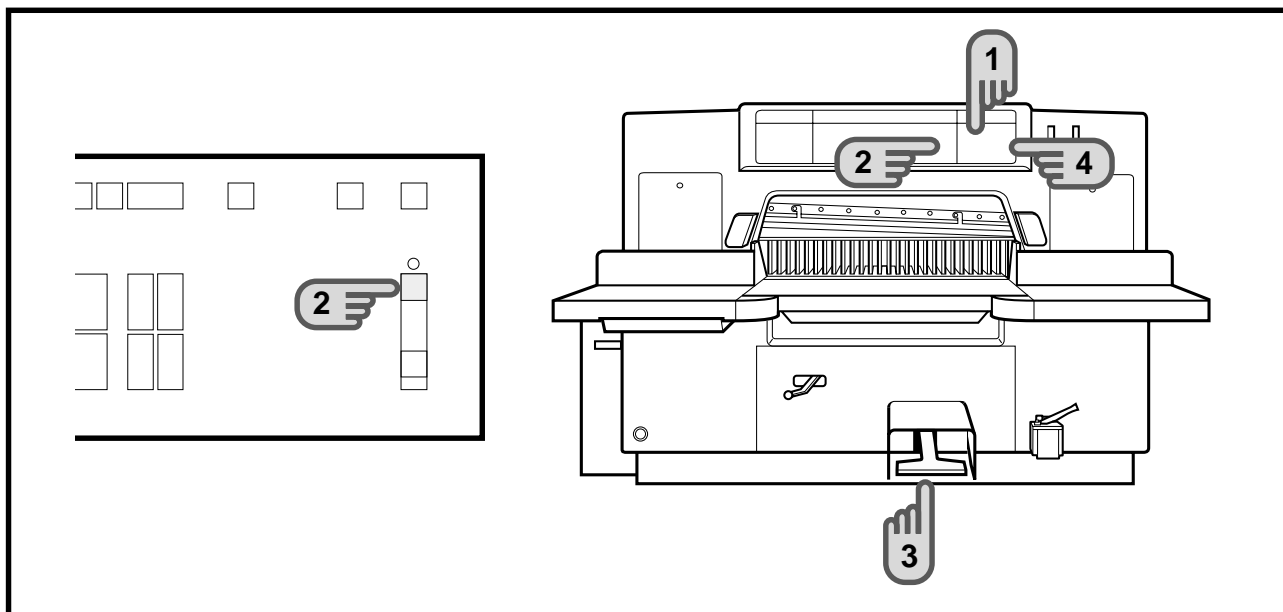
When the backgauge is leaning backward

### CAUTION

Be sure to use the supplied spanner. Do not apply excessive force to the spanner; for example, do not rest your weight thereon. Excessive tightening results, thus leading to damage on the backgauge.

- 1 Separate the aft comb from the table with the aft comb upper & lower adjusting pin.
- 2 Turn the fixing bolt counterclockwise to loosen it.
- 3 Turn the upper & lower adjusting bolt clockwise to tighten it.
- 4 Turn the fixing bolt clockwise to tighten it.
- 5 Adjust the clearance between the aft comb tip and table with the aft comb upper & lower adjusting pin.
- 6 Adjust this clearance to an extent such that the guide roller comes into slight contact with the table.

## Clamp Pressure Adjustment

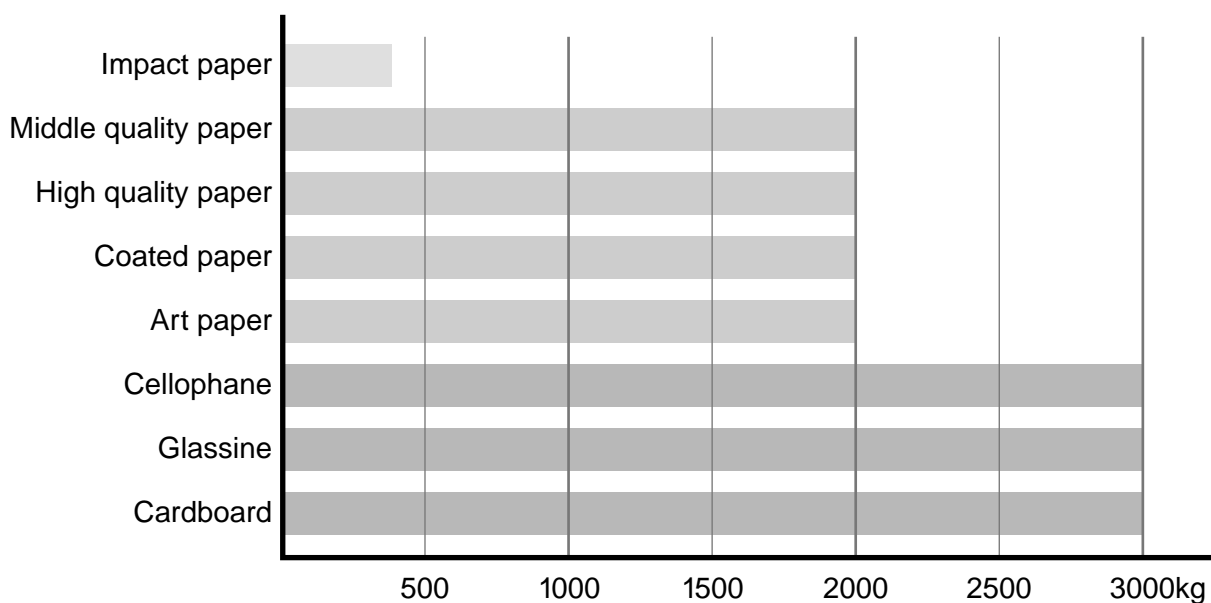


**1** Turn the power switch "ON".

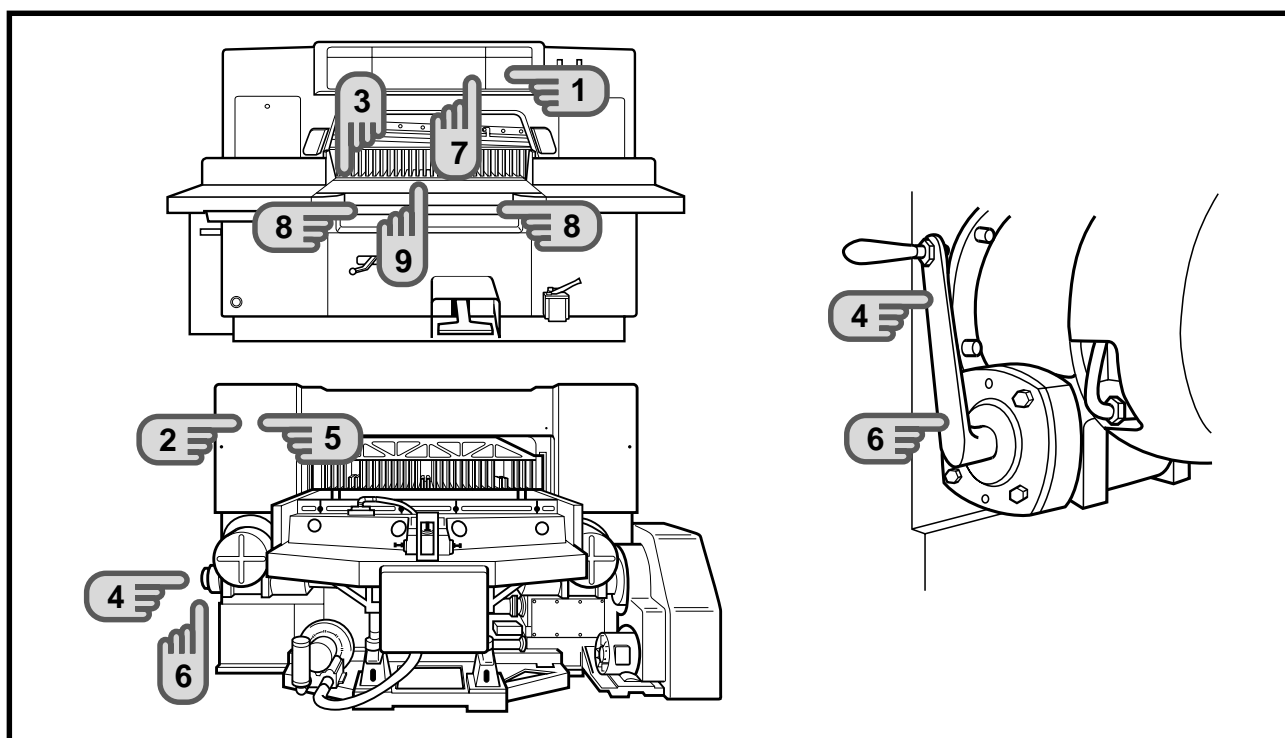
**3** Work the clamp pedal to ensure that the clamp lowers onto the table side.

**2** Start hydraulic motor operation.

**4** Select the pressure with the clamp pressure adjusting knob and clamp pressure level selector switch.



## Confirmation of knife height



Be sure to check after the knife is changed.

- 1 Turn the power on.



Do not turn on the main motor.

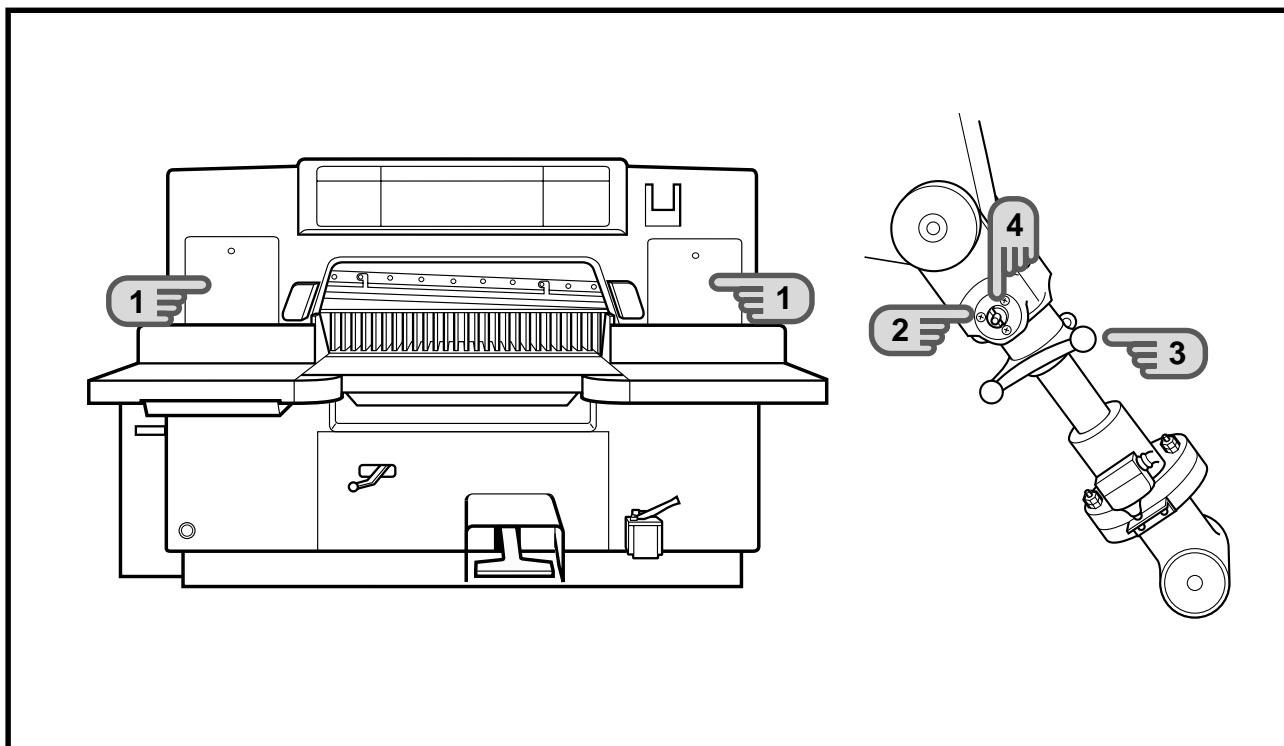
If the knife lowers too much or if it does not make contact with the paper or if the knife height varies between the left and right sides, adjust the height of the knife (page 20).

- 2 Turn on the clutch key.  
The clutch is engaged after about 90 seconds.
- 3 Remove the ruler and place a sheet of paper on the groove for the ruler.
- 4 Remove the cover of the transmission shaft and attach the handle and turn it counterclockwise.

The knife lowers to lightly touch the paper, then rises if its height is correct.

- 5 If the height of the knife is correct, turn off the clutch key.
- 6 Remove the handle and install the cover.
- 7 Start the main motor.
- 8 Press the knife button to restore the knife.
- 9 Set the ruler.

## Fine adjustment of height of knife



**1** Remove the lid of the knife height adjusting window.

**2** Pull the fixing pin and turn it 90 degrees.

**3** Using the adjusting handle, adjust the height.

Turn the adjusting handle toward the depth to raise the knife, or turn it toward you to lower the knife.

**4** After left/right adjustment is finished, turn the fixing pin 90 degrees to return it in the original position.

After returning, check that the fixing pin enters the hole. If the pin is hard to enter the hole, slightly move the adjusting handle to the left and right.

## To Determine Knife Angle

The knife angle significantly affects the cutting quality or sharpness. Changing the angle according to paper quality produces an effect. The standard angle is 22 degrees. For hard paper, however, approx. 25 degrees will be acceptable, and for soft paper, the angle will favorably be approx. 19 to 20 degrees. Reducing the angle to 19 degrees or smaller causes the edge to be nicked. When the angle is increased, a 2-step blade reduces resistance, and the knife cuts well.

Paper Quality	Soft paper & thin paper	Medium-quality paper & wood free paper	Coat paper & art paper	parchment paper & cellophane
Knife Angle	19°~20°	21°~22°	23°~23.5°	24°~25°

## Type of Knife

### Special steel (SKS)

This type of knife is suitable for soft paper and the cutting surface is beautifully finished.

For hard paper as well, no edge is nicked by changing the knife angle (24 to 26 degrees).

### High-speed steel (SKH)

This type of knife is suitable for wood free paper, coat paper and art paper, which has an outstanding cutting quality and excellent resistance to wear. "SKH" lasts approx. 2 times of special steel (SKS).

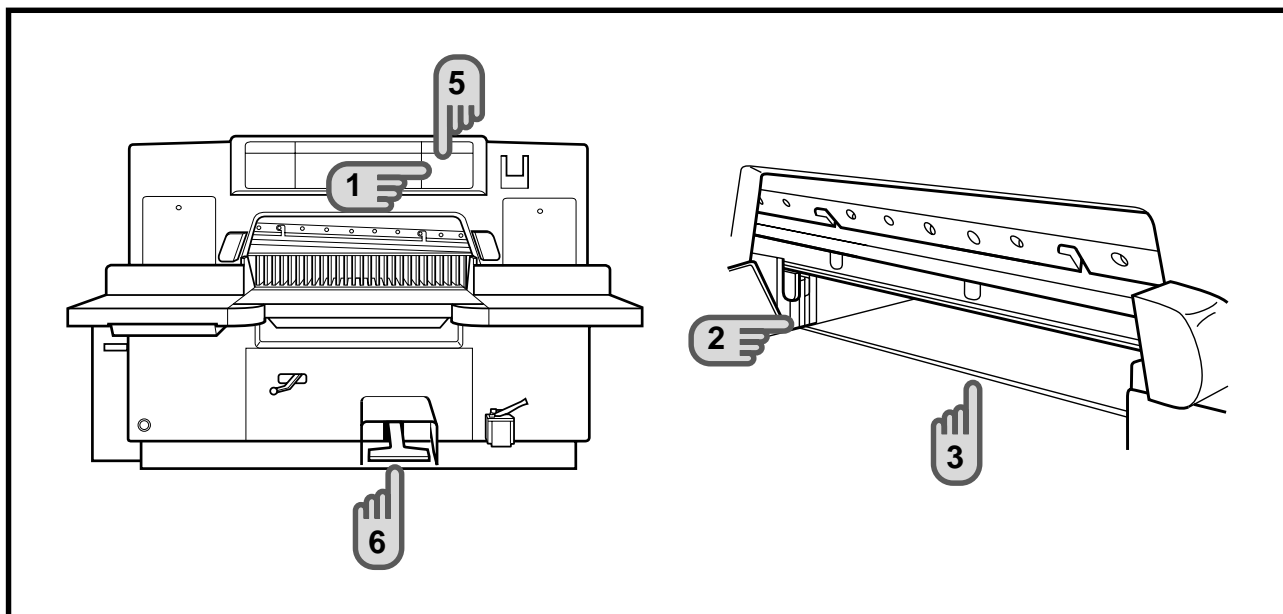
### Tungsten carbide

Tungsten carbide is such that tungsten and carbon powder are baked and compacted, which is extremely hard.

This type of knife is tipped, which cannot be quenched, and has excellent resistance to wear, but it has a demerit that it is fragile and easy to chip.

This durability is approx. 20 to 60 times of high-speed steel (SKH), which depends on the type of paper to be cut.

## To Replace Cutting stick



**1** Stop the main motor.

**2** Insert a screwdriver from the left end, and take out the cutting stick while keeping it afloat little by little.

**3** After taking it out, clean the groove.

Check the knife height (page 19).

**4** Insert the cutting stick from the right or left end of the groove, and insert the entire surface into the groove lightly.

**5** Start the main motor.

**6** Work the clamp pedal to lower the clamp, and push in the cutting stick.

Where the cutting stick and table height is not equal, insert a piece of paper or more under the cutting stick to adjust the height.



### CAUTION

When the knife cuts too deep into the cutting stick and the paper is broken without cutting only on the paper lower part, replace the cutting stick with a new one.



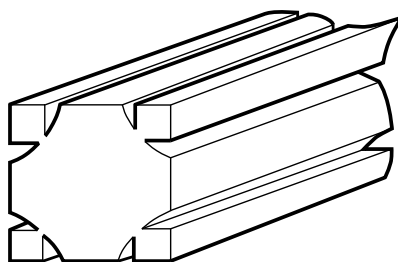
### CAUTION

When replacing the knife, be sure to re-insert the cutting stick into the new surface in advance.



