

## I. FEATURES

1. Fixed copyboard, yet with the zoom mechanism.
  - The copier can deal with documents as large as B4 in size (B4 → A4) and is the smallest fixed copyboard copier with the zoom mechanism.
2. Automatic density adjustment.
  - The copier automatically adjusts itself to suit the density of the documents for production of crisp copies.
3. 1% increment zoom mechanism in addition to fixed ENLARGEMENT and REDUCTION.
  - In addition to the fixed ENLARGEMENT/REDUCTION reproduction ratios, the copier is equipped with a zoom mechanism which allows enlargement/reduction in 1% increment between 70% to 122%.
4. Clam-shell type top.
  - The top of the copier is designed to open to provide free access in removing jams.
5. Cassette as well as manual feeding.
  - The copier comes with a cassette as standard, capable of holding 250 sheets of copy paper. In addition, with the manual feed mode, copies may be made on sheets as small as name cards or postcards.

## II. SPECIFICATIONS

Type	Body	Desk top	
	Copyboard	Fixed	
	Light source	Halogen lamp (230W)	
	Lens	Zoom lens	
	Drum	OPC	
Configuration	Copying	Indirect electrostatic	
	Charging	Corona	
	Exposure	Slit (mobile light source)	
	Copy density adjustment	Automatic (AE) or manual	
	Development	Dry (black toner only)	
	Paper feeding	Automatic or manual	
	Separation	Curvature	
	Cleaning	Blade	
	Fixing	Heat roller (850W)	
Performance	Document type	Sheet, book, 3-D object (2 kg max.)	
	Document size	B4 max.	
	Reproduction ratio	DIRECT, 2R2E, zoom (See Table 1-1.)	
	Warm-up time	30 sec (approx. at 20°C)	
	First copy	12 sec (at 20°C)	
	Continuous copying	99 sheets max.	
	Copying speed	See Table 1-1.	
	Copy size	A4 max.; 51 mm X 88 mm min.	
	Copy paper	Cassette	Plain paper (64 to 80 g/m <sup>2</sup> ), tracing paper (SM-1), colored paper.
		Manual tray	Plain paper (64 to 128 g/m <sup>2</sup> ), tracing paper (SM-1), colored paper, OHP film, postcard (cross feed), label, name card (200 g/m <sup>2</sup> or less), onion paper (63 g/m <sup>2</sup> ), high-quality paper (60 to 128 g/m <sup>2</sup> , coarse-grained paper (50 g/m <sup>2</sup> ).
	Two-sided copying (manual only)		Plain paper (64 to 80 g/m <sup>2</sup> , colored paper, postcard (cross feed), name card (200 g/m <sup>2</sup> or less), high-quality paper (60 to 128 g/m <sup>2</sup> ), single copying operation for each side.
	Overlay copying (manual only)		Plain paper (64 to 80 g/m <sup>2</sup> , colored paper, postcard (cross feed), name card (200 g/m <sup>2</sup> or less), high-quality paper (60 to 128 g/m <sup>2</sup> ), two copying operations for each side.

Performance	Cassette	Universal	Depth: 25 mm (about 250 sheets of 80 g/m <sup>2</sup> paper) Width: A4/LGL (216 mm) to A5/Mini (139.5 mm) Length: A4/LGL (356 mm) to A5/Mini (210 mm)		
		A4	Depth: 25 mm (about 250 sheets of 80 g/m <sup>2</sup> paper) Width: A4 (210 mm) Length: A4 (297 mm)		
	Manual tray		Width: A4 (210 mm) to name card (51 mm) Length: A4 (297 mm) to name card (51 mm)		
	Copy tray		20 sheets (approx.; A4 of 80 g/m <sup>2</sup> )		
	Non-image width		Leading edge: 2.0 + 2.0, - 1.5 mm Left/right: 0 + 2.0, - 0 mm		
Others	Operating environment	Temperature	5° to 32.5°C		
		Humidity	5% to 85%		
		Atmospheric pressure	0.6 to 1 atm.		
	Power supply	Voltage	Frequency	Serial No.	
		220V	50Hz	DSD × × × × ×	
		240V	50Hz	ESD × × × × ×	
		240V	50Hz	FSD × × × × ×	
	220V	50Hz	KSD × × × × ×		
	Power consumption	Max.	1.2 kW		
	Noise	Copying	55 dB or less (1 m from machine)		
		Stand-by	42 dB or less (1 m from machine)		
	Ozone (average over 8 hr)		0.1 ppm or less		
	Dimensions	Width	506 mm (w/o tray)		
		Depth	471 mm		
Height		288.5 mm			
Weight		24.5 kg (body and cassette and tray)			
Consumables	Copy paper	Keep wrapped to avoid humidity.			
	Drum unit	See CHAPTER 5.			

