

SHARP®

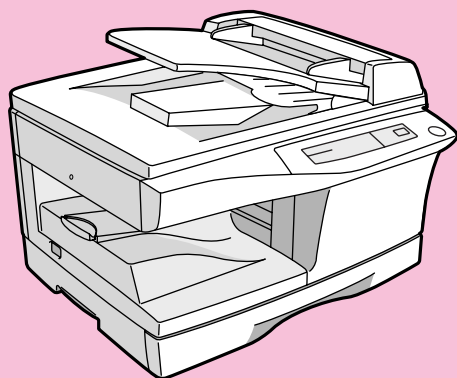
MODEL

AR-156

DIGITAL LASER COPIER

OPERATION MANUAL

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1

GETTING STARTED

This chapter provides basic information for using the copier.

INTRODUCTION

This copier has been designed to provide intuitive operating ease while requiring a minimum amount of space. To get full use of all copier features, be sure to familiarize yourself with this manual and the copier.

For quick reference during copier use, keep this manual in a handy location.



Note

This copier can also be used as a laser printer if an optional printer expansion kit is installed. This manual describes only the copier features. For description of the printer features, see their separate manual.

Conventions used in this manual

In this manual, the following icons are used to provide the user with information pertinent to the use of the copier.



Warning

Warns the user that injury to the user or damage to the copier may result if the contents of the warning are not properly followed.



Caution

Cautions the user that damage to the copier or one of its components may result if the contents of the caution are not properly followed.



Note

Notes provide information relevant to the copier regarding specifications, functions, performance, operation and such, that may be useful to the user.



Indicates a letter displayed in the display.

CAUTIONS

Follow the cautions below when using this copier.



Warning

- The fusing area is hot. Exercise care in this area when removing misfed paper.
- Do not look directly at the light source. Doing so may damage your eyes.
- Do not switch the copier rapidly on and off. After turning the copier off, wait 10 to 15 seconds before turning it back on.
- Copier power must be turned off before installing any supplies.



Caution

- Place the copier on a firm, level surface.
- Do not install the copier in a humid or dusty location.
- When the copier is not used for a long time, for example, for consecutive holidays, turn the power switch off and remove the power cord from the outlet.
- When moving the copier, be sure to turn the power switch off and remove the power cord from the outlet.
- Do not cover the copier with a dust cover, cloth or plastic film while the power is on. Doing so may prevent heat radiation, damaging the copier.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY PRECAUTIONS

This Digital Copier is rated Class 1 and complies with 21 CFR 1040.10 and 1040.11 of the CDRH standards. This means that the copier does not produce hazardous laser radiation. For your safety, observe the precautions below.

- Do not remove the cabinet, operation panel or any other covers.
- The copier's exterior covers contain several safety interlock switches. Do not bypass any safety interlock by inserting wedges or other items into switch slots.

MAIN FEATURES

① High-speed laser copying

- Since warm-up time is zero, copying can be started immediately after the power switch is turned on.
- First-copy time is only 9.6 seconds (normal mode).
- Copying speed is 15 copies/min., which adapts to business use, allowing improvement of working efficiency.

② High-quality digital image

- High-quality image copying at 600 dpi can be performed.
- In addition to the automatic exposure mode, the manual exposure can be adjusted in five steps.
- The photo mode copying function allows clear copying of delicate halftone original images such as monochrome photos and color photos.

③ Substantial copying functions

- Zoom copying from 50% to 200% in 1% increments can be performed.
- Continuous copying of maximum 99 sheets can also be performed.
- Automatic document feeding through the reversing single pass feeder (RSPF) can be performed.
- Toner save mode reduces toner consumption by approximately 10%.
- User programs allow setting/modification of functions for customer's needs.
- Automatic two-sided copying can be performed.

④ Scan once/ Print many

- This copier is equipped with a 1-page memory buffer. This Memory allows the copier to scan an original once only and make up to 99 copies. This feature allows for improved workflow, reduced operating noise from the copier and reduced wear and tear on the scanning mechanism. This feature provides for a higher reliability.

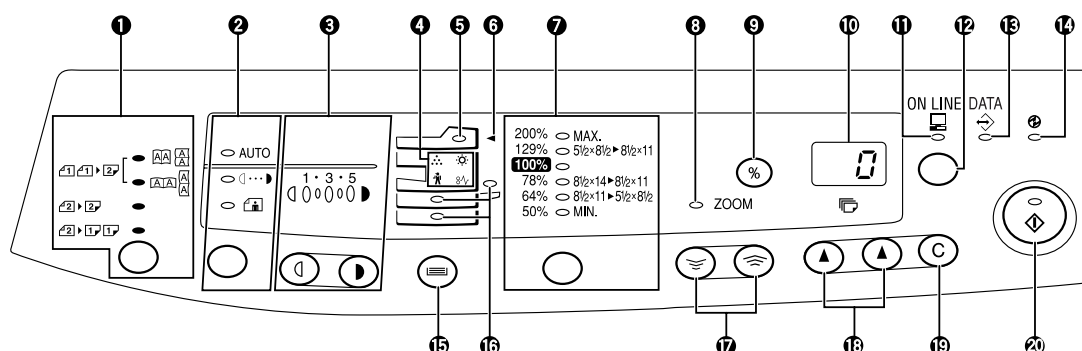
⑤ Printer feature

- This copier can be used as a laser printer by installing an optional printer expansion kit.

⑥ Environmentally friendly design

- Paper output tray is housed in the copier for space saving.
- Preheat and auto power shut-off modes are provided to reduce power consumption in standby mode.