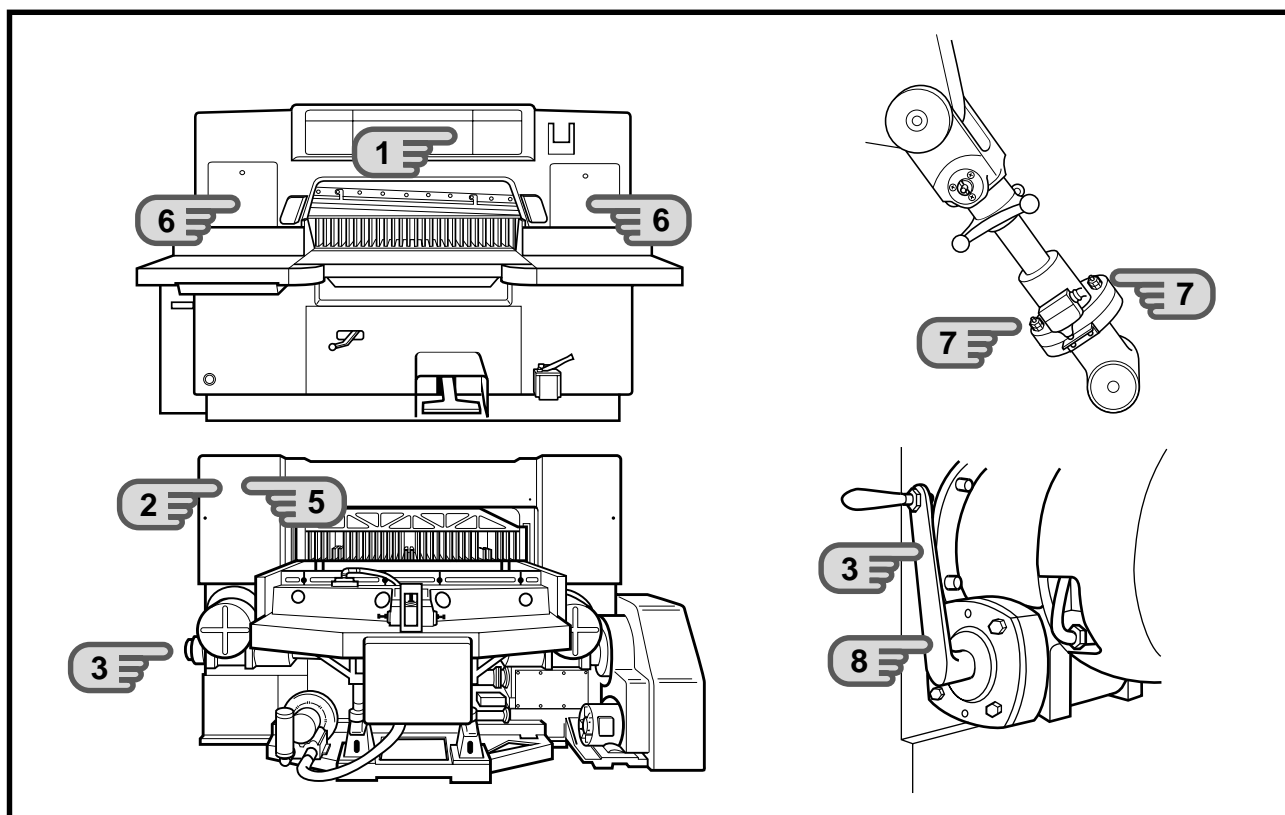
### CAUTION

When the cutting stick was replaced, be sure to adjust the knife height.



4 sides X 2 places on the cutting stick (8 places total) can be used as illustrated above.

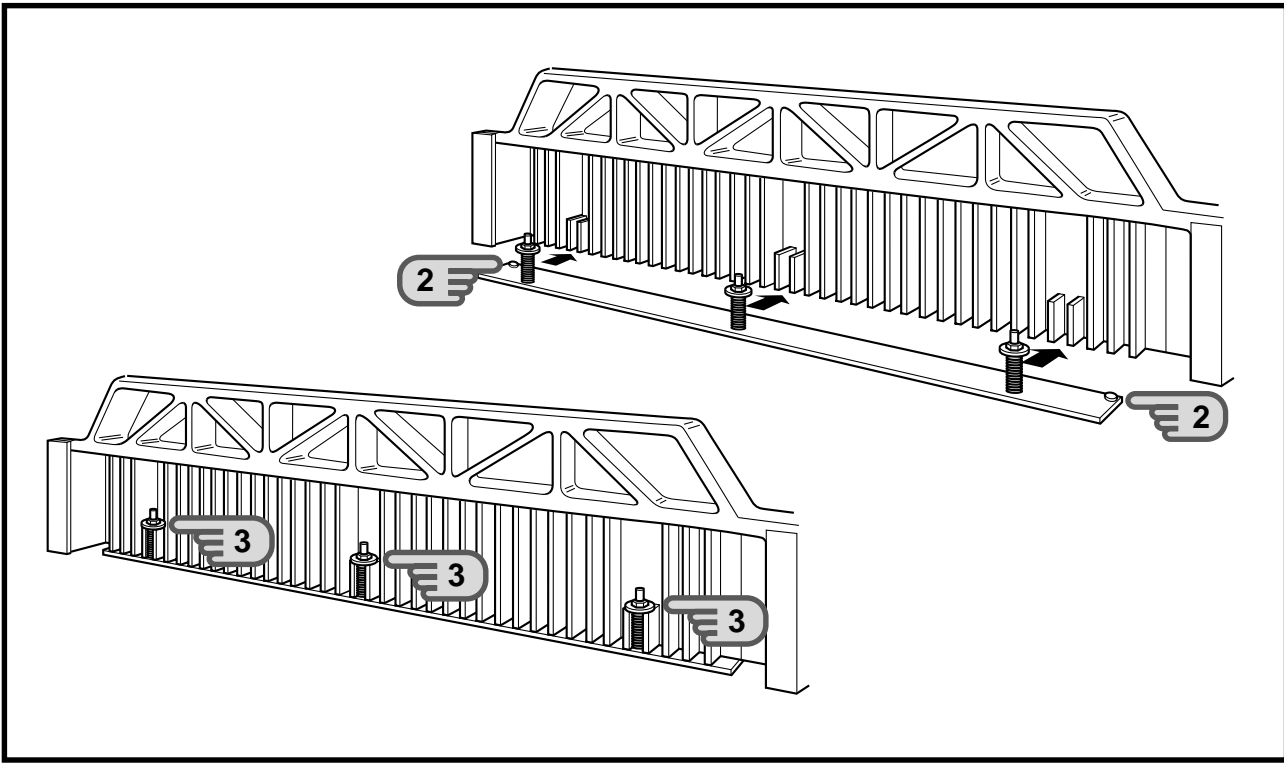
## How to change the safety bolt



If a hard matter or foreign matter is cut or a dull knife is used to cut, the safety bolt will be broken to stop the knife in an emergency.

- 1** Stop the main motor.
- 2** Turn on the clutch key.  
The clutch is engaged after about 90 seconds.
- 3** Remove the cover of the transmission shaft and install the handle and turn it clockwise.
- 4** Raise the knife to the top dead center and stop it there.
- 5** Turn off the clutch key.
- 6** Remove the lid of the knife height adjusting window.
- 7** Remove the broken safety bolt and install a new one.
- 8** Remove the handle and install the cover.

## How to install the back plate



- 1 Turn the power off.
- 2 Align the dowel pins of the back plate with the dowel pin holes of the clamp.
- 3 Tighten the installation nuts.
- 4 Be sure to place the removed back plate on the back plate holder.



### CAUTION

When the back plate is installed, the backgauge protrusion distance is limited to 85 mm.



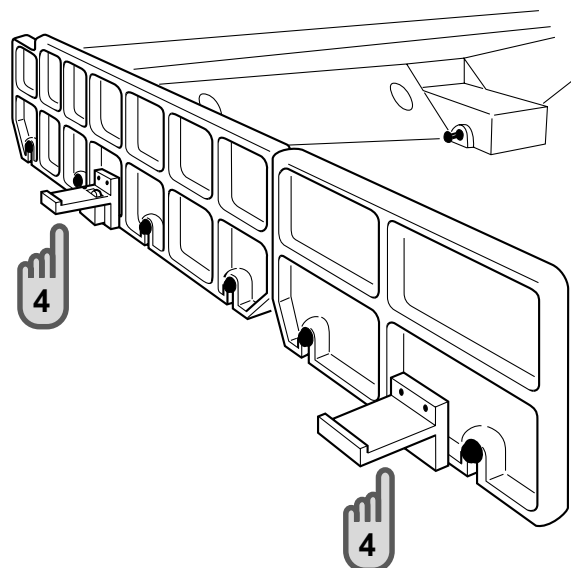
### CAUTION

Check that the back plate does not protrude out of the front face of the clamp.



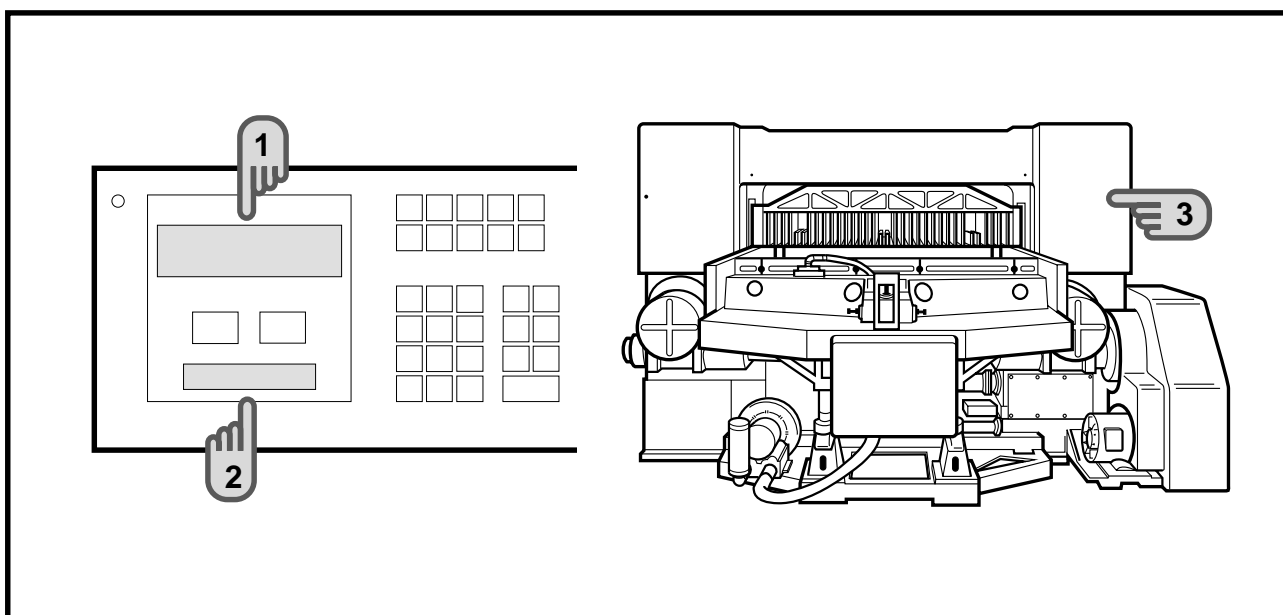
### CAUTION

After installing the back plate, never place matter on the back plate holder.





## How to read information display



- 1** When the thermal relay trips or the safety bolt is broken, error display appears.

888

- 2** The nature of the error is displayed, using a number.

01

Clutch motor thermal trip

03

Blower motor thermal trip

04

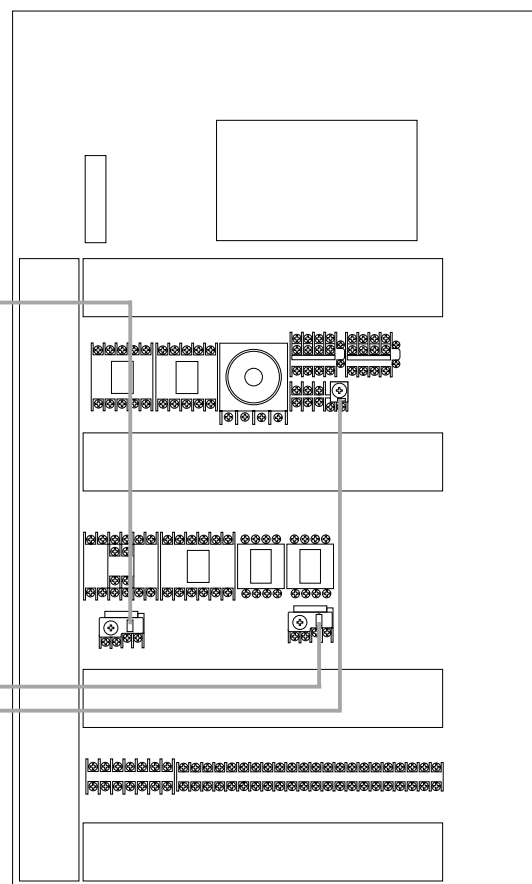
Knife lifter motor thermal trip (option)

05

Safety bolt breakage, separation of knife support bolt or loose bolt

Press the mode button twice to change to maintenance information display. This mode is not used during regular operation; press the cancel button or another mode button to return to the original state.

- 3** To reset the tripping thermal relay, press the thermal button in electric box 2.



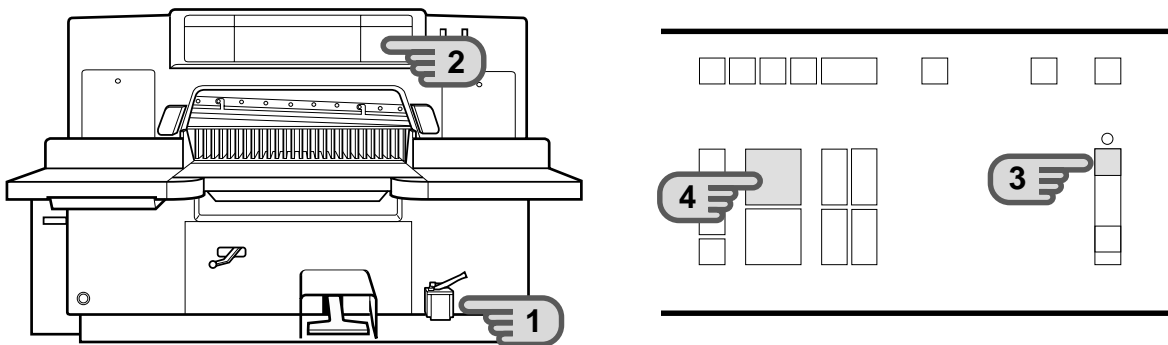
# Operation Method



## CAUTION

Ensure that foreign matter or the like is not present on the table.  
Ensure that no foreign matter is found around the machine, especially at the foot in the working position and near the pedal.  
Also, take special care so that the cutting material near or around the cutting machine does not crumble or fall down.

## INTRODUCTION



### 1 Operate the central lubrication pump once.

When the oil level inside the pump tank is 1/4 Max., apply oil.

Apply oil as shown in the lubricating location drawing, and also apply grease to the grease-up place.

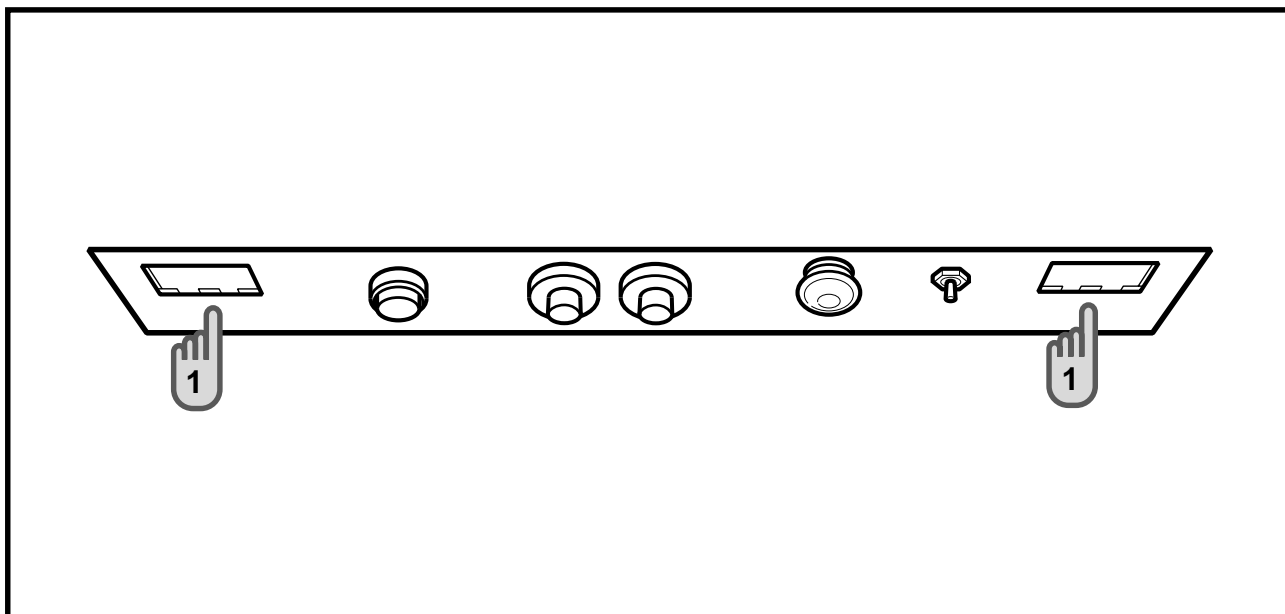
### 3 Operate the hydraulic motor.

### 4 Press the START key.

The backgauge moves and the backgauge position is displayed automatically.

### 2 Turn the power switch "ON".

## To Operate Cutting button



- 1 Press the right and left cutting buttons at the same time.



### CAUTION

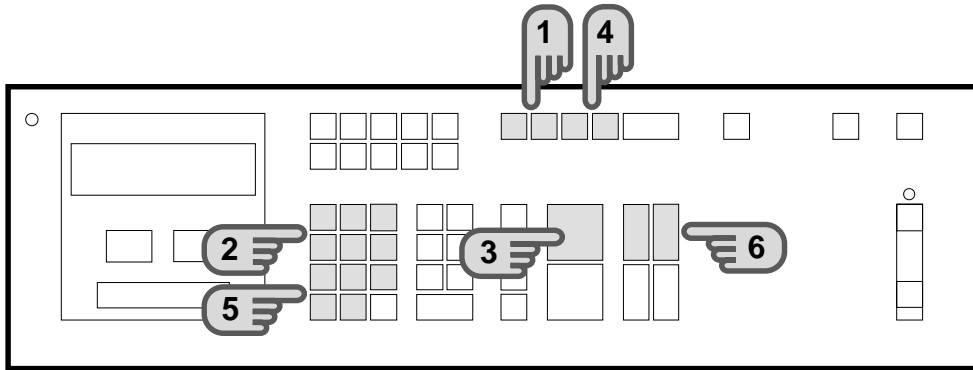
Continue to press the cutting buttons until the knife reaches the cutting stick. If it is released midway, the knife will stop in that position.



