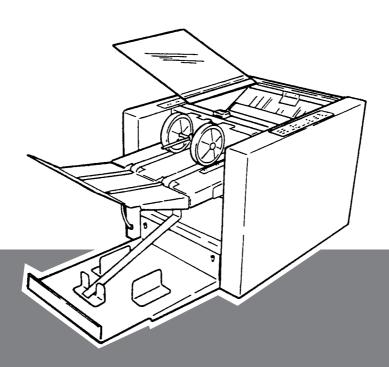
STAPLER FOLDER DBM-100

INSTRUCTION MANUAL



Duplo

((

DECLARATION OF CONFORMITY

Duplo Corporation, located at 7-6, Izumi Honcho 1-chome, Komae-shi, Tokyo 201, Japan, declares that the following product,

Name of product: STAPLER / FOLDER

Type No. : DBM-100

Complies with the provisions defined by the regulations listed below.

Regulation: Low Voltage Directive 73/23/EEC under the application of IEC950:1991/A1:1992/A2:1993 including the deviation of

EN60950:1992/ A1:1993/ A2:1993.

Electromagnetic Compatibility Directive 89/336/EEC under the application of EN55011:1991, EN55014:1993,

EN50082-1:1992, EN61000-3-2:1995, EN61000-3-3:1995.

Note: The testing of Electromagnetic Compatibility Directive is executed under the configuration of Model DC-10 + DC-10B + DBM-100.

ÜBEREINSTIMMUNGSERKLÄRUNG

Die Duplo Corporation mit Sitz in 7-6, Izumi Honcho 1-chome, Komae-shi, Tokyo 201, Japan, versichert, daß das folgende produkt,

Bezeichnung des Produkts: HEFT / FALT MASCHINE

Typen-Nr. : DBM-100

Entspricht den Bestimmungen, wie sie durch die unten aufgeführten Vorschriften definiert sind.

Vorschriften: EWG-Niederspannungsrichtlinie 73/23/EEC unter Anwendung der IEC950:1991/ A1:1992/ A2:1993 einschließlich

Abweichung von EN60950:1992/ A1:1993/ A2:1993.

Vorschriften für elektromagnetische Störungsfreiheit 89/336/EEC unter Anwendung der EN55011:1991,

EN55014:1993, EN50082-1:1992, EN61000-3-2:1995, EN61000-3-3:1995.

Zur besonderen Beachtung: Die Messungen der elektromagnetischen Abstrahlungen sind untor folgenden Model-konfigurationen

gemessen: DC-10 + DC-10B + DBM-100.

DECLARATION DE CONFORMITE

Duplo Corporation, située à 7-6, Izumi Honcho 1-chome, Komae-shi, Tokyo 201, Japon, déclare que le produit suivant;

Nom du produit : AGRAFEUSE / PLIEUSE

No, de type : DBM-100

est conforme aux dispositions définies par les réglementations suivantes;

Réglementations : Directive sur la basse tension 73/23/EEC en application de IEC950:1991/ A1:1992/ A2:1993 compris la

dérogation de EN60950:1992/ A1:1993/ A2:1993.

Directive de compatabilité electromagnétique 89/336/EEC application de EN55011:1991, EN55014:1993,

EN50082-1:1992, EN61000-3-2:1995, EN61000-3-3:1995.

A noter: Les tests des directives de Comptabilité Electromagnétique ont été exécutés pour la configuration des modéles DC-10 + DC-10B + DBM-100.

INTRODUCTION

Thank you for your purchase. To ensure correct usage, please read this instruction manual thoroughly, especially the section Safety Precautions. After reading, please store this instruction manual in a safe place for future reference.

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1. SAFETY PRECAUTIONS

Always observe the cautions and warnings explained below to prevent personal injury or property damage.

■ The degree of danger and damage that could occur is indicated in two levels by the following marks.

riangle 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.

■ The following graphic symbols indicate the various types of actions to be performed or avoided.

This graphic symbol indicates a forbidden action.

means "Do not disassemble."

means "Do not touch."

This graphic symbol indicates actions that must be performed.

means "Disconnect the power plug."

This graphic symbol indicates a "Caution" that must be observed.

means "Caution: high temperature."

MARNINGS:



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 fire or electrical shock.



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



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



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



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



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



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 fire or electrical shock.



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



Make sure that the current consumption listed on the main nameplate does not exceed capacity rating of the power outlet and do not connect other equipment to this same power outlet. Connecting other equipment could cause the power outlet to overheat and catch fire.



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



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



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, fire or electrical shock.



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



Do not handle the power plug with wet hands. This could result in electrical shock.



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

A CAUTIONS:



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



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 injury.



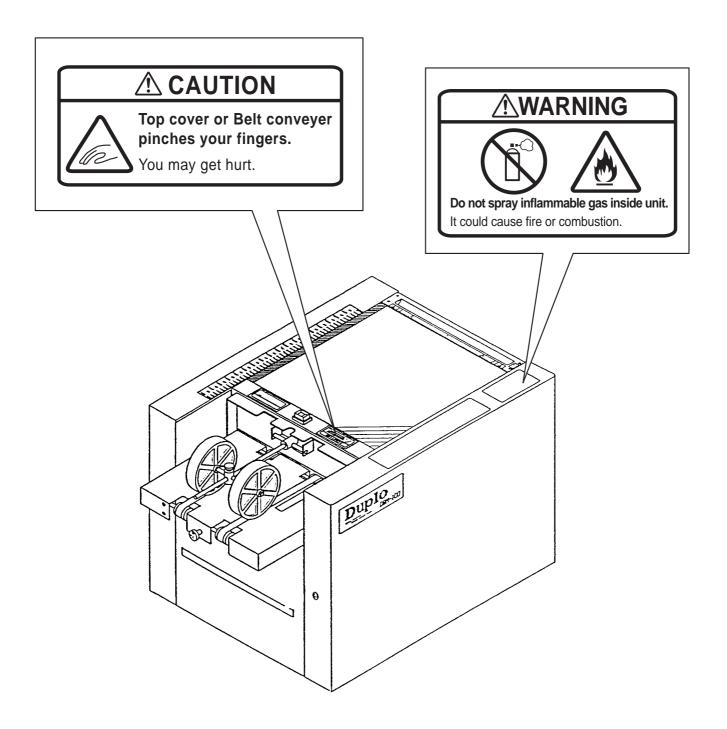
Do not install this unit in a location where there is excessive humidity or where contact with water is possible. Failure to do so could result in deterioration of the insulation, fire or electrical shock.



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

SAFETY PRECAUTIONS (continued)

■ Warning and Caution Label Locations



2. USAGE PRECAUTIONS

2-1. Power supply

Make sure the power supply used is always within the following range.

• 220 to 240 V AC $_{-10\%}^{+6\%}$ 50 Hz

Plug the power cord plug directly into a wall power outlet.

2-2. Operating environment

Operate this unit in the following environment.

- Temperature range: 5 to 35°C
- Humidity range: 20 to 85% RH (no condensation)
- · Avoid locations with direct sunlight
- · Avoid dusty locations
- Avoid locations with vibration
- Avoid locations that are salty
- · Avoid locations with special chemicals

2-3. Storage conditions

Store this unit in the following environment.

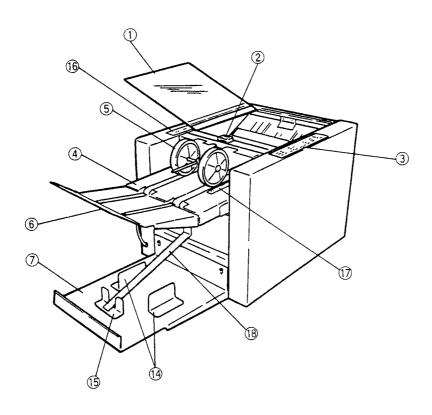
- Temperature range: -5 to +50°C
- Humidity range: 10 to 90% RH (no condensation)
- · Avoid locations with direct sunlight
- · Avoid dusty locations
- · Avoid locations with vibration
- · Avoid locations that are salty
- · Avoid locations with special chemicals

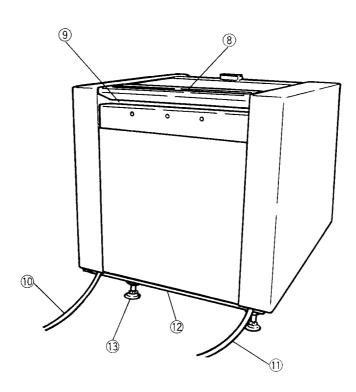
2-4. Maintenance

To protect the characteristics of this unit, the customer should never supply oil or grease to the parts (except when the customer is specifically requested in this instruction manual). Please contact your dealer in case of any problem.

