Chapter 3 Operating Instructions

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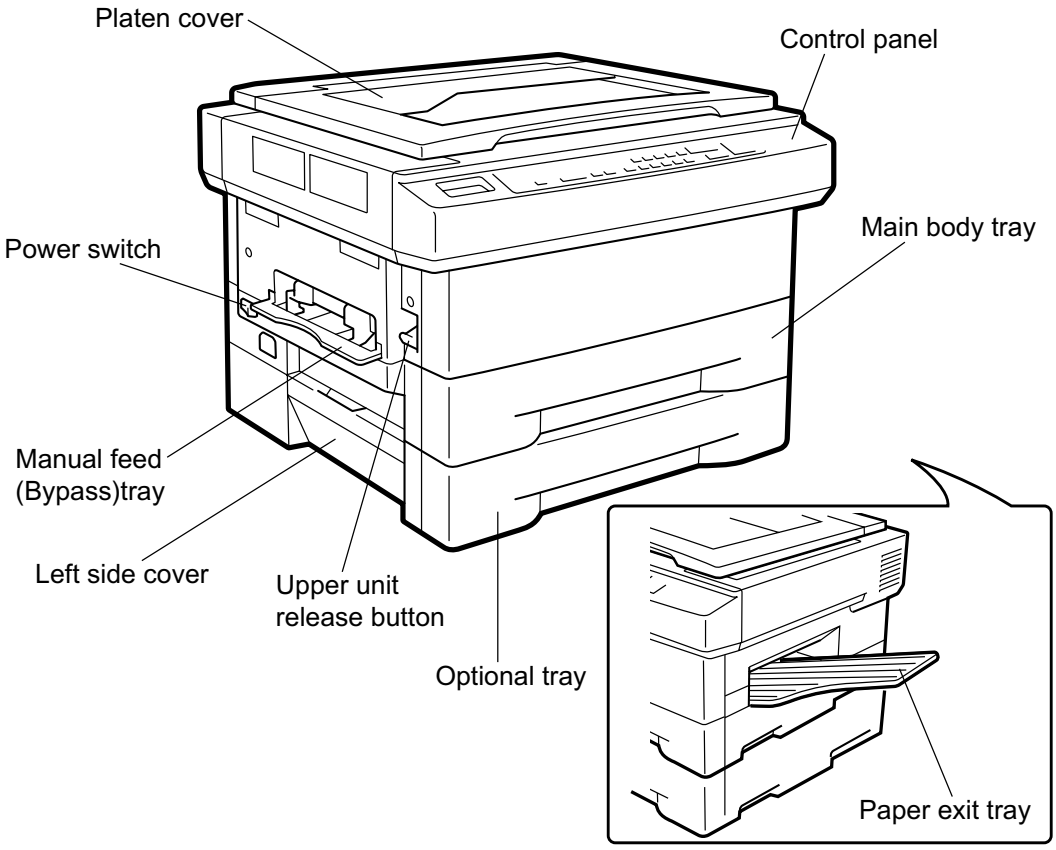
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3-1. Machine configuration and function

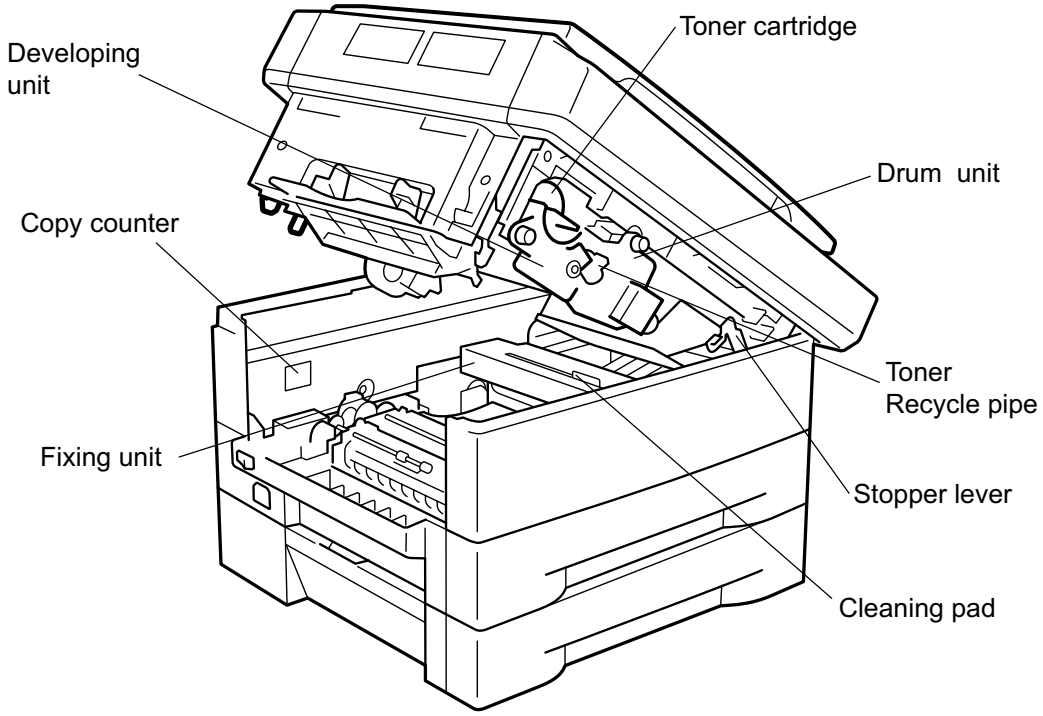
3-1-1. Main Body

External Main Body



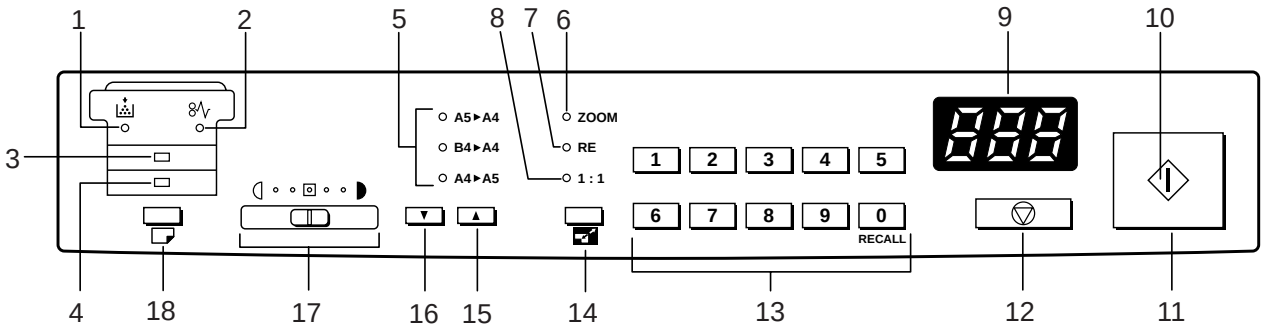
Upper unit release button .... opens the upper unit.
Power switch ..... turns copier power on or off.
△1 Paper exit tray ..... receives discharged copies.
Capacity: 50 sheets max.
Platen cover ..... holds documents to be copied.
Control panel ..... specifies copying conditions.
Main body tray ..... is an universal (user-adjustable) tray which holds up to 250 sheets of various sizes.
Manual feed bypass tray ..... holds copy paper of various sizes ranging from A5 size to A4 size, and of various types including OHP sheets.
Optional tray ..... has the same function as the main body tray and enables paper feeding in three different ways if used in combination with the other two trays.
Left side cover ..... opens to remove mishandled paper.

Internal Main Body



Cleaning pad ..... cleans the fixing roller and needs periodical replacement.
Drum unit..... is electrically charged to form the copy image. This unit needs periodical replacement.
Developing unit ..... prints images to the drum. This unit needs periodical replacement.
Toner cartridge ..... is charged with toner and needs to be replaced when it runs out of toner.
Fixing unit..... is provided with a fixing roller to fix images (toner) to copy paper by heating up and applying pressure.
Copy counter..... indicates the total number of copies.
Toner recycle pipe ..... returns toner remaining in the drum unit to the developing unit to reuse it.
Stopper lever..... is moved to close and lock the upper unit.