OPERATION PANEL



1 Original to copy key and indicators

- : Two-sided copies from one-sided originals. Turn on Long Edge or Turn on Short Edge can be selected.
- : Two-sided copies from two-sided originals. (Can be selected only when the RSPF is used.)
- : One-sided copies from two-sided originals. (Can be selected only when the RSPF is used.)

2 Exposure mode selector key and indicators

Use to sequentially select the exposure modes: AUTO, MANUAL or PHOTO. Selected mode is shown by a lit indicator. (p. 16)

3 Light and dark keys and exposure indicators

Use to adjust the MANUAL or PHOTO exposure level. Selected exposure level is shown by a lit indicator. (p.16)
Use to start and terminate user program setting. (p. 21)

4 Alarm indicators

- : Developer replacement required indicator (p. 32)
- : Misfeed indicator (p. 27)
- : Toner cartridge replacement required indicator (p. 23)
- : Maintenance indicator (p. 32)

5 RSPF indicator (p. 13)

6 RSPF misfeed indicator (p. 30)

7 Copy ratio selector key and copy ratio indicators

Use to sequentially select preset reduction/enlargement copy ratios. Selected copy ratio is shown by a lit indicator. (p. 17)

8 Zoom indicator (p. 17)

9 Copy ratio display (%) key (p. 17)

10 Display

Displays the specified copy quantity, zoom copy ratio, user program code, and error code.

11 ON LINE indicator

Lights up when the machine is used as a printer. To use the copier as a printer, an optional printer expansion kit is needed.

12 ON LINE key

Changes between the on-line and off-line modes when the PCL expansion kit has been installed and a PCL printer is used.

Changes modes from the off-line to on-line when the GDI expansion kit has been installed and a GDI printer is used.

13 DATA indicator

Indicates that the printer is receiving or processing print data. To use the copier as a printer, an optional PCL expansion kit is needed.

14 Power save indicator

Lights up when the copier is in a power save mode. (p. 20, 21)

15 Tray select key

Use to select a paper feed station (paper tray or bypass tray). (p. 19)

16 Paper feed location indicators

Light up to show the selected paper feed station.

17 Zoom keys

- Use to select any reduction or enlargement copy ratio from 50 to 200% in 1% increments. (p. 17)

18 Copy quantity keys

- Use to select the desired copy quantity (1 to 99). (p. 15)
- Use to make user program entries. (p. 21)

19 Clear key

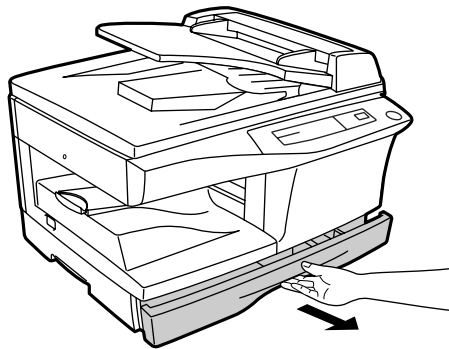
- Press to clear the display, or press during a copy run to terminate copying. (p. 15)
- Press and hold down during standby to display the total number of copies made to date. (p. 22)

20 Print key and ready indicator

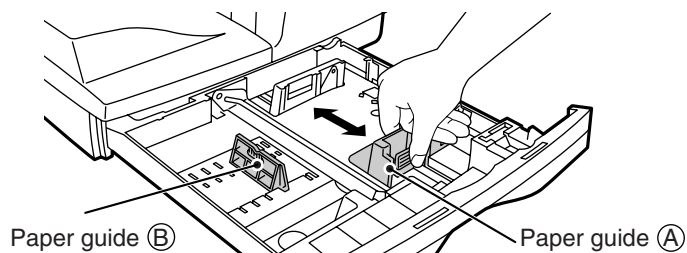
- Copying is possible when the indicator is on.
- Use to set a user program.

LOADING COPY PAPER

- 1 Raise the handle of the paper tray and pull the paper tray out until it stops.




- 2 Adjust the paper guides on the paper tray to the copy paper width and length. Squeeze the lever of paper guide (A) and slide the guide to match with the width of the paper. Move paper guide (B) to the appropriate slot as marked on the tray.

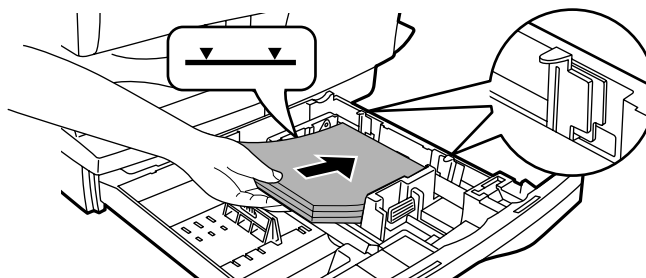


- 3 Fan the copy paper and insert it into the tray. Make sure the edges go under the corner hooks.



Note

Do not load paper above the maximum height line (). Exceeding the line will cause a paper misfeed.

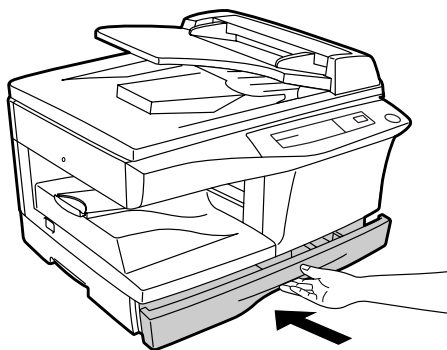


- 4** Gently push the paper tray back into the copier.



Note

After loading copy paper, to cancel the blinking "P" without restarting copying, press the clear (Ⓢ) key. The "P" in the display will go out and the ready (Ⓢ) indicator will light up.



1

Getting started

2

MAKING COPIES

This chapter describes basic copying functions and some other copying functions using the bypass tray.