### CAUTION

After the knife has reached the cutting stick, the knife returns to the top dead center, coming to a halt even when the knife button is continuously depressed or released.

## To Operate Backgauge



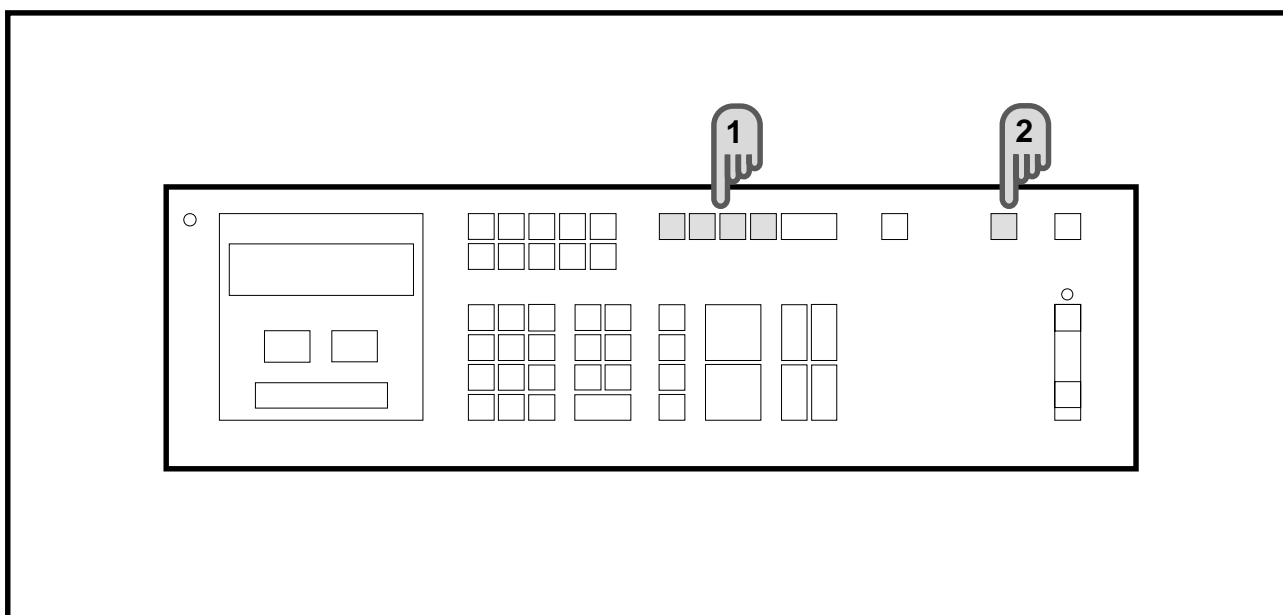
### When giving instructions with the size from the knife edge

- 1 This is effective in all modes.
- 2 Input the objective position data with Ten-key.
- 3 Press the START key.  
The backgauge travels to the objective position, coming to a halt.

### When giving instructions with the backgauge present position as reference

- 4 This is effective in all modes.
- 5 Input the objective movement with Ten-key.
- 6 Press the "Forward Hi-Speed" key and "Backward Hi-Speed" key.  
The backgauge travels the objective move distance, coming to a halt.

## To Change Backgauge Speed



**1** This is effective in all modes.

**2** Press the SPEED key.

Each time this key is depressed, the backgauge speed can be changed to 4 steps below.

■ ■ The backgauge forwards at a low speed, and  
 ■ ■ backwards at the normal speed.

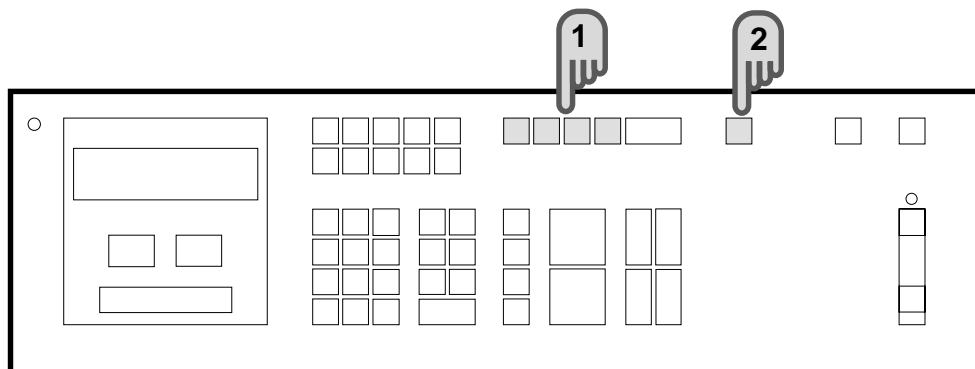
■ ■ The backgauge forwards at a middle speed, and  
 ■ ■ backwards at the normal speed.

■ ■ The backgauge forwards and backwards at the  
 ■ ■ normal speed.

■ ■ The backgauge forwards and backwards at the high  
 ■ ■ speed.

■ Light-ON    ■ Light-OFF

## To Change Unit



### 1 This is effective in all modes.

This operation applies only to when the data is not saved in the course now on the display.

### 2 Press the UNIT key.

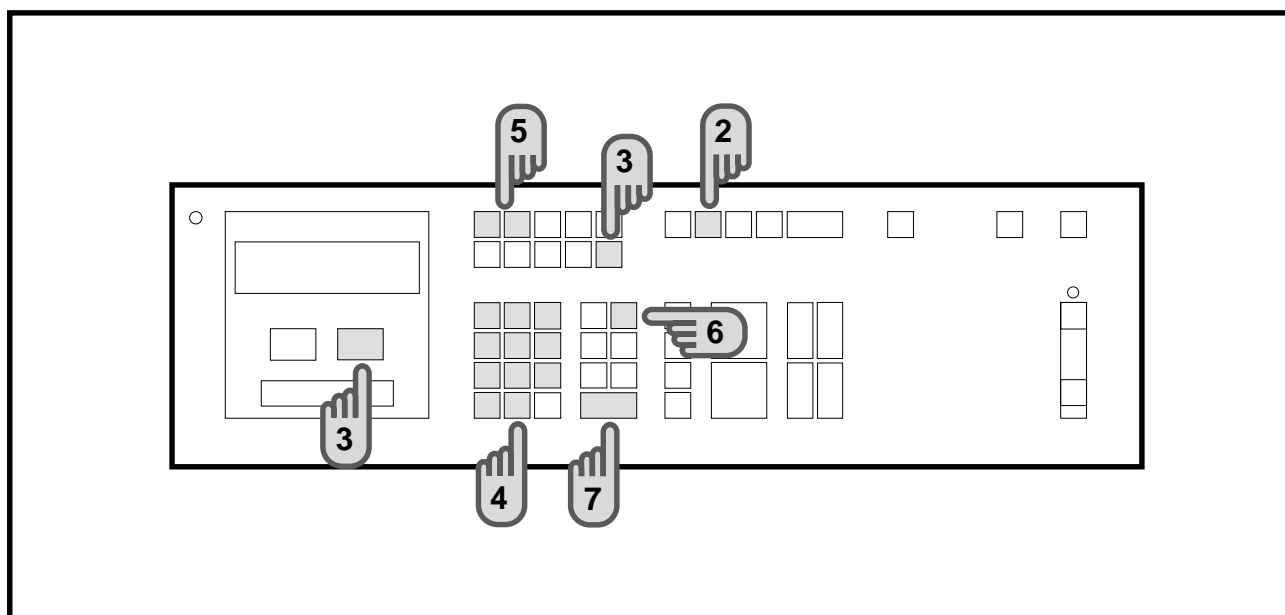
Each time this key is depressed, the unit is changed to "mm", "inch", then "mm".



#### CAUTION

If the data is stored once in the course, the unit at that time cannot be changed unless the course data is erased.

## To Correct Errors Between Exact Size and Indicated size



**1** Measure the error accurately.

**2** Select the manual mode.

**3** Press the SCH key.  
The numerical value is displayed at the page on the display panel.  
("50" before shipment)

**4** Input the error with Ten-key.

When the error is 0.5 mm: 5  
When the error is 1.5 mm:15

**5** When the exact size is smaller than the indicated size, press the "-" key, and when it is larger, press the "+" key.

**6** Press the BM button.

**7** Press the STOR key.  
The numerical value displayed in step **3** above is changed.

### Example

**Where the exact size is 0.5 mm smaller than the indicated size**

**5** **-** **BM** **STOR**

**Where the exact size is 1.5 mm larger than the indicated size**

**1** **5** **+** **BM** **STOR**

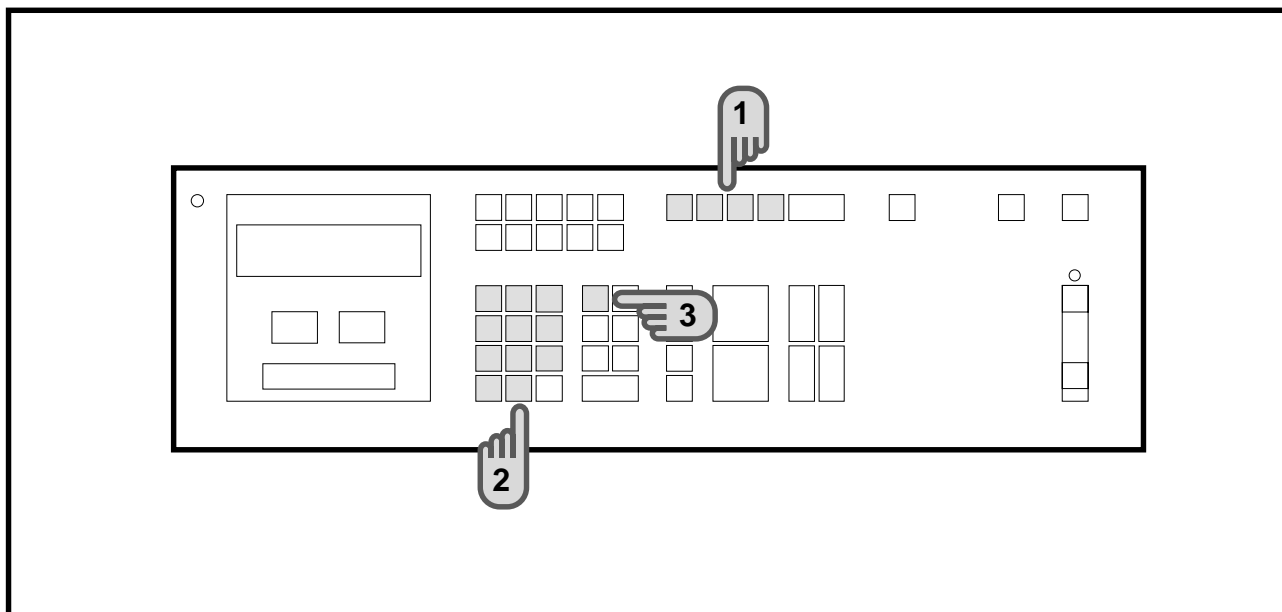


### CAUTION

The numerical value is factory set to "50" before shipment.

This value is re-set to the adequate one by the service personnel when the product is delivered to the customer.

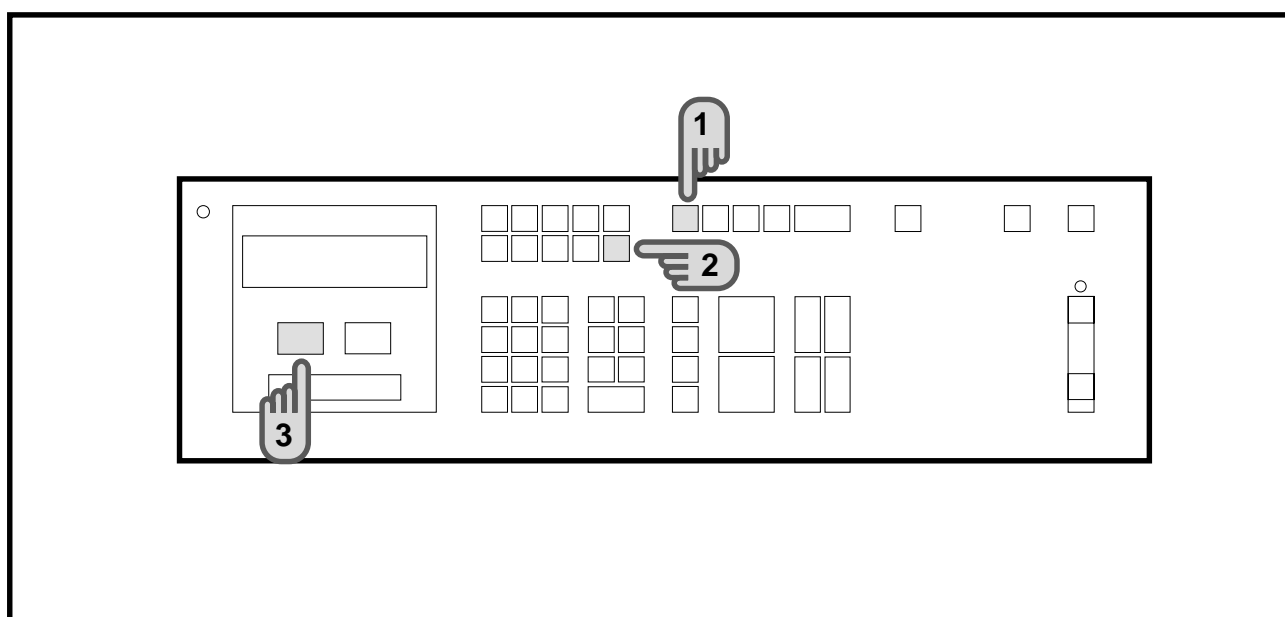
## To Call Course



- 1 This is effective in all modes.
- 2 Input the course to be accessed with Ten-key.
- 3 Press the CORS key.



## To Call Empty Course

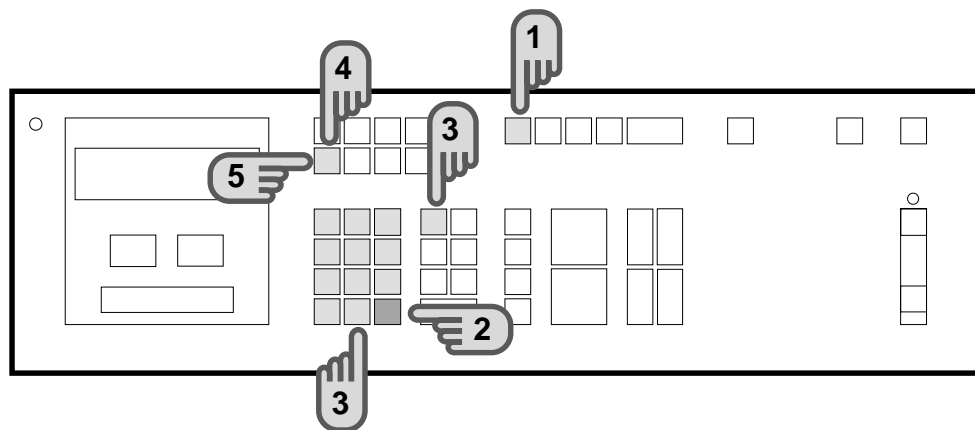


**1** Select the DS mode.

**2** Press the SCH key.

**3** The empty course is on the display.  
Call the youngest of the empty courses.

## To erase Course



**1** Select the DS mode.

**5** If the course may be erased after checking, press the ERA key once more.

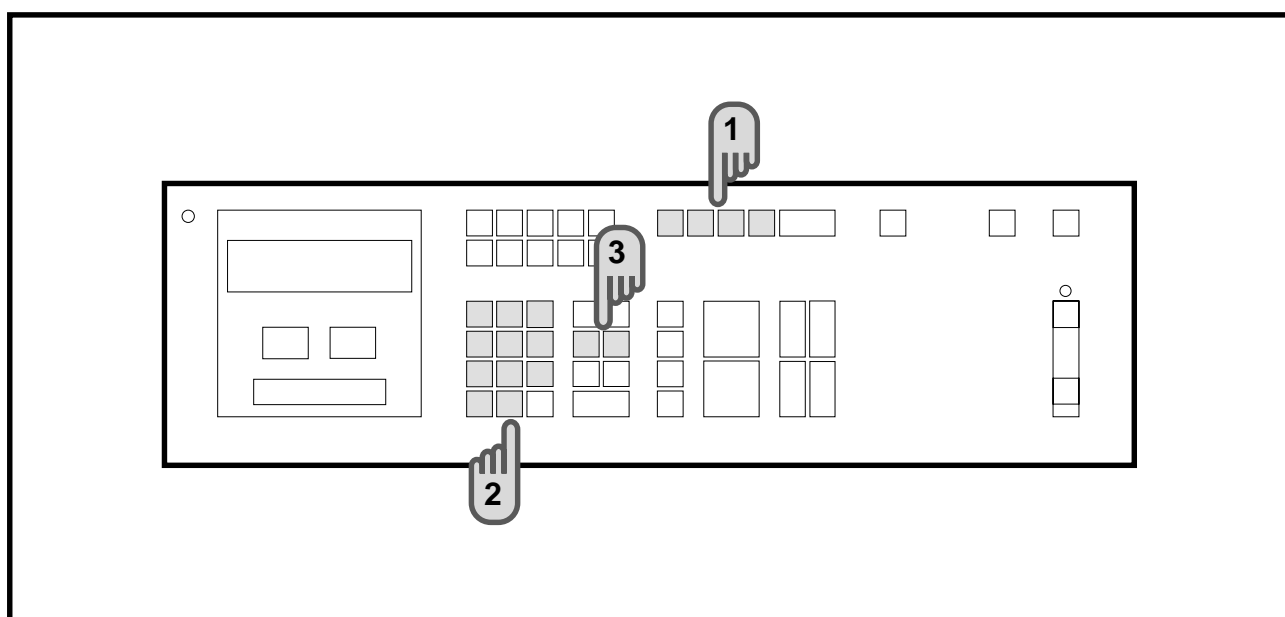
**2** Input the course to be erased with Ten-key.

**6** If it is not desired to ERA the course, press the CL key.  
This erasure will be cancelled.

**3** Press the CORS key.  
Ensure that the course is displayed on the display panel.

**4** Press the ERA key.  
The buzzer sounds.

## To Call Page



- 1 This is effective in all modes.
- 2 Input the page to be accessed with Ten-key.
- 3 Press the PAGE key.