3. NAMES AND OPERATION OF PARTS

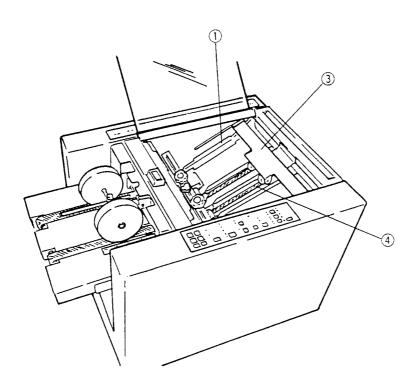
3-1. External Parts

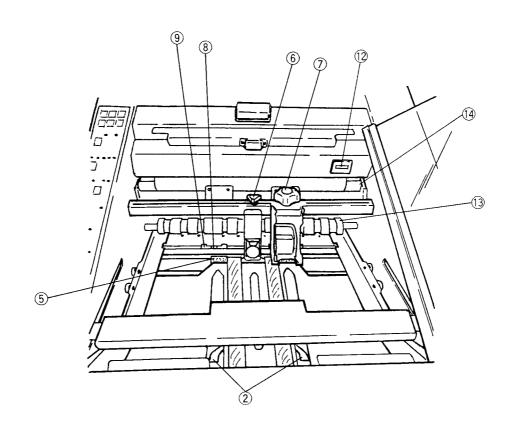


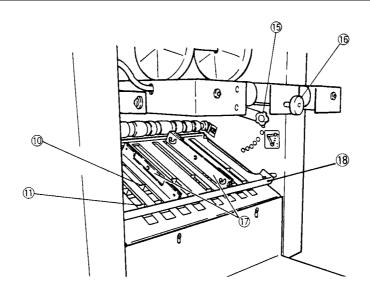


No.	Name	Operation
1	Top cover	When this cover is opened during operations, the unit will make emergency stops.
2	Power switch	In the automatic mode, turn the power on after upstream processing devices being powered (such as collator, etc.).
3	Control panel	Refer to "3-3. Control Panel".
4	Belt conveyance unit	Conveys saddle-stapled and center-folded paper to the paper receiving tray.
5	Paper guide roller unit	Guides saddle-stapled and center-folded paper.
6	Saddle-stapled paper receiving tray	Stocks saddle-stapled and corner-folded paper.
7	Side-stapled paper receiving tray	Stocks side-stapled and corner-stapled paper.
8	Manual feed slot	Slot for inserting paper in the manual mode.
9	Paper infeed slot	Slot for receiving the sets of paper from the upstream processing devices in the automatic mode.
10	Power cord	Be sure to connect to the wall outlet.
11	Connecting cable	Signal cable for connecting to the upstream processing devices in the automatic mode.
12	Movable table	Moves the main unit to align the upstream processing devices and paper line.
13	Level adjuster	Fixes the movable table.
14	Guide unit	Used for side-stapling and corner-stapling the paper.
15	Paper holding guide unit	Used for side-stapling and corner-stapling the paper.
16	Scale label	Measures the paper size.
17	Paper guide roller position label	Used when setting the position of the paper guide roller "5".
18	Paper holder	Holds the paper sets ejected.

3-2. Internal Parts

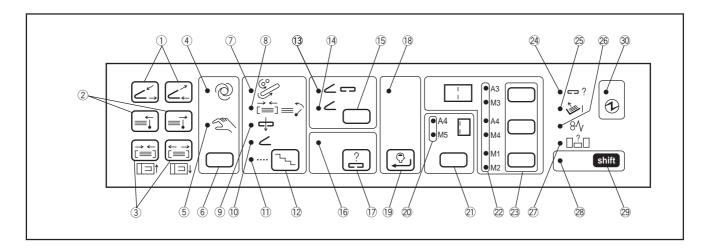






No.	Name	Operation
1	Side jogger	Aligns the width of the paper.
2	Back jogger	Aligns the length of the paper.
3	Conveyance unit	Holds the paper in conveyance.
4	Conveyance belt	Belt to convey the paper.
5	Conveyance roller	Roller to drive the conveyance belt and ball unit.
6	Ball unit	Conveys the paper from the saddle-stapling stopper to the folding position stopper.
7	Stapler head	Staples the paper.
8	Clincher	For flat stapling.
9	Side-stapling stopper	Stopper used for side-stapling or corner-stapling the paper.
10	Saddle-stapling stopper	Stoppers used when saddle-stapling the paper.
11	Folding position stopper	Stopper which decides the folding position.
12	Counter	Displays the maintenance period.
13	Folding roller	Roller for folding the saddle-stapled or center-folded paper.
14	Press roller	Presses the fold made by the folding roller.
15	Clearance adjusting lever	Clearance adjusting lever for the press roller.
16	Belt conveyance unit release	Opens the belt conveyance unit.
17	Clearance adjusting plate	Used for adjusting the clearance of the folding plate.
18	Folding plate	Guide for moving the paper to each stopper.

3-3. Control Panel



No.	Name	Operation
1	Folding position key	
2	Back jogger position key	<in adjustment="" fine="" mode="" the=""> When the key is pressed for less than 1 second, moves briefly. When pressed for more than 1 second, moves continuously.</in>
3	Side jogger position key	To more than a second, moves continuously.
4	Automatic mode lamp	Lights up when moved by operating the upstream processing device.
5	Manual mode lamp	Lights up when the manual mode is set.
6	Auto/manual key	Automatic mode when the power is turned on. Used for switching between upstream processing device operations and manual operations.
7	Conveyance lamp	Lights up when the conveyance belt runs during the step mode.
8	Paper alignment lamp	Lights up when the side/back jogger activates during the step mode.
9	Stapling lamp	Lights up when the stapling operations are performed during the step mode.
10	Folding lamp	Lights up when folding operations are performed during the step mode.
11	Step mode lamp	Lights up during the step mode.
12	Step mode key	The step mode is set when pressed for more than 1 second. Enables jog, staple, and fold operations to be performed individually in order.
13	Staple-fold lamp	Lights up during saddle-stapling operation mode.
14	Fold-only lamp	Lights up during center-folding operation mode.
15	Staple-fold/fold-only key	Switches between staple or no-staple. Set to staple-fold to side-staple paper.

No.	Name		Operation	
16	Staple detection lamp		Lights up when staple remaining amount detection is set ON.	
17	Staple det ON/OFF k		Switches between staple remaining amount detection ON or OFF.	
18	Memory la	ımp	Blinks when memory is turned on.	
19	Memory ke	еу	Memorizes the paper size.	
20	Side-	A4 lamp	Lights up when side-stapling or corner-stapling the A4 paper.	
	stapling	M5 lamp	Lights up when side-stapling or corner-stapling prememorized paper sizes.	
21	Side-stapl	ing size key	Press the shift key simultaneously when M5 is selected. (Press the key slightly longer than usual.)	
22	Saddle-	A3 lamp	Lights up when saddle-stapling or center-folding the A3 paper.	
	stapling	A4 lamp		Lights up when saddle-stapling or center-folding the A4 paper.
		M1 to M4 lamp	Lights up during saddle-stapling or center-folding prememorized paper sizes.	
23	Saddle-stapling size key		Press the shift key simultaneously when M2, M3, or M4 is selected. (Press the key slightly longer than usual.)	
24	Staple remaining amount lamp		When the No. 17 staple remaining amount detection is ON, lights up when the staples reach the remaining amount specified.	
25	Paper rece paper jam		Lights up when paper jams at the paper receiving tray, and the unit stops.	
26	Conveyer paper jam lamp		Lights up when paper jams at the conveyor, and the unit stops.	
27	Peripheral device error lamp		Lights up during upstream processing device or downstream processing device (trimmer, etc.) errors.	
28	Shift lamp		Lights up while the shift key is pressed.	
29	Shift key		Performs various operations such as setting of M2, M3, M4, M5 etc.	
30	Power on lamp		Lights up when the power is turned on.	

