

# OPERATORS MANUAL

## *Standard Horizon PF-P320 Paper Folder*

Read this manual, and thoroughly familiarize yourself with its contents before operating or servicing this equipment.



# **Horizon** PAPER FOLDER **PF-P320**

## **Important Information**

- This manual is designed to help you to install, operate and maintain the Table Top Folder PF-P320. Read, understand and keep this manual in a safe and convenient place.
- Do not operate the PF-P320 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.
- No Horizon dealer and distributor is authorized to make any modification, expression, or addition to the warranties written in contract.
- 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.
- All rights are reserved. No part of the manual may be photocopied, reproduced or translated to another language without the prior written consent of Horizon International Inc.

## Safety Precautions

- The signal word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- The signal word **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
- The signal word **NOTE** indicates a potentially hazardous situation which, if not avoided, may result in damage on products.
- Read and understand all safety instructions with signal word such as **WARNING**, **CAUTION** and **NOTE**. If safety instructions are ignored, personal injury will result.
- Observe the provisions of the federal, state, or local regulations, including OSHA.
- Horizon International Inc. cannot anticipate every possible situation that might involve a potential hazard. The instruction in this manual and warning labels on the machine are therefore not all inclusive.
- All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.
- Do not operate the machines with any covers being removed.
- Some of the drawings in this manual shows the machine uncovered for explaining the detail or inside of machine.

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# 1. Before You Begin

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This section explains machine parts and thier functions.

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## 1-1 Specifications

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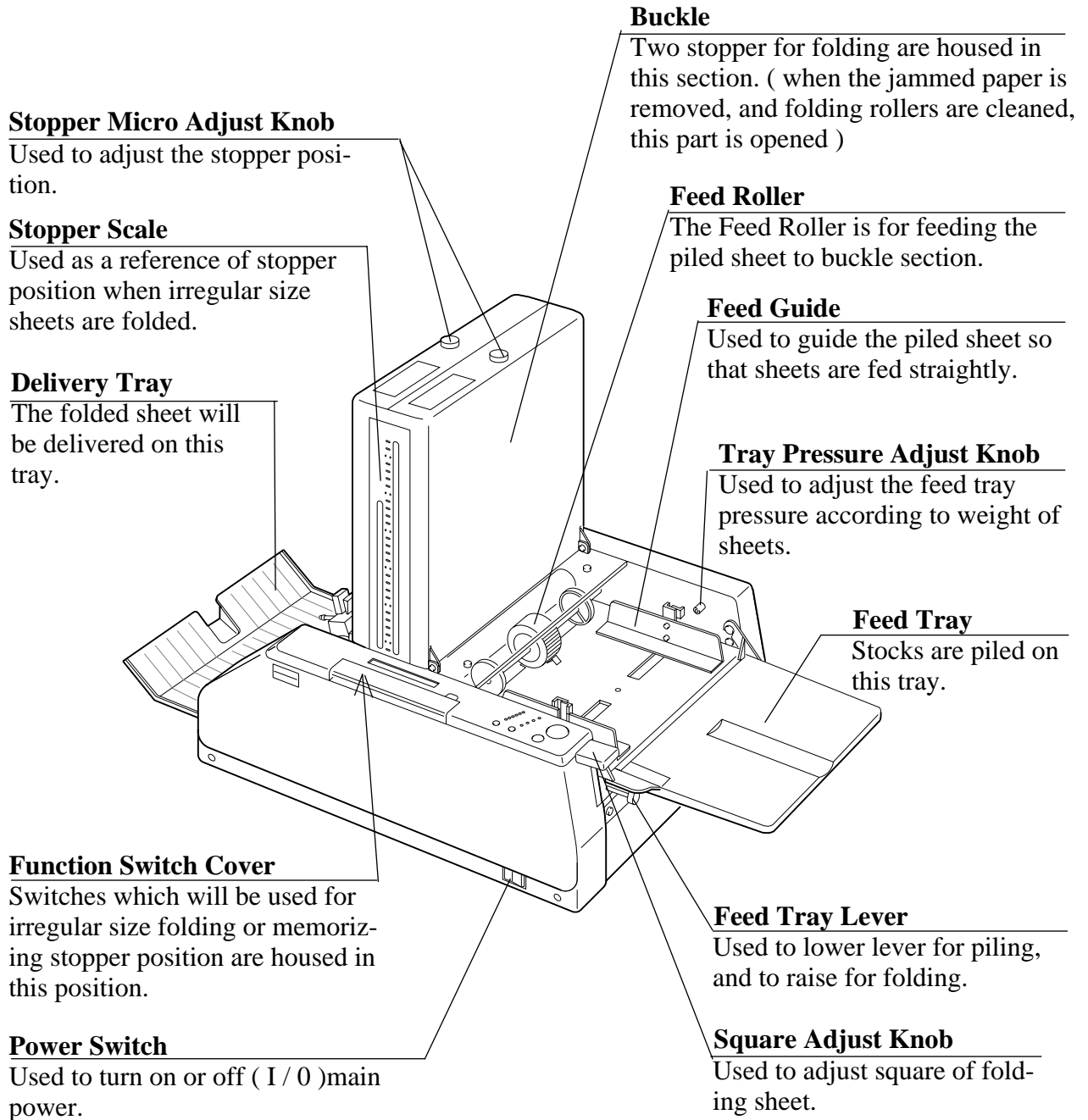
<b>Model:</b>	<b>PF-P320</b>
Standard Sheet size	A3, A4, B4, B5 (5.5" x 8.5", 8.5" x 11", 9" x 11", 11" x 17")
Sheet size	Maximum : 297 x 420 mm (11" x 17") Minimum : 65 x 44 mm (2.6" x 1.7")
Paper Weight	Normal paper 50 to 105 gsm
Operation speed	200 sheets/min. (A4 single fold )
Maximum Pile Height	30 mm (1.2")
Power supply	100 V 50/60 Hz    115 V 60 Hz 230 V 50 Hz
Power Consumption	100/115 V- 60 Hz ;    150 W 100 V - 50 Hz :    80 W 230 V- 50 Hz :    90 W
Machine size (W x D x H)	956 x 493 x 582 mm (Operating) 677 x 493 x 357 mm (Not operating)
Weight	36 kg (79,4 lb )

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The machine design and specifications are subject to change without any notice.

## 1-2 Machine Parts Descriptions

### 1-2-1 General View



## 1-2 Machine Parts Descriptions

### 1-2-2 Operation Panel

#### Sheet Size Select Button

Used to select sheet size A3, A4, B4, B5 (11 x 17, 8 1/2 x 11, 6 x 9, 5 1/2 x 8 1/2 ).

#### Fold Pattern Lamp

This indicates selected fold pattern.

#### Folding Pattern Select Button

Used to select fold pattern.

#### Stopper Up / Down Button

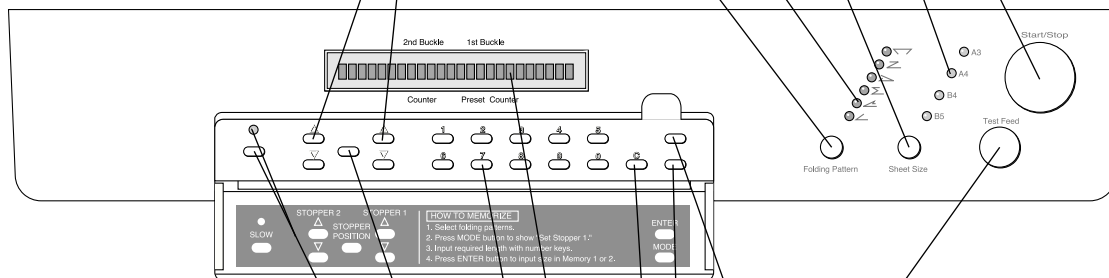
Used to adjust stopper position when irregular size sheet are folded.

#### Sheet Size Lamp

Indication lamp of selected sheet size with the Sheet Size Select Button.

#### Start and Stop Button

Used to start and stop of folding.



#### Speed Select Button and Speed Indication Lamp

When the indication lamp is ON, folding speed is down and the noise level will be lower.

#### Stopper Location Button

When this button is depressed, current stopper positions are indicated.

#### Number Entry Key

Used to input predetermined folds number or to input required stopper position.

#### LCD

This is indicates the number of folded sheets and the stopper position.

#### Test Button

Used to feed one sheet for testing.

#### Memory and Access Button

Use to memory and to access memory of the Stopper size.

#### Mode Select Button

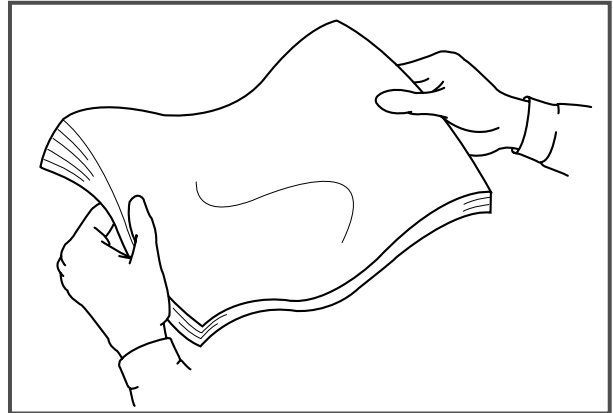
Used to select memorized fold size.

#### Clear Button

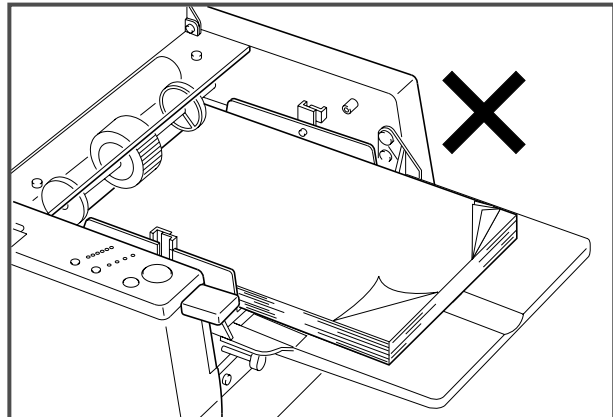
Use to clear preset number, the number of folding sheet, and stopper position indication.

## 1-3 Precaution When Sheets Are Piled.

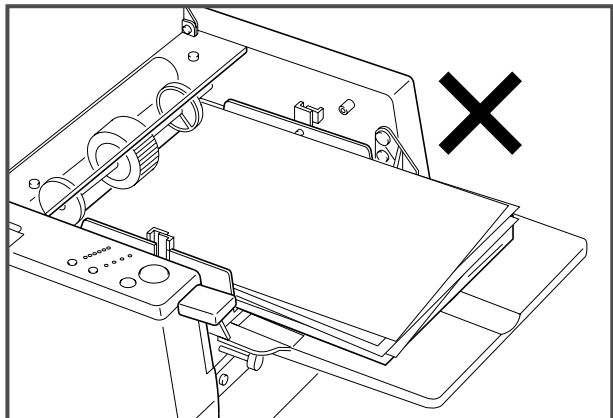
- 1.** Fan well the sheet before piling on the feed tray. Otherwise, double sheet feeding or miss feed will occur.



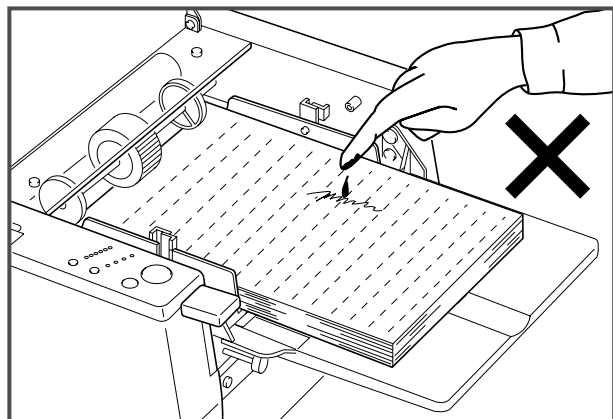
- 2.** Straighten up the curled sheet or folded sheet.



- 3.** Jog well the sheet before piling on the feed tray. Otherwise, jamming or miss feed or fold on edge of sheet will occur.



- 4.** Make sure that the printed ink is dry enough. Otherwise, double sheet feed will occur. The wet ink will not only stain the printed sheet but also make lower the precision of folding of this machine.





## 2. Operation Procedure

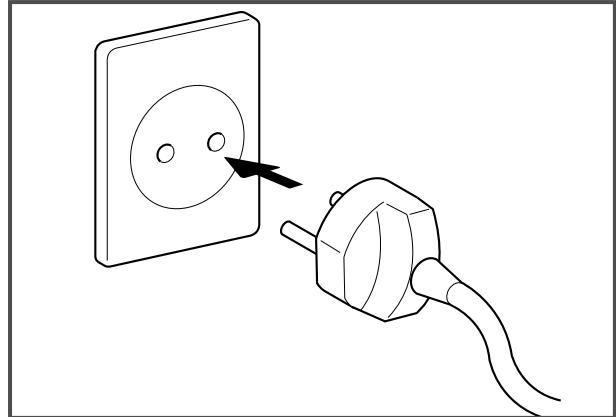
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This section explains setting up each part and operation procedure.