The page can be called even when the PAGE key is depressed without calling it with Ten-key.

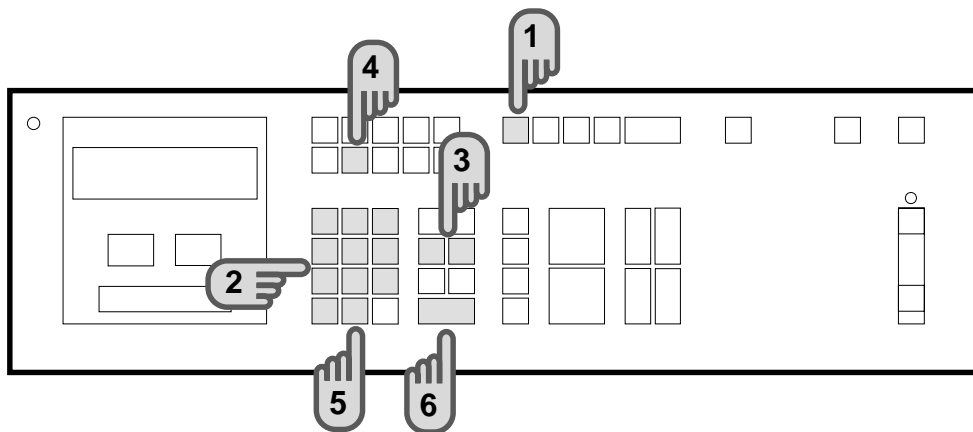


By pressing [PAGE +] once, the screen scrolls one page.



By pressing [PAGE -] once, the screen scrolls one page.

## To Insert Page



When it is desired to insert a data into the course already stored in memory

**1** Select the DS mode.

**5** Input the data to be inserted with Ten-key.

**2** Input the page to be added with Ten-key.

**6** Press the STOR key.

When inserting a data between pages 2 and 3, input page 3.

For the data of hold feed and number repetition, press the H & N keys.

**3** Press the PAGE key.



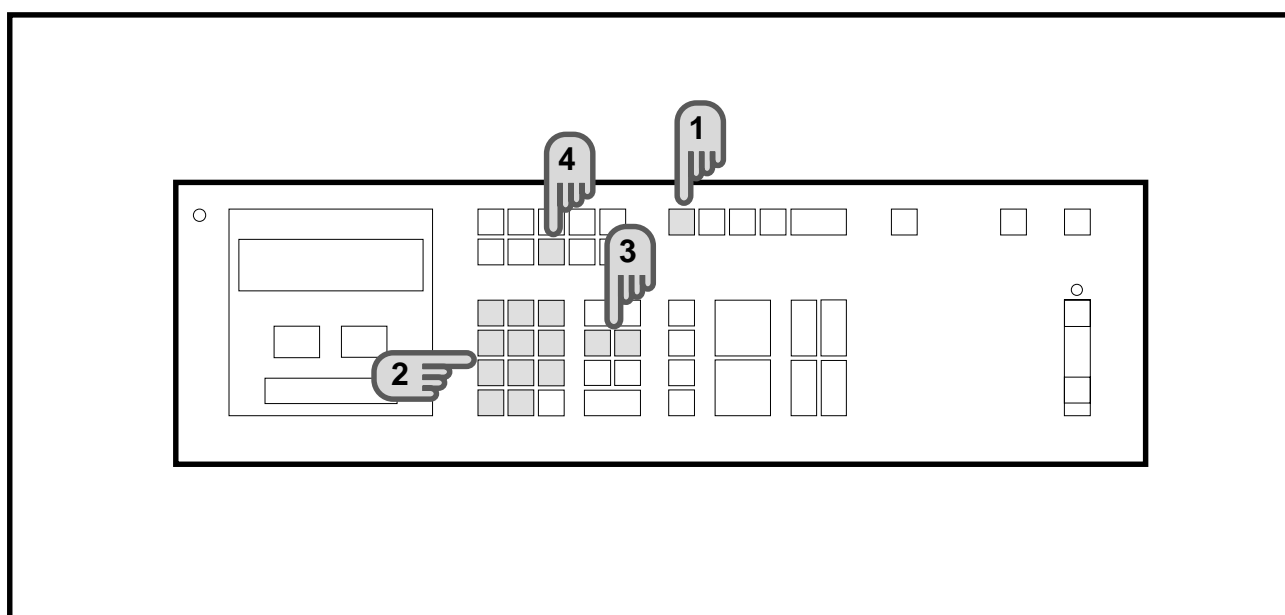
### CAUTION

When several work contents delimited with the space are saved in the same course, this function does not work.

**4** Press the INS key.

Press this key only for the data to be inserted.  
The page is carried down automatically by the frequency of key push.

## To Delete Page



**1** Select the DS mode.

**2** Input the page to be deleted with Ten-key.

**3** Press the PAGE key.

Ensure that the page and data are displayed on the display panel.

**4** Press the DEL key.

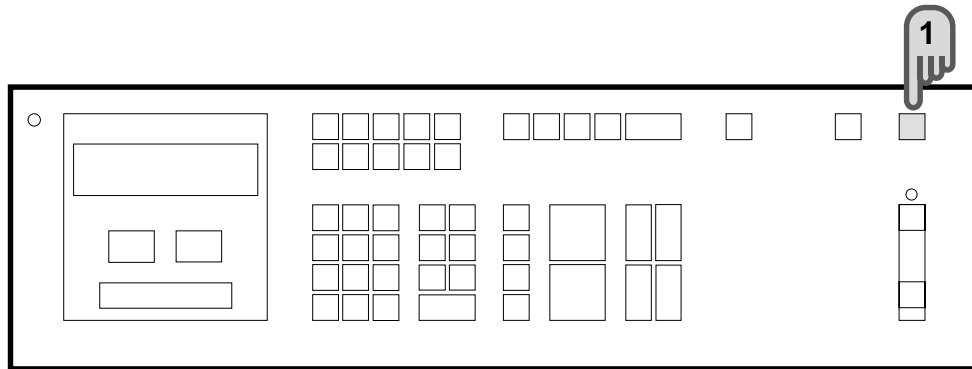
The page size is deleted, and the page is carried over automatically.



### CAUTION

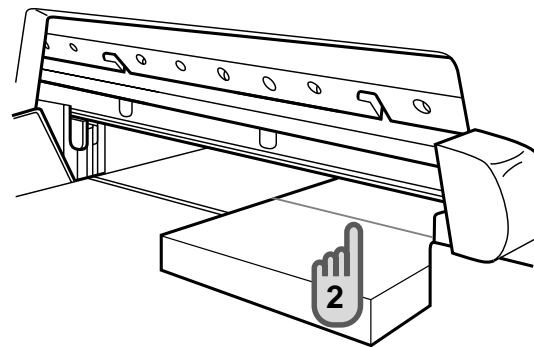
When several work contents delimited with the space are saved in the same course, this function does not work.

## To Use Cut line optical

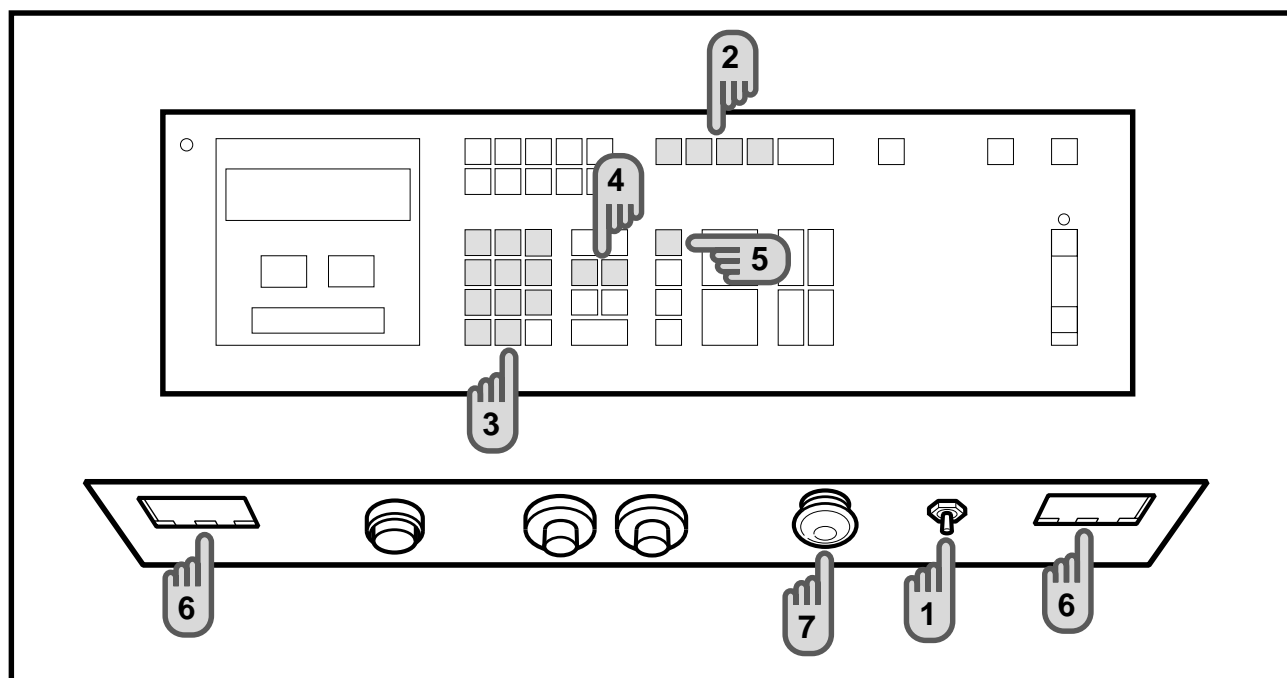


**1** Turn the working lamp switch "OFF".

**2** The table lighting goes out, and cutting line is shown on the paper.



## To Use Air Table



- 1 Set the air selector switch to the rear -----the air normally blows out.  
Set this switch to the center -----the air stops.  
Set this switch to the forward position ----the air blows out only when the backgauge moves backward.

**To let out air even when the backgauge forwards with the air selector switch set to the forward side**

- 2 This is effective in all modes.

- 3 Input the page for air blow with Ten-key.

To let out air when the page is shifted from page 1 to page 2, call page 2.

- 4 Press the PAGE key.

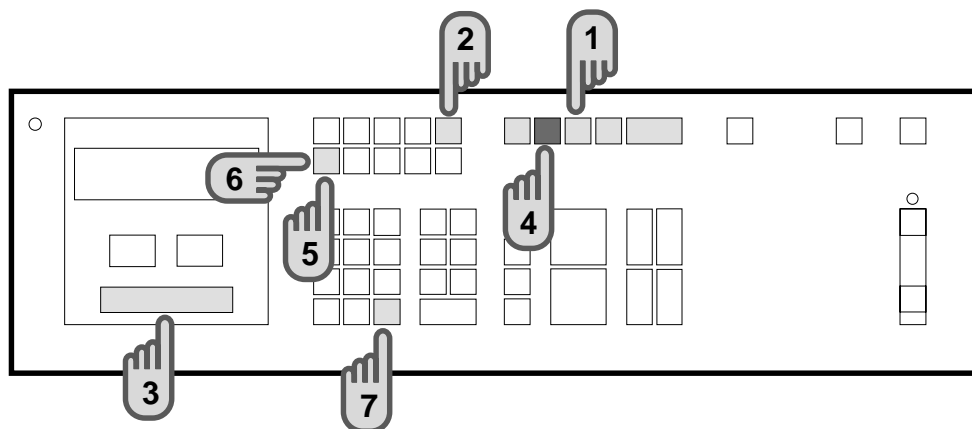
- 5 Press the AIR key.

To cancel, press the AIR key once more.

- 6 To stop air, press either cutting button lightly.

- 7 To let out air stopping, press the BLOWER button.

## How to show counter display



## How to show counter display

- 1 The procedure is effective in all modes.
- 2 Press the equal key.
- 3 The count is displayed at the data display while the key is held down.

## How to clear the counter

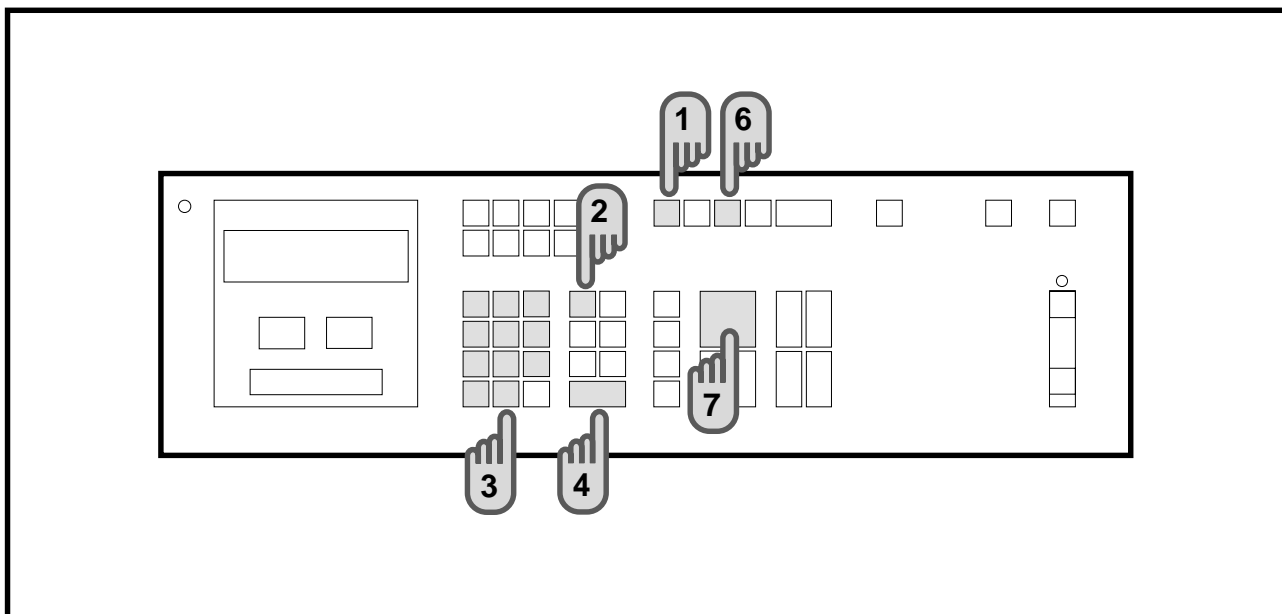
- 4 Select the manual mode.
- 5 Press the erase key.  
The number blinks and a buzzer sounds.
- 6 Press the erase key once again.
- 7 To cancel erasure, press the cancel key.





# Memory and Setting Method

## Memory Method (Memory Method by Ten-key)



**1** Select the DS mode.

**6** After completing the input, select the SA mode.

**2** Set the course.

**7** Press the START key.

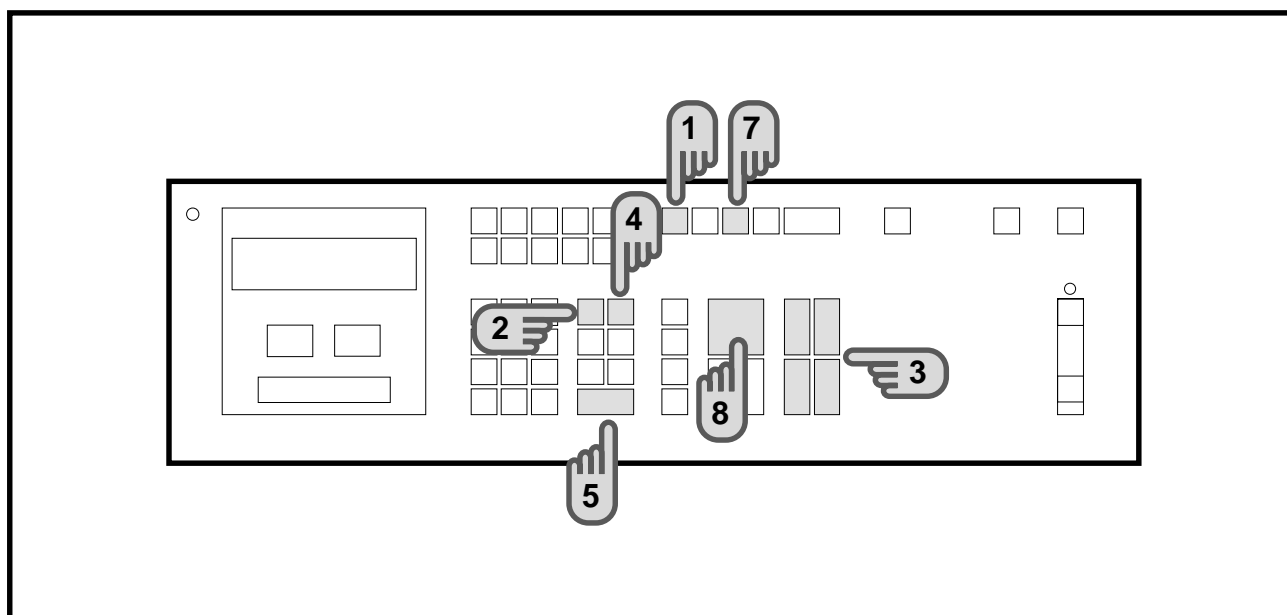
When the previous memory remains, be sure to press the ERA key twice to ERA the size stored in memory.

**3** Input the size to be saved with Ten-key.

**4** Press the STOR key  
Step to the next page.

**5** Repeat steps **3** to **4** above to input the size.

## Memory Method (Memory Method by backgauge)



Store the size in memory while moving the backgauge without lowering the knife.

**1** Select the DS mode.

**7** Upon completion up to the final stroke, select the SA mode.

**2** Set the course.

**8** Press the START key.  
The setting is carried out in the 1st stroke position.

When the previous memory remains, be sure to press the ERA key twice to ERA the size stored in memory.

