

SHARP®

MODEL

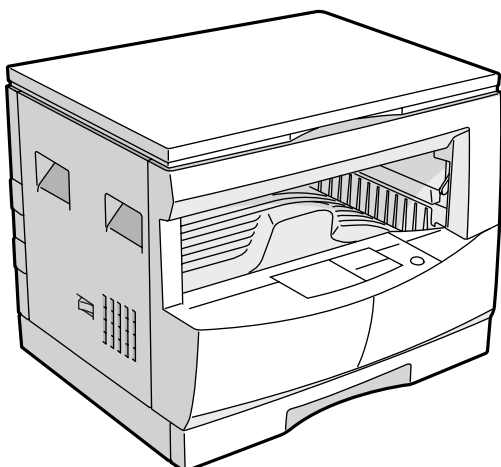
AL-1600

AL-1610

DIGITAL COPYING MACHINE

OPERATION MANUAL

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FOR YOUR PROTECTION...

To aid in reporting this compact copier in case of loss or theft, please record below the model number and serial number located on the back of the unit. We also suggest you record all the information listed and retain for future reference.

MODEL NUMBER _____ SERIAL NUMBER _____

DATE OF PURCHASE _____

Dealer _____

Address _____ City _____

State _____ Zip _____ Telephone _____

Service Station _____

Address _____ City _____

State _____ Zip _____ Telephone _____

For location of the nearest Sharp Authorized Service, or to obtain product literature, accessories, or supplies,

please call **1-(630)378-3590 in the USA**

or Toll Free **1-877-SHARP-CC in Canada.**

For customer assistance, please visit **<http://www.sharp-usa.com> (for USA)** or **<http://www.sharp.ca> (for Canada)** on the World Wide Web or call **1-(630)378-3590 (for USA)**.

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INTRODUCTION

This copier has been designed to provide convenient copying features in a minimum amount of office space and with maximum operational ease. 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.

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 copy quantity display.

GETTING STARTED

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GETTING STARTED

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GENERAL INFORMATION

CAUTIONS

Follow the cautions below when using this copier.



- 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.



- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- 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, during prolonged 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 dissipation, damaging the copier.

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.



Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.

MAIN FEATURES

- ① **High-speed laser copying**
 - First-copy time is only 7.2 seconds (except in a power save mode or immediately after power on).
 - Copying speed is 16 copies/min., which adapts to business use, allowing improvement of working efficiency.
- ② **High-quality digital image**
 - High-quality copying at 600 dpi is 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. Photo mode is adjustable in five steps.
- ③ **Substantial copying features**
 - Zoom copying from 50% to 200% in 1% increments can be performed.
 - Continuous copying of maximum 99 sheets can also be performed.
 - Toner save mode reduces toner consumption by approximately 10%.
- ④ **Scan once/ Print many (AL-1610 only)**
 - The copier is equipped with a 1-page memory buffer. This memory allows the copier to scan an original 1 time 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, which provides for a higher reliability.
- ⑤ **Environmentally friendly design**
 - Paper output tray is housed in the copier for space saving.
 - Preheat mode and auto power shut-off mode are provided to reduce power consumption and meet the Energy Star Guidelines.



As an ENERGY STAR® Partner, SHARP has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

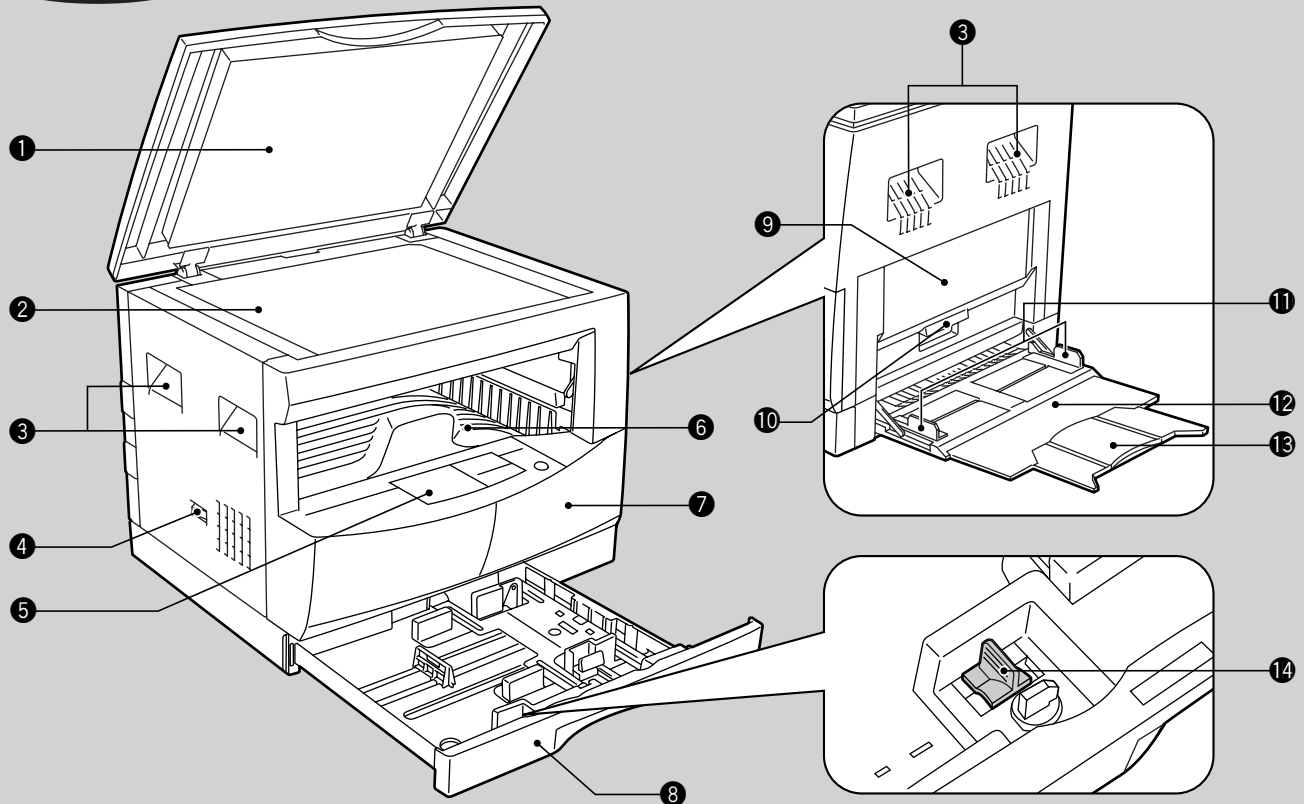


Note

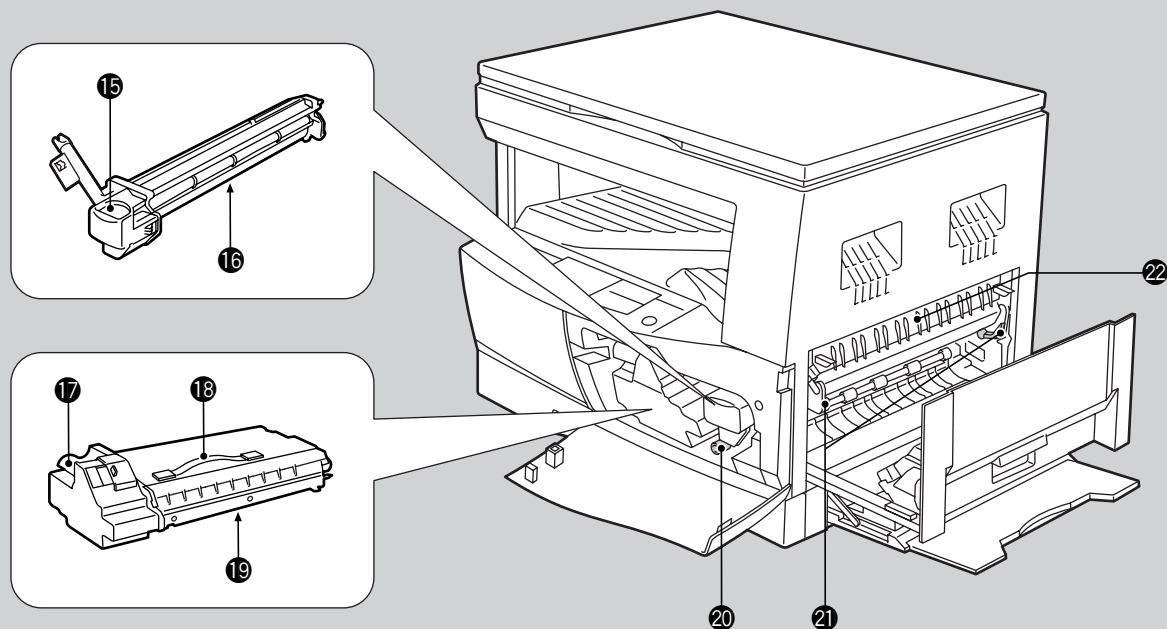
This copier does not have an internal calendar or clock.
This copier will not be affected by the year 2000.

PART NAMES AND FUNCTIONS

Overall layout



- 1 Platen cover**
Place the original on the original table and close the platen cover before copying starts.
- 2 Original table**
Place the document to be copied here.
- 3 Handles**
Use to move the copier.
- 4 Power switch**
Press to turn copier power on and off.
- 5 Operation panel**
All copier controls are located here for easy operation.
- 6 Paper output tray**
Finished copies are deposited in the paper output tray.
- 7 Front cover**
Open to remove misfeeds and for copier servicing.
- 8 Paper tray**
Holds 250 sheets of copy paper.
- 9 Side cover**
Open to remove misfeeds and to service the copier.
- 10 Side cover handle**
Lift and pull to open the side cover.
- 11 Bypass tray guides**
Adjust to the width of the copy paper.
- 12 Bypass tray**
Special papers (including transparency film) and copy paper can be fed from the bypass tray.
- 13 Bypass tray extension**
Pull out when feeding large paper such as 8-1/2" x 14" and 11" x 17".
- 14 Charger cleaner**
Use to clean the transfer charger.