3-1-2. Control panel



1. Add toner lamp (Blinking)
   This lamp blinks when toner is running short, then the copier stops copying automatically to replenish the drum unit with toner. Wait until the toner supply is completed.

2. Paper misfeed lamp (Blinking)
   This lamp blinks when a paper misfeed occurs.
   Remove misfed paper.

3. Main body tray selection lamp (Lighting/Blinking)
   This lamp lights when the main body tray is selected, and blinks when no copy paper is left.

4. Optional tray selection lamp (Lighting/Blinking)
   This lamp lights when the optional tray is selected, and blinks when no copy paper is left.

5. RE mode indicators (Lighting)
   When making reduced or enlarged copies in the RE (preset ratio) mode, the lamp corresponding to the selected preset ratio lights.

6. ZOOM mode lamp (Lighting)
   This lamp lights when the ZOOM mode is selected.
   Set the desired magnification ratio using the [▼ (reduce)] or [▲ (enlarge)] button.

7. RE mode lamp (Lighting)
   This lamp lights when the RE (preset ratio) mode is selected.
   Use the [▼ (reduce)] or [▲ (enlarge)] button to select a RE ratio.

8. 1 : 1 mode lamp (Lighting) ;
   This lamp lights up when 1:1 (full-size) mode is selected.
   Select this mode to make copies of the same size as the original.

9. Copy quantity/Magnification ratio display
   Displays the number of copies or the magnification ratio you set.

10. READY indicator
    This indicator lights in green when the copier is ready for copying. During warm-up or when the copier is not ready for copying, the indicator lights in orange.
    When the copier is in the power save mode, the orange lamp blinks.

11. [COPY] button
    Press this button to start copying, while the READY indicator lights in green.
    If you press this button during warm-up, the copier automatically starts copying as soon as the system gets ready for copying.

12. [STOP/CLEAR] button
    Press this button to cancel the entered copy quantity or to stop copying in progress.

13. Ten-key pad
    Press to enter numeric values.

14. [MAGNIFICATION MODE] button
    Press to select a magnification mode.
    Pressing this button will switch the magnification mode in the following order:
    “1 : 1" -> “RE” -> “Zoom” -> “1 : 1”...
    “1 : 1”: Full-size mode (Full-size (1 : 1) copy)
    “RE”: Preset ratio mode (Use the [▼ (reduce)] or [▲ (enlarge)] button to select one of the three preset ratio types.)
    “Zoom”: Zoom mode (Use the [▼ (reduce)] or [▲ (enlarge)] button to set the desired magnification ratio.)

15. [▲ (enlarge)] button
    Used to select a preset ratio or to set the desired ratio (from 70 to 141%).

16. [▼ (reduce)] button
    Used to select a preset ratio or to set the desired ratio (from 70 to 141%)

17. Copy density control knob
    Slide the knob to the right to adjust exposure when originals are too light or slide the knob to the left to adjust for dark originals.

18. [CASSETTE] button
    Used to select a paper tray (only when the optional tray is mounted in the copier).

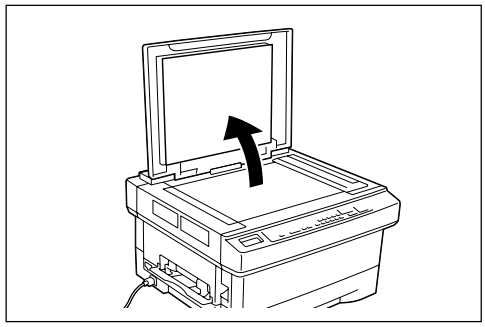
3-2. Copying operations

This Section describes the basic copying procedure and how to use various functions.

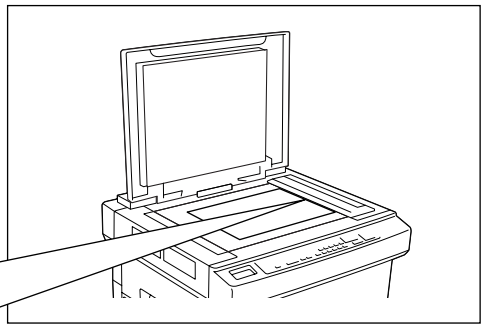
3-2-1. How to Make a Basic Copy

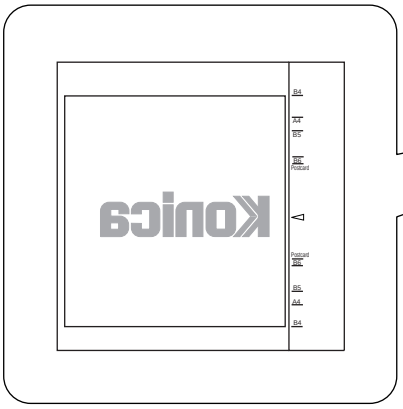
1. Turn on the power switch.

2. Open the platen cover.

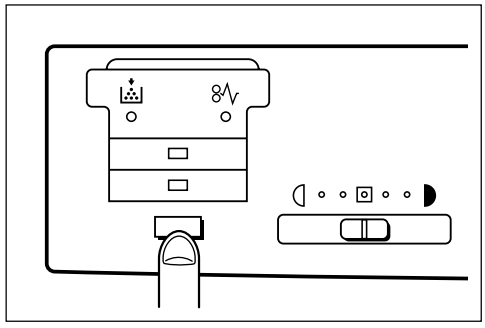


3. Place an original document FACE DOWN on the platen glass.
   ✎ Align the original to the scale on the right side.

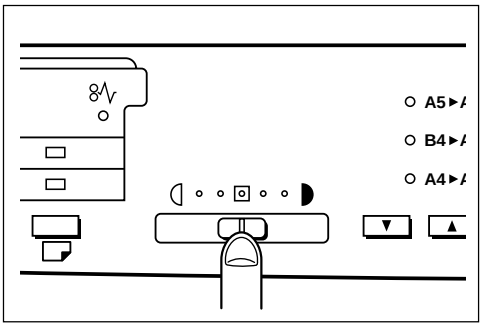




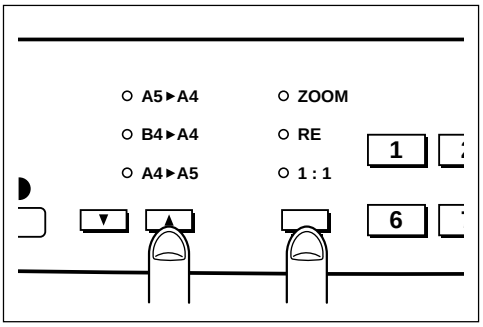
4. Select a paper tray by pressing the [CASSETTE] button.
   ✎ The Manual feed bypass tray is always used irrespective of the selection when paper is set in it.
   ✎ If the optional tray is not mounted on the copier, skip here and proceed to step 5.



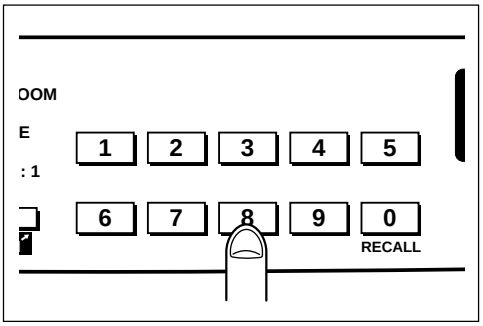
5. Set copying conditions.
   (1) Set the copy contrast by sliding the Copy density control knob.
   ✎ Set the control knob at the midpoint for normal density. Slide the knob to the right for darker copy image. Slide the knob to the left for lighter copy image.



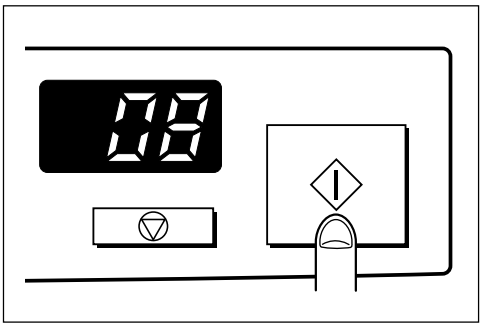
   (2) Set the desired magnification.
   ✎ To make full-size copies, press the [MAGNIFICATION MODE] button to select “1 : 1”. Each time you press the [MAGNIFICATION] button, the magnification mode changes in the following order: “1 : 1” -> “RE” -> “Zoom” -> “1:1” ....
   ✎ To make reduced/enlarged copies, refer to p. 3-7 or p. 3-8.