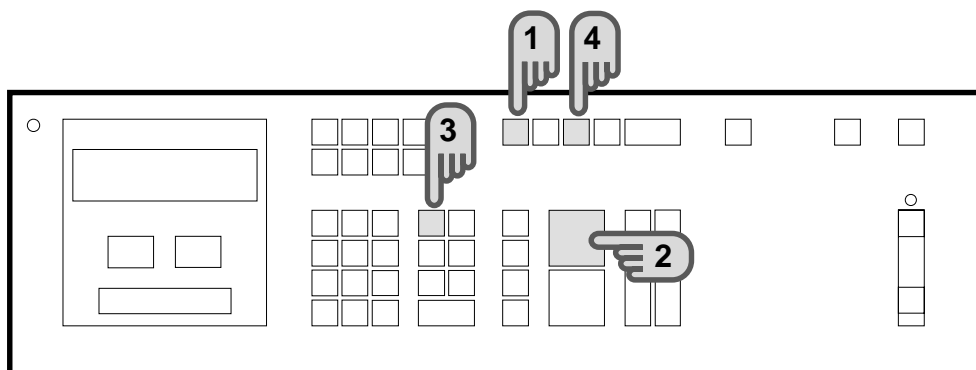
**3** Move the backgauge up to the size in the 1st stroke.

**4** Press the BM key.

**5** Press the STOR key.  
Step to the next page.

**6** Repeat steps **3** to **5** above.

## Memory Method (Memory Method by Actual Paper Cutting)



**1** Select the DS mode.

**2** Set the course.

When the previous memory remains, be sure to press the ERA key twice to ERA the size stored in memory.

**3** Cut the actual paper.

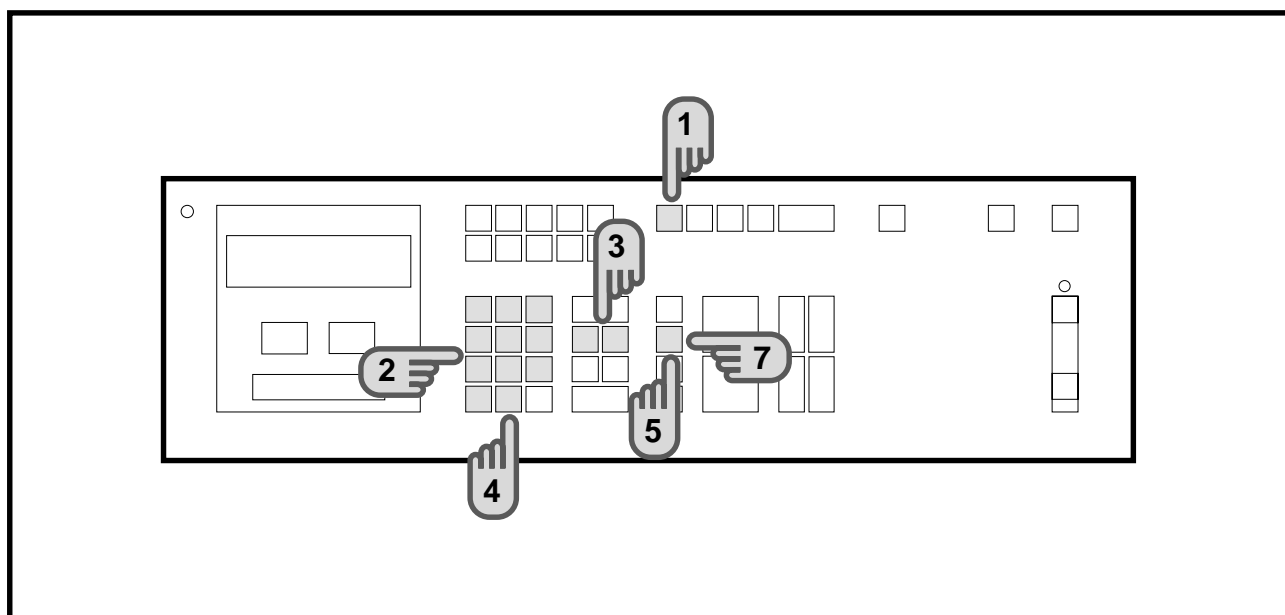
When the knife is lowered, the memory functions automatically stepping to the next page.

**4** After actual paper cutting in the final stroke, select the SA mode.

**5** Press the START key.

The operation mode returns to the initial actual paper cutting data.

## Push-out Method



**1** Select the DS mode.

**2** Input the page to be protruded with Ten-key.

**3** Press the PAGE key.

**4** Input the size to be protruded with Ten-key.



### CAUTION

It is available only CM.



### CAUTION

The push-out size is 99 cm Max.

**5** Press the P key.

**6** To cancel the push-out, select the page to be cancelled and press "0" with Ten-key, then press the P key.

**7** To check the push-out size, press the P key.

The size is displayed while this key is being depressed.

### Example

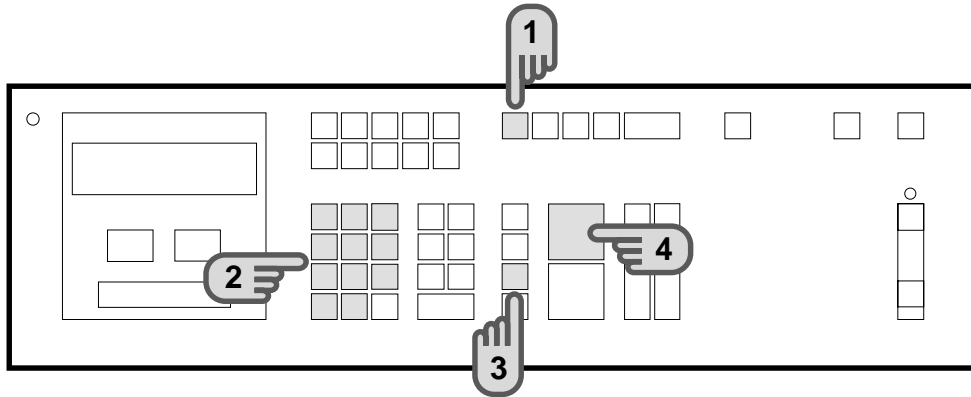
**Input** 10 cm push-out

<b>Page</b>	<b>0</b>	<b>500</b>	<b>STOR</b>	
	<b>1</b>	<b>400</b>	<b>STOR</b>	
	<b>2</b>	<b>600</b>	<b>STOR</b>	<b>10 P</b>

<b>Page</b>	<b>0</b>	<b>500</b>	<b>STOR</b>
	<b>1</b>	<b>400</b>	<b>STOR</b>
	<b>2</b>	<b>10</b>	<b>P</b>
	<b>2</b>	<b>600</b>	<b>STOR</b>

If paper cutting is completed in the 400 mm position in both cases, the backgauge push-out 10 cm, moving to the 600 mm position.

## Stacking Position Method



Before the paper is cut, the position of backgauge convenient for proper paper arrangement can be set.

- 1 Select the DS mode.
- 2 Input the stacking position size into the page in which it is desired to set the stacking position and arrangement with Ten-key.
- 3 Press the SP key.
- 4 Upon completion of protrusion and arrangement during paper cutting operation, press the START key. (SA/FA modes)  
Step to the next page: the backgauge moves.

Where the stacking position data is set to the course in which the data is already stored, insert the page.

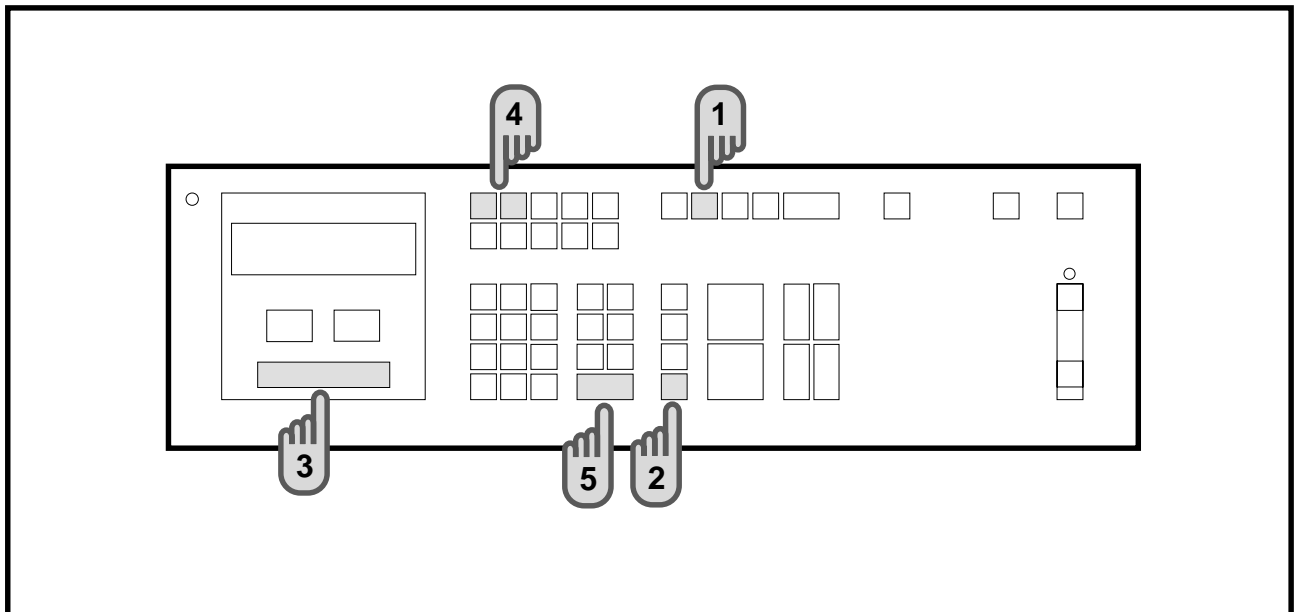
When the mode is semi-automatic or full-automatic, the clamp and knife do not lower in stacking position. However, by working the clamp pedal, the clamp will go down.



### CAUTION

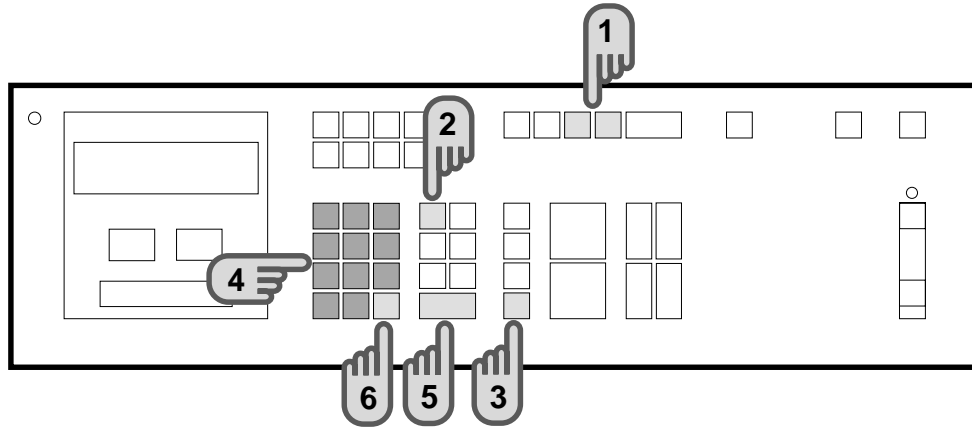
When the DS or MN mode is selected even if the page data on the display is "SP", the clamp and knife move downward if the cutting button is depressed.

## How to perform soft clamp setting



- 1** Select the manual mode.
- 2** Press the air release key.
- 3** The pressure is displayed at the data display.  
You can set a number between 0 (weak) and 9 (strong), with 5 being the standard.
- 4** To increase the pressure, press the + key; to decrease the pressure, press the - key.
- 5** Press the memory key.
- 6** Step on the clamp pedal to check the clamping pressure.

## How to set the clamp pressure



### Set the clamp pressure for each course.

**1** Select the semi-automatic or automatic mode.

**2** Select the desired course for pressure setting.

After the course is selected, the pressure setting of the course is temporarily displayed, then the course is set.

**3** Press the air release key.  
The display shows the current pressure setting.

**4** Using the ten-key pad, enter the pressure data.

Enter in tons.  
Enter "1.0" for 1000 kg and "2.5" for 2500 kg.

**5** Press the memory key.  
The display blinks. Check the entered data and, if it is correct, press the memory key again.

**6** If the entered data is wrong or to cancel it, press the cancel key.

**7** To cancel pressure setting and use the adjuster on the panel, enter "0.0" as pressure data.

**8** To check the pressure, press the course key.

The pressure data is displayed while the key is held down.



### CAUTION

Turn the adjuster on the panel to arbitrary settings for courses which are not set.

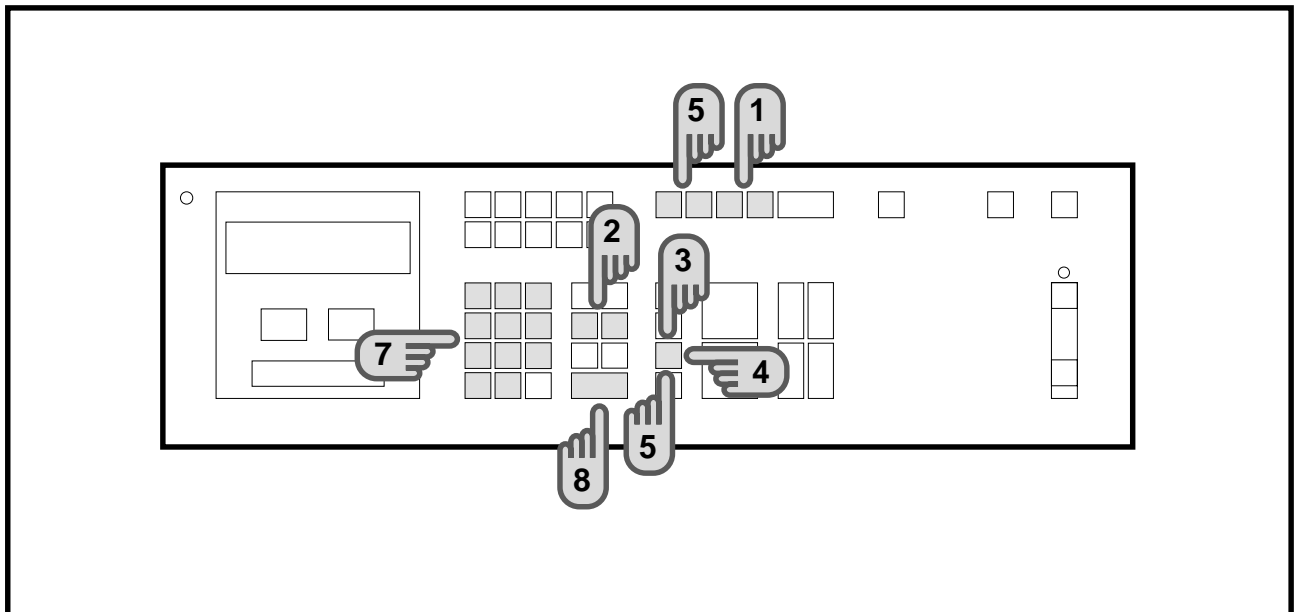


### CAUTION

The adjuster takes no effect in the course where the pressure is set; the memorized pressure takes effect.



## How to set the clamp timer



You can set a delay in the ascent of the clamp to push the cut workpiece against the clamp and assort it easily.

**1** Select the semi-automatic or automatic mode.

**2** Call up the page to be memorized.

**3** Press the push key.

The setting is complete if a dot is displayed at each end of the page.

**4** To cancel, press the push key.  
The dots disappear to indicate that the function is canceled.

**6** Press the push key.

**7** Using the ten-key pad, enter the desired seconds.

The setting range is from 2 to 10 seconds in one second increments. Enter "02" for two seconds.

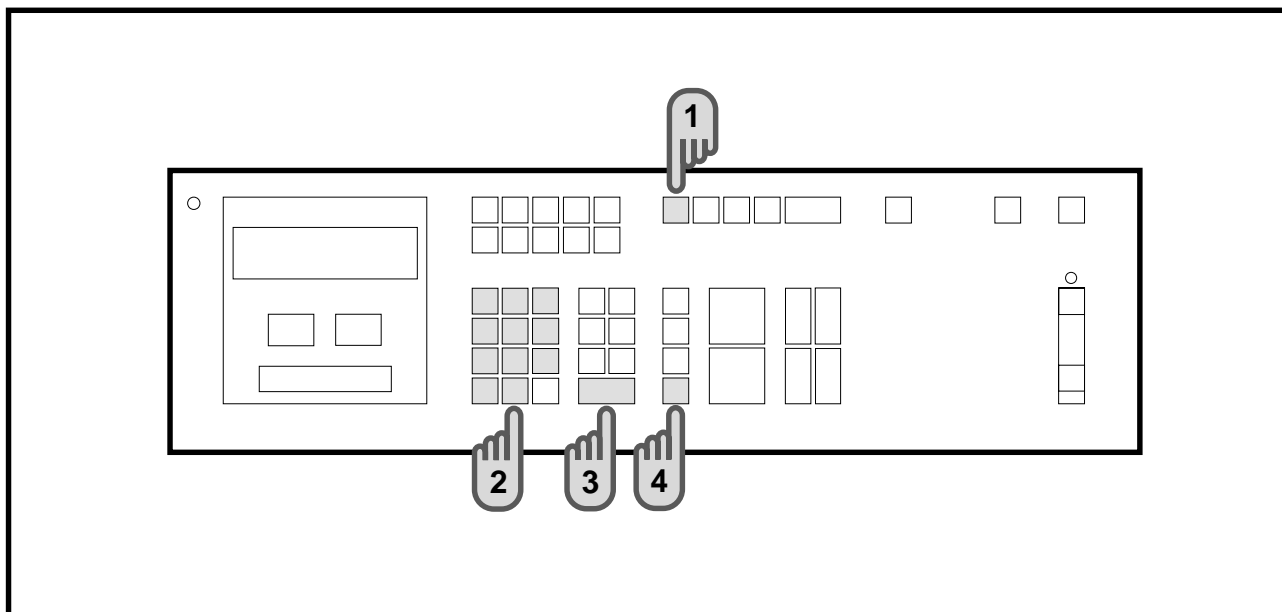
**8** Press the memory key.

## To change the set time

**5** Select the memory or manual mode.

# Applied Operation Method

## Expell Air Method



To let out air in the paper ream, send out the backgauge and lower the clamp only.

