Duplo

from print to documents

INSTRUCTION MANUAL

FOLDER
DUPLO FOLDER

DF-980
DF-970

Be sure to read this manual prior to use.
Please leave this manual at the site of use for easy reference.

Introduction

Thank you for purchasing a Duplo product.

Be sure to read this manual prior to using the product.

After reading, leave the manual at the site of use for easy reference whenever questions related to the product arise in the future.

Symbols

In this manual, several symbols are used to indicate important warnings. Please make sure to read instructions accompanied by these symbols. These symbols have the following meanings.

Describes instructions which must be followed in use.
Be sure to read the instructions to avoid problems due to incorrect operations.

Indicates supplementary or useful information.

Describes names of related items and supplementary instructions.

Trademark

The product name and company name used in this manual are trademarks or registered trademarks of the respective companies.

For EU

DECLARATION OF CONFORMITY

Duplo Corporation, located at 1-6, Oyama 4-chome, Chuo-ku, Sagamihara, Kanagawa 252-5280, Japan, declares that the product (or products) complies with the provisions defined in the regulations. The reference table is mentioned below.

Name of product	Model	Regulation	
		Low Voltage Directive 2006/95/EC under	Electromagnetic Compatibility Directive 2004/108/EC under
Folder	DF-980	IEC60950-1: 2005 + A1: 2009 including EN60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 deviations	EN55011: 2009 + A1: 2010 EN55014-2: 1997 + A2: 2008 EN61000-3-2: 2006 + A1: 2009 + A2: 2009 EN61000-3-3: 2008
	DF-970		
Folder Accessories	DF HAND FEED KIT		
	DF GUIDE UNIT		
	DF CROSS FOLD UNIT		

En

KONFORMITÄTSERKLÄRUNG

Die Duplo Corporation mit Sitz in 1-6, Oyama 4 chome, Chuo-ku, Sagamihara, Kanagawa 252-5280 Japan, erklärt hiermit, dass das Produkt (oder die Produkte) die in den Vorschriften definierten Bestimmungen erfüllt. Die Bezugstabelle ist unten aufgeführt.

Bezeichnung des Produkts	Modell	Richtlinie	
		Niederspannungsrichtlinie 2006/95/EG unter	Richtlinie zur elektromagnetischen Verträglichkeit 2004/108/EG unter
Falzgerät	DF-980	IEC60950-1: 2005 + A1: 2009 including EN60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 deviations	EN55011: 2009 + A1: 2010 EN55014-2: 1997 + A2: 2008 EN61000-3-2: 2006 + A1: 2009 + A2: 2009 EN61000-3-3: 2008
	DF-970		
Zubehör der falzgerät	DF HAND FEED KIT		
	DF GUIDE UNIT		
	DF CROSS FOLD UNIT		

Ge

DECLARATION DE CONFORMITE

Duplo Corporation, dont le siège est situé au 1-6, Oyama 4-chome, Chuo-ku, Sagamihara, Kanagawa 252-5280, Japon, déclare que le ou les produits sont conformes aux dispositions définies par la réglementation. Un tableau de référence est proposé ci-dessous.

Nom du produit	Modèle	Réglementation	
		Directive Basse tension 2006/95/CE en application de la	Directive sur la compatibilité électromagnétique 2004/108/CE en application de
Plieuse	DF-980	IEC60950-1: 2005 + A1: 2009 including EN60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 deviations	EN55011: 2009 + A1: 2010 EN55014-2: 1997 + A2: 2008 EN61000-3-2: 2006 + A1: 2009 + A2: 2009 EN61000-3-3: 2008
	DF-970		
Accessoires de la plieuse	DF HAND FEED KIT		
	DF GUIDE UNIT		
	DF CROSS FOLD UNIT		

Fr

DICHIARAZIONE DI CONFORMITÁ

Duplo Corporation, sita a 1-6, Oyama 4-chome, Chuo-ku, Sagamihara, Kanagawa 252-5280, Giappone, dichiara che il prodotto (o i prodotti) è/sono conforme/i ai requisiti definiti dalle norme sottoelencate. La tabella di riferimento è riportata qui di seguito.

Nome del prodotto	Modello	Direttiva Bassa Tensione	
		Direttiva 2006/95/CE relativa alle apparecchiature a bassa tensione	Direttiva di compatibilità elettromagnetica 2004/108/CE in base a
Piegatrice	DF-980	IEC60950-1: 2005 + A1: 2009 including EN60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 deviations	EN55011: 2009 + A1: 2010 EN55014-2: 1997 + A2: 2008 EN61000-3-2: 2006 + A1: 2009 + A2: 2009 EN61000-3-3: 2008
	DF-970		
Accessorio del piegatrice	DF HAND FEED KIT		
	DF GUIDE UNIT		
	DF CROSS FOLD UNIT		

It

DECLARACIÓN DE CONFORMIDAD

Duplo Corporation, con domicilio en 1-6, Oyama 4-chome, Chuo-ku, Sagamihara, Kanagawa 252-5280, Japón, declara que el producto (o los productos) cumple con las disposiciones previstas en los reglamentos. Seguidamente se indica la tabla de referencia.

Nombre del producto	Modelos	Reglamentación - Reglamentaciones	
		Directiva sobre baja tensión 2006/95/CE, según	Directiva sobre compatibilidad electromagnética 2004/108/CE, según
Plegadora	DF-980	IEC60950-1: 2005 + A1: 2009 including EN60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 deviations	EN55011: 2009 + A1: 2010 EN55014-2: 1997 + A2: 2008 EN61000-3-2: 2006 + A1: 2009 + A2: 2009 EN61000-3-3: 2008
	DF-970		
Accesorios de la plegadora	DF HAND FEED KIT		
	DF GUIDE UNIT		
	DF CROSS FOLD UNIT		

Sp

For EU

Disposal of Old Electrical & Electronic Equipment

This symbol (the symbol of the crossed out wheeled bin) indicates that in European countries this product should not be disposed of as household waste.

Please recycle where facilities exist by checking with your local authority or supplier for recycling advice.

By ensuring this product is disposed of correctly through proper treatment, recovery and recycling, you will help prevent potential negative effects on the environment and human health.

En

Entsorgung von alten elektrischen und elektronischen Ausrüstungsteilen

Dieses Symbol (das Symbol mit dem durchgekreuzten fahrbaren Müllbehälter) zeigt an, dass dieses Produkt in europäischen Länden nicht als Haushaltsmüll entsorgt werden darf. Bitte informieren Sie sich bei Ihren örtlichen Behörden oder bei Ihrem Händler hinsichtlich einer Empfehlung für die Entsorgung und führen Sie die betreffenden Teile dort, wo solche Einrichtungen vorhanden sind, einem Recycling-Prozess zu.

Indem sie sicherstellen, dass das betreffende Produkt durch richtige Behandlung, Rückführung und Recycling entsorgt wird, tragen Sie dazu bei, möglichen negativen Auswirkungen auf die Umwelt und die menschliche Gesundheit vorzubeugen.

Ge

Elimination du matériel électronique et électrique usagé

Ce symbole (une poubelle marquée d'une croix) indique que dans les pays européens, ce produit ne doit pas être éliminé comme des ordures ménagères.

Recyclez-le dans les sites adaptés qui vous seront indiqués par les autorités locales ou renseignez-vous auprès de votre fournisseur.

En veillant à ce que ce produit soit éliminé correctement avec un traitement, une collecte et un recyclage adaptés, vous contribuez à éviter son action nocive potentielle sur l' environnement et la santé humaine.

Fr

Smaltimento di attrezzature elettriche ed elettroniche consumate

Questo simbolo (il simbolo della pattumiera con rotelle barrata) indica che nei paesi europei questo prodotto non deve essere buttato nei rifiuti domestici.

Per favore smaltire in luogo addetto al riciclo, dove esistente, chiedendo informazioni alle autorità locali o a chi fornisce consulenza a proposito.

Garantendo uno smaltimento adeguato di questo prodotto (trattamento, recupero e riciclo corretto), aiuterete a prevenire effetti negativi sull'ambiente e sulla salute dell'uomo.

It

Eliminación de residuos de aparatos eléctricos y electrónicos

Este símbolo (un cubo de basura tachado) indica que en los países europeos este producto no deberá eliminarse como si se tratara de un residuo doméstico. Solicite asesoramiento sobre reciclaje a las autoridades locales o a su distribuidor, y siga la normativa en materia de gestión medioambiental y reciclaje de este tipo de residuos.

Si toma las medidas pertinentes para que este producto se elimine mediante un tratamiento, recuperación y reciclaje adecuados, contribuirá a evitar posibles efectos negativos en el medio ambiente y la salud humana.

Sp

For North America

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Memo

Safety Precautions

In this manual, operations and handling of the unit which are hazardous are described using the following marks to prevent personal injury or property damage to the user and others.

WARNING	**Ignoring this mark could result in the possibility of serious injury or even death.**
CAUTION	**Ignoring this mark could result in the possibility of injury or physical damage.**

This mark indicates a "Warning" or "Caution".
A graphic may be shown inside the mark to describe the warning or caution more specifically.

This mark indicates a forbidden action.
A graphic may be shown inside the mark to describe the forbidden action more specifically.

This mark indicates actions that must be performed.
A graphic may be shown inside the mark to describe the action to be performed more specifically.

Power supply

- Make sure the power supply used is always within the following range.
  Power supply : 100 to 240 V AC, 50/60 Hz
- When you power other appliances from the same AC outlet, make sure that the combined power consumption does not exceed the power supply capacity.
  Rated current (Rated power) : 1 to 0.5 A (88 W)

WARNING

Use only the power supply voltage specified on the main nameplate.
Using other voltages could result in a fire or an electrical shock.

Make sure that the combined power consumption of the appliances to be connected does not exceed the capacity rating of the power outlets or plug receptacles.
Exceeding the capacity rating could cause the power outlets, plug receptacles, or power extension cords to overheat and catch a fire.

Operating environment

Operate this unit in the following environment.

- where the temperature range is between 5 and 35°C/41 and 95°F (-10 to +35°C/14 to 122°F in storage)
- where the humidity range is between 20 and 80% RH (10 to 90% RH in storage, however no condensation)
- which is not subject to direct sunlight
- which is reasonably free from dust
- which is subject to little or no vibration
- which is free from air-borne salt
- where there are no harmful chemicals
- where the unit is not exposed to water

⚠ WARNING

Keep this unit and the power cord away from heaters and heater vents.
Excessive heat could melt the cover or power cord covering, and result in a fire or an electrical shock.

Do not place metal objects or vessels containing liquids on top of the unit.
The entry of any metal object or liquid could result in a fire or an electrical shock.

Do not insert any metal or easily-combustible object inside this unit.
This could result in a fire or an electrical shock.

Do not use flammable sprays inside or near the unit (e.g. when cleaning the unit).
Such flammable gas may ignite and cause a fire or combustion.

⚠ CAUTION

Do not install this unit in a location where there is excessive humidity or where contact with water is possible.
Poor choice of location could result in deterioration of the insulation, a fire or an electrical shock.

Install this unit on a level, stable stand or floor, with sufficient space around it.
Failure to do so could result in the unit overturning and causing injury.

Disconnect the power plug from the power outlet before attempting to move this unit.
Failure to do so could result in power cord damage, a fire or an electrical shock.

Always disconnect the power plug from the power outlet when the unit is not to be used for an extended period.
Failure to do so could result in a fire due to leakage current if the insulation should deteriorate.

Maintenance / others

⚠ WARNING

Do not damage the power cord or power plug.
Do not scratch, alter, bend, twist, pull or place heavy objects on the power cord or power plug.
This could result in damage, a fire or an electrical shock.

Do not touch the power switch with wet hands.
Otherwise electric hazards may occur.

Do not remove the cover or back panel.
This unit contains high-voltage components that could cause an electrical shock.

Do not disassemble, modify or repair this unit.
There is a danger of fire, electrical shock or injury.
Contact your dealer when repairs are necessary.

If any foreign object such as metal or liquid should enter this unit, immediately turn the unit off at the power switch and disconnect the power plug from the power outlet.
Failure to do so could result in a fire or an electrical shock.
Contact your dealer immediately.

Before cleaning this unit, turn the unit off at the power switch and disconnect the power plug from the power outlet.
Accidental operation of the unit during cleaning could result in injury.

If the unit emits smoke, unusual heat or unusual odors, immediately turn the unit off at the power switch and disconnect the power plug from the power outlet.
Failure to do so could result in a fire or an electrical shock.
Contact your dealer immediately.

Remove any dust that accumulates on the power plug prongs and the surface of the plug from which the prongs extend.
Accumulated dust could result in a fire.

Always grip the plug when disconnecting the power plug from the power outlet.
Forcibly pulling on the power cord could cause damage, resulting in a fire or an electrical shock.

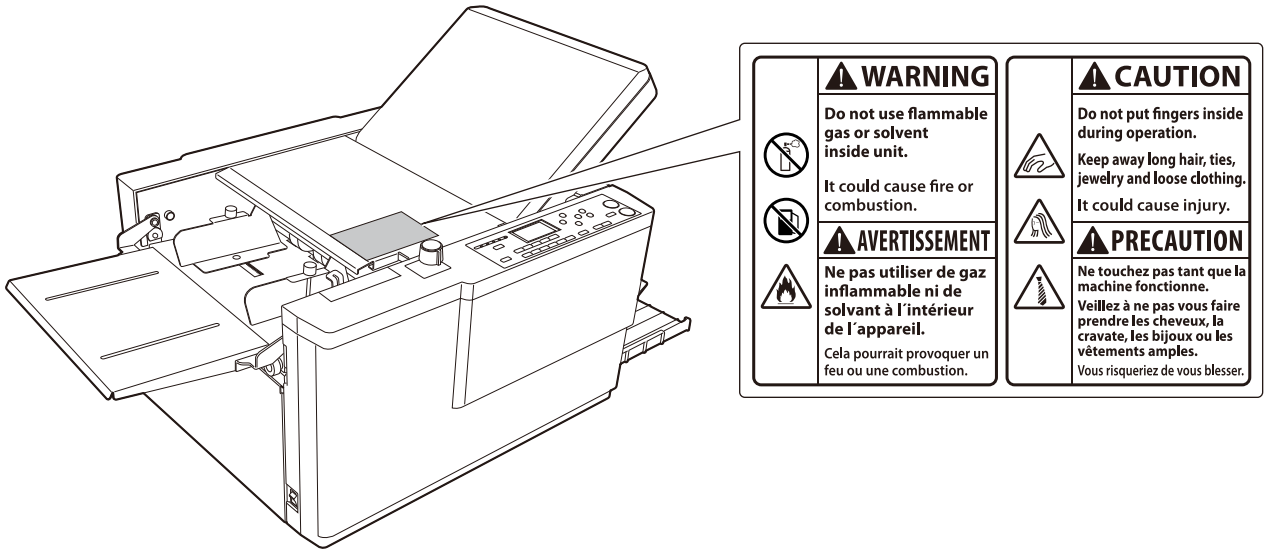
Do not touch or insert foreign objects into any rotating part during operation.
This could result in injury.

⚠ CAUTION

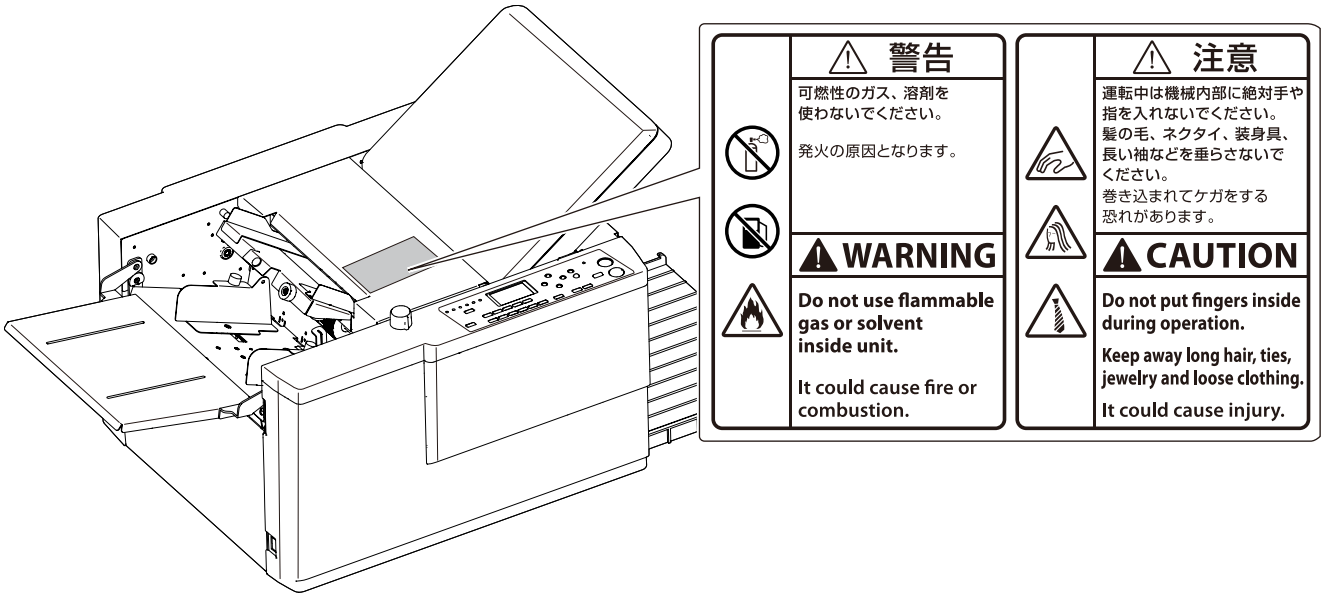
Because of its structure, there are tiny protruding objects inside the unit. Be careful when putting your hand inside the unit.
This could result in injury.

WARNING / CAUTION labels

"WARNING" and "CAUTION" labels are pasted on the machine to ensure user safety.
Do not remove or change them.
When the labels become dirty or are lost, be sure to contact your dealer for a new one.



When DF HAND FEED KIT (option) is attached:



Contents

Safety Precautions i

Power supply i
Operating environment ii
Maintenance / others iii
WARNING / CAUTION labels iv

Chapter 1
Before Operation

1. Features 1-1
2. Setting Up the Machine 1-1
2-1. Before installation 1-1
2-2. Accessories 1-2
2-3. Installation procedures 1-3
2-4. Connecting power cord 1-6
2-5. Checking Operations 1-6
3. Names and Functions of Components 1-7
3-1. External parts 1-7
3-2. Internal parts (Paper ejecting section) 1-8
3-3. Internal parts (Top cover section) 1-9
3-4. DF HAND FEED KIT (Option) 1-10
4. Names of Control Panel 1-11
5. Screen Descriptions 1-13
5-1. Top screen 1-13
5-2. Menu screen 1-14
5-3. Stopper adjust screen 1-16
5-4. Operation on the menu screen 1-16
5-5. Classification of buzzer sounds 1-17
6. Paper Types and Sizes 1-17
Paper that cannot be used with this machine 1-17
7. Handling Paper 1-18
7-1. Paper used 1-18
7-2. Precautions on stacking paper 1-18
8. Options 1-19
8-1. DF HAND FEED KIT (Only for EU) 1-19
8-2. DF GUIDE UNIT 1-19
8-3. DF CROSS FOLD UNIT (DF-970) 1-19
9. Workflow 1-20

Chapter 2
Basic Operation

1. Turning On/Off the Power 2-1
1-1. Turning on the power 2-1
1-2. Turning off the power 2-1
2. Stacking the Paper 2-2
2-1. Before stacking paper 2-2
2-2. Stacking paper 2-2
3. Standard Folding of Standard Paper 2-4
4. Storage of Machine 2-9

Chapter 3
Advanced Operation

1. Correcting Folding Misalignment 3-1
1-1. Adjustment the folding misalignment in the right and left direction 3-1
1-2. Adjustment the folding misalignment in the up and down direction 3-3
1-3. Deformed folding 3-6
2. Standard Folding of Non-Standard Paper 3-7
3. Custom Folding 3-8
3-1. Operation 3-9
3-2. Using the registered data 3-10
3-3. Locking the registered data 3-11
3-4. Clearing the registered data 3-11
3-5. Registering the folding value directly while processing 3-12
4. Cross Fold 3-12
4-1. Cross fold of standard paper 3-13
4-2. Cross fold of non-standard paper 3-19
4-3. Cross fold paper at the desired folding position 3-20
5. Using Special Paper 3-20
5-1. Art paper, coated paper 3-20
5-2. Rough paper, recycled paper 3-22
5-3. B7, A7, A6 size paper 3-22
6. Changing the Stacker Roller Height ... 3-23
7. Stacking the Folded Paper 3-23

8. Function Setting 3-24
8-1. Thick paper mode 3-24
8-2. Thin paper mode 3-24
8-3. Interval function (DF-980 only) 3-25
8-4. Double-feed detection setting (DF-980 only) 3-26
8-5. Stacker roller adjustment 3-28
8-6. Operation mode settings 3-30
8-7. Test feed setting 3-31
8-8. Power saving setting 3-32
8-9. Alarm setting 3-33
8-10. Detection OFF setting 3-34
8-11. Default setting 3-35
8-12. Idling setting 3-36
8-13. Tone setting 3-37
8-14. mm/inch setting 3-38

Chapter 4
Using Options

1. DF HAND FEED KIT 4-1
1-1. Applicable paper and folding mode 4-1
1-2. Staples 4-2
1-3. Placing the cross fold guide 4-4
1-4. Operation 4-4
1-5. Canceling the manual feed mode 4-7
1-6. Correcting folding misalignment 4-8
1-7. Manual feed timing setting 4-9

Chapter 5
Cleaning the Machine

1. Cleaning paper feed rings and folding rollers 5-1
2. Cleaning the LCD 5-2
3. Cleaning the sensor 5-3
4. Cleaning the paper separator 5-5

Chapter 6
Trouble Guide

1. Error Code 6-1
1-1. Warning error 6-1
1-2. Motor error 6-1
1-3. Paper jam error 6-2
1-4. Errors requiring a service call 6-2

2. Paper Jam 6-3
2-1. Paper feed ring 6-3
2-2. Folding roller 6-3
2-3. Folding plate 6-4
2-4. Ejecting section 6-5

3. Troubleshooting 6-6

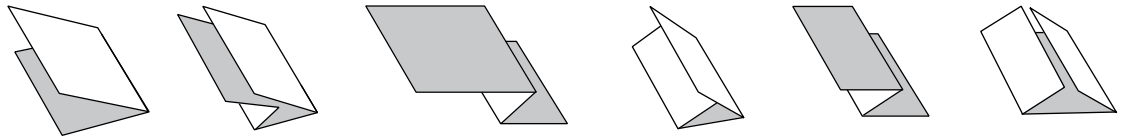
Chapter 7
Appendix

Specifications 7-1

Chapter 1 Before Operation

1. Features

- This machine is designed to fold paper into six popular folding modes.



Single fold | Double fold | Irregular accordion fold-out | Letter fold | Accordion-fold | Gate fold

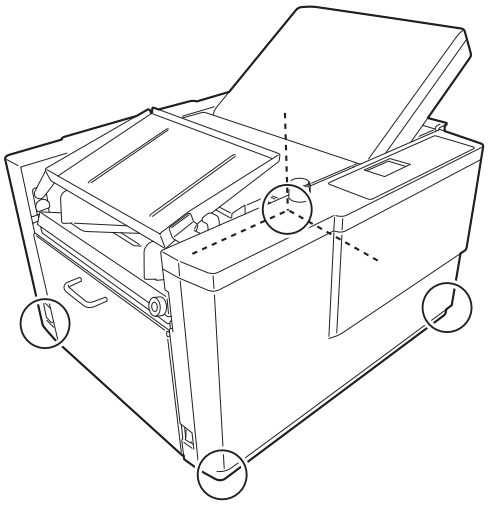
- Use the cross fold lever to fold single folded paper further into standard folding.
  * : To perform cross fold with the DF-970, the DF CROSS FOLD UNIT (option) is needed.

- Use the DF HAND FEED KIT (option) to bind and fold at maximum three sheets of paper simultaneously.

2. Setting Up the Machine

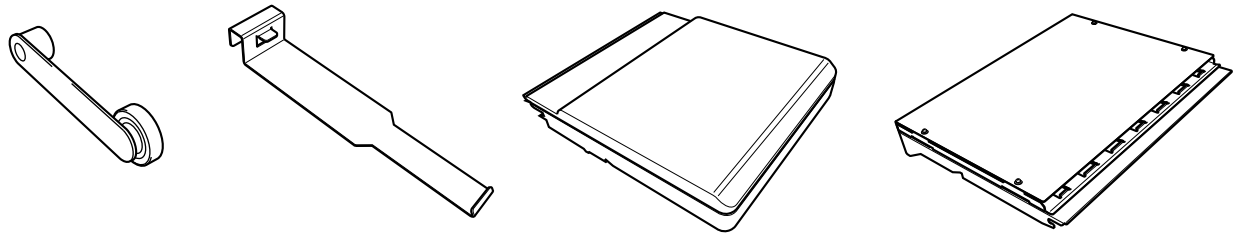
2-1. Before installation

- Do not fall down the folding plates. Make sure the folding plates are not subject to shock. Otherwise, the folding plates may damage, resulting in poor folding accuracy.
- The machine may make loud sounds while operating according to the processing speed and paper used due to its paper-folding mechanism.
- Be sure to move this machine with the bottom surface of this machine held by two persons.

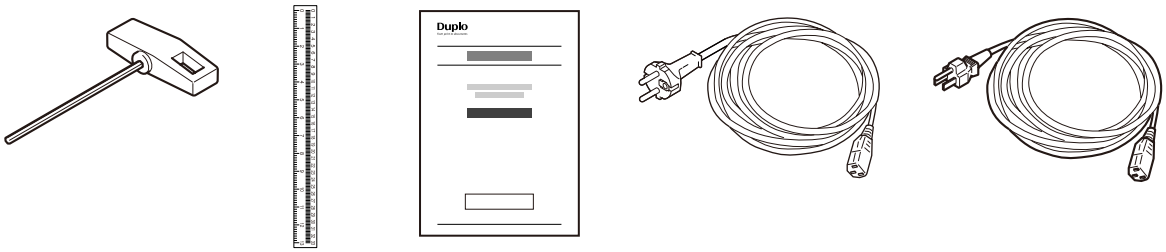


2-2. Accessories

[1] [2] [3] [4]



[5] [6] [7] [8] [9]

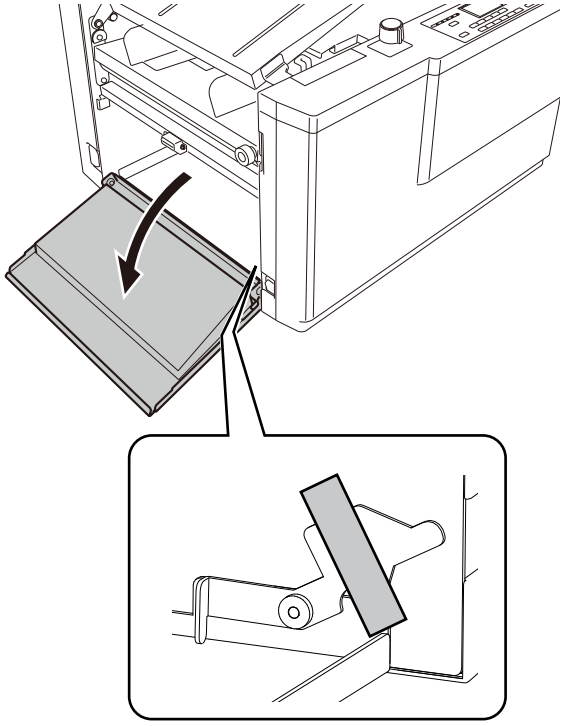


No.	Name	QTY		Function
		DF-980	DF-970	
[1]	Cross fold lever	1	(*1)	For holding down the folded paper when cross fold.
[2]	Auxiliary paper ejection guide	1	1	Attached to the stacker roller at the ejecting section.
[3]	Folding plate 1	1	1	Attached to the upper right section on the operating side.
[4]	Folding plate 2	1	1	Attached to the bottom left section on the operating side.
[5]	T-handle hexagonal wrench	1	(*1)	Used when moving the auxiliary paper feed ring. Do not use the T-handle hexagonal wrench for a purpose other than handling the auxiliary paper feed ring as instructed in this manual.
[6]	Scale label	1	1	Used to measure non-standard size paper. Attach the scale.
[7]	Instruction manual	1	1	This manual
[8]	Power cord	1	1	Applicable for 220 to 240 V
[9]	Power cord	1	1	Applicable for 120 V

(*1) Provided as an option for the DF-970.