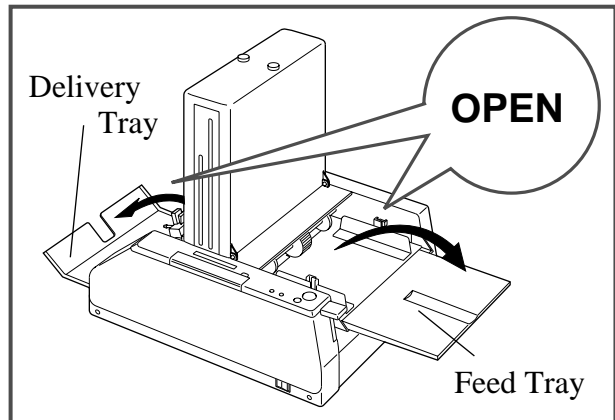
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## 2-1 Operation Procedure

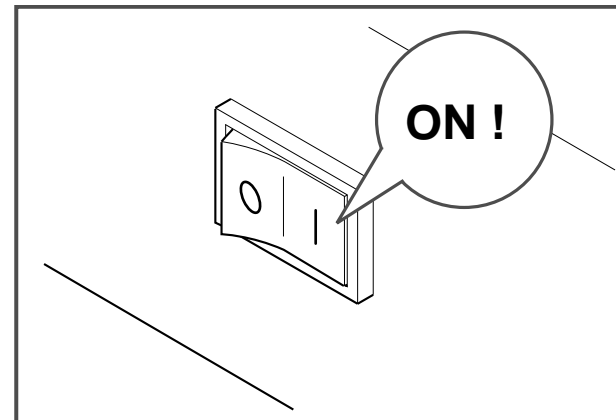
**1.** Plug power cord to outlet.



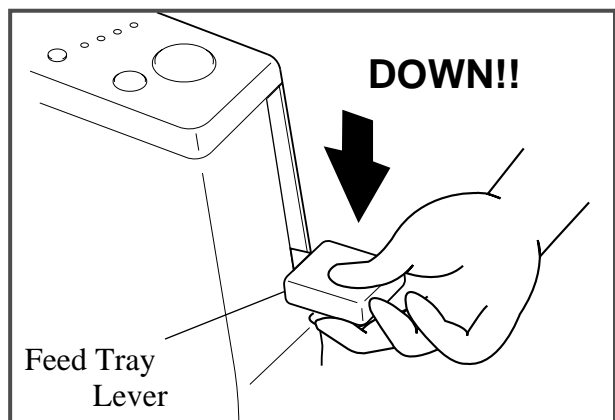
**2.** Open delivery tray and feed tray.



**3.** Turn on power switch.



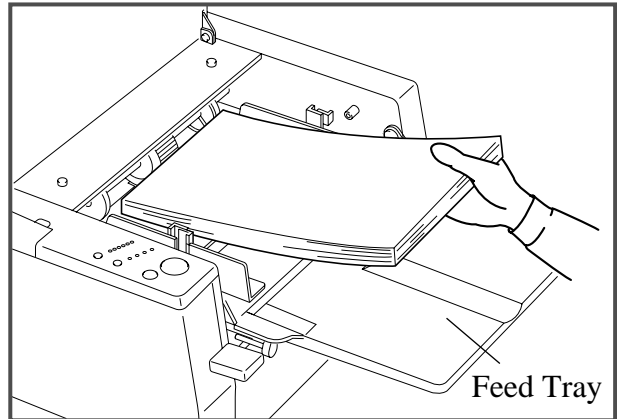
**4.** Lower feed tray lever.



## 2-1 Operation Procedure

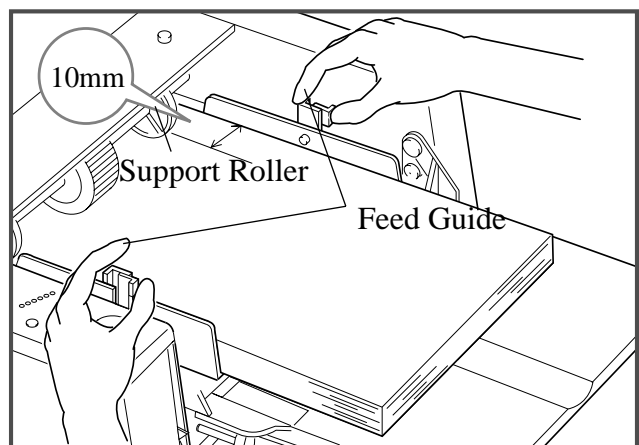
**5.** Jog well and true up sheets toward feed roller.

- Sheets must be placed center of feed tray according to sheet size indication.



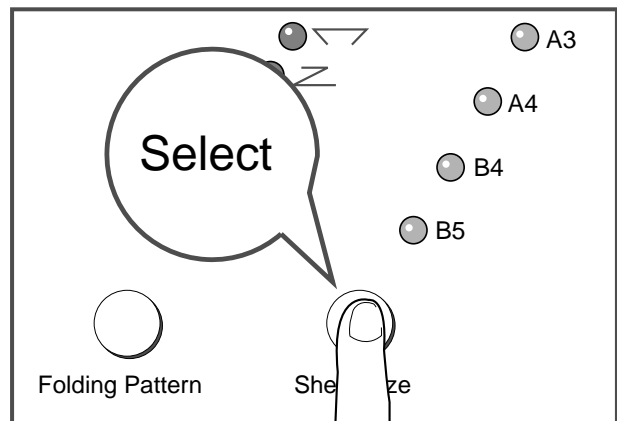
**6.** Slide both feed guide so that they slightly touch piled sheets.

- Place support rollers at 10 mm inside of sheet edge.

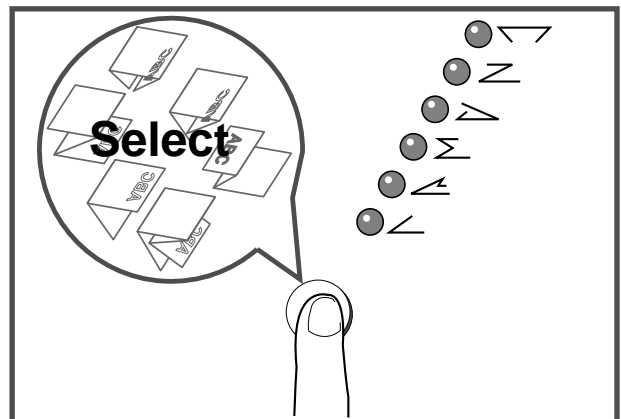


**7.** Select sheet size with sheet size select button.

**NOTE:**  
When irregular size sheets are folded, refer to "2-2 Irregular Size Sheet Folding" (page 15).

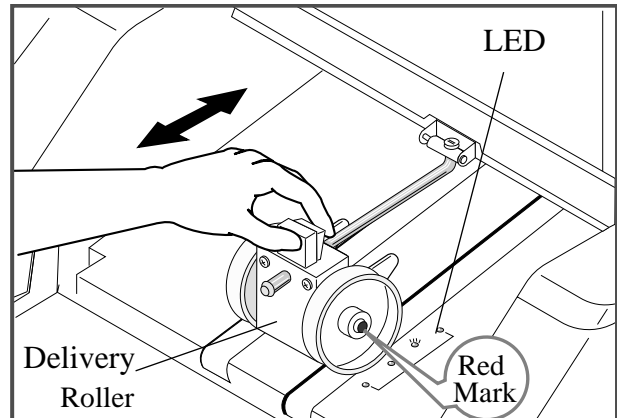


**8.** Select folding pattern with folding pattern select button.

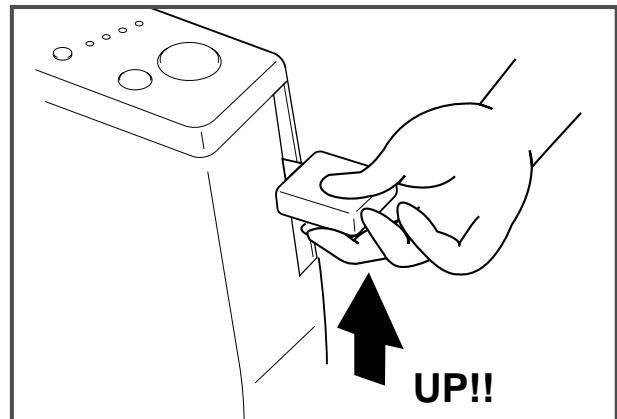


## 2-1 Operation Procedure

- 9.** Align red mark (center of delivery roller) to illuminated roller position lamp.

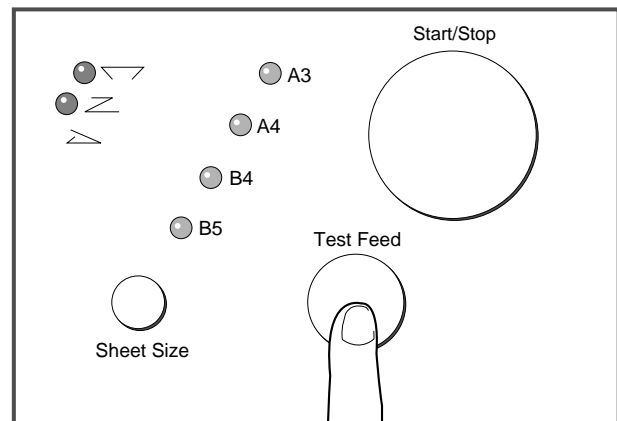


- 10.** Raise feed tray lever.



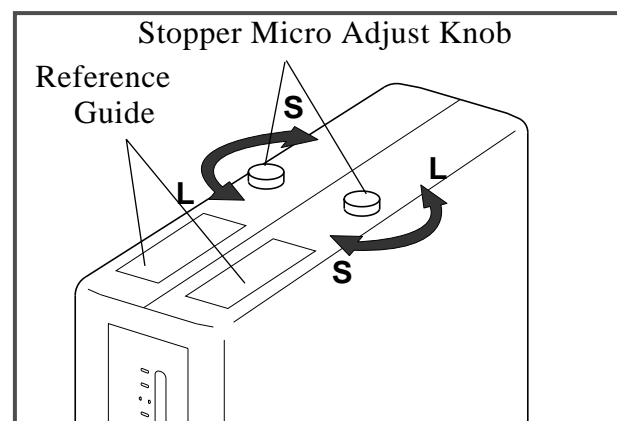
- 11.** Depress test button (Only one sheet is fed and folded ).

- When sheet is not fed or more than two sheets are fed, adjust position of the tray pressure adjust knob and pad pressure adjust knob. Refer to "2-4 Pad Pressure and Tray Pressure Adjustment." (page 19)



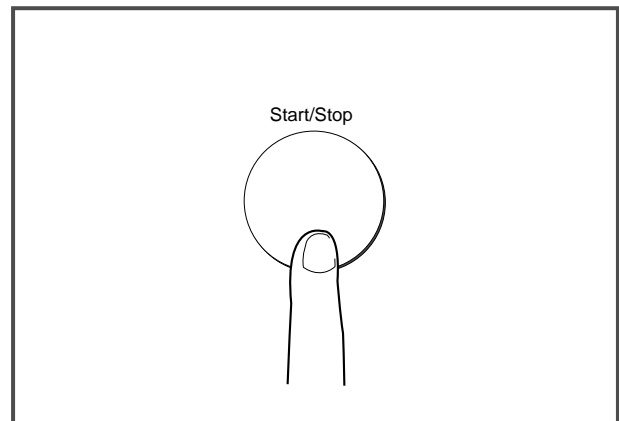
- 12.** Check folded sheet.

**NOTE:**  
*If folding is not even, or not square, perform buckle stopper micro adjustment. Refer to reference guide on top of buckle, also refer to "2-7 When Folding is Not Even or Square." (page 25) depress test button again.*



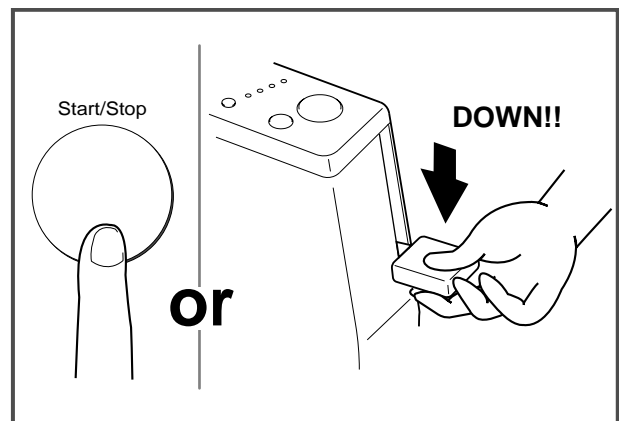
## 2-1 Operation Procedure

- 13.** Depress start / stop button (Folding is started ).

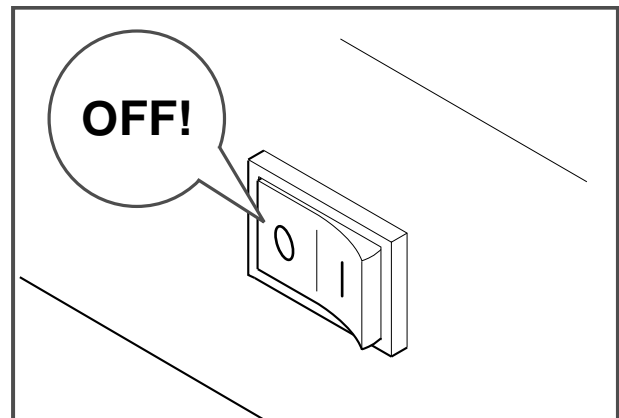


- 14.** When you want to stop folding, depress start / stop button or lower feed tray lever.

- If require number of folding is input in preset counter, folding will stop automatically as soon as counter reaches preset number. Refer to "2-5 How To Set Preset Counter" (page 20)

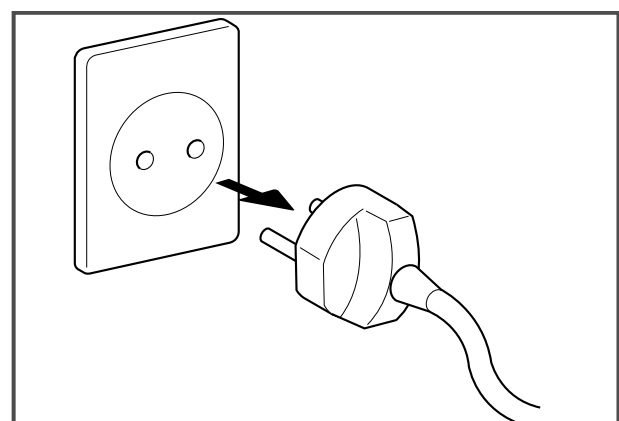


- 15.** When your folding job is finished, turn off power switch.