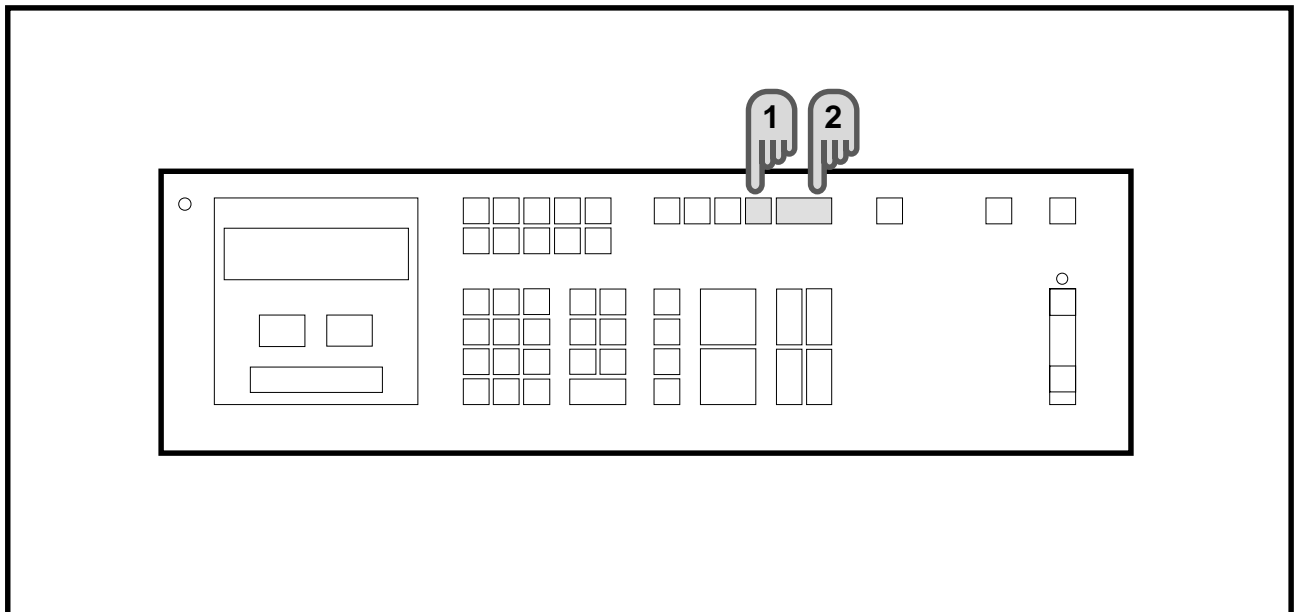
- 1 Select the DS mode.
- 2 Input the air bleeding size with Ten-key.
- 3 Press the CLMP key.
- 4 Press the STOR key.



### CAUTION

When the "DS" or "MN" mode is selected, even if the page data on the display is "AIR", the clamp and knife will lower if the cutting button is depressed.

## Full-Automatic Operation Method

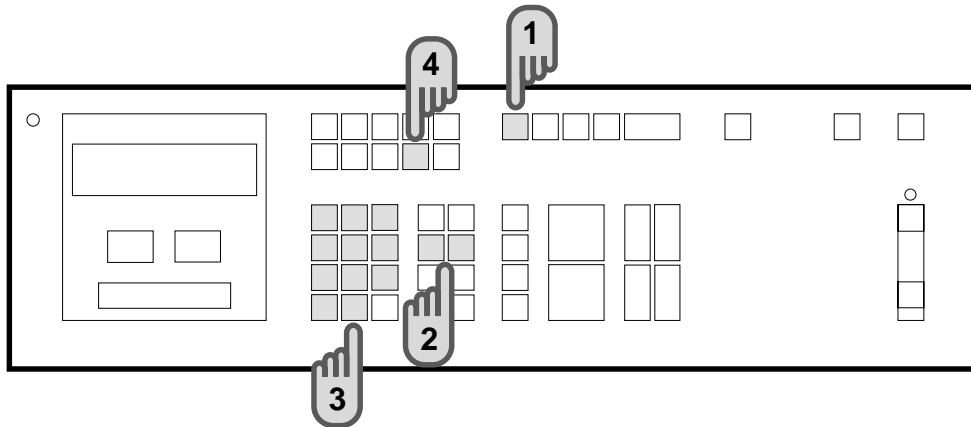


- 1** Select the FA mode
- 2** Press the "FAA" key  
The buzzer sounds.
- 3** Press the cutting button only first to lower the knife.
- 4** According to the data, the backgauge moves and the knife lowers.

**The full-automatic mode is released when**

- the safety beam guard was interrupted
- the stop button was depressed
- the backgauge backward and
- the stacking position data was executed.

## To Copy Data



The data in page can be copied to another page.

- 1 Select the DS mode.
- 2 Call the empty page to be copied.
- 3 Input the page you desire to start copying with Ten-key.

All data on the input page and subsequent pages are copied.

- 4 Press the "COPY" key.

The data, which exceed 30 pages after copying, cannot be copied.  
Where 30 pages or more data are already copied, using the sub-course, up to 49 pages can be copied.

### Example

Page	
0	500.00
1	400.00
2	300.00
3	200.00
4	
5	Copy
6	

When the size of pages 1 to 3 is copied to pages 4 to 6, make 4 pages and press "1" with Ten-key, then press the "COPY" key.

Also in the following case, this function can be used.

- When it is desired to divide 700 mm paper into 3 equal parts, select the DS mode.

Calculate as follows:

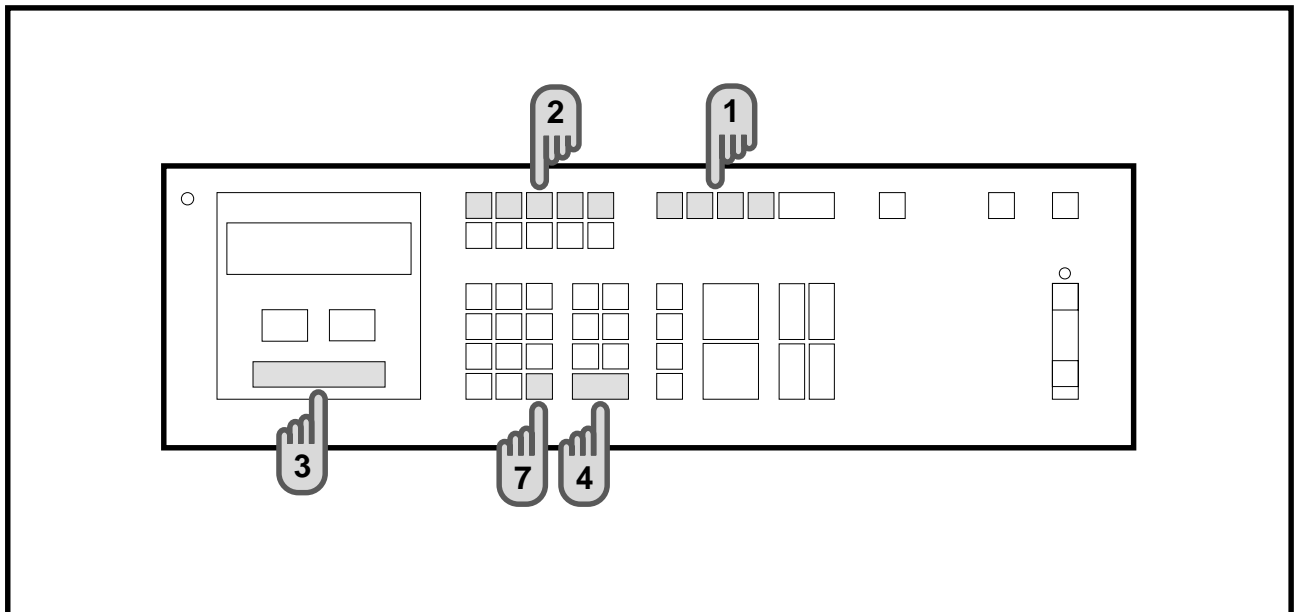
$$700 \div 3 = 233.33$$

Press the "COPY" button.

The following are stored in page automatically:

page	0	700.00	
	1	233.33	H
	2	3	N

## To Use Calculation Function



- 1 This is effective in all modes.
- 2 Normal calculation can be carried out, using the calculation key.
- 3 The progress and results are displayed on the data display unit.
- 4 When it is desired to memory the calculated results in page, press the "STOR" key.
- 5 To cancel the calculated results, press the "CL" key.

## To Use Spare Course

When it is desired to memory 30 pages or more in page in one course, up to 50 pages can be stored in memory by linking to the spare course. (The spare course consists of 10 courses, and 20 pages are available in each course.)

If the size is stored in memory with 29 pages, the current course will be linked to the spare course automatically, thus making it possible to store up to 49 pages in memory.

## To Save Plural Jobs Inside Course

If no data is entered in the page between works, a plurality of works can be stored in memory in one course. (In the DS mode)

### Example

Page	0	500.00	A
	1	350.00	
	2	200.00	
	3		
	4	600.00	B
	5	800.00	
	6	200.00	
	7	400.00	
	8		
	9	150.00	C
	10	160.00	

When operations work is started from page 0, and page 2 is completed, operations work returns to page 0.

When operations work is started from page 4 and page 7 is completed, the operations work returns to page

If several works are stored in memory, the system will fail to insert and delete the data.

## To Use Hold Feed Key and Number of Repetition Key

### Hold Feed Key

This key is used to send out the backgauge forward at the equal size.

Input the size for sending out the backgauge with Ten-key and press the "H" key.

It is impossible to give instructions for moving the backgauge backwards.

### Number of Repetition key

This key is used to input the number with which the back gauge is sent out at the equal size.

After pressing the "H" key, input the number.

The number may not be inputted when the backgauge is sent out only once.

The number up to 1 to 99 can be inputted.

If "0" is inputted, it follows that the instructions are given limitlessly.

# How to change the knife

## How to remove the knife



### WARNING

To remove the knife, prepare necessary tools and so on in advance and follow the correct steps carefully.

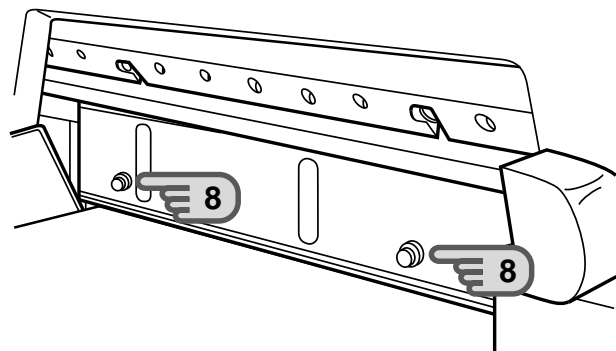
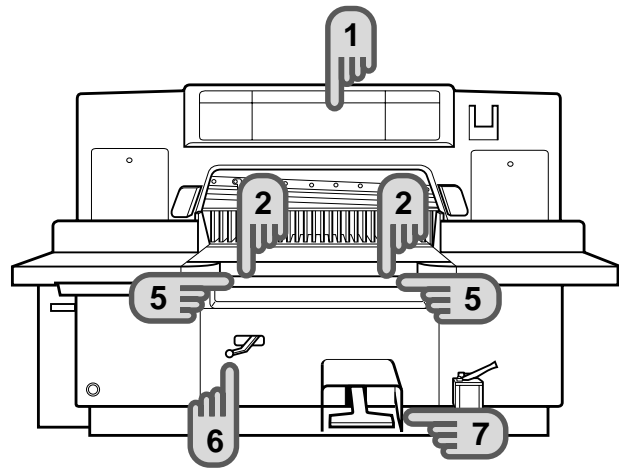
- 1 Select the manual mode.
- 2 Press the knife button and, after the knife has reached the bottom, release the knife button.
- 3 The middle plate is stopped when the knife button is released, and the knife bolt at the position next to the leftmost one appears.
- 4 Using the accessory T-shaped Allen wrench, remove only the knife bolt next to the leftmost one.
- 5 Press the knife button to return the middle plate to the original position.
- 6 Move the knife change lever into the CHANGE position so that the clamp lowers slowly.

Keep the main motor be driven.

- 7 Step on the clamp pedal to lower the clamp.

Keep the pedal depressed.

- 8 Install two knife support bolts to the clamp.





## 9 Release the clamp pedal slowly.

The clamp rises and the knife support bolts support the cutting edge.

## 10 Remove the knife installation bolts.

Open the knife height adjusting window to remove the leftmost bolt.



### CAUTION

Never lower the clamp. Otherwise the knife will fall.

## 11 Install the knife handles into the notches cut in the middle plate, while not tightening them.

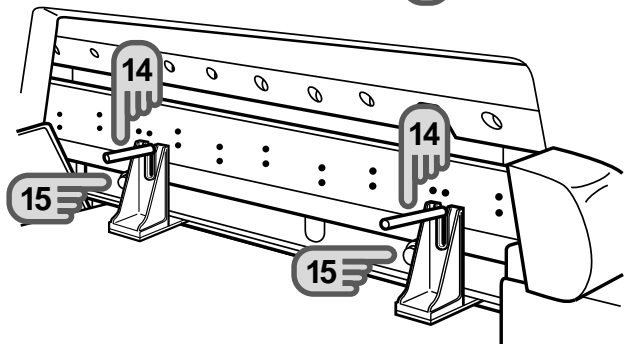
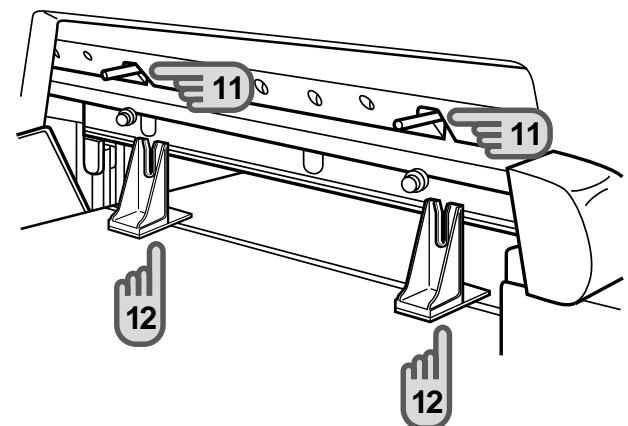
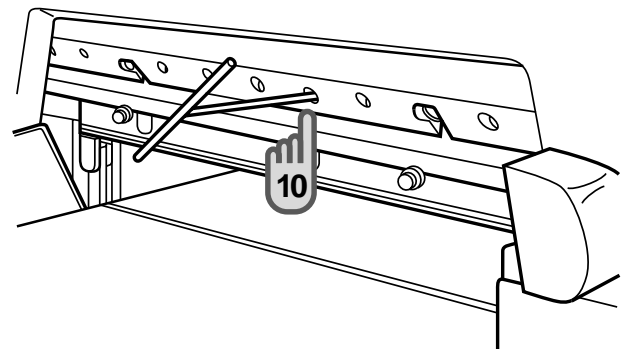
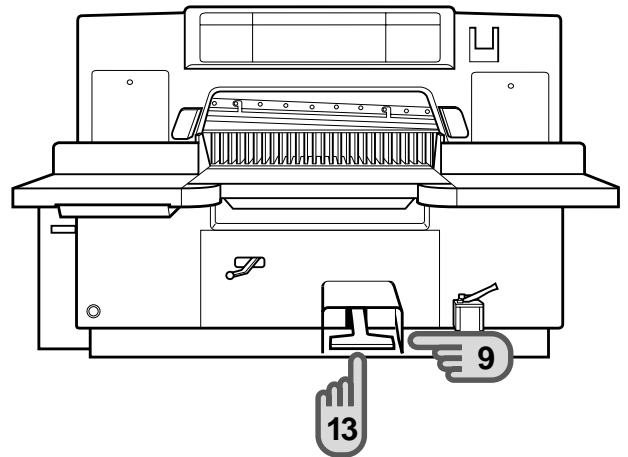
## 12 Place the knife holders beneath the knife handles. Place the taller one on the left, and place the shorter one on the right.

## 13 While holding the knife holders securely, slowly step on the clamp pedal to lower the clamp.

Immediately after the knife handles are engaged with the notches of the knife holders, stop the clamp.

## 14 Tighten the knife handles to fix them to the knife holders.

## 15 Lower the clamp to the bottom and remove the knife support bolts.



**16** Slowly release the clamp pedal.

**17** Hold the knife handles to pull the knife toward you.



**CAUTION**

Do not allow your hand to slip due to oil or the like.



**CAUTION**

Do not hit the left or right end against the main body when removing the knife.

**18** While holding the knife handles, fall the knife on the leveling block.



**CAUTION**

Do not allow the cutting edge to protrude out of the leveling block.

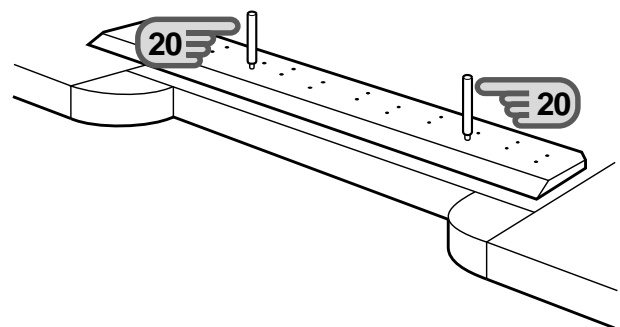
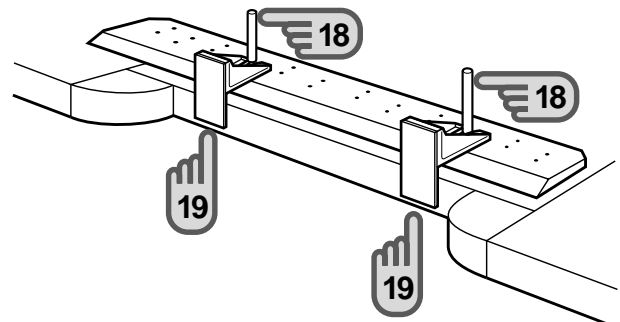
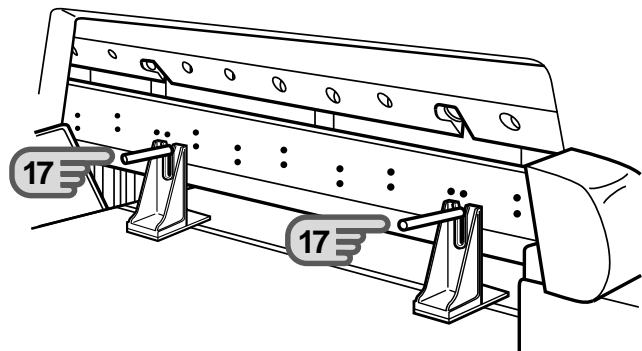
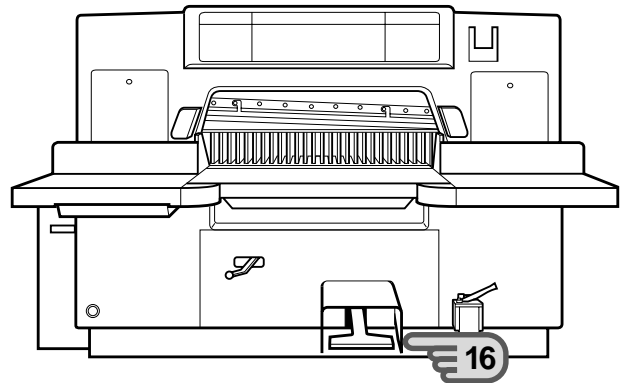
**19** Slightly loosen the knife handles and remove the knife holders.