15 Drum cartridge handle
Hold to pull out the drum cartridge.

16 Drum cartridge
Copy images are formed on the photoconductive drum.

17 TD cartridge lock release lever
Use to unlock the TD cartridge.

18 TD cartridge strap
Lift to remove the TD cartridge.

19 TD cartridge
Contains toner.

20 Roller rotating knob
Turn to remove misfed paper.

21 Fusing unit release levers
Lower to remove misfed paper.



Warning

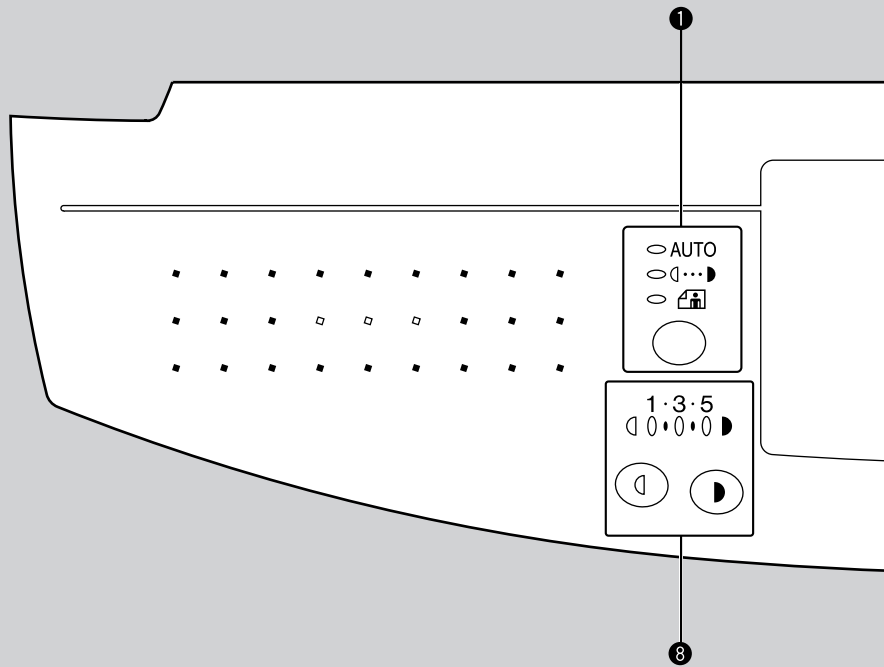
The fusing unit is hot.
Take care in removing paper.

22 Paper guide
Open to remove misfed paper.

Accessories

Operation manual	1
TD cartridge	1
Charger cleaner	1

Operation panel



1 AUTO/MANUAL/PHOTO (/ /) key and indicators (p. 15)

Use to sequentially select the exposure modes: AUTO, MANUAL (), or PHOTO ().

2 Alarm indicators

- : Paper required indicator (p.13)
- : Misfeed indicator (p.28)
- : TD cartridge replacement required indicator (p.24)
- : Drum replacement required indicator (p.26)

3 Paper feed location/misfeed location indicators (p. 28)

The selected paper feed location is shown by a lit indicator ().

The misfeed location indicator () blinks when a misfeed has occurred.

4 INTERRUPT key and indicator (p. 21)

Interrupts a copy run.

5 Copy quantity display

Displays the specified copy quantity during the ready condition and displays the copy countdown as copies are made. Also see items **13** and **15**.

6 CLEAR ALL () key

Clears all selected settings and returns the copier to the initial settings.

7 POWER SAVE () indicator (p. 34)

Lights up when the copier is in the preheat mode.

8 Light () and dark () keys and indicators (p. 15)

Use to adjust the MANUAL () or PHOTO () exposure level.

9 TRAY SELECT () key (p. 15)

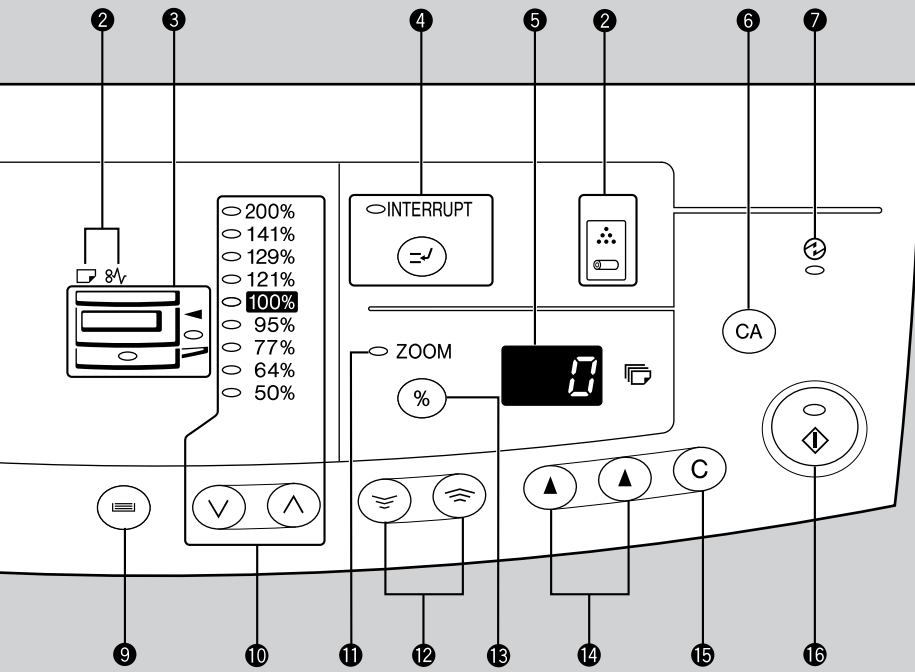
Use to manually select a paper tray.

10 PRESET RATIO selector keys and indicators (p. 17)

Use to sequentially select preset reduction/enlargement copy ratios: 50%, 64%, 77%, 95%, 100%, 121%, 129%, 141%, 200%.

11 ZOOM indicator (p.17)

Lights up when a zoom ratio is set.



12 Zoom keys (p. 17)

Use to select any reduction or enlargement copy ratio from 50% to 200% in 1% increments.

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

Press and hold down during standby to display the copy ratio in the copy quantity display.

14 Copy quantity keys

Use to select the desired copy quantity or to make user program entries.

15 CLEAR (C) key

Clears the copy quantity display or terminates a copy run.

Press during standby to display the total number of copies made to date.

16 START (⏻) key and indicator

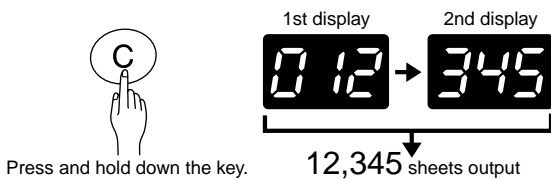
Copying is possible when the indicator is on. Press to start copying.

Initial settings

The copier assumes the initial settings when it is first turned on, when the CLEAR ALL (CA) key is pressed, and approximately one minute* after the last copy is made in any mode.

- Copy ratio: 100%
- Exposure: Automatic
- Copy quantity: 0
- Paper feed station: Previously selected paper tray

* This time (auto clear time) can be changed. See page 32, USER PROGRAMS.



Note: 11" x 17" size copies are counted as two copies.

COPIER INSTALLATION

Improper installation may damage the copier. Please note the following during initial installation and whenever the copier is moved.

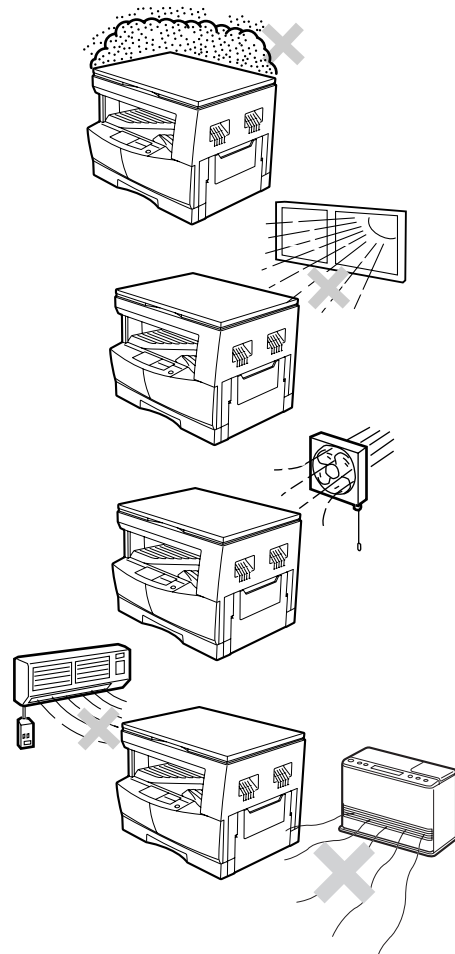


Caution

If the copier is moved from a cool place to a warm place, condensation may form inside the copier. Operation in this condition will cause poor copy quality and malfunctions. Leave the copier at room temperature for at least 2 hours before use.

Do not install your copier in areas that are:

- damp, humid, or very dusty
- exposed to direct sunlight
- poorly ventilated
- subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.



The copier should be installed near an accessible power outlet for easy connection.

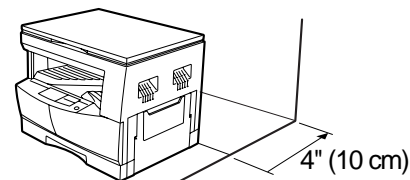
Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.

Also make certain the outlet is properly grounded.



Note

Connect the copier to a power outlet which is not used for other electric appliances. If a lighting fixture is connected to the same outlet, the light may flicker.



Be sure to allow the required space around the machine for servicing and proper ventilation.

A small amount of ozone is produced within the copier during operation. The emission level is insufficient to cause any health hazard.

NOTE:

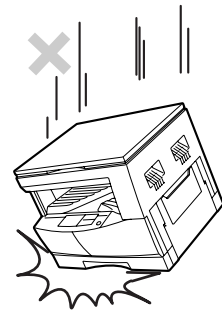
The present recommended long term exposure limit for ozone is 0.1 ppm (0.2 mg/m³) calculated as an 8 hr. time-weighted average concentration.

However, since the small amount that is emitted may have an objectionable odor, it is advisable to place the copier in a ventilated area.

CAUTIONS ON HANDLING

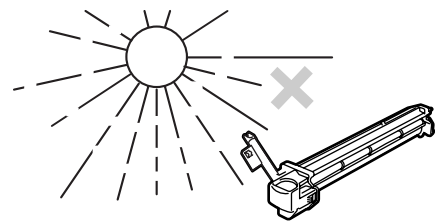
Be careful in handling the copier as follows to maintain the performance of this copier.

Do not drop the copier, subject it to shock or strike it against any object.



Do not expose the drum cartridge to direct sunlight.

Doing so will damage the surface (green portion) of the drum cartridge, causing poor copy quality.