- 16.** Pull out power cord after turn off power.

- Close the delivery tray and the feed tray.

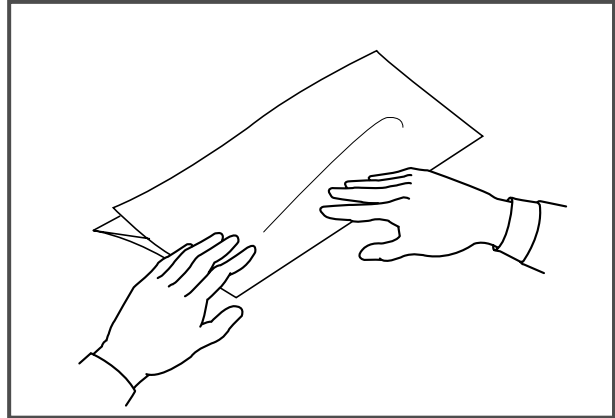


## 2-2 Irregular Size Sheet Folding.

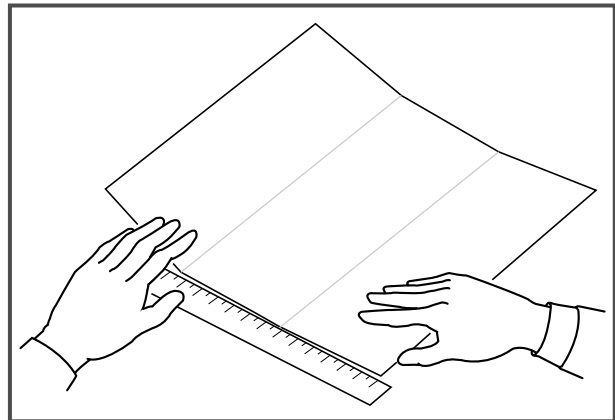
**NOTE**

*Folding size can be memorized.*

1. Fold sheet with your hands in your required form.



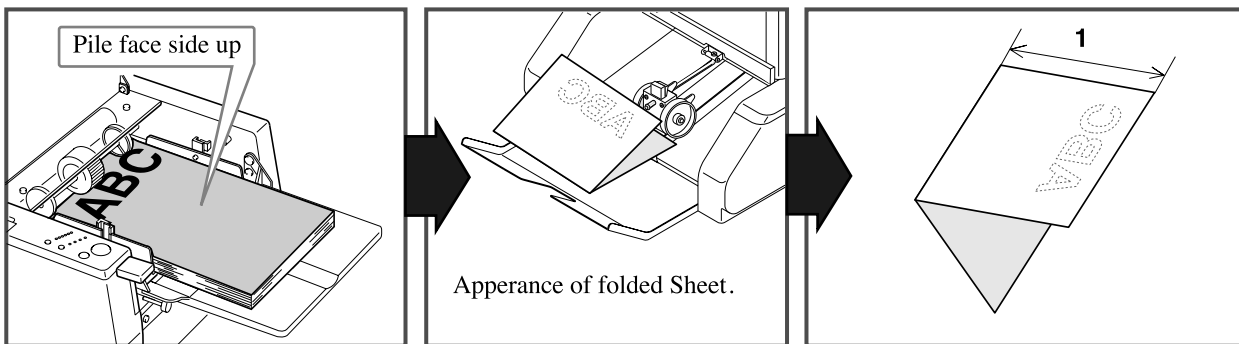
2. Measure size of holding edge to input size for Stopper 1 and Stopper 2 with a scale. In this process, different edge must be measured according to folding pattern.



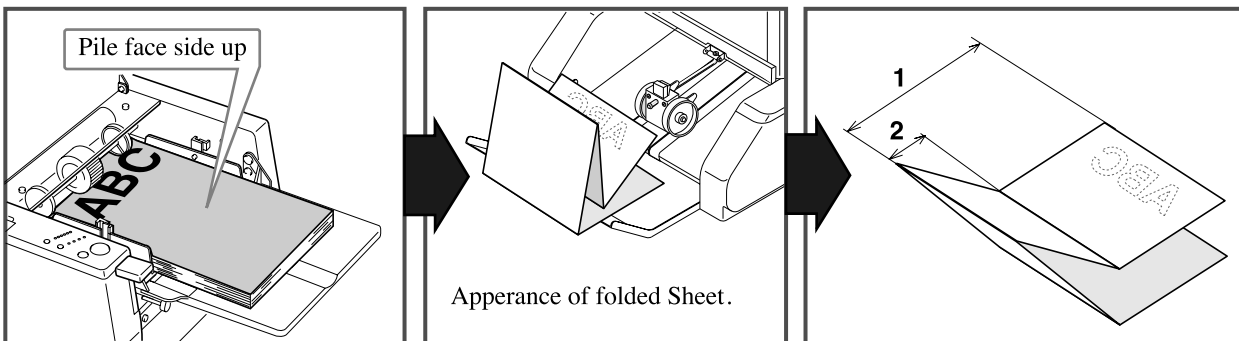
*[ How to measure size of folding edge and how to pile sheets.]*

1 = Size for Stopper 1  
2 = Size for Stopper 2  
■ printed (face) side.


• **Single Fold** (Stopper 2 does not require input size.)



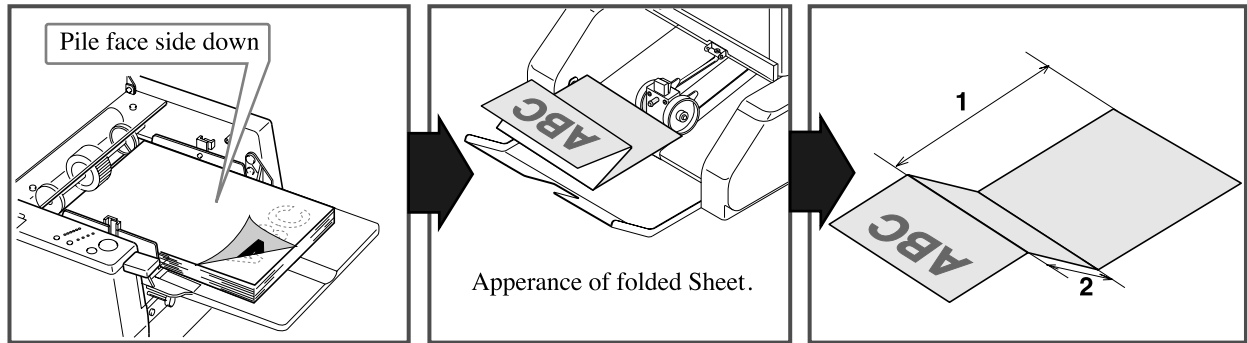
• **Parallel Fold**



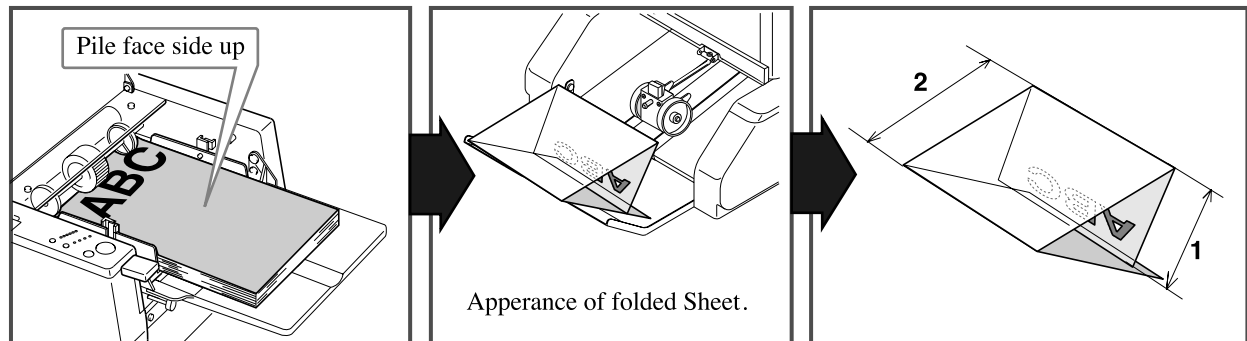
## 2-2 Irregular Size Sheet Folding.

1 = Size for Stopper 1  
 2 = Size for Stopper 2  
 printed (face) side.

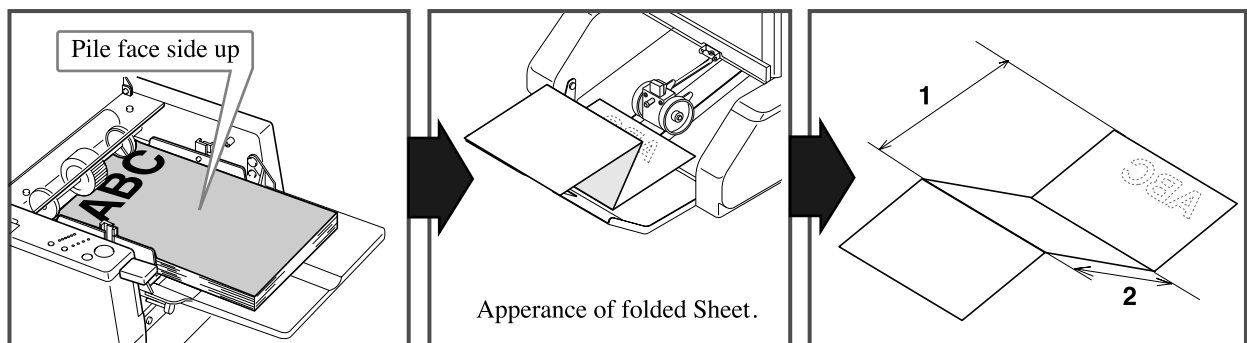
• *Short Fold*



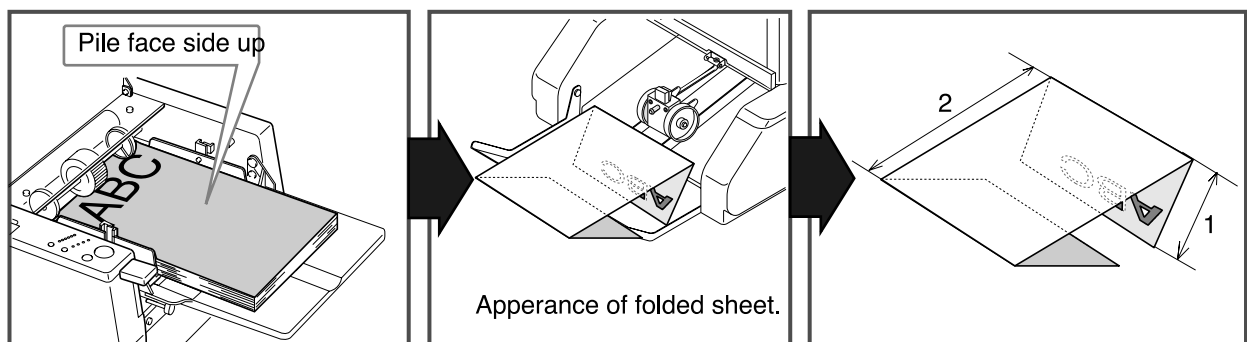
• *Letter Fold*



• *Accordion Fold*

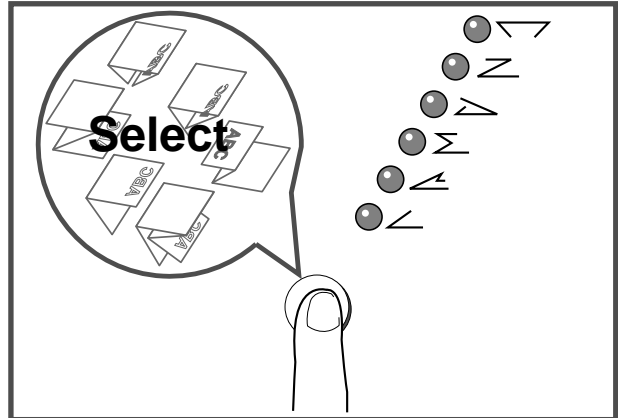


• *Gate Fold*

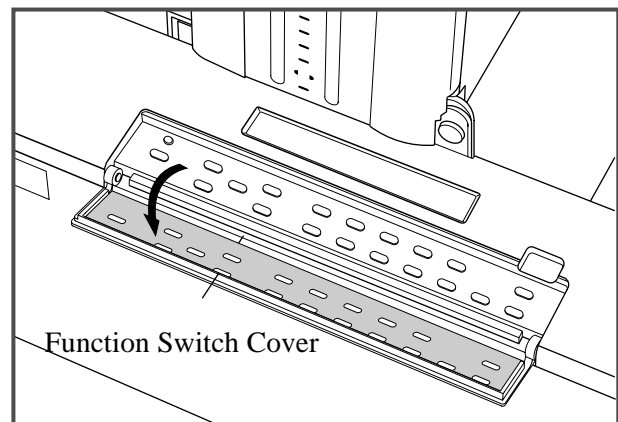


## 2-2 Irregular Size Sheet Folding.

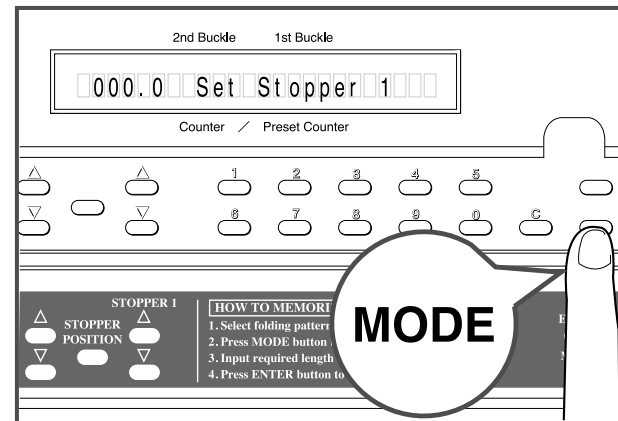
3. After following "3-1 Operation Procedure: steps 1 to 6 (pages 12 and 13), select fold pattern with fold pattern select button.