   (3) Enter the desired copy quantity using the ten-key pad.
   ✎ To change the copy quantity, press the [STOP/CLEAR] button and re-enter it.



6. Press the [COPY] button.
   The copier will start copying.
   ✎ To stop copying, press the [STOP/CLEAR] button.



3-2-2. Copy Using the Manual Feed Bypass Tray

Use the Manual feed bypass tray to copy onto paper other than the sizes loaded in main body and optional trays, paper of the irregular size, or onto OHP films in the single-sheet mode.

Note:
Do not use wrinkled or warped paper; otherwise a paper misfeed may occur.

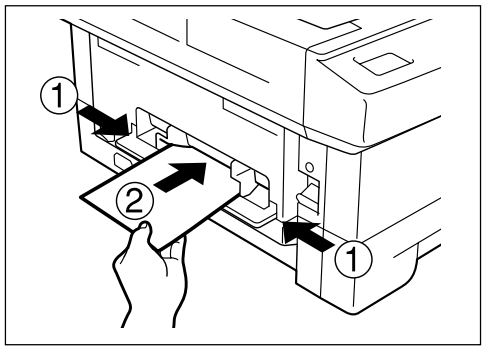
1. Adjust the paper guides of the Manual feed bypass tray to the paper and insert it all the way.

   ✎ Paper is automatically fed into the copier by the roller as it is inserted.

   ✎ Placing copy paper in the manual-feed tray causes the copier to select it automatically.

2. Set copying conditions. Refer to p. 3-6.

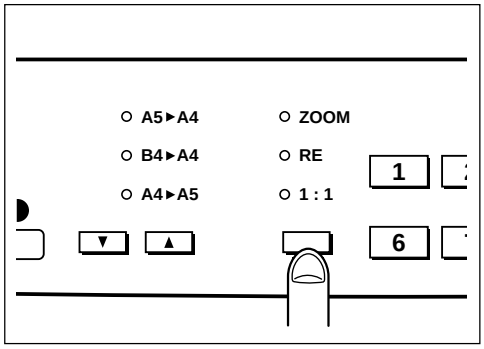
3. Press the [COPY] button.
   The copier will start copying.



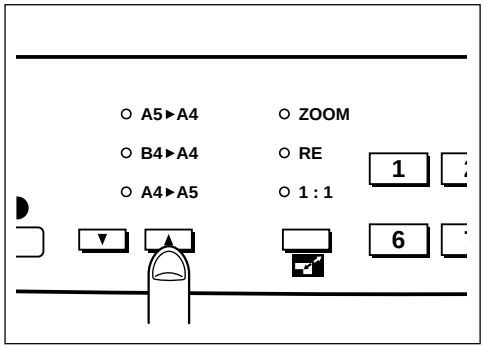
3-2-3. RE (Preset Ratio) Mode

Use RE (preset ratio) mode to make enlarged or reduced copies by selecting one of the preset magnification types. This section exclusively describes how to select a preset ratio, supposing that any other preparations for copying have been made.

1. Press the [MAGNIFICATION MODE] button to select “RE” (preset ratio) mode.



2. Press the [▼ (reduce)] or [▲ (enlarge)] button to select the desired magnification ratio.
   A5 -> A4: 141%
   B4 -> A4: 82%
   A4 -> A5: 71%

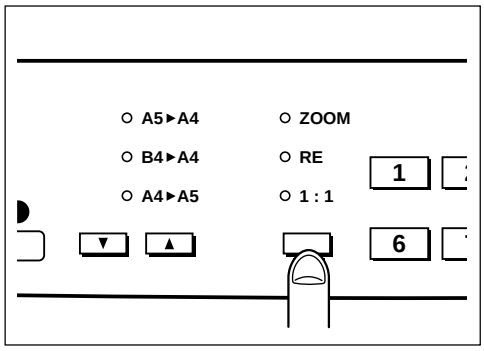


3-2-4. Zoom Mode

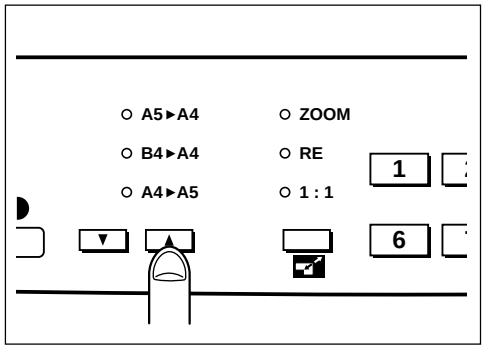
Use this mode to get copy image enlarged or reduced to the desired size.
This section exclusively describes how to set the desired magnification ratio, supposing that any other preparations have been made. See the following table for your reference.

Original document size	Copy paper size		
	A4	B5	A5
B4	82	71	—
A4	100	86	71
B5	115	100	82
A5	141	122	100

1. Press the [MAGNIFICATION MODE] button to select “ZOOM”.
   The 3-digit magnification ratio will appear for 3 seconds, then change to the copy quantity display.
   ✎ If 82% is selected, “082” will be displayed.
   If 115% is selected, “115” will be displayed.



2. Using the [▼ (reduce)] or [▲ (enlarge)] button, set the desired magnification ratio.
   ✎ While pressing the [▼ (reduce)] or [▲ (enlarge)] button, go on the magnification ratio.
   ✎ Each time you press the [▼ (reduce)] or [▲ (reduce)] button, the zoom ratio increases or decreases in 1% steps. Hold it down to scroll to the desired ratio.



3-2-5. Useful Functions

This section describes various useful functions provided for the copier. For the operational procedure, see p. 3-10.

■ Auto Clear

If no command is entered from the control panel for a specified period of time, all the settings you made will be cleared automatically and the copier will restore the default settings.

Default
Copy quantity: 1
Magnification: 1:1
Paper tray: Main body tray

You can change the time elapsed before the Auto Clear function operates. (30, 60, 90, or 120 seconds) See p. 3-10, 3-11.

■ Power Save mode

This mode enables you to conserve energy by lowering the fixing temperature automatically after a certain period of copier inactivity.
In the Power Save mode, all the lamps and indicators are off, except for the blinking READY indicator. To return the copier to the standby state, press any button on the control panel.
Initially, the Power save mode is set to function after 30 minutes of copier inactivity.
You can change the time elapsed before the Power Save function operates. (2, 5, 30, 60, 120 or 240 minutes)
Contact your service centre to use this function.

■ Copy Counter Read

This function enables you to check the total number of copies you have made so far.
The total number of copies will be indicated on the Copy Quantity/Magnification ratio display in six digits divided into two; first three figures, and then last three figures.

3-2-6. Setting Procedure

How to Set Conditions of Copier Functions

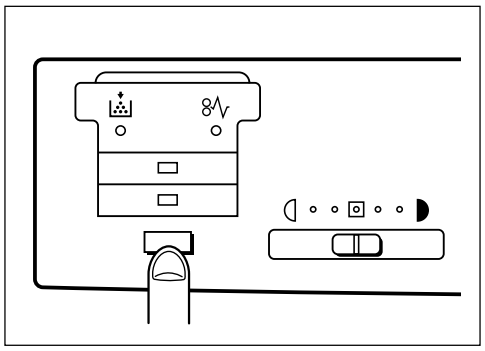
This section describes the procedure of the following settings:

1. Setting Tray paper size
2. Setting Auto Clear function
3. Initializing the drum unit and developing unit
4. Setting the automatic paper-length check function

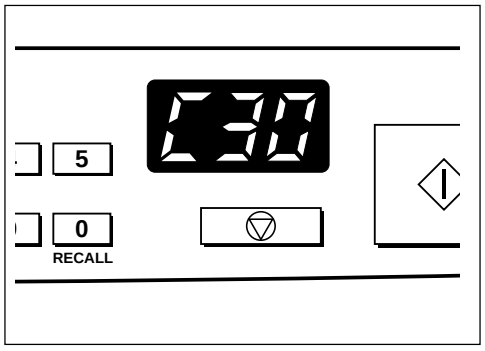
In this procedure we suppose that the copier is already on and ready for copying (on standby).