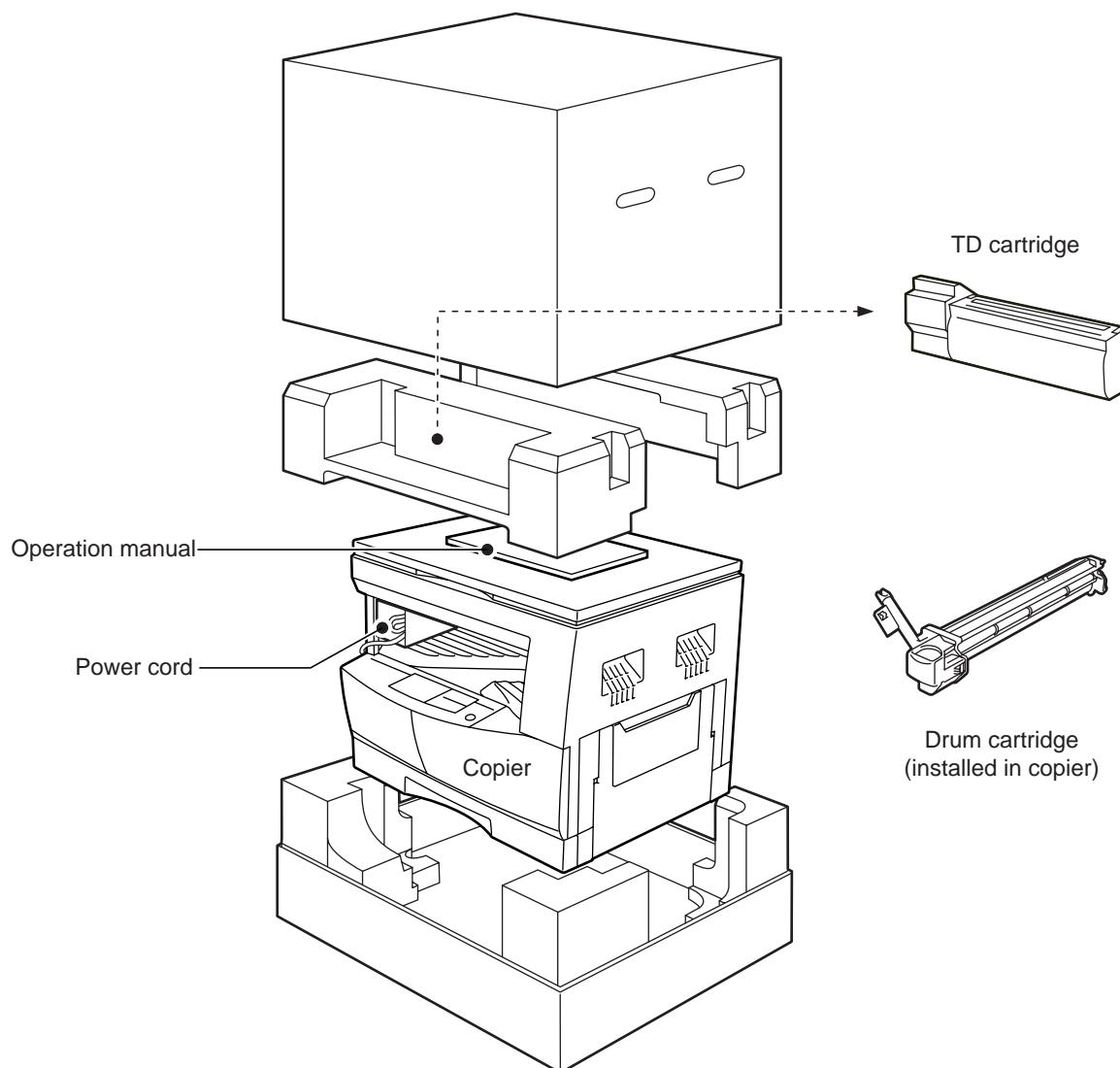


Store spare supplies such as drum cartridges and TD cartridges in a dark place without removing from the package before use. If they are exposed to direct sunlight, poor copies may result.

Do not touch the surface (green portion) of the drum cartridge. Doing so will damage the surface of the cartridge, causing smudges on copies.

CHECKING PACKED COMPONENTS AND ACCESSORIES

Open the carton and check to ensure that the following components and accessories are included.

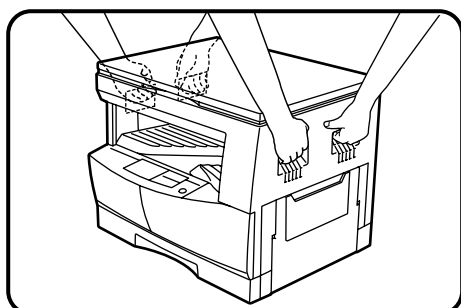


Note

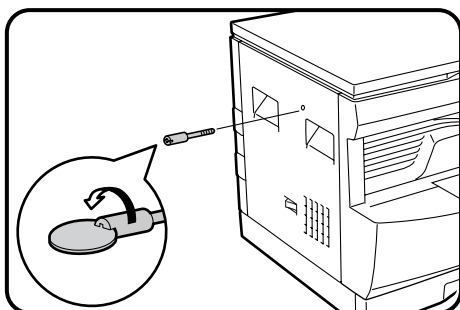
- If anything is not included or is damaged, contact our Technical Assistance Department at 1-(630)378-3590 in the USA or Toll Free 1-877-SHARP-CC in Canada.
- Save the carton and packing materials. These can be re-used for transporting the machine, should it be necessary.

Unpacking

Be sure to hold the handles on both sides of the copier by two persons to unpack the copier and carry it to the installation location.



SET-UP



1 Remove all pieces of tape. Then open the platen cover and remove the protective material.

2 Use a coin (or suitable object) to remove the screw.

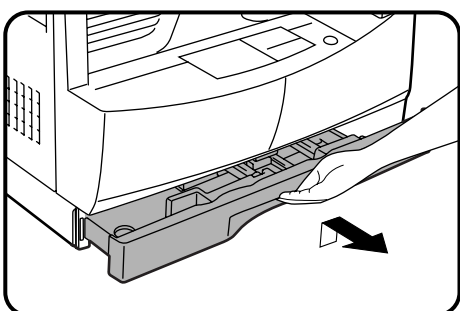


Caution

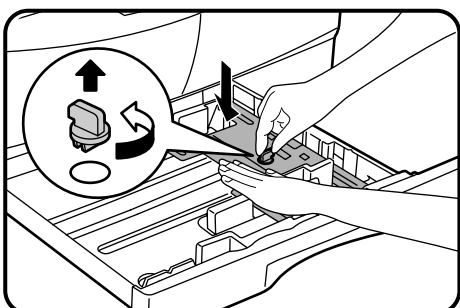
Store the screw in the paper tray as described in step 6 because it will be used if the copier has to be moved. (p. 42)

3 Install the TD cartridge.

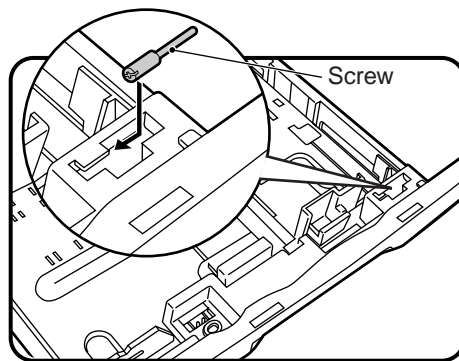
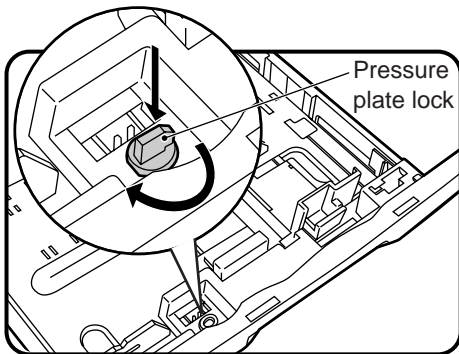
- For installation of the TD cartridge, see steps 1 to 2 and steps 4 to 7 of TD CARTRIDGE REPLACEMENT on pages 24 and 25.



4 Gently lift and pull out the paper tray until it stops.



5 Remove the pressure plate lock. Rotate the pressure plate lock in the direction of the arrow to remove it while pressing down the pressure plate of the paper tray.



6 Store the pressure plate lock which has been removed in step 5 and the screw which has been removed in step 2 in the front of the paper tray.

- To store the pressure plate lock, rotate the lock to fix it on the relevant location.

7 Ensure that the power switch of the copier is in the OFF position. Plug the power cord into the nearest outlet.



Warning

If you use the copier in a country other than the country where the copier was purchased, you will need to make sure that your local power supply is compatible with your model. If you plug the copier into an incompatible power supply, irreparable damage to the copier will result.



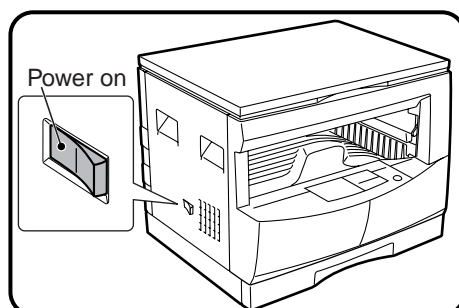
Caution

Only insert the power cord into a properly grounded wall socket. Do not use extension cords or power strips.



Note

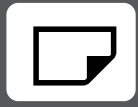
Connect the copier to a power outlet which is not used for other electric appliances. If a lighting fixture is connected to the same outlet, the light may flicker.



8 Turn the power switch on.

9 Load copy paper.

- When loading copy paper for the first time, be sure to turn the power switch on in advance. If you use copy paper other than 8-1/2" x 11" (default size), use user program No. 21 to set the paper size. See page 32.
- For loading copy paper, see steps 2 to 4 of **LOADING COPY PAPER** on page 13.



LOADING COPY PAPER

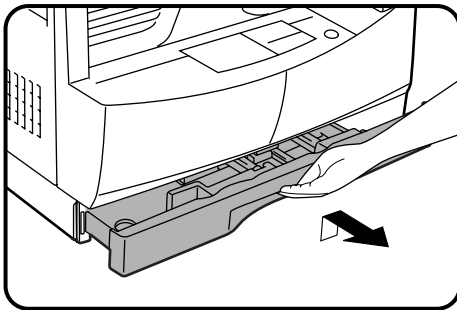
To save space, this copier has been designed with an adjustable front-loading tray, which is easily opened for paper loading. For best results, use only SHARP recommended paper. (See page 40.)

The paper required () indicator will light up when there is no copy paper in the selected paper feed station, or when the paper tray is not installed or is improperly installed.

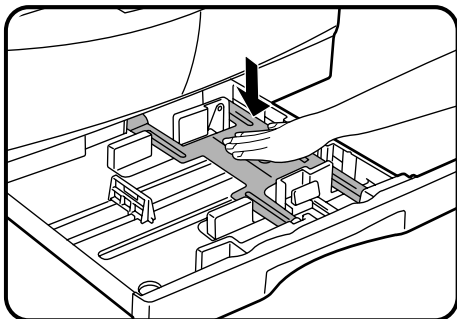


Note

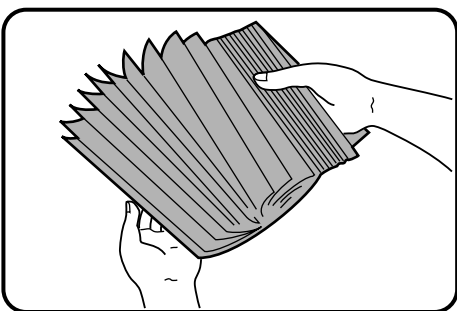
If you change the copy paper size in the tray, be sure to set the paper size using user program No. 21. See page 32.