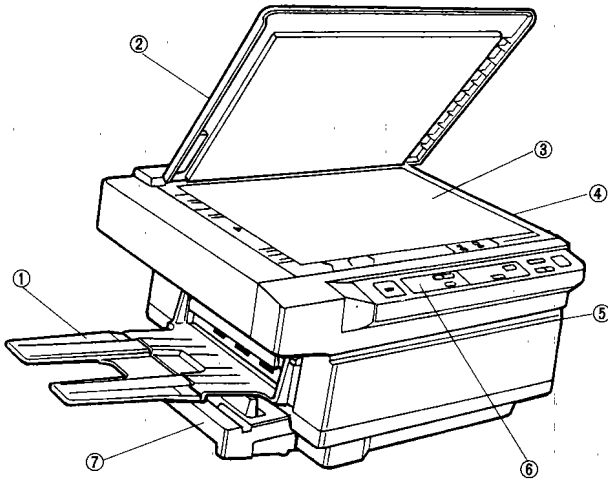
Mode	Reproduction ratio	Size	Copies/min
DIRECT	1 : 1 ± 0.6%	A4 → A4	10
REDUCTION I	1 : 0.704 ± 1.0%	B4 → B5, A4 → A5	10, 10
REDUCTION II	1 : 0.813 ± 1.0%	B4 → A4	10
ENLARGEMENT I	1 : 1.153 ± 1.0%	B5 → A4	9
ENLARGEMENT II	1 : 1.223 ± 1.0%	A5 → B5	9
ZOOM	0.70 ~ 1.22 ± 1.0%	A4 → B5, B5 → A4	10, 9

Table 1-1

Specifications are subject to change without notice for product improvement.

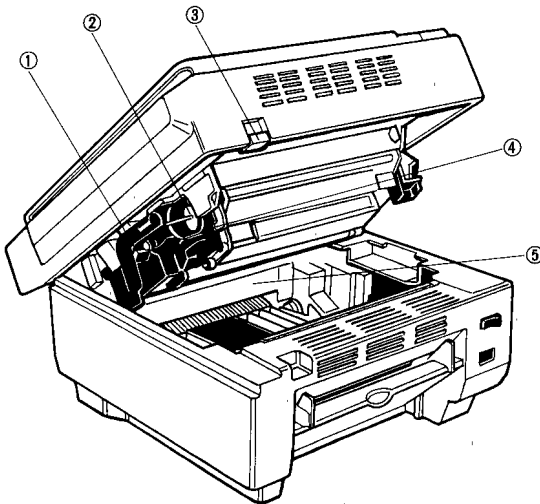
### III. NAMES OF PARTS

#### A. External View



- ① Copy tray
- ② Copyboard cover
- ③ Copyboard glass
- ④ Power switch
- ⑤ Paper feed tray
- ⑥ Control panel
- ⑦ Cassette