4. BINDING

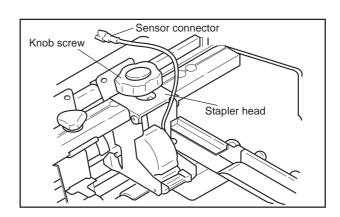
This chapter describes binding operations in the automatic mode and manual mode.



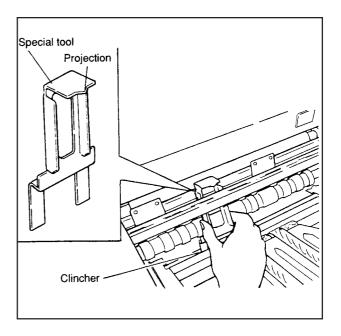
NOTE: Setting the wrong paper size with the stapler head, clincher, side jogger, etc., and the wrong stapling folding method (saddle-stapling, center-folding, side-stapling, corner-stapling) will not only lead to poor finish but cause the unit to damage as well. Read the following instructions carefully.

4-1. Setting the Staple Position

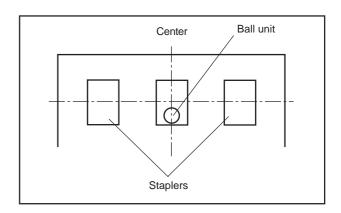
- Setting the Position
- 1 To set the staple position, the stapler head and clincher must be moved.
- 2 To move the clincher, a special tool (provided) is required.
- 3 Disconnect the sensor connector, and then rotate the knob screw and remove the stapler head.



- Insert the special tool into the clincher, and while pushing it down, move the clincher to the desired position.
 - Set the projection of the special tool to the position to be set.
 - Lift up the special tool slightly and swing it to the left and right. The clincher will stop.



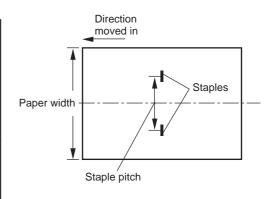
If the ball unit or side jogger must be removed temporarily to move the clincher, ensure that each part is fixed properly after setting.



<Setting Saddle-Stapling>

 The position to be stapled is determined after setting the center of the paper on the unit.

Paper Width (mm)	Settable Staple Pitch (mm)			
	108	140	160	200
Above 292	0	0	0	0
Above 252	0	0	0	
Above 232	0	0		
Above 200	0			



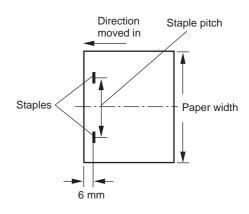
O: Two staplers can be set.

<Setting Side-Stapling>

- Staples within 6mm from the edge of the paper.
- The position to be stapled is determined after setting the center of the paper on the unit.

Paper Width	Settable Staple Pitch (mm)			
(mm)	108	140	160	200
Above 310	0	0	0	0
Above 270	0	0	0	
Above 250	0	0		
Above 210	0			





<Setting Corner-Stapling>

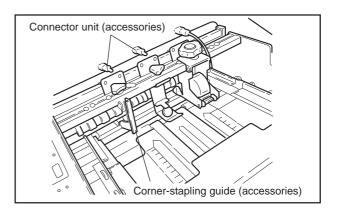
- Staples the right or left corner of the paper within 6 mm from the top of the paper.
- Letter size paper can be corner-stapling only if fed in wide edge leading.
- Remove the stapler head which is not used for corner-stapling, and attach the connector unit (accessories). Secure the clincher 80 mm from the center of the unit.

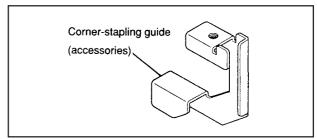
And set the corner-stapling guide (accessories) at the same position.



Should not use stapler head without the staple cartridge instead of the corner-stapling guide.

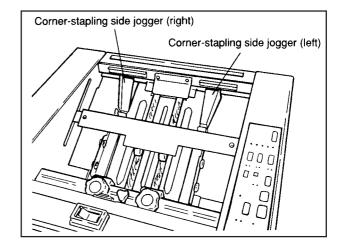
Stapling with the staple cartridge removed will cause the stapler head to damage.



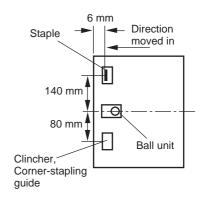


 Change the jogger of stapling side to the jogger exclusive for corner-stapling.
 As shown in the figure, the side joggers for saddle-stapling folding, center-folding, and side-stapling can be removed. The cornerstapling side jogger (left or right) is to be

attached instead (either side according to the side of the paper to be stapled).



Paper Width (mm) (Feed in	Settable Staple Position (mm) (Position from the Center)		
landscape direction)	140		
A4	0		



<Guide unit, paper holding guide unit>

• To side-staple or corner-staple the paper, set the guide units and paper holding guide unit on the side-stapled paper receiving tray. Place the paper to be stapled on the paper receiving tray.

And set the guide units about 20 mm away from the left and right sides of the paper.

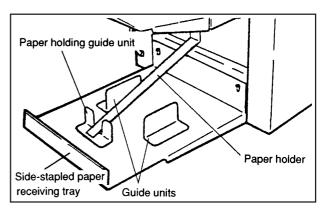
Next, set the paper holding guide unit about 50 mm away from the top of the paper and insert the paper holder into the notch.

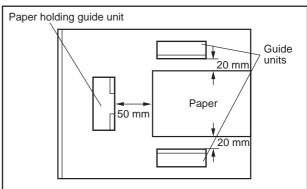
However, the position of the guide units and paper holding guide unit may change according to the paper quality and number of sheets to be processed.

 Set the guide units and paper holding guide unit so that the curved in part faces outwards.

Set the curved in part inwards only when the paper is too big and the guide units and paper holding guide unit cannot be set.

NOTE: When setting from the corner-stapling mode to the side-stapling, saddle-stapling, and centerfolding modes, be sure to replace the cornerstapling jogger with the normal side jogger, and press the staple detection ON/OFF key to turn it ON.

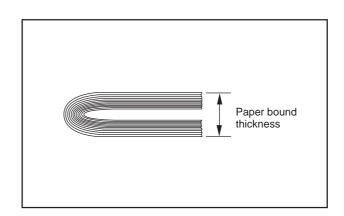




4-2. Adjusting the Press Roller Clealance

If folding operations are to be performed, press roller clearance adjustment is required.

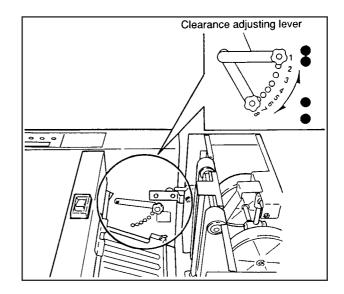
1 Set the clearance adjusting lever to an appropriate position shown in the following table according to the thickness of the paper bound.



- This is to prevent the cover of the paper bound from damages in binding operations and to prevent paper jamming during conveyance at the folding section.
- 3 However, since conditions change according to the paper quality, the setting position of the lever may differ from the following table.
- The clearance adjusting lever is provided at the left and right sides.

 Be sure to set the same position number for both the left and right sides.

Thickness for One Binding	Lever Position No.
Below 1.7 mm	1
1.5 to 2.7 mm	2
2.5 to 3.5 mm	3
3.2 to 4.0 mm	4
3.7 to 4.5 mm	5
4.2 to 5.0 mm	6
4.7 to 5.2 mm	7
Above 5.0 mm	8



4-3. Turning on Power of the Unit

NOTE: After this, the state of the monitor lamps will be as follows.



After turning on the power of the upstream processing device (collator, etc.), turn on the power of the unit and start binding operations using the upstream processing device. (Refer to "6-1. Connecting the DC-10" for details of connecting the DC-10.)