2

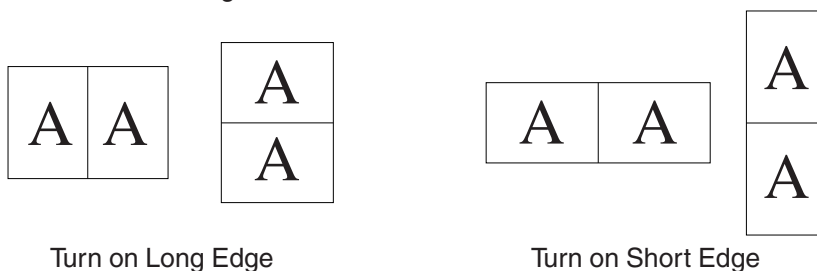
Making copies

NORMAL COPYING

This copier has two document input stations -reversing single pass feeder (RSPF) for automatic document feeding and an original table for manual handling of documents. The RSPF is designed to hold up to 30 originals measuring from 5-1/2" x 8-1/2" to 10" x 14" and weighing from 14 to 23 lbs.

When copying from the RSPF, two-side originals can be copied automatically without having to manually turn them over.


Automatic two-sided copying can also be performed with this copier. When copying from one-sided originals to two-sided copies, copying orientation can be selected between Turn on Long Edge and Turn on Short Edge.

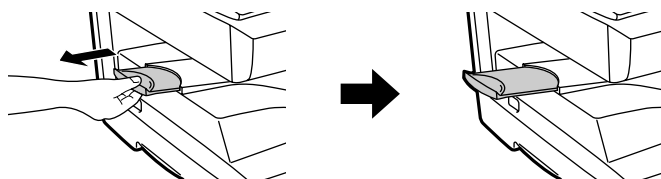


Note

- When making two-sided copies from the original table, the copy paper size must be letter. When making two-sided copies from the RSPF, letter, legal, and invoice sizes can be used. Non-standard size paper cannot be used.
- When making two-sided copies from the RSPF, a multiple number of copies cannot be set.
- When making two-sided copies, the bypass tray cannot be used.
- When using two-sided invoice size originals from the RSPF, be sure to place them in the landscape orientation. Otherwise, an original misfeed will occur.

1

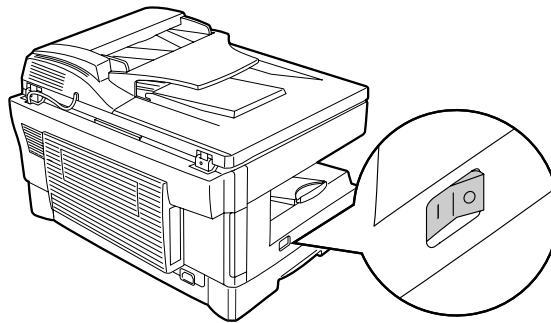
Ensure that paper of the desired size is set in the paper tray. See page 10, **LOADING COPY PAPER**. When copying onto paper larger than 8-1/2" x 11" size, pull out the paper output tray extension. If you use another tray, use the tray select () key to select the desired tray.



- 2** Turn the power switch on.
The ready (ⓘ) indicator will light up.



- The copier will enter a power save mode once the set time has elapsed without any copier operation after the last copy of a run is made or power is turned on.
The settings of the power save modes can be modified. See page 21, **USER PROGRAMS**.
- The copier will return to the initial settings a preset amount of time after the last copy is made. The preset amount of time (auto clear time) can be changed. See page 21, **USER PROGRAMS**.



- 3** Place the original(s) face up in the document feeder tray or face down on the original table.

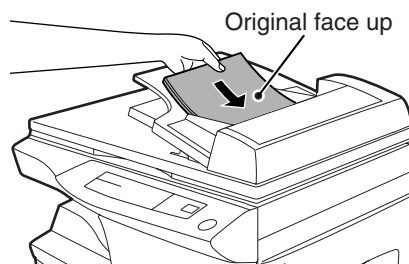
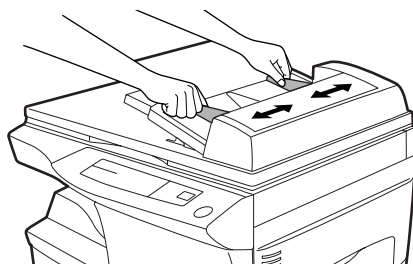
A. When using the RSPF:

- (1) Make sure that no original is left on the original table.
- (2) Adjust the original guides to the size of originals.
- (3) Set the originals face up in the document feeder tray.



- Before feeding originals in the document feeder tray, be sure to remove any staples or paper clips from them.
- Before placing curled or wavy originals into the document feeding tray, be sure to flatten them. If not, original misfeeds may result.
- The RSPF (ⓘ) indicator on the operation panel will light up. If this indicator does not light up, the originals are not properly set or the RSPF is not properly closed.
- Badly damaged originals may misfeed in the RSPF. It is recommended that such originals be copied from the original table.
- Special originals such as transparency film should not be fed through the RSPF, but should be placed directly on the original table.
- Image loss (max. 5/32" (4mm)) can occur at the leading and trailing edges of the copies. Also image loss (max. 11/64" (4.5mm) in total) can occur along the other edges of the copies. It can be 15/64" (6mm) (max.) at the trailing edge of the second copy of two-sided copying.