- ✎ Be sure to perform the paper size setting when loading paper of a different size into the tray.
- ✎ Initialize the drum unit when replacing it.
- ✎ Initialize the developing unit when installing the copier or replacing the developing unit.

1. Press the [CASSETTE] button for five seconds.
   The copier will turn to the condition for designating the initial settings.

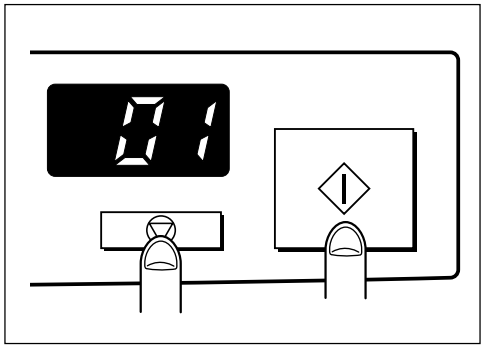


2. Referring to the table on the next page, enter the desired code using the ten-key pad.
   Ex.: [3] [0]
   (Designates 30 seconds of the time elapsed before the Auto Clear operates.)



3. Press the [COPY] button.
   The entered value will be established.

4. Press the [STOP/CLEAR] button.
   The copier will return to the standby state.



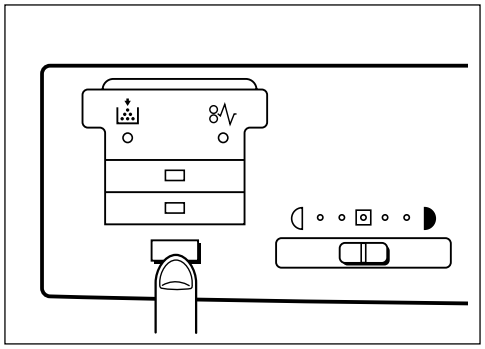
■ Function Code Table

Tray paper size
Main body tray C00 LT (letter) C01 LG (regal) C02 A4 C03 B5 C04 A5 C05 F4-1: 8”x13” (203x330mm) C06 F4-2: 8.5”x13” (216x330mm) C07 F4-3: 8.25”x13” (210x330mm) C08 F4-4: 206x337mm Optional tray C10 LT (letter) C11 LG (regal) C12 A4 C13 B5 C14 A5 C15 F4-1: 8”x13”(203x330mm) C16 F4-2: 8.5”x13”(216x330mm) C17 F4-3: 8.25”x13”(210x330mm) C18 F4-4: 206X337mm
Time elapsed before the Auto Clear operates
C30 30sec C31 60sec (Default is underlined.) C32 90sec C33 120sec
Copy counter read
C40 Read the main body copy count C41 Read the drum body copy count C42 Read the developing unit copy count
Initializing the drum unit and developing unit
C50 Initialize the drum unit. C51 Initialize the developing unit.
Setting the automatic paper-length check function
C60 OFF C61 ON (Default is underlined.) C62 ON (LT width erase)

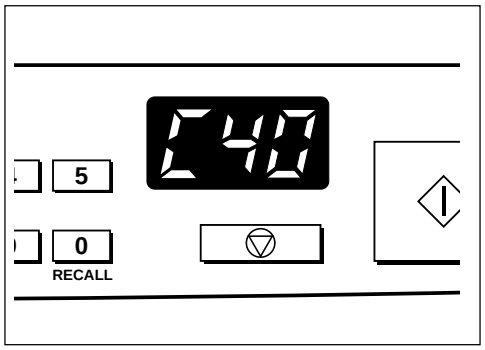
How to Read the Copy Counter

This section describes the procedure for reading the copy counter.
In this section we suppose that the copier is already on and ready for copying (on standby).

1. Press the [CASSETTE] button for five seconds.
   The copier will turn to the condition for designating the initial settings.

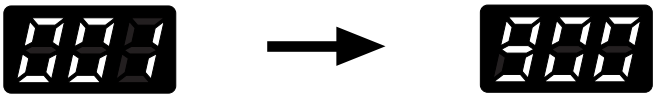


2. Using the ten-key pad, enter “4” then “0”.

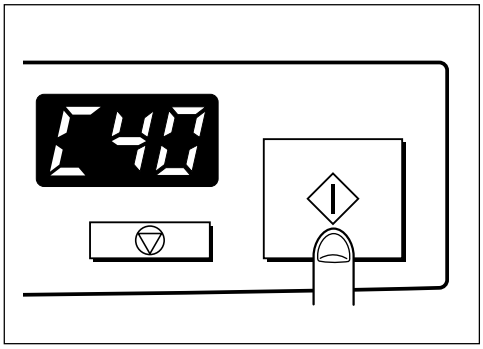


3. Press the [COPY] button.
   The first three figures of the total number of copies will be displayed for about three seconds,
   then the last three figures following an interval of one second.

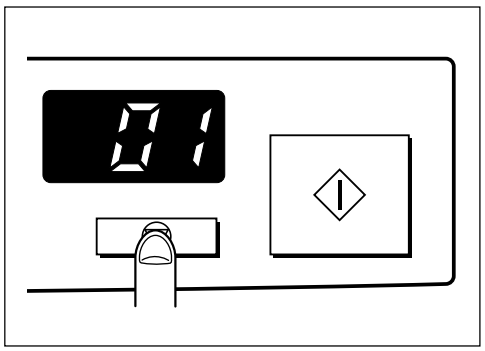
   (Example:1900 copies)



Displayed for 3 seconds — Interval 1 second — Displayed for 3 seconds

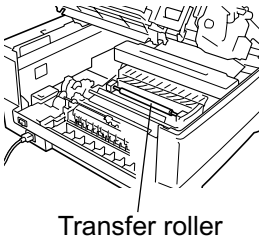


4. Press the [STOP/CLEAR] button.
   The copier will return to the standby state.



3-3. Troubleshooting

3-3-1. Copy Quality-Related Troubles

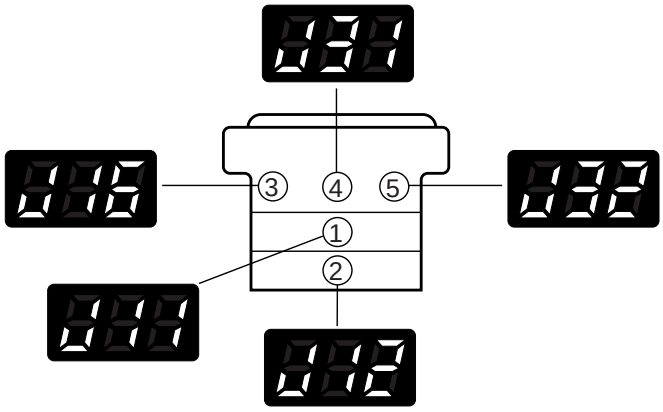
Problems	Causes	Remedies
Copy image is too light.	The copy contrast is not set properly.	Adjust the copy contrast properly.
	Toner is scarce.	Check to see if the add toner lamp is lit. Replace the toner cartridge if required.
	A large number of high-contrast copies are made continuously.	
	Copy paper is damp.	Replace the copy paper.
Copy image is too dark.	The copy contrast is not set properly.	Adjust the copy contrast properly.
No image is copied. (Blank sheet)	The developing unit is not set correctly.	Set the developing unit correctly.
The back page of the copy is dirty.	The transfer roller is dirty.	Clean the roller with a dry cloth.  Transfer roller
Copies show dark stripes in vertical direction.	The cleaning pad life is over.	Replace the cleaning pad.
Dark parts are not copied evenly.	Copy paper other than the designated ones is used.	Use the designated copy paper.
	Copy paper is damp.	
No image is copied at specific parts.	The edge of the copy paper is skew.	Set copy paper correctly.
	Copy paper is damp.	Replace copy paper.
	Copy paper other than the designated ones is used.	Use the designated copy paper.
The same stains are repeatedly found on one copy.	The drum has been damaged.	If the distance between stains is 94 mm, replace the drum unit.
Copy image can be rubbed off.	Copy paper is too slick or too thick.	Use the designated copy paper.

If the remedies listed above cannot improve the copy quality, as listed above, consult with your Service Centre.