1 Gently lift and pull out the paper tray until it stops.

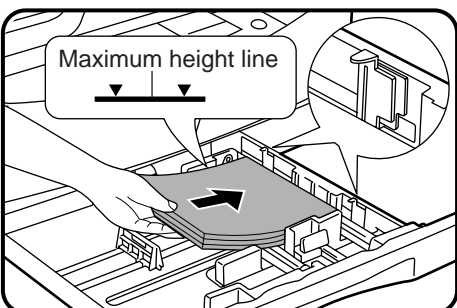


2 Push the pressure plate down until it locks in place.



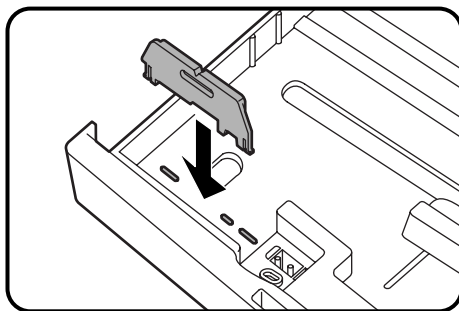
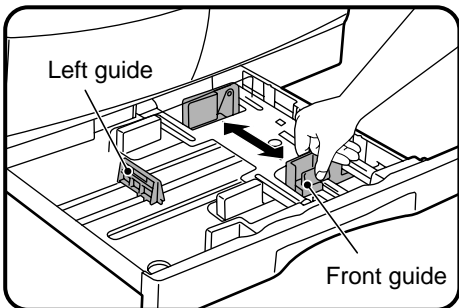
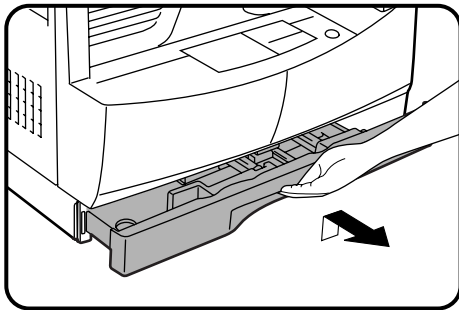
3 Fan the copy paper and insert it into the tray. Make sure the edges go under the corner hooks.

- If you change to a different size of copy paper, the tray must be adjusted. See the next page.



4 Push the paper tray firmly back into the copier.

- Set the paper along the guides.
- The tray holds up to 250 sheets of 21 lb. bond paper. Do not load paper above the maximum height line.



Changing the copy paper size in the tray

- 1** Gently lift and pull out the paper tray until it stops.
- 2** Push the pressure plate down until it locks in place.
- 3** Squeeze the lock lever of the front guide and slide the front guide to match the width of the paper.
- 4** Move the left guide to the appropriate slot as marked on the tray.
 - When using 11" x 17" copy paper, store the left guide in the slot at the left front of the paper tray.
- 5** Load copy paper into the tray.
- 6** Place the appropriate label to indicate the selected paper size into the recess on the right front side of the paper tray.
- 7** Push the paper tray firmly back into the copier.
- 8** Use user program No. 21 to set the selected paper size. See page 32.

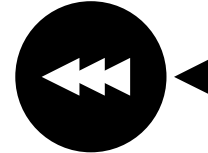


TD CARTRIDGE REPLACEMENT

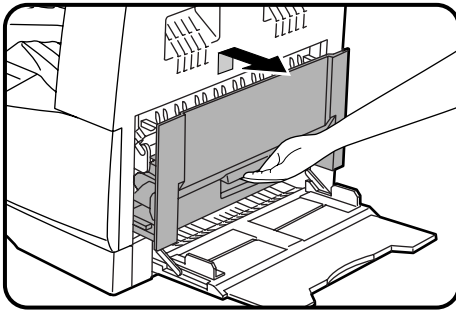
If the machine detects an insufficient amount of toner being added, copying will stop and the machine will add toner. During this time the START key indicator will blink. When sufficient toner has been added the indicator will remain on steadily indicating that copying can be resumed. However, if toner addition continues for a maximum of two minutes, the TD cartridge replacement required (⋮) indicator will light up in addition to the START key being lighted steadily. This indicates that the toner supply is low and a new cartridge will be needed soon. If copying is continued, the copies will gradually become lighter until the copier stops and the TD cartridge replacement required indicator begins to blink, indicating that the cartridge must be replaced. Replace the TD cartridge by following the procedure below.

For best copying results, be sure to use only SHARP Genuine Supplies which are designed, engineered and tested to maximize the life and performance of SHARP copiers. Look for the Genuine Supplies label on the toner package.

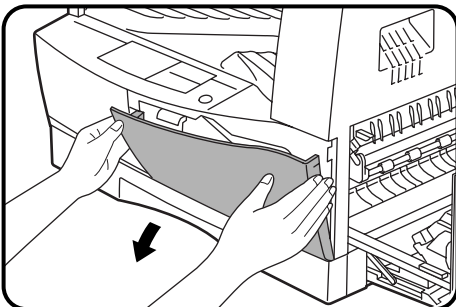
SHARP



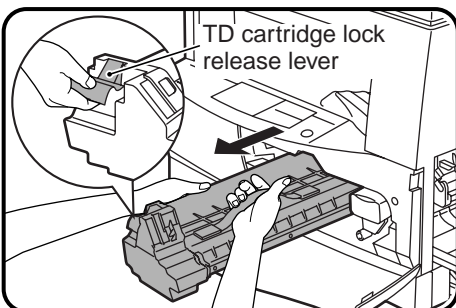
GENUINE SUPPLIES



- 1** Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.

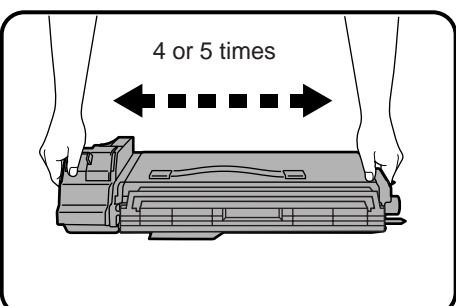


- 2** Push gently the right side of the front cover to open the cover.

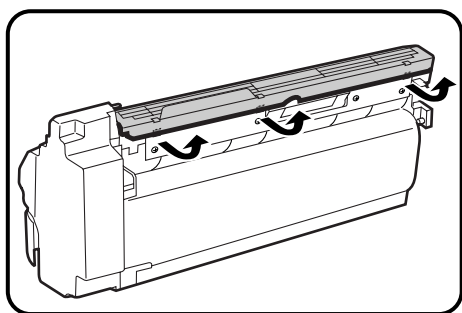


- 3** Lift the TD cartridge lock release lever and pull the cartridge out until the green strap handle can be grasped by the right hand. Lift the cartridge by the handle while supporting it with the left hand at the green label position to remove it.

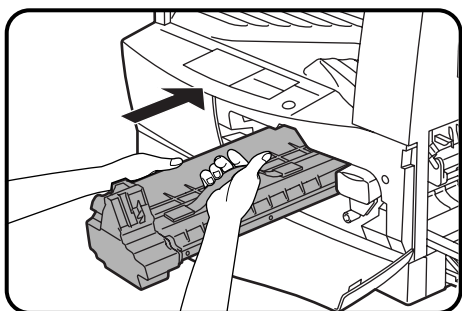
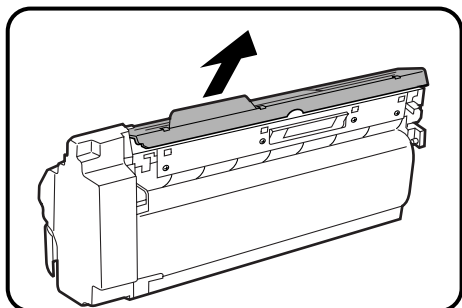
- Dispose of the old TD cartridge in accordance with local regulations.



- 4** Remove the new TD cartridge from the bag. Hold the cartridge on both sides and shake it horizontally four or five times.



- 5** Remove the protective cover from the TD cartridge by unlatching three cover hooks from the holes on the cartridge and then pulling the cover in the direction indicated by the arrow in the illustration.

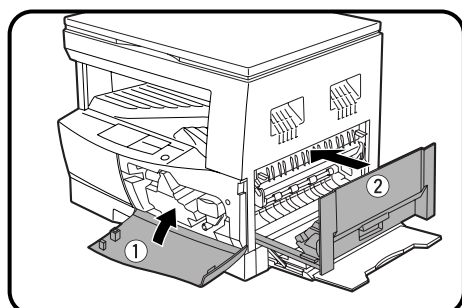



- 6** Gently insert the TD cartridge along the guides until it locks in place.



Note

If dirt or dust is adhered to the TD cartridge, remove it before installing the cartridge.



- 7** Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover. The  indicator will go out .



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.



DRUM CARTRIDGE REPLACEMENT

The useful life of the drum cartridge is approximately 30,000 copies. When the internal counter reaches approximately 29,000 copies, the drum replacement required (☺) indicator will light up indicating that replacement of the drum cartridge will be needed soon. When the indicator begins to blink, replace the drum cartridge by following the procedure given below.

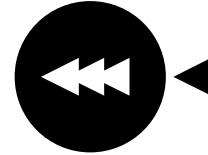
For best copying results, be sure to use only SHARP Genuine Supplies which are designed, engineered and tested to maximize the life and performance of SHARP copiers. Look for the Genuine Supplies label on the drum package.



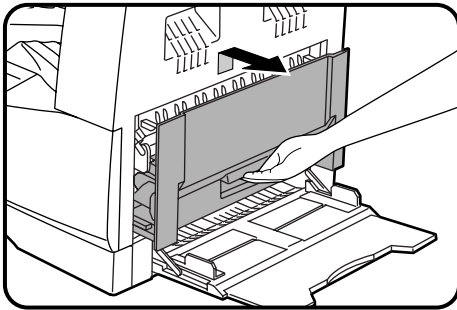
Caution

Do not remove the protective cover on the drum portion (black paper) of a new drum cartridge before use. The cover protects the drum against external light.

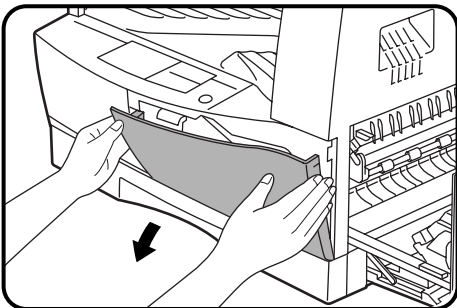
SHARP®



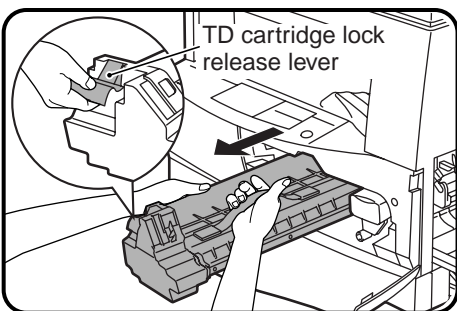
GENUINE SUPPLIES



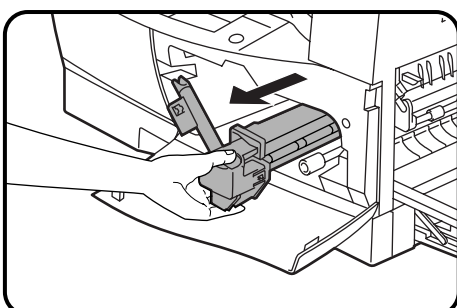
- 1 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.