2-3. Installation procedures

1 **Open the side cover.**

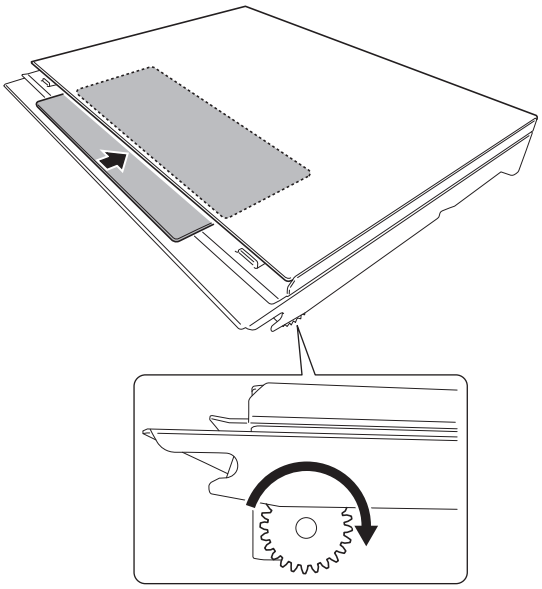


2 **Remove the tape fixing the interlock lever.**

Note **Be sure to remove the tape fixing the interlock lever. The interlock does not function when using the machine without removing the tape.**

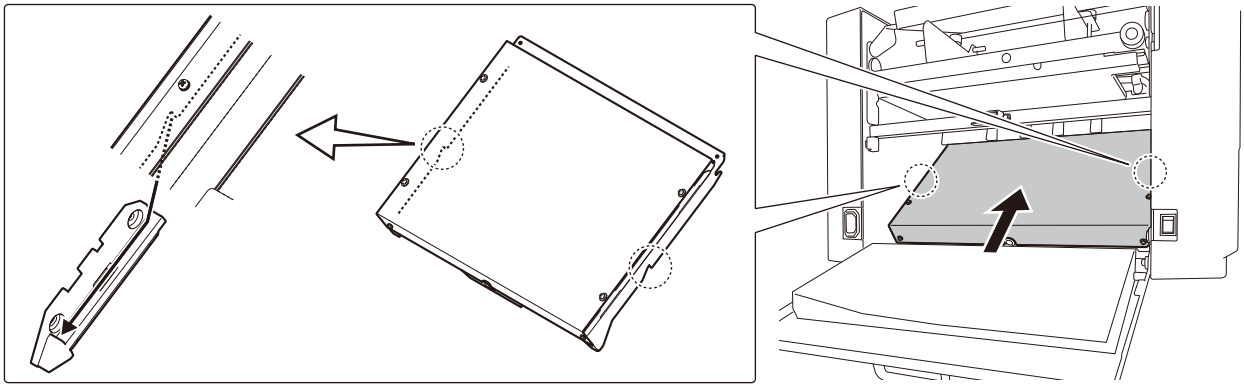
3 **Check that the folding stopper does not protrude from the cover on the paper feeding side of the folding plate 2.**

When attaching the folding stopper to this machine with the folding stopper protruding from the cover, the folding stopper will touch inside the machine. If so, rotate the gear in the direction of an arrow to move the folding stopper to the inner section of the cover.



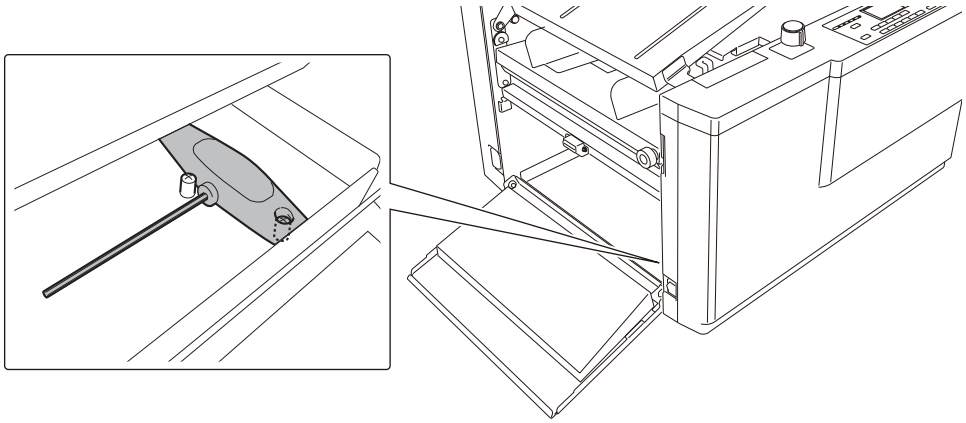
Note **Do not hold the belt section of the folding plate 2. Doing so will result in malfunction of the machine.**

4 **Insert the folding plate 2 into the main body of the machine along with the set guide.**



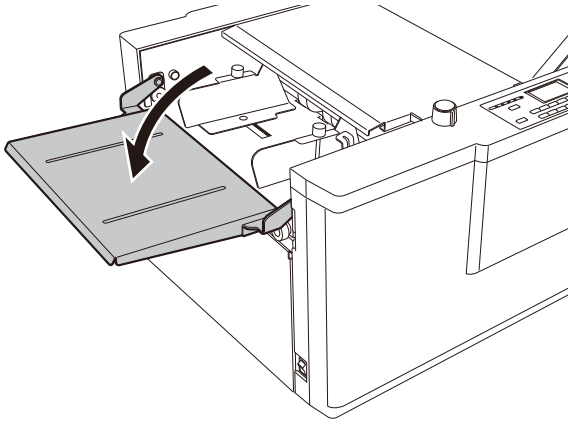
Note **Attach the folding plate 2 holding with both hands.**

5 **Store the T-shape hexagonal wrench, accessory part, at the position inside the machine as shown in the figure.**

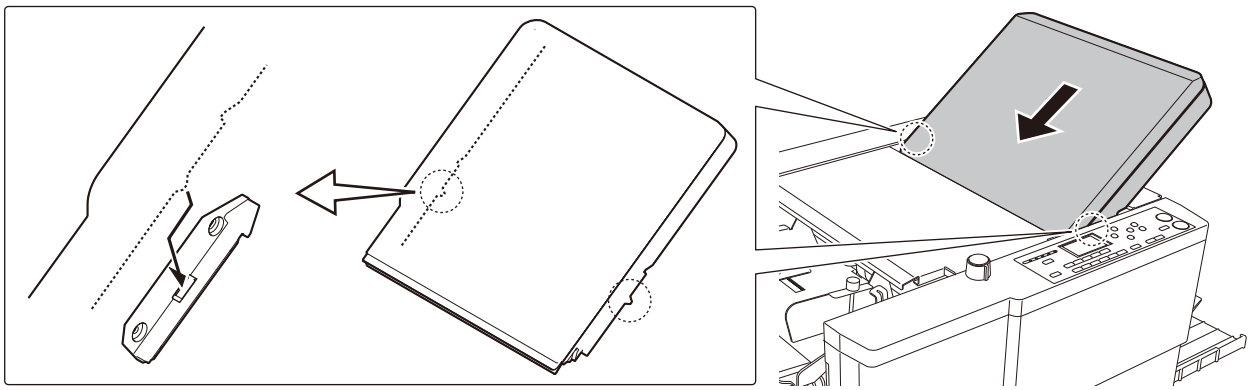


6 **Close the side cover.**

7 **Open the support paper feed tray to the left side from the operator's view point.**



8 Insert the folding plate 1 into the main body of the machine along with the set guide.



Attach the folding plate 1 holding with both hands.

Check that the gear on the reverse side of the folding plate 1 rotates in the front-back direction, if it is not easy to attach the folding plate 1.

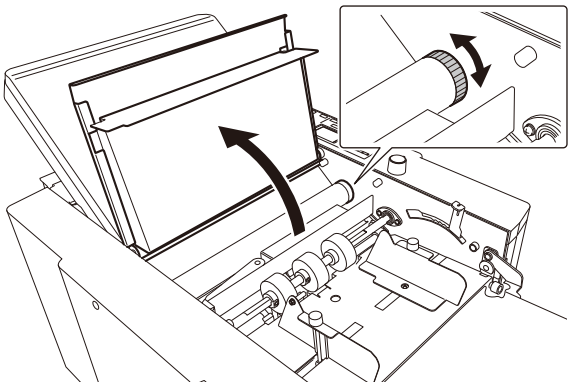
Attach the folding plate 1 to this machine after rotating the gear by 360 degree in a rotating direction, when it does not rotate either in the front direction or in the back direction.

9 Open the top cover.

⚠WARNING

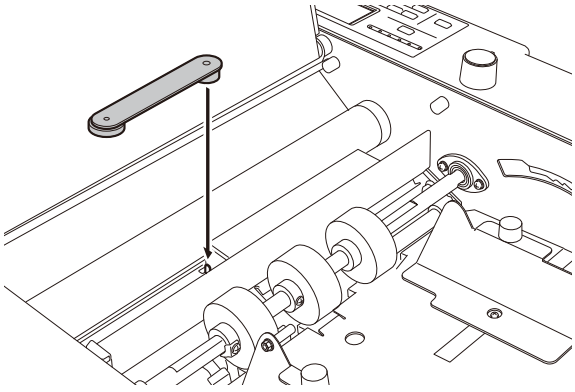
Open or close the top cover gently.

Hands or fingers may be caught in the cover section. Doing so may result in injury.



10 Rotate the jam correction handle to check that the folding roller rotates smoothly.

11 Place the cross fold lever as shown in the figure. (Provided as an option for the DF-970.)

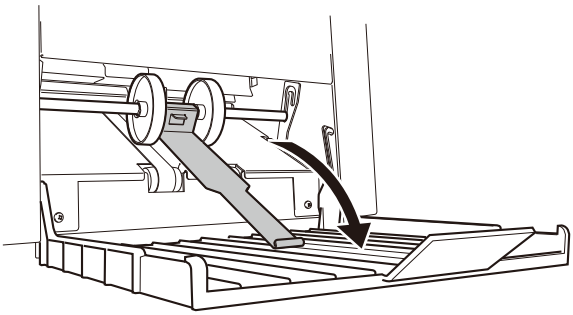


Be sure to store the cross fold lever at the specified place and in the specified direction. By moving during operation of this machine the folding roller may be damaged, resulting in malfunction.

12 Close the top cover.

13 **Open the paper receiving tray to the right side seen on the operating side.**

14 **Attach the auxiliary paper ejection guide to the stacker roller.**

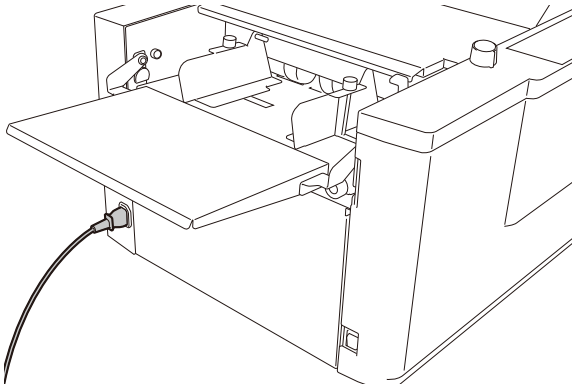


2-4. Connecting power cord

1 **Install the power cord to the machine.**

> **⚠WARNING**
>
> **Do not touch the power plug with wet hands.**
> Otherwise electric hazards may occur.

2 **Connect the power plug to the outlet.**



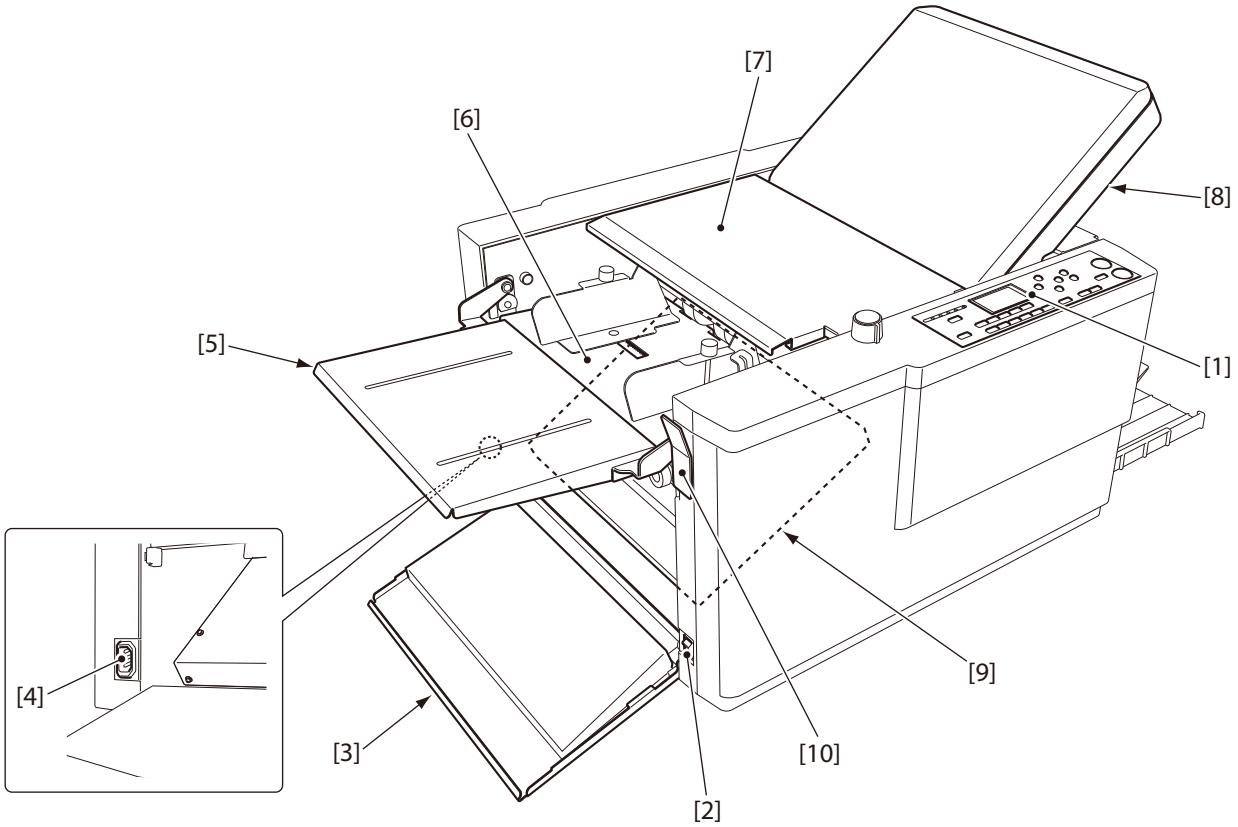
2-5. Checking Operations

- Use the paper to be used actually when checking operations.
- The folding position may be subtly different when using the machine with the settings at the shipment unchanged under the influence of the thickness and stiffness of paper to be used. The folding position may also be subtly different as the characteristics of paper may vary depending on the purchase season even if the paper of the same size is purchased.

Ref. For checking operations, refer to “Chapter 2 Basic Operation” (p.2-1).

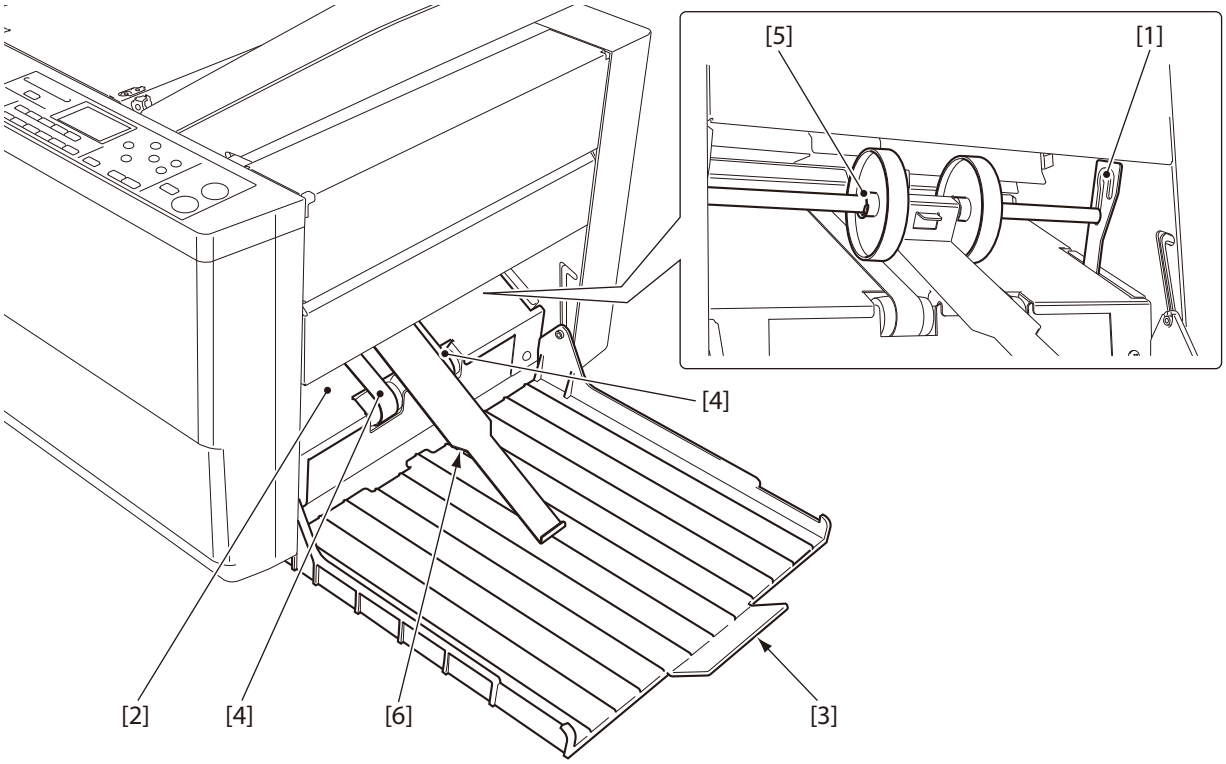
3. Names and Functions of Components

3-1. External parts



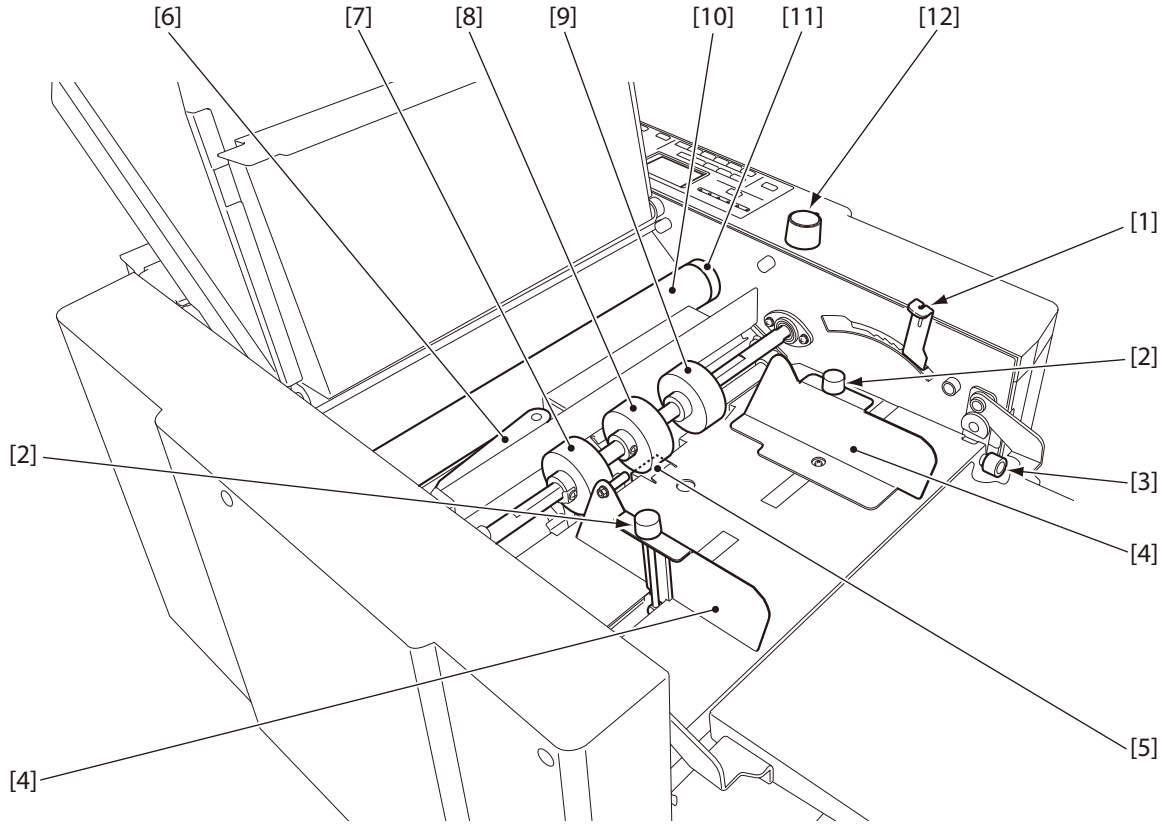
No.	Name	Function
[1]	Control panel	Use this panel to enter information to operate the machine.
[2]	Power switch	Refer to Chapter 2 "1. Turning On/Off the Power" (p.2-1)
[3]	Side cover	Safety cover to prevent the user from touching the moving parts.
[4]	Power inlet	Connector for the power cord.
[5]	Support paper feed tray	For ensuring paper are stacked on the paper feed tray properly.
[6]	Paper feed tray	For stacking the paper to be folded.
[7]	Top cover	Safety cover to prevent the user from touching the moving parts. The top cover keeps hands or fingers from being caught and injured by braking the opening or closing motion.
[8]	Folding plate 1	Guide plate for deciding the paper folding position.
[9]	Folding plate 2	
[10]	Paper set lever (DF-970 only)	This lever is used to move the paper feed tray up and down when stacking paper.

3-2. Internal parts (Paper ejecting section)



No.	Name	Function
[1]	Stacker lever	This is the lever that supports the stacker roller. The height of the roller can be adjusted.
[2]	Ejecting section	For receiving folded paper ejected out.
[3]	Paper receiving tray	For stacking ejected paper.
[4]	Stacker belt	For ejecting folded paper.
[5]	Stacker roller	It holds down the ejected paper and supports conveyance of paper.
[6]	Auxiliary paper ejection guide	Used to hold the ejected paper.

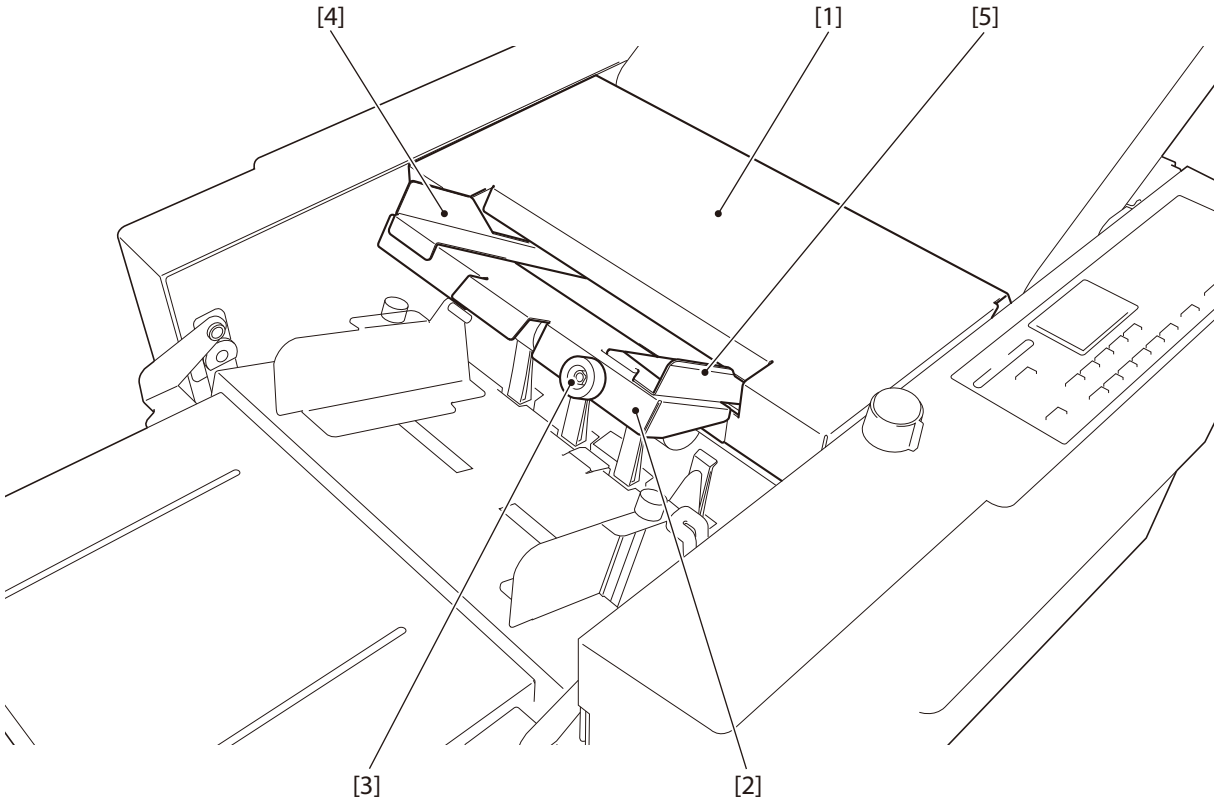
3-3. Internal parts (Top cover section)



No.	Name	Function
[1]	Feeding pressure adjustment lever	For adjustment the paper feed pressure.
[2]	Guide fixing screw	For securing the paper feed guide.
[3]	Skew correction knob	For correcting skewed paper feed.
[4]	Paper feed guide	For holding paper stacked on the paper feed tray firmly.
[5]	Paper separator	Located underneath the paper feed ring, and prevents double-feed (feeding of multiple sheets of paper at a time).
[6]	Cross fold lever (*)	For holding down the folded paper when cross fold.
[7]	Auxiliary paper feed ring (movable)	Functions in the same way as the auxiliary paper feed ring. The position can be adjusted in accordance with paper size in cross fold. (Fixed on the DF-970. The position can be changed according to the dimensions of paper by using an optional item.)
[8]	Paper feed ring	The main paper feed ring. Ensures smooth feeding of paper in combination with the paper separator.
[9]	Auxiliary paper feed ring	For holding down curled paper for reliable paper feed.
[10]	Folding roller	These rollers are used to fold paper. This machine is equipped with four rollers to make six types of folding.
[11]	Jam correction knob	For rotating the folding rollers when paper has jammed inside the machine or when cleaning the machine.
[12]	Separating pressure adjustment dial	For adjustment the paper separating pressure.

(*) :Provided as an option for the DF-970.

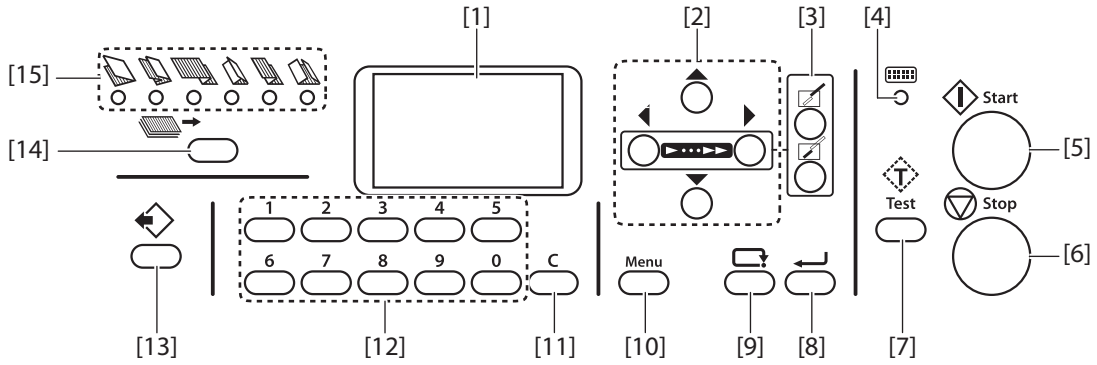
3-4. DF HAND FEED KIT (Option)



No.	Name	Function
[1]	Manual feed top cover	Safety cover to prevent the user from touching the moving parts. The top cover keeps hands or fingers from being caught and injured by braking the opening or closing motion.
[2]	Manual feeding tray	Stack paper to be fed manually and folded.
[3]	Manual skew correction knob	For correcting skewed paper feed.
[4]	Auxiliary feed guide	Subordinately guides sheets so that the paper will be fed properly. (magnet type).
[5]	Manual feed guide	Guides sheets so that the paper will be fed properly.

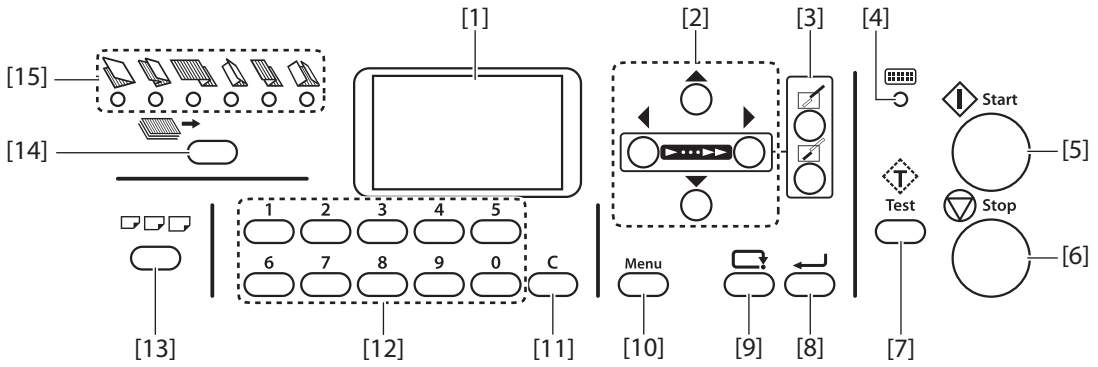
4. Names of Control Panel

DF-980



No.	Name	Function
[1]	LCD display	Displays the menus or error messages.
[2]	▲▼◀▶ key	Used to change a value. On the top screen, use ◀▶ keys to change processing speed.
[3]	(Stopper adjustment) key	Press to open Stopper adjustment window of folding plates 1 and 2.
[4]	Lamp	When the machine is in the power saving mode, the lamp blinks slowly. When a message requiring service personnel is displayed, the lamp blinks faster.
[5]	Start key	Press to start paper folding.
[6]	Stop key	Press to stop paper folding.
[7]	Test key	Press to test fold two sheets of paper. Paper thickness can be stored by test folding while double-feed detection is [ON].
[8]	(Enter) key	Press to enter the settings. Stopper adjustments can be stored by holding down this key on the top screen.
[9]	(Cancel) key	Use to cancel setting data. Forces eject while cancel key and test key are pressed down at the same time. Forces eject at folding plates while cancel key and clear key are pressed down at the same time.
[10]	Menu key	Press to display the setting menu window.
[11]	C (Clear) key	Press to cancel the number of sheets to be processed, selected items or settings.
[12]	Keypad	Use to input numeral value.
[13]	(Custom folding) key	Press to select the registered settings of custom folding.
[14]	(Folding mode) key	Press to select the folding mode from six standard folding modes. When the machine is switched on, the single folding mode lamp will light up. Lighting up will shift to the right every time the key is pressed. Single folding mode will be performed when custom folding is selected.
[15]	Standard folding lamp	Of the six standard folding modes, the lamp of the one selected will light up. All the lamps will go out when the custom folding mode is selected.