NORMAL COPYING



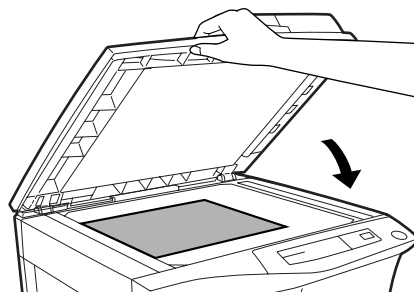
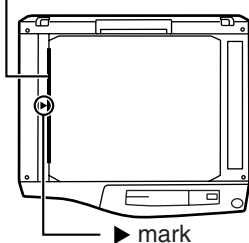
2

Making copies

B. When using the original table:

- (1) Open the original cover.
- (2) Place an original face down on the original table. Align it with the original scale and the centering (►) mark. Close the original cover.

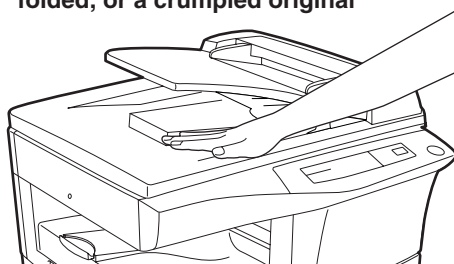
Original scale



Note

When copying a book or an original which has been folded or a crumpled original, press down the original cover lightly. If the original cover is not securely closed, the copies may be striped or blurred.

A book, an original which has been folded, or a crumpled original



4

Select the desired original to copy mode.

A. When copying in the one-sided to one-sided mode:

Ensure that no indicator is lit among the original to copy indicators.

B. When copying in a one-sided to two-sided mode:

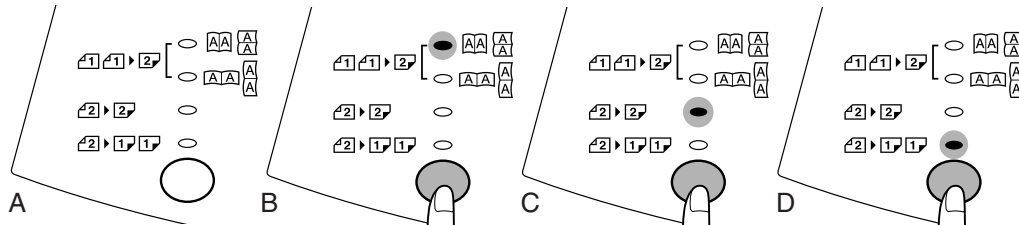
Use the original to copy key to select the desired one-sided to two-sided copying mode (Turn on Long Edge or Turn on Short Edge). See the illustrations on page 12.

C. When copying in the two-sided to two-sided mode:

Use the original to copy key to select the two-sided to two-sided copying mode. The originals must be set in the RSPF before this mode can be set (step 3).

D. When copying in the two-sided to one-sided mode:

Use the original to copy key to select the two-sided to one-sided copying mode. The originals must have been set in the RSPF in step 3.

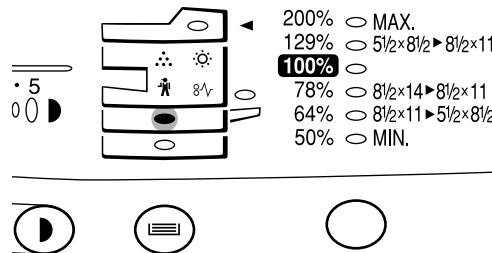


5 Ensure that the desired paper tray is selected.



Note

- Paper sizes that can be used in the duplex copy mode are letter, legal, and invoice. (When copying from the original table in the duplex copy mode, only letter size paper can be used.)
- The bypass tray cannot be used in the duplex copy mode.

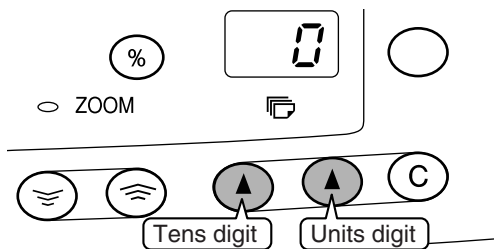


6 Set the number of copies using the two copy quantity (\uparrow , \downarrow) keys when copying from the original table or copying in a 1-sided copy mode from the RSPF.



Note

- Press the clear (C) key to clear an entry if a mistake is made.
- A single copy can be made with the initial setting, i.e., when "0" is displayed.



- Press the right copy quantity key to set the units digit from 0 to 9. This key will not change the tens digit.
- Press the left copy quantity key to set the tens digit from 1 to 9.

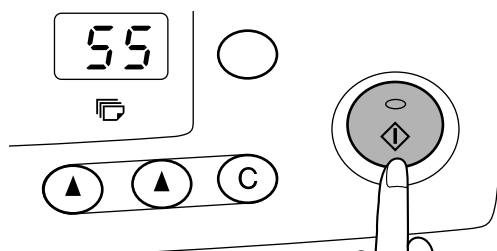
7 Press the print (P) key.



Note

- To display the number of copies made in a continuous run, press the left copy quantity key.
- To stop copying in the middle of a run, press the clear (C) key. Copying will stop and the number in the display will be reset to "0".

NORMAL COPYING



- 8 When making two-sided copies from the original table, place the second original on the original table and press the print (⬢) key.



Note

- To cancel two-sided copying after scanning the first original, press the clear (C) key.

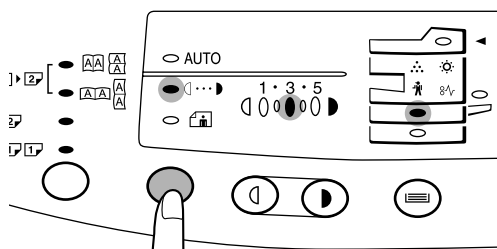
Stream feeding mode

The stream feeding mode allows easy operation of continuous copying from the RSPF. If the stream feeding mode has been enabled using user program No.4, the RSPF (⊃) indicator will blink approximately 5 seconds after the last original has been fed by the RSPF. While this indicator is blinking, any new originals placed in the document feeder tray will be fed and copied automatically. If the stream feeding mode has been disabled, the print (⬢) key must be pressed each time the originals are set even immediately after completion of a copy run from the RSPF. The default setting of the stream feeding mode is "ON". See page 21, **USER PROGRAMS**.