4. Open function switch cover.



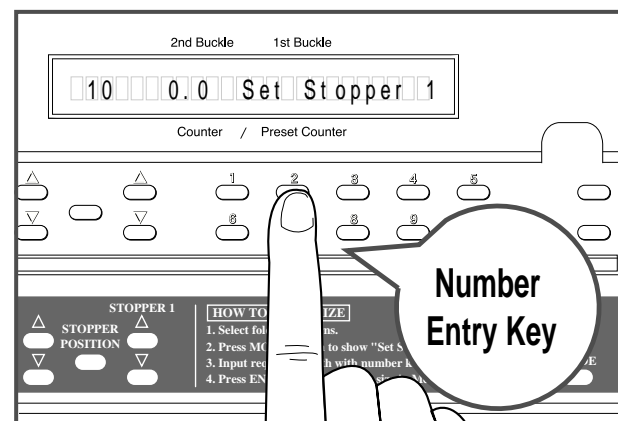
5. Select set up mode "Set Stopper 1" with mode select button.



6. Input required sizes which measure it in step 2 (pages 14 and 15) with number entry key.  
- The size unit is "mm."

**NOTE**

- The stopper 1 input range is from 50 to 325 mm. If the input figure is out of the range, the message "000.0 Set Stopper 1" will be indicated on LCD.
- If it takes two seconds or more to input size, the message "000.0 Set Stopper 1" will be indicated on LCD again. Input folding size with number entry key once again.



## 2-2 Irregular Size Sheet Folding.

7. After stopper 1 is input, indication of LCD moves to "000,0 set stopper 2".

**NOTE**

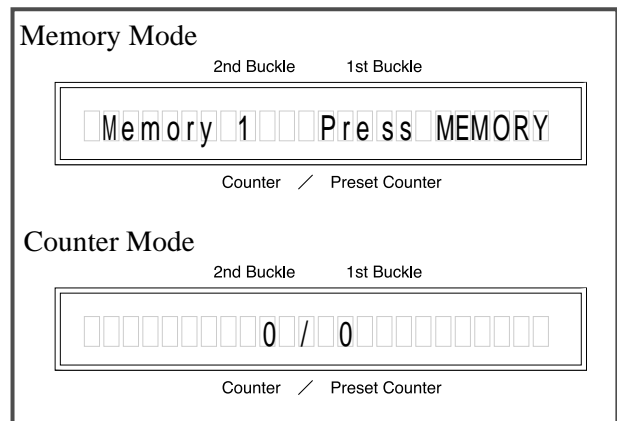
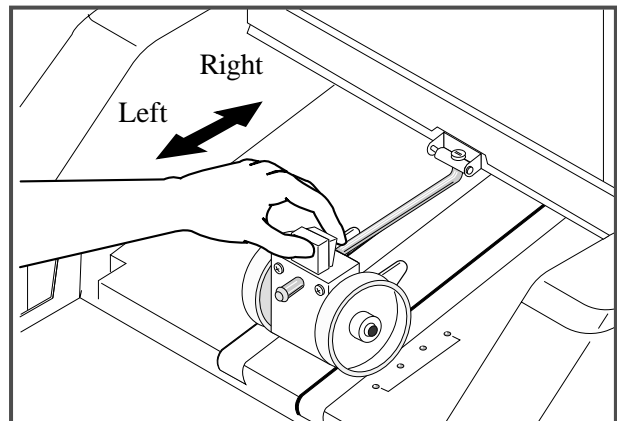
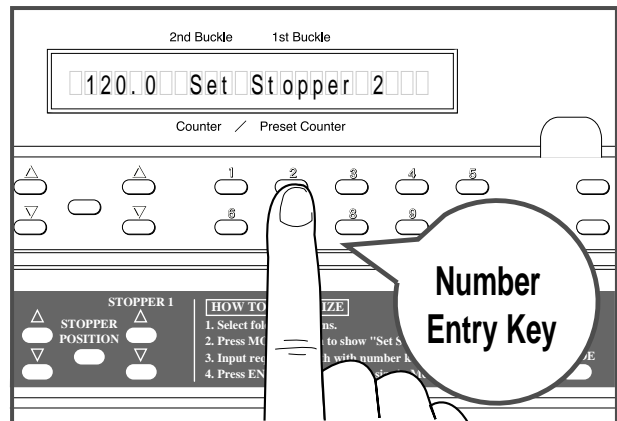
- When single fold is selected, the message "000.0 Set Stopper 2" is not indicated on LCD.
- The stopper 2 input range is from 50 to 215 mm. If the input figure is out of the range, the message "000.0 Set Stopper 2" will be indicated on LCD.
- If it takes two seconds or more to input, the message "000.0 Set Stopper 2" will be indicated on LCD again. Input folding size with number entry key once again.

8. After Stopper 2 is input, "Memory 1 Press MEMORY" is indicated on LCD. Then if mode select button is depressed, the message "Memory 2 Press Memory" is indicated on LCD, and this button is depressed twice, "0 / 0" (counter) is indicated on LCD.

**NOTE**

When Stopper size is set with number entry key, lamp at delivery section doesn't turn on. When smaller sheet is used, set to right side, and when larger sheet is used, set to left side.

If you want to input folding size to memory, refer to "2-3 Input / Call Memory" (page 18).



## 2-3 Input / Call Memory.

### 2-3-1 How to input folding size into memory.

Folding size can be input the Memory upto two different folding sizes.

1. Depress mode select button 3 times. "Memory 1 Press MEMORY" is indicated on LCD. Depress mode select button 4 times. "Memory 2 Press MEMORY" is indicated on LCD.
2. When "Memory 1 Press MEMORY" or "Memory 2 Press MEMORY" is indicated on the LCD, it is possible to input present position of stopper with memory button.

**NOTE**

- When memory button is depressed, previous memory is erased and the new memory is stored.
- After inputting folding size, "0 / 0" is indicated automatically on LCD.
- Memory will hold after power is OFF.

### 2-3-2 How to call memorized folding size.

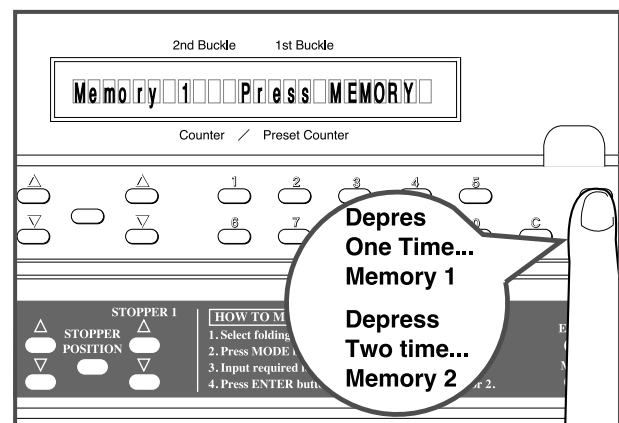
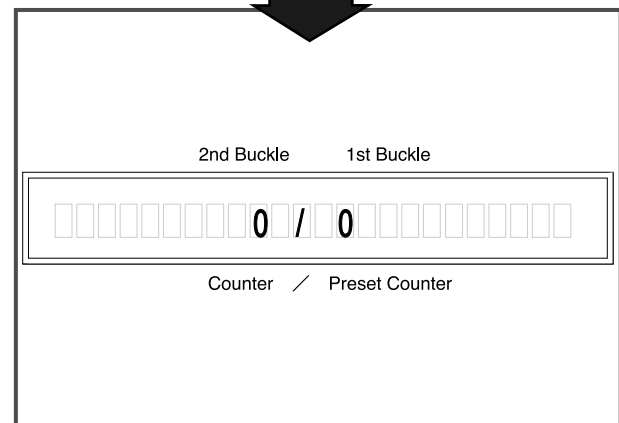
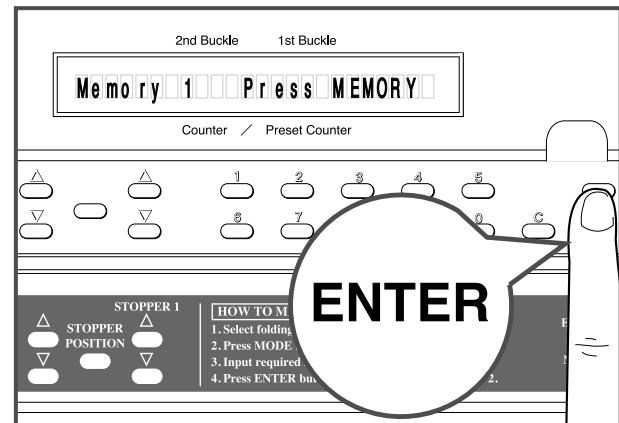
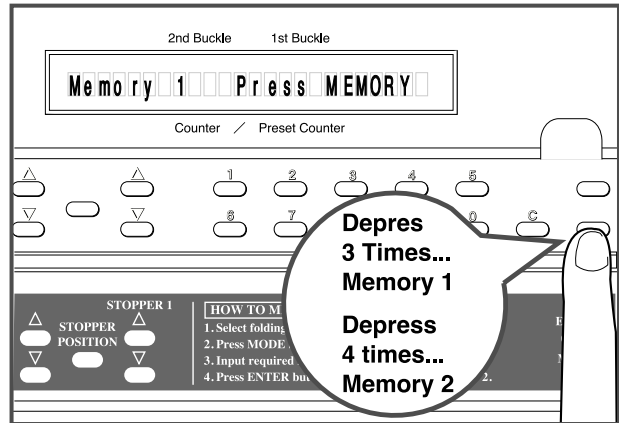
Depress memory button, and memorized folding size is shown in LCD.

- Depress memory button once to call Memory 1.
- Depress memory button twice, to call Memory 2.
- When irregular sized sheet which is memory is folded, follow "2-1 Operation Procedure : step 1 ~ 6" (page 10 ~ 11 ).

After calling memory, follow "2-1 Operation Procedure" (page 12 ).

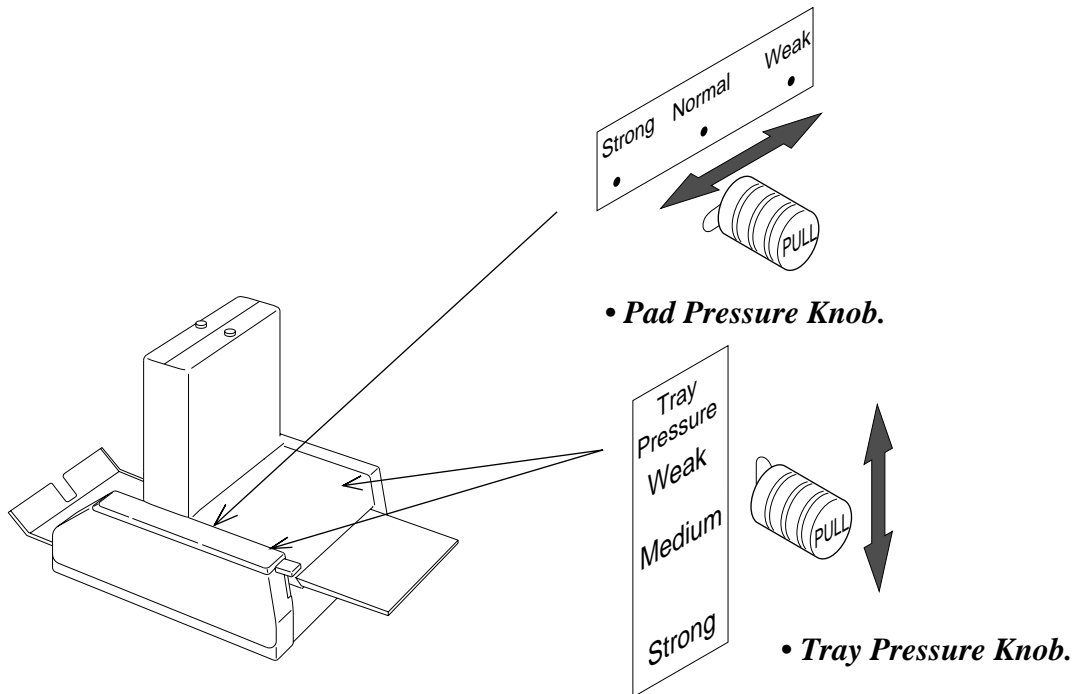
**NOTE**

When Stopper size is set with number entry key, lamp at delivery section doesn't turn on. When smaller sheet is used, set to right side, and when lager sheet is used, set to left side.