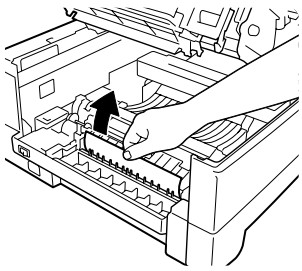
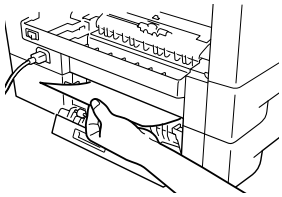
3-3-2. Error Codes and Remedies

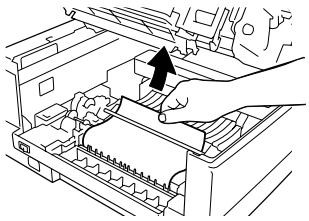
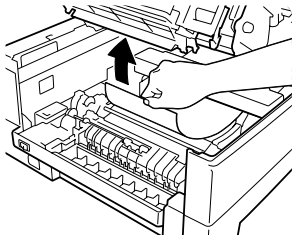
This copier indicates error codes beginning with J, P or F. When an error occurs, take appropriate measures according to the code indicated on the Copy quantity / Magnification ratio display and the misfed paper label on the platen glass.

■ J Code



Note:
- Remove misfed paper so that no torn paper remains inside the machine.
- Do not touch or damage the drum surface.
- When removing misfed paper, be sure to follow the caution labels attached inside the machine to avoid getting burned or electrical shock.

Error code	Meaning / Causes	Remedies
J11/ 16	Copy paper is misfed in the paper feeder of the main body tray.	Open the upper unit and remove the misfed paper. 
J12	Copy paper is misfed in the paper feeder of the optional tray.	Open the left side cover and remove the misfed paper. 

Error signs	Meaning / Causes	Remedies
J31	Copy paper is misfed in the paper carrier.	Open the upper unit and remove the misfed paper. Be sure to pull the copy paper as illustrated below. Drawing paper in the opposite direction might soil the copy image. 
J32	Copying paper is misfed in the fixing unit.	Open the upper unit and remove the misfed paper. 

■ P Code

Error codes	Meaning / Causes	Remedies
*2P11	Paper of a different size is loaded in the main body tray.	Load paper of the correct size into the tray.
P12	Paper of a different size is loaded in the optional tray.	Load paper of the correct size into the tray.
P20	The drum unit or developing unit is not mounted on the copier main unit.	Open the upper unit, and install the drum unit or developing unit in the copier main unit.
*1P24	The copy count of the drum unit has reached 24,500. The drum unit needs to be replaced before long.	Get a new drum unit.
P24(Blinking)	The copy count of the drum unit has reached 25,000. After discharging copy paper, the copier will stop copying automatically.	Replace the drum unit with a new one, then initialize it.
P25	Copying stops temporarily because toner is being replenished.	Wait until the toner supply is completed.
P25(Blinking)	Toner has run out. After discharging copy paper, the copier will stop copying automatically.	Replace the toner cartridge with a new one.
P26	The developing unit is not yet initialized.	Initialize the developing unit.
*1P27	The errors [P24] and [P29] occur at the same time.	The developing unit and the drum unit need to be replaced before long. Get new ones.
*1P29	The copy count of the developing unit has reached 25,000. The developing unit needs to be replaced before long.	Get a new developing unit.
P29(Blinking)	The previously displayed [P29] blinks when the developing unit is out of toner. The copier will automatically stop copying after discharging copy paper.	Replace the developing unit with a new one, then initialize it.
P51	The upper unit is open.	Close the upper unit securely.

*1: Appears when the Auto Clear function operates or copier power is turned on. To clear the code, press any key of the ten-key pad, the [STOP/CLEAR] button, or the [COPY] button.

*2: Appears when copying job finishes, the Auto Clear function operates, or copier power is turned on.

■ F Code

> ⚠ **CAUTION**
> If the F code number is displayed in the Copy quantity/Magnification ratio display, immediately switch off the copier and disconnect from the power socket. Contact your Service Centre and inform the Report Code.

Error codes	Meaning / Causes	Remedies
F41,F42,F43,F45, F50,F52,F54,	Trouble has occurred inside the copier.	Turn off the power switch, then turn it on again. If the error code remains displayed in spite of this action, contact your Service Centre.
F34,F35,F36	Trouble has occurred in the fixing unit.	Turn off the copier, and unplug it from the outlet.Contact your Service Centre.
F26	The developing unit is not initialized correctly.	Initialize the developing unit over again.

3-4. Copier management

3-4-1. Periodic Maintenance

Adding Toner and Replacing the Cleaning Pad

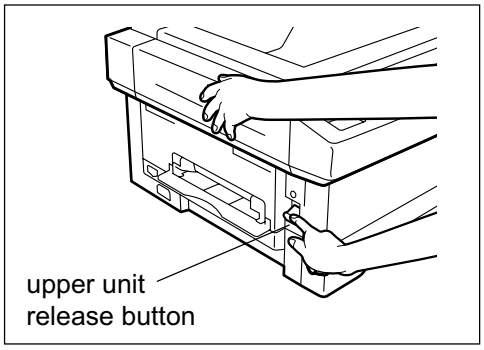
When toner runs out, the code [P25] appears on the Copy quantity / Magnification ratio display and the Add Toner lamp blinks. (See p. 2-14.)
Replace the toner cartridge and the cleaning pad following the procedure below.

Adding Toner

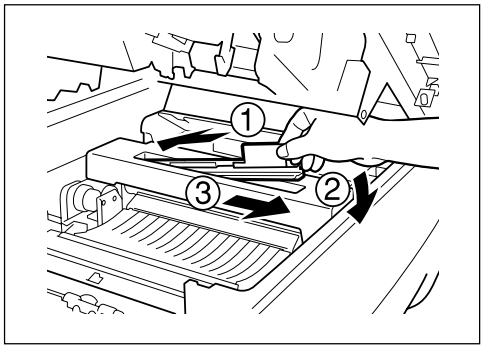
Replace the toner cartridge following the procedure described on p. 2-14 to p. 2-15.

Replacing the Cleaning Pad

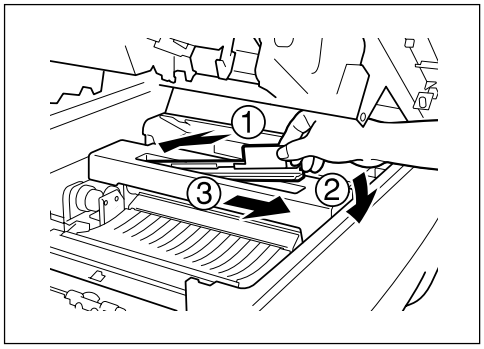
1. While holding the upper unit with one hand, press the upper unit release button to open the upper unit.
   Note:
   • Use care to prevent the upper unit from popping up.
   • Open the upper unit till it clicks.
   Do not expose the drum to light for longer than 5 minutes; otherwise the copier may cause copy image problems.



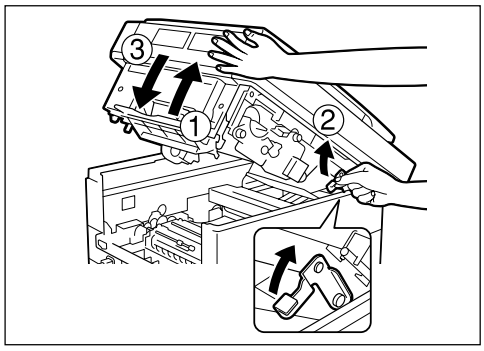
2. Push the cleaning pad to the rear, then remove the cleaning pad by drawing it up on the front side.



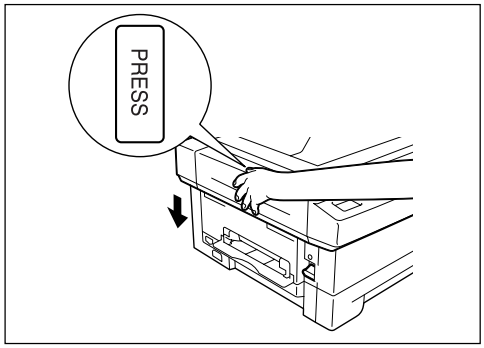
3. Insert a new cleaning pad to the rear, then slide it to the front to install firmly.
   Note:
   After reinstalling a new cleaning pad, pull it upwards to check that it is firmly installed.
   If not firmly installed, it may lead to dirt appearing on copy images and misfed paper.



