

Care and Maintenance

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Cleaning

Periodic cleaning of the printer is recommended. The frequency of cleaning is dependent upon the environment in which the printer is used. You should clean the printer:

- At least once a month.
- When the printer experiences frequent media jams.
- When print quality has deteriorated.

External

- 1 Turn the power OFF.
- 2 Clean all the covers with a soft cloth. Use any mild commercial cleaner.

CAUTION

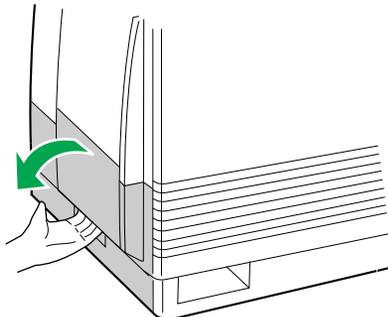
- Do not use benzine, thinner, aerosol cleaners, or any abrasive powder.

Internal

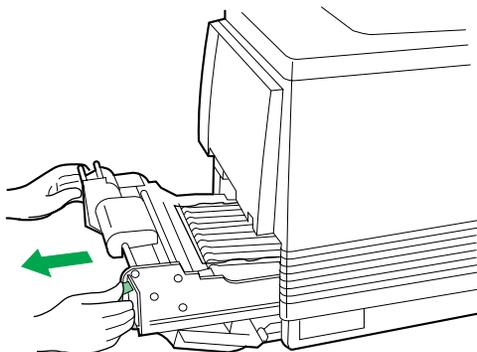
When using isopropyl alcohol with a lint-free cloth, make sure that the alcohol is at least 90% pure, obtainable from your local pharmacy. (Do not use rubbing alcohol; it can damage the printer.)

■ Cleaning the paper-pick rollers:

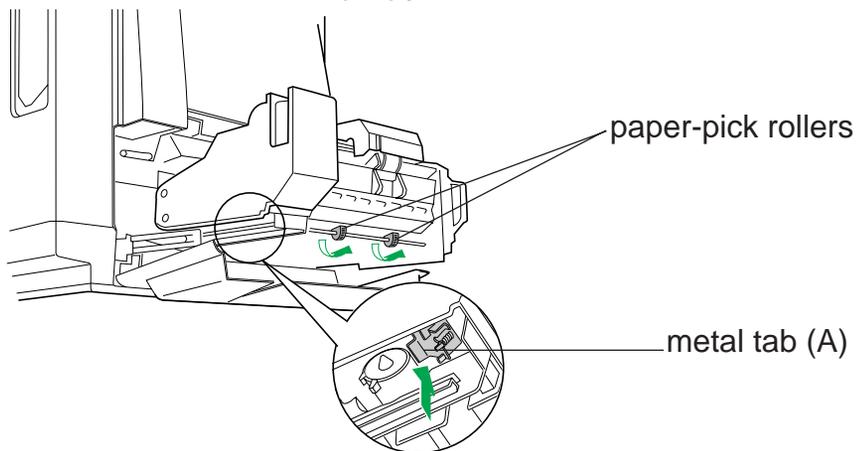
- 1 Slide the media tray out (you do not have to remove it) to allow access to the paper-pick rollers.
- 2 Open the left side door.



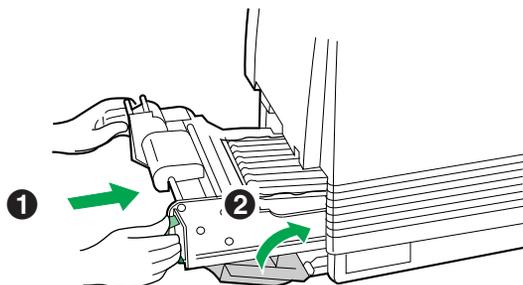
- 3** Use the green handles to pull out the paper feeder.



- 4** While pressing the metal tab (A), gently rotate the paper-pick rollers 180° (the paper-pick rollers are D-shaped) and wipe them with a lint-free cloth that has been moistened with isopropyl alcohol.