DF-970

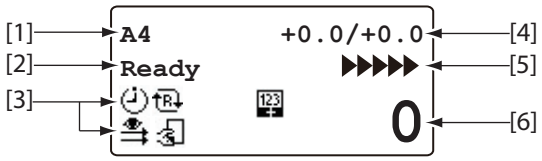


No.	Name	Function
[1]	LCD display	Displays the menus or error messages.
[2]	▲▼◀▶ key	Used to change a value. On the top screen, use ◀▶ keys to change processing speed.
[3]	(Stopper adjustment) key	Press to open Stopper adjustment window of folding plates 1 and 2.
[4]	Lamp	When the machine is in the power saving mode, the lamp blinks slowly. When a message requiring service personnel is displayed, the lamp blinks faster.
[5]	Start key	Press to start paper folding.
[6]	Stop key	Press to stop paper folding.
[7]	Test key	Press to test fold two sheets of paper.
[8]	(Enter) key	Press to enter the settings. Stopper adjustments can be stored by holding down this key on the top screen.
[9]	(Cancel) key	Use to cancel setting data. Forces eject while cancel key and test key are pressed down at the same time. Forces eject at folding plates while cancel key and clear key are pressed down at the same time.
[10]	Menu key	Press to display the setting menu window.
[11]	C(Clear) key	Press to cancel the number of sheets to be processed, selected items or settings.
[12]	Keypad	Use to input numeral value.
[13]	(Paper size select) key	Press to select one of six standard paper sizes.(five standard paper sizes For North America)
[14]	(Folding mode) key	Press to select the folding mode from six standard folding modes. When the machine is switched on, the single folding mode lamp will light up. Lighting up will shift to the right every time the key is pressed. Single folding mode will be performed when custom folding is selected.
[15]	Standard folding lamp	Of the six standard folding modes, the lamp of the one selected will light up. All the lamps will go out when the custom folding mode is selected.

5. Screen Descriptions

5-1. Top screen

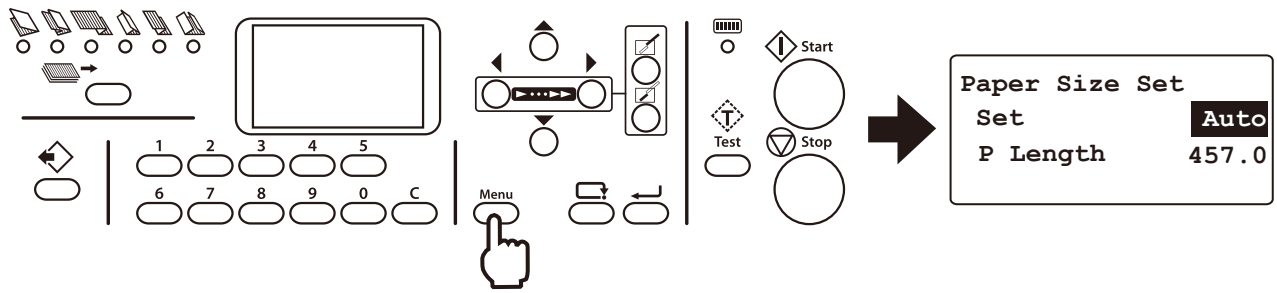
The top screen is a screen displayed first when you turn on the power.



No.	Information displayed		Details	
			DF-980	DF-970
[1]	Paper size		Displays the detected paper size. [A3][A4][A5][B4][B5][B6]/[LGR][LGL][LTR][INV][STMT] The following will be displayed when custom folding is set.(*: memory number) [IR *] Set values are displayed when paper size is manually set. If paper size is not displayed, the paper size is not detected and folding cannot be started.	Displays the selected paper size. [A3][A4][A5][B4][B5][B6]/[LGR][LGL][LTR][INV][STMT] The following will be displayed when custom folding is set.(*: memory number) [IR *] Set values are displayed when non-standard paper is set.
[2]	Machine status		Displays the current status of the machine.	
[3]	Special function setting display		Displays the settings of each special function.	
			Double-feed detection is set. (State where the test folding is not performed)	
			Double-feed detection is set. (State where the test folding is performed)	
			Double-feed detection is set. (Double-feed detection is not performed because the paper length is 250 mm/9.84 inches or less.)	
			Interval function is set.	
			The refold mode is set.	
			Hand feed is set (option).	
			The stopper fixation mode is set.	
			Counting up.	
			Counting down.	
[4]	Stopper correction		Displays the adjustments of the folding plates 1 and 2. The stopper position will be displayed when custom folding is set.	
[5]	Process Speed		The processing speed which is set is displayed with an icon.	
[6]	Number of processed sheets		Displays the number of processed sheets.	

5-2. Menu screen

The menu will be displayed if the menu key is pressed while the top screen is displayed.
Press the menu key to change setting windows.
The function screen can be switched with the ▲ key or ▼ key.
Determine the selected item with the ↵ key.



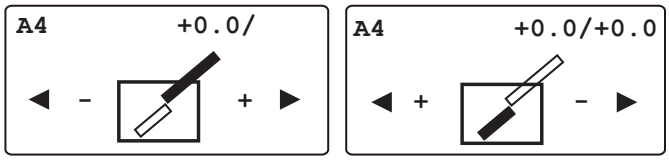
The following menu items are provided with this machine.

Item		Details	
		DF-980	DF-970
Paper Size Set	Set	[Auto][Man]	
		Sets automatic detection of paper size or manual input of paper size.	Selects paper size automatically among standard paper sizes or inputs paper size manually.
	Paper Legnth	* : Settings (105 to 457.2 mm/4.13 to 18 inches)	
Registration for irregular folding	Paper Legnth	* : Settings (105 to 457.2 mm/4.13 to 18 inches)	
	Fold1	* : Settings (42.0 to 357.2 mm/1.65 to 14.06 inches) Adjusts the stopper position of the folding plate 1. There is a limit to the settings according to the length of paper used.	
	Fold2	* : Settings (47.0 to 217.0 mm/1.85 to 8.54 inches) Adjusts the stopper position of the folding plate 2. There is a limit to the settings according to the length of paper used and the position of folding plate 1 stopper.	
Interval Setting	Set	[ON][OFF] Select ON to use interval function.	
	The Number of Seconds	[3][5][10] Sets the number of seconds to be interrupted during folding operation.	
	The Number of Sheets	* : Settings (1 to 999) Sets the number of sheets to be suspended during folding operation.	
Double-feed Detection Setting	Set	[ON][OFF] Select ON to detect double-feed.	
	Thickness	[Thin][Thick] Select the thickness of paper for which double-feed is detected.	

Item			Details	
			DF-980	DF-970
Manual Feed (Only for EU)	Set		[ON][OFF] Select ON when feeding paper manually. Displayed when the DF HAND FEED KIT (option) is set.	
	Size		[A4][B5] Select the size of paper to feed manually.	
Other Setting	Stacker Roller Adjustment		* : Settings (0 to 16) Adjusts the position of the stacker roller.	
	Operation Mode Settings		[Normal] **(p.3-30)**	
			[Stopper Fixed] Start up in the same conditions at all times.	
			[Last Fold] Start up the machine with the same settings as the last time it was used.	
	Test Feed Set		* : Settings (1 to 3) Sets the number of sheets to perform test feeding.	
	Power Save Set	Set	[ON][OFF] Sets the power saving mode to ON or OFF.	
		Time	* : Settings (15 to 60) Sec	
	Alarm Setting	Set	[ON][OFF] Set to the alarm (buzzer sound) setting when leaving the machine unused.	
		Time	* : Settings (5 to 120) Min	
	Detection Off Setting	Paper	[ON][OFF] Sets the detection of paper stacked.	
	Default setting	Speed	* : Settings (0 to 6) Sets the value to be used when the power is turned on. Set to [0] for folding thin paper mode, and [6] for the thick paper mode.	
		Size		[A3][A4][A5][B4][B5][B6]/ [LGR][LGL][LTR][INV][STMT]
		Double-feed	[ON][OFF]	
	Idling		[ON][OFF] Set to the idling setting depending on whether to use at the time of occurrence of mis-feed or double-feed.	
	Tone		[ON][OFF] Sets the buzzer to ON or OFF.	
	mm/inch Setting		[mm][inch] Sets the machine to be displayed to [mm] or [inch].	
	Manual Feed Timing		[Slow][Normal][Fast] Sets the time from insertion of paper into the hand feed inlet to starting of folding operation. Displayed when the DF HAND FEED KIT (option) is set.	

5-3. Stopper adjust screen

[A] [B]

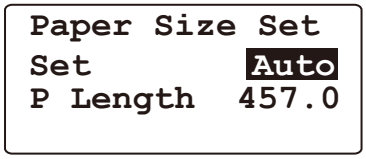


Screen	Item	Display	Details
[A]	Folding plate 1 stopper correction	**	* : Settings (-5.0 to 5.0/-0.20 to 0.20)
[B]	Folding plate 2 stopper correction		

5-4. Operation on the menu screen

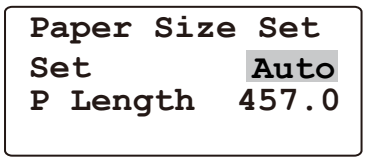
The basic operation on the menu screen is as follows. Here how to open [Paper size setting] window is explained as an example.

1 **Press Menu while the top screen is displayed.**
A setting window will be displayed.

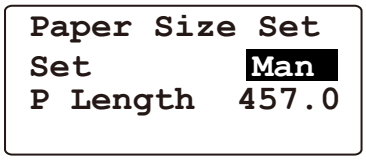


2 **Press the ▲ key or ▼ key to select [setting].**

3 **Press the ↵ key.**
The item can be changed.

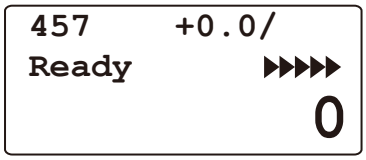


4 **Press the ◀ key or ▶ key to select [setting].**



5 **Press the ↵ key.**
The selected details are set.

6 **Press the ⮌ key.**
Returns to the top screen.



5-5. Classification of buzzer sounds

In this machine the buzzer sounds in confirmation when setting on the control panel or paper runs out on the paper feed tray. Classification of the sounds is as follows.

"pi" : Operational sound at the time of normal key operation
"pipi" : Warning alarm at the time of mis-operation, mis-feed of paper, or paper empty
"pii" : At the start of folding operation or end of normal folding operation
In confirmation of change of various settings
"piipii" : At the occurrence of an error such as paper jam
"piipiipii" : At the occurrence of an error to be asked for Duplo dealer's assistance

6. Paper Types and Sizes

Paper type

Fine quality paper : 52.3 to 157 g/m^2 /14 to 40 lb
Rough paper, Stencil paper, Recycle paper, Specific art paper, Specific coated paper

Paper size

Standard Paper (The standard paper can be used only when it is stacked in the machine direction.)

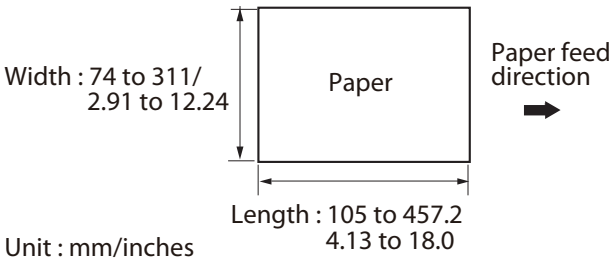
Paper size	L × W (mm)	Paper size	L × W (mm)	Paper size	L × W (inches)
A3	420 x 297	B4	364 x 257	LGR	17 x 11
A4	297 x 210	B5	257 x 182	LGL	14.0 x 8.5
A5	210 x 148	B6	182 x 128	LTR	11.0 x 8.5
				INV	8.5 x 7
				STMT	8.5 x 5.5

Non-standard paper

Width : 74 to 311 mm/2.91 to 12.24 inches
Length : 105 to 457.2 mm/4.13 to 18.0 inches
* The aspect ratio for non-standard paper is 1:1 to 2.2:1.

Some limitations in setting and paper quality may be applied depending on paper size.

The A6, A7, or B7 paper can be used as non-standard paper.



Paper that cannot be used with this machine

- Paper out of specifications
- Curled paper
- Wavy paper

7. Handling Paper

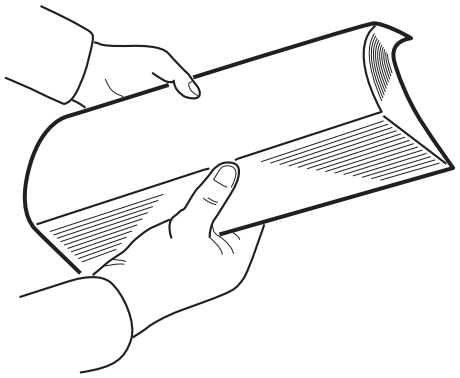
7-1. Paper used

- Make sure that the printing ink on the paper has dried completely prior to use.

Note

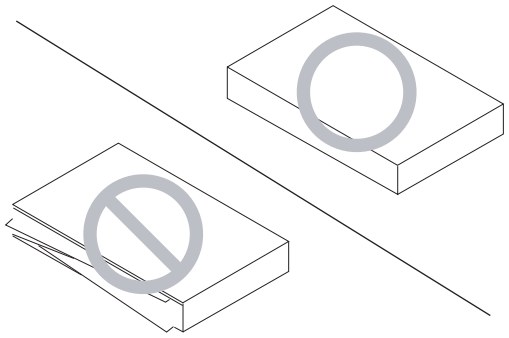
- **Wet ink or ink that is not completely dried may stain the folding roller causing trouble such as smearing on paper.**
- **Use of paper printed with special types of ink may cause the folding roller to swell or deform, and folding misalignment may occur.**

- Paper may not be fed smoothly into the folding plate or deformed folding may occur depending on different environmental factors (temperature, humidity), paper ream weight, paper type, paper grain direction if curled paper is used. Make sure to flatten curled paper or paper with folded lines before use.
- Separate the sheets of paper well before stacking them.



7-2. Precautions on stacking paper

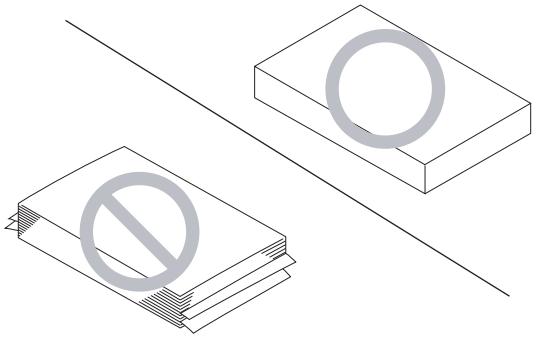
- Do not stack the sheets of paper on the paper feed tray with the sides of sheets unaligned or some sheets protruding from the stack.
- This machine has an automatic standard paper size detection function. It automatically detects paper size at the paper feed guides. Therefore, if paper is protruding out from the left or right side, it is unable to detect paper size accurately and may determine standard paper as non-standard. (DF-980)



Note

Processing with sheets unaligned on the right or left side may cause such trouble as folding misalignment and jamming.

- Do not stack paper on the paper feed tray with the lead and trail edges unaligned or some sheets protruding out.



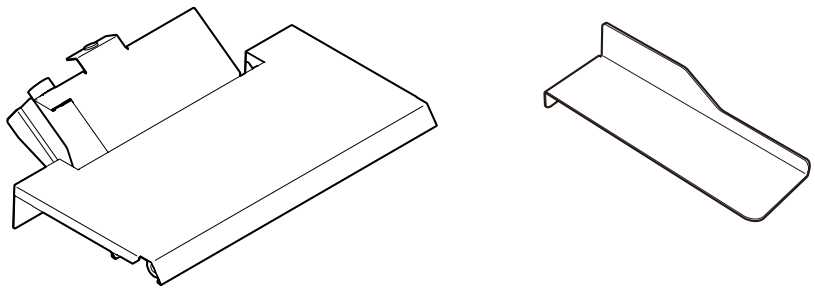
Note

Processing with sheets unaligned on the lead and trail edges may lead to unstable feed causing such trouble as miss-feed and double-feed.

8. Options

8-1. DF HAND FEED KIT (Only for EU)

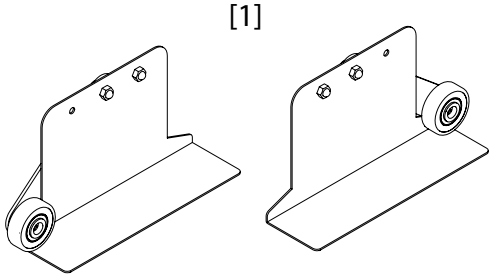
[1] [2]



No.	Name	Function
[1]	Hand feed tray	Insertion inlet for feeding paper manually to fold.
[2]	Auxiliary feed guide	Subordinately guides sheets so that the may be fed properly.

8-2. DF GUIDE UNIT

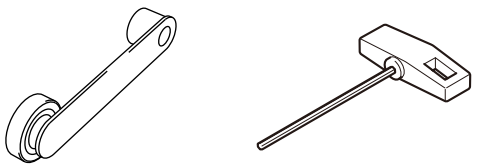
[1]



No.	Name	Function
[1]	Auxiliary paper feed guide	For holding down the edges of large sheets of paper

8-3. DF CROSS FOLD UNIT (DF-970)

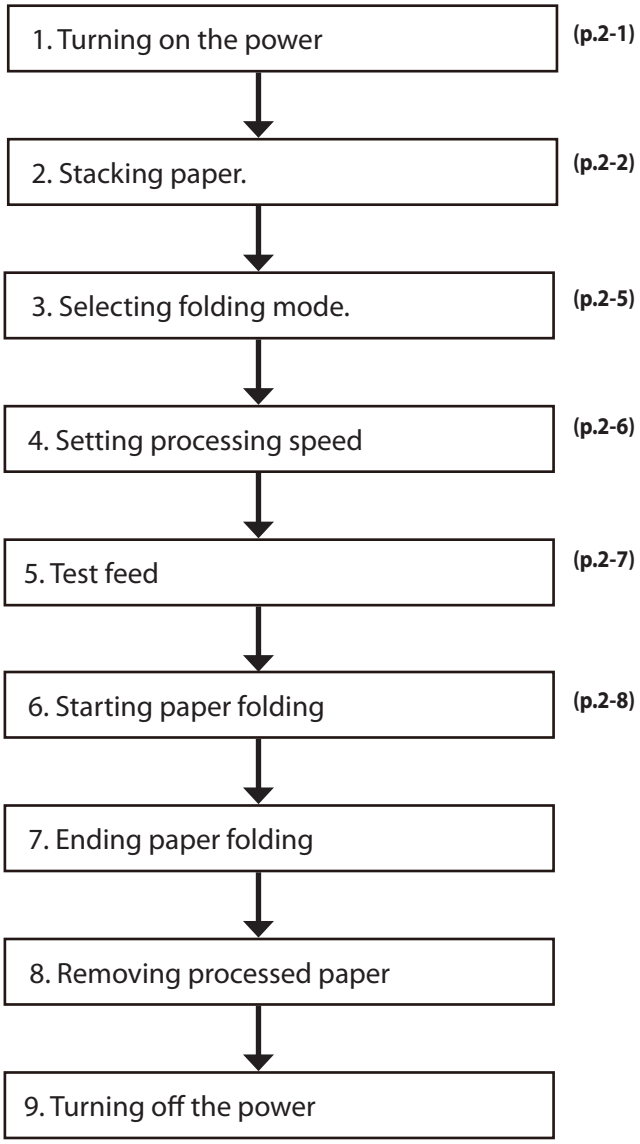
[1] [2]



No.	Name	Function
[1]	Cross fold lever	For holding down the folded paper when cross fold.
[2]	T-handle hexagonal wrench	Used when moving the auxiliary paper feed ring. Do not use the T-handle hexagonal wrench for a purpose other than handling the auxiliary paper feed ring as instructed in this manual.

9. Workflow

The flowchart below illustrates the flow of basic operation. For details, refer to the text and relevant pages.



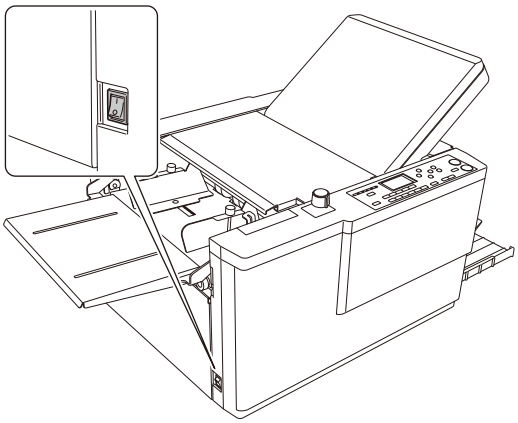
Chapter 2 Basic Operation

1. Turning On/Off the Power

Make sure that the power plug is connected to the wall socket.

1-1. Turning on the power

Set the power switch to the " I " side.



⚠WARNING

Do not touch the power switch with wet hands.
Otherwise electric hazards may occur.

1-2. Turning off the power

Set the power switch to the " ○ " side.

2. Stacking the Paper

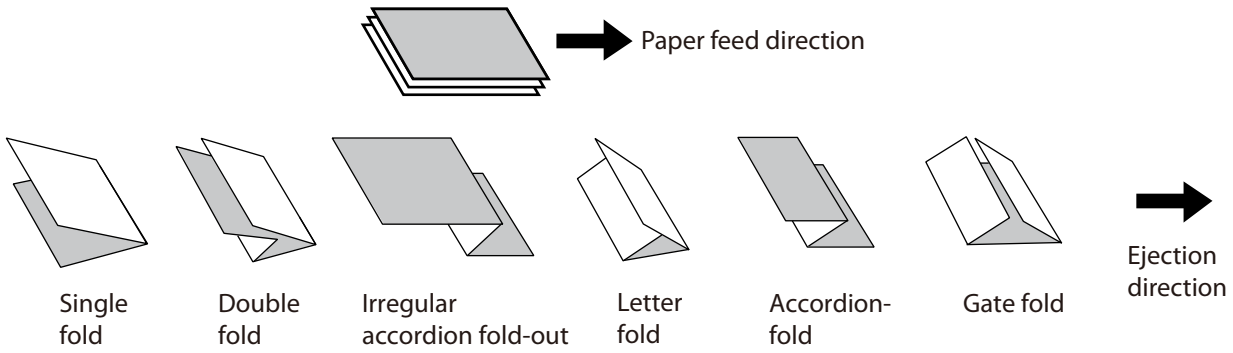
2-1. Before stacking paper

Checking the front/back,top/end of paper

Check the "front/back" and "top/end" of paper when stacking paper on the paper feed tray.

Check for folding misalignment, and check "front/back" and "top/end" of paper when checking the finished fold after test folding.

When paper is stacked with the gray surface on the obverse side and white surface on the reverse side on the paper feed tray, and processing is completed in the standard folding mode, the folded paper is as shown in the figure.



2-2. Stacking paper

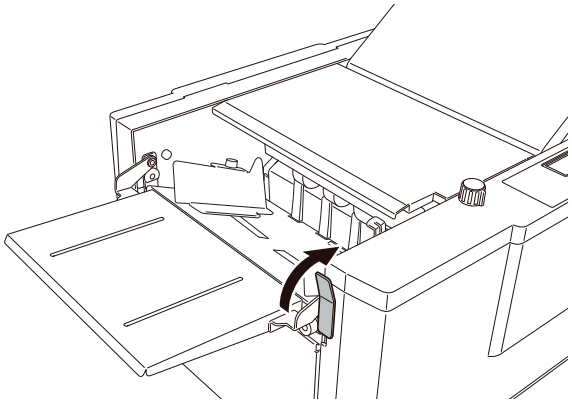
⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

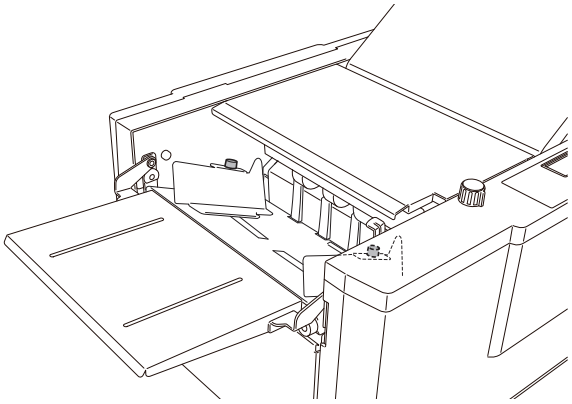
Steps 1 and 6 are not necessary with DF-980. Move on to steps 2 to 5.

1 **Raise the paper set lever.**

The paper feed stand will come down to the paper stacking position when the paper set lever is raised.



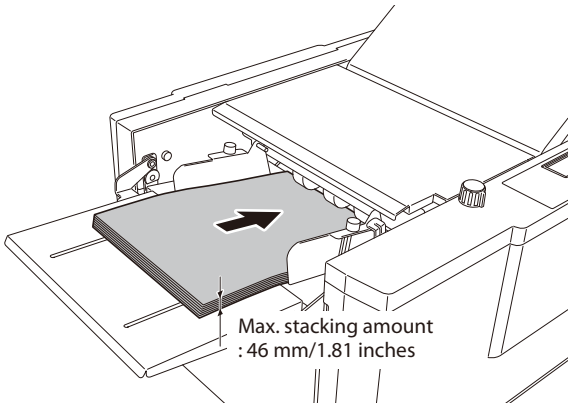
2 Loosen the guide fixing screw.



3 Stack paper on the paper feed tray.

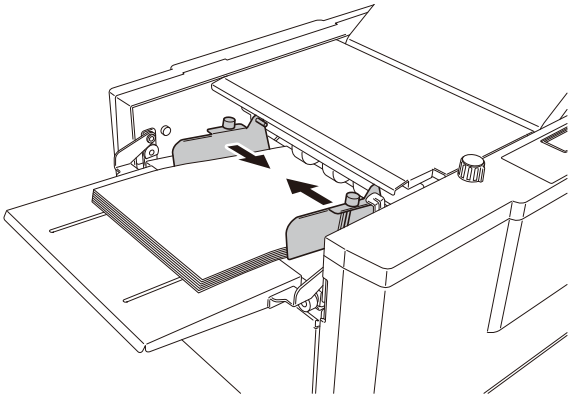
Push in the paper until the lead edge touches the paper feed inlet lightly.

Memo Maximum paper stacking height: 46 mm/1.81 inches.



4 Adjust the paper feed guide to match the paper size.

Set the paper feed guide in such a way that it touches the paper lightly.



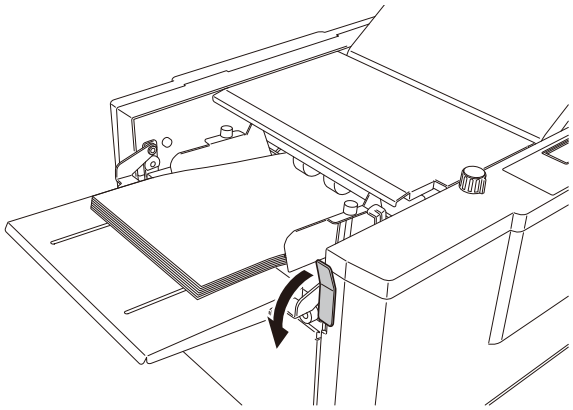
Note
- **Do not press the paper with the paper feed guides too strongly. Otherwise, paper feed errors such as mis-feed will occur.**
- **If the guides are positioned incorrectly, the automatic paper size detection function will not work, and the test key and start key,etc. will not operate. (DF-980)**

5 Tighten the guide fixing screws.

Note **Make sure to tighten the guide fixing screws on both right and left sides. If the screws are not fixed, the paper feed guide moves during operation, and folding misalignment may occur in the right and left direction.**

6 **Lower the paper set lever.**

The paper feed stand will go up to the paper feeding position when the paper set lever is lowered.



Note **[Tray Error] is displayed on the LCD display, and paper folding operation will not start even when the test key or the start key is pressed if the paper feed tray is not at the paper feeding position. (DF-970)**

Automatic rise/descent of the paper feed tray (DF-980)

When paper is stacked on the paper feed tray, the paper feed guides are set, and the start or test key is pressed, the paper feed tray rises automatically.