4. Close the upper unit by picking up the stopper lever while pushing up the upper unit slightly.



△1 5. Close the upper unit securely, hold down the central part of the upper unit.

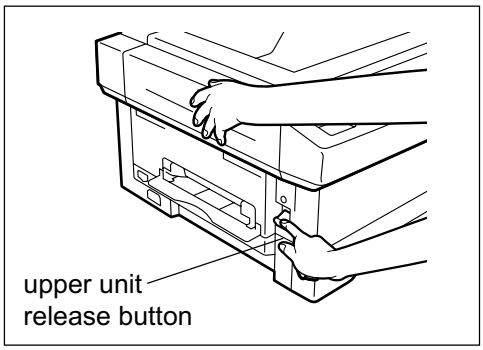


Replacing the Drum Unit

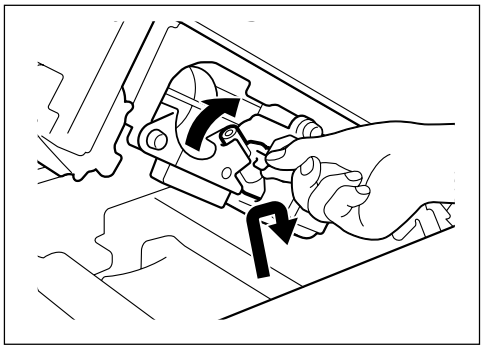
The drum unit has a lifespan of approx. 25,000 copies.
When the copy count reaches 24,500, the code [P24] appears on the Copy quantity / Magnification ratio display to indicate that the life of the drum unit is reaching its end, and when 25,000 copies are made, [P24] blinks and copying jobs will no longer be available.
When the code [P24] appears, contact your Service Centre.

Note:
- Install the new drum unit, then reinstall the developing unit in order; otherwise the drum may be damaged.
- Initialize the drum unit after installing it.
☞ See p. 2-13.

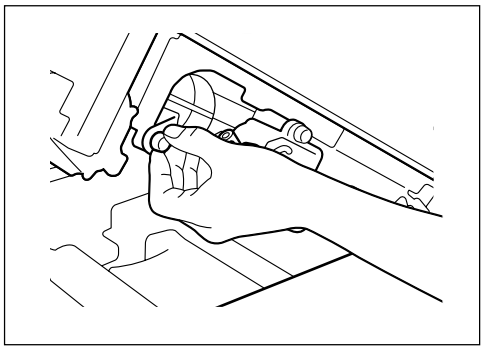
1. While holding the upper unit with one hand, press the upper unit release button to open the upper unit.
   Note:
   - Use care to prevent the upper unit from popping up.
   - Open the upper unit till it clicks.



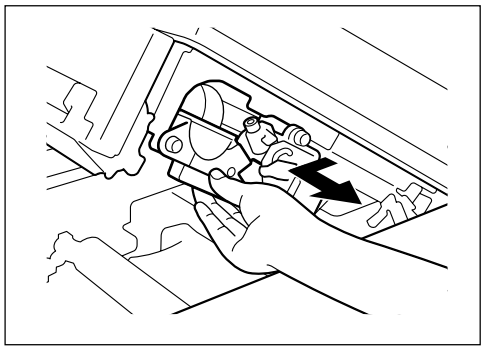
2. Remove the developing unit.
   (1) Move the toner recycle pipe to the RELEASE position.



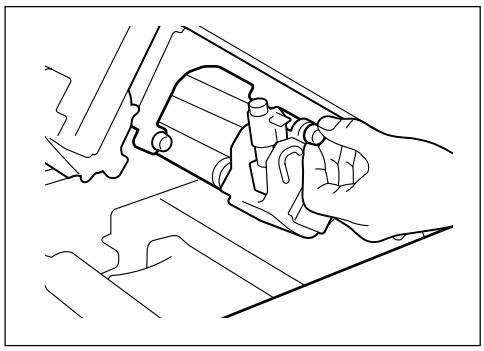
   (2) Remove the developing unit fixing screw.



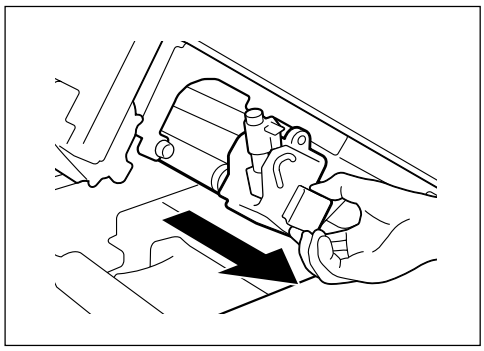
(3) Slide the developing unit to the left, then pull it out.



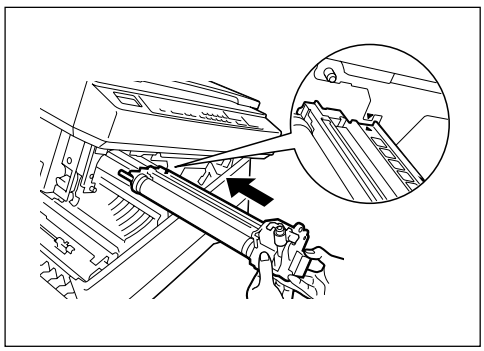
3. Remove the drum unit.
   (1) Remove the drum unit fixing screw.



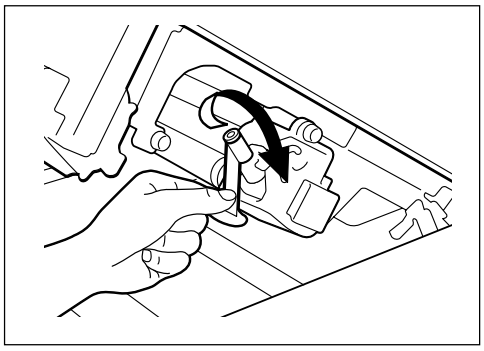
(2) Pull out the drum unit.



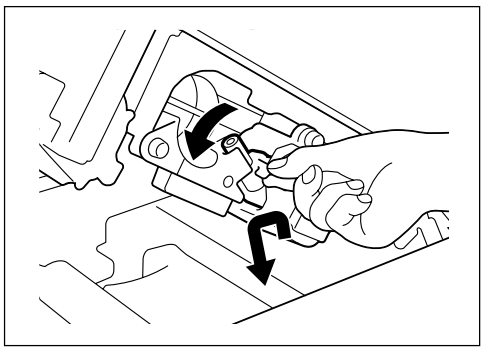
4. Install a new drum unit.
   (1) Unpack a new drum unit.
△1 (2) Insert the drum unit into the main body.
   Note:
   Align the blue mark on the drum unit with that on the main body, when installing the drum unit.
   (3) Secure the drum unit with the drum unit fixing screw.



(4) Remove the shield tape from the toner recycle pipe.



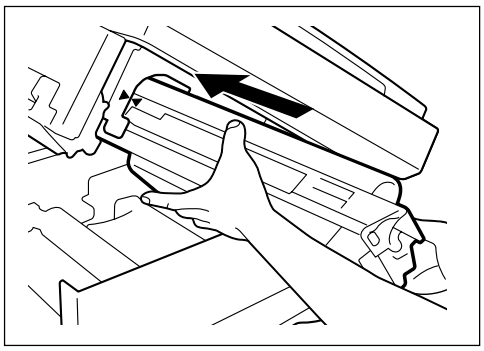
(5) Move the toner recycle pipe to the RELEASE position.



5. Reinstall the developing unit.

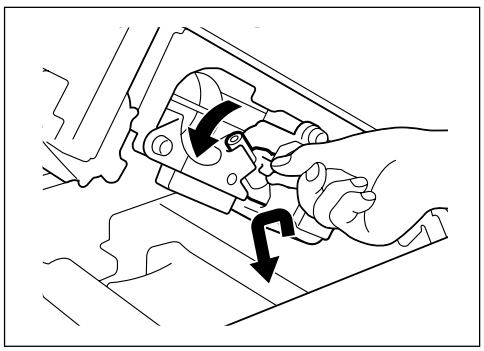
△1 (1) Insert the developing unit into the copier main body.