**CAUTION**

Record the positions of the knife handles among the upper and lower bolt holes.

**20** While inserting the knife into the knife storage box, remove the knife handles.



## How to install the knife



### WARNING

To install the knife, prepare necessary tools and so on in advance and follow the correct steps carefully.

- 1 Place the knife on the leveling block, with the cutting edge facing you.



### CAUTION

Do not protrude the cutting edge out of the leveling block.

- 2 Install the knife handles.

- 3 Install the taller knife holder on the left, and install the shorter one on the right, and tighten the knife handles.

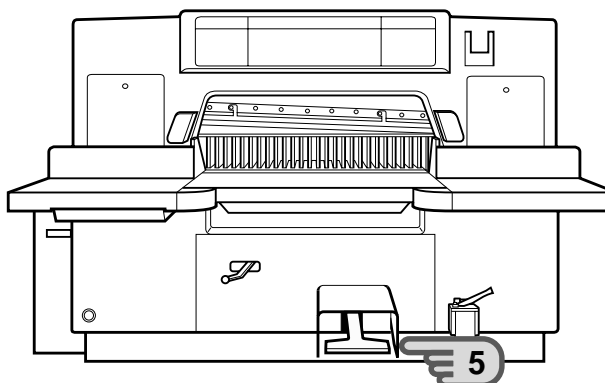
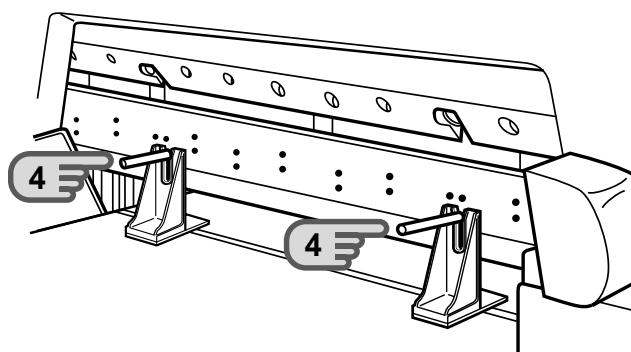
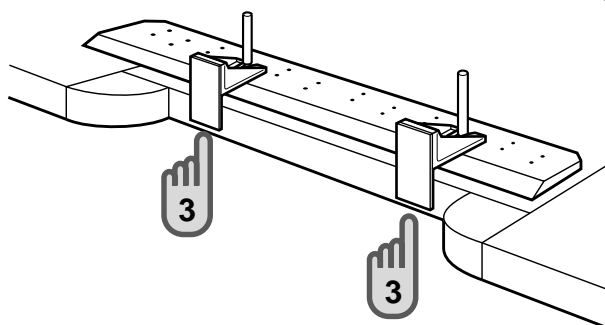
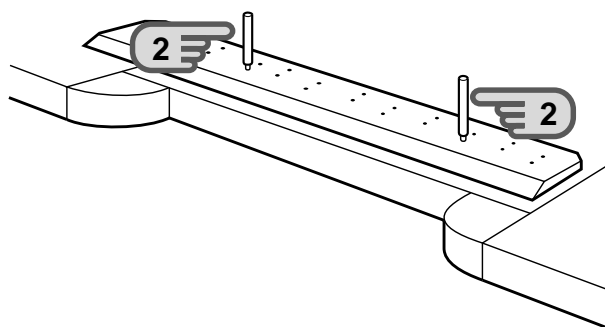
- 4 While holding the knife handles, erect the knife on the leveling block and set it under the middle plate.



### CAUTION

Be sure to align the knife handles with the notches in the middle plate.

- 5 Step on the clamp pedal to lower the clamp.



**6** Install the two knife support bolts to the clamp.

**7** While holding the knife handles, release the clamp pedal slowly to raise the clamp.

**8** After the knife is raised a little, slightly loosen the knife handles to detach the knife holders.



### CAUTION

Check that the knife handles enter the notches of the middle plate.

**9** Remove the knife handles.



### CAUTION

Never lower the clamp. Otherwise the knife will fall.

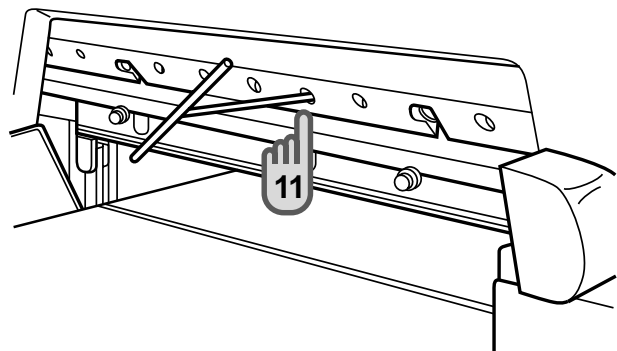
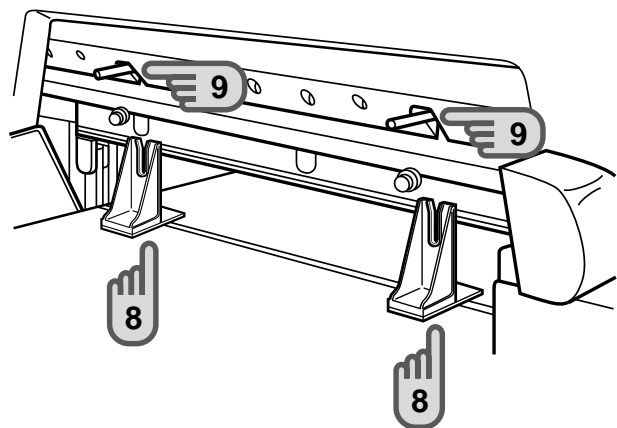
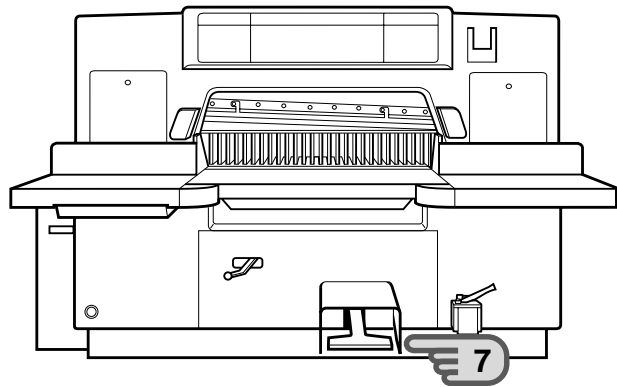
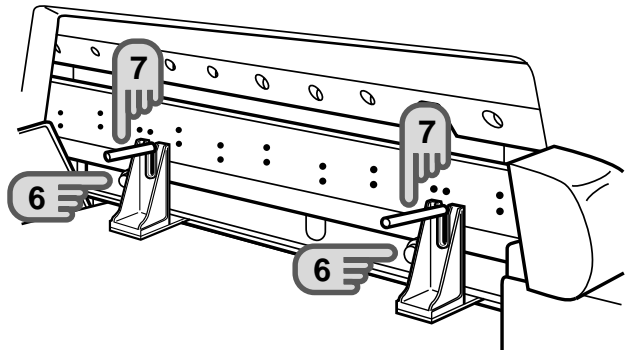
**10** Using the Allen wrench, align the bolt holes.

**11** Fix the knife to the middle plate, using bolts.

Tighten the bolts from the center of the knife toward the periphery.

Do not install the bolt next to the leftmost one at this time.

Open the knife height adjusting window to install the leftmost bolt.



**12** Step on the clamp pedal to lower the clamp.

**13** Remove the knife support bolts from the clamp.

**14** Return the knife support bolts to the predetermined positions.

If they are not returned correctly, the knife does not lower.

**15** Move the knife change lever into the CUTTING position.



### CAUTION

Be sure to check and adjust the height of the knife. (Pages 19 and 20)

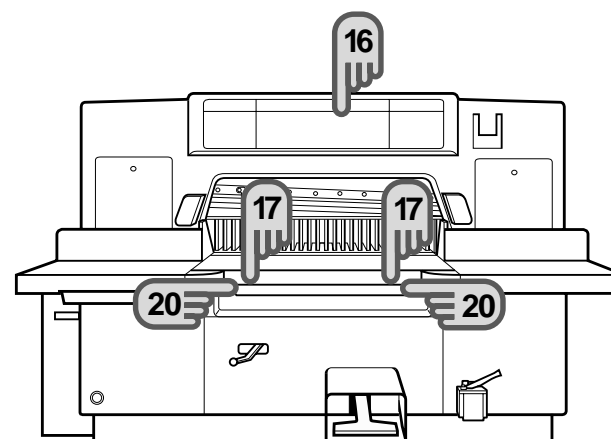
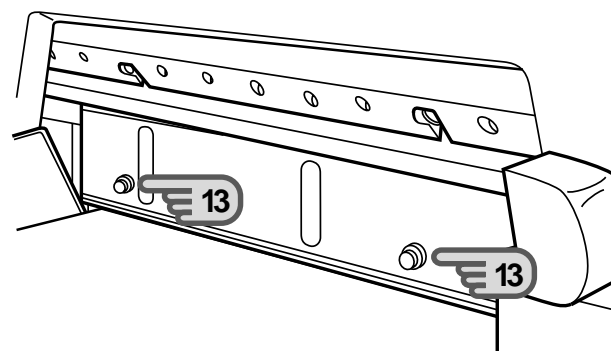
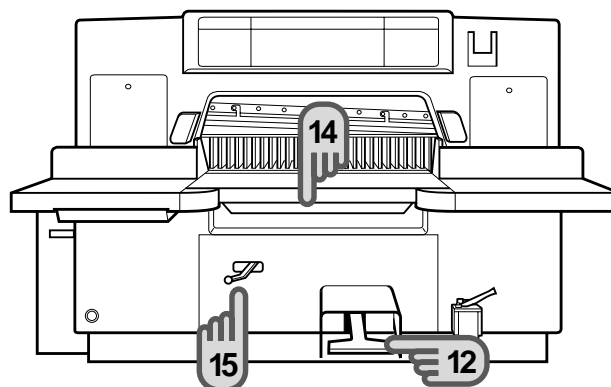
**16** Select the manual mode.

**17** Press the knife button until the knife lowers to the bottom, then release the knife button.

**18** The middle plate is stopped when the knife button is released, and the knife bolt next to the leftmost position appears.

**19** Using the accessory T-shaped Allen wrench, install the knife bolt next to the leftmost position.

**20** Press the knife button to return the middle plate to the original position.



## How to remove the knife (for models with a knife lifter)



### WARNING

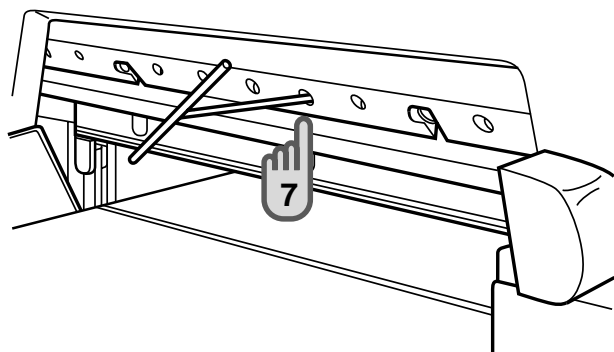
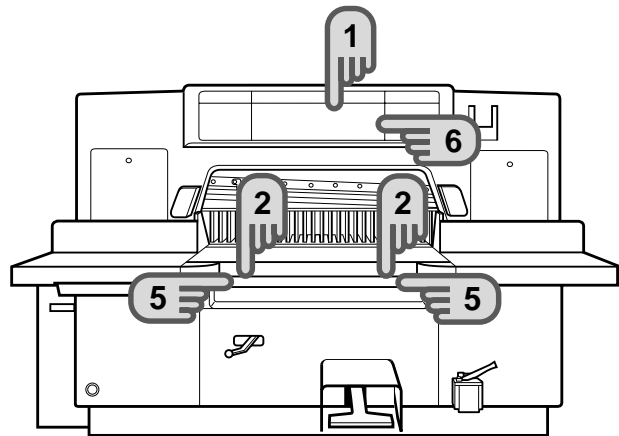
To remove the knife, prepare necessary tools and so on in advance and follow the correct steps carefully.

- 1 Select the manual mode.
- 2 Press the knife button until the knife reaches the bottom, then release the knife button.
- 3 The middle plate is stopped when the knife button is released, and the knife bolt next to the leftmost one appears.
- 4 Using the accessory T-shaped Allen wrench, remove only the knife bolt next to the leftmost one.
- 5 Press the knife button to return the middle plate to the original position.
- 6 Stop the main motor.

The knife lifter does not function if the main motor remains turned on.

- 7 Remove the knife installation bolts.

Open the knife height adjusting window to remove the leftmost bolt.



**8** Use the knife lifter switch to lower the knife.

**9** Install the knife handles and knife holders.

**10** Remove the hanging bolt.

**11** While holding the knife handles, pull the knife toward you.



**CAUTION**

When pulling the knife, avoid hitting the cutting edge against the main body.

**12** While holding the knife handles, fall the knife on the leveling block.

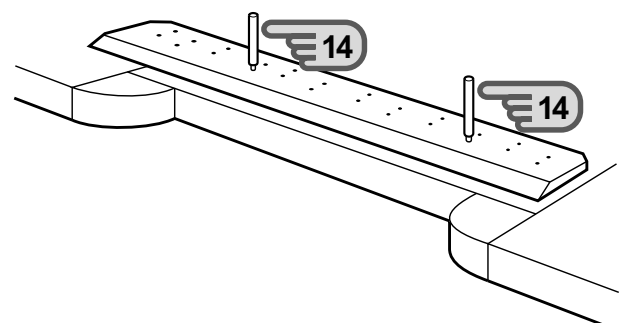
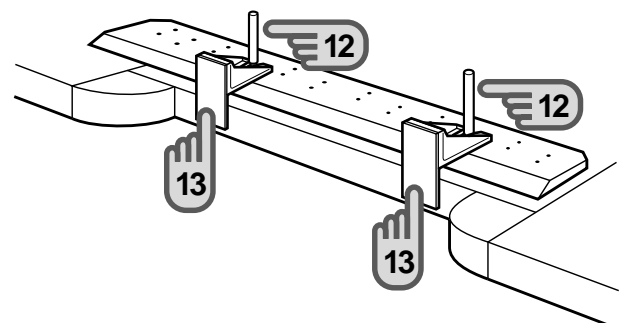
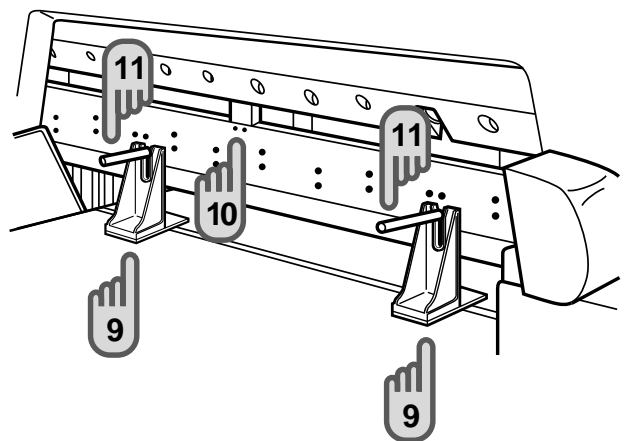
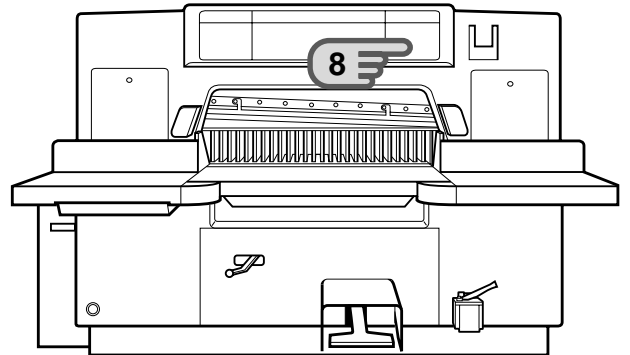


**CAUTION**

Take care not to protrude the cutting edge out of the leveling block.

**13** Slightly loosen the knife handles and remove the knife holders.

**14** While inserting the knife into the knife storage case, remove the knife handles.



## How to install the knife (for models equipped with a knife lifter)



### WARNING

To install the knife, prepare necessary tools and so on in advance and follow the correct steps carefully.

#### 1 Stop the main motor.

The knife lifter does not function if the main motor remains turned on.

#### 2 Place the knife on the leveling block with the cutting edge facing you.



### CAUTION

Do not protrude the cutting edge out of the leveling block.

#### 3 Install the knife handles.

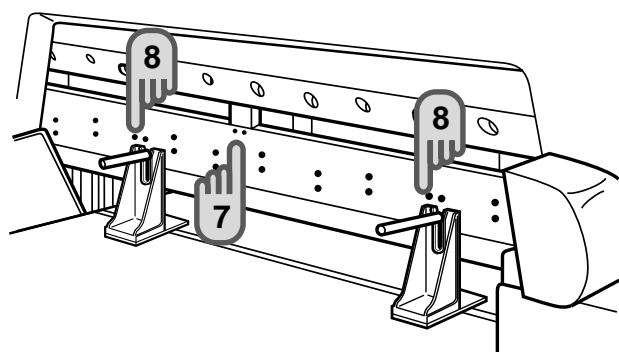
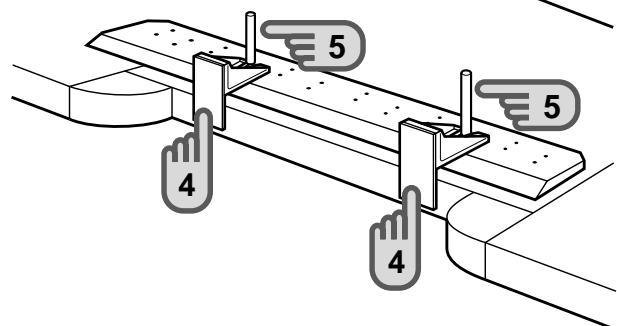
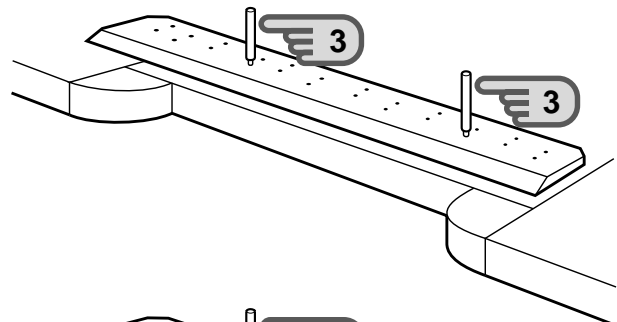
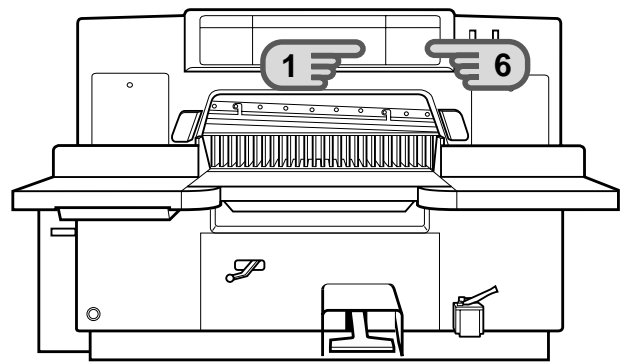
#### 4 Install the taller knife holder on the left, and install the shorter one on the right, and tighten the knife handles.