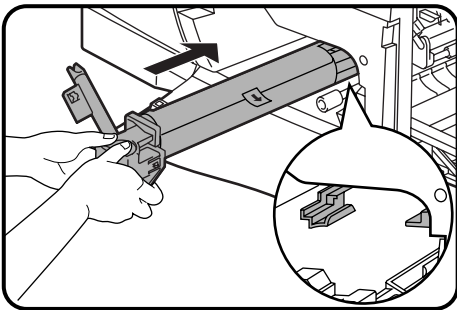
- 2 Push gently the right side of the front cover to open the cover.



- 3 Lift the TD cartridge lock release lever and pull the cartridge out until the green strap handle can be grasped by the right hand. Lift the cartridge by the handle while supporting it with the left hand at the green label position to remove it.



- 4 Grasp the handle of the drum cartridge and gently pull the cartridge out.
 - Dispose of the old drum cartridge in accordance with local regulations.

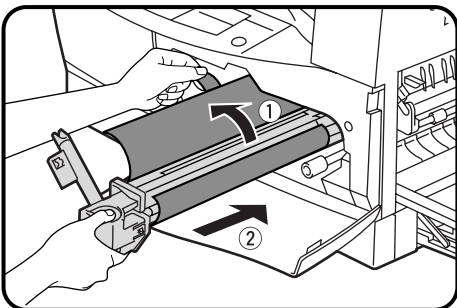


- 5** Remove the new drum cartridge from the protective bag and gently insert the lead end of the drum cartridge along the guides.

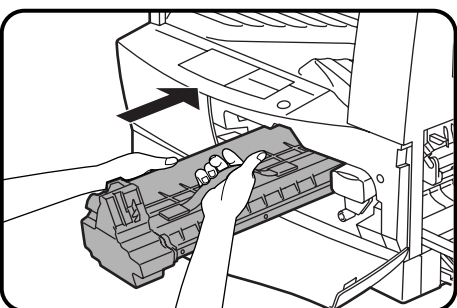


Caution

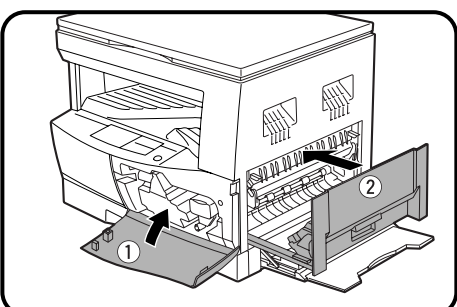
Do not touch the surface of the drum (green portion) of the cartridge. Doing so may cause smudges on the copies.



- 6** Remove the protective cover from the drum cartridge and then push the cartridge all the way into the copier.



- 7** Gently install the TD cartridge. To install the TD cartridge, see page 24, TD CARTRIDGE REPLACEMENT.



- 8** Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover. The drum replacement required (🔌) indicator will go out.



Caution

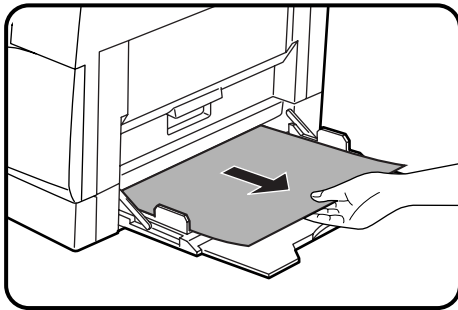
When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.



MISFEED REMOVAL

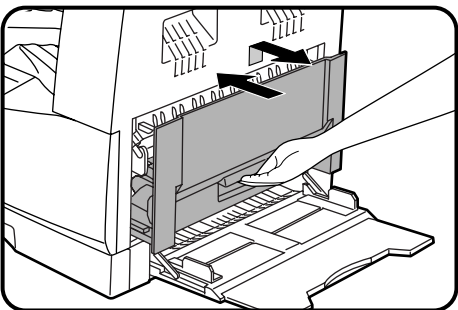
The copier will stop when a misfeed occurs. The misfeed () indicator will blink.

If paper is accidentally torn during removal, be sure to remove all pieces.
Be careful not to damage the photoconductive drum.




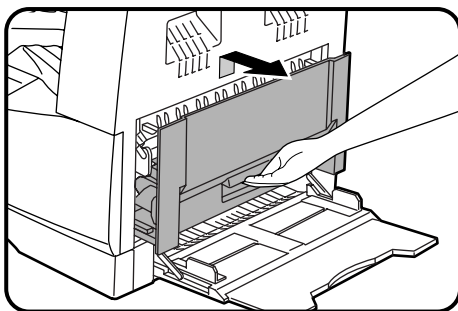
Misfeed in the bypass tray

1 Gently pull the misfed paper out.



2 Lift slightly on the side cover and slide the cover out until it stops. Close the side cover by pressing the handle on the cover.

- The misfeed () indicator will go out.



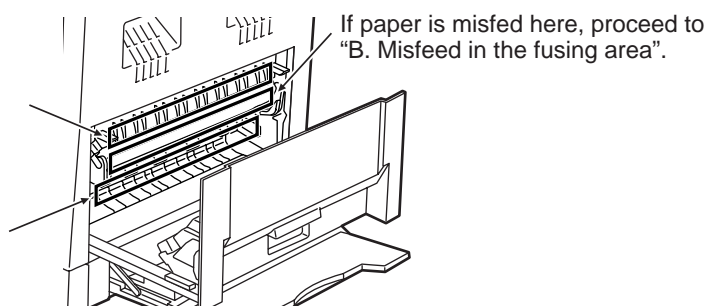
Misfeed in the copier

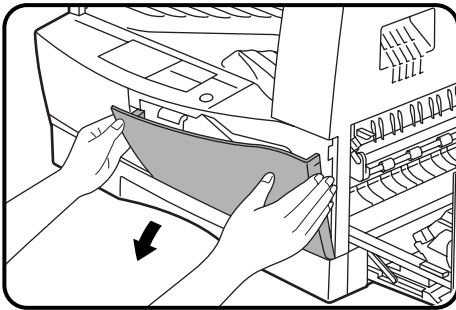
1 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.

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

If the misfed paper is seen from this side, proceed to "C. Misfeed in the transport area".

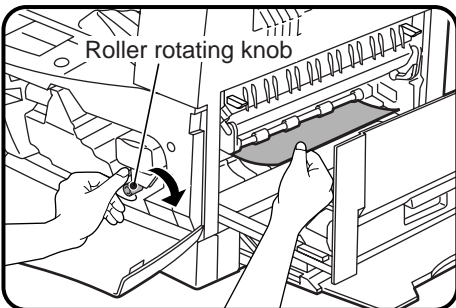
If paper is misfed here, proceed to "A. Misfeed in the paper feed area".





A. Misfeed in the paper feed area

1 Push gently the right side of the front cover to open the cover.



2 Carefully remove the misfed paper. Turn the roller rotating knob in the direction of the arrow to assist in removing it.



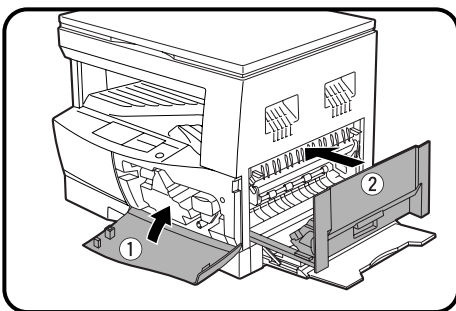
Warning

The fusing unit is hot. Take care in removing paper.



Caution

Do not touch the surface of the drum (green portion) of the drum cartridge when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.



3 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover.

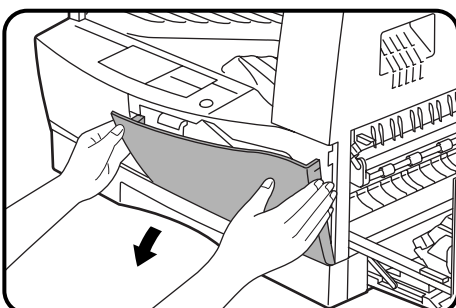
- The misfeed (84) indicator will go out.



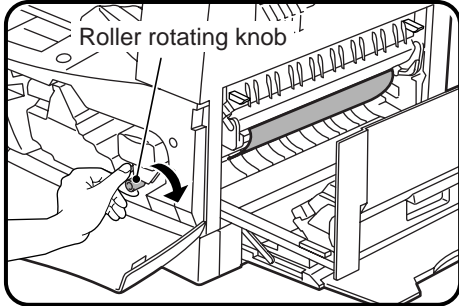
Caution

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.

B. Misfeed in the fusing area



1 Push gently the right side of the front cover to open the cover.



2 Turn the roller rotating knob in the direction of the arrow.



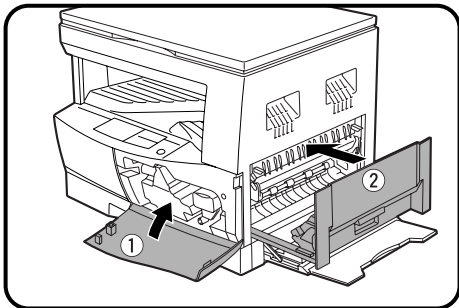
3 Carefully remove the misfed paper. Lower the fusing unit release levers to allow easier removal. Return the release levers to their operating positions.



Warning The fusing unit is hot. Take care in removing paper.



- Do not touch the surface of the drum (green portion) of the drum cartridge when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- Be careful about unfixed toner on the misfed paper.

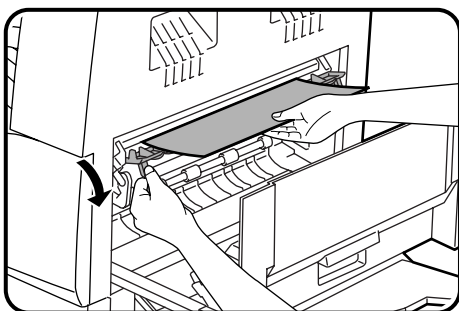


4 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover.

- The misfeed (8V) indicator will go out.



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.

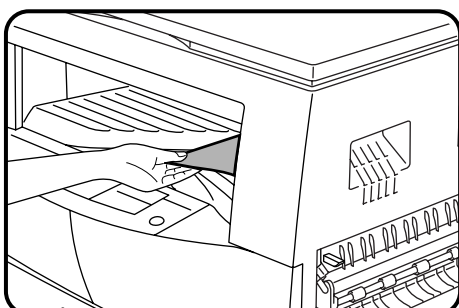


C. Misfeed in the transport area

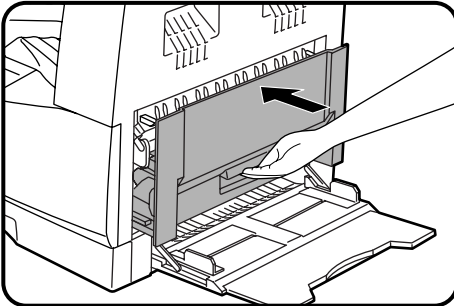
1 Open the paper guide by pressing down the projection on either side of the guide and remove the misfed paper.