- 5** Reinsert the paper feeder (1) and close the left side door (2).

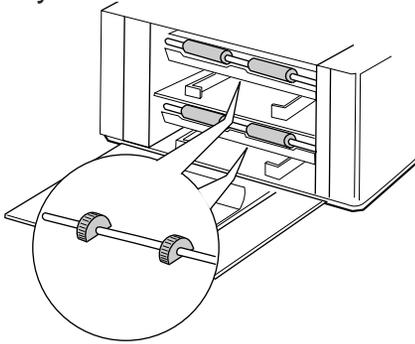


(Continued)

- 6 Slide the media tray back into place.

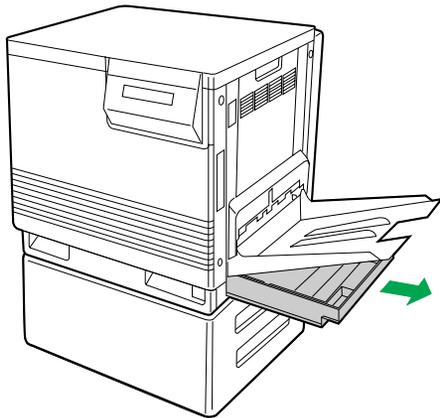
■ Cleaning the optional 2nd Cassette Feeder and the auto duplex printing unit:

- 1 Open the left side door and clean the rollers for the middle and lower media trays.

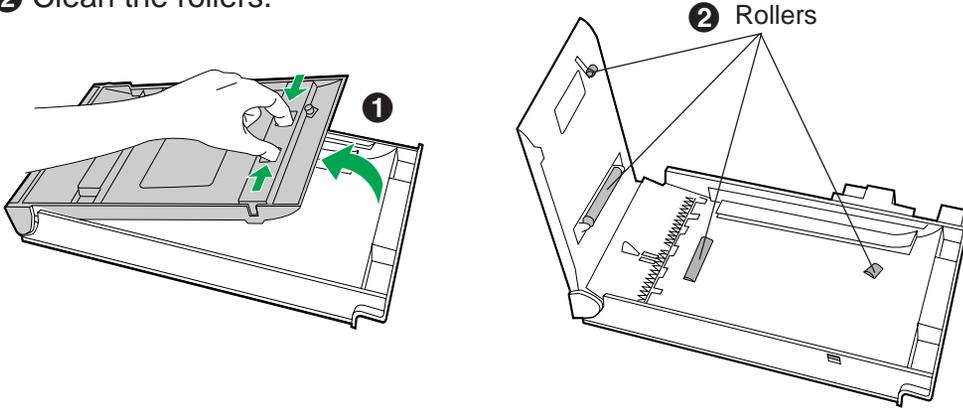


- 2 Close the left side door.

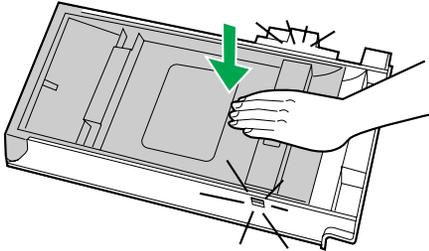
- 3 Remove the auto duplex printing unit.



- 4**
- 1 Open the lid of auto duplex printing unit while squeezing the green knob.
 - 2 Clean the rollers.



- 5** Close the lid and press down firmly on it to snap both sides into place.

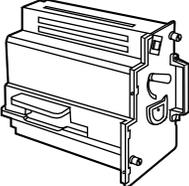


- 6** Reinsert the auto dulpex printing unit.

User Replaceable Components

When the printer panel indicates that a supply needs to be replaced, make sure that you have replacement supplies (see below) on hand. The printer may continue to print until the supply is completely used up; then it stops until you replace the indicated supply.