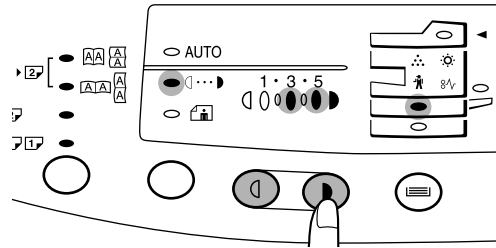
EXPOSURE ADJUSTMENT/PHOTO COPYING

Copy density adjustment is not required for most originals in the automatic exposure mode. To adjust the copy density manually or to copy photographs, the exposure level can be adjusted in five steps manually.

- 1 Set the original and check the copy paper size.
- 2 Press the exposure mode selector key to select the manual (⬢) mode or photo (📷) mode.



- 3 Use the light (⬢) and dark (⬢) keys to adjust the exposure level. If exposure level 2 is selected, the two left-handmost indicators for that level will light up simultaneously. Also, if level 4 is selected, the two right-handmost indicators for that level will light up simultaneously.



- 4 Set the number of copies using the copy quantity (1, 3, 5) keys and press the print (print icon) key.

REDUCTION/ENLARGEMENT/ZOOM

Three preset reduction ratios and two enlargement ratios can be selected. The zoom function enables copy ratio selection from 50% to 200% in 1% increments.

- 1 Set the original and check the copy paper size.
- 2 Use the copy ratio selector key and/or zoom (ZOOM, ZOOM) keys to select the desired copy ratio.



Note

- To verify a zoom setting without changing the zoom ratio, press and hold down the copy ratio display (%) key. When the key is released, the display will return to the copy quantity display.
- To reset the ratio to 100%, press the copy ratio selector key repeatedly until the 100% indicator lights up.

To select a preset copy ratio:

Preset reduction and enlargement ratios are: 50%, 64%, 78%, 129%, and 200%

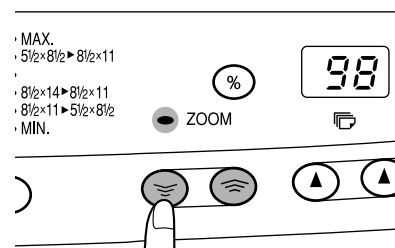
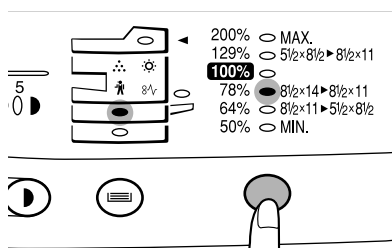
To select a zoom ratio:

When a zoom (ZOOM or ZOOM) key is pressed, the ZOOM indicator will light up and the zoom ratio will be displayed in the display.



Note

To decrease or increase the zoom ratio rapidly, press and hold down the (ZOOM or ZOOM) key. However, the value will stop at the preset reduction or enlargement ratios. To move beyond these ratios, release the key and then press and hold it down again.



- 3 Set the number of copies using the copy quantity (1, 3, 5) keys and press the print (print icon) key.

BYPASS FEED (including special paper)

The bypass tray can automatically feed up to 50 sheets of standard copy paper and can also feed special papers such as transparency film and labels one sheet at a time. Copy paper measuring from 3-1/2" x 5-1/2" to 8-1/2" x 14" and in the weight range of 14 to 34.5 lbs. can be used in this tray. (For paper weighing from 28 to 34.5 lbs., 8-1/2" x 11" is the maximum size.)

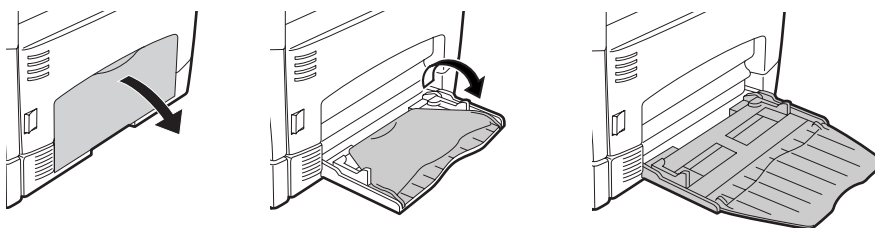
- 1 Place the original(s) face up in the document feeder tray or face down on the original table.



Note

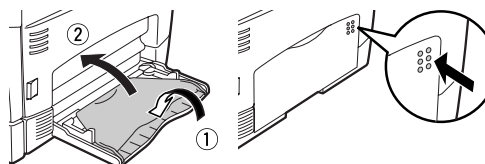
The original image must be smaller than the paper or media for copying. If the original image is bigger than the paper or media, this may cause smudges on the edges of the copies.

- 2 Open the bypass tray and extend the tray.



Note

To close the bypass tray, perform step 1 and then step 2 in the illustration and push the round projections at the right of the tray until the tray clicks into place.



- 3 Set the paper guides to the copy paper width. Insert the copy paper (print face down) all the way into the bypass tray.