## 2-4 Pad Pressure and Tray Pressure Adjustment.

*Pad pressure and tray pressure are adjusted with each Knob.*



<i>Paper type / Feeding condition</i>	<b>Pad Pressure adjusting Knob position</b>	<b>Tray Pressure Knob Position</b>
<i>Normal Sheet</i>	Normal	Medium
<i>Thin Paper</i>	Weak	Weak
<i>Double Sheet Feeding Occurs</i>	Strong	Normal or Weak
<i>Miss Feed Occurs</i>	Normal	Strong
<i>Cross Folding</i>	Weak	Strong

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## 2-5 How To Set Preset Counter

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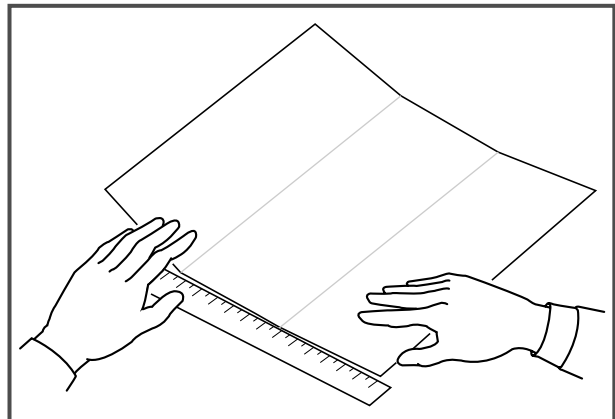
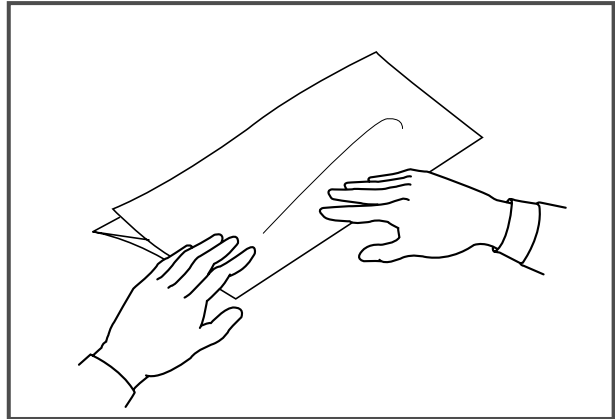
- When "counter" (0/0) is indicated on LCD, it is possible to set required number of sheet to be folded ten number entry key.

**NOTE**

- *Maximum number can be set is 9999.*

- *When you input wrong numbers, depress clear button and input again.*

- *When folding started, counter is added according to folding, and when folding reaches to preset number, folding will stop automatically.*



## 2-6 How to Fold Cross- Fold and 12-page Letter Fold.

### NOTE

- In case of Cross fold or 12-page letter folding, sheet wider than 210 mm (8.5") may not be folded completely.
- In case of cross fold or 12-page letter folding, to use, Cross Folding Guide (option) is recommended.

### ( Meaning of cross folding )

Sheet is folded into half, and then this single folded sheet (signature) is folded once again in half.

When folded sheet is opened, each creases of this signature become criss-cross pattern.

### ( Meaning of sheet 12-page letter fold )

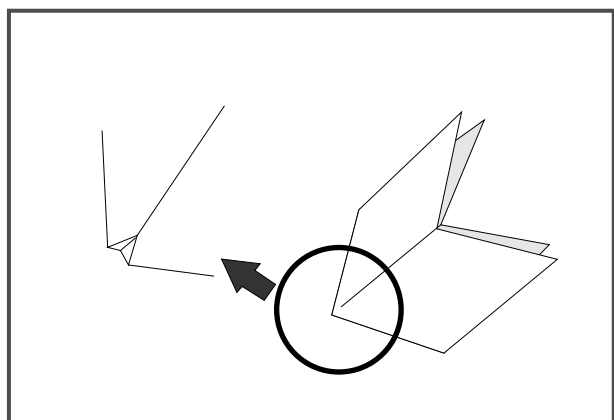
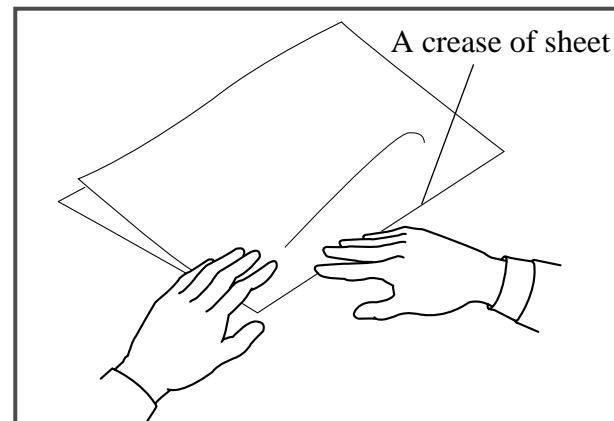
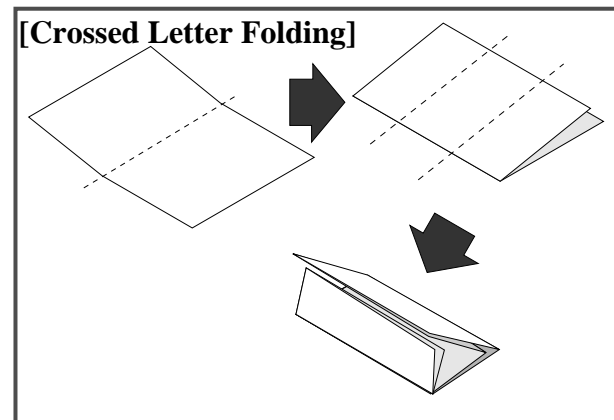
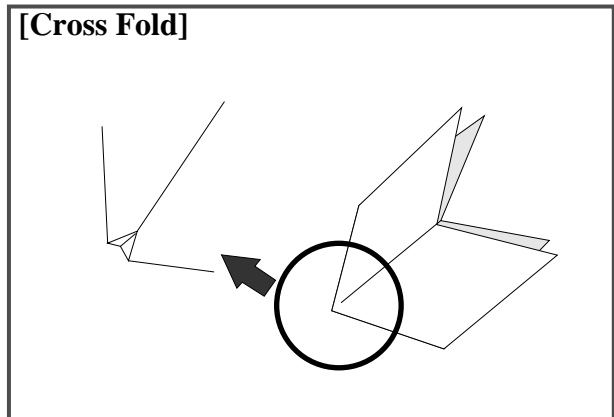
Sheet is folded into half, and then this single folded sheet is folded in letter size.

In this section, procedure of folding is explained with A3 (11" x 17") size sheet without using cross folding guide (Option).

- 1.** Fold A3 size sheet into half  
(Please refer to "3-1 Operation Procedure" in page 12.)
- 2.** Press tightly fold edge of sheets.

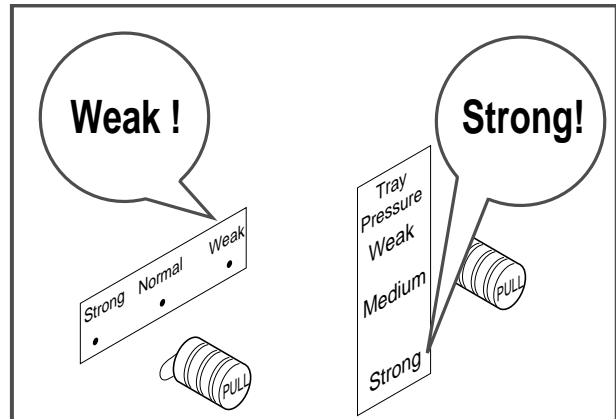
### NOTE

*If fold edge of sheet is not pressed sufficiently, sheet (signature) will not be folded completely.*

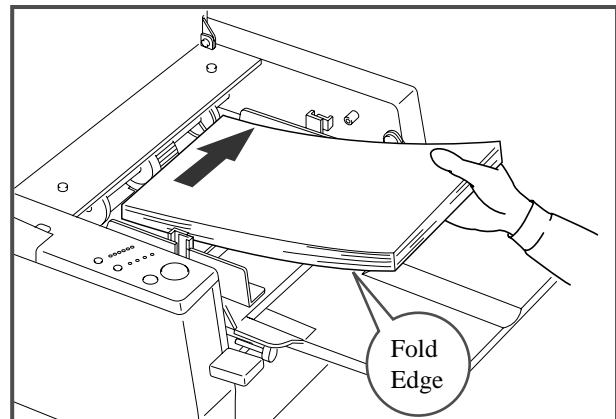


## 2-6 How to Fold Cross- Fold and 12-page Letter Fold.

- 3.** Set double feed stop pad knob to “Weak” and set feed tray pressure knob to “Strong”.



- 4.** After Perform “3-1 Operation Step : Step 1~4 in page 12”, pile folded sheets on feed tray.  
- Illustration shows that sheets are piled at non-operator side and fold edge faces operator side.

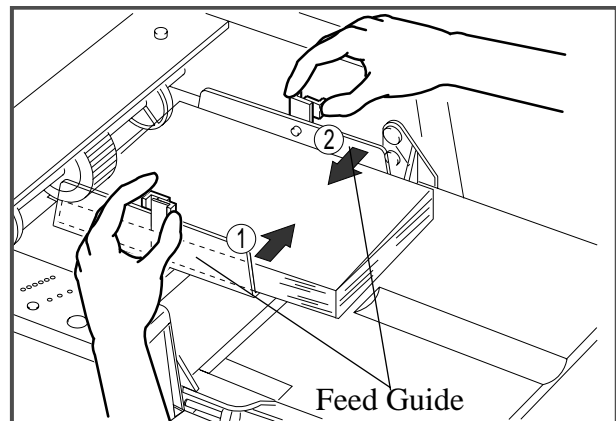


### NOTE

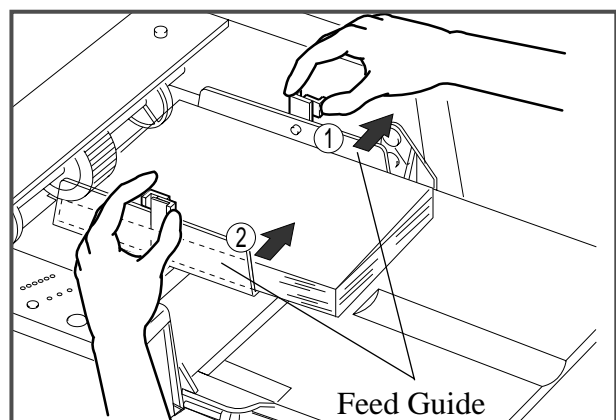
*Pile folded sheets half depth of Feed Guide. If too much folded sheets are piled on feed tray at once, it is not possible to fold completely.*

- 5.** Set feed guides so that they will slightly touch sheets.

- 5-1** If width of folded sheets is narrower than 185 mm, Set feed guide at operation side to fully non-operation side, The other feed guide must be set according to width of folded sheets.



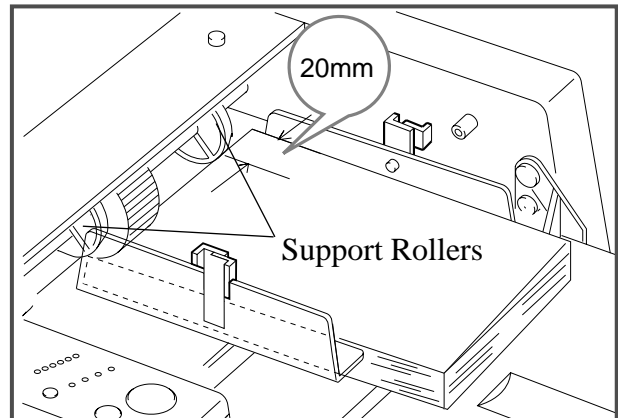
- 5-2** If width of folded sheets is wider than 185 mm, set feed guide at non-operation side. The other feed guide must be set according to width of folded sheets.



### 3-6 How to Fold Cross- Fold and 12-page Letter Fold.

#### 6. Set support roller.

- Support roller at operation side must be set on fold edge.
- Support roller at non operator side must be positioned at 20 mm inside of edge of sheets.

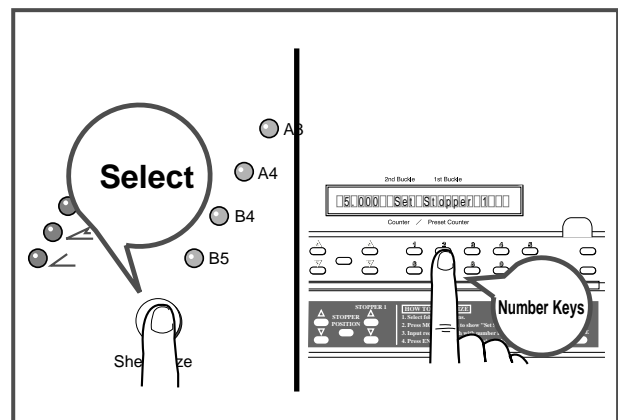


#### 7. Select sheet size.

Original sheet size : A3 → Select A4

Original sheet size : B4 → Select B5

Irregular size sheet : Input suitable size with ten number buttons. (Please refer to "4-2 Irregular Size Sheet Folding" in page 14

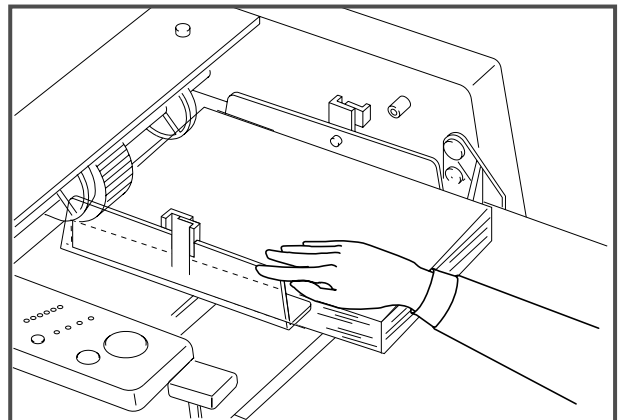


#### 8. Set delivery roller, raise feed tray, and then depress Start/Stop Button.

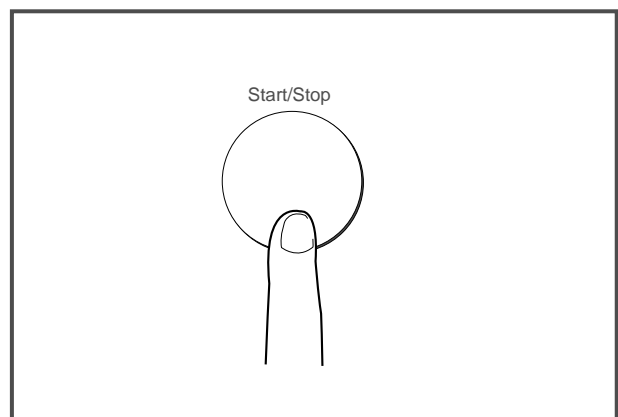
- When folded sheet is fed, hold folded edge slightly with your fingers.