Warning The fusing unit is hot. Take care in removing paper.

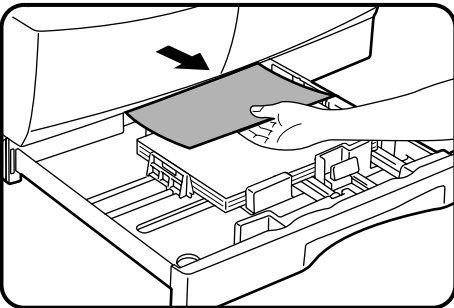


2 If the misfed paper cannot be removed by the previous step but is visible in the paper output area, remove the paper by pulling it into the paper output area.



3 Close the side cover by pressing the handle on the cover.

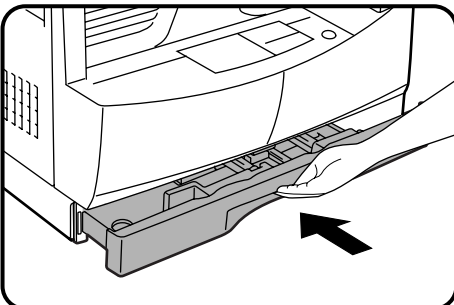
- The misfeed (8V) indicator will go out.



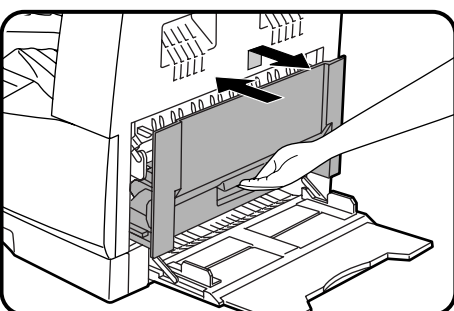
Misfeed in the paper tray

Before opening the paper tray, be sure to open the bypass tray, lift slightly on the side cover and slide the cover out until it stops, and then perform steps 1 to 3 described in the “A. Misfeed in the paper feed area” section.

1 Gently lift and pull out the paper tray and remove the misfed paper.



2 Close the paper tray.



3 Lift slightly on the side cover and slide the cover out until it stops. Close the side cover by pressing the handle on the cover.

- The misfeed (8V) indicator will go out.

USER PROGRAMS

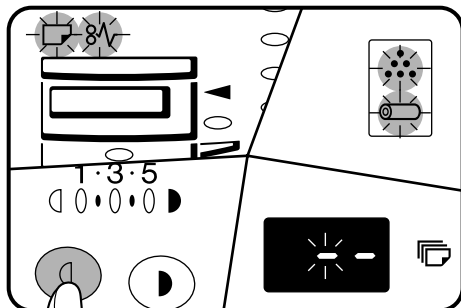
The user programs allow the parameters of certain functions to be set, changed, or canceled as desired.

List of user programs

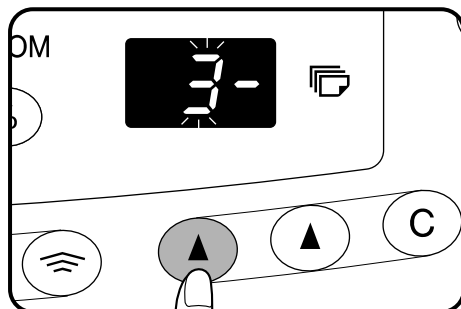
This copier has the following user programs.

Program No.	Program name	Description
1	Auto clear time	Sets the auto clear time. The copier returns to the initial settings when the auto clear time elapses after the last copy is made.
2	Preheat mode	Sets the time that elapses before the copier enters the preheat mode after any operation is made. See page 34.
3	Auto power shut-off timer	Sets the time that elapses before the copier enters the auto power shut-off mode after any operation is made. See page 34.
5	Auto power shut-off setting	Enables or disables the auto power shut-off mode. See page 34.
21	Paper size setting	Sets the copy paper size in the tray.

Setting the user programs



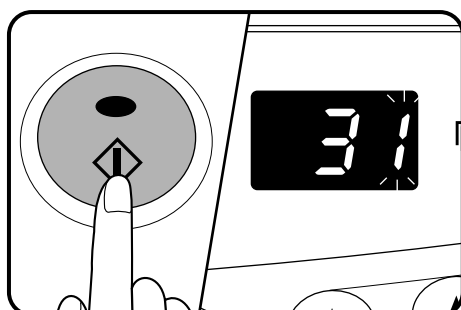
- 1 Press and hold the light (Ⓚ) key for more than 5 seconds until all the alarm indicators (⋯, ☐, ☐, and Ⓜ) blink and “--” appears in the copy quantity display.**



- 2 Enter a program number using the left copy quantity (Ⓚ) key.**

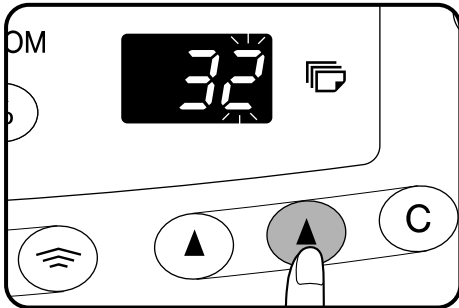
- The selected program number will blink in the copy quantity display.
- If a mistake is made in steps 2 to 4, press the CLEAR (Ⓞ) key. The copier will return to step 2.
- The program numbers are shown in the table above.

For example, to change the setting of the auto power shut-off timer, enter 3.



- 3 Press the START (Ⓢ) key.**

- The entered program number will be steadily lit on the left side of the copy quantity display and the currently selected parameter number for the program will blink on the right side.



4 Select the desired parameter using the right copy quantity (▲) key.

- The entered parameter number will blink on the right side of the copy quantity display.
- The parameters are shown in the table below.

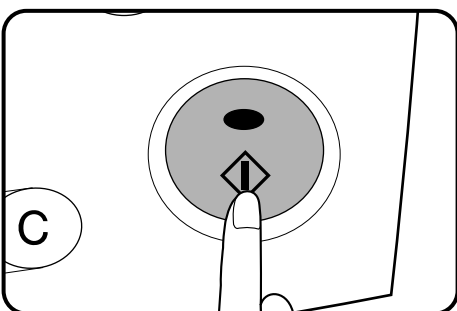
For example, to change the setting of the auto power shut-off timer to 60 min., enter 2.

Program name	Parameters
Auto clear time	0 ⇨ OFF 1 ⇨ 30 sec. * 2 ⇨ 60 sec. 3 ⇨ 90 sec. 4 ⇨ 120 sec. 5 ⇨ 10 sec.
Preheat mode	0 ⇨ OFF 1 ⇨ 30 sec. 2 ⇨ 60 sec. * 3 ⇨ 90 sec. 4 ⇨ 120 sec.
Auto power shut-off timer	* 1 ⇨ 30 min. 2 ⇨ 60 min. 3 ⇨ 90 min. 4 ⇨ 120 min. 5 ⇨ 240 min.
Auto power shut-off setting	0 ⇨ OFF * 1 ⇨ ON
Paper size setting	1 ⇨ 11"x17" 2 ⇨ 8-1/2"x14" * 3 ⇨ 8-1/2"x11" 4 ⇨ 8-1/2"x11"R 5 ⇨ 5-1/2"x8-1/2"

Factory default settings are indicated with an asterisk (*).

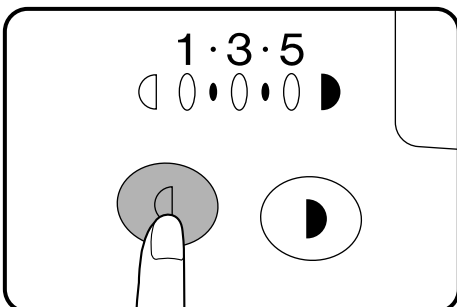


If you select "0" (OFF) in a program, the corresponding function will be disabled.



5 Press the START (◊) key.

- The right-hand number in the copy quantity display will be steadily lit and the entered value will be stored.



6 To continue with other user programs, press the CLEAR (C) key and then repeat steps 2 to 5. To exit the user program mode, press the light (Ⓛ) key.

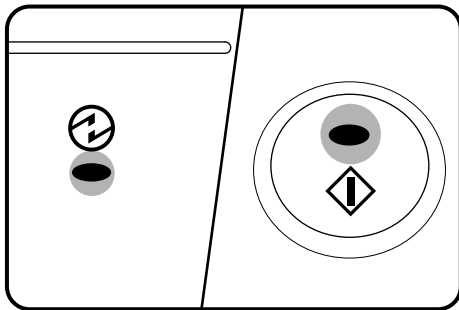
- All the alarm indicators will go out.

POWER SAVE MODES

The copier has two power save modes to reduce overall power consumption thereby reduce the cost of operation. In addition, these modes conserve natural resources and help reduce environmental pollution. The two power save modes are preheat mode and auto power shut-off mode.

- User programs

The preheat activation time and the auto power shut-off time have been preset at the factory to 90 sec. for preheat mode and 30 min. for auto power shut-off mode. These times can be changed using user programs. It is suggested that you set appropriate times according to the actual usage of the copier. (See page 32.)



Preheat mode

When the copier enters the preheat mode, the POWER SAVE (⚡) indicator will light up and other indicators will remain on or off as before. In this condition, the fuser in the copier is maintained at a lower heat level, thereby saving power. The preheat level is, however, high enough to allow the copier to come to a ready condition or begin copying within 10 seconds after any key input or copier operation such as paper tray operation is performed.

Auto power shut-off mode

If the auto power shut-off mode is enabled, the copier will automatically turn off the power once a programmed length of time has elapsed without any copier operation after the last copy of a run is made or the power is first turned on. The power switch will automatically be turned to the “OFF” position. To turn the power back on, simply turn the power switch to the “ON” position.

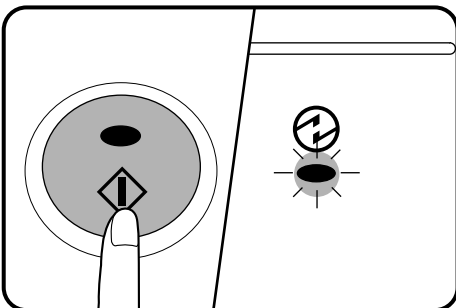


As an ENERGY STAR® Partner, SHARP has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Setting the power save modes

The time that elapses before the copier enters a power save mode after any operation is made can be set manually. This time is set with user program No. 2 for the preheat mode and user program No. 3 for the auto power shut-off mode. For these settings, see page 32.