Note **When using large or heavy paper, the paper feed tray may become over stacked and may not be able to rise due to paper weight. In such cases, stack less paper.**

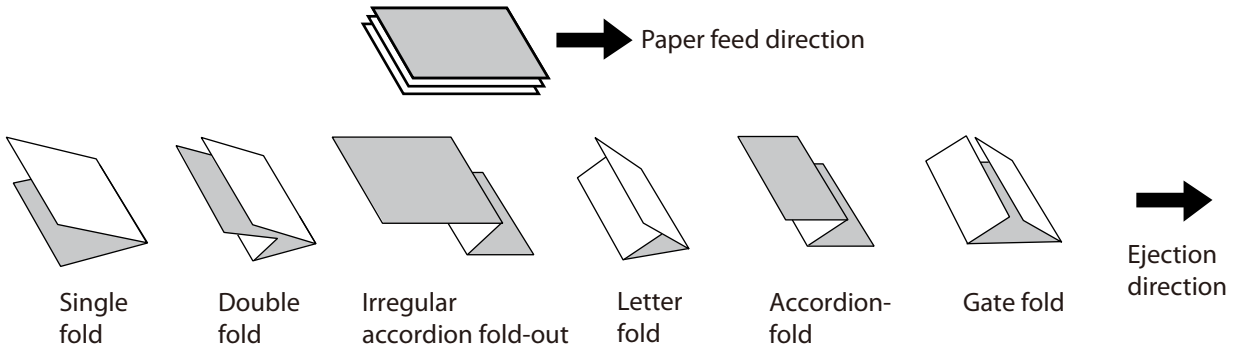
- The paper feed tray descends automatically when paper is removed from the paper feed tray. It will also descends automatically when paper runs out on the paper feed tray during a folding operation.
- When the [Detect OFF] is set to [OFF], the stacked paper is not detected and the paper feed tray does not lower automatically when the paper runs out. **(p.3-34)**

3. Standard Folding of Standard Paper

Method to fold standard paper by setting a mode among standard folding modes displayed on the control panel.

Ref. For the standard paper sizes, refer to Chapter 1 “6. Paper Types and Sizes” (p.1-17).

Six standard folding modes are available as shown below.



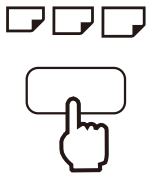
Depending on the thickness of paper, this machine may not be able to process some standard sheets of paper.

⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

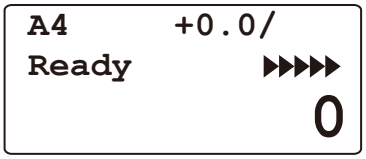
When using a DF-980, start folding operations from the step 2.
When using a DF-970, start with the steps 1, and move on to the step 3.

1 Select the size of standard paper used with paper size select key.



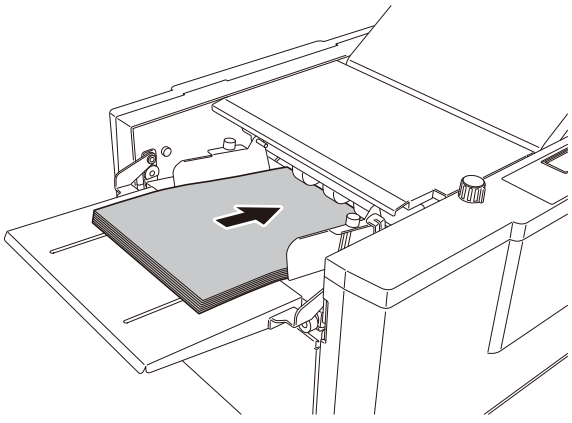
2 Check the paper size display.

The paper size is not displayed if the paper feed guide is not positioned as specified even though the size of standard paper is used. If not, reset the paper feed guide to a correct position. (DF-980)



Automatic detection of standard paper size (DF-980)

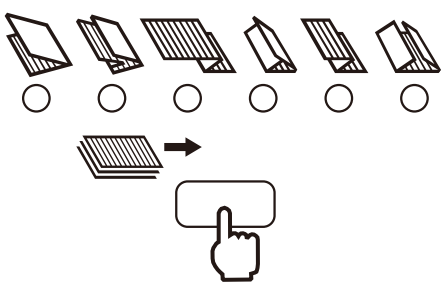
When paper for all paper sizes is stacked in the machine direction shown in the figure, paper is detected as standard paper.



Note When paper of standard paper size is stacked on the paper feed tray in the sideways, the paper size is detected as wrong paper size. Use paper as non-standard paper when stacking paper in the sideways.

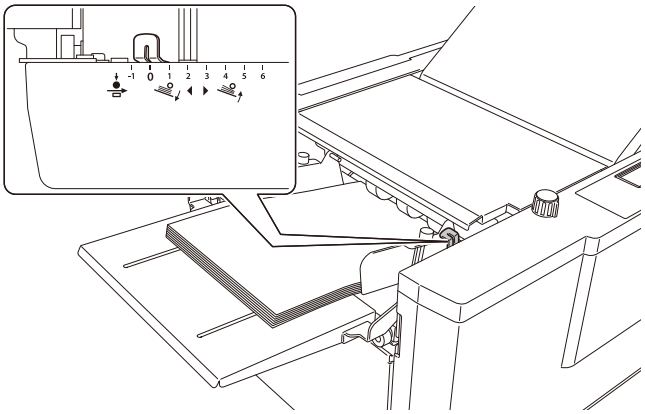
Ref. For the use of non-standard paper, refer to Chapter 3 "2. Standard Folding of Non-Standard Paper" (p.3-7).

3 Press the folding mode key to select the folding mode.



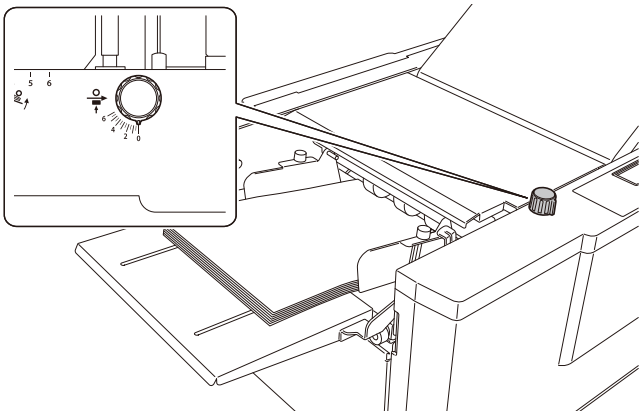
4 Set the feeding pressure adjustment lever to [0].

- As the value of the scale increases, the paper feed pressure increases. As the value decreases, the paper feed pressure decreases.
- When paper mis-feed occurs, increase the paper feed pressure to [1] instead of [0].
- When double-feed occurs, lower the paper feed pressure from [0] to [-1].

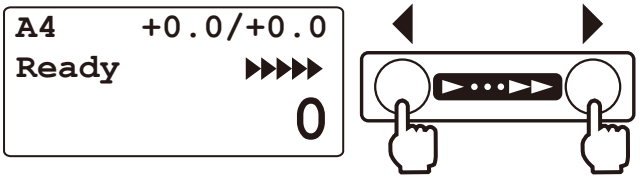


5 Set the separating pressure adjustment dial to [0].

- Paper separating pressure increases as the scale value increases, and paper separating pressure decreases as the scale value decreases.
- When double-feed occurs, increase the separating pressure by 0.5 on the scale.



6 Press the ◀ or ▶ key to set the processing speed.



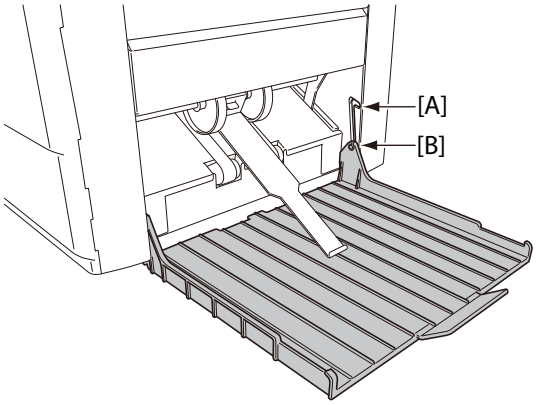
- If paper is folded abnormally, and conveyance motor error occurs when processing thick paper, set the processing speed referring to "Thick paper mode". **(p.3-24)**
- When paper jam or abnormal folding occurs by using thin and flimsy paper, adjust the processing speed referring to "Thin paper mode". **(p.3-24)**

When setting the folding mode of B6 size paper to double fold, the operable processing speed is [4] or more. Even if the processing speed is set to [0] to [3], the processing speed will be changed automatically to [4] when the test key or start key is pressed.

7 Adjust the position of the paper receiving tray.

Set to [A] to stack ejected paper diagonally.
Set to [B] to stack ejected paper straight.

Ref. Refer to Chapter 3 "7. Stacking the Folded Paper" (p.3-23).



8 Press the test key.

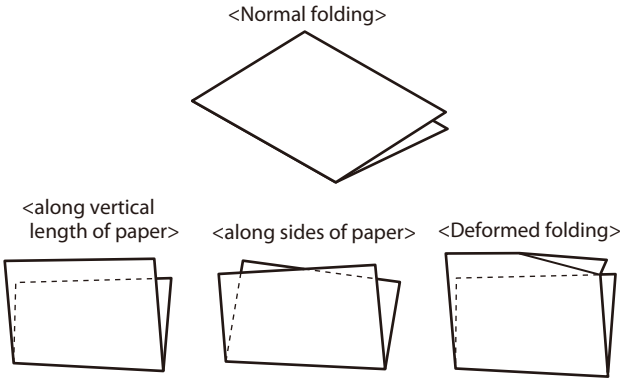
Test fold two sheets of paper.
Test folded paper are not counted in the number of sheets processed.

Note
- **DF-980**
  If this machine does not start by pressing the test key, automatic detection of paper size may not function. Check the paper feed guide is set appropriately to the scale of paper size.
- **DF-970**
  If this machine does not start by pressing the test key, check the paper set lever is lowered.

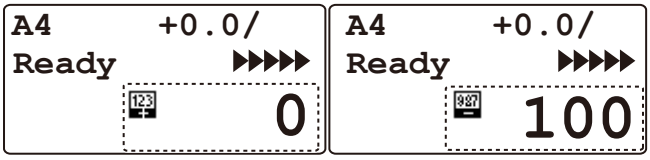
9 Check the finish of test folding.

Check for folding misalignment using the second test folded sample.

Ref. When folding misalignment occurs, refer to Chapter 3 "1. Correcting Folding Misalignment" (p.3-1)



10 Select the method of using the counter.



Count up Count down

- The counter can be used in two ways "Count Down" and "Count Up".

  Count down : Enter the number of sheets to be processed on the keypad to start operation.

  Count up : Press the clear key and set the counter to "0" to start operation.

- Up to four digits (9999) can be displayed.
- An icon will be displayed by pressing the start key.

Count up

When pressing the clear key, the buzzer sounds "pi", and the count display will return to [0].

When pressing the start key without pressing the clear key, paper folding operation will restart and the number of sheets processed will be counted up.

The machine will stop operations when the count display shows [9999]. Press the clear key to return the count display to [0] and press the start key when processing paper folding continuously.

Count down

The machine will stop when the number of sheets set for processing is processed, and the count display will return to the number of sheets set for processing.

When pressing the clear key, the buzzer sounds "pi", and the use of the counter will return to "Count up" instead of "Count down".

The count display will return to [0].

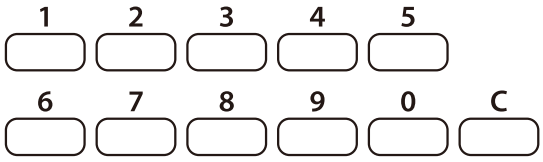
When pressing the start key without pressing the clear key, paper folding operation will restart and the number of sheets processed will be counted down.

After that, the procedures vary depending on the use of the counter.

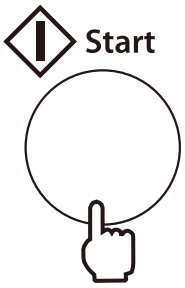
For counting down, refer to procedure 11.

For counting up, refer to procedure 12.

11 Press the keypad to enter the number of sheets to be processed.



12 Press the start key to start folding.



- Press the stop key to interrupt or stop operation. Press the start key again to restart operation.
- When paper stacked on the paper feed tray runs out, the machine will stop automatically, and [No Paper] will be displayed on the LCD display. When paper is stacked on the paper feed tray, the display of [No Paper] will disappear, and the machine will be in the stand-by state.
- When double-feed or paper size error occurs during folding operation, the fed paper is processed and ejected, but the number of processed sheets will not be counted.
- When paper jams at the ejection section, the paper detected as paper jam will be counted, but the following paper will not be counted.

4. Storage of Machine

Store the machine as follows, when it is not used.

1 **Turn off the power switch.**

> **⚠WARNING**
>
> **Do not touch the power switch with wet hands.**
> Otherwise electric hazards may occur.

2 **Disconnect the power plug from the outlet.**

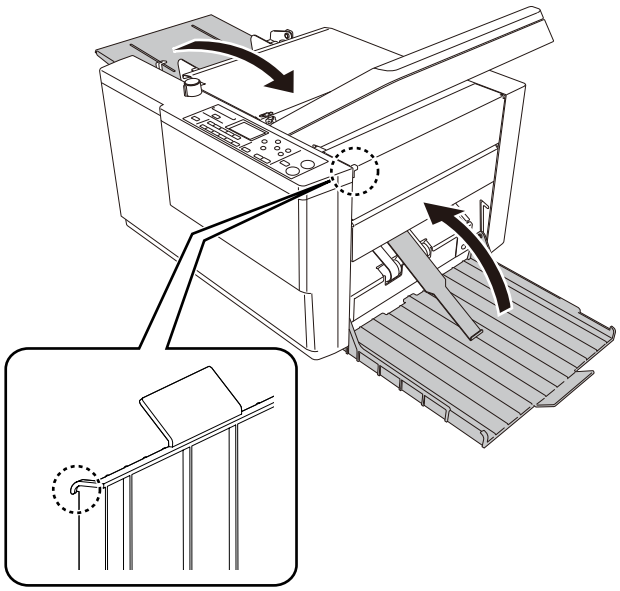
3 **Remove the power cord from this machine.**

> **⚠WARNING**
>
> **Do not touch the power plug with wet hands.**
> Otherwise electric hazards may occur.

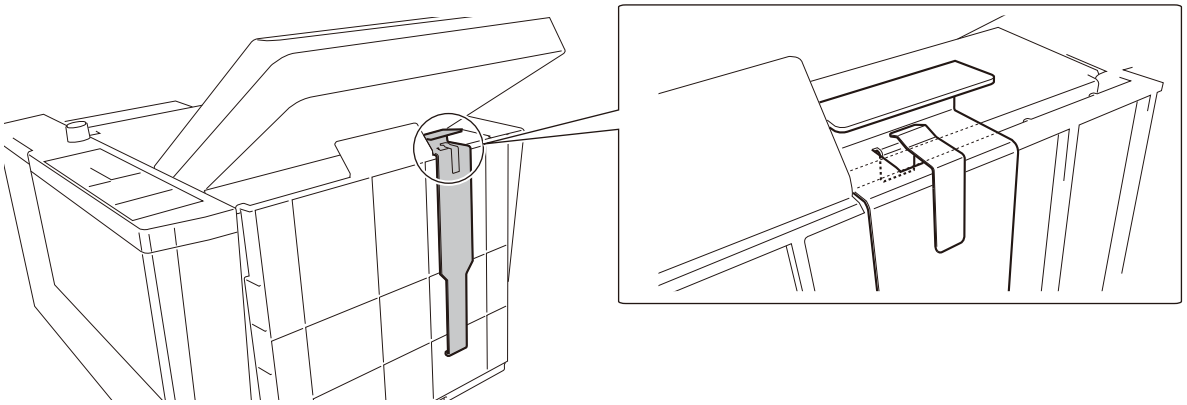
4 **Close the support paper feed tray.**

5 **Remove the auxiliary paper ejection guide.**

6 **Hang the hook section of the paper receiving tray.**



7 **Hang the auxiliary paper ejection guide on the paper receiving tray.**



Memo

Chapter 3 Advanced Operation

1. Correcting Folding Misalignment

Folding misalignment consists of "folding misalignment along the sides of the paper" and "folding misalignment along the vertical length of the paper". Other than this, "deformed folding" may also occur due to paper characteristics, etc.

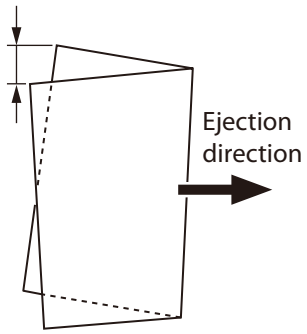
Depending on the usage environment (temperature and humidity), paper type, thickness, paper grain direction, trimming accuracy, and printing states folding misalignment may occur.

⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

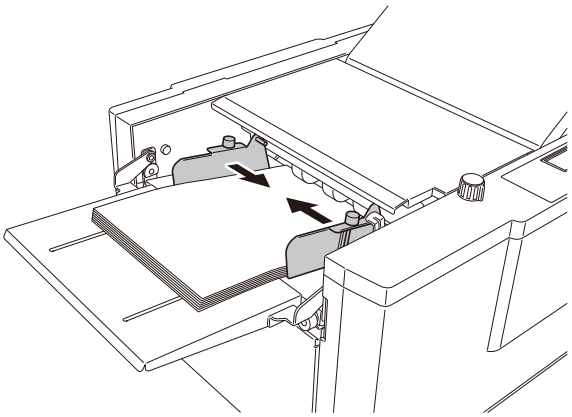
1-1. Adjustment the folding misalignment in the right and left direction

When the folded paper is misaligned along the sides, correct using the skew correction knob of the paper feed tray.



1 **Check that the paper feed guides are set correctly.**

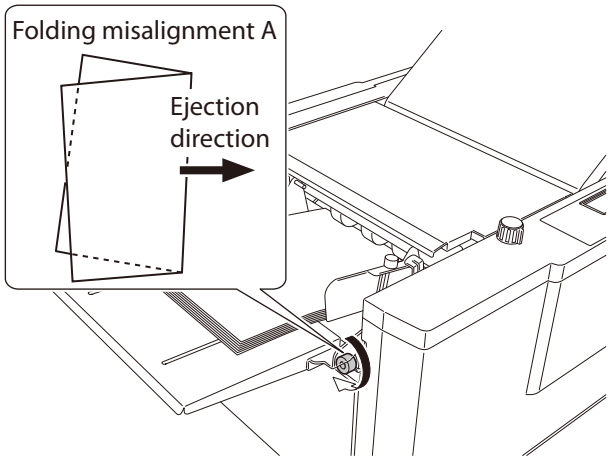
Gaps between the paper and paper feed guides will cause folding misalignment along the sides to occur easily.



2 Rotate the skew correction knob and adjust.

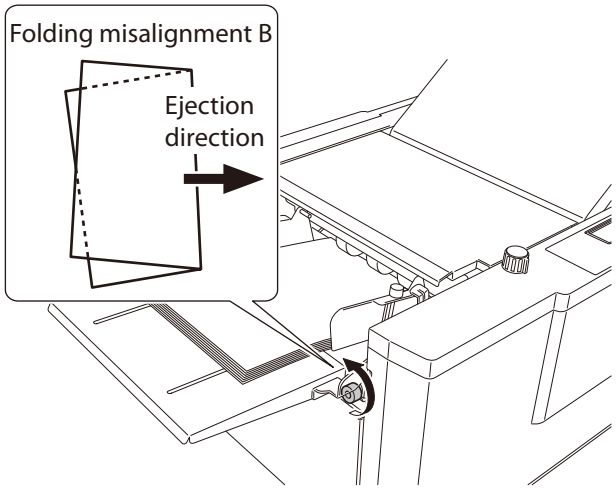
Folding misalignment A

Rotate the knob in the clockwise direction. The leading edge of paper on the right side (on the control panel side) will be fed earlier.



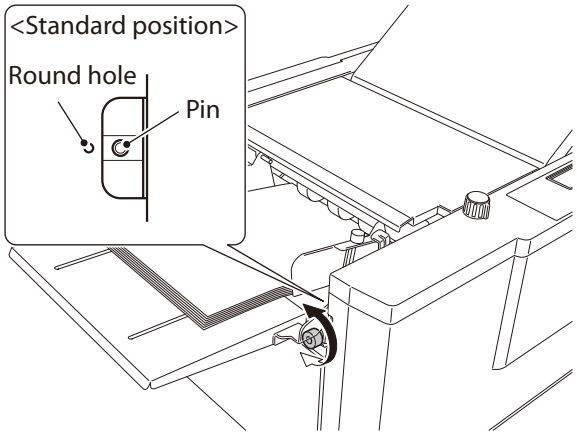
Folding misalignment B

Rotate the knob in the counterclockwise direction. The leading edge of paper on the left side (on the anti-operating side) will be fed earlier.



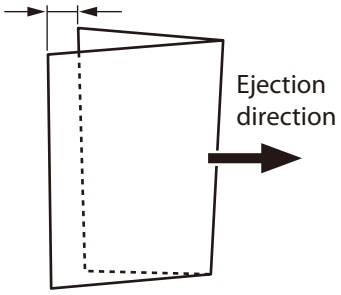
3 Perform test folding.

4 After completing folding operations,return the skew correction knob to the standard position.



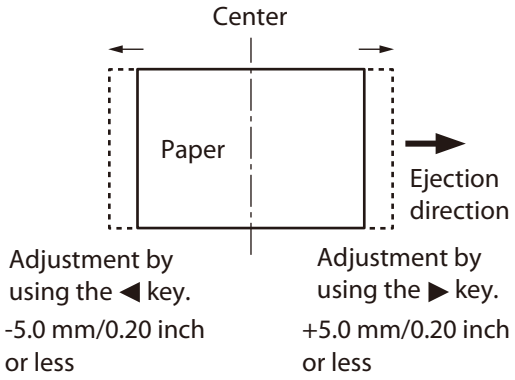
1-2. Adjustment the folding misalignment in the up and down direction

When the folded paper is misaligned along the vertical length, adjust the positions of the folding stopper of folding plates 1 and 2 to correct the misalignment.



Adjustable range and correction restrictions

- For standard folding, the adjustable range using the stopper adjustment key is within ± 5 mm/0.20 inch from the center of the paper.
- The positions of the folding stoppers of folding plates 1 and 2 may not be adjustable to ± 5 mm/0.20 inch according to the length of the paper used.
- For [Special folding] and [Stopper fixing mode], the folding positions are set directly according to the paper length, and the adjustable range of ± 5 mm/0.20 inch is not restricted.



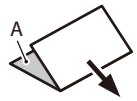
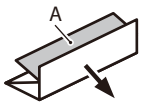
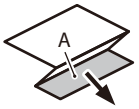
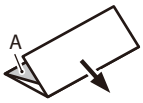
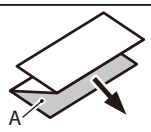
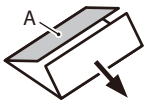
The restricted folding plate and adjustment details differ according to the folding mode and paper length.

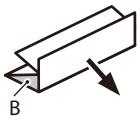
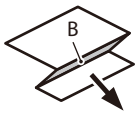
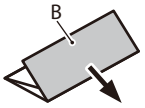
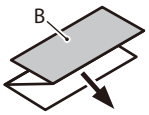
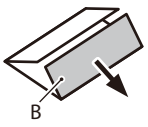
Folding mode	Restricted range of paper length*	Restricted folding plate and adjustment key
Double fold	182 to 203.9 mm/7.16 to 8.02 inches	Correction by ▶ key of folding plate 2
Irregular accordion fold-out	182 to 186.7 mm/7.16 to 7.35 inches	Correction by ◀ key of folding plate 1
	182 to 199.9 mm/7.16 to 7.87 inches	Correction by ▶ key of folding plate 2
Letter fold	141 to 150.5 mm/5.55 to 5.92 inches	Correction by ▶ key of folding plate 2
Accordion-fold	141 to 151.1 mm/5.55 to 5.94 inches	Correction by ▶ key of folding plate 2
Gate fold	425.1 to 432 mm/16.73 to 17.00 inches	Correction by ▶ key of folding plate 1
	422.8 to 432 mm/16.64 to 17.00 inches	Correction by ◀ key of folding plate 2

* Range of paper length which cannot be corrected to ± 5 mm/0.20 inch. The adjustment value differs according to the paper length.

Adjustment folding misalignment along vertical length of paper by folding mode

Adjust folding misalignment along the vertical length of the paper in standard folding using the folding stopper Adjustment keys of folding plates 1 and 2.

Folding plate 1			
Folding mode		**State of folded plane A**	**Adjustment key**
Single fold		A is long	▶ key
		A is short	◀ key
Double fold		A is long	▶ key
		A is short	◀ key
Irregular accordion fold-out		A is long	◀ key
		A is short	▶ key
Letter fold		A is long	▶ key
		A is short	◀ key
Accordion fold		A is long	◀ key
		A is short	▶ key
Gate fold		A is long	▶ key
		A is short	◀ key

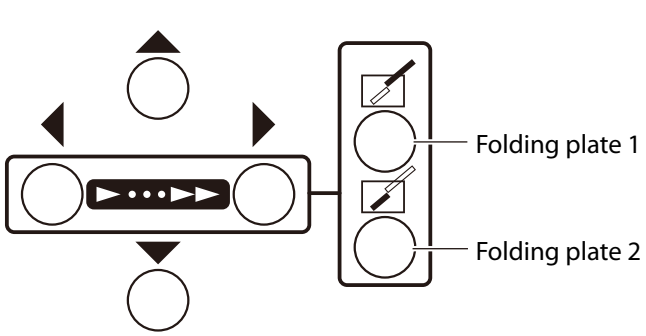
Folding plate 2			
Folding mode		**State of folded plane B**	**Adjustment key**
Single fold	* Folding plate 2 is not used in single folding.		
Double fold		B is long	▶ key
		B is short	◀ key
Irregular accordion fold-out		B is long	▶ key
		B is short	◀ key
Letter fold		B is long	◀ key
		B is short	▶ key
Accordion fold		B is long	◀ key
		B is short	▶ key
Gate fold		B is long	◀ key
		B is short	▶ key

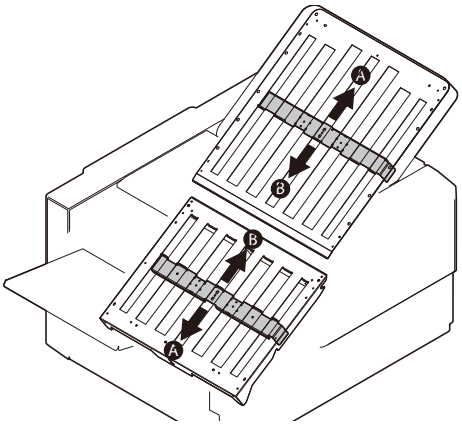
Adjustment method

Adjust the positions of the folding stopper using the stopper adjustment keys of folding plates 1 and 2 on the control panel.

Folding plate 1:The folding stopper of the folding plate 1 moves in the direction of A shown in the figure by pressing the ▶ key, and moves in the direction of B shown in the figure by pressing the ◀ key.

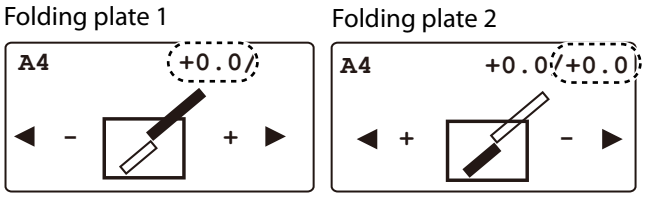
Folding plate 2:The folding stopper of the folding plate 2 moves in the direction of A shown in the figure by pressing the ◀ key, and moves in the direction of B shown in the figure by pressing the ▶ key.



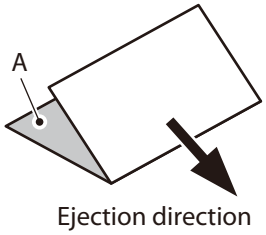


The folding stopper moves by 0.1 mm/0.004 inch every time the stopper adjustment key is pressed. As long as pressing the stopper adjustment key longer, the value of the folding stopper will change continuously within the range set.

The value adjusted with the stopper adjustment key will be displayed on the top right section of the LCD display.

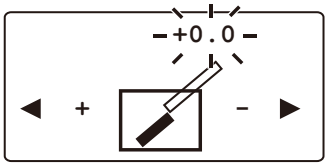


Example of operation procedures of single folding with folded plane A longer by 1 mm/0.03 inch shown in the figure.



1 **Press the stopper adjustment key of the folding plate 1.**

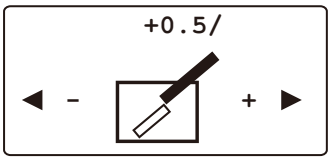
The numerical value can be changed at this stage.



2 **Press the ▶ key to set the value to [+0.5].**

3 **Press the ↵ key.**

The changed value is set.



Ref. The changed value will be cleared by turning off the power switch. For registration of the changed value, refer to "Registering the adjusted value" (p.3-6).

Memo The numerical value of the folding plate can be changed by inputting the numerical value on the keypad.

Inputting plus numerical value : Input the numerical value to be changed on the keypad.

Inputting minus numerical value : Change the display to minus with the ◀▶ key and input the numerical value to be changed on the keypad.

Registering the adjusted value

Adjustment values of folding misalignment in the vertical direction of thirty-six registration types including six standard folding modes x six types of standard paper sizes can be registered. (five standard paper sizes For North America) Once adjustment values are registered, folding operation can be performed in the same condition as the registration is made without registering the same adjustment.

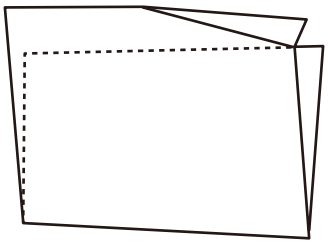
Register the values by press the ↵ key longer after adjustment the folding plates 1 and 2. The buzzer sounds "pi" once and the adjustment value is registered.