#### NOTE

*Cross fold guide is prepared as an option parts for quantity folding job.*



- #### 9. When you finish folding job, turn off power, pull out power cord, and close delivery tray and feed tray.



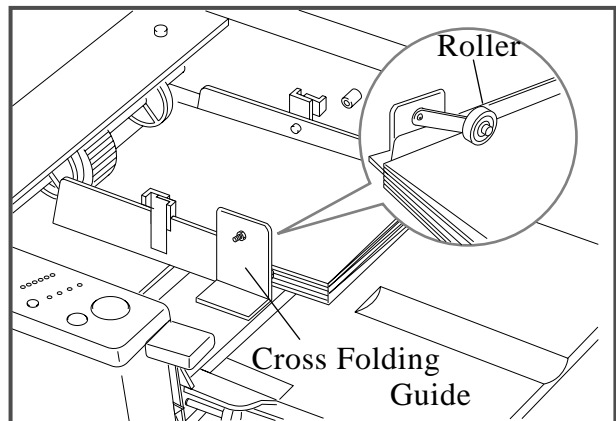
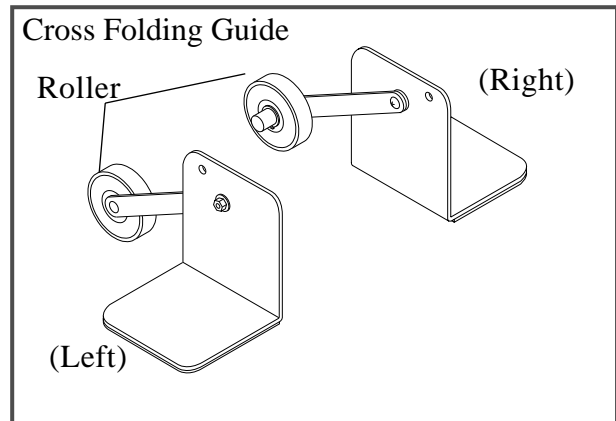
---

## 2-6 How to Fold Cross- Fold and 12-page Letter Fold.

---

### *How to set Cross Folding Guide (Option)*

- Cross folding guide (option) is used to hold folding edge when second folding is performed.
- Set cross folding guide along feed guide on feed tray.



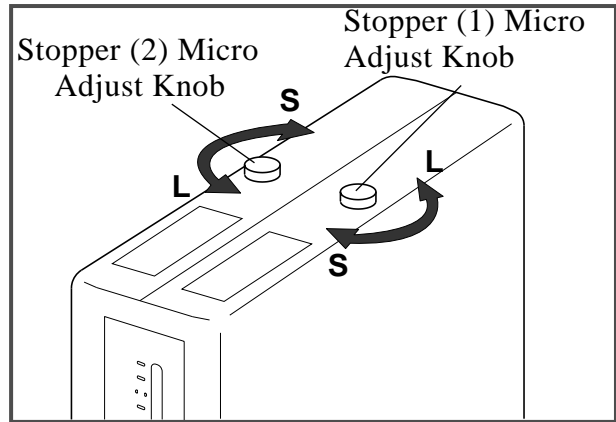
## 2-7 When Folding Is Not Even or Square

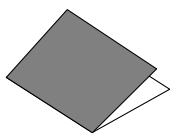


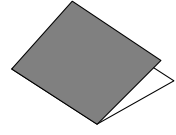
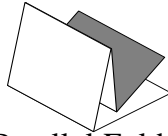


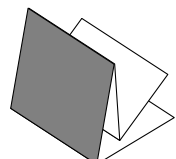


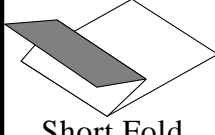


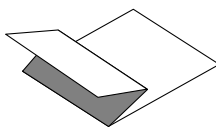


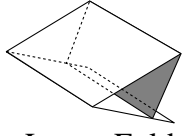


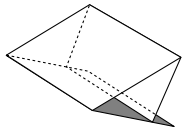


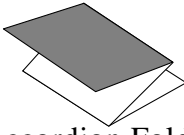


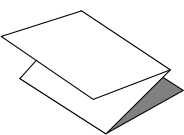


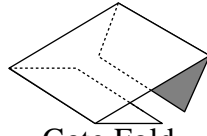


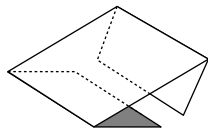


### 2-7-1 Adjustment for uneven folding.

In case that one side of fold sheet is long or short, adjust folding with stopper micro adjust knob on top of buckle.

**NOTE**

- Following chart shows style of delivered sheet.
- Turn stopper micro adjust knob gradually, and adjust folded position with verifying appearance of folded sheet.

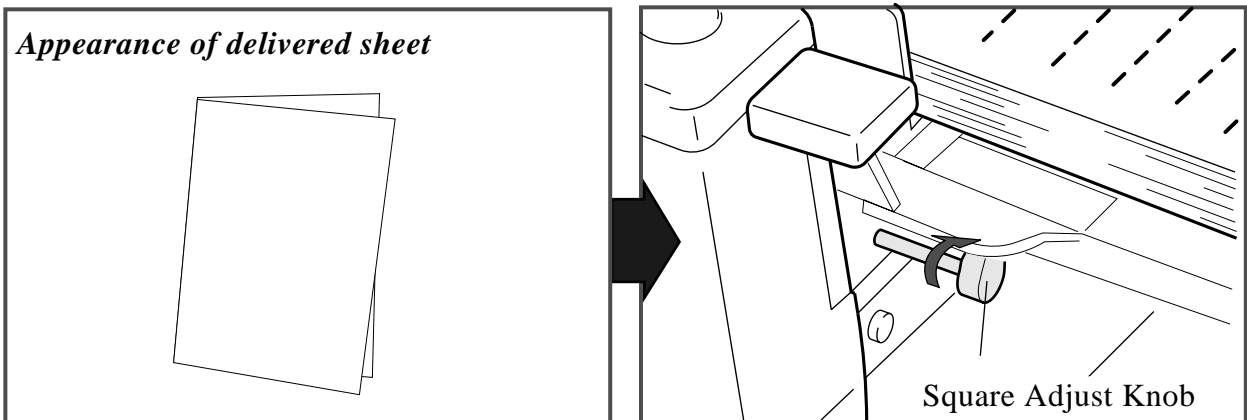
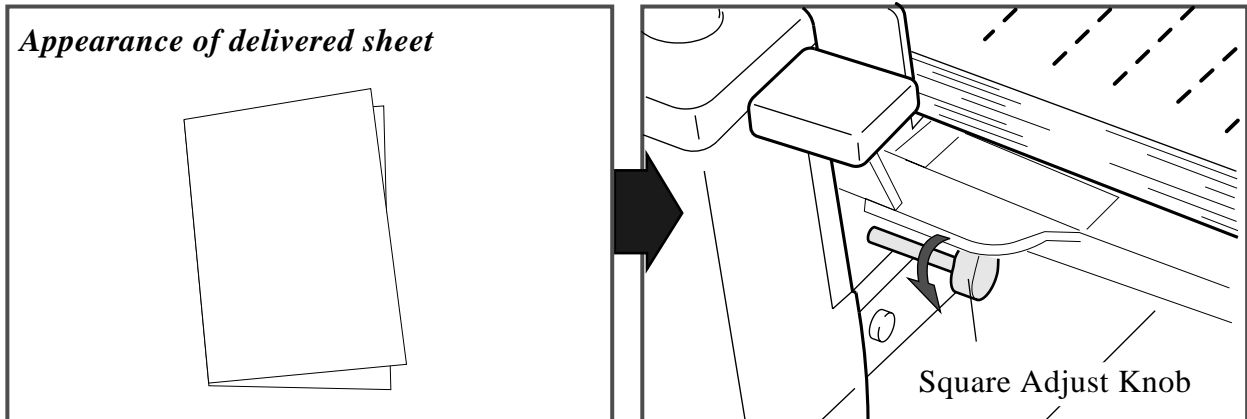


Appearance of delivered sheet	Stopper (1)	Appearance of delivered sheet	Stopper (2)
 Single Fold	 is long : L  is short : S		
 Parallel Fold	 is long : L  is short : S		 is long : L  is short : S
 Short Fold	 is long : L  is short : S		 is long : L  is short : S
 Letter Fold	 is long : L  is short : S		 is long : L  is short : S
 Accordion Fold	 is long : L  is short : S		 is long : L  is short : S
 Gate Fold	 is long : L  is short : S		 is long : L  is short : S

## 2-7 When Folding Is Not Even or Square

### 2-7-2 Adjustment for not square folding.

*When not square folding occurs, adjust square with square adjust knob.*



## **3. Troubleshooting**

---

**This section shows quick reference to troubles which can resolved or prevented by operator.**

<b>3-1 Trouble Message Is Indicated on LCD.....</b>	<b>28</b>
<b>3-2 Before Calling Your Local Dealer .....</b>	<b>30</b>

---

## 3-1 Trouble Message Is Indicated on LCD.

---

In case of miss operation or improper process of function, trouble message is indicated on LCD. Follow countermeasure listed below.

INDICATION 1

**Error ..... Check Breaker**

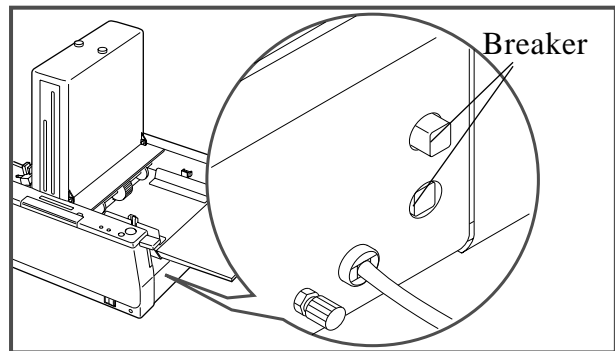
**(CAUSE 1)**

Circuit breaker for buckle is tripped because of paper jam.



**(COUNTERMEASURE)**

Turn off power, remove jammed sheet (Refer to "4-3 How to Remove Jammed Sheets" in page 37.) Then push breaker button and turn on power.



**(CAUSE 2)**

Stopper in 1st or 2nd buckle is locked at top dead end.



**(COUNTERMEASURE)**

Turn off power and turn stopper micro adjust knob counterclockwise (3 turns). Then push breaker button. In case stopper will be locked as soon as power is ON, call your local dealer.

**(CAUSE 3)**

Stopper in 1st or 2nd buckle is locked at bottom dead end.



**(COUNTERMEASURE)**

Turn off power and turn stopper micro adjust knob so that stopper moves up about 20 mm. Then push breaker button. When power is turned on, depress and hold clear button.

In case Stopper will be locked as soon as power is on, call your local dealer.

**NOTE**

*If above is performed, memorized folding size in Memory 1 and Memory 2 will be erased.*

---

## 3-1 Trouble Message Is Indicated on LCD.

---

## INDICATION 2

**Empty Tray**

**(CAUSE)**

This is indicated when feed tray will be empty.

**(COUNTERMEASURE)**

Pile sheets on feed tray.

**NOTE**

*This message will be reset with depressing Start/Stop Button.*

## INDICATION 3

**Raise Tray**

**(CAUSE)**

This is indicated when start/stop button is depressed with being feed tray lever at down position.

**(COUNTERMEASURE)**

Raise feed tray and depress start/stop button.

## INDICATION 4

**Close Buckle**

**(CAUSE)**

This is indicated when buckle lever is opened.

**(COUNTERMEASURE)**

Close buckle and set buckle lever in position.  
(Refer to "4-3 How to Remove Jammed Sheets" in page 37.)

## INDICATION 5

**0/0 ..... Jamming**

**(CAUSE)**

This message is indicated when sheet is jammed in buckle or between folding rollers.

**(COUNTERMEASURE)**

Remove jammed sheet from buckle and between folding rollers.  
(Refer to "4-3 How to Remove Jammed Sheets" in page 37.)

## INDICATION 6

**0/0 ..... Feed Error**

**(CAUSE)**

This message is indicated when sheet is not fed.

**(COUNTERMEASURE)**

Fun well piled sheets once again. Moreover, set pad pressure to weak position or set feed tray pressure to strong position.

---

## 3-2 Before Calling Your Local Dealer











---

CONDITION 1

**Folding result is not good.**

*(CAUSE )*

*(COUNTERMEASURE)*

- |  |   |   |
|--|---|---|
| 1. Sheet is too thin or too thick.                           |    | 1. Sheets out of specification may be difficult to fold. (Refer to "1-1 Specifications" in page 2.)   |
| 2. Sheet is not square.                                      |    | 2. Use 100% square sheets.  |
| 3. Sheet is wavy because of humidity.                        |    | 3. Remove waved sheets.   |
| 4. Sheet is curled.  |    | 4. Straighten up curled sheets.   |
| 5. Feed guides are set improperly.                           |   | 5. Adjust feed guide so that sheet are fed straightly.  |
| 6. Folding rollers are stained with ink.                     |  | 6. Clean folding rollers with roller cleaning liquid. (Refer to "4-2 How to Replace Folding Roller" in page 35 to 36.)  |
| 7. Feed roller and/or double sheet stop pad are/is worn out. |  | 7. Replace feed roller and/or double sheet stop pad. It is recommended to replace pad and double sheet stop pad after 150,000 to 300,000 folding. (Refer to "4-1 How to Replace Double Sheet Stop Pad and Feed Roller" in page 34.) |
| 8. Folding rollers are worn out.                             |  | 8. Replace folding rollers. (Refer to "4-2 How to Replace Folding Roller" in page 35 to 36 )  |
| 9. A piece of sheet is jammed in buckle.                     |  | 9. Open buckle and remove jammed sheet. (Refer to "4-3 How to Remove Jammed Sheet" in page 37.)   |
| 10. Folding rollers are not set properly.                    |  | 10. Make sure that folding rollers are set completely. (Refer to "4-2 How to Replace Folding Roller" in page 35 to 37.)   |

---

## 3-2 Before Calling Your Local Dealer

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### CONDITION 2

---

#### Double feed often occur.

**(CAUSE )**

1. Sheets are stuck together because of ink or static electricity.
2. Double feed stop pad pressure is set at weak position.
3. Feed tray pressure is set at strong position.