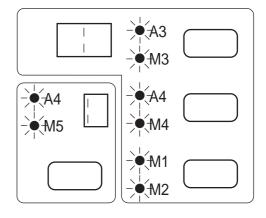
Insert the power supply plug into the wall outlet, and set the power switch to ON.

Wait until the control panel display stabilizes. If the unit has been used before, the paper size used the last time will be displayed.

> When all the side-stapling and saddlestapling paper size lamps are blinking, select the desired paper size.

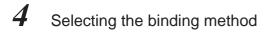
> These lamps will all blink in this way when the power is turned off before the size was memorized.

- When the desired paper size is selected, the joggers, stoppers, and unit will start moving to the set position.
- When the power is turned on, the automatic mode will be set.
 - If performing the same operations as before the power was turned on, binding operations can be started after checking one set of testing binding.



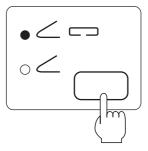


- 3 To perform binding operations in the manual mode, switch to this mode using the auto/manual key.
 - When the key is pressed for more than 1 second, the manual mode lamp will light up and binding operations can be performed by manual feeding.
 - If paper is not inserted for more than 1 minute, paper conveyance will be stopped.
 - When the key is pressed for less than 1 second in the manual mode, paper conveyance will either turn ON or OFF.
 - When the key is pressed until the buzzer stops in the manual mode (for about 2 seconds), the mode will be switched to the automatic mode.



 Select the binding method using the staple-fold/ fold-only key.



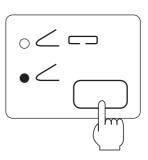


■ Stapling and folding/folding only switching function

This unit has a function for selecting the type of binding.

When the size key is pressed with the folding only mode set, the joggers and stoppers will be set, and at the same time, the stapling and folding mode will be set.

To perform folding only, press the size key and then the switching key to set the folding only mode first before beginning operations.



4-4. Setting the Paper Size/Stapling-method

- For A3 and A4 paper, the appropriate jogger, stapling position, and folding position are set at manufacturer factory.
- The jogger, stapling position, folding position may have to be adjusted finely according to the paper used.
 - Refer to "4-8. Raising the Binding Accuracy" for details of fine adjustments.
- Call the paper size.

Stapling Size	Control panel	Procedure
	А3	Setting at manufacturer factory A3
	M3	Setting at manufacturer factory
Saddle stabling or	A4	Setting at manufacturer factory A4
Saddle-stapling or center-folding	M4	Setting at manufacturer factory
	M1	Setting at manufacturer factory A3SR
	M2	Setting at manufacturer factory
Side-stapling or	A4	Setting at manufacturer factory
corner-stapling	M5	Setting at manufacturer factory

- For how to memorize the paper size, refer to "5. Setting Non-Standard Paper".
- When the paper size is called, the guide and unit will move automatically to the specified size. While moving, the lamp corresponding to the specified size will blink and light up continuously until they stop moving.

Calling the settings made at shipment for the position of the paper guide

At shipment, the settings of the positions of joggers and stoppers for each type of paper are memorized with the memory.

Use it for the cases that you have mistaken memory operation.

<To Call>

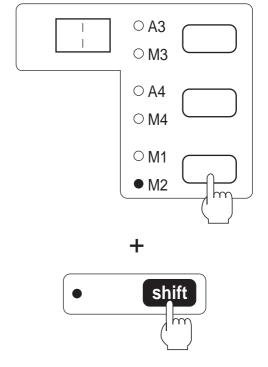
Press the size key five times continuously within three seconds.

For size set by pressing the shift key together, while pressing the shift key, press the size key five times continuously within three seconds. (The figure on the right shows panel operations when the M2 memory is set back to the positions set at shipment.)

Buzzers beep continuously, display lamps blink, and the joggers and stoppers move automatically.

The buzzers stop, the display lamps light up, and the joggers and stoppers are set to the positions set at shipment.

NOTE: When this function is used, the settings stored in that memory previously will be erased.



4-5. Setting the Position of the Paper Guide Roller Unit

- · Not necessary for side-stapling and cornerstapling.
- Loosen the setting screw and adjust the position of the paper guide roller so that the leading edge of the paper ejected passes the center slightly.

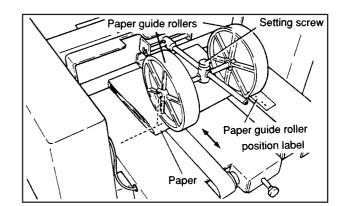
After adjusting, be sure to tighten and secure the setting screw.

* The paper guide roller position label indicating the center of the roller is pasted near the paper guide roller.

The paper guide roller position label is set taking 10 sheets of A4-80g/m² paper as standard.

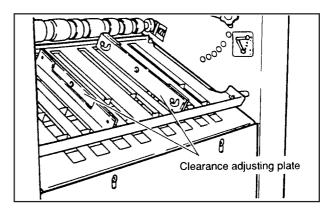
As this standard will differ according to the paper size, quality, and number of sheets, in such cases, set the scale accordingly.

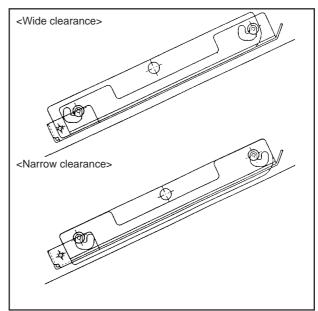
NOTE: The unit will not operate smoothly if the scale is not set to the appropriate position.



4-6. Setting the Clearance Adjusting Plate

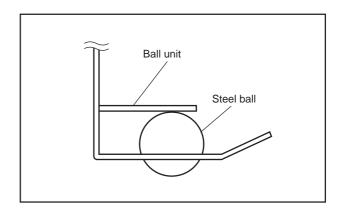
- When there are only a few sheets of paper or when saddle-stapling and folding thin paper, the position of the stapling and folding may deviate.
 - In this case, decrease the clearance using the clearance adjusting plate.
- When side-stapling or corner-stapling paper, set the clearance widely.





4-7. Selecting the Ball Unit Ball

 At manufacturer factory, a plastic ball will be set. But in case the stapling position shifts or paper jams when folding the paper after stapling, change the plastic ball to the steel ball.



4-8. Raising Binding Accuracy

- The jogger, stapling position, folding position may have to be adjusted finely according to the paper used.
- Before beginning binding operations, insert one set of paper and adjust as required.
- 1 When connecting the unit with the collator, first set to the automatic mode.



When inserting the paper manually, set to the manual mode.

- When setting from the automatic mode to the manual mode
 - Press the mode key for more than one second.
- When setting from the manual mode to the automatic mode
 - Press the mode key until the buzzer stops (for about 2 seconds).

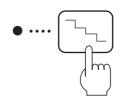


Press the step mode key on the control panel for more than one second.

• Press the step mode key again, and the conveyance belt will run.

• 3

To stop the conveyance belt, press the step mode key before inserting the paper.
To start it running, press the step mode key again.



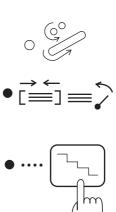
Insert the paper from the manual feed inlet, and the paper will move to the prescribed position, and the conveyance belt will stop.

When connecting the unit with the collator, press the start key of the collator and insert paper into the unit.

- The conveyance lamp goes off and the paper alignment lamp lights up.
- When the step mode key is pressed for less than one second, the side jogger and back jogger stop at the operation position.

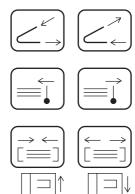
When the step mode key is pressed again for less than one second, the side jogger and back jogger return to their original positions (standby positions).

• If the positions of the side jogger and back jogger are not appropriate, set the fine adjustment mode for the guide as follows, and adjust their positions finely.

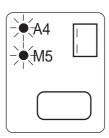


<Adjusting with Fine Adjustment Mode>

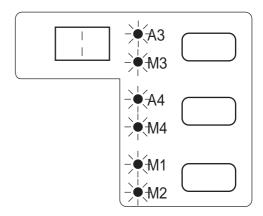
(1) Press any one of the folding position key, back jogger position key, or side jogger position key for more than 1 second.