#### 5 While holding the knife handles, erect the knife on the leveling block and set it under the middle plate.

#### 6 Using the knife lifter switch, lower the lift to the bottom.

#### 7 Using hanging bolt, install the knife to the lift.

#### 8 Remove the knife holders and knife handles.





- 9** Using the knife lifter switch, lift the knife to the top.



### CAUTION

Take care of the hole position so that the knife does not rise excessively. If it does, a protective relay for the lifter motor functions.

- 10** Fix the knife to the middle plate, using bolts.

Tighten the bolts from the center of the knife toward the periphery.

Open the knife height adjusting window to install the leftmost bolt.



### CAUTION

Be sure to adjust the height of the knife.

- 11** Start the main motor.

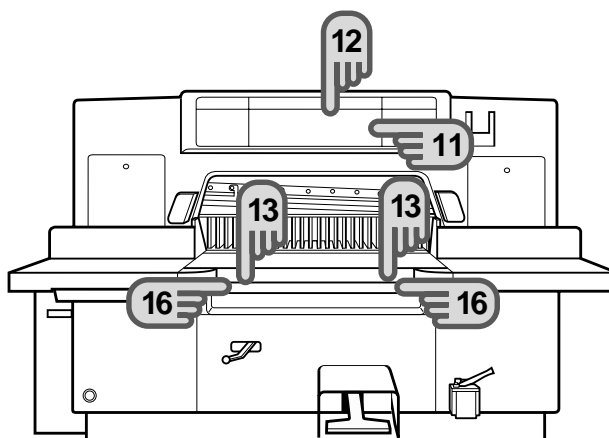
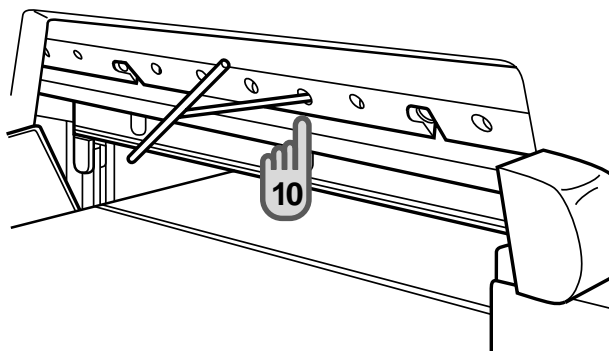
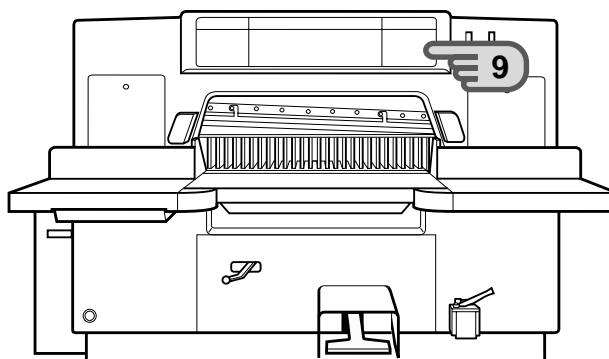
- 12** Select the manual mode.

- 13** Press the knife button until the knife lowers to the bottom, then release the knife button.

- 14** The middle plate is stopped when the knife button is released, and the knife bolt next to the leftmost position appears.

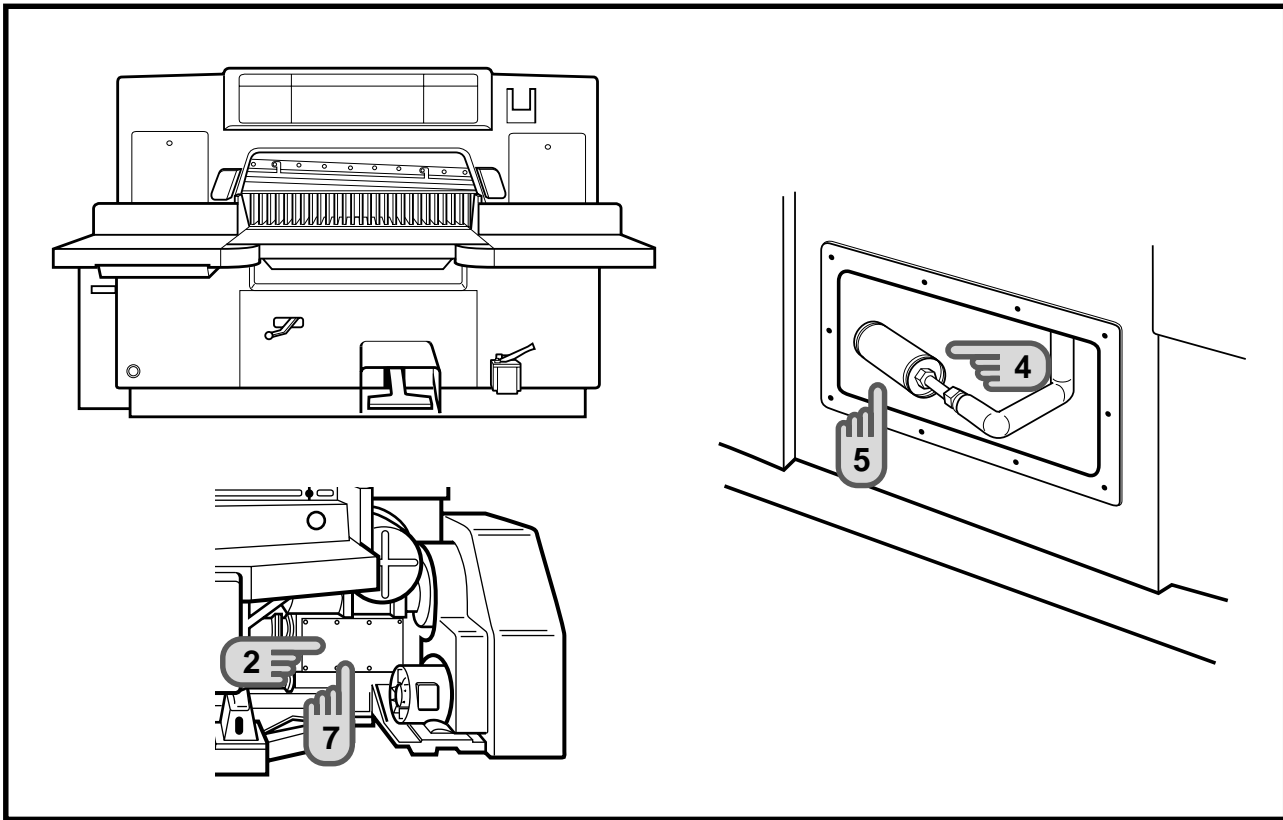
- 15** Using the accessory T-shaped Allen wrench, install the knife bolt next to the leftmost position.

- 16** Press the knife button to return the middle plate to the original position.



# Oil Changing Method

## Hydraulic Oil Change



**1** Stop the main motor.

**2** Remove the oil tank cover.

**3** Extract the oil, using the siphon type manual pump or the like.

Eliminate oil and dust or dirt that cannot be removed completely by the pump, using waste cloth, and wash the oil tank with light oil if possible.



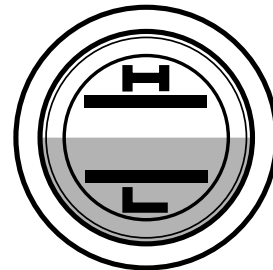
### CAUTION

Be careful because the oil is very hot immediately after the machine is stopped.

**4** Detach the oil strainer and wash it in light oil.

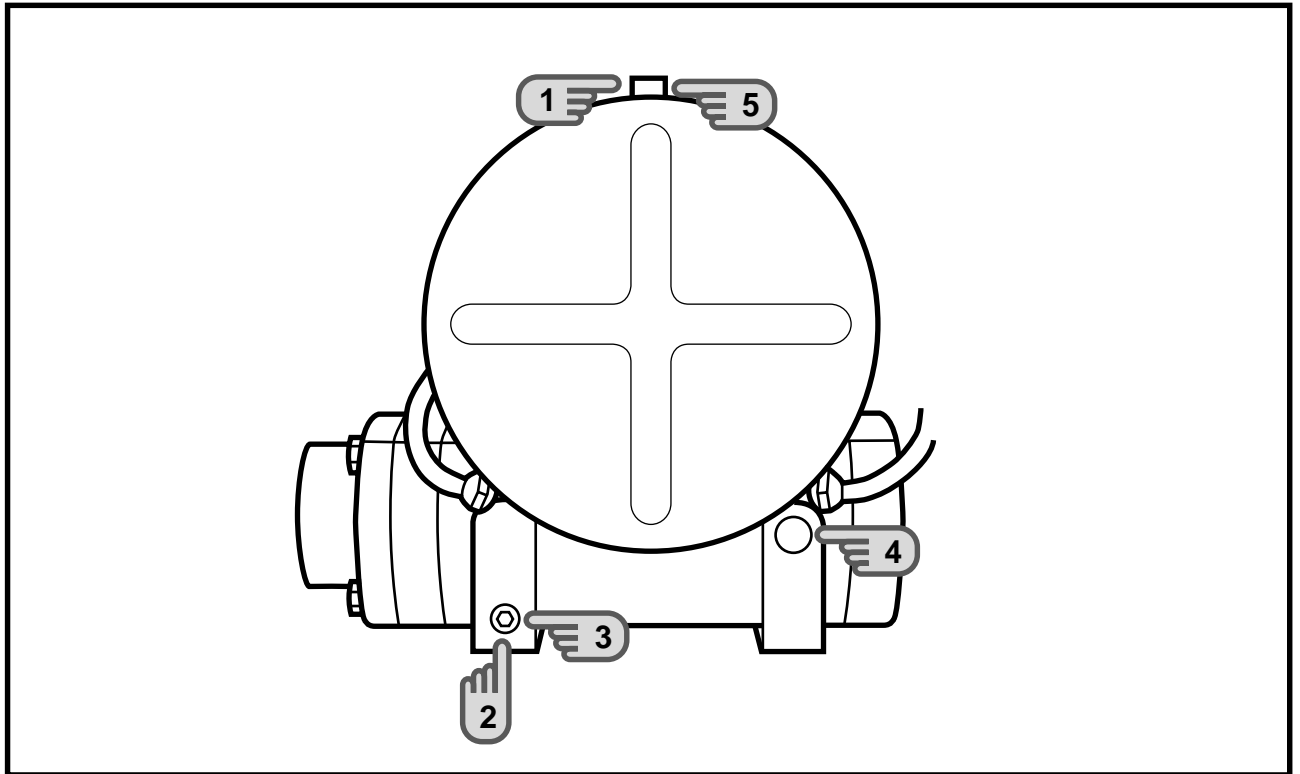
**5** Re-install the oil strainer.

**6** Apply new oil up to the mid-position of the oil gauge as shown below.



**7** Attach the oil tank cover.

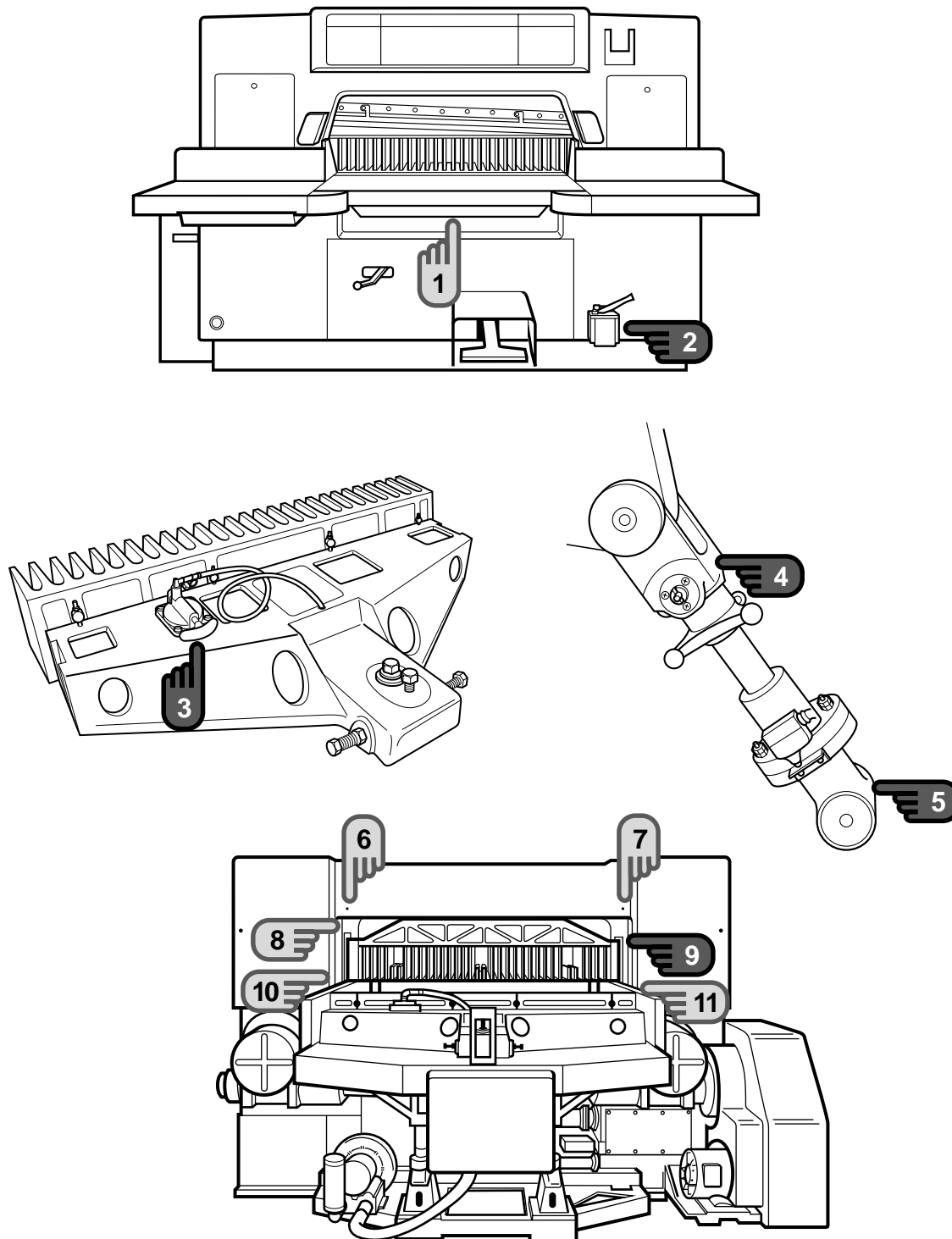
## Replacement of gear oil





- 1** Remove the oil cap.
- 2** Prepare an empty can and open the blind plug to drain old oil.
- 3** Close the blind plug.
- 4** Supply gear oil to the middle of the oil gauge.
- 5** Install the oil cap.

Follow the same procedure for the left and right.

## Lubrication and Greasing-up



 **Greasing**  
once per month

 **Machine oil**  
once per day

## Oil Table

	Hydraulic Oil	Grease
MOBIL	Mobil DTE 24	Mobilux No.2
SHELL ESSO	Tellus Oil 32	Alvania No.2
GULF	Nuto H32	Beacon No.2

# Repair Service & Specifications

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## Repair Service

When an abnormality occurred in the product, contact the agent where purchased.

When asking us for repair, always specify the following

- **Failure status (Describe as minutely as possible.)**
- **Type**
- **Machine No.**
- **Date of delivery**
- **Your company name**
- **Your address**
- **Your phone number and fax number**

## Specifications

### Main body

Paper cutting width	40 1/2"	1030 mm
Paper cutting depth	39"	1000 mm
Clamp opening	6 1/2"	165 mm
Front table length	27 1/2"	650 mm
Table height	34 1/2"	875 mm
Main body width	90"	2285 mm
Main body height	64 1/2"	1660 mm
Full machine length	96"	2440 mm
Knife speed		42 times/min
Clamp pressure		400 to 4000 kg
Weight	7040 lbs	3200 kg
Main motor		2.2 kw
Hydraulic motor		1.5 kw
Backgauge motor		0.4 kw
Blower motor		0.4 kw
Total electric capacity		4.5 kw
Knife dimensions		1270 x 150 x 12.7 mm

### Accessories

Knife	2pcs	Spanner 10 -13mm	1pc
Cutter stick	5pcs	Spanner 17 -19mm	1pc
T-shaped Allen wrench	1pc	Spanner 30mm	1pc
Knife holder, right and left	1set	Screwdriver (+ / -)	1pc
Knife fixing handle	2pcs	Grease gun	1pc
Knife fixing bolt (spare)	3pcs	Oil filler	1pc
Knife bar	1pc	Cut line lamp 24V45W	2pcs
Shear bolt	2sets	Fuse 5A	4pcs
Lengthening pin	8pcs	Fuse 3A	2pcs
Liner	1set	Fuse 2A	2pcs
Allen wrench 4mm	1pc	Fuse (small) 5A	2pcs
Allen wrench 5mm	1pc	Fuse (small) 3A	4pcs
Allen wrench 6mm	1pc	Fuse (small) 1.5A	1pc
Allen wrench 8mm	1pc		



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