Memo Adjusted folding stopper position can be registered to special folding. **(p.3-8)**
The adjustment values cannot be registered for standard folding of non-standard paper.

1-3. Deformed folding

The paper may not be folded properly due to the characteristics of paper. In such cases, check the following points.

- Do not use paper outside the specifications.
  Particularly, deformed folding occurs frequently in the use of thin, flimsy paper not appropriate.
- Lower the processing speed when deformed folding occurs for thin and flimsy paper. **(p.3-24)**
- Separate paper well prior to stacking. **(p.1-18)**
- Stack paper on the paper feed tray after aligning well, and set the paper feed guides at the correct positions. Also tighten the fixing screws of the paper feed guides firmly. **(p.2-3)**



2. Standard Folding of Non-Standard Paper

Standard folding of non-standard paper is a method to register the paper length of paper other than standard paper, select the standard folding mode, and fold paper.

Paper other than the six standard paper is called non-standard paper. (The A6, A7, or B7 paper can be used as non-standard paper.) (five standard paper sizes For North America)

The foldable sizes are as follows. (width x length)

Maximum : 311 x 457.2 mm/12.24 x 18.00 inches

Minimum :74 x 105 mm/2.91 x 4.13 inches

Depending on the paper length, the following folding modes are limited.

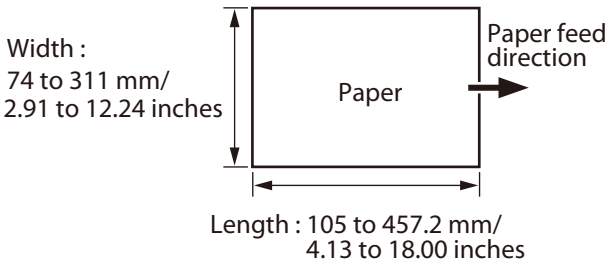
Double fold
182 to 457.2 mm/7.16 to 18.00 inches

Irregular accordion fold-out
182 to 457.2 mm/7.16 to 18.00 inches

Letter fold
141 to 457.2 mm/5.55 to 18.00 inches

Accordion-fold
141 to 457.2 mm/5.55 to 18.00 inches

Gate fold
128 to 432.0 mm/5.03 to 17.00 inches

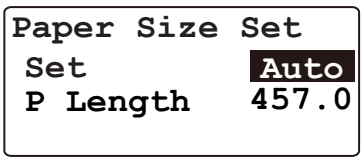


Note

- **Standard paper which is stacked on the paper feed tray in the long edge feeding direction is considered non-standard paper.**
- **The paper sizes which can be used may vary with the paper type, thickness, and printing state.**

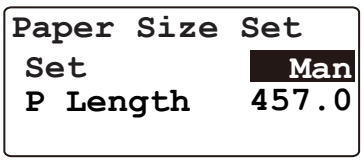
Ref. For standard folding, refer to Chapter 2 "3. Standard Folding of Standard Paper" (p.2-4).

1 **Press the menu key to display [Paper Size Set].**



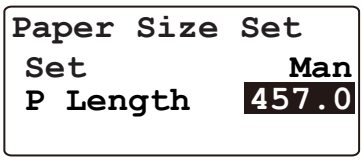
2 **Press the ↵ key.**
Setting can be changed at this stage.

3 **Press the ◀ key or ▶ key to select [Man].**



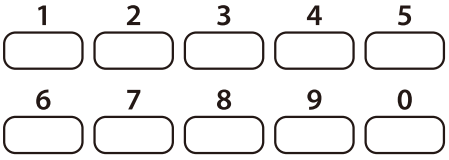
4 **Press the ↵ key.**
The selected details are set.

5 **Press the ▼ key to select [P Length].**



6 **Press the ↵ key.**
Setting can be changed at this stage.

7 **Input the paper length on the keypad.**



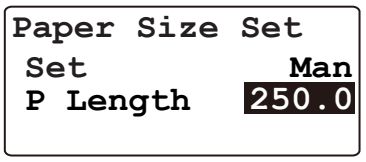
Setting range :105.0 to 457.2 mm/ 4.13 to 18.00 inches

When the numerical value has been inputted, press the clear key to clear the value before inputting.

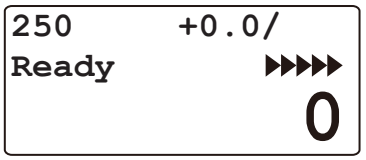
Example of inputting a value: Input [2500] when the paper length is 250 mm.

8 **Press the ↵ key.**

The inputted value will be set.



9 **Press the ▭ key.**

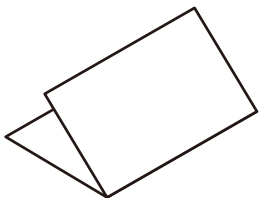


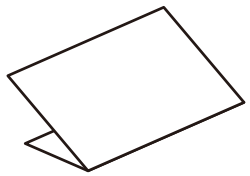
The procedures taken after that will be the same as the steps 3 to 12 in ☞ Chapter 2 "3. Standard Folding of Standard Paper" (p.2-4).

3. Custom Folding

Custom folding is an operation method to fold paper at any position by specifying the folding stopper positions (folding position) of the folding plates 1 and 2.

<Standard single fold> <Example of custom single fold>

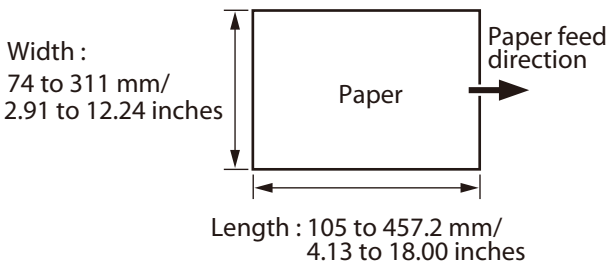




The foldable sizes are as follows. (width x length)

Maximum : 311 x 457.2 mm/12.24 x 18.00 inches

Minimum : 74 x 105 mm/2.91 x 4.13 inches



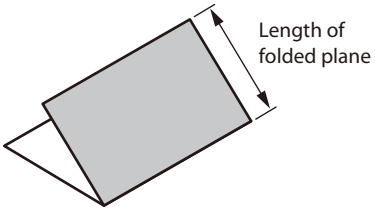
The paper sizes which can be used may vary with the paper type, thickness, and printing state.

The length of the folded plane (see right below) which can be folded by folding plates 1 and 2 is restricted.

Folding plate 1 : 42 to 325 mm/1.65 to 12.79 inches

Folding plate 2 : 0 */47 to 217 mm/0 */1.85 to 8.54 inches

* As folding plate 2 is not used in single folding, it is 0 mm.

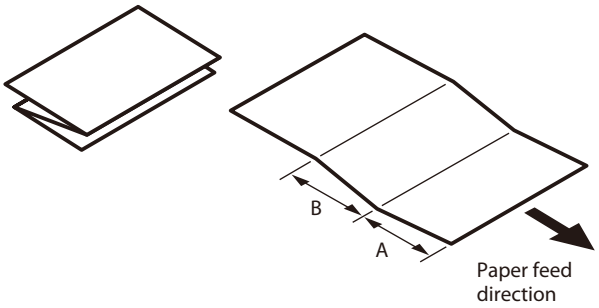


Note **Incorrectly measuring the paper length or setting the folding stopper position can cause paper jamming inside the folding plate.**

3-1. Operation

As an example of accordion-fold, operation procedures for custom folding are described with the following setting.

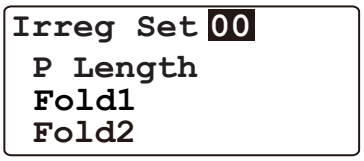
Paper size : A4 (297 x210 mm/11.69 x 8.26 inches)
Fold1 : 85 mm/3.34 inches (length A)
Fold2 : 95 mm/3.74 inches (length B)



1 **Prepare a folding sample manually using the paper to be folded.**

2 **Measure the length of the folding position of the sample.**

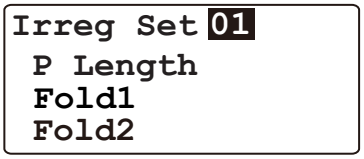
3 **Press the menu key to display [Irreg Set] display.**



4 **Input the registration number using the numerical keypad or the ◀▶ keys.**

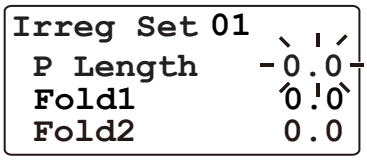
[00] cannot be used to input as a registration number.

Ref. For the registration number, refer to Chapter 7 "Specifications" (p.7-1).



5 **Press the ↵ key.**

The inputted registration number is set and [P Length] can be changed at this stage.

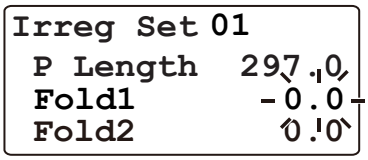


6 **Input [P Length] using the numerical keypad.**

Input [2970].

7 **Press the ↵ key.**

Inputted numerical value is set, and [Fold 1] can be changed.

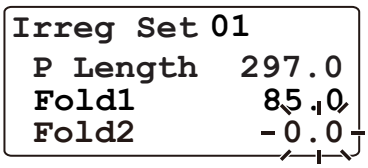


8 **Input [Fold 1] using the numerical keypad.**

Input [850].

9 **Press the ↵ key.**

Inputted numerical value is set, and [Fold 2] can be changed.

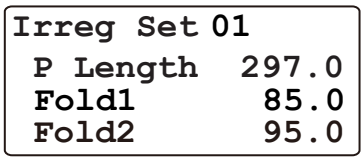


10 **Input [Fold 2] using the numerical keypad.**

Input [950].

11 **Press the ↵ key.**

The inputted numerical value is set, and the display will return to the top screen.



The procedures taken after that will be the same as the steps 8 to 12 in ☞ Chapter 2 "3. Standard Folding of Standard Paper" (p.2-4)

When the registered numerical value has been fine-adjusted

- Press the ↵ key for about two seconds to register the fine-adjusted numerical value after fine-adjustment the registered numerical value. The buzzer sounds "pi" and the fine-adjusted numerical value will be registered.
- When turning off the power without registering the value, the fine-adjusted numerical value will be cleared.

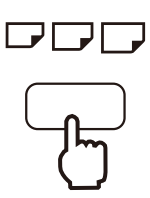
3-2. Using the registered data

DF-980

Press the custom folding key to select the registered data.

DF-970

Press the paper size select key to select the registered data.



DF-970

DF-980

3-3. Locking the registered data

Lock the registered data to keep the value unchanged so that the registered data will be saved without being deleted mistakenly.

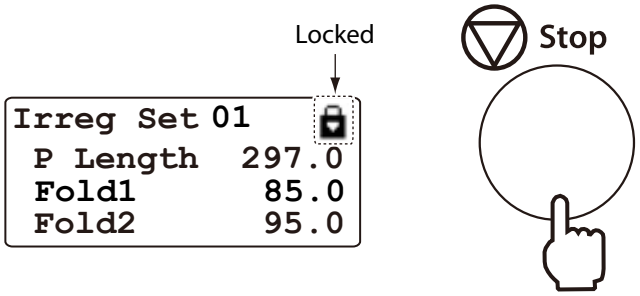
1 **Press the menu key to display the [Irreg Set] screen.**

2 **Select the registration number to be locked with the ◀ key or ▶ key.**

3 **Press the stop key.**

The lock icon will be displayed to the right of the registration number.

Press the stop key again to release the lock.



Memo Even if paper folding is being processed using the locked data, the folding position can be fine-adjusted. **(p.3-5)**

Press the ↵ key for about two seconds to register the fine-adjusted numerical value.

If there is no need to register the fine-adjusted numerical value, turn off the power to clear the value.

3-4. Clearing the registered data

1 **Press the menu key to display the [Irreg Set] screen.**

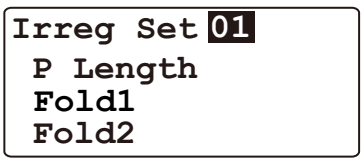
2 **Select the registration number to be cleared on the keypad or with the ◀▶ key.**

3 **Press the ↵ key.**

[P Length] can be changed.

4 **Press the clear key for about two seconds.**

A buzzer sounds "pi" and the registered data will be cleared.



3-5. Registering the folding value directly while processing

Folding state can be registered to operate the machine continuously under the same setting conditions of the folding process currently applied without registering the custom folding.

Test fold or perform folding process, check folding misalignment, and fine-adjust when registering the value.

1 **Press the menu key to display the [Irreg Set] screen.**

2 **Input the registration number on the keypad or the ◀▶ key.**

3 **Press the custom folding key for about two seconds.**

For the DF-970, press the paper size select key for about two seconds.

A buzzer sounds "pi", and the data will be registered.

```
Irreg Set 01
 P Length
 Fold1
 Fold2
```

4. Cross Fold

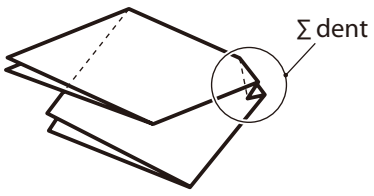
DF CROSS FOLD UNIT, an optional item, is needed for cross fold with the DF-970.

Cross fold is folding single-folded paper another time as shown in the figure.

The maximum paper thickness is fine quality paper 104.7 g/m^2 /28 lb.

Note

- **Paper Σ dent and folding misalignment along the sides of the paper may occur if the folded line of single-folded paper is not folded properly or according to the using environment (temperature and humidity), paper thickness, paper size, paper type, paper grain direction, etc. This is not a malfunction of the machine.**



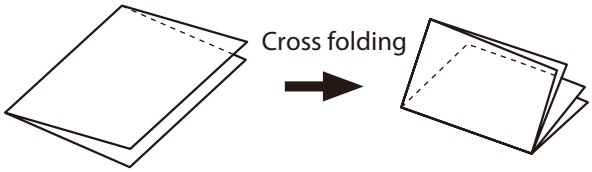
- **Double-feed detection does not operate when cross fold is performed. Select the setting [OFF]. (DF-980)**

4-1. Cross fold of standard paper

⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

The following describes the cross fold of standard paper, taking cross single folding shown in the figure as an example.

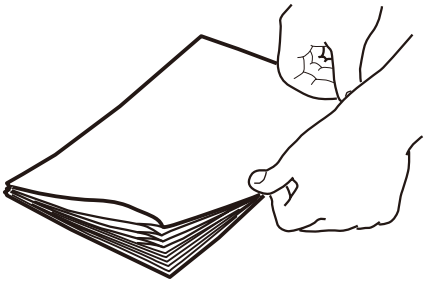


4-1-1. Stacking paper

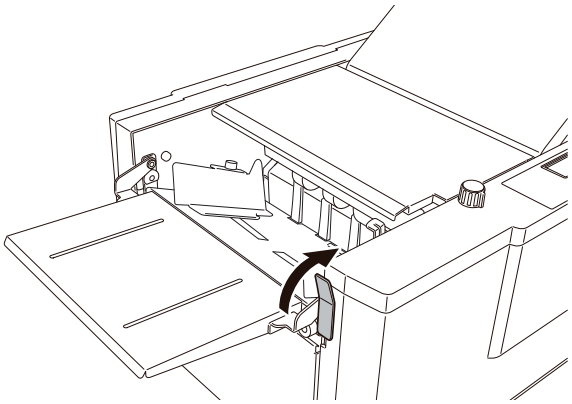
1 **Single fold standard paper according to the procedure of Chapter 2 "3. Standard Folding of Standard Paper" (p.2-4).**

2 **Press the folded line of single-folded paper with the fingertip.**

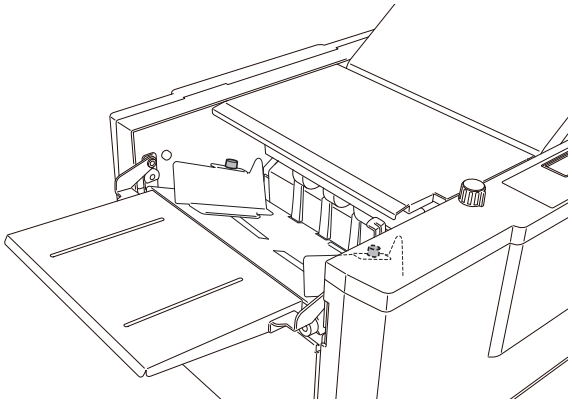
The paper feeding state will be unstable if the folded line is not folded firmly.



3 **Raise the paper set lever. (DF-970)**

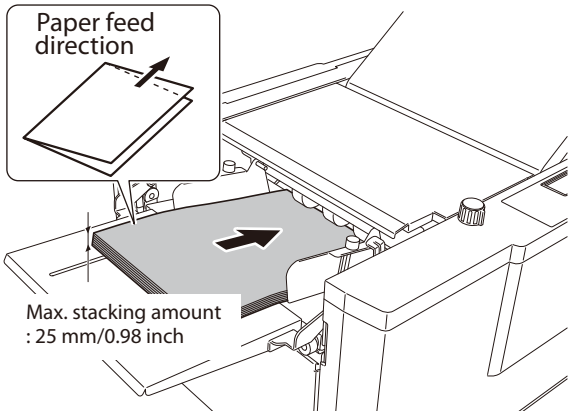


4 **Loosen the guide fixing screw.**



5 **Stack the single-folded paper on the paper feed tray with the folded line toward the anti-operating side.**

The stacking amount is equivalent to about half (25 mm/ 0.98 inch) of the height of the paper feed guide on the folding side.



6 **Attach the paper feed guide lightly to the side of the paper and tighten the fixing screws.**

7 **Lower the paper set lever. (DF-970)**

4-1-2. Adjustment of the parts

1 **Turn off the power switch.**

⚠WARNING

Do not touch the power switch with wet hands.
Otherwise electric hazards may occur.

2 **Disconnect the power plug from the outlet.**

⚠WARNING

Do not touch the power plug with wet hands.
Otherwise electric hazards may occur.

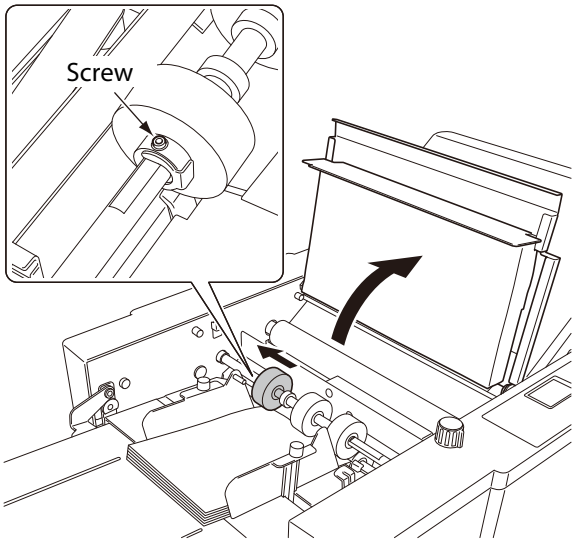
3 **Take the T-handle hexagonal wrench.**

Ref. For the location where the T-shape hexagonal wrench is stored, refer to Chapter 1 "2. Setting Up the Machine" **(p.1-4)** .

4 **Open the top cover.**

⚠WARNING

Open or close the top cover gently.
Hands or fingers may be caught in the cover section. Doing so may result in injury.



5 **Loosen the screw of the auxiliary paper feed ring (for moving) using the T-handle hexagonal wrench, accessory part.**

Note **Do not use the T-handle hexagonal wrench for a purpose other than handling the auxiliary paper feed ring as instructed in this manual.**

⚠WARNING

Do not disassemble the product more than needs.
Fire, electrification, injury, malfunction, or breakdown may be caused by disassembling the parts which are not specified in this manual.

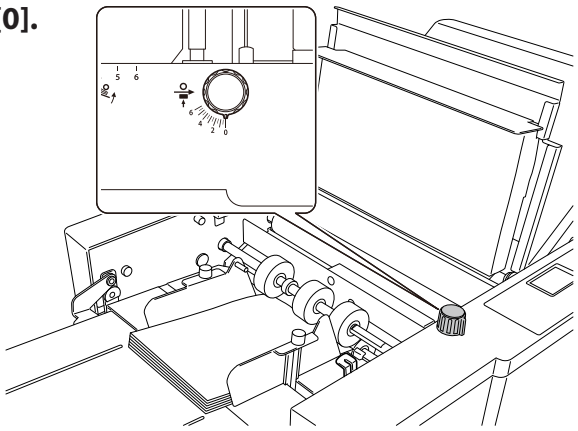
6 **Move the auxiliary paper feed ring.**

Move the auxiliary paper feed ring so that the folding line of the paper will be in the center of the ring.

7 **Tighten the screw loosened.**

Store the T-handle hexagonal wrench in the original position after adjustment the auxiliary paper feed ring.

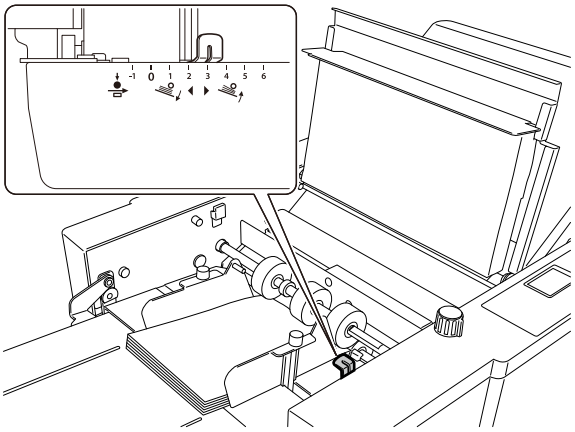
8 **Set the separating pressure adjustment dial to [0].**



Note **Set the paper separating pressure as low as possible. Setting it high will cause the single-folded paper to open during paper feed, resulting in paper feed error.**

9 Set the feeding pressure adjustment lever to [3].

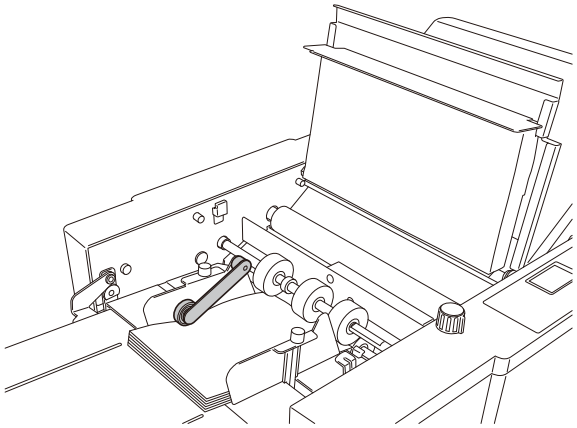
Set the paper feed pressure within the range of scale [3] to [5].



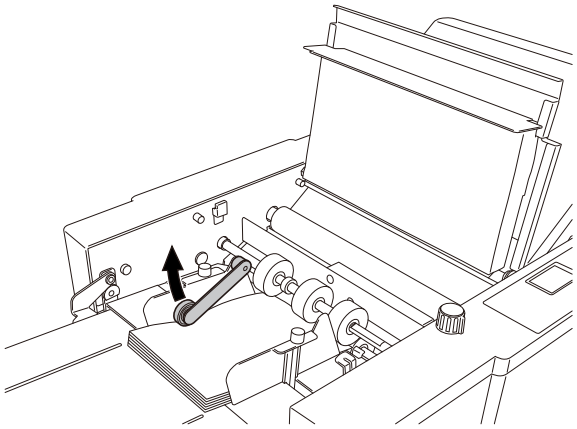
10 Take out the cross fold lever.

11 Attach the cross fold lever to the paper feed guide on the left side.

Attach the cross fold lever so that the weight roller on the leading edge of the cross fold lever will be on the folding line.



Raise the cross fold lever in the direction of an arrow when stacking paper in addition.



12 Close the top cover.

⚠WARNING

Open or close the top cover gently.

Hands or fingers may be caught in the cover section. Doing so may result in injury.

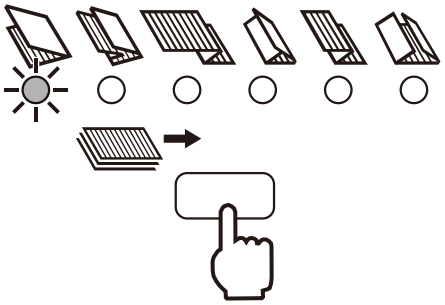
4-1-3. Operation procedures

1 **Turn on the power.**

⚠WARNING

Do not touch the power switch with wet hands.
Otherwise electric hazards may occur.

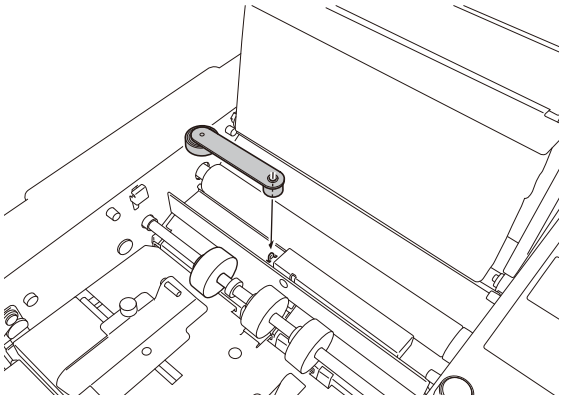
2 **Set to single folding using the folding mode key.**



3 **Press the test key to test fold.**

4 **Check the finish.**

- Store the cross fold lever at the original position after cross fold operation.
- When the DF HAND FEED KIT is attached, the location to store the cross fold lever will be changed. **(p.4-4)**



Note **Be sure to store the cross fold lever at the specified place and in the specified direction. By moving during operation of this machine the folding roller may be damaged, resulting in malfunction.**

- Return the auxiliary paper feed ring (for moving) to the original position.

5 **Turn off the power.**

⚠WARNING

Do not touch the power switch with wet hands.
Otherwise electric hazards may occur.

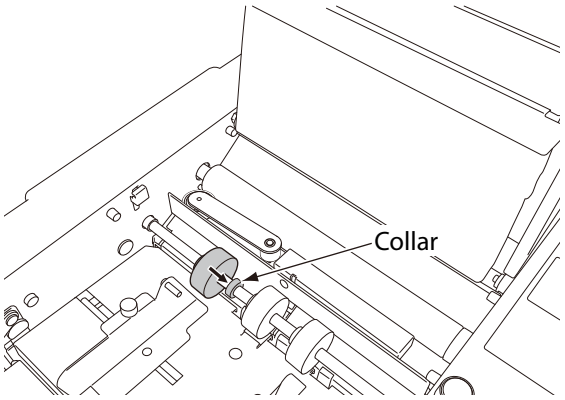
6 **Disconnect the power plug from the outlet.**

⚠WARNING

Do not touch the power plug with wet hands.
Otherwise electric hazards may occur.

7 **Loosen the screw on the auxiliary paper feed ring (for moving) with the T-handle hexagonal wrench.**

8 **Strike the auxiliary paper feed ring at the collar.**



9 **Tighten the screw loosened.**

Note **Do not use the T-handle hexagonal wrench for a purpose other than handling the auxiliary paper feed ring as instructed in this manual.**

⚠WARNING

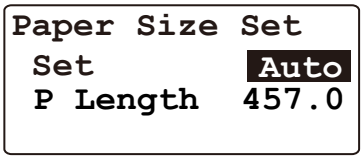
Do not disassemble the product more than needs.
Fire, electrification, injury, malfunction, or breakdown may be caused by disassembling the parts which are not specified in this manual.

4-2. Cross fold of non-standard paper

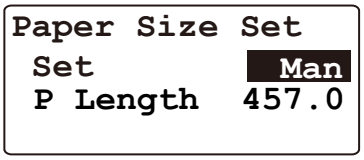
1 **Single fold non-standard paper according to the procedure of Chapter 2 "3. Standard Folding of Standard Paper" (p.2-4).**

2 **Press the menu key to display [Paper Size Set].**

3 **Press the ↵ key.**
At this stage [Auto] or [Man] can be changed.



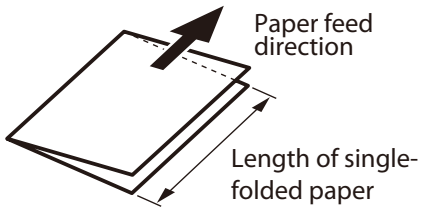
4 **Set to [Man] with the ◀ key or ▶ key.**



5 **Press the ↵ key.**

6 **Measure the length of single-folded paper.**

7 **Select [P Length] with the ▼ key or ▲ key.**



8 **Press the ↵ key.**
[P Length] can be changed at this stage.

9 **Input the measured numerical value on the keypad.**

10 **Press the ↵ key.**
The inputted value will be set.

11 **Take procedures for "4-1-1. Stacking paper" step 2~ "4-1-2. Adjustment of the parts", and "4-1-3. Operation procedures" of "4-1. Cross fold of standard paper" (p.3-13).**

4-3. Cross fold paper at the desired folding position

Cross fold is a method to cross-fold standard or non-standard paper at arbitrary positions. Standard paper or non-standard paper is handled in the same way and cross-folded by using a method to register the folding position as a custom folding.