(2) If side-stapling is currently selected, the sidestapling size lamp will blink, that the fine adjustment mode has been set.



If saddle-stapling is selected, the saddle-stapling size lamp will blink, that the fine adjustment mode has been set.

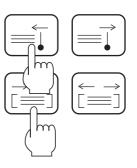


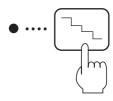
- (3) The folding position key, back jogger position key, or side jogger position key can be used.
- (4) Move the side and back joggers according to the paper using the back jogger position key and side jogger position key.

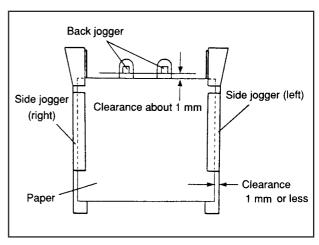
With the side jogger closed by pressing the step mode key for less than 1 second, decrease the clearance between the paper and side jogger to less than 1 mm.

At the same time, decrease the clearance between the back jogger and paper to about 1 mm.

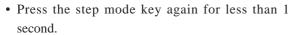
As this standard will differ according to the paper size, quality, and number of sheets, in such cases, set the scale accordingly.







With the side jogger closed, press the step mode key for more than 1 second to start stapling operations.



Staple operations will be performed.

• When stapling operations end, folding operations will start automatically.



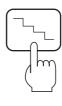
NOTE: If stapling operations are started without inserting the paper, always inspect the clincher and remove any staples inside.

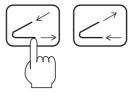
- 5 When the step mode key is pressed, the paper will be folded and ejected onto the paper receiving tray.
 - If the guide fine adjustment mode is set, fine adjustments of the folding position can be started by pressing the folding position key.











6

When re-adjustment is reguired, start from step 2 again.
Be sure to insert paper.

<Simple Step Mode Operations (To access the desired step quickly)>

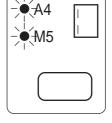
- (1) Press the step mode key to set the step mode.
- (2) Press the step mode key while pressing the shift key.
- (3) The display repeatedly lights up the conveyance lamp \rightarrow paper alignment lamp \rightarrow stapling lamp \rightarrow folding lamp, and goes off.
- (4) Release the key once at the desired step.
- (5) This enables the middle steps to be skipped to the desired step.

<Escape from the Step Mode>

(1) At the Off in step (3), press the step mode key for more than 1 second.

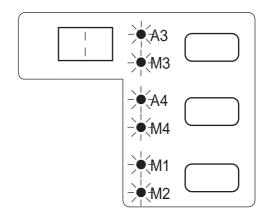
<Operations when only the fine adjustment mode is set>

- Select the place in which the guide position and folding position finely adjusted are to be memorized.
 - If side-stapling was first called, only side-stapling can be selected. The same is for saddle-stapling.
 - If the side-stapling size lamp is blinking, press the side-stapling size key to select A4, and press the side-stapling size key together with the shift key to select M5. Only the lamp of the selected size (A4 or M5) will light up.



In the same way, if the saddle-stapling size lamp is blinking, press the saddle-stapling size key and shift key to select A3, A4, M1, M2, M3 or M4.

If the selected size has not been memorized yet, the size can be changed. Press the key of the desired size. The lamp of that size will light up.



 When the place in which the position is to be memorized is selected, the memory lamp starts blinking, indicating that memory processing operations must be carried out.



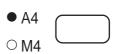


Press the memory key for more than 1 second, and memorize.



• When A4 saddle-stapling is selected, the A4 saddle-stapling lamp lights up, and the memory lamp goes off.

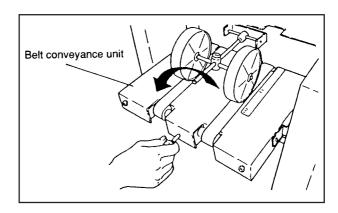
When other sizes are selected, the corresponding lamp lights up, and the memory lamp goes off in the same way.



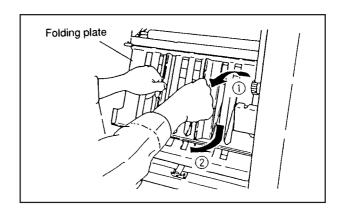
4-9. Adjusting Incorrect Staple and Folding Positions

Perform fine adjustments of the stoppers if the staple and folding positions are incorrect in saddle-stapling and folding operations.

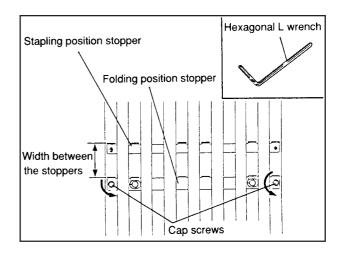
- ${\it 1}$ Remove the paper receiving tray.
- Pull the belt conveyance unit release knob, and open the belt conveyance unit.



3 Open the folding plate as shown by the arrow.

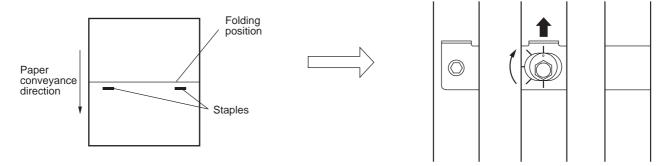


4 Loosen the two cap screws of the folding position stopper using a hexagonal L wrench.

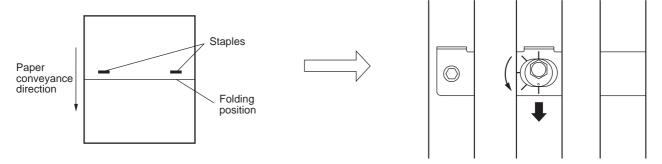


5 Check how much the stapled sets of paper have deviated from their actual positions, and adjust by rotating the two knobs of the folding stopper.

If the sets deviate as shown in the figure, move the folding stopper to the arrow direction.



If the sets deviate as shown in the figure, move the folding stopper to the arrow direction.



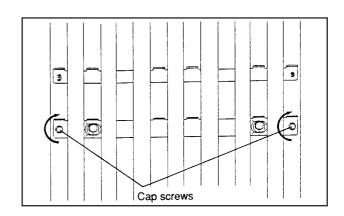
* When the knobs are rotated 180° from the top to bottom, the folding stopper will be moved by 3 mm.

Basically, the knobs will move left and right for the same amount, but the amount moved will differ according to the paper used and environment.

If the width between the stoppers is in appropriate, while checking that the stapling and folding positions do not deviate, move and finely adjust the knobs.

(To convey paper, tighten the cap screws of step "6".)

6 After adjusting the knobs, tighten the two cap screws properly.



- After completing the adjustment, close the folding plate as before.
- 8 Close the belt conveyance unit. Push gently from above to lock the belt conveyance unit properly.

NOTE: Be careful that your hand does not get caught when closing the belt conveyance unit.

9 Attach the paper receiving tray.

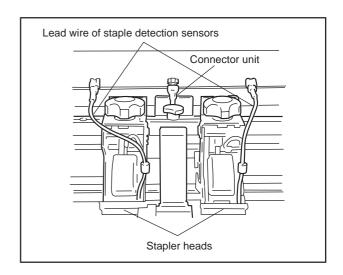
4-10. Staple Detection Sensor

Connection between staple detection sensor and main unit

- Connect the lead wire (connector) projecting from the stapler head to the connector on the face of the counter attached of the main unit.
- When the stapler head has been removed, be sure to connect the connector unit provided into an empty connector.



NOTE: Be sure to turn off the power when connecting and disconnecting the connector.



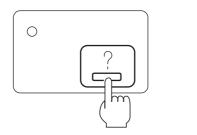
■ Staple detection sensor

This unit is mounted with the staple detection sensors. The unit automatically stops when the staples reach the specified remaining amount.

 When the staples reach the specified remaining amount when the "staple detection lamp" is lit, the "staple remaining amount lamp" lights up and the unit automatically stops.



• In the above case, there will be about 70 staples remaining. To be able to use up all of these staples, press the "staple detection ON/OFF key" and turn off the "staple detection lamp".