Note:
Align the blue mark on the develping unit with that on the main body, when reinstalling the drum unit.

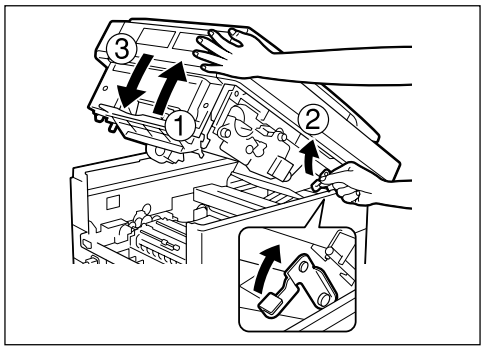


(2) Secure the developing unit with the developing unit fixing screw.

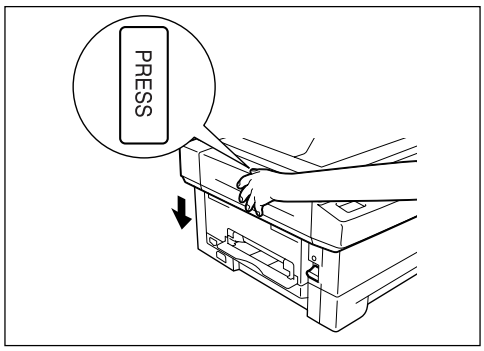
(3) Return the toner recycle pipe to the SET position.



6. Close the upper unit by picking up the stopper lever while pushing up the upper unit slightly.



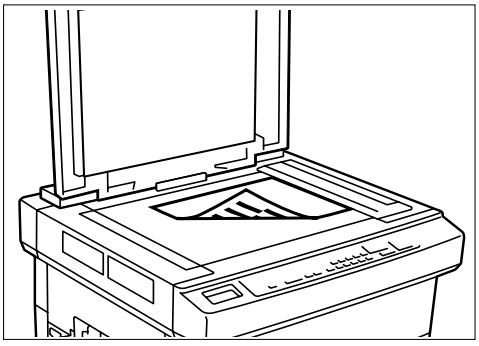
△1 7. Close the upper unit securely, hold down the central part of the upper unit.



8. Initialize the drum unit according to the appropiate procedure.
☞ See p. 2-13

△1 Cleaning the fixing roller

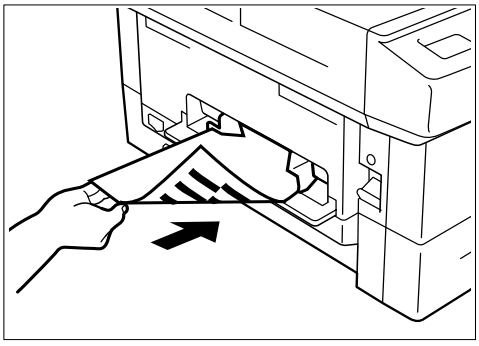
1. After replacing a drum unit, make10 copies of the “Black line pattern”.



2. Set one copy of the “Black line pattern” onto the sheet bypass tray with its face down and the arrow indication facing the manual feed inlet.

3. Press [START PRINT] button.

4. Repeat steps 2 and 3 for the rest of the 10 copies made in step 1.

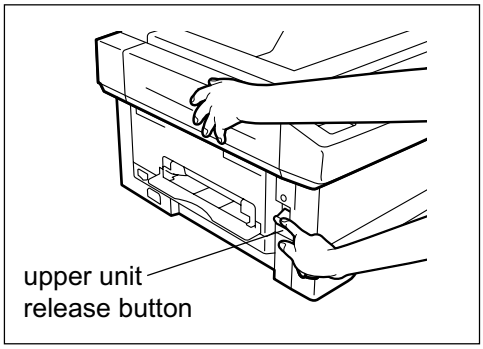


Replacing the Developing unit

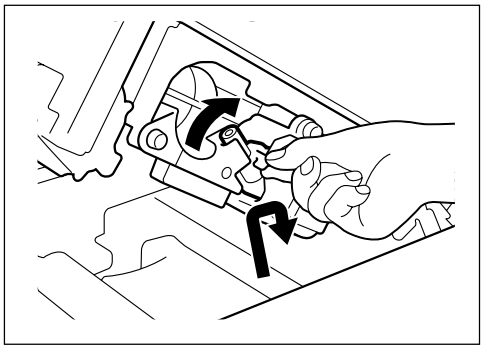
The developing unit has a lifespan of approx. 25,000 copies.
When the copy count reaches 25,000, the code [P29] appears on the Copy quantity / Magnification ratio display to indicate that the life of the developing unit is reaching its end, and when the developing unit is out of toner, [P29] blinks and copying job will no longer be available.
When the code [P29] appears, contact your Service Centre.

Note:
After installing a new developing unit, add toner, replace the cleaning pad, and initialize the developing unit in order.

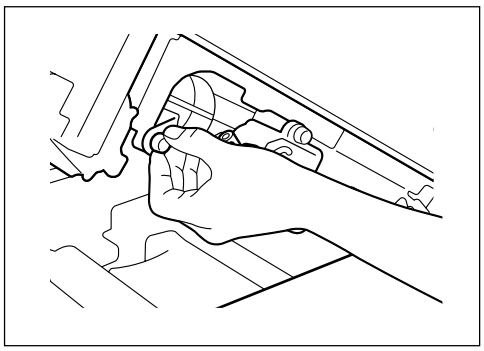
1. While holding the upper unit with one hand, press the upper unit release button to open the upper unit.
   Note:
   • Use care to prevent the upper unit from popping up.
   • Open the upper unit till it clicks.



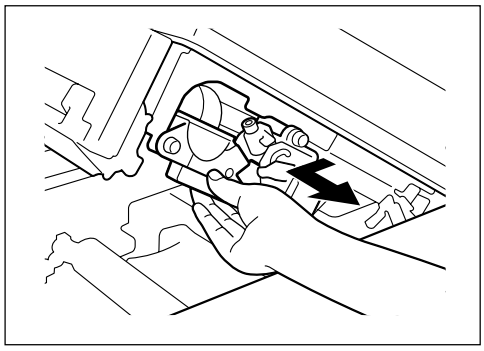
2. Remove the developing unit.
   (1) Move the toner recycle pipe to the RELEASE position.



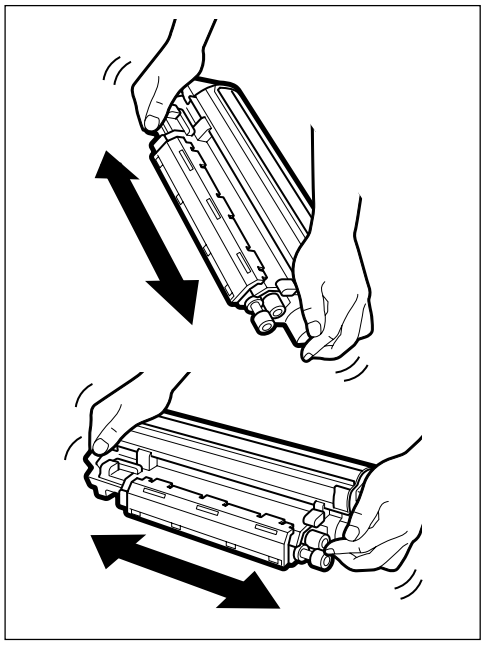
   (2) Remove the drum unit fixing screw.



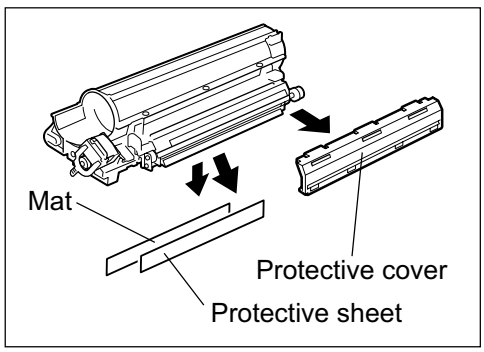
(3) Pull out the developing unit.