- Color imaging unit (see below)
- Fuser unit (see [page 7](#))
- Oil supply roll (see [page 7](#))
- Toner cartridge (see [page 8](#))
- Cleaning pad (see [page 8](#))
- Charge unit (see [page 8](#))
- Transfer unit (see [page 8](#))

Printer component	Printer panel message	Average life
Color imaging unit *1 	<div style="border: 1px solid black; padding: 5px; background-color: #e0f0e0;"> Imaging Unit wearing out </div> Change the color imaging unit soon.	Monochrome 57,000 pages or Color 14,250 pages
	<div style="border: 1px solid black; padding: 5px; background-color: #e0f0e0;"> Imaging Unit Worn out </div> Change the color imaging unit now.	Monochrome 60,000 pages or Color 15,000 pages

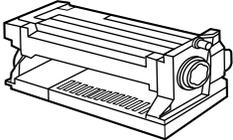
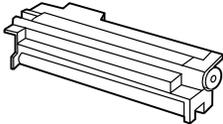
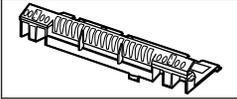
*1 Average life is based on an average of 5% coverage of the printable area and standard density for any one color when the recommended media is used (refer to Example A : Monochrome 5% coverage). For the components below, the average life may decrease depending on the percentage of colors and coverage used. For more details see [page 9](#).

- Color imaging unit
- Fuser unit
- Toner cartridge
- Cleaning pad

Example A

Personal Image Editing System model No. XX-XXXX	
Features: Coproduces on next generation of XX-XXXX, the first device addition to today's office scene. Its amazing little desktop unit can be used as a Print/Scanner/Printer.	
Printer Specification	
Printing Method:	Stenciledirect LaserDirectPhotography
Print Speed:	4 ppm maximum (at one page per minute 5% image area)
Resolution:	400dpi/400dpi
Paper Feed:	Multi-purpose manual feed up to 100 sheets of paper (75mm/3000x)
Paper Output:	Face-down paper ejection (to 50 sheets) (75mm/3000x)
Software Functions:	Graphics III XXXX
Paper Size/Weight:	Letter (up to 300 sheets), Executive, 517P, and
Memory Capacity:	512KB
Scanner Specification	
Method:	Contact Image Sensor
Resolution Scan:	300dpi/300dpi (300dpi/300dpi)
Max Scanning Width:	8.187(218mm) Sensor Effective Scanning Width
Document Size:	Letter/A4/Legal/Executive Card/Miscel. Feed
AED Capacity:	20 Sheets
Scan Speed:	4 IPM
Scanner I/O Driver:	TWAIN
Other Specification	
Operating Environment:	10 to 32.5°C (50 to 90.5° F) 20 to 80%RH
Storage Environment:	0 to 35°C (31 to 95° F) 20 to 80%RH
Features: Coproduces on your purchase of the XX-XXXX, the first device addition to today's office scene. This amazing little desktop unit can be used as a Print/Scanner/Printer.	
Application Soft : Text Bridge : Card Scan	

User Replaceable Components

Printer component	Printer panel message	Average life
Fuser unit *1 *2 *3 (Oil supply roll installed) 	Fuser Unit wearing out Oil Roll wearing out Change the Fuser unit soon. <div style="display: flex; align-items: center; margin-left: 20px;"> <div style="border-left: 1px solid black; border-right: 1px solid black; height: 20px; width: 10px; margin-right: 5px;"></div> <div style="font-size: 2em; margin-right: 5px;">}</div> <div style="text-align: left;"> Display alternately </div> </div>	57,000 pages
	Fuser Unit and Oil Roll Worn out Change the Fuser unit now.	60,000 pages
Oil supply roll*2  [Cleaning pad enclosed] 	Oil Roll wearing out Change the Oil supply roll soon.	14,500 pages
	Oil Roll Worn out Change the Oil supply roll now.	15,000 pages

*1 Refer to *1 on [page 6](#) for average life.