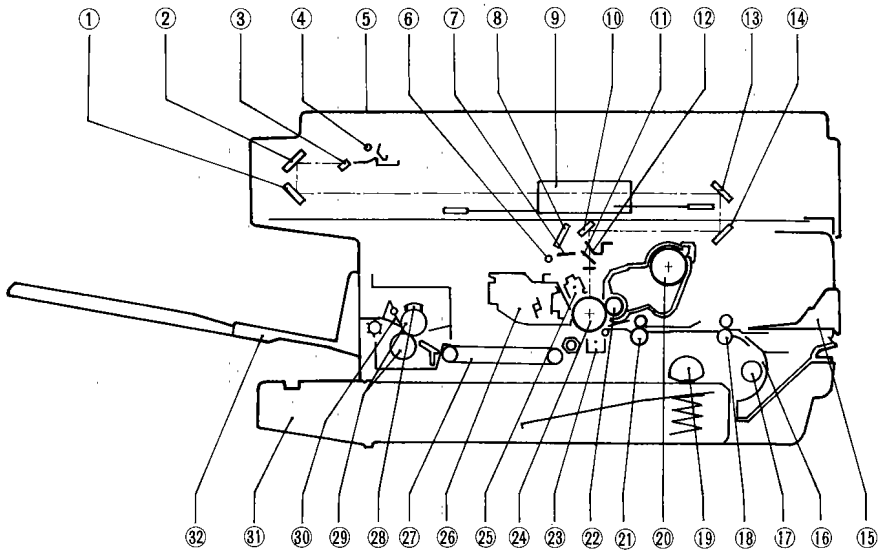
Figure 1-1



- ① Drum unit
- ② Toner cartridge
- ③ Release lever
- ④ Developing unit
- ⑤ Fixing unit

Figure 1-2

**B. Cross-Sectional View**



- |   |  |    |                                  |
|---|--|----|----------------------------------|
| ① | Mirror 3                                       | ①⑦ | Cassette feed roller             |
| ② | Mirror 2                                       | ①⑧ | Manual feed/Cassette feed roller |
| ③ | Mirror 1                                       | ①⑨ | Cassette pick-up roller          |
| ④ | Scanning lamp                                  | ②⑩ | Toner cartridge                  |
| ⑤ | Copyboard cover                                | ②⑪ | Registration roller              |
| ⑥ | Pre-conditioning exposure lamp                 | ②⑫ | Developing cylinder              |
| ⑦ | Reflector (for pre-conditioning exposure lamp) | ②⑬ | Transfer corona unit             |
| ⑧ | Blank exposure lamp (front/rear)               | ②⑭ | OPC drum                         |
| ⑨ | Zoom lens                                      | ②⑮ | Primary corona unit              |
| ⑩ | Mirror 6                                       | ②⑯ | Waste toner unit                 |
| ⑪ | Blank shutter                                  | ②⑰ | Feeder unit                      |
| ⑫ | Reflector (for blank exposure lamp)            | ②⑱ | Fixing assembly cleaning unit    |
| ⑬ | Mirror 4                                       | ②⑲ | Fixing roller                    |
| ⑭ | Mirror 5                                       | ③⑰ | Separation claw                  |
| ⑮ | Manual feed guide                              | ③⑱ | Cassette                         |
| ⑯ | U-turn unit                                    | ③⑲ | Copy tray                        |