**(COUNTERMEASURE)**

1. Fan well sheets once again.
2. Set pressure at normal position. (Refer to "2-4 Pad Pressure and Tray Pressure Adjustment" in page 19.)
3. Set pressure at normal position. (Refer to "2-4 Pad Pressure and Tray Pressure Adjustment" in page 19.)



### CONDITION 3

---

#### Folded sheets are stained with ink.

**(CAUSE )**

1. Feed roller, double feed stop pad or folding rollers are stained with ink.



**(COUNTERMEASURE)**

1. Clean stained parts with alcohol or roller cleaning liquid soaked cloth.

### CONDITION 4

---

#### Both double feed and misfeed often occur.

**(CAUSE )**

1. Double feed stop pad or feed roller is worn out.
2. Feed roller or double feed stop pad is contaminated with ink or alike.



**(COUNTERMEASURE)**

1. Replace feed roller and/or double feed stop pad. It is recommended to replace pad and feed roller after 150,000 to 300,000 folding. (Refer to "4-1 How to Replace Double Sheet Stop Pad and Feed Roller" in page 34.)
2. Clean double feed stop pad and feed roller.

### CONDITION 5

---

#### Sheet jam often occur.

**(CAUSE )**

1. A Piece of paper or torn sheet stopped in buckle.



**(COUNTERMEASURE)**

1. Open buckle and remove sheet. (Refer to "4-3 How to Remove Jammed Sheet" in page 37 )

## 3-2 Before Calling Your Local Dealer

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### CONDITION 6

---

#### Sheets are wrinkled.

**(CAUSE )**

1. Sheets are curly or wavy.
2. Folding rollers are deformed by friction after long time use.
3. Sheets contain too much moisture.
4. Folding roller is wet with ink.



**(COUNTERMEASURE)**

1. Set double feed stop pad and feed tray pressure at weak. Also slow down operation speed with speed select button.
2. Replace folding rollers to new one. (Refer to "4-2 How to Replace Folding Roller" in page 35 to 36 )
3. Dry sheets before fold.
4. Clean folding rollers with roller cleaning liquid or replace it to new one.

### CONDITION 7

---

#### Fold pattern lamp or sheet size lamp is flashing. Or alarm starts as soon as power is ON.

**(CAUSE )**

1. Memory function in folder shows some irregular condition.



**(COUNTERMEASURE)**

Turn off power switch , then turn on it again with depressing clear button.

**NOTE**

*If above is performed, memorized folding size in Memory 1 and Memory 2 will be erased.*

*In case above will not correct function, please contact your local dealer.*

## 4. Maintenance

---

This section explains maintenance for PF-P310.

<b>4-1 How to Replace Feed Roller and Double Feed Stop Pad. ....</b>	<b>32</b>
<b>4-2 How to Replace Folding Roller. ....</b>	<b>33</b>
<b>4-3 How to Remove Jammed Sheets ....</b>	<b>35</b>
<b>4-4 How to Clean Count Sensor ....</b>	<b>36</b>
<b>4-5 Maintenance Kit (Option) ....</b>	<b>37</b>
<b>4-6 Cross Folding Guide (Option) ....</b>	<b>37</b>
<b>4-7 Accessories ....</b>	<b>37</b>

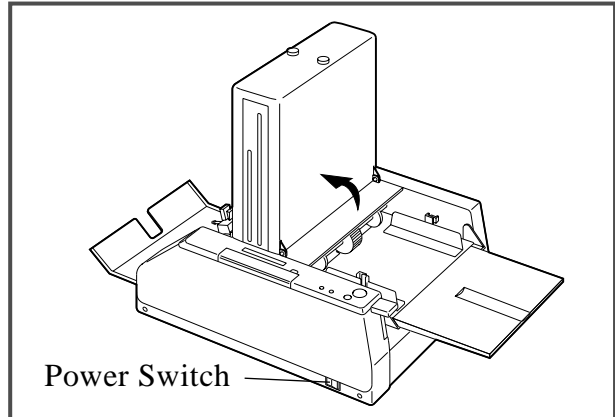
## 4-1 How to Replace Feed Roller and Double Feed Stop Pad.

- When feed roller or double feed stop pad getting contaminated with paper dust or ink, sheet feeding becomes uncertain. Firstly, clean roller and/or pad. If necessary, replace them to new one.

It is recommended to replace feed roller and pad after 150,000 to 300,000 folding.

**NOTE**

Total number of folding is indicated on LCD by turning on power with "2" in number entry key being depressed at same time.

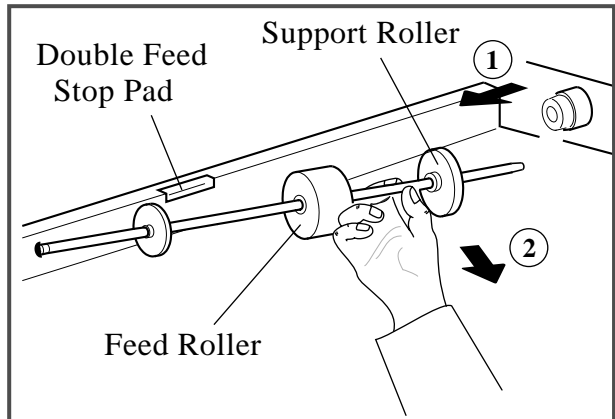


**⚠ WARNING**

*Turn off power before replacing feed roller and/or double feed stop pad.*

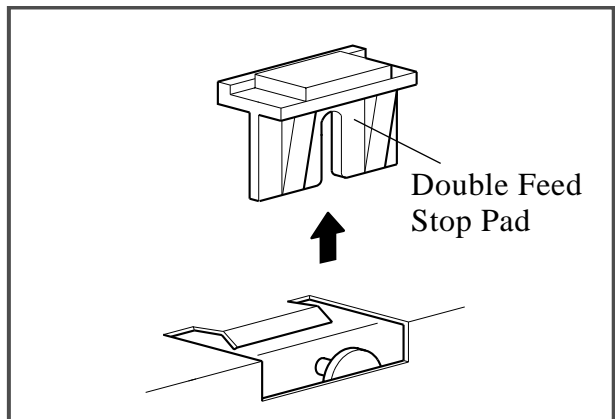
**(Feed Roller Replacement)**

1. Push feed roller shaft to arrow ①, then pull shaft to arrow ②.
2. Remove support roller and then replace feed roller to new one.



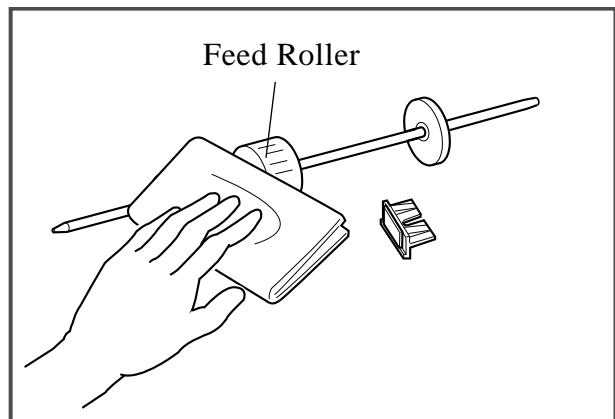
**(Double Feed Stop Pad Replacement)**

1. Remove feed roller shaft.
2. Pull up double feed stop pad. And replace it to new one.



**(Cleaning)**

1. Clean feed roller and pad with roller cleaning liquid or alcohol soaked cloth.



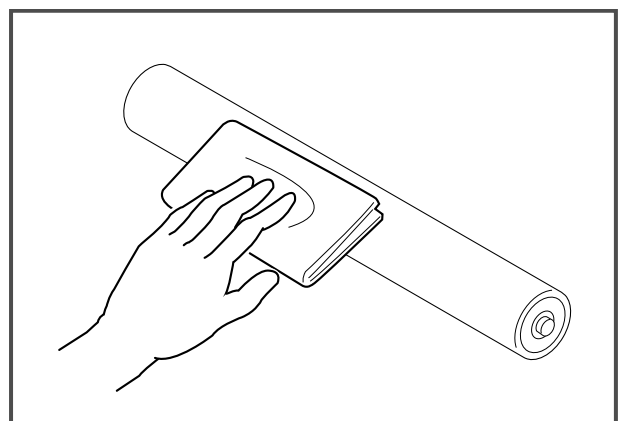
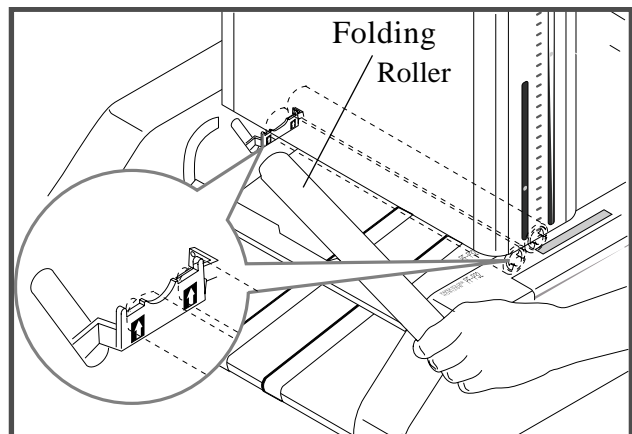
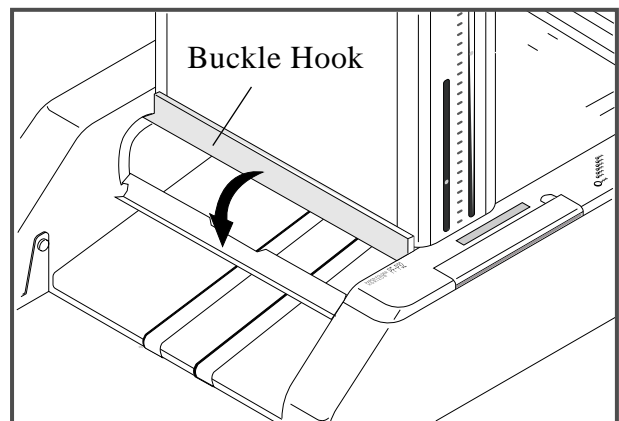
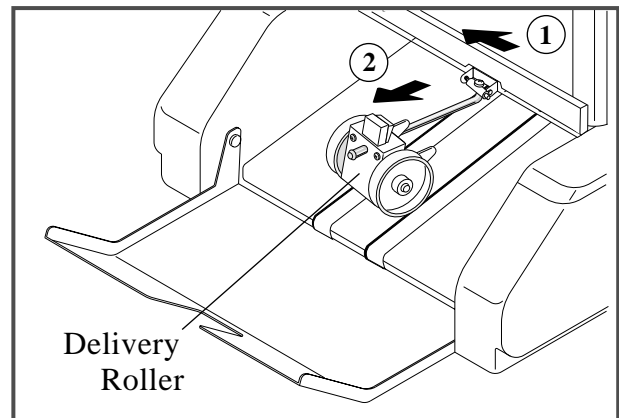
## 4-2 How to Replace Folding Roller.

*Folding roller contaminated with ink/dust or worn out folding roller may effect on folding accuracy.*

### ⚠ WARNING

*Turn off power and pull out power cord whenever folding rollers are replaced.*

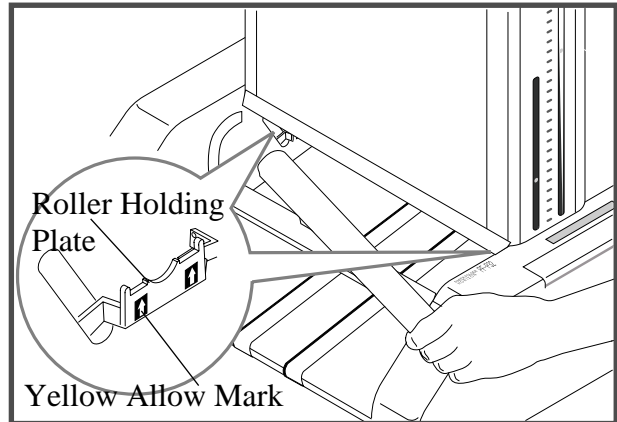
- 1.** Push delivery roller shaft to arrow①, then pull delivery roller to arrow②.
- 2.** Pull down buckle hook.
- 3.** Remove two rubber folding rollers under buckle.
- 4.** Clean folding rollers with roller cleaning liquid or alcohol soaked cloth, or replace them to new one if necessary.



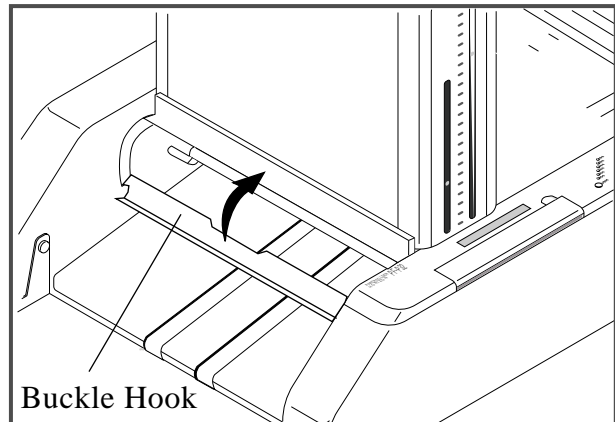
## 4-2 How to Replace Folding Roller.