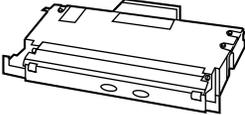
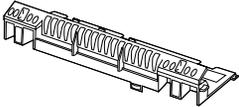
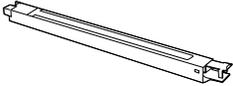
*2 **Specialty media (transparencies, coated paper, etc.) and duplex printing will result in shortening the life of a consumable to maintain better print quality.** When one page is printed on this type of media, 2 pages are counted. So when only speciality media is used, it may reduce the life of components by half. When replacing the fuser unit, replace the oil supply roll as well. **Do not insert the used oil supply roll into the new fuser unit; it may damage the new fuser unit.**

*3 Using media except the recommended media (see [“Specifications”](#)) will result in shortening the life of consumable.

Note when performing duplex printing:

Duplex printing will result in shortening the life of fuser unit. When one sheet is printed, 2 pages are counted per one side.

User Replaceable Components

Printer component	Printer panel message	Average life
Toner cartridges ^{*1 *2} 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Low <Color> Toner</div> Change the color toner cartridge soon. <div style="border: 1px solid black; padding: 5px;"><Color> Toner Empty</div> Change the color toner cartridge now.	10,000 pages (CMY) 12,000 pages (Black)
Cleaning pad ^{*1 *3 *4} 	<div style="border: 1px solid black; padding: 5px;">Cleaning Pad wearing out</div> Change the cleaning pad soon.	15,000 pages
Charge unit 	<div style="border: 1px solid black; padding: 5px;">Charge Unit wearing out</div> Change the Charge unit soon.	Monochrome 30,000 pages or Color 7,500 pages
Transfer unit ^{*3} 	<div style="border: 1px solid black; padding: 5px;">Transfer wearing out</div> Change the transfer unit soon.	80,000 pages

*1 Refer to ^{*1} on [page 6](#) for average life.

*2 The starter toner cartridges that are shipped with the printer have an average life of approximately 5,000 pages (Black) / 4,000 pages (Y, M, C), based on an average of 5% coverage.

If you print with high density when “Low <Color> Toner” is displayed, you may get faded printout before “<Color> Toner Empty” is displayed.

*3 When you have just replaced the cleaning pad or transfer unit, you must reset the counter to 100% remaining [Refer to “Using the Printer Panel (Menu Mode)” in [Settings and Printing](#)].

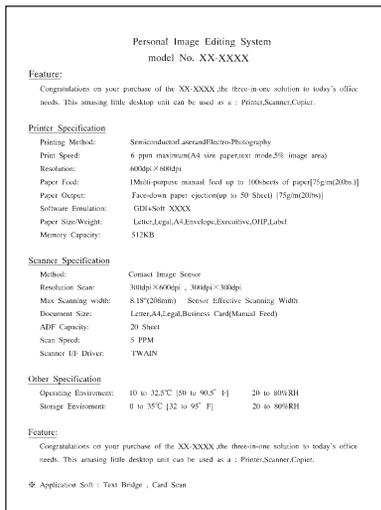
*4 Using media except the recommended media (see [“Specifications”](#)) will result in shortening the life of consumable.

Average Life of Printer Components

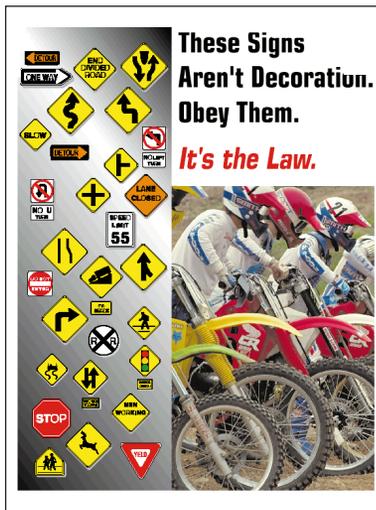
The average life of printer components (**color imaging unit**, **fuser unit** and **cleaning pad**) varies depending on the percentage of colors and coverage used. When printing at full color with high percentage of coverage, the average life of these components will be decreased.