NOTE: The unit will not stop even when it runs out of staples.

 The "staple remaining amount lamp" remains lit until the staple cartridge is replaced with a new one.

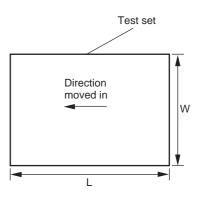
5. SETTING NON-STANDARD PAPER

- This chapter describes the procedures for setting non-standard paper in both the manual and automatic modes.
- Perform these procedures when memorizing new paper sizes or changing the memorized data.

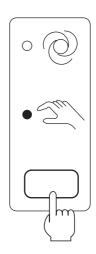
5-1. Saddle-stapling, Center-folding

In the following case, the paper is fed in the portrait direction.

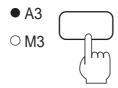
Measure the length (L) and width (W) of the test set with the scale label.



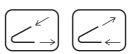
2 Turn on the power of the unit and set the manual mode.

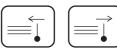


- 3 Select and specify a paper size bigger but closest to the paper used from A3 or A4.
- For example, if A3 is specified, move the guides and stoppers to the prescribed positions.



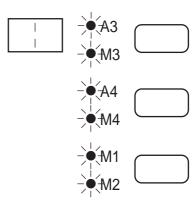
5 Press any one of the right 6 keys on the control panel for more than 1 second.







6 The saddle-stapling A3, M3, A4, M4, M1, and M2 lamps will blink.



• The guide fine adjustment mode and step mode have been set.

•

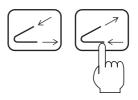
- Open the top cover, remove the conveyance unit, and place the test set paper at the set position. Set the conveyance unit as before, and close the cover.
 - The step mode key can be used to run the conveyance belt and insert the paper.

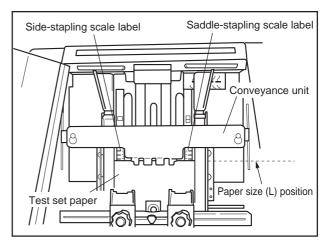
 Refer to "4-8 Raising Binding Accuracy".

8 Press the folding position key until the edge of the test set paper reaches the paper size (L) on the saddle-stapling scale label.

When the key is pressed for less than 1 second, moves briefly.

When pressed for more than 1 second, moves continuously.



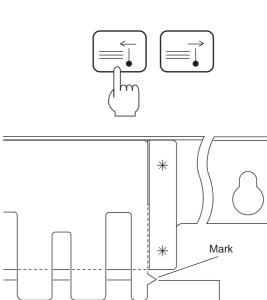


Press the back jogger position key until the conveyance unit mark reaches the paper size of the test set (L).

When the key is pressed for less than 1 second, moves briefly.

When pressed for more than 1 second, moves continuously.

• Jogging operations can be performed using the step mode. Refer to "4-8 Raising Binding Accuracy".



Test set paper

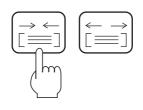
10 While referring to "4-8. Raising Binding Accuracy", perform jogging to move the side jogger inside, and at this position, press the side jogger position key until the inner line of the side jogger reaches the paper size of the test set.

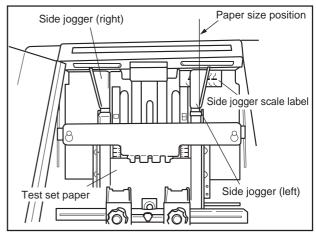
> When the key is pressed for less than 1 second, moves briefly.

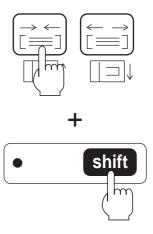
> When pressed for more than 1 second, moves continuously.

Remark: The side jogger scale shows the paper size with the side jogger opened (standby position).

After adjusting the side jogger, be sure to move this unit and adjust the collator's paper line to the side jogger paper width mark by pressing the shift key and side jogger position key simultaneously.

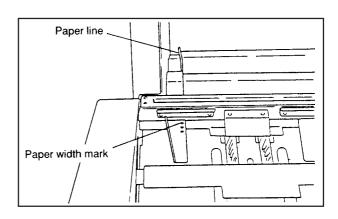




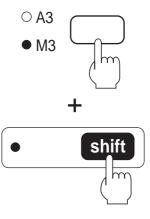


When calling the memorized size again, if the paper line and paper width mark do not correspond, it means that the positions of the collator and this unit are wrong.

Move the unit and correct their positions.



11 Select the saddle-stapling size key M3 on the control panel, or any other keys other than M3 if desired. However, keys other than M1 must be pressed together with the shift key.



12 The lamp of M3 or other keys selected will light up, and the memory lamp will blink.



13 Press the memory key on the control panel for more than one second. The memory lamp will go off, indicating that it has been memorized.

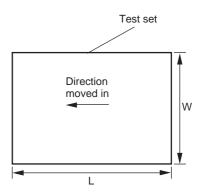


5-2. Side-stapling and Corner-stapling

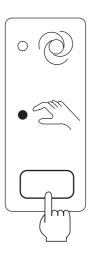
Papers of lengths 139 to 231 mm and widths of 210 to 320 mm marked with \bigcirc in the table are applicable.

Paper size	Length (mm)	Width (mm)	Side-stapling	Corner-stapling
A5	148	210	0	
A4	210	297	0	0

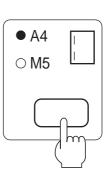
Measure the length (L) and width (W) of the test set with the scale label.



2 Turn on the power of the unit and set the manual mode.



3 Select and specify the side-stapling A4 size.

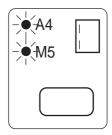


4 Move the guides and stoppers to the prescribed positions.

5 Press any one of the right 4 keys on the control panel for more than 1 second.



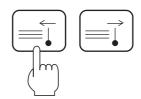
6 The side-stapling A4, and M5 lamps will blink.

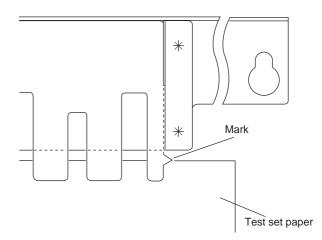


• The guide fine adjustment mode and step mode have been set.

•

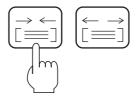
Press the back jogger position key until the conveyance unit mark reaches the paper size of the test set (L).





8

While referring to "4-8. Raising Binding Accuracy", perform jogging to move the side jogger inside, and at this position, press the side jogger position key until the inner line of the side jogger reaches the paper size of the test set.

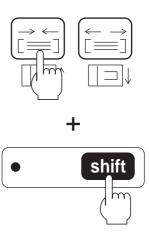


Remark: For side-stapling and corner-stapling, the paper size and side jogger scale sizes will differ. Refer to the following.

> Adjust the side jogger to the side jogger scale as follows for the following paper sizes.

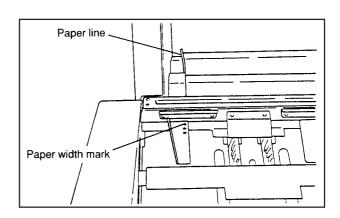
For A5 paper: A4 For A4 paper: A3

After adjusting the side jogger, be sure to move this unit and adjust the collator's paper line to the side jogger paper width mark by pressing the shift key and side jogger position key simultaneously.

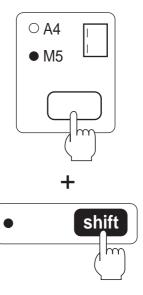


When calling the memorized size again, if the paper line and paper width mark do not correspond, it means that the positions of the collator and this unit are wrong.

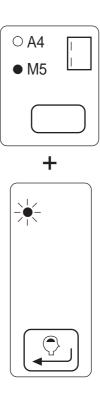
Move the unit and correct their positions.



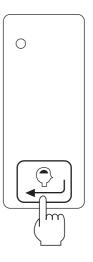
9 Select the side-stapling size key M5 on the control panel by pressing it together with the shift key.



10 The lamp of M5 selected will light up, and the memory lamp will blink.



11 Press the memory key on the control panel for more than one second. The memory lamp will go off, indicating that it has been memorized.