1 **Register custom folding referring to the procedures of "3. Custom Folding" (p.3-8).**

2 **Single-fold the paper in the custom folding mode.**

3 **Register the single-folded paper again as custom folding referring to the procedures of "3. Custom Folding" (p.3-8).**

4 **Take procedures for "4-1-1. Stacking paper" step 2~ "4-1-2. Adjustment of the parts", and "4-1-3. Operation procedures" of "4-1. Cross fold of standard paper" (p.3-13).**

5. Using Special Paper

5-1. Art paper, coated paper

⚠ CAUTION

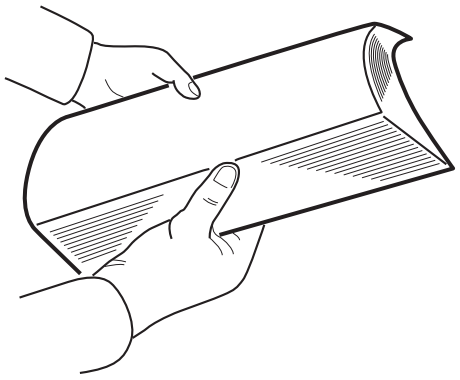
Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

Art paper and coated paper often stick to each other due to the printing ink and become difficult to separate, resulting in double-feed. When using these types of paper, follow the procedure below.

1 **Separate paper well.**

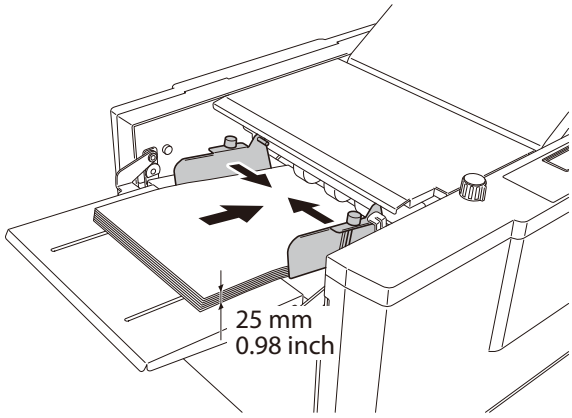
Memo Some of recycled art or coated paper may be unsuitable for folding due to weak stiffness.

2 **Align the paper.**



3 **Stack the paper on the paper feed tray.**

4 **Attach the paper feed guide.**

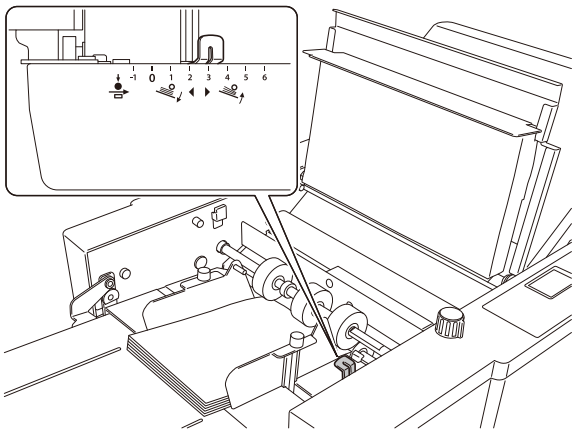


Note Do not stack too many sheets of paper on the paper feed tray. If too many sheets are stacked, the paper will stick on each other from its height and become difficult to separate, resulting in double-feed.

The amount of stacked sheets should be about half the weight of the paper feed guide (approx. 25 mm/0.98 inch).

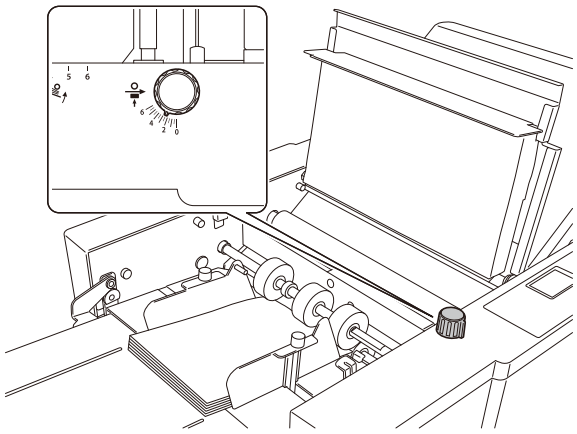
5 **Set the feeding pressure adjustment lever to [3].**

- Set the paper feed pressure within the [3] to [5] range on the scale.
- If the paper slips and mis-feed occurs, increase the paper feed pressure to [4] or [5].



6 **Set the separating pressure adjustment dial to [2.5].**

If double-feed occurs, increase the separating pressure by [0.5] at a time.



7 **Press the test key to test fold.**

8 **Check the finish.**

If abnormal folding occurs, decrease the processing speed.

Note **After completing folding operation of art paper or coated paper, return the paper feeding pressure and separating pressure each to [0]. If fine quality paper is used with the paper feed pressure and separating pressure set to the values for art paper and coated paper, double-feed may occur, or leading edge of paper may be damaged.**

5-2. Rough paper, recycled paper

Some recycled paper may be thin, flimsy and easy to curl when copied, and therefore inappropriate for folding. When folding such paper, pay attention to the following points.

- Separate paper well prior to stacking on the paper feed tray.
- Set the processing speed as low as possible.
  If set to high, wrinkles or deformed folding will result.
- Set the paper feed pressure as low as possible.
  If set to high, double-feed will result.
- Set the paper separating pressure as low as possible.
  If set to high, the center of the lead edge of the paper may be scratched or turned over.

5-3. B7, A7, A6 size paper

B7, A7, A6 size paper (fed by short edge feeding) can be folded in the following conditions.

However, B7, A7, or A6 paper is regarded as non-standard paper, and the paper length should be registered, referring to ☞ "2. Standard Folding of Non-Standard Paper" (p.3-7).

- Folding mode
  (When the [Folding Mode] key is pressed, the display lamp of the folding mode which cannot be selected will not light up).
  B7 : Single fold, Gate fold
  A7 : Single fold
  A6 : Single fold, Letter fold, Accordion-fold, Gate fold
- Thickness
  64 to 81.4 g/m^2 /16 to 22 lb
- Stacking height
  35 mm/1.37 inches or less
- Feeding pressure
  [0] or [-1]
- Separating pressure
  [0]
- Process Speed
  [1] to [4]

If small and light paper is used, too fast processing speed will result in stream-feed (continuous feed). Decrease the processing speed as slow as possible.

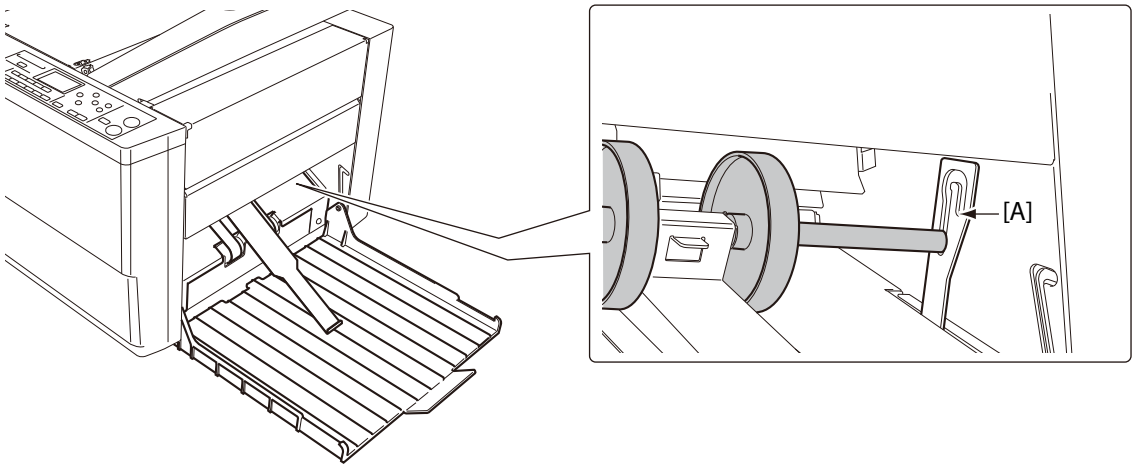
When mis-feed or double-feed occurs even though the feeding pressure and separating pressure are set to the set value, adjust the feeding pressure and separating pressure.**(p.2-6)**

6. Changing the Stacker Roller Height

Some thick and stiff paper may not be ejected smoothly because the paper may open after folding. Change the stacker roller height and widen the space for the paper to pass in ejection.

1 **Remove the auxiliary paper ejection guide.**

2 **Lift the stacker roller and hold it with hand to move to the [A] position shown in the figure.**

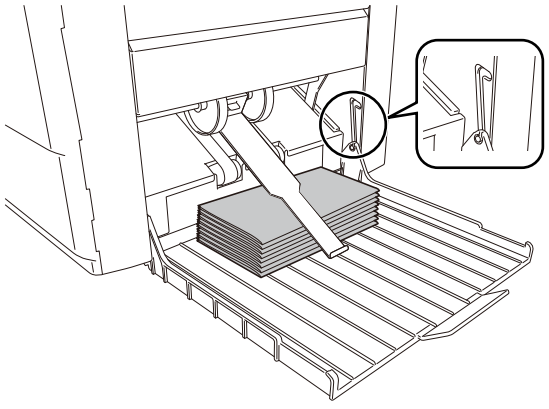


Note **After completing folding operations, be sure to return the stacker roller to the standard position. Leaving it in the raised state will result in poor alignment of ejected paper.**

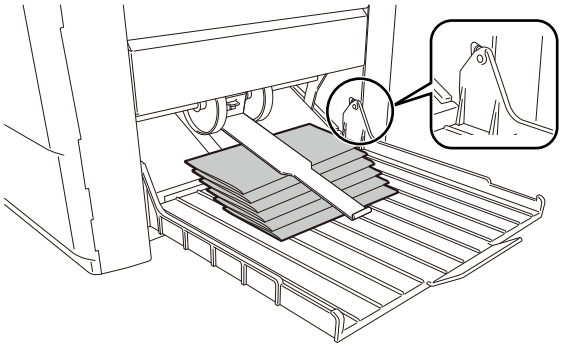
7. Stacking the Folded Paper

The angle of the paper receiving tray of this machine can be changed. If the angle is changed, the folded paper can be stacked in the following two ways according to the purpose.

Straight stacking



Diagonally stacking



8. Function Setting

Function setting can be performed for shortening the operation procedure or adjustment according to the paper used based on the purpose of the user.

8-1. Thick paper mode

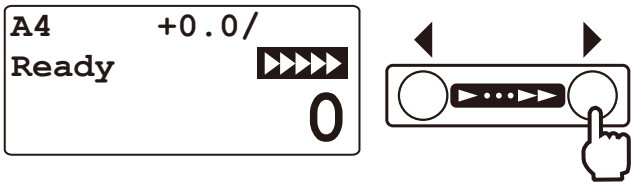
Set this mode when double folding B4 or larger, thick (104.7 g/m^2 /28 lb or more) fine quality paper. Use only thick paper in this mode. Use of this mode may result in unstable paper feed, and make parts wear down quickly.

1 **Press the ▶ key on the top screen, and set the processing speed to [5].**

2 **Press the ▶ key.**

The processing speed display reverses, and the thick paper mode has been set.

Press the ◀ key to clear the thick paper mode.



8-2. Thin paper mode

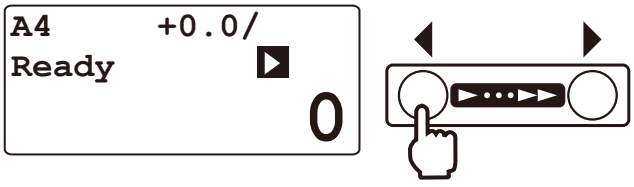
Use the thin paper mode when handling thin and flimsy paper such as rough paper and recycled paper. Do not use for the paper other than thin type. When using this mode for the paper type other than thin paper, paper jam may occur.

1 **Press ◀ key on the top screen, and set the processing speed to [1].**

2 **Press the ◀ key.**

The processing speed display reverses, and the thin paper mode has been set.

Press the ▶ key to clear the thin paper mode.



8-3. Interval function (DF-980 only)

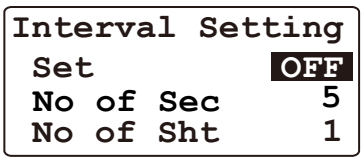
Interval (suspension) function is a function to specify the number of sheets to be folded and suspend folded paper by interrupting paper folding operation for a certain period of time.

Take out ejected paper during interruption, and another operation after paper folding such as distribution or enclosure can be prepared.

Default : Set [OFF], No of Sec [5], No of Sht [1]

As an example, set to paper folding suspension by 50 sheets and for 10 seconds.

1 **Press the menu key to display [Interval Setting].**



2 **Select [Set] with the ▲ or ▼ key.**

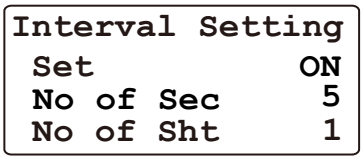
3 **Press the ↵ key.**

At this stage [ON] or [OFF] can be changed.

4 **Select [ON] with the ◀ or ▶ key.**

5 **Press the ↵ key.**

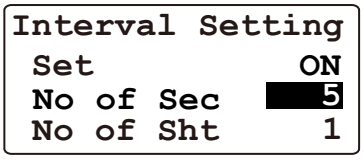
The setting item is set.



6 **Select [No of Sec] with the ▲ or ▼ key.**

7 **Press the ↵ key.**

The numerical value can be changed at this stage.

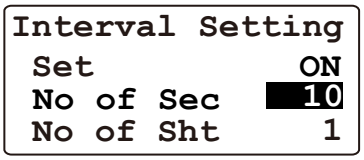


8 **Select [10] with the ◀ or ▶ key.**

Selected numerical value : [3][5][10]

9 **Press the ↵ key.**

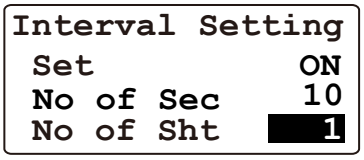
A numerical value is set.



10 **Select [No of Sht] with the ▲ or ▼ key.**

11 **Press the ↵ key.**

At this stage the numerical value can be changed.

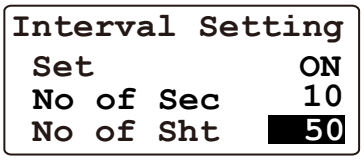


12 **Input [50] on the keypad.**

Setting range : 1 to 999 sheet

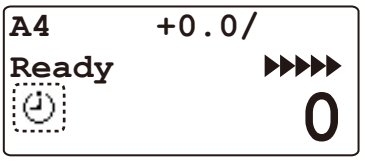
13 **Press the ↵ key.**

A numerical value is set.



14 **Press the ⮌ key.**
Returns to the [Other Setting].

15 **Press the ⮌ key.**
The display returns to the top screen, an icon will be displayed on the LCD display.

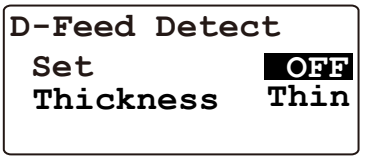


Memo [Interval Setting] will be cleared by turning off the power.

8-4. Double-feed detection setting (DF-980 only)

Double-feed detection is to detect double-feed by reading the paper thickness in test folding and when more than 2 sheets of paper are fed at the same time during paper folding process.
Default : Set [OFF], Thickness [Thin]

1 **Press the menu key to display [D-Feed Detect].**

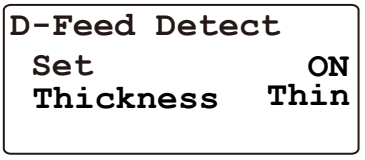


2 **Select [Set] with the ▲ or ▼ key.**

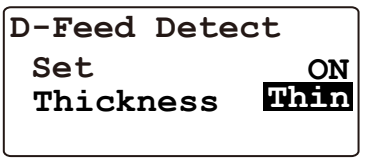
3 **Press the ↵ key.**
At this stage [ON] or [OFF] can be changed.

4 **Select [ON] with the ◀ or ▶ key.**

5 **Press the ↵ key.**
The setting item is set.



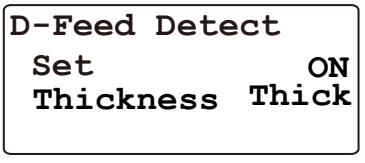
6 **Select [Thickness] with the ▲ or ▼ key.**



7 **Press the ↵ key.**
At this stage [Thin] or [Thick] can be changed.

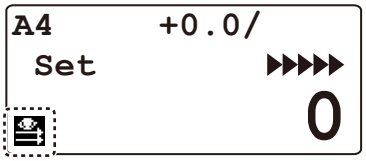
8 **Select [Thin] or [Thick] with the ◀ or ▶ key.**

9 **Press the ↵ key.**
The selected item is set.

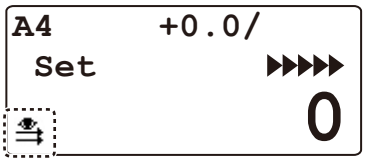


10 Press the ⮌ key.

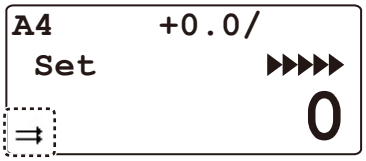
The display returns to the top screen, an icon will be displayed on the LCD display.



- Be sure to test fold before starting paper folding when the double-feed detection setting is set to [ON]. After test folding, the icon will be changed as shown in the figure.



- Double-feed will not be detected when using the paper with the length of 250 mm/9.84 inches or less, even if the double-feed detection setting is set to [ON]. The icon will be changed as shown in the figure when using the paper with the length of 250 mm/9.84 inches or less.



- The paper thickness will be cleared by changing the [Thickness] of double-feed detection setting. Test fold again when the setting is changed.

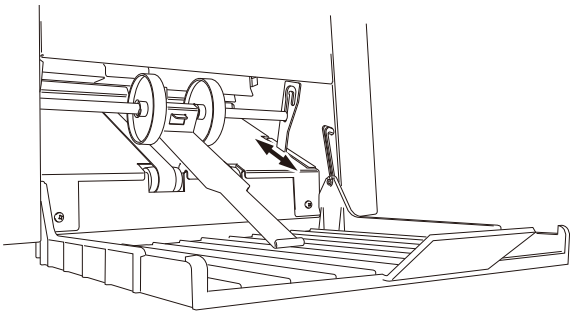
When mis-detection occurs

Double-feed or miss-feed may sometimes be detected although the paper is fed normally.

- If false double-feed detection occurs when paper thickness is set to [Thin], repeat test folding after setting paper thickness to [Thick]. If false detection continues to occur after selecting [Thick], double-feed cannot be detected. Set the double-feed detection to [OFF]
- If false miss-feeding detection occurs when paper thickness is set to [Thick], repeat test folding after setting paper thickness to [Thin]. If false detection continues to occur after selecting [Thin], double-feed cannot be detected. Set the double-feed detection to [OFF].

8-5. Stacker roller adjustment

When the paper opens, paper does not align, or paper jams at the paper ejecting section in processing Cross fold or folding of thick paper, adjust the stacker roller position.



Guide for the setting position of stacker roller

For EU

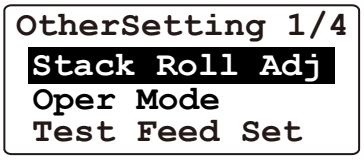
Settings	Applicable standard paper size and folding mode	
1	B5	Double fold
	A5	Double fold, Letter fold, Accordion-fold
	B6	Double fold, Letter fold, Accordion-fold, Gate fold
3	A4	Double fold
	B5	Accordion-fold, Gate fold
	A5	Gate fold
5	A3, B4	Double fold
	A4	Letter fold, Accordion-fold
	B5	Letter fold
	A5, B6	Single fold, Irregular accordion fold-out
7	A4	Gate fold
9	B4	Letter fold, Accordion-fold
	B5	Single fold, Irregular accordion fold-out
11	A3	Letter fold, Accordion-fold
	A4	Single fold, Irregular accordion fold-out
15	A3, B4	Single fold, Irregular accordion fold-out, Gate fold

For North America

Settings	Applicable standard paper size and folding mode	
1	STMT, INV	Double fold, Letter fold, Accordion-fold
3	LTR	Double fold
5	STMT, INV	Single fold, Irregular accordion fold-out, Gate fold
	LTR	Letter fold, Accordion-fold
	LGL, LGR	Double fold
8	LTR	Gate fold
9	LGL	Letter fold, Accordion-fold
11	LTR	Single fold, Irregular accordion fold-out
	LGR	Letter fold, Accordion-fold
15	LGL, LGR	Single fold, Irregular accordion fold-out, Gate fold

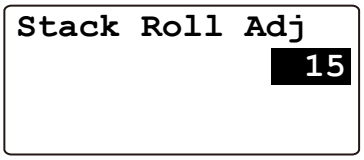
1 **Press the menu key to display [Other Setting].**

2 **Select [Stack Roll Adj] with the ▲ or ▼ key.**



3 **Press the ↵ key.**

The [Stack Roll Adj] screen is displayed, and at this stage a numerical value can be changed.



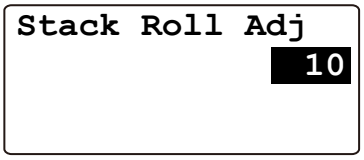
4 **Select a numerical value on the keypad or with the ◀▶ key.**

Selected range : [0] to[16]

- As the numerical value decreases, the stacker roller position moves to the inner side of the machine, and as the numerical value increases, the stacker roller position moves to the outer side of the machine.
- Use [0] when paper jam occurs in Cross fold. When the value is set to [0], the processing speed decreases.

5 **Press the ↵ key.**

The changed numerical value is set and the stacker roller moves.



6 **Press the ⮌ key.**

Returns to the [Other Setting].

7 **Press the ⮌ key.**

Returns to the top screen.

When the paper size or folding mode is changed, the former value is cleared.

When the paper size is changed according to the automatic detection of paper size, the value will not be cleared. (DF-980)

8-6. Operation mode settings

The operation mode setting is used to set the folding stopper function of the folding plates 1 and 2 when the power is turned on.

Default : [Normal]

The following modes can be set.

Normal mode

[Normal] : When the power is turned on, use the normal mode to start up in the normal setting state.

Refold mode (DF-980 only)

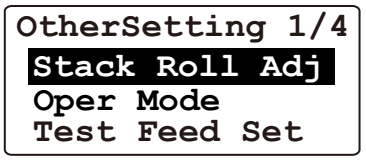
[Last Fold] : When the power is turned on, use the refold mode to start up the machine in the setting details used previously. However, the machine will start up with [Manual Feed] and [Interval Setting] set to OFF when the power is turned on.

Folding stopper fixed mode

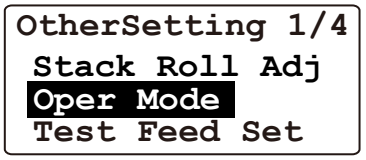
[Stopper Fixed] : Use [Stopper Fixed] to delete the setting operation on the control panel when folding paper always in the same conditions. In this mode, when the power is turned on, this machine is always set to the same conditions automatically, and initial operation of the folding plates will not be performed. As the [Stopper Fixed] is automatically set to the same conditions, the folding mode and paper size cannot be changed.

However, the machine will start up with [Manual Feed] and [Interval Setting] set to OFF when the power is turned on.

1 **Press the menu key to display [Other Setting].**

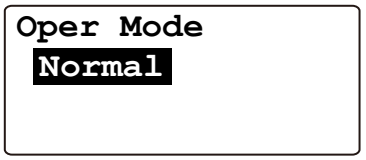


2 **Select [Oper Mode] with the ▲ or ▼ key.**



3 **Press the ↵ key.**

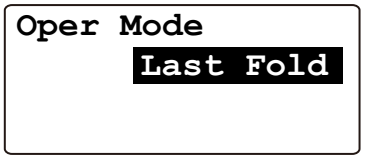
The [Oper Mode] screen is displayed, and at this stage [Normal], [Last Fold], or [Stopper Fixed] can be changed.



4 **Select a mode with the ◀ or ▶ key.**

5 **Press the ↵ key.**

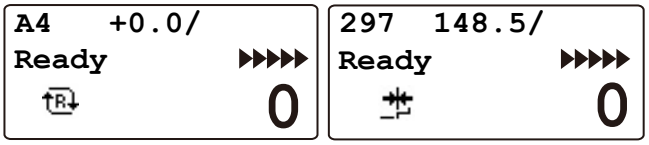
The selected details are set.



6 **Press the ⮌ key.**

Returns to the [Other Setting].

7 **Press the ↩ key.**
Returns to the top screen.
When [Last Fold] or [Stopper Fixed] is set, an icon will be displayed on the LCD display.



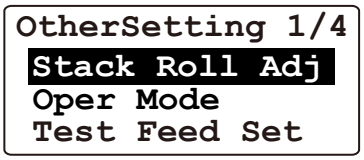
[Last Fold] [Stopper Fixed]

When the [Stopper Fixed] is set, folding misalignment in the vertical direction occurs by removing the folding plate with the power turned off. Be sure to press the cancel key and clear key at the same time when turning on the power, and eject the folding plate forcibly.

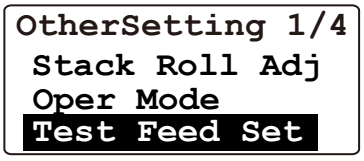
8-7. Test feed setting

The number of sheets is set when performing test feeding.
Default : [2] sheet

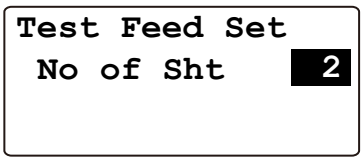
1 **Press the menu key to display [Other Setting].**



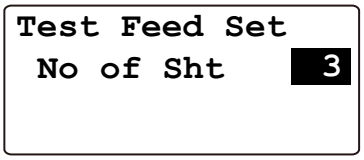
2 **Select [Test Feed Set] with the ▲ or ▼ key.**



3 **Press the ↵ key.**
The [Test Feed Set] screen is displayed, and at this stage the numerical value can be changed.



4 **Select the number of sheets with the ◀ or ▶ key.**
Selected range : 1 to 3 sheets



5 **Press the ↵ key.**
The selected numerical value is set.

6 **Press the ↩ key.**
Returns to the [Other Setting].

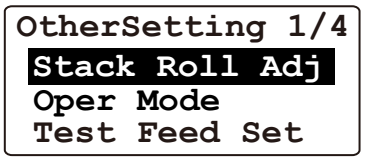
7 **Press the ↩ key.**
Returns to the top screen.

8-8. Power saving setting

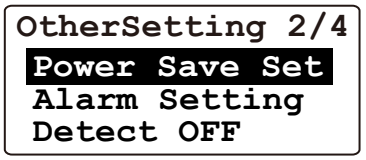
If the machine is not used for a certain period of time, the backlight of the LCD display will automatically go off by setting to backlight automatic go off function.

Default : Set [ON], Time [30 Sec]

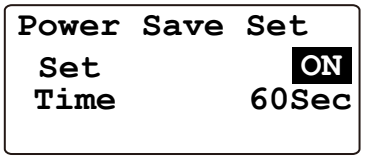
1 **Press the menu key to display [Other Setting].**



2 **Select [Power Save Set] with the ▲ or ▼ key.**



3 **Press the ↵ key.**
The [Power Save Set] screen is displayed.

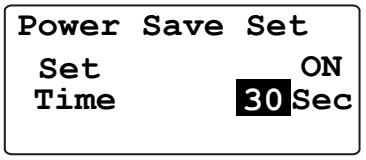


4 **Select [Set] with the ▲ or ▼ key.**

5 **Press the ↵ key.**
At this stage [ON] or [OFF] can be changed.

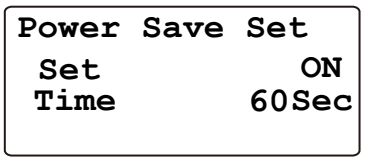
6 **Select [ON] or [OFF] with the ◀ or ▶ key.**

7 **Press the ↵ key.**
The selected item is set and a numerical value of [Time] can be changed at this stage.



8 **Input the time on the keypad.**
Selected range : 15 to 60 seconds

9 **Press the ↵ key.**
The selected numerical value is set.



10 **Press the ⮌ key.**
Returns to the [Other Setting].

11 **Press the ⮌ key.**
Returns to the top screen.

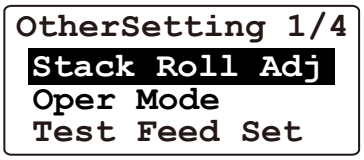
8-9. Alarm setting

When this machine remains unused for the specified period of time, the buzzer sounds to remind that the power remains turned on.

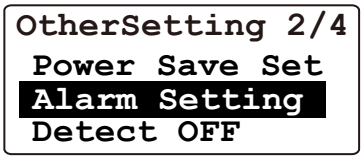
When the [Alarm setting] is set to [ON], the buzzer sounds "pi" at the specified time. After this stage, when the machine remains unused, the buzzer sounds "pi" every one minute.

Default : Set [OFF], Time [60 Min]

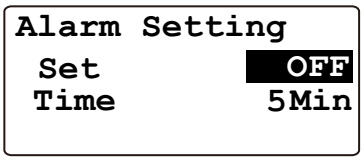
1 **Press the menu key to display [Other Setting].**



2 **Select [Alarm Setting] with the ▲ or ▼ key.**



3 **Press the ↵ key.**
The [Alarm Setting] screen is displayed.

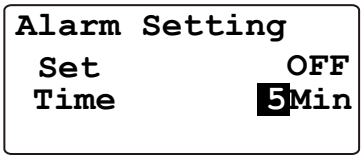


4 **Select [Set] with the ▲ or ▼ key.**
At this stage [ON] or [OFF] can be changed.

5 **Select [ON] with the ◀ or ▶ key.**

6 **Press the ↵ key.**
The selected item is set.