(How to Install Folding Rollers)

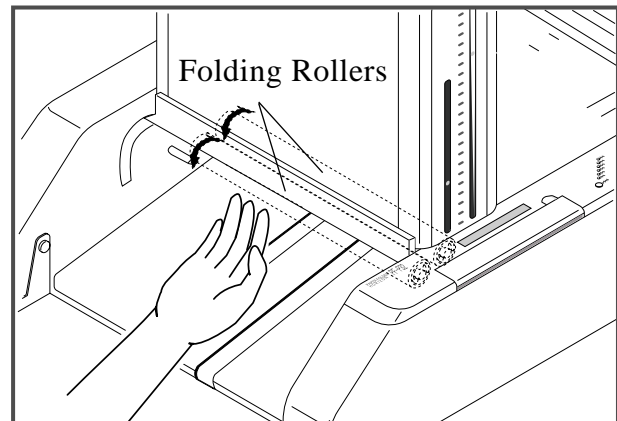
1. Place folding roller shaft on roller holding plate which is showed with yellow arrow mark.



2. Close buckle hook.



3. Check whether rubber rollers rotate freely by hand. If not pull down buckle hook and make sure that rollers are properly positioned. And then close buckle hook.

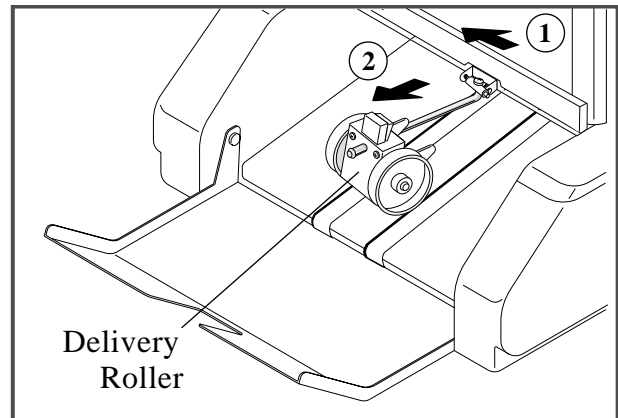


## 4-3 How to Remove Jammed Sheets

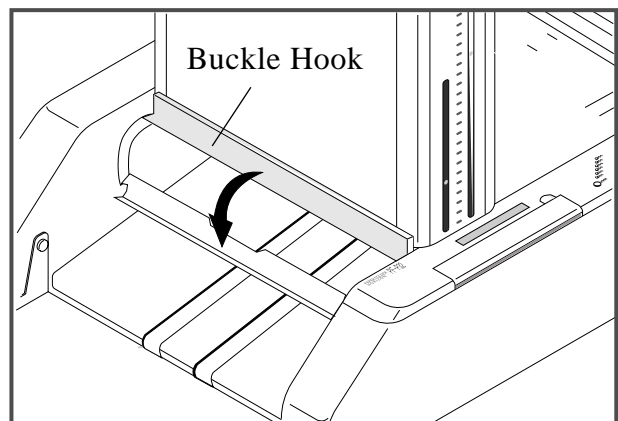
### **⚠ WARNING**

*Turn off power before removing jammed sheet.*

- 1.** Push delivery roller shaft to arrow ①, then pull delivery roller to arrow ②.



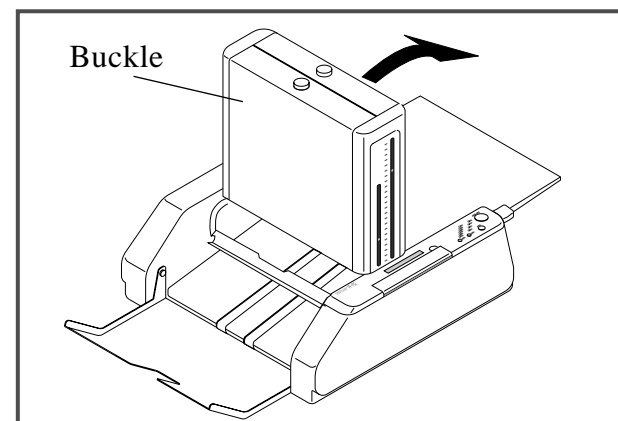
- 2.** Pull down buckle hook.



- 3.** Lay down buckle to arrow direction.

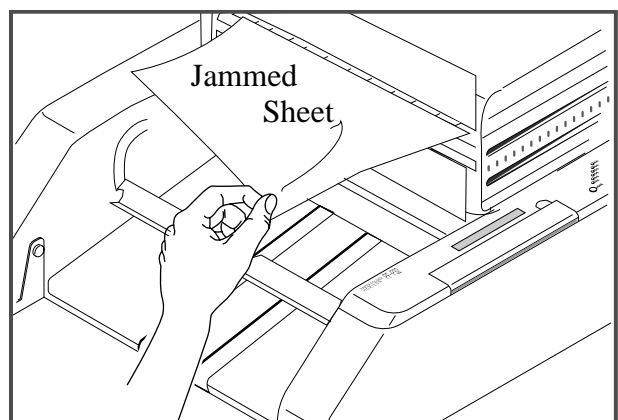
### **NOTE**

*Lay down buckle carefully with both hand as Buckle is quite heavy.*



- 4.** Remove jammed sheet in buckle.

After removed jammed sheet, revert buckle, buckle hook and delivery roller in operating condition.



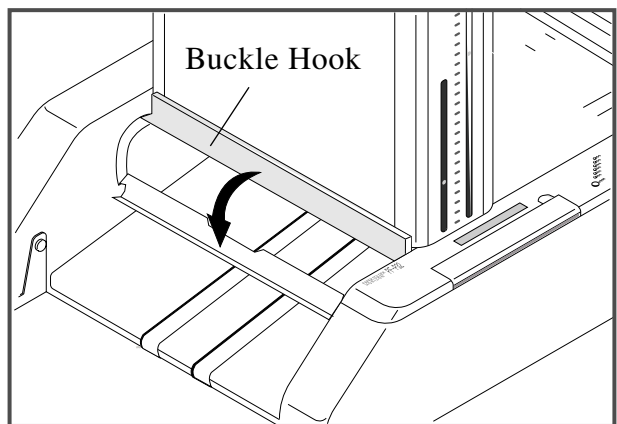
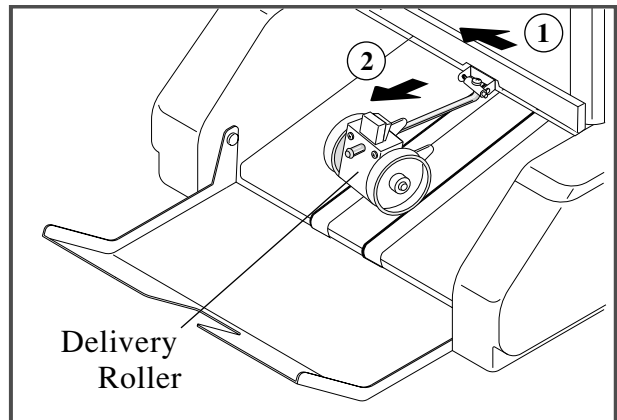
## 4-4 How to Clean Count Sensor

*If the dust or paper powder covers the counter sensor, the folded sheet may not be counted.*

### **⚠ WARNING**

*Turn off power before removing jammed sheet.*

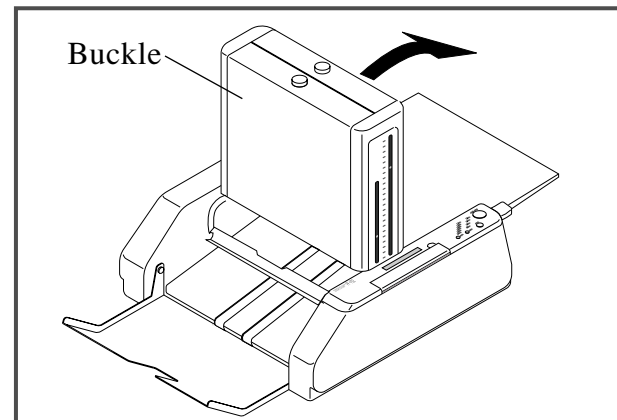
- 1.** Push delivery roller shaft to arrow①, then pull delivery roller to arrow②.
- 2.** Pull down buckle hook.



- 3.** Lay down buckle to arrow direction.

### **NOTE**

*Lay down buckle carefully with both hand as Buckle is quite heavy.*

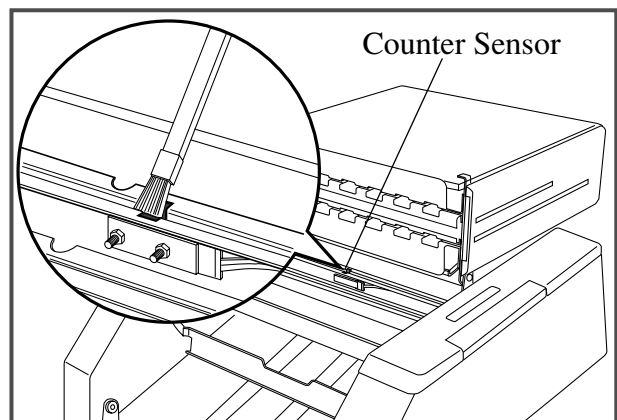


- 4.** Clean the counter sensor with brush softly.

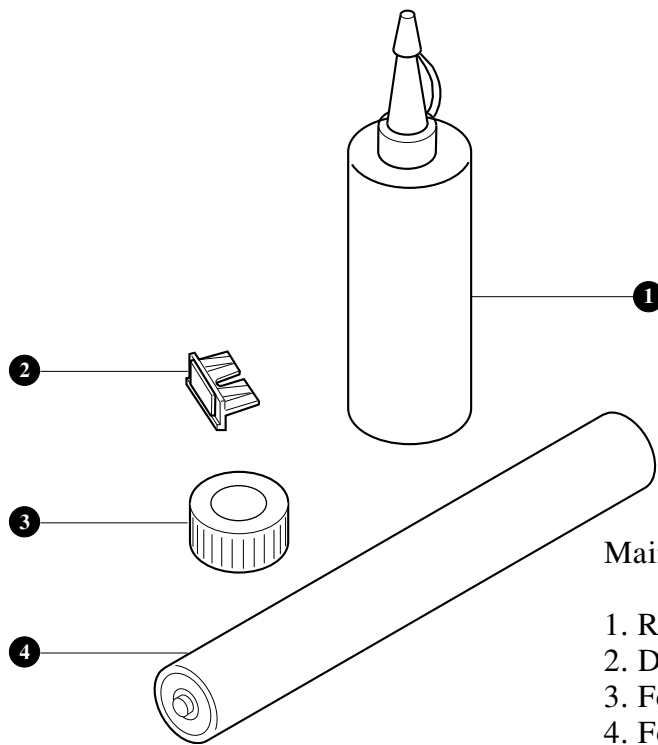
### **NOTE**

*Clean the reciever of the sensor also.*

After cleaning the counter sensor, revert buckle, buckle hook and delivery roller in operating condition.



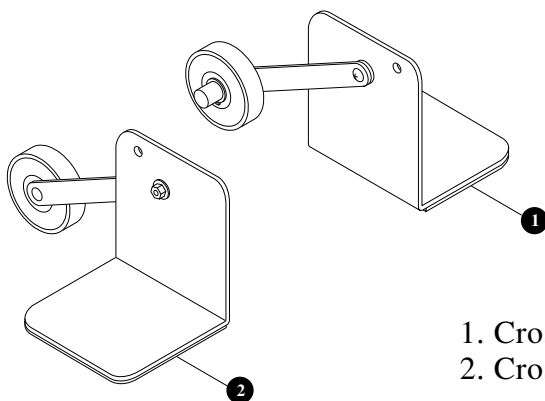
### 4-5 Maintenance Kit (Option)



Maintenance Kit M792048-00

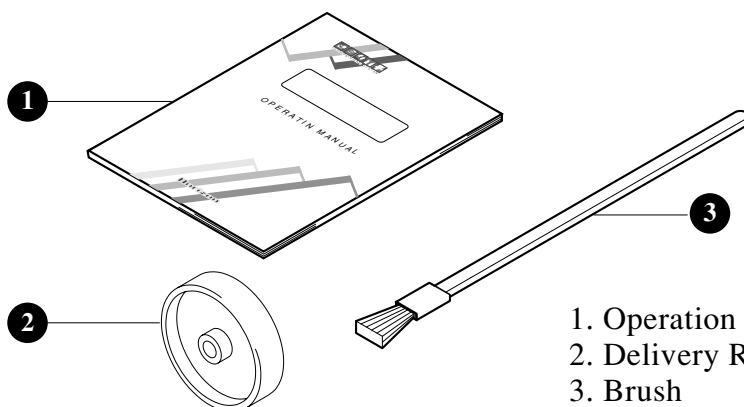
- |                           |                      |
|---------------------------|----------------------|
| 1. Roller Cleaning Liquid | XPF-111 (2 bottles)  |
| 2. Double Feed Stop Pad   | M002063-00 (4 piece) |
| 3. Feed Roller            | M001978-00 (2 piece) |
| 4. Folding Roller         | M015029-00 (2 piece) |

### 4-6 Cross Folding Guide (Option)



- |                                       |              |
|---------------------------------------|--------------|
| 1. Cross Folding Guide for right side | □ M850054-00 |
| 2. Cross Folding Guide for left side. |              |

### 4-7 Accessories



- |                     |                      |
|---------------------|----------------------|
| 1. Operation Manual | (1 book)             |
| 2. Delivery Roller  | M001966-01 (1 piece) |
| 3. Brush            | 4000972-00 (1 piece) |

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