12 For details of the fine adjustments for precise binding, refer to "4-8. Raising Binding Accuracy".

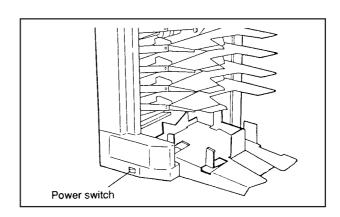
6. SETTING THE AUTOMATIC MODE

- This unit can be connected to most collators, etc. (upstream processing devices).
 Ask your dealer.
- Unlike the manual mode, the paper sets from the upstream processing devices are received by the paper feed inlet.
 - Therefore, adjust the paper ejection gate of the upstream processing device and paper feed inlet of this unit together.
 - This unit must be connected to the upstream processing device electrically. If there is no electrical connection, binding operations can be performed in the manual mode.

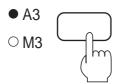
6-1. Connecting the DC-10

For details of installation of the DC-10, refer to the installation manual.

Turn on the power of the DC-10 and then that of the unit.

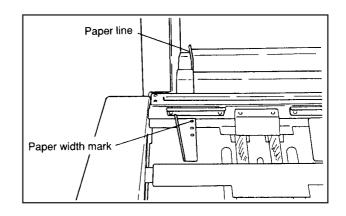


- 2 Set the unit into the installation ready state.
 - Press the A3 saddle-stapling size key on the control panel, and move the guides to their prescribed positions.



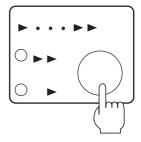
3 Check that the paper width mark of the side jogger at non-operating side is adjusted to the paper line of the DC-10 ejection unit.

> If the mark is not coinciding with the line, adjust the position of this unit.



Set the speed on the control panel of the DC-10.

No. of Sheets of Paper in One Set	DC-10 Speed Setting	Main Unit Processing Speed
1 tower (Less than 10 sheets)	"Fast" or "Slow"	35 sheets/minute or 25 sheets/minute
2 towers (11 to 20 sheets)	Fixed to "Slow"	25 sheets/minute



NOTE: Set to "Slow" immediately after the power is turned ON.

When the DC-10 is used as one tower system and the speed is set to "Fast", paper may jam according to the paper used. In this case, set the speed to "Slow".

5 Check that the paper size, binding method (saddle-stapling and folding, center-folding only, side-stapling, corner-stapling), staple position, press roller clearance adjustment, paper guide roller unit position adjustment, etc. have been set.

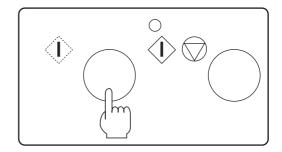
6 Check that the unit is set to the automatic mode.

If the automatic mode is not set, set it by pressing the auto/manual key.

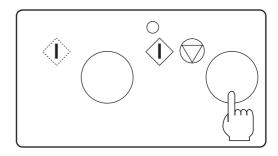
Press until the buzzer stops (for about 2 seconds).

Press the preset key on the control panel of the DC-10. Test operations will start. One set from the DC-10 is ejected to the side-stapling paper receiving tray. Follow the DC-10 instruction manual and check the number, etc. of set of paper.

Paper stapling and folding operations are not performed during test operations.



Set 1 set on the DC-10, press the start/ stop key. Check the binding condition.

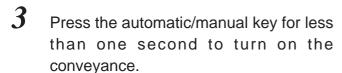


- If the guide need not be adjusted finely, proceed onto the following step 10.
 - If the guide need be adjusted finely, refer to "4-8. Raising Binding Accuracy".
- 10 Set the number of sets to be bound on the DC-10 and start binding operations.

NOTE: For details of the DC-10 operations, refer to the "Instruction Manual for the DC-10".

7. INSERTING PAPER MANUALLY

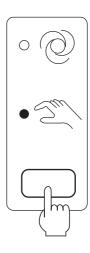
- 1 Check that the paper size, binding method (saddle-stapling and center-folding, center-folding only, side-stapling, and corner-stapling), staple position, press roller clearance adjustment, and paper guide roller unit position adjustment settings have been set.
 - Refer to "4. Binding".
- 2 Switch to the manual mode using the automatic/manual key.
 - When set to the automatic mode, press the key for more than one second to set the manual mode. The manual mode lamp will light up.
 - When the key is pressed for less than one second in the manual mode, conveyance turns ON or OFF.
 - To return to the automatic mode, press the key until the buzzer stops (for about 2 seconds).

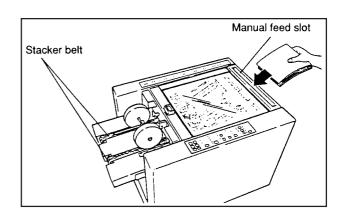


Arrange the paper gently with your hand one set at a time, then feed it into the manual feed slot.

• If no paper is inserted for several seconds, the stacker belt will rotate and the binding set will be conveyed to the paper receiving tray. If no paper is inserted for several seconds after this, conveyance will stop automatically.

To restart manual binding, press the automatic/manual key for less than one second to turn on conveyance.





4

When the monitor lamp lights up and the unit stops

• Refer to "10. Monitor Displays and Steps to Take" and correct the problems such as paper jamming, and then press the automatic/manual key for less than one second to turn on conveyance, and then restart the manual biding.

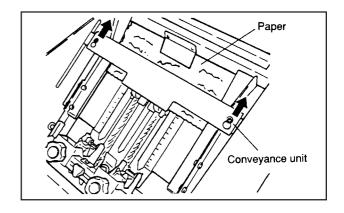


8. WHAT TO DO WHEN PAPER JAM OCCURS

Before performing forced-paper ejection in the DC-10, always remove the jammed paper inside this unit as follows.

<When paper jams at the jogger>

Open the top cover, remove the conveyance unit, and remove the jammed paper.

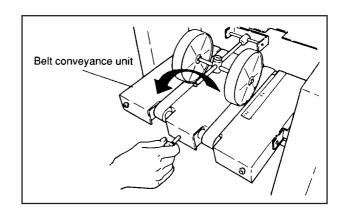


After removing the paper, attach the conveyance unit as before and close the top cover.

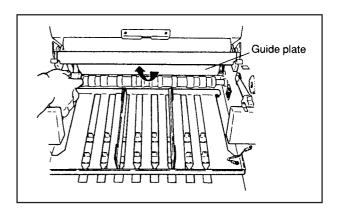
<When paper jams at the folding roller and nearby>

Remove the paper receiving tray.

Pull the belt conveyance unit release knob and open the belt conveyance unit.



Raise the knob, open the guide plate, and remove the jammed paper.



After removing the paper, close the guide plate properly.

Close the belt conveyance unit. Push gently from above to lock the belt conveyance unit properly.



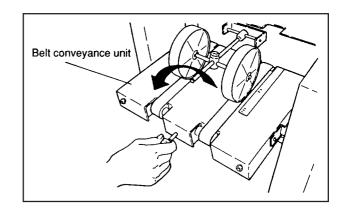
NOTE: Be careful that your hand does not get caught when closing the belt conveyance unit.

Attach the paper receiving tray.

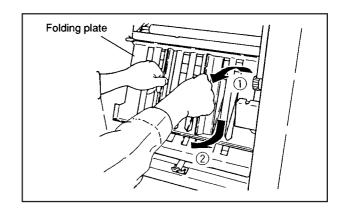
<When paper jams at the folding stopper and nearby>

Remove the paper receiving tray.

Pull the belt conveyance unit release knob, and open the belt conveyance unit.



Open the folding plate as shown by the arrow, and remove the jammed paper.



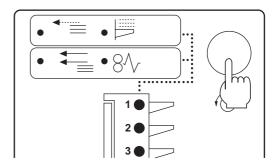
After removing the paper, close the folding plate as before.

Close the belt conveyance unit. Push gently from above to lock the belt conveyance unit properly.

NOTE: Be careful that your hand does not get caught when closing the belt conveyance unit.