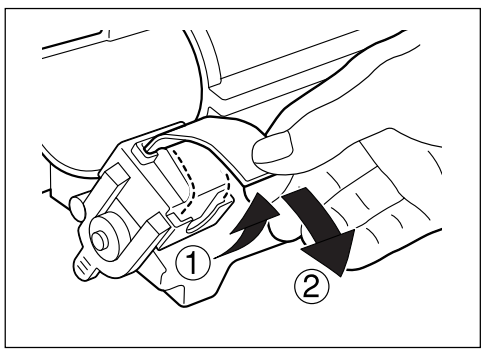
3. Install a new developing unit.
   (1) Unpack the developing unit.
   (2) Slant the developing unit with the gear side downwards, and shake it up and down about four or five times.
   (3) Then hold the developing unit level, and shake it from side to side about four or five times.



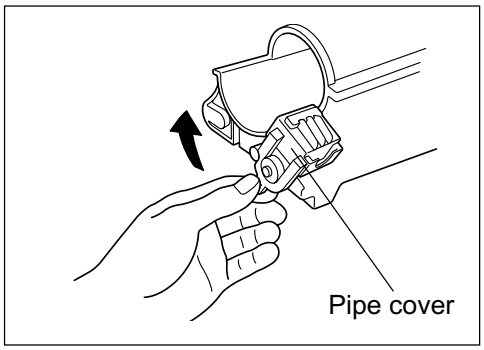
△1 (4) Remove the protective cover, then pull off the protective sheet and the mat in a downward direction.
Note:
It is not necessary to keep the protective cover, protective sheet and the mat.



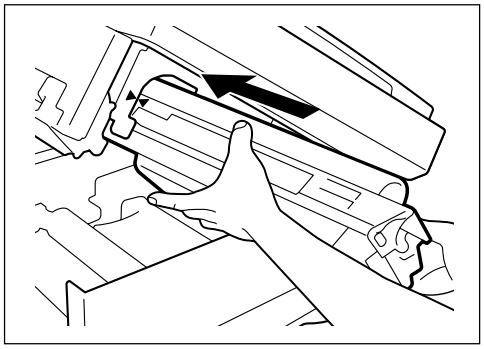
(5) Peel the tape fixing the magnet tape, then carefully remove the magnet tape by slipping it down slowly.



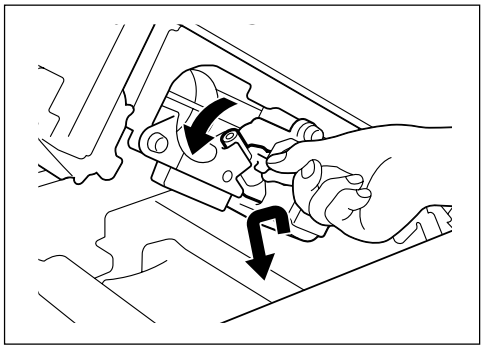
(6) Remove the pipe cover.
Note:
Remove the pipe cover slowly to prevent the developer from being scattered.



(7) Insert the developing unit in the main unit.



(8) Secure the developing unit with the developing unit fixing screw.
(9) Return the toner recycle pipe to the SET position.



4. Supply toner.
☞ See p. 2-14.
5. Replace the cleaning pad.
☞ See p. 2-15.
6. Initialize the developing unit according to the appropriate procedure.
☞ See p. 2-10.

3-4-2. Daily Maintenance

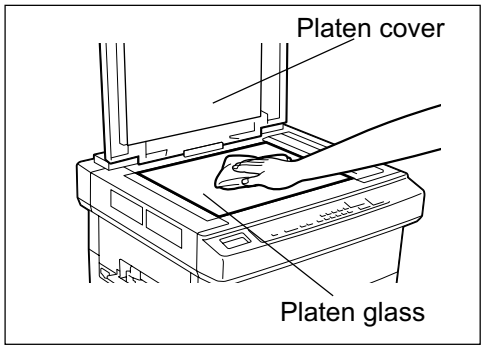
To maintain the optimum copy quality, perform the following maintenance periodically.

> ⚠ **CAUTION**
> Never use paint solvents, such as benzine and thinners

Cleaning the Platen Glass and the Platen Cover

Wipe them with a clean, soft cloth.
If dirt is hard to remove, wipe it off with a cloth moistened with alcohol.

✎ Always keep the platen glass and cover clean; otherwise dirty marks may be copied.



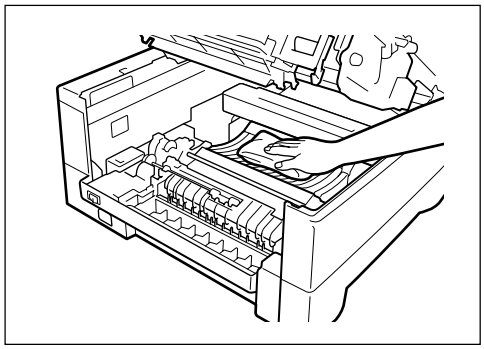
Cleaning the Paper Carrier

Open the upper unit, wipe the paper carrier with a clean soft cloth.

Note:

- Use care to prevent the upper unit from popping up.
- Open the upper unit till it clicks.

✎ Always keep the paper carrier clean; otherwise dirty marks may be copied.

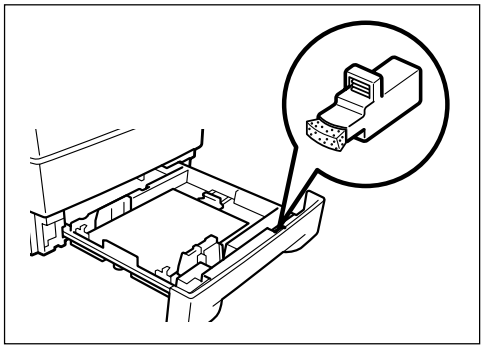


Cleaning the Corona Wire

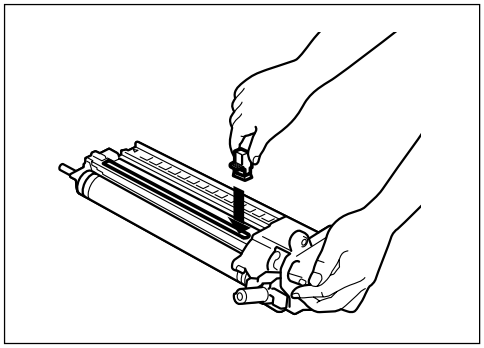
Clean the corona wire if any dirty marks appear on copies. Use the wire cleaner provided in the main body tray to clean the wire. The corona wire is inside the drum unit slot.

Note:
- It is necessary to remove the drum unit and the developing unit from the main body, when cleaning the corona wire. Reinstall the drum unit and the developing unit in order; otherwise the drum may be damaged. See p. 3-20 to p. 3-21.
- Do not touch the drum surface. Touching the drum may mark or scratch it.
- Do not expose the drum unit to light for longer than 5 minutes.

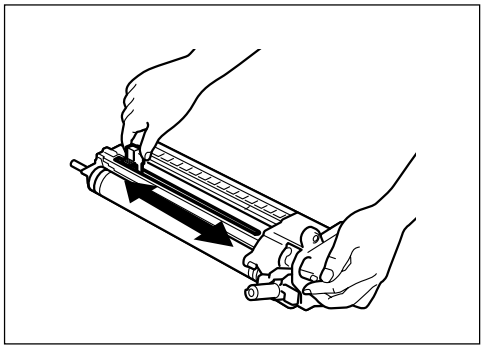
1. Remove the drum unit from the main body.
2. Withdraw the main body tray and take out the wire cleaner.



3. Insert the wire cleaner into the slot of the drum unit.



4. Slide the wire cleaner to the left and right four or five times to clean the corona wire.
5. Reinstall the drum unit and the developing unit in order.



3-4-3. Copy Materials

Toner Cartridge

Toner cartridge is capable of making approx. 5,000 prints.
Toner cartridge 1pc
Cleaning pad 1pc

Drum Unit

Drum unit is capable of making approx. 25,000 prints.
Drum unit 1pc

Developing Unit

Developing unit is cpapble of making approx. 25,000 prints.
Developing unit 1pc

Spare Parts Holding Period

All the spare parts necessary for maintaining your copier are available for at least 7 years after the production of the same model has been discontinued.

Package Contents

Drum unit (already installed in the main body) 1
Developing unit 1
Toner cartridge 1
Paper exit tray 1
Cleaning pad (already installed in the main body) 1
Instruction manual 1