Print pattern	Coverage of the printable area (%)				Life (pages)		
	Cyan	Magenta	Yellow	Black	Color imaging unit	Fuser unit	Cleaning pad
Monochrome 5% coverage (Example A)	0	0	0	5	60,000	60,000	15,000
Full color 5% coverage	5	5	5	5	15,000		
Full color 10% coverage	10	10	10	10	7,500	30,000	7,500
Full color (Example B)	4	10	19	31	4,688	18,750	4,688
Full color (Example C)	32	22	29	17	3,000	12,000	3,000

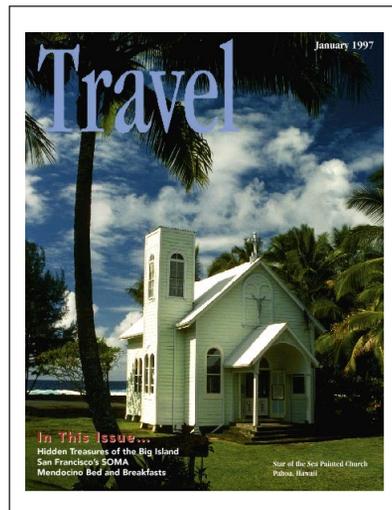
Example A



Example B



Example C



NOTE

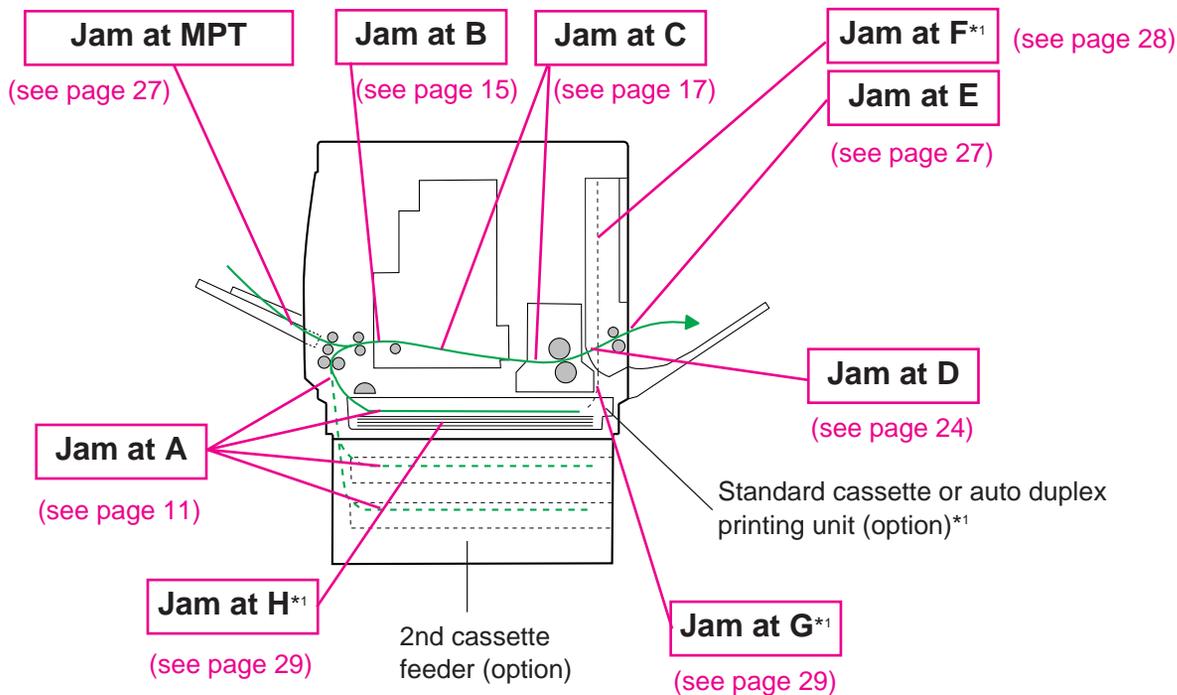
- Each file's coverage is measured by pixel counter on letter size. The coverage will differ depending on printers.

Clearing a Jam

If the printer has frequent media jams, make sure that you follow these guidelines:

- Always use high-quality laser paper and transparencies. Refer to [Specifications](#).
- Make sure that you load specialty media only in the multi-purpose tray and that you set the media thickness switch to the correct setting for the media used. Refer to [Settings and Printing](#).