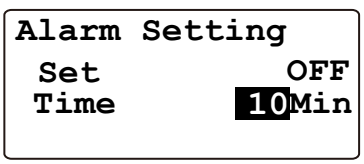
7 **Select [Time] with the ▲ or ▼ key.**



8 **Press the ↵ key.**
At this stage the numerical value can be changed.

9 **Select a numerical value on the keypad.**
Setting range : 5 to 120 minutes

10 **Press the ↵ key.**
The inputted value will be set.



11 **Press the ⮌ key.**
Returns to the [Other Setting].

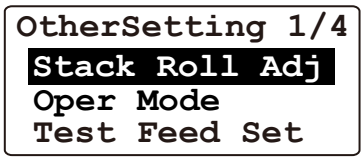
12 **Press the ⮌ key.**
Returns to the top screen.

8-10. Detection OFF setting

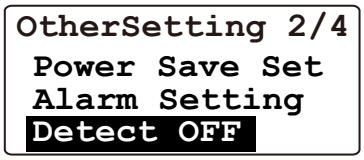
When [No Paper] is displayed although paper is stacked on the paper feed tray, no paper detection is set to [OFF]. This setting will return to [ON] when the power is turned off.

Contact Duplo dealer if detection error remains displayed even if the sensor is cleaned.

1 **Press the menu key to display [Other Setting].**

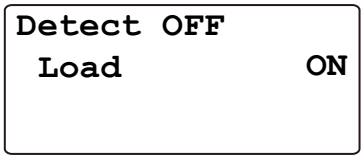


2 **Select [Detect OFF] with the ▲ or ▼ key.**

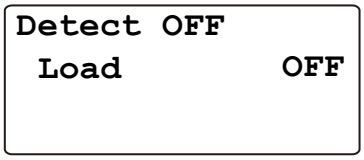


3 **Press the ↵ key.**

The [Detect OFF] screen is displayed, and at this stage [ON] or [OFF] can be changed.



4 **Select [OFF] with the ◀ or ▶ key.**



5 **Press the ↵ key.**

The selected item is set.

6 **Press the ⮌ key.**

Returns to the [Other Setting].

7 **Press the ⮌ key.**

Returns to the top screen.

When the [Detect OFF] is set to [OFF] and the paper on the paper feed tray runs out, [Feed Err Misfeed] is displayed on the LCD display, and the machine stops, but the paper feed tray does not rise or descend automatically. Press the ▼ key to descend the paper feed tray.

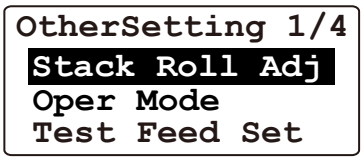
When paper is stacked on the paper feed tray, [Feed Err Misfeed] display will disappear and the machine will be in the stand-by state.

8-11. Default setting

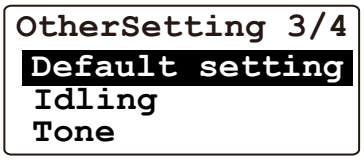
Using [Oper Mode], the setting can be changed at the time when the power is turned on in the [Normal] setting.

Default : Speed [5], Double-feed Detection [OFF] (DF-980),Paper size [A4] (DF-970)

1 **Press the menu key to display [Other Setting].**

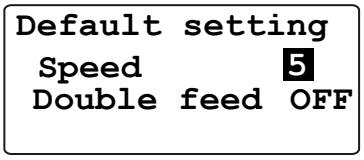


2 **Select [Default Setting] with the ▲ or ▼ key.**



3 **Press the ↵ key.**

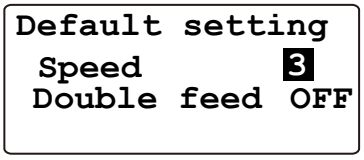
The [Default Setting] screen is displayed.



4 **Select [Speed] with the ▲ key or ▼ key.**

5 **Select a numerical value with the ◀ key or ▶ key.**

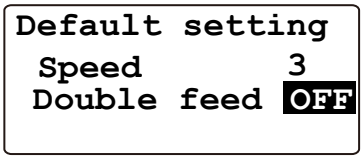
Setting range : 0 to 6



6 **Press the ↵ key.**

At this stage the selected numerical value is set and [ON] or [OFF] of [Double feed] can be changed.

For the DF-970, [Size] can be changed at this stage.



7 **Select [ON] or [OFF] with the ◀ key or ▶ key.**

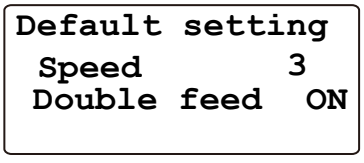
For the DF-970, select the paper size.

8 **Press the ↵ key.**

The selected item is set.

9 **Press the ⮌ key.**

Returns to the [Other Setting].



10 **Press the ⮌ key.**

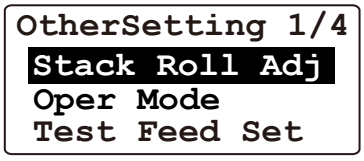
Returns to the top screen.

8-12. Idling setting

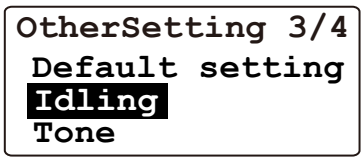
When double-feed or mis-feed occurs, or when interrupting paper folding during operation by pressing the start key, whether to keep operation of the machine standing by under the idling conditions can be set under the idling conditions without stopping operation except conveyance drive.

Default : [OFF]

1 **Press the menu key to display [Other Setting].**

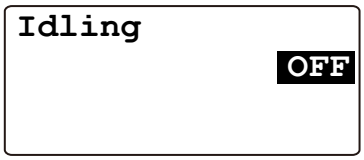


2 **Select [Idling] with the ▲ or ▼ key.**



3 **Press the ↵ key.**

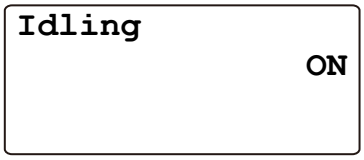
The [Idling] screen is displayed, and [ON] or [OFF] can be changed.



4 **Select [ON] or [OFF] with the ◀ or ▶ key.**

5 **Press the ↵ key.**

The selected item is set.



6 **Press the ⮌ key.**

Returns to the [Other Setting].

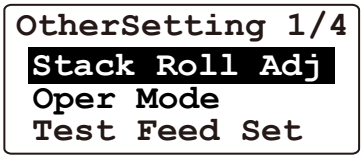
7 **Press the ⮌ key.**

Returns to the top screen.

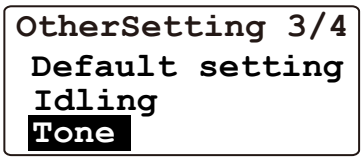
8-13. Tone setting

The buzzer (key operational sound on the control panel) or not can be set.
The buzzer sounds with the setting [OFF] when a trouble has occurred.
Default : [ON]

1 **Press the menu key to display [Other Setting].**



2 **Select [Tone] with the ▲ or ▼ key.**



3 **Press the ↵ key.**
The [Tone] screen is displayed and [ON] or [OFF] can be changed at this stage.

4 **Select [ON] or [OFF] with the ◀ or ▶ key.**

5 **Press the ↵ key.**
The selected item is set.

6 **Press the ⮌ key.**
Returns to the [Other Setting].

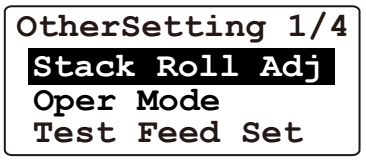
7 **Press the ⮌ key.**
Returns to the top screen.

8-14. mm/inch setting

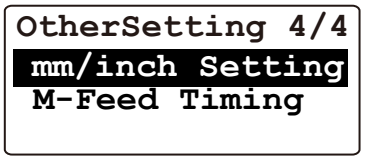
According to the using environment, the numerical inputting machine to register the paper size, folding dimensions (folding stopper adjusting value), and cross folding can be changed.

Default : [mm]

1 **Press the menu key to display [Other Setting].**



2 **Select [mm/inch Setting] with the ▲ or ▼ key.**



3 **Press the ↵ key.**

The [mm/inch Setting] screen is displayed and [mm] or [inch] can be changed at this stage.

4 **Select [mm] or [inch] with the ◀ or ▶ key.**

5 **Press the ↵ key.**

The selected item is set.

6 **Press the ⮌ key.**

Returns to the [Other Setting].

7 **Press the ⮌ key.**

Returns to the top screen.

Chapter 4 Using Options

1. DF HAND FEED KIT

At maximum three sheets of paper can be simultaneously folded together by using the DF HAND FEED KIT.

1-1. Applicable paper and folding mode

Paper to be used

Paper size: A4,B5

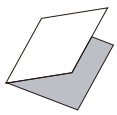
Thickness of paper: 52.3 to 81.4g/m^2 /14 to 22 lb

The number of paper to be folded: Maximum three sheets of paper. Fine quality short grain paper 64.0 g/m^2 /16 lb or less, art paper, two sheets of coated paper or less

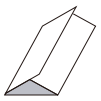
Note
- **Do not use a smaller type of paper than specified. Paper jam may occur inside this machine by using other type of paper and a trouble may be caused.**
- **The number of sheets out of the range above cannot be processed, and thinner or thicker sheets cannot be used. Deformed folding may be performed, and paper jam may occur in this machine by processing more sheets, or using thinner or thicker sheets than specified, and a trouble may be caused.**

Folding modes

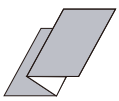
- Single fold
- Letter fold
- Accordion-fold



Single fold



Letter fold



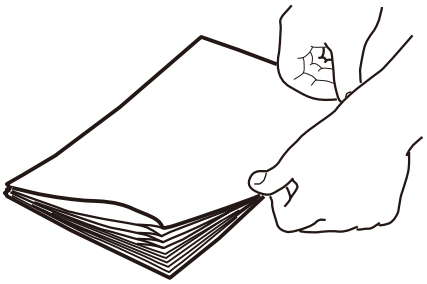
Accordion-fold

Note **When performing letter fold of thick paper, the folded paper opens at the ejecting section, and it cannot be conveyed under the stacker roller, which may result in an error.**

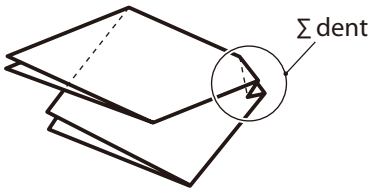
Using A3 or B4 size single folded paper (cross fold)

Cross fold is available only for a single fold sheet. More than one sheet of single fold paper cannot be used.

Press the folded section firmly and perform paper folding operation. The paper feeding state will be unstable if the folded line is not folded firmly.

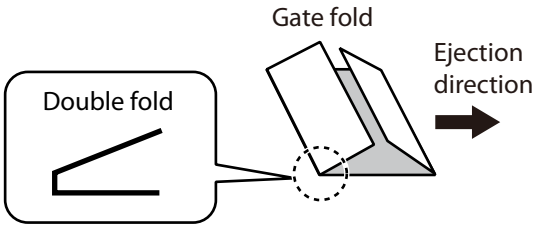


- Folded paper may result in Σ dent depending on the paper type and stretch of the folded section. This is not a malfunction of the machine.
- When folding single-folded paper by manual feeding, folding may not be completed properly depending on the paper thickness and stiffness at the folded section. Check in advance using the paper to be used.



Performing Gate Fold with DF HAND FEED KIT Attached

When the DF HAND FEED KIT is attached, the switching axis position of this machine will be changed. Due to the above, when performing gate fold by automatic paper feeding, the folding line of second folding tends to double-fold (as shown in the figure). This is not a malfunction of the machine.



1-2. Staples

Applicable range of folding of stapled paper is limited.

Usable staplers

Use the flat type stapler as the staples are stitched evenly.

When using a stapler other than specified item, the staples touch the folding roller, and do not enter between the folding rollers, or cannot process paper folding as the staples touch the inlet of the folding plate.

Do not use any other staplers than specified as they injury the folding roller.

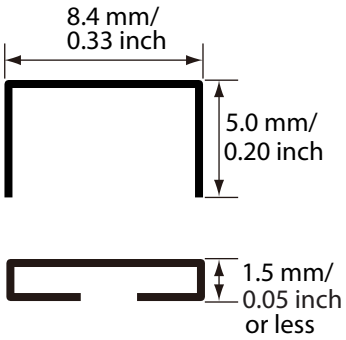
Flat clinch

Conventional clinch

Usable staples

Use a staple No. 10 (Max No10-1M), standard item. The length of staple: width of 8.4 mm/0.33 inch, and height of 5.0 mm/0.20 inch.

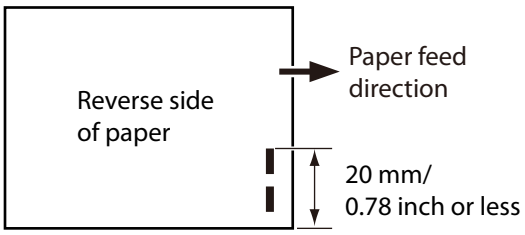
Use a flat type stapler the height of which is 1.5 mm/0.05 inch or less in the stapled state.



Stitching with stapler

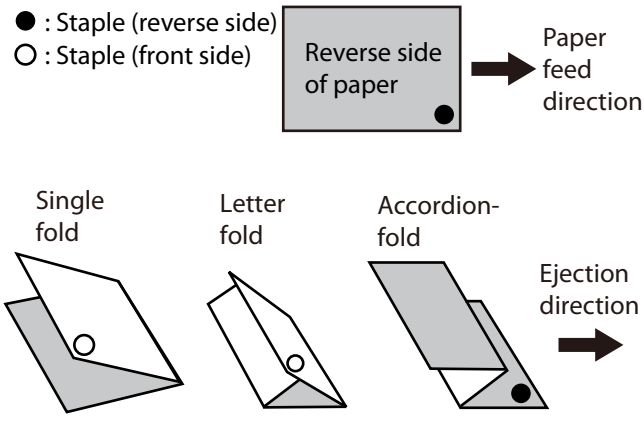
Stitch the paper with stapler in parallel with the paper.

Stitching position is within 20 mm/0.78 inch or less from the edge of paper.



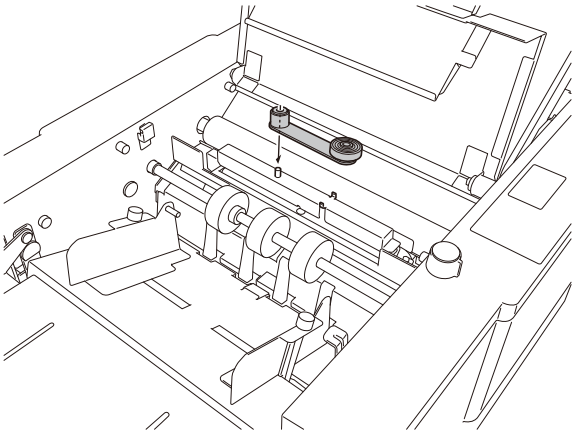
When the top left corner of the paper is stitched with the stapler, reverse the paper, and insert the paper into the inlet so that the staples will be positioned at the top right corner.

Stitching position with staples and folding style are as shown in the figure.



1-3. Placing the cross fold guide

When the DF HAND FEED KIT is attached, the location to store the cross fold lever will be changed. Insert the cross fold lever into the pillar of the sensor cover to store the lever in the direction as shown in the figure.



Note **Be sure to store the cross fold lever at the specified place and in the specified direction. By moving during operation of this machine the folding roller may be damaged, resulting in malfunction.**

⚠WARNING

Open or close the top cover gently.
Hands or fingers may be caught in the cover section. Doing so may result in injury.

1-4. Operation

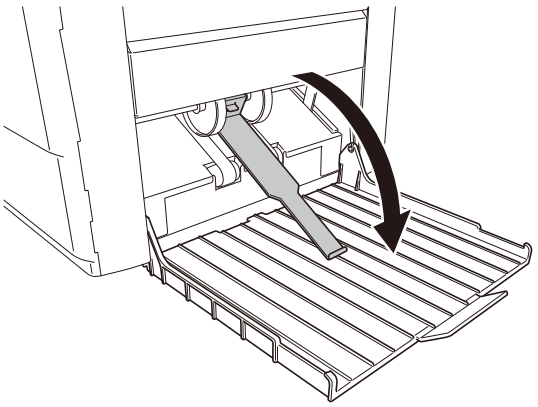
⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

1 **Remove the auxiliary paper ejection guide from the paper receiving tray.**

2 **Open the paper receiving tray to the right side when it is seen on the operating side.**

3 **Attach the auxiliary paper ejection guide to the stacker roller.**



4 **Press the menu key to display [Manual Feed].**

5 **Select [Set] with the ▲ or ▼ key.**

6 **Press the ↵ key.**
At this stage [ON] or [OFF] can be changed.

7 **Select [ON] with the ◀ or ▶ key.**

8 **Press the ↵ key.**
The selected item is set.

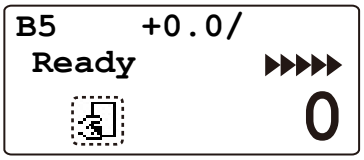
9 **Select [Size] with the ▲ or ▼ key.**

10 **Press the ↵ key.**
At this stage [Size] can be changed.

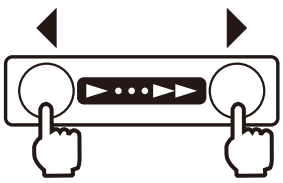
11 **Select [A4] or [B5] with the ◀ or ▶ key.**

12 **Press the ↵ key.**
The selected item is set.

13 **Press the ↩ key.**
The display returns to the top screen, an icon will be displayed on the LCD display.

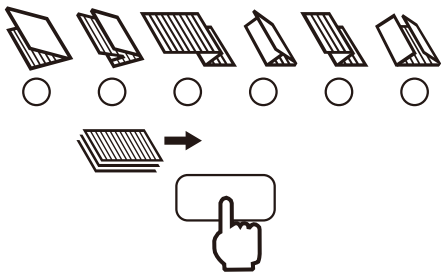


14 **Press the ◀ or ▶ key to set the processing speed.**

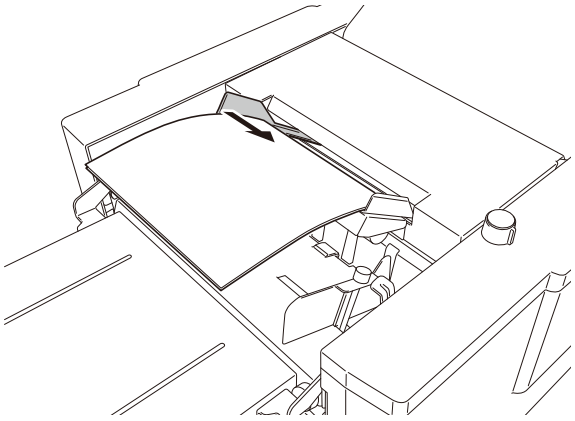


Note **When running thick sheets, set a speed to higher levels. Low speeds may cause abnormal folds.**

15 **Press the folding mode key to select the [folding mode].**
[Single fold], [Letter fold], or [Accordion fold] can be selected.



16 Set the paper to the hand feed paper feed guide of the hand feed paper feed tray.



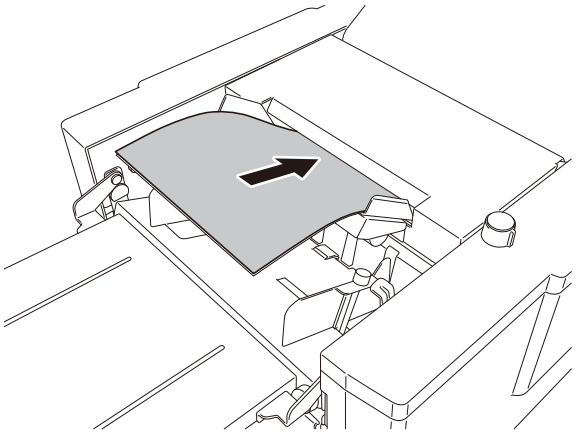
Note **Do not insert the paper into the inlet. Inserting paper into the inlet will result in paper jam or injury as the sensor detects and the paper is fed.**

17 Set the auxiliary guide to the paper side.

Note **Set the auxiliary guide leaving some clearance between the guide and paper. Too much pressure may cause a paper feeding error such as mis-feed, etc.**

18 Insert a sheet of paper to perform test folding.

Insert paper into the inlet, and the machine will start feeding operation automatically to process folding.



Note **Compress the paper inside the machine to insert paper into the inlet. If the paper is not compressed enough, paper jam may occur. If so, press the start key to eject paper forcibly.**

19 Check the finish of test folding.

Adjust the folding misalignment as required.

20 Select the method of using the counter.(Count Up and Count Down)

Ref. For the setting method, refer to the procedure 10 **(p.2-8)** of Chapter 2 "3. Standard Folding of Standard Paper".

The following description is based on the [Count Down] method.

21 **Press the keypad to enter the number of sheets to be processed.**

22 **Insert paper to start folding operation.**

Note

- **Do not insert the next paper before the machine stops. If the next paper is inserted before the machine stops, [Paper jam at paper feed section] is displayed on the LCD display, and the machine stops. When an error is displayed, press the start key to force ejection.**
- **When removing paper from the inlet after the machine starts paper feeding operation, it is determined that paper is fed inside the machine, [Inside Jam] is displayed on the LCD display, and the machine stops. If so, cancel the error by taking either of the following measures.**

  Press the start key to force ejection.

1-5. Canceling the manual feed mode

1 **Press the menu key to display [Manual Feed].**

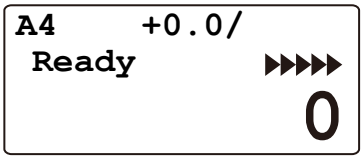
2 **Select [Set] with the ▲ or ▼ key.**

3 **Press the ↵ key.**
At this stage [ON] or [OFF] can be changed.

4 **Select [OFF] with the ◀ or ▶ key.**

5 **Press the ↵ key.**
The selected item is set.

6 **Press the ⇨ key.**
Returns to the top screen.



1-6. Correcting folding misalignment

⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

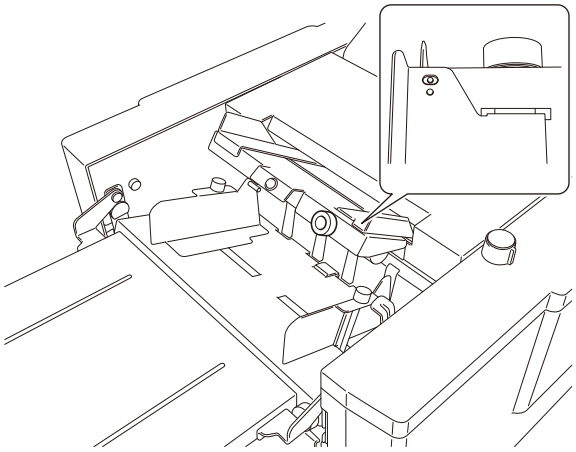
1-6-1. Adjustment the folding misalignment in the up and down direction

If folding misalignment occurs in the up and down direction when performing hand feed operation, refer to Chapter 3 "1-2. Adjustment the folding misalignment in the up and down direction" (p.3-3)

1-6-2. Adjustment the folding misalignment in the right and left direction

If folding misalignment occurs in the right and left direction when performing hand feed operation, adjust with the manual skew correction knob.

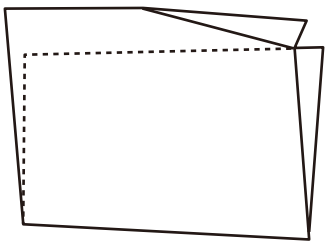
For the adjustment method, refer to Chapter 3 "1-1. Adjustment the folding misalignment in the right and left direction" (p.3-1).



1-6-3. Abnormal folding

If abnormal folding occurs, check the following points.

- Do not use paper outside the specifications.
  Particularly, deformed folding occurs frequently in the use of thin, flimsy paper not appropriate.
- Use paper with grains of long grain. (if the paper with grains of short grain is used, the number of sheets to be used is up to 2 sheets.)
- If the paper curls, flatten the paper to use.
- Set the auxiliary guide leaving a small clearance between the guide and paper. **(p.4-6)**
- Use the stapler as specified. **(p.4-3)**



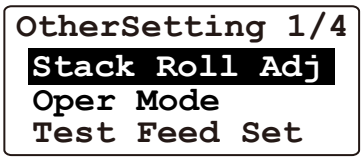
1-6-4. Variable folding between paper

When using art paper or coated paper the surface of which slides easily, the paper slides each other, and misalignment may occur. In such a time, compress the paper lightly into this machine according to driving of this machine.

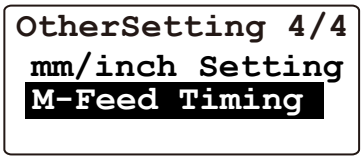
1-7. Manual feed timing setting

The period of time from inserting paper into the inlet to starting folding operation can be changed.
Default : [Normal]

1 **Press the menu key to display [Other Setting].**



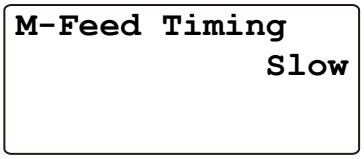
2 **Select [M-Feed Timing] with the ▲ or ▼ key.**



3 **Press the ↵ key.**
[M- Feed Timing] screen is displayed, and [Slow], [Normal], or [Fast] can be changed.

4 **Select the speed with the ◀ key or ▶ key.**

5 **Press the ↵ key.**
The selected details are set.



6 **Press the ⮌ key.**
Returns to the [Other Setting].

7 **Press the ⮌ key.**
Returns to the top screen.

Memo

Chapter 5 Cleaning the Machine

- **Make sure that you disconnect the power cord from the wall outlet before cleaning.**
- **Before you use the machine after cleaning, make sure that its surface is completely dry.**

⚠CAUTION

Do not use flammable sprays and solvents during cleaning, etc. of internal parts of the machine and in the vicinity of the machine.

Doing so could cause build-up of gas inside the machine, which in turn could cause ignition, resulting in fire and explosion.

When using alcohol, exercise precaution against fire and ventilate well, and after use, store in a safe place.

Use of other solvents may damage the rubber rollers and resin inside the machine, resulting in malfunction.

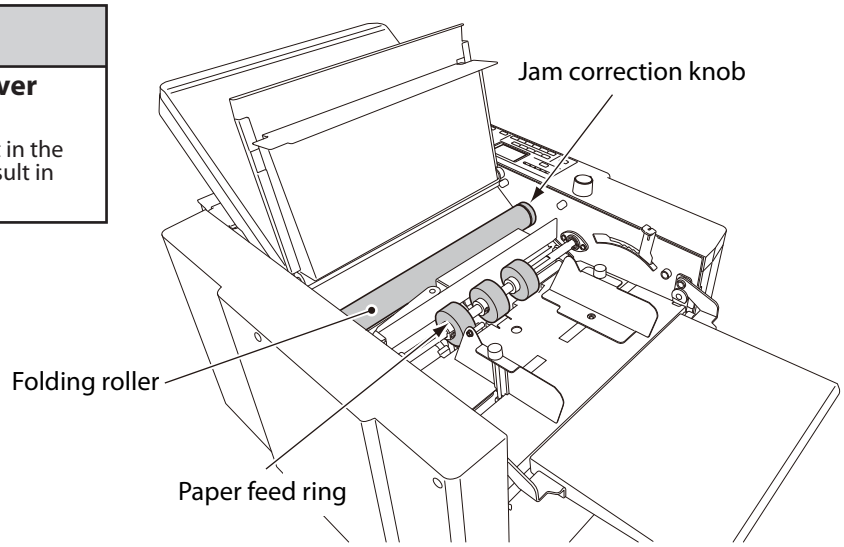
1. Cleaning paper feed rings and folding rollers

Open the top cover.

⚠WARNING

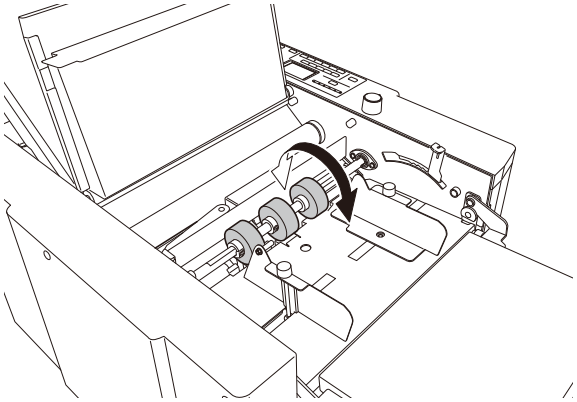
Open or close the top cover gently.

Hands or fingers may be caught in the cover section. Doing so may result in injury.



Paper feed ring

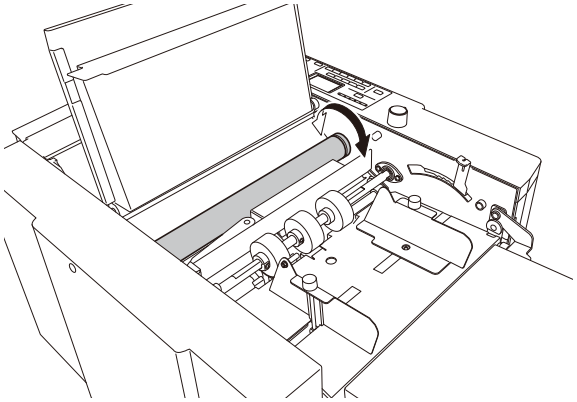
Clean with a cloth moistened with alcohol rotating the paper feed ring by hand.