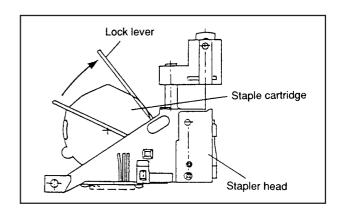
Attach the paper receiving tray.

Press the DC-10 jam key and eject the remaining paper in the DC-10 after the jammed paper is removed.

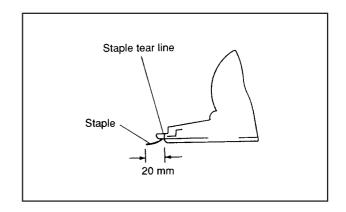


9. REPLACEMENT OF STAPLE CARTRIDGE

 $m{1}$ Lift up the lock lever of the staple cartridge.



- 2 Shake the staple cartridge sideways gently, and pull out the cartridge from the stapler head.
- **3** Replace the cartridge.
 - Before replacing, pull out the staple about 20 mm from the cartridge, and cut off the staple at the staple tear line of the stapler.



- 4 Push in the cartridge completely into the stapler head and push down the lock lever.
 - If the cartridge moves inside the stapler head, before pushing down the lock lever, pull out the staple about 20 mm from the cartridge, and cut off the staple at the staple tear line of the stapler.

- 5 After the replacement, about the first 4 sets will be not stapled.
- **6** Staple the paper and check if the stapling is horizontal.
 - If not, pull out the staple 20 mm more, and cut off the staple at the staple tear line of the stapler with less force than before.

NOTE: Should not start operating the unit with the staple cartridge removed as the stapler head will be damaged.

NOTE: When the staples are jammed, remove the staple cartridge or the stapler head and remove the jammed staples.

Also remove any staples on the clincher.

A new cartridge can staple about 5000 times.

10. MONITOR DISPLAYS AND STEPS TO TAKE

- The control panel is equipped with monitor lamps which indicate the location of problems which have occurred.
 - Take the following steps when these monitor lamps light up.
- Sometimes, paper may remain in the conveyance route of the DC-10. Remove them.
- Always remove the jammed paper inside the unit before performing forced-paper ejection in the DC-10.

State	Cause	Remedy
The staple detection lamp lights up and the unit stops operating.	There are no more staple in the stapler head or only a few are left.	• Replace the staple cartridge. NOTE: The staples can be used up by turning off the staple detection ON/OFF key. However, operations will continue even when no more staples are left.
Paper jam lamp for the paper receiving tray lights up and the unit stops running.	Paper has jammed inside the paper receiving tray. Or the paper receiving tray has become full of bound paper.	Remove the paper jammed at the paper ejection slot of the unit. NOTE: If there is paper in the conveyance route of the DC-10, remove them.
The conveyer paper jam lamp lights up and the unit stops operating.	■ Paper has jammed inside the conveyer of the unit.	Remove the paper jammed, and check that the paper size, number of sheets, and paper weight are within the specification.
	 Paper has jammed before staple processing. → The paper is not aligned neatly. 	 Check the back/side jogger position. Change the amount of paper overlap.
	 Paper has jammed before folding. → Paper has not been conveyed properly from the saddle-stapling stopper to the folding position stopper. 	 Is the side jogger width set too narrow? Replace the ball of the ball unit with a metallic one.
	The paper did not pass through the press roller. → The folded paper is not ejected.	 Set the clearance adjusting lever to the larger value. Clean the press roller if it is dirty.
The peripheral device error lamp lights up and the unit stops operating.	Error of the upstream processing device or device connected after the unit.	Look at the control panel of the DC-10 if it is connected.
All error lamps light up	The top cover or belt conveyance unit is open.	Close properly.

11. TROUBLESHOOTING GUIDE

Problem	Check	Correct
The paper is not aligned neatly.	 Check if the side jogger is set too wide. Check if the back jogger is set too wide. 	Refer to "4-8. Raising the Binding Accuracy".
The paper is not folded at the center.	 Check if the side jogger is set to narrow. Check if the ball unit is appropriate. 	 Refer to "4-8. Raising the Binding Accuracy". To increase the feeding amount: Use a metallic ball. To decrease the feeding amount: Use a plastic ball.
The paper is not stapled at the center.	 Check if the side jogger is set too narrow. Check if the ball unit is appropriate. Check the folding position stopper position. 	 Refer to "4-8. Raising the Binding Accuracy". Adjust the clearance with the clearance adjusting plate. To increase the feeding amount: Use a metallic ball. To decrease the feeding amount: Use a plastic ball. Finely adjust the width between the stoppers.
The staple has jammed.	The staple cartridge is not attached properly.	• Reset.
The paper is not aligned neatly at the paper receiving tray.	Check if the paper guide roller unit position set is appropriate.	Select the appropriate position while continuing operations.
The DC-10 does not start.	 Check if the monitor lamp on the control panel of the unit is lit. Check if the top cover of the unit is open. Check if the unit is set to the manual mode. Check if the unit is set to the fine adjustment mode. 	 Perform inspections according to the monitor lamp lit. Close. Set to the automatic mode. Memorize the setting with the memory key.
Only the cover sheet is damaged in saddle-stapling/folding and center-folding only mode.	 Check if the clearance of the press roller is appropriate for the thickness of the paper. Check if less than 64 g/m² paper is used. 	 Refer to "4-2. Adjusting the Press Roller Clearance". Clean the press roller if it is dirty. When binding 64 g/m² paper, use paper above 80 g/m² for the cover.

Problem	Check	Correct
When the power is turned on, all the size lamps of the side-stapling and saddle-stapling blink.	This occurs if the power was turned off while performing memory processing operations for the paper size used previously.	Call the desired size.
After stapling, the paper does not move forward, or does not move forward smoothly and the paper jams.	 Check if the stapler and clincher positions are aligned. Check if the side joggers are set too narrow. Check if the side joggers are attached raised. 	 Align the stapler and clincher positions. Refer to "4-8. Raising the Binding Accuracy". Lower the side joggers and attach them again.
The paper does not infeed the folding plate (Especially when there are about 20 sheets of paper.)	Check that the leading edge of the paper is curled upwards. Within 6 mm	Straighten the paper. If the clearance adjusting plate is set too narrow, set the clearance widely.

12. CLEANING THE UNIT

• If the conveyance rubber roller, conveyance belt, folding roller, press roller, etc. used for conveying the paper is dirty with paper bits or ink, problems will result.

Clean them once a month, or according to the frequency of use.

• Do not use liquid detergent or aerosol detergent. Moisten a clean cloth with water or neutral detergent, squeeze tightly, and clean.



CAUTION: Electric shock or fire hazards may occur if liquid is spilled in the unit. Contact your dealer promptly.

Prohibite

13. SPECIFICATIONS

Model	DBM-100
Туре	Automatic paper size setting type saddle-stapling and folding unit
Paper size	Saddle-stapling and folding/Center-folding Length: 200 to 450 mm Width: 200 to 320 mm Side-stapling Length: 139 to 231 mm Width: 210 to 320 mm (Standard size from above (A5, A4) (feed direction: wide edge leading)) Corner-stapling A4 (feed direction: wide edge leading)
Paper quality	Fine stencil paper, medium quality paper, fine quality paper (64 to 128 g/m²) Note 1) However, the cover must be above 80 g/m². Note 2) Under both side and corner-stapling mode, in case of 64 g/m², up to 10 sheets.
Stapler	1 to 2
Stapling capacity	Fine quality paper: 80 g/m². Equivalent to 25 sheets or less
Folding capacity	Fine quality paper: 80 g/m². Equivalent to 25 sheets or less
Maximum processing speed	40 sets/minute (A4-80 g/m², 10 sheets, feed direction: narrow edge leading)
Detection function	Conveyance route/stopper/paper receiving tray paper jam detection, top cover/belt conveyance unit open/close detection, staple remaining amount detection
Size of unit	850 (W) \times 550 (D) \times 610 (H) Not including paper receiving tray
Mass	100 kg
Using conditions	Temperature: 5 to 35°C. Humidity: 20 to 85% RH
Power supply	AC 220 to 240 V ^{+6%} _{-10%} 50 Hz ±5%
Power consumption	1.7 A

Specifications and dimensions are subject to change without prior notice for improvements.