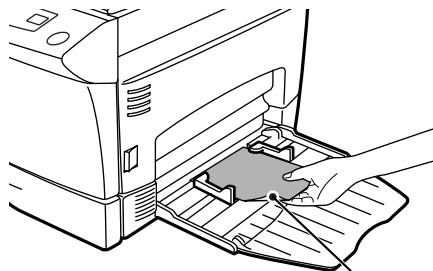
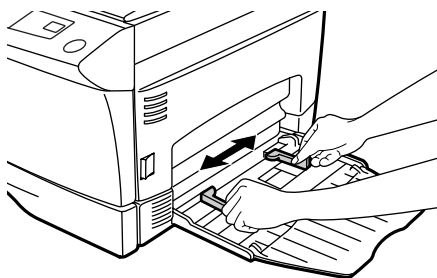


Note

- Paper must be fed narrow side into the feed slot.
- Transparency film, labels, and other special purpose papers must be fed individually.
- When copying onto transparency film, remove each copy promptly. Do not let copies stack up.
- When loading an envelope, make sure that it is straight and flat.





BYPASS FEED



Print face

4

Press the tray select () key to select the bypass tray. Set the number of copies if using standard copy paper. Press the print () key.

2

Making copies

5 COPIER TROUBLE?

This chapter describes misfeed removal and troubleshooting.

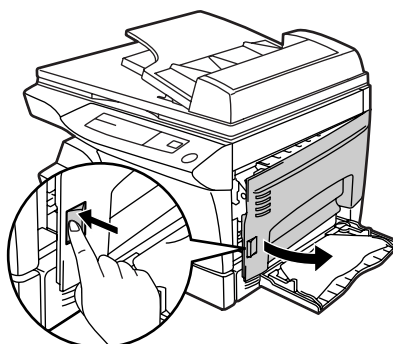
MISFEED REMOVAL

When the misfeed (⚠) indicator blinks or **P** blinks in the display, the copier will stop because of a misfeed.

If a misfeed occurs when using the RSPF, a number may appear in the display after a minus sign. This indicates the number of the originals that must be returned to the document feeder tray after a misfeed. Return the required number of originals. Then this number will disappear when copying is resumed or the clear (C) key is pressed.

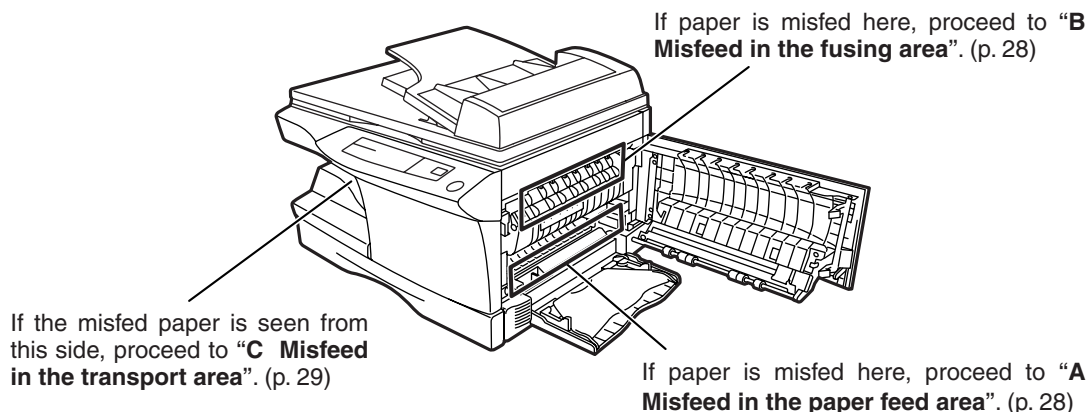
When the RSPF misfeeds an original sheet, the copier will stop and the RSPF misfeed (⬅) indicator will blink, while the misfeed (⚠) indicator will remain off. For a misfeed of originals in the RSPF, see “**D Misfeed in the RSPF**” on page 30.

- 1 Ensure that the bypass tray is open and then open the side cover while pressing the side cover open button.




- 2 Check the misfeed location. Remove the misfed paper following the instructions for each location in the illustration below.

If **P** blinks in the display, proceed to “**A Misfeed in the paper feed area**”. (p. 28)



MISFEED REMOVAL

A Misfeed in the paper feed area

- 1 Gently remove the misfed paper from the paper feed area as shown in the illustration. When  blinks in the display and the misfed paper is not seen from the paper feed area, pull out the paper tray and remove the misfed paper. If the paper cannot be removed, proceed to “**B Misfeed in the fusing area**”.



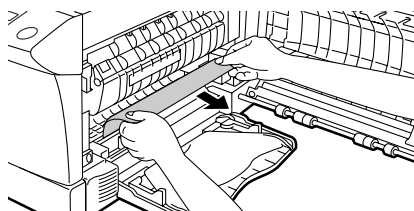
Warning

The fusing unit is hot. Do not touch the fusing unit when removing misfed paper. Doing so may cause a burn or other injury.



Caution

- Do not touch the photoconductive drum (green portion) when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- If the paper has been fed through the bypass tray, do not remove the misfed paper through the bypass tray. Toner on the paper may stain the paper transport area, resulting in smudges on copies.



- 2 Close the side cover by pressing the round projections near the side cover open button. The misfeed (8V) indicator will go out and the ready (Ⓢ) indicator will light up.

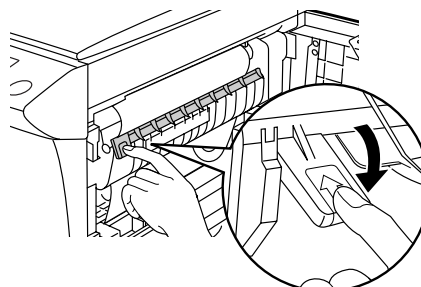
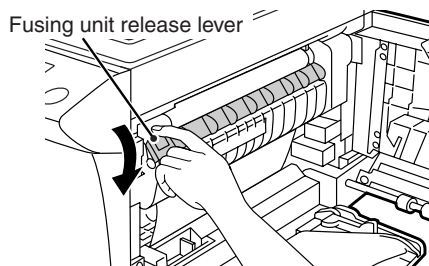
B Misfeed in the fusing area

- 1 Lower the fusing unit release lever by rotating it all the way as shown in the illustration.