- The copier will enter the preheat mode first and then the auto power shut-off mode after a preset time has elapsed when no copier operation has been made.
- If conflicting settings are made with user programs No. 3 and No.5, the last program set will have priority.



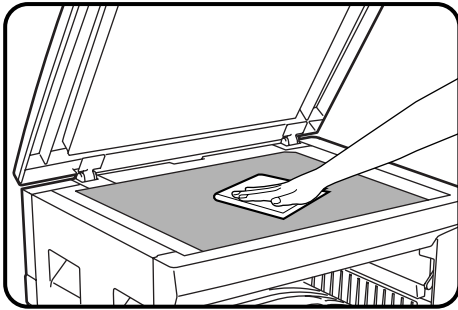
Copying from the preheat mode

Make desired copier selections and press the START (⬇) key using the normal copying procedure.

- When any key input is made or any other copier operation is made, the POWER SAVE (⚡) indicator will start to blink.
- When the START (⬇) key is pressed, the START key (⬇) indicator will go out and copying will start within 10 seconds. The POWER SAVE (⚡) indicator will go out when copying starts.

USER MAINTENANCE

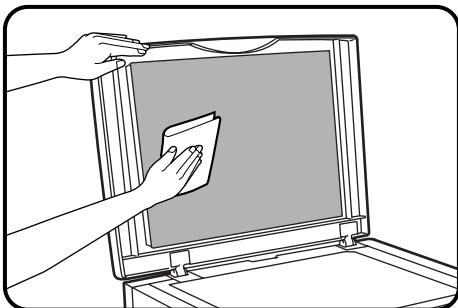
Proper care is essential for clean, sharp copies. Please take a few minutes to regularly clean your copier.



Original table and platen cover

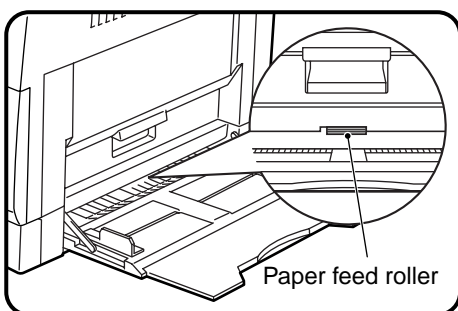
Stains or dirt on the original table or platen cover will also be copied. Wipe the original table and platen cover with a soft, clean cloth.

- If necessary, dampen the cloth with water. Do not use thinner, benzene, or similar volatile cleaning agents.



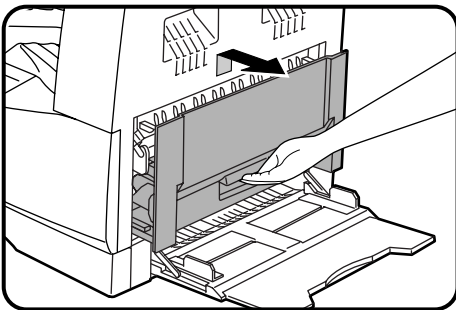
Bypass tray paper feed roller

If misfeeds occur frequently when feeding postcards, envelopes, thick paper, etc. through the bypass tray, wipe the blue paper feed roller at the feed slot of the bypass tray with a soft, clean cloth dampened with alcohol or water.



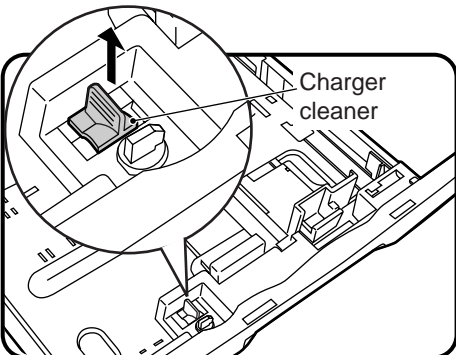
Transfer charger

If copies start becoming streaky or blotchy, the transfer charger may be dirty. Clean the charger. The cleaning method is described on the next page.

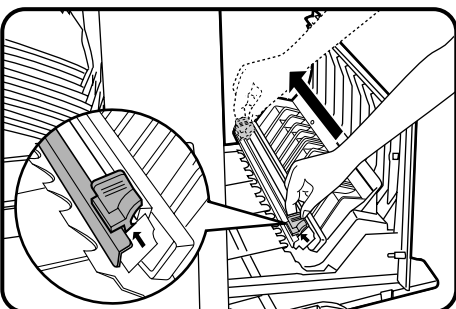


1 Turn the power switch off.

2 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.



3 Gently lift and pull out the paper tray and take the charger cleaner out by holding the tab.



4 Set the charger cleaner onto the transfer charger and gently slide the cleaner in the direction indicated by the arrow two or three times.

Caution Slide the charger cleaner from one end to the other end along the groove of the transfer charger. If the cleaner is stopped on the way, smudges on copies may occur.






- If the white sheet metal is smudged with toner, wipe it with a soft, clean cloth.


5 Return the charger cleaner to its original position. Close the paper tray. Close the side cover by pressing the handle on the cover.

6 Turn the power switch on.

COPIER TROUBLE?

Problem	Solution	
Copier does not operate.	<ul style="list-style-type: none"> ● Copier plugged in? 	Plug the copier into a grounded outlet. See page 8.
	<ul style="list-style-type: none"> ● Power switch ON? 	Turn the power switch ON. See page 15.
Copies are too dark or too light.	<ul style="list-style-type: none"> ● Copy density properly adjusted? 	See pages 15 and 22.
Blank copies	<ul style="list-style-type: none"> ● Is the original placed face down? 	Place the original face down on the original table.
Copies smear if rubbed.	<ul style="list-style-type: none"> ● Paper too heavy? 	Use copy paper within the specified range. See page 40.
	<ul style="list-style-type: none"> ● Paper damp? 	Replace with dry copy paper. Be sure to store copy paper in a dry location. See page 41.
Striped copies	<ul style="list-style-type: none"> ● Is transfer charger clean? 	Clean the transfer charger. See page 37.
Paper misfeeds frequently.	<ul style="list-style-type: none"> ● Non-standard paper used? 	Use standard paper. If using special paper, feed the paper through the bypass tray. See pages 18 and 40.
	<ul style="list-style-type: none"> ● Paper properly installed? 	Make sure the paper is properly installed. See pages 13 and 18.
	<ul style="list-style-type: none"> ● Pieces of paper inside copier? 	Remove all pieces of misfed paper. See page 28.
	<ul style="list-style-type: none"> ● Paper curled or damp? 	Store copy paper flat in the wrapper in a dry location. See page 41.
Copies are smudged or dirty.	<ul style="list-style-type: none"> ● Original table or platen cover dirty? 	Clean regularly. See page 36.
	<ul style="list-style-type: none"> ● Original smudged or blotchy? 	Use a clean original.

Problem	Solution	
Power is on but copying is not possible.	<ul style="list-style-type: none"> Is the POWER SAVE (⏻) indicator blinking? 	Wait until warm-up is complete. Warm-up time is approximately 35 seconds.
	<ul style="list-style-type: none"> Is the  indicator on? 	Copy paper is needed. See page 13, LOADING COPY PAPER.
	<ul style="list-style-type: none"> Is  blinking in the copy quantity display? 	The TD cartridge is not installed. Install the TD cartridge.
	<ul style="list-style-type: none"> Is  steadily lit in the copy quantity display? 	Side cover is open. Close the front and side covers securely.
	<ul style="list-style-type: none"> Is the  indicator blinking? 	The TD cartridge must be replaced. See page 24, TD CARTRIDGE REPLACEMENT.
	<ul style="list-style-type: none"> Is the  indicator blinking? 	A misfeed has occurred. See page 28, MISFEED REMOVAL.
	<ul style="list-style-type: none"> Is the START key (⏻) indicator blinking? 	Toner replenishment takes up to 2 minutes. Wait until the START key (⏻) indicator stops blinking.
Lighting fixture flickers.	<ul style="list-style-type: none"> Is the same power outlet used for the lighting fixture and the copier? 	Connect the copier to a power outlet which is not used for other electric appliances.

 Be sure to use only genuine SHARP parts and supplies.
Caution

Please contact your SHARP service center immediately if a problem persists after checking the above.

Self-diagnostic function

An automatic self-diagnostic function is built into the copier. Should the copier malfunction, the self-diagnostic function will locate the problem and stop the copier to prevent damage. An alphanumeric code will appear in the copy quantity display.



Example

Should the copier completely stop and a letter and a number appear alternately, contact your SHARP service center immediately.

SUPPLIES

Types and sizes of copy paper

	Size	Weight	Capacity (21 lb. bond paper)	Special paper
Paper tray	5-1/2" x 8-1/2" to 11" x 17"	15 lbs. to 21 lbs.	250 sheets	
Bypass tray	Ordinary paper: 5-1/2" x 8-1/2" to 11" x 17" Envelopes: Commercial 10 (4-1/8" x 9-1/2") International DL (110 x 220 mm) International C5 (162 x 229 mm)	15 lbs. to 34 lbs.* (Ordinary paper)	100 sheets	Transparency film, labels, envelopes**

* For paper weighing from 28 to 34 lbs., 8-1/2" x 11" is the maximum size that can be fed through the bypass tray.

** Do not use envelopes that have metal clasps, plastic snappers, string closures, windows, linings, self-adhesive patches or synthetic materials. These will cause physical damage to the copier.

- For best results, use only paper recommended by SHARP.
- Special papers except envelopes must be fed one sheet at a time through the bypass tray. Up to 10 envelopes can be set at one time.

Supply part numbers

When ordering supplies, please use the correct part numbers as listed below.



Note

Be sure to use only genuine SHARP parts and supplies.

Supply list

Supply	Part number	Usable life
TD cartridge	AL-160TD	Approx. 15,000 sheets*
Drum cartridge	AL-160DR	Approx. 30,000 sheets

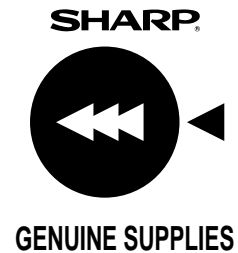
*Based on copying onto letter-type paper at 6% toned area

(The life of the TD cartridge which has been included in the copier at the factory is approximately 5,000 sheets.)

Genuine supplies statement

Standard supplies for this copier that are to be replaced by the user are copy paper, TD cartridge, and drum cartridge.

For best copying results, be sure to use only SHARP Genuine Supplies which are designed, engineered and tested to maximize the life and performance of SHARP copiers. Look for the Genuine Supplies label on the TD cartridge and drum cartridge.