**Figure 1-3**

## IV. OPERATION

### A. Control Panel

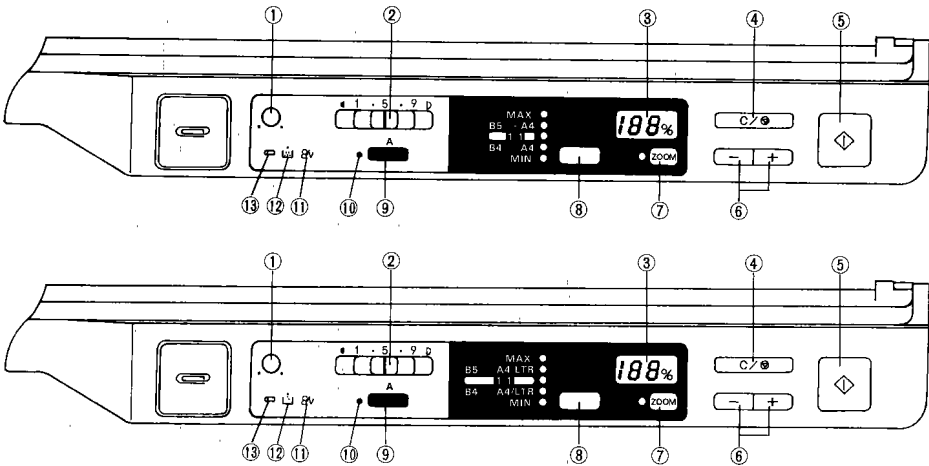


Figure 1-4

- ① **DENSITY Correction Knob**
  - Use the knob to adjust the copy density in the automatic or manual density adjustment mode.
- ② **EXPOSURE CONTROL lever**
  - Use the lever to darken or lighten the copy in the manual mode.
- ③ **ZOOM/COPY NUMBER Indicator**
  - Set the number of copies to make, and press the key; the number will be displayed on the indicator. The number decreases for each copy made and returns to the initial number after all copies have been made.
  - The indicator also displays "P" for feeding error or absence of paper and "E" for self diagnosis.
  - Press the ZOOM key, and set the reproduction ratio desired; the ratio will be displayed on the indicator.
- ④ **CLEAR/STOP Key**
  - Press the key to stop continuous copying; the operation will stop after completing the current copying cycle.
  - Press the key to clear the display on the indicator in the standby mode; the copy count will return to '1', or the reproduction ratio will return to '100%'.
- ⑤ **COPY START Key**
- ⑥ **ZOOM/COPY NUMBER INPUT Keys**
  - Use the keys to set the number of copies to make.
  - With a press on the ZOOM key, a reproduction ratio may be between 70% and 122% in 1% increment.
- ⑦ **ZOOM MODE Key**
  - Press the key to set a reproduction ratio other than those fixed.
- ⑧ **REDUCTION/ENLARGEMENT Key**
  - Use the key to select DIRECT, ENLARGEMENT or REDUCTION.
- ⑨ **AE Key**
  - Use the key to activate or deactivate the AE (automatic density adjustment) mode.
- ⑩ **AE Indicator**
  - The indicator lights while the AE mode is in effect.
- ⑪ **JAM Indicator**
  - The indicator flashes in response to a jam.
- ⑫ **TONER OUT Indicator**
  - The indicator flashes when toner is running short.
- ⑬ **DRUM UNIT Indicator**
  - The indicator flashes to advise replacement of the drum unit.

## B. Basic Copy Operation

- 1) Shift the power switch to 'I'.
  - If the temperature of the fixing assembly is below the specified value, the MAIN/WAIT indicator flashes at long intervals. If the COPY START key is pressed at the time, the indicator starts to flash at short intervals to indicate that copying will start as soon as the temperature reaches the specified value.
  - If the COPY START key is not pressed, the indicator remains lit as soon as the temperature reaches the specified value to indicate that the copier is ready.
  - The copier normally needs about 30 sec to warm up (at 20°C).
- 2) Open the copyboard cover, and place the document face down aligned with the size index.
  - See Figure 1-5.

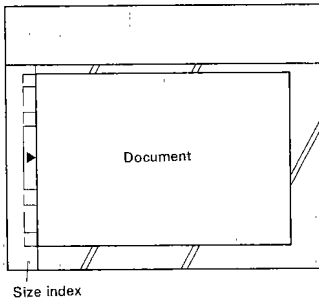


Figure 1-5

- 3) Press the A key if manual adjustment of the density is desired; use the exposure control lever to suit the density of the document.
- 4) Press the REDUCTION/ENLARGEMENT key or ZOOM MODE key as desired.
  - When the ZOOM MODE key is pressed, the ratio may be in 1% increment between 70% and 122%.
  - When the REDUCTION/ENLARGEMENT key is pressed, each press activates the reproduction ratios as shown in Figure 1-6.

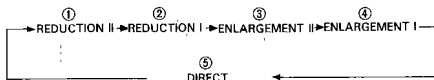


Figure 1-6

- 5) Check that the cassette is set in the cassette holder.
- 6) Press the COPY NUMBER INPUT key to set the number of copies to make (1 through 99), and check the number on the COPY NUMBER indicator.
- 7) Press the COPY START key.
  - Copying will not start while the MAIN/WAIT indicator is flashing; however, the COPY START key may be pressed at the time so that copying will start as soon as the copier is ready.
  - To stop continuous copying, press the CLEAR/STOP key. The copier stops after completing the current copy. The number on the indicator will be the one set initially.

## Manual Feeding

- 1) Set a document on the copyboard.
- 2) Press the A key to clear the AE mode if manual adjustment of the density is desired; thereafter, use the EXPOSURE CONTROL lever to suit the density of the document.
- 3) Slide the guide on the manual tray to suit the size of the copy paper.
- 4) Feed the copy paper along the guide of the manual tray.
  - The copier starts automatically as soon as it detects the copy paper.
  - The copy paper may be placed on the tray even while the MAIN/WAIT indicator is flashing; the paper will be fed into the copier, and copying will start as soon as the indicator stops flashing and remains lit.

## Note:

Wait until the scanner has made a complete trip before feeding the second sheet of paper.

## Two-Sided Copying

- 1) Make sure that the following conditions are met:
  - Turn over the copy paper, keeping its near and far edges oriented the same way for both sides.
  - The copy paper is not moist or curled.
  - The copy paper is 60 to 128 g/m<sup>2</sup> in weight.
  - Each side of the copy paper is used for a single copy run only.
  - The copy paper has not been used for overlay copying.