Note

While you are lowering the fusing unit release lever, it will not move smoothly at a location on the way. However, be sure to lower the lever by rotating it all the way to the location where it will not rotate as shown in the right illustration.



- 2 Gently remove the misfed paper from under the fusing unit as shown in the illustration. If the paper cannot be removed, proceed to “**C Misfeed in the transport area**”.



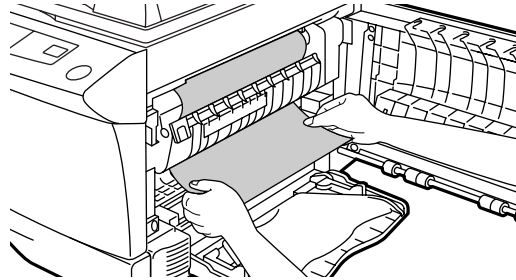
Warning

The fusing unit is hot. Do not touch the fusing unit when removing misfed paper. Doing so may cause a burn or other injury.



Caution

- Do not touch the photoconductive drum (green portion) when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- Do not remove the misfed paper from above the fusing unit. Unfixed toner on the paper may stain the paper transport area, resulting in smudges on copies.



3

Raise the fusing unit release lever and then close the side cover by pressing the round projections near the side cover open button. The misfeed (⌘) indicator will go out and the ready (Ⓢ) indicator will light up.

C Misfeed in the transport area

1

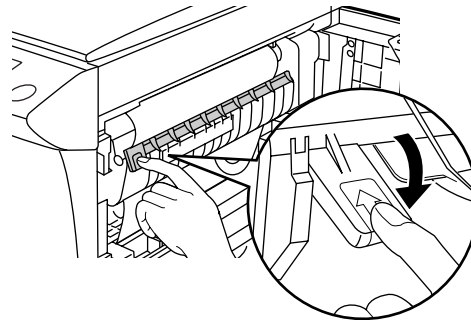
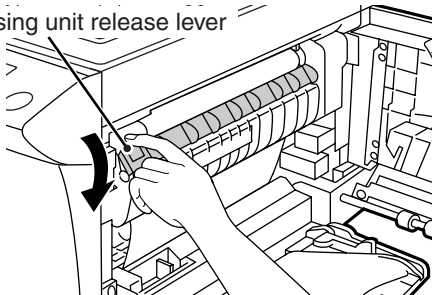
Lower the fusing unit release lever by rotating it all the way as shown in the illustration.



Note

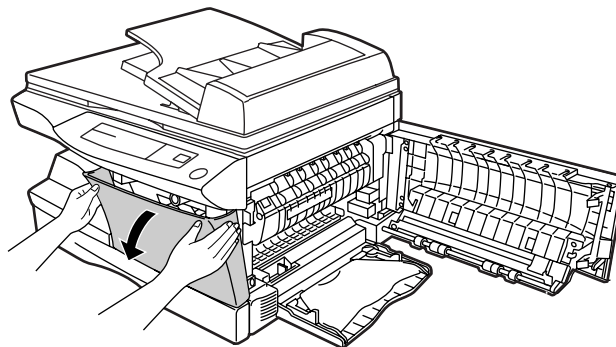
While you are lowering the fusing unit release lever, it will not move smoothly at a location on the way. However, be sure to lower the lever by rotating it all the way to the location where it will not rotate as shown in the right illustration.

Fusing unit release lever



2

Push gently on both sides of the front cover to open the cover.

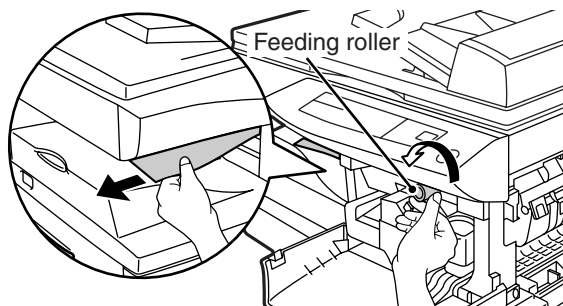


5

Copier trouble?

MISFEED REMOVAL

- 3** Rotate the feeding roller in the direction of the arrow and gently remove the misfed paper from the exit area.



- 4** Raise the fusing unit release lever, close the front cover and then close the side cover by pressing the round projections near the side cover open button. The misfeed (8^Λ_r) indicator will go out and the ready (⊙) indicator will light up.



Caution

When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.

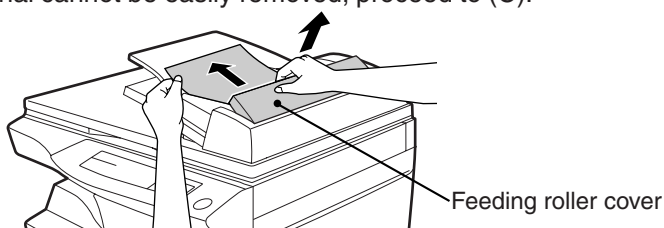
5

Copier trouble?