Folding roller

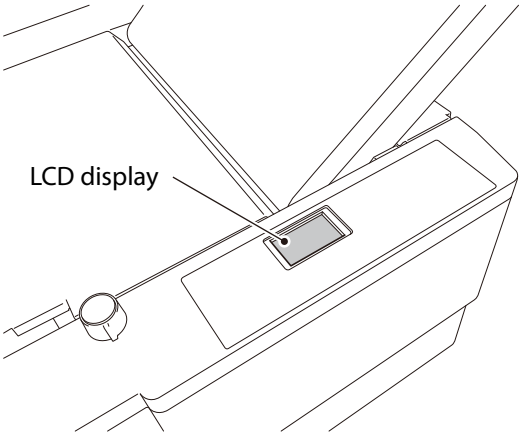
1 **Remove the folding plate 1.**

2 **Clean with a cloth moistened with alcohol rotating the jam correction knob.**



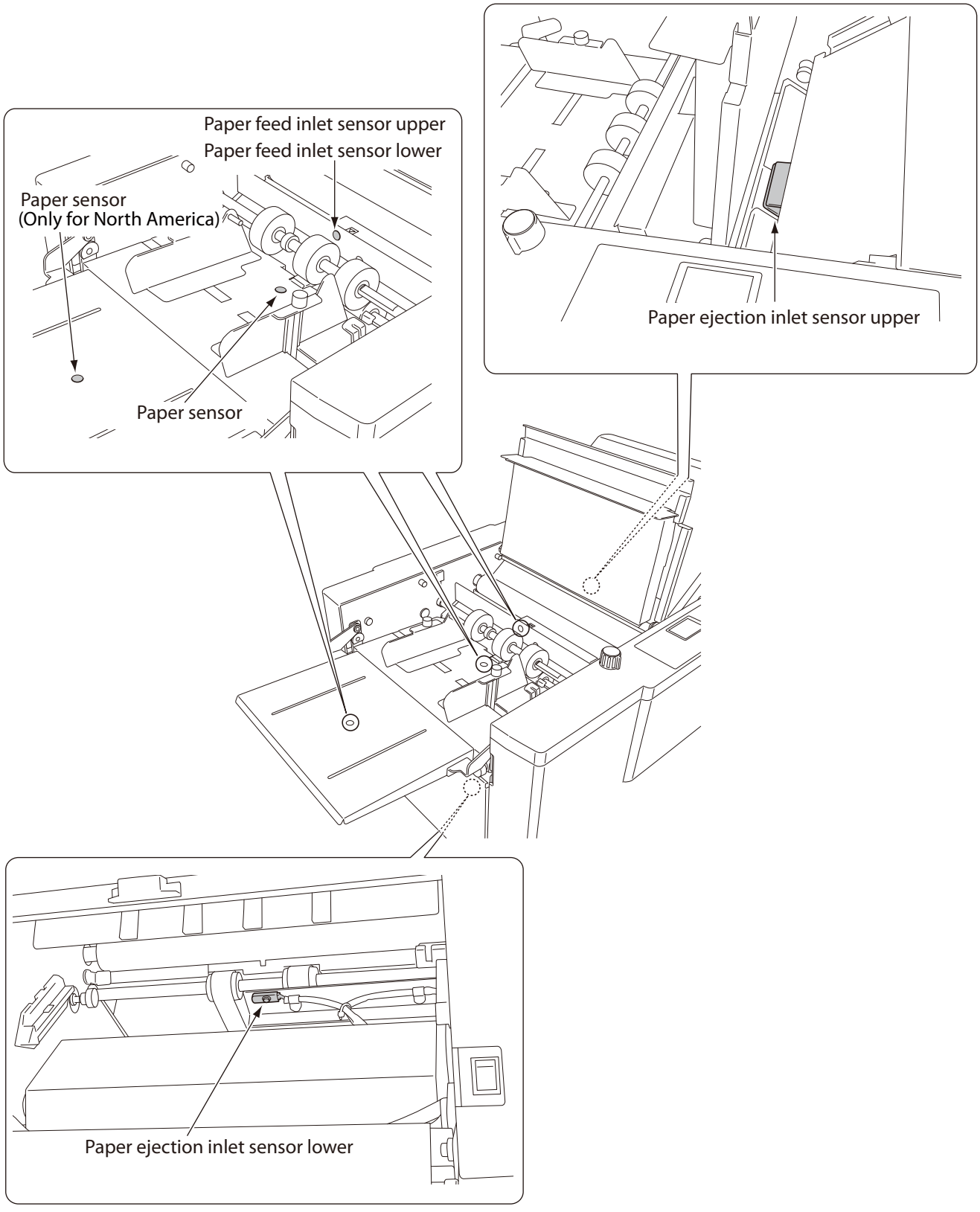
2. Cleaning the LCD

Wipe the LCD on the control panel with the dry cloth.



3. Cleaning the sensor

Sensor attachment position



Remove dust on the infeed sensor, the paper ejection sensor (front) and the paper ejection sensor (back) by blowing air.

Keep in mind the following notes when using the air duster.

Note

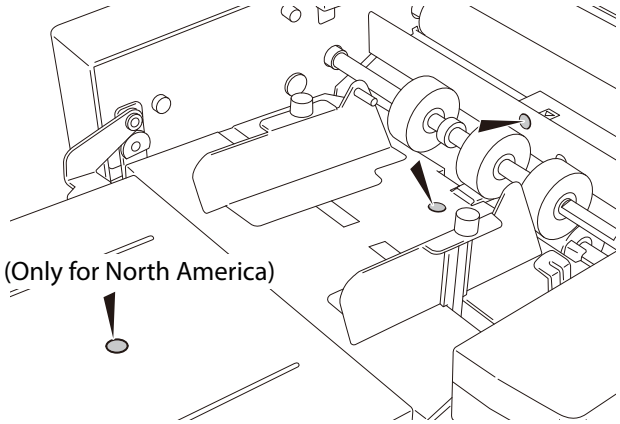
- **Use a non-flammable air duster. Read the cautions for use well, and be sure to keep the descriptions in mind.**
- **The sensors and metallic section are cooled by gas in the air duster, and may be temporarily condensed. Wait for about five minutes.**

Paper feed inlet sensor (up and down), paper sensor

1 **Open the top cover.**

⚠WARNING

Open or close the top cover gently.
Hands or fingers may be caught in the cover section. Doing so may result in injury.

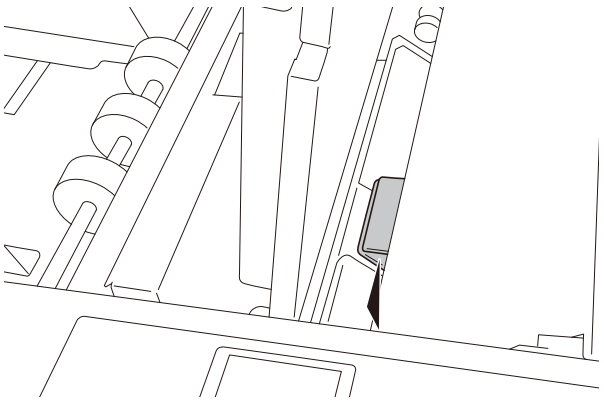


2 **Insert the nozzle of air duster into the hole shown in the figure to blow air.**

Paper ejection inlet sensor upper

1 **Remove the folding plate 1.**

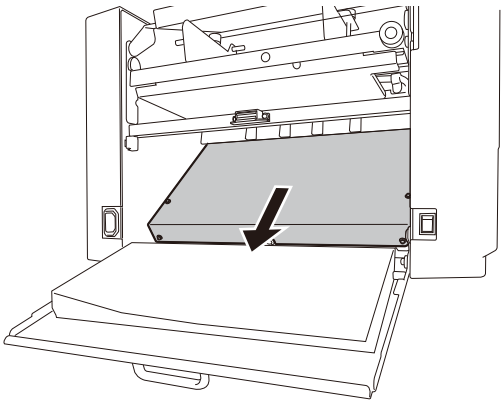
2 **Spray the air duster onto the sensor.**



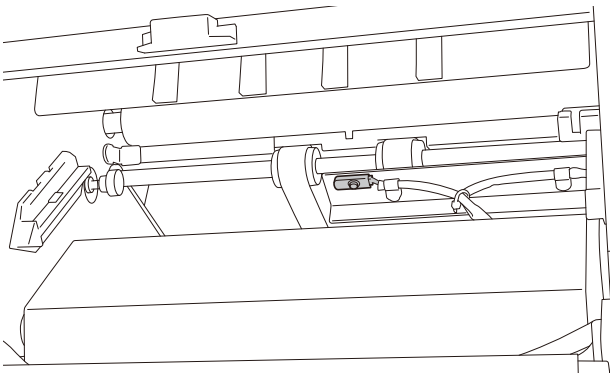
Paper ejection inlet sensor lower

1 **Open the side cover.**

2 **Remove the folding plate 2.**



3 **Spray the air duster onto the sensor, or wipe with a dry cloth.**



4. Cleaning the paper separator

When the paper separator is dirty, paper slippage or double-feed may occur, and paper feeding cannot be normally performed.

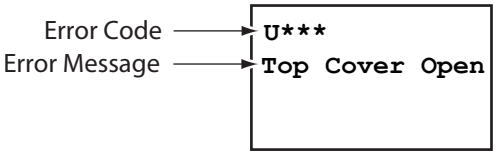
For the cleaning of paper separator, contact Duplo dealer.

Memo

Chapter 6 Trouble Guide

1. Error Code

When an error occurs, error codes will be displayed on the LCD window as follows.



Check the error code or the error message and solve the problem by following the list below.
If the error persists or occurs frequently, contact your dealer.

1-1. Warning error

Error Code	Error Message	Cause	Solution
U010	Top Cover Open	The top cover is open.	Close the top cover.
U020	Side CoverL Open	The side cover is open.	Close the side cover.
U030	Fold Plate1 Err	Folding plate 1 is not attached.	Attach folding plate 1.

1-2. Motor error

Error Code	Error Message	Cause	Solution
E010	Convey Motor Err	Abnormal stack on the motor due to paper jamming, etc.	Remove jammed paper and press the clear key to release the error.
E020			
E110	Tray Motor Err	Abnormal stack on the motor for raising and lowering paper feed plates due to paper jamming, etc. (DF-980)	
E120			
E210	Fold1 Motor Err	Folding plate 1 is not attached properly.	Make sure that folding plate 1 is attached properly.
E220			
E230		Motor for moving the folding stopper is not functioning due to paper jamming, etc.	Remove jammed paper and press the clear key to release the error.
E310	Fold2 Motor Err	Folding plate 2 is not attached properly.	Make sure that folding plate 2 is attached properly.
E320			
E330		Motor for moving the folding stopper is not functioning due to paper jamming, etc.	Remove jammed paper and press the clear key to release the error.
E810	S-Motor Err	Abnormal stack on the stacker roller motor due to paper jamming, etc.	Remove jammed paper and press the clear key to release the error.
E820			
E830			

1-3. Paper jam error

Error Code	Error Message	Cause	Solution
J100	Feed Err Misfeed	Miss-feed on the paper feed tray.	Align the paper again. **(p.1-18)**
J110	Feed Err Double	Double-feed occurs at the paper feed section.	Remove the double-fed paper.
J120	Feed Sec Jam	Paper jamming at paper feed section.	Remove the jammed paper.
J130	Paper Size Error	The stacking direction of the paper on the paper feed tray is incorrect.	Stack paper in the correct direction.
		The length of the paper set is incorrect	Check the length of paper set.
J200	Inside Jam	Paper jamming inside the machine.	Remove the jammed paper. Clear the error by referring to forcible ejection ☞ **(p.6-4)** or opening and closing the top cover.
J800	Ejection Jam	Paper jamming at paper ejecting section.	Remove the jammed paper.

1-4. Errors requiring a service call

When the following error codes are displayed, turn the power off and on. If the error is not cleared, contact Duplo dealer.

E130
E240
E340
E840
E910
E940
E930

2. Paper Jam

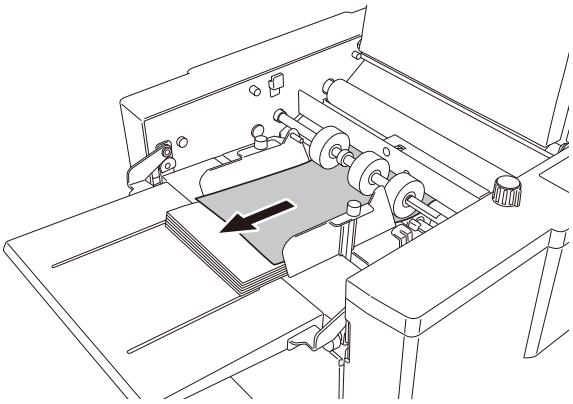
⚠CAUTION

Do not put fingers inside during operation.
Keep away long hair, ties, jewelry and loose clothing.
It could cause injury.

When paper jams, remove the paper in the following way.

2-1. Paper feed ring

1 **Open the top cover.**



⚠WARNING

Open or close the top cover gently.
Hands or fingers may be caught in the cover section. Doing so may result in injury.

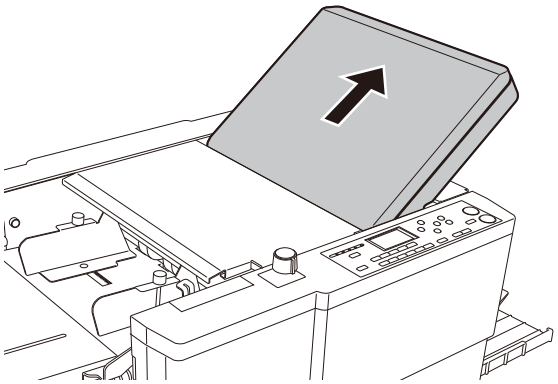
2 **Remove slowly the jammed paper near the paper feed ring.**

3 **Close the top cover.**

Memo If paper cannot be pulled out easily, first remove all the paper on the paper feed tray and pull out the jammed paper.

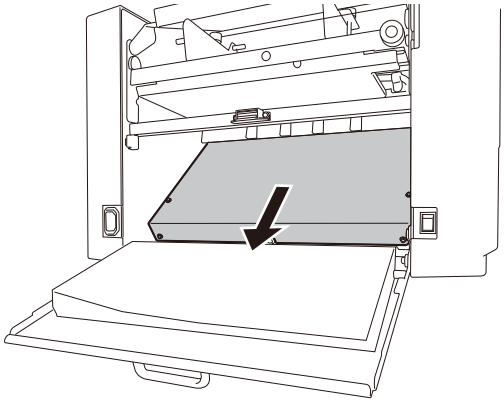
2-2. Folding roller

1 **Take out the folding plate 1.**



2 **Open the side cover.**

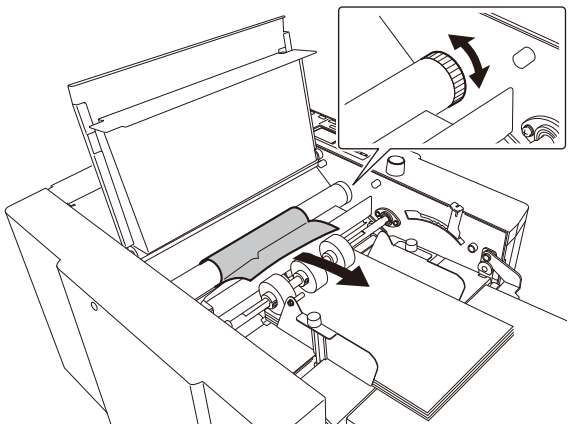
3 **Take out the folding plate 2.**



4 **Open the top cover.**

> **⚠WARNING**
>
> **Open or close the top cover gently.**
> Hands or fingers may be caught in the cover section. Doing so may result in injury.

5 **Pull out the paper rotating the jam correction knob.**



6 **Close the top cover.**

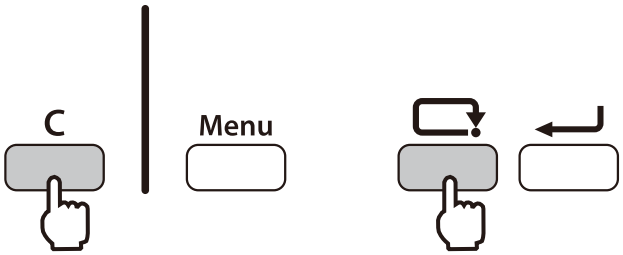
7 **Insert the folding plate 1 and folding plate 2.**

Ref. Refer to Chapter 1 "2-3. Installation procedures" (p.1-3) .

8 **Close the side cover.**

2-3. Folding plate

Holding on the cancel key, press the clear key.
Eject forcibly the paper inside the folding plate.



Even if the paper is not removed after forcible ejection, check the position of paper jam to remove the paper with the following method.

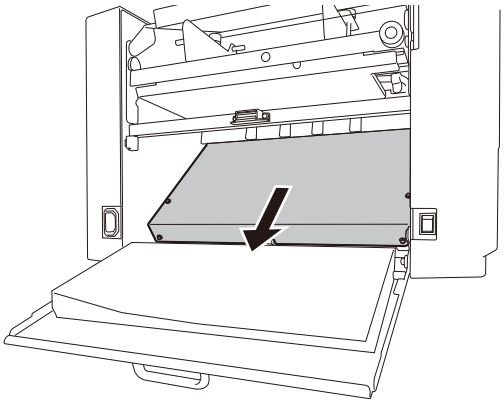
Folding plate 1

Ref. Refer to "2-2. Folding roller" (p.6-3).

Folding plate 2

1 **Open the side cover.**

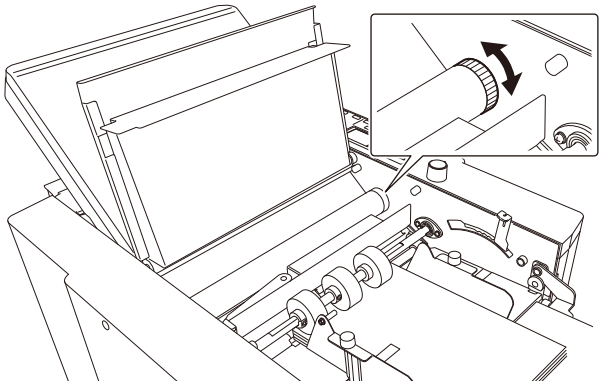
2 **Take out the folding plate 2.**



3 **Open the top cover.**

> **⚠WARNING**
>
> **Open or close the top cover gently.**
> Hands or fingers may be caught in the cover section. Doing so may result in injury.

4 **Pull out the paper rotating the jam correction knob.**



5 **Close the top cover.**

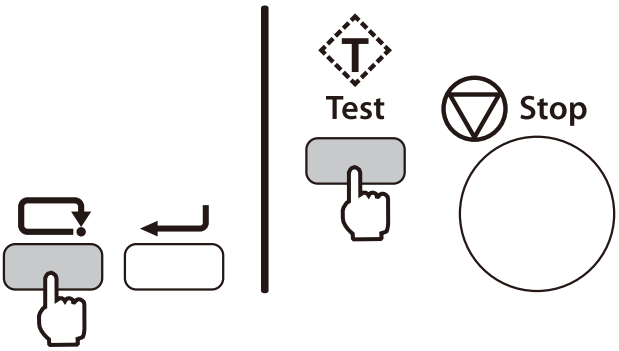
6 **Insert the folding plate 2.**

Ref. Refer to Chapter 1 "2-3. Installation procedures" (p.1-3).

7 **Close the side cover.**

2-4. Ejecting section

Holding on the cancel key, press the test key.
The paper is forcibly ejected.



3. Troubleshooting

⚠WARNING

Do not use a flammable static electricity removal spray.
Doing so could cause build-up of gas inside the machine, which in turn could cause ignition, resulting in fire and explosion.

Condition	Cause	Solution
Power is not turned on.	The power cord is not connected.	Connect the power cord.**(p.1-6)**
The machine does not start operation when the start key is pressed.	Paper is not stacked.	Stacking paper on the paper feed tray. **(p.2-2)**
	The paper switch is not responding.	Stacking paper in correct position so that the paper switch responds. **(p.2-3)**
	Paper has jammed.	Remove jammed paper. **(p.6-3)**
	The top cover and side cover are open.	Close the covers which are open.
	Non-standard paper is used in standard paper settings. (DF-980)	Change the settings to match non-standard paper. **(p.3-7)**
	The paper feed guide is off the paper size detection area. (DF-980)	Secure the paper feed guide correctly.
	The paper set lever is not lowered. (DF-970)	Lower the paper set lever. **(p.2-4)**
	Test folding is not performed even though the setting is changed to [ON] in [Double-feed Detection Setting]. (DF-980)	Test fold. **(p.2-7)**
	A6, A7, B7 or other non-standard paper is used.	Input the paper size. **(p.3-7)**
The folding stopper of folding plate 1 or 2 does not operate.	The folding plates 1 and 2 are not set properly.	Set the folding plates 1 and 2 properly. **(p.1-3)**
Paper is not folded at the normal folding position.	The folding plates 1 and 2 are not set properly.	Set the folding plates 1 and 2 properly. **(p.1-3)**
	Static electricity is built up on paper.	• Use a commercially available static electricity removal spray. • Lower the processing speed. **(p.2-6)** • Separate the paper well. **(p.1-18)** • Humidify with a humidifier as required.
Paper jam occurs.	Paper is not separated well.	Separate the paper well. **(p.1-18)**
	Paper is curled.	Correct the paper curl before use.
	The folding roller is stained.	Clean with a cloth moistened with alcohol. **(p.5-2)**
	The stacker roller is not positioned correctly.	Re-set the position of the stacker roller. **(p.3-28)**
	Static electricity is built up on paper.	• Use a commercially available static electricity removal spray. • Humidify with a humidifier as required.

Condition	Cause	Solution
Paper is double-feed.	Paper feed pressure is too high.	Decrease the paper feed pressure. **(p.2-6)**
	Paper separating pressure is too low.	Increase the paper separating pressure. **(p.2-6)**
	The paper separator is stained.	For the cleaning of paper separator, contact Duplo dealer.
	Paper is sticking and difficult to separate.	Check that the printing ink of the paper has dried and there is no static electricity, and then separate the paper well.
	Paper out of specifications is used.	Do not use paper outside the specifications. **(p.1-17)**
Miss-feed occurs at the paper feed section	Paper feed pressure is too low.	Increase the paper feed pressure. **(p.2-6)**
	Paper separating pressure is too high.	Decrease the paper separating pressure. **(p.2-6)**
	The paper feed ring is stained.	Clean with a cloth moistened with alcohol. **(p.5-1)**
	Paper is sticking and difficult to separate.	Check that the printing ink of the paper has dried and there is no static electricity, and then separate the paper well. **(p.1-18)**
	Paper out of specifications is used.	Do not use paper outside the specifications. **(p.1-17)**
Folding misalignment along the vertical length of the paper occurs.	Processing speed was changed midway through operation.	Adjust the folding stopper positions of folding plates 1 and 2. **(p.3-3)**
	Paper type (quality, thickness) was changed midway through operation.	
	The folding plate was removed while the stopper fixed mode was ON.	Press down cancel key and clear key at the same time.
Folding misalignment along the sides of the paper occurs.	Too many sheets of paper are stacked.	Reduce the paper amount.
	The paper feed guides are not set properly.	Set the paper feed guides properly. **(p.2-3)**
	The fixing screws of the paper feed guides got loose and the paper feed guide slipped out of position.	Tighten the fixing screws of the paper feed guides**. (p.2-3)**
	Paper is not cut properly.	Correct the folding misalignment along the sides of the paper using the skew correction knob. **(p.3-2)**
Continuous-feeding occurs with small paper.	Paper out of specifications is used.	Do not use paper outside the specifications. **(p.1-17)**
	Paper feed pressure is too high.	Decrease the paper feed pressure. **(p.2-6)**
	The separating pressure is too low.	Increase the separating pressure. **(p.2-6)**
	The paper feed guides are not set properly.	Set the paper feed guide according to the paper. **(p.2-3)**
	Paper is not properly aligned.	Align the paper well before stacking on the paper feed tray. **(p.1-18)**
	Thin flimsy paper is used.	Lower the processing speed. **(p.3-24)**
	Paper size with limitations in processing speed is used.	
Single-folded thick paper jams at the folding rollers.	Paper out of specifications is used.	Do not use paper outside the specifications. **(p.1-17)**
	Paper feed pressure is too high.	Decrease the paper feed pressure. **(p.2-6)**
	The processing speed is too slow.	Increase the processing speed. **(p.3-24)**
	Paper is not separated well.	Separate the paper well. **(p.1-18)**
When large paper is stacked on the paper feed tray, the tray does not rise even when the start key is pressed.	Too many sheets of paper are stacked.	Reduce the paper amount.
	Heavy paper is used.	Increase the paper feed pressure. **(p.3-24)**

Condition	Cause	Solution
Mis-detection of double-feed occurs.	Test folding is not carried out after the paper is re-stacked.	Perform test folding whenever new sheets of paper are re-stacked. **(p.2-7)** Repeat test folding when a miss-feed or double-feed error occurs.
	Paper thickness in the double-feed detection setting is not appropriately set.	Check the paper thickness, change the setting of paper thickness to [Thick] and test fold again. **(p.3-26)**
	The printing state is variable within the range of double-feed detection.	Set the double-feed detection to OFF. **(p.3-26)** (At this time, double-feed is not detected.)
Mis-feed occurs.	Paper is not separated before being stacked.	Separate the paper enough. **(p.1-18)**
	Ink is not dried.	Dry the paper enough. **(p.1-18)**
	Paper is not stacked in alignment.	Stack the paper in alignment. **(p.1-18)**
	The paper feed guide is pressed against the paper too strong.	Set the paper feed guide so that it touches the paper lightly. **(p.2-3)**
Mis-detection of mis-feed occurs.	Paper is fed askew.	Align paper appropriately and stack the paper at a proper position.
	Double-feed detection is set to [ON], the paper thickness is not appropriate.	Check the paper thickness, change the setting of paper thickness to [Thin] and test fold again. **(p.3-26)**
Double-feed occurs.	Paper is not separated before being stacked.	Separate the paper enough. **(p.1-18)**
	Ink is not dried.	Dry the paper enough. **(p.1-18)**
	Paper is not stacked in alignment.	Stack the paper in alignment. **(p.1-18)**
	Loaded paper is more than 46 mm/1.81 inches in height.	Stacking paper so that it is less than 46 mm/1.81 inches in height. **(p.2-3)**
	Paper thickness is not appropriate.	Repeat test folding after checking paper thickness. **(p.2-7)**
The machine will not start operation even though the paper is inserted from the hand feed inlet.	[Manual Feed] is set to [OFF].	Set [Manual Feed] to [ON]. **(p.4-4)**

Chapter 7 Appendix

Specifications

Model		DF-980	DF-970
Type		Desktop-type	
Paper feed method		3-ring friction feed	
Paper size	Length	105 to 457.2 mm/4.13 to 18.00 inches	
	Width	74 to 311 mm/2.91 to 12.24 inches	
	Regular size	A3, A4, A5, B4, B5, B6/LGL,LGR,LTR,INV,STMT	
Paper quality		Fine quality paper (52 to 157 g/m^2/14 to 40 lb) Recycled paper, Drawing paper, Specific art paper,Specific coated paper. * Types of folding may be limited depending on the paper quality and size.	
Folding mode		Single fold, Double fold, Irregular accordion fold, Letter fold, Accordion fold,Gate fold, Specific cross fold, Other non-standard fold.	
Number of custom folding registration memories		20	10
Paper feed tray capacity		46 mm/1.81 inches (500 sheets of fine quality paper 64 g/m^2/16 lb)500 sheets	
Paper feed tray movement		Automatic up-down	Manual up-down
Processing speed (Max.)		242 sheets/minute (When 81.4 g/m^2/21.6 lb fine quality paper is single folded)	
Additional functions		• Folding stopper fixed • Test folding • Standard folding registration • Custom folding registration • Entire paper length input mode • Thick paper mode • Thin paper mode • LCD display energy-saving • Force eject function • Force eject inside folding plate • Cross fold (Provided as an option for the DF-970) • Manual feed function (Optional)	
		• Ejection interval function • Refold function • Alarm function	
Error detection functions		• No paper detection • Paper jamming detection • Miss-feed detection • Paper size error	
		• Double-feed detection (Paper length 250 mm/9.84 inches or longer)	
Other detection functions		• In-machine jamming • Ejecting section jamming • Folding plate 1 set error • Top cover open • Side cover open (Folding plate 2 set error)	
Airborne noise		Equivalent continuous A-weighted sound pressure level: 70 db Sound pressure level: 89 db	Equivalent continuous A-weighted sound pressure level: 72 db Sound pressure level: 91 db
		Put this machine on the table and measure at the place where it is 1 m/39.37 inches from the control panel and 1.5 m/59.05 inches from the floor.	
Power supply		AC 100 to 240 V 50/60 Hz 1 to 0.5 A	
Current consumption		88 W	
Dimensions		When in use: 1046(W) x 512(D) x 494(H) mm/41.18(W) x 20.16(D) x 19.45(H) inches When in stored: 665(W) x 512(D) x 494(H) mm/26.18(W) x 20.16(D) x 19.45(H) inches	
Mass (Weight)		43 kg/92.6 lb (Including accessory parts)	41 kg/90.4 lb (Including accessory parts)
Option		DF HAND FEED KIT DF GUIDE UNIT	DF HAND FEED KIT DF GUIDE UNIT DF CROSS FOLD UNIT

Design and specifications are subject to change without notice.

Duplo Corporation www.duplo.com

4-1-6 Oyama, Chuo-ku, Sagamihara-shi, Kanagawa 252-5280, Japan

TEL: +81-42-775-3602

FAX: +81-42-775-3606

E-mail: info@duplo.com

Duplo

15S-90041-0
12110000ZB