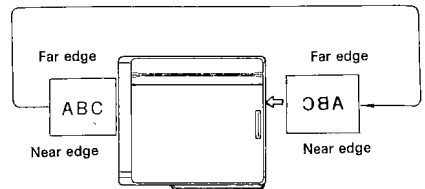


Figure 1-7

### C. JAM Indicator ON " 04 "

When a jam occurs inside the copier, the JAM indicator goes ON. Perform the following to clear the jam.

- Do not tear off the paper; be sure no paper is left behind inside the copier.
- 1) Pull up the open/close lever, and open the copier.
  - 2) Clear the jam.
    - If the jam is inside the fixing assembly, pull it farther inside.
    - If the jam is in the pick-up unit, pull it out in the feeding direction.
    - If the jam is in the delivery unit of the fixing assembly, open the delivery unit.
  - 3) Close the copier carefully.

#### Note:

- Be sure to be quick in clearing the jam, and be sure that the drum is kept free of sunlight.
- Do not leave finger prints or scratches on the drum.

### E. TONER OUT Indicator ON " ↓ "

The TONER OUT indicator goes ON when the toner starts to run short.

- 1) Open the upper unit.

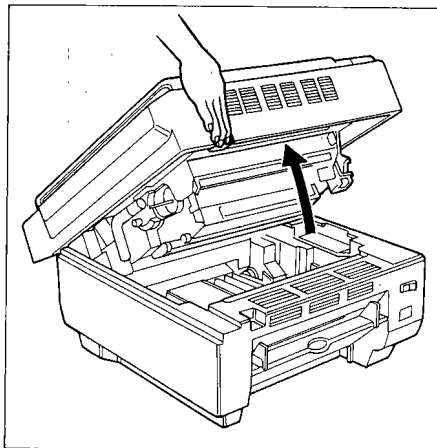


Figure 1-8

### D. ADD PAPER Indicator ON " 02 "

The ADD PAPER indicator goes ON in response to the following conditions:

- The cassettes have run out of paper.
- The COPY START key is pressed when there is no cassette in the cassette holders.
- When there is a jam in the U-turn unit.

- 1) Check if there is paper inside the cassette(s).
- 2) Set paper if there is no paper inside the cassette(s).

If there is paper, perform the following:

  - Open the cover of the U-turn unit and look for a jam.
  - Remove the jam, if any.
  - Remove the paper from the cassette(s), and arrange and re-set it.
  - Check if the cassette(s) is properly set in the cassette holder.
- 3) Press the COPY START key.
  - The indicator goes OFF, and the remaining number of copies will be made.

- 2) Turn the knob of the toner cartridge back and forth several times and then counter-clockwise (180 deg.), and pull the cartridge out to the front.

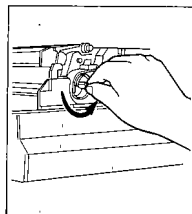


Figure 1-9

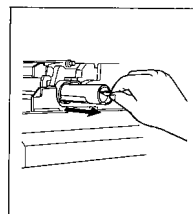


Figure 1-10

- 3) Shake the new toner cartridge vigorously side to side about ten times.

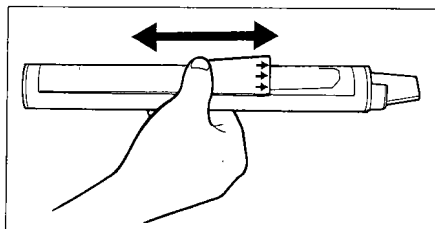


Figure 1-11



- 4) Pick the tip of the seal, and insert the toner cartridge until it stops while peeling the seal.

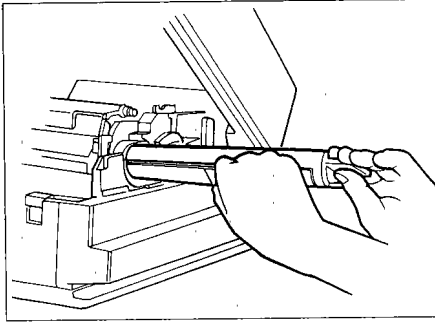


Figure 1-12

- 5) Pull and peel the seal toward the front with care.
- 6) Turn the knob of the toner cartridge clockwise until it stops.