Proper storage

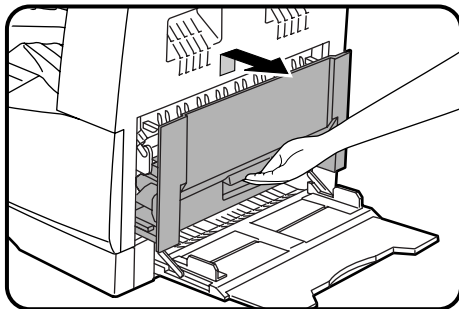
- 1. Store the supplies in a location that is:**
 - clean and dry,
 - at a stable temperature,
 - not exposed to direct sunlight.
- 2. Store copy paper in the wrapper and lying flat.**
 - Paper stored out of the wrapper or in packages standing on end may curl or get damp, resulting in paper misfeeds.

MOVING INSTRUCTIONS

When moving this copier, follow the procedure below.

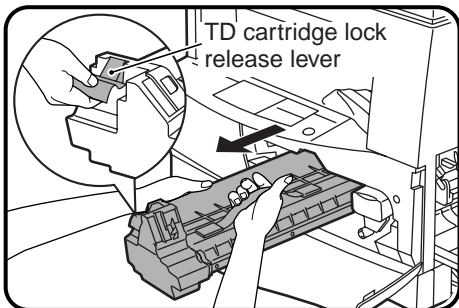


When moving this copier, be sure to remove the TD cartridge in advance.



1 Turn the power switch off and disconnect the power cord.

2 ① Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops. ② Push gently the right side of the front cover to open the cover.



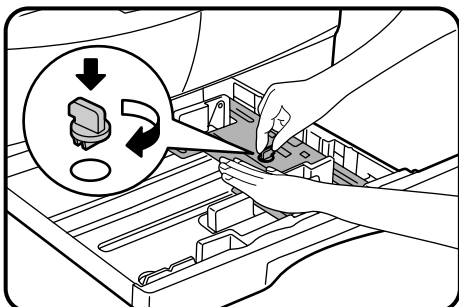
3 Lift the TD cartridge lock release lever and pull the cartridge out until the green strap handle can be grasped by the right hand. Lift the cartridge by the handle while supporting it with the left hand at the green label position to remove it.

4 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover.



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 Gently lift and pull out the paper tray until it stops.

6 Push the center of the pressure plate down until it locks in place and lock the plate using the pressure plate lock which has been stored in the front of the paper tray.

7 Use a coin (or suitable object) to attach to the left side of the copier the screw that has been stored in the front of the paper tray.



Caution

When shipping the copier, the screw must be reinstalled to prevent shipping damage.

8 Push the paper tray back into the copier.

9 Close the bypass tray. Attach the packing materials and tape which were removed during installation of the copier. See page 11, SET-UP.

10 Pack the copier into the carton. See page 10, CHECKING PACKED COMPONENTS AND ACCESSORIES.

SPECIFICATIONS

Type	Digital copying machine, desktop
Copy system	Dry, electrostatic transfer
Originals	Sheets, bound documents
Original sizes	Max. 11" x 17"
Copy sizes	Max. 11" x 17" Min. 5-1/2" x 8-1/2" Image loss: Max. 5/32" (4 mm) (leading and trailing edges) Max. 5/32" (4 mm) (along other edges in total)
Copying speed (at 100% copy ratio)	16 copies/min. (8-1/2" x 11") 12 copies/min. (8-1/2" x 11"R) 10 copies/min. (8-1/2" x 14") 9 copies/min. (11" x 17")
Continuous copy	Max. 99 copies; subtractive counter
First-copy time	7.2 sec. (except in a power save mode)
Warm-up time	Approx. 35 sec.
Copy ratio	Variable: 50% to 200%, in 1% increments (total 151 steps) Fixed preset: 50%, 64%, 77%, 95 %, 100%, 121%, 129%, 141%, 200%
Exposure system	Moving optical source, slit exposure (stationary platen) with automatic exposure function
Copy paper feed	One paper tray with automatic feed (250 sheets), one bypass tray with automatic feed (100 sheets)
Fusing system	Heat rollers
Developer system	Magnetic brush development
Light source	Xenon lamp
Resolution	Scan: 400 dpi Output: 600 dpi
Gradation	Scan: 256 levels Output: 2 levels
Power supply	AC 120V, 60 Hz, 11 amperes
Power consumption	Max. 1.5 kW

SPECIFICATIONS

Overall dimensions (with bypass tray folded)	23-15/64" (W) x 20-23/32" (D) (590 mm (W) x 526 mm (D))
Weight	Approx. 70.6 lbs. (32 kg) TD and drum cartridges included
Copier dimensions	23-15/64" (W) x 20-23/32" (D) x 18-33/64" (H) (590 mm (W) x 526 mm (D) x 470 mm (H))
Operating conditions	Temperature: 59°F to 86°F (15°C to 30°C) Humidity: 20% to 85%

First-copy time and warm-up time may differ depending on operating conditions, such as power-supply voltage and room temperature.



Note

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

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MATERIAL SAFETY DATA SHEET

MSDS No. F-00841

Section 1. Product Identification**Product:**

AL-160TD (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, Japan

Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Styrene-Acrylate copolymer	29497-14-1	> 88 %	Not listed	Not listed	None
Carbon black	1333-86-4	< 6.0%	3.5mg/m ³	3.5mg/m ³	None
Iron oxide	1309-38-2	< 4.5%	Not listed	Not listed	None
Metal Complex dye	109125-51-1 109125-50-0 84179-66-8	< 1.5%	0.5mg/m ³	0.5mg/m ³	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

Route(s) of Entry:	<u>Inhalation?</u>	<u>Skin?</u>	<u>Ingestion?</u>
	Yes	No	Possible but very unusual.

Health Hazards: Acute oral toxicity----- LDLo of this toner is over 2,000mg/kg.

Mutagenicity ----- The result of Ames test is negative.

Carcinogenicity: In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Chronic Effect:: In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

Signs and Symptoms of Exposure: Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure: None

Emergency and First Aid Procedures:

Inhalation; Remove to fresh air. If effects occur, consult medical personnel.

Eye; In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	Specific Gravity:	1.1
Vapor Pressure:	Not applicable	Solubility in Water:	Negligible
Vapor Density:	Not applicable	PH:	Not applicable
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Appearance:	Fine powder	Color:	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable		
Ignition Temperature:	>350°C		
Flammable Limits:	(LEL); Not applicable	(UEL); Not applicable	
Extinguishing Media:	CO ₂ , dry chemical, foam or water		
Special Fire Fighting Procedure:	None		
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.		
Sensitivity to Mechanical Impact:	None		
Sensitivity to Static Charge:	None		

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NO _x
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):

Use of a dust mask is recommended when handling a large quantity of toner or during long term exposure, as with any non-toxic dust.

Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References: IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261
H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299

S H A R P

Date Issued :Nov. 1, 1998

MATERIAL SAFETY DATA SHEET

MSDS No. F-30841

Section 1. Product Identification

Product

AL-160TD(Black Developer)

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, Japan

Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Iron powder	7439-89-6	> 92.5%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 7.0%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.5%	3.5mg/m ³	3.5mg/m ³	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powder containing small amounts of toner, and possessing no immediate hazard.

There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner.

Section 5. Health Hazard Data

Route(s) of Entry:	<u>Inhalation?</u> No	<u>Skin?</u> No	<u>Ingestion?</u> Possible but very unusual.
---------------------------	--------------------------	--------------------	---

Health Hazards: Acute oral toxicity----- LDLo of this toner which is included in this developer is over 2,000mg/kg.

Mutagenicity ----- The toner, which is included in this developer, has been tested on Ames test. The result is negative.

Carcinogenicity: In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors.

While there have been no studies to date using developer, a two-year cancer bioassay using a typical toner preparation containing carbon black (a small amount of toner is included in the developer mixture) demonstrated no association between toner exposure and tumor development in rats.

Signs and Symptoms of Exposure: Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure: None

Emergency and First Aid Procedures:

Inhalation; Remove to fresh air. If effects occur, consult medical personnel.

Eye; In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	Specific Gravity:	about 7.3
Vapor Pressure:	Not applicable	Solubility in Water:	Negligible
Vapor Density:	Not applicable	PH:	Not applicable
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Appearance:	Fine powder	Color:	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable
Ignition Temperature:	>350°C
Flammable Limits:	(LEL); Not applicable (UEL); Not applicable
Extinguishing Media:	CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Charge:	None

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NO _x
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

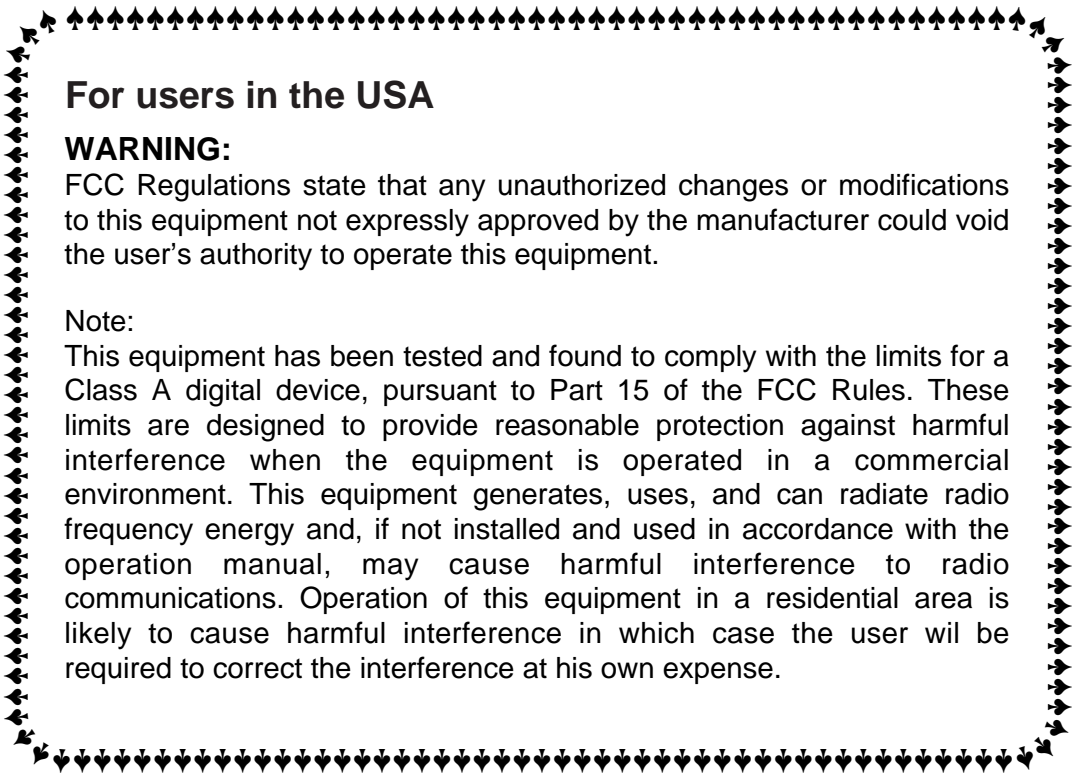
Personal Protection Information (Respiratory, Eye Protection and Protective Glove):	None required under normal use.
Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Not required.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References:	IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261
	H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299



For users in the USA

WARNING:

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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