D Misfeed in the RSPF

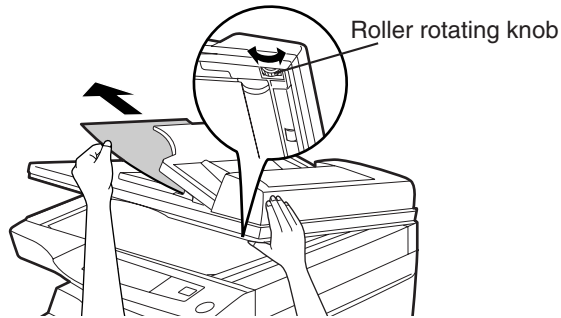
An original misfeed may occur at one of three locations: if the misfed original is seen from the document feeder tray, (A) in the document feeder tray; if the misfed original is not seen from the document feeder tray, (B) in the exit area or (C) under the feeding roller. Remove the misfed original following the instructions for each location.

- (A) Open the feeding roller cover and pull the original gently to the left and out from the document feeder tray. Close the feeding roller cover. Open and close the original cover to clear the RSPF misfeed (◀) indicator.
If the misfed original cannot be easily removed, proceed to (C).



- (B) Open the original cover and rotate the roller rotating knob to remove the misfed original from the exit area.
If the misfed original cannot be easily removed, proceed to (C).

MISFEED REMOVAL

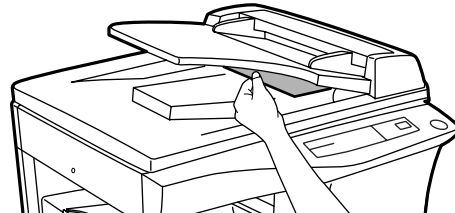
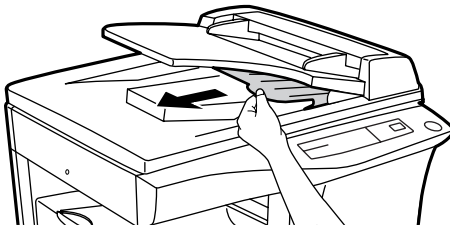


With the RSPF, pull out the reversing tray to remove the misfed original.

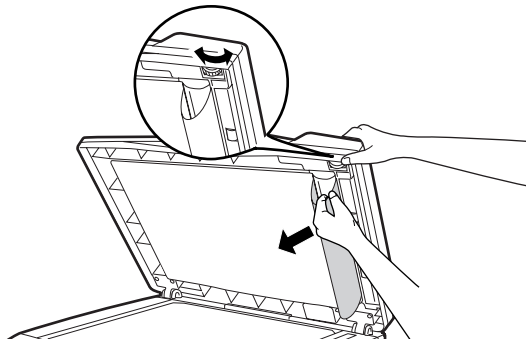


Note

With the RSPF, after removing the misfed original from the exit area, be sure to insert the reversing tray into the exit area until it locks in place.



- (C) If the original does not move easily into the exit area remove it in the direction of the arrow while rotating the knob.



Note

A number may appear in the display after a minus sign, indicating the number of the originals that must be returned to the document feeder tray. Clear the misfeed and return the required number of originals. Then press the print (⏏) key to resume copying.

5

Copier trouble?

DEVELOPER REQUIRED

When the ☼ indicator lights up, the developer should be replaced. DEVELOPER REPLACEMENT SHOULD ONLY BE DONE BY AN AUTHORIZED SHARP SERVICE TECHNICIAN. **Contact University Copy Service at Ext. 3012 as soon as possible.**

MAINTENANCE REQUIRED

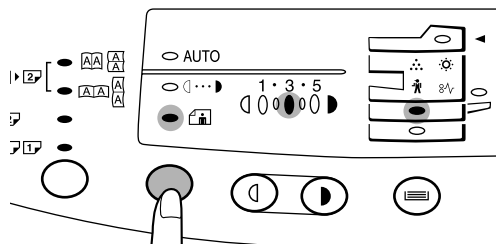
When ⚙ indicator lights up, service by an authorized SHARP service technician is required. **Contact University Copy Service at Ext. 3012 as** soon as possible.

AUTOMATIC EXPOSURE ADJUSTMENT

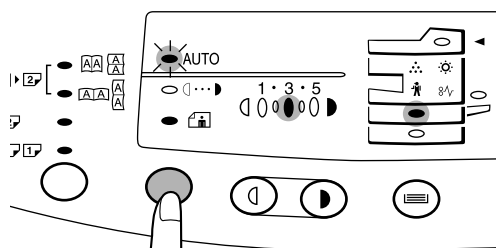
The automatic exposure level can be adjusted to suit your copying needs. This level is set for copying from the original table and copying from the RSPF respectively.

- 1 When adjusting the automatic exposure level for copying from the RSPF, place an original in the document feeder tray and make sure that the RSPF (☐) indicator lights up.
When adjusting the level for copying from the original table, make sure that no original is left in the document feeder tray.

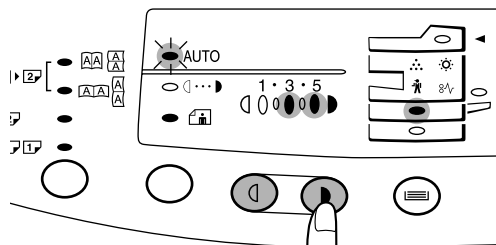
- 2 Press the exposure mode selector key to select the photo (📷) mode.



- 3 Press and hold down the exposure mode selector key for approximately 5 seconds. The photo (📷) indicator will go out and the AUTO indicator will begin to blink. One or two exposure indicators corresponding to the automatic exposure level which has been selected will light up.



- 4 Press the light (☐) or dark (◐) key to lighten or darken the automatic exposure level as desired.
If exposure level 2 is selected, the two left-handmost indicators for that level will light up simultaneously. Also, if level 4 is selected, the two right-handmost indicators for that level will light up simultaneously.



- 5 Press the exposure selector key. The AUTO indicator will stop blinking and light up steadily.



This automatic exposure level will remain in effect until you change it again by this procedure.

5

Copier trouble?