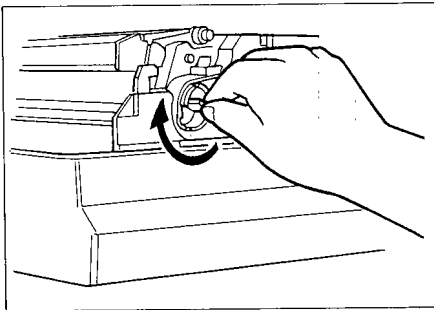


Figure 1-13

## F. Replacing the Fixing Assembly Cleaning Unit

Replace the fixing assembly cleaning unit when replacing the toner cartridge; replace the cleaning unit upon replacement of every two toner cartridges.

- 1) Remove the copy tray, and open the delivery unit.
- 2) Remove the used fixing assembly cleaning unit.
  - If the fixing roller is found to be soiled, clean it with a dry cloth.

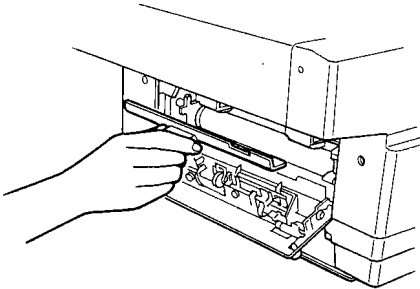


Figure 1-14

- 3) Mount the new fixing assembly cleaning unit.
- 4) Close the delivery unit, and mount the copy tray back on.

## G. Density Correction Knob

If the density of copies seems to be too dark or too light in the automatic or manual density adjustment, turn the knob for optimum density. (Turn it clockwise to make the copies lighter.)

## H. Cleaning

Advise the user to clean the following parts if images start to carry smudges.

### Note:

- Be sure to be quick in clearing the jam, and be sure that the drum is kept free of sunlight.
- Do not leave finger prints or scratches on the drum.

- (1) Copyboard glass and Copyboard cover.

Wipe them with a moist cloth, and then with a dry cloth; if dirt remains, wipe them with a solution of mild detergent, and then with a dry cloth.

- (2) Primary corona wire.

Pull out and push in the primary corona wire cleaner (provided) several times to clean the wire.

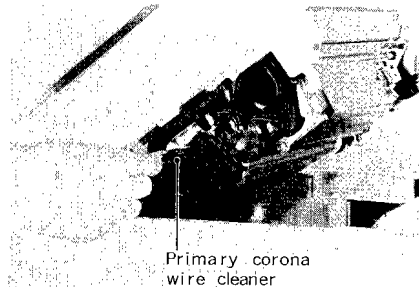


Figure 1-15

- (3) Transfer corona wire.

Open the copier, and clean the transfer corona wire with a cotton-tipped stick.

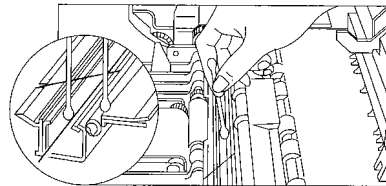


Figure 1-16

- (4) Transfer guide.

Wipe the transfer guide with a well-wrung moist cloth.

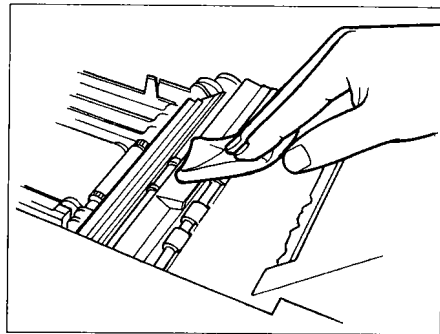
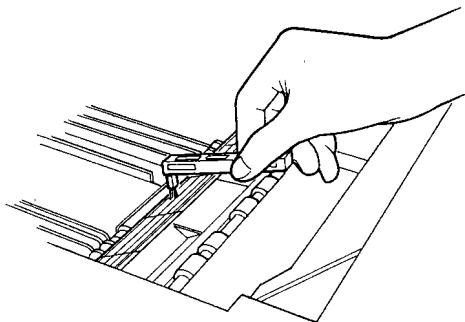


Figure 1-17

(5) Static eliminator.

Open the copier, and clean the static eliminator (orange) with the brush attached to the tip of the cleaner (provided).



**Figure 1-18**