If a media jam occurs, the printer panel reports “Jam at <Location>”. The <Locations> are the various sensors throughout the paper path, listed as A through E.



*1Optional auto duplex printing unit is installed in the standard cassette slot. When the automatic duplex printing is performed, media jam at F, G or H may occur.

Clearing “Media type mismatch” Error

When printing on paper or transparency, the media must be loaded in the multi-purpose tray or the media tray designed for only paper or transparency. When you use multi-purpose tray, the media you are using must be selected in the printer driver. If media is loaded in the incorrect media tray or different media is selected in the printer driver, the “Media type mismatch” message will appear on the LCD panel and jam will occur.

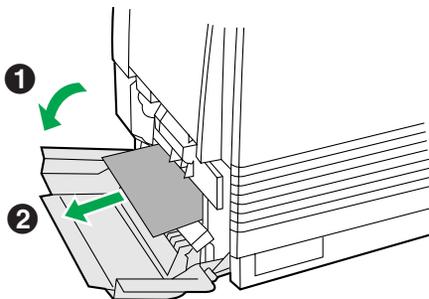
Perform one of the following procedures depending upon the media source to recover from jam, then load the media in the correct media tray or select the correct media in the printer driver (see [Settings and Printing](#)).

- When the media is feeding from **media tray**:
Refer to the instruction in “**Jam at A**” (see below).
- When the media is feeding from the **multi-purpose tray**:
Refer to the instruction in “**Jam at MPT**” (Multi-purpose tray) [see [page 27](#)].

Jam at A

If the 2nd cassette feeder is installed, also see [page 13](#) for the 2nd cassette feeder jam.

- 1
 - ① Open the left side door corresponding to the selected media tray.
 - ② Remove the jammed media.

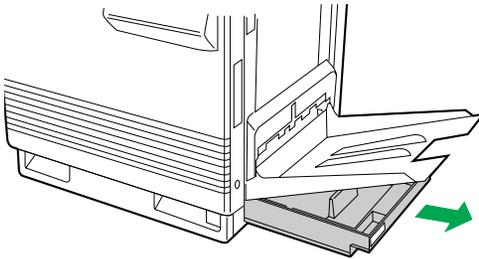


- 2 Close the left side door.

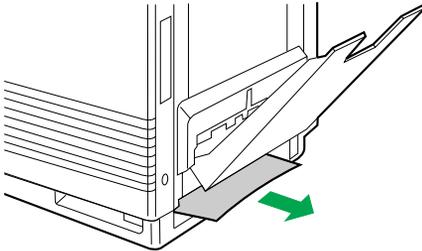
(Continued)

— OR —

- 1 Remove the media tray or auto duplex printing unit (if installed in your printer).



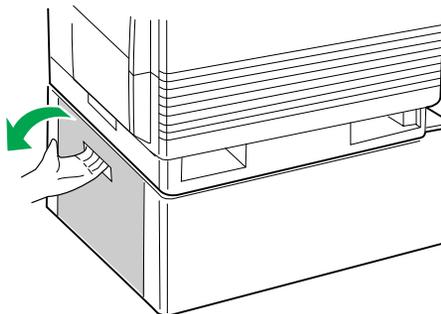
- 2 Remove the jammed media from inside the printer.



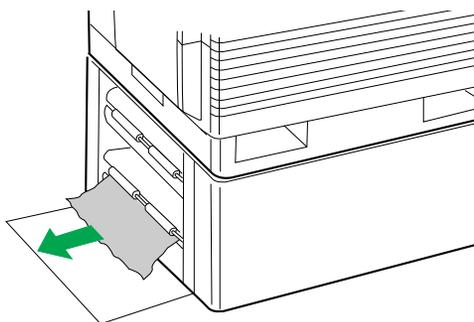
- 3 Reinsert the media tray.
- 4 Open and close the front door to clear the error message from the LCD.

■ Jam at A in the 2nd cassette feeder:

- 1** Open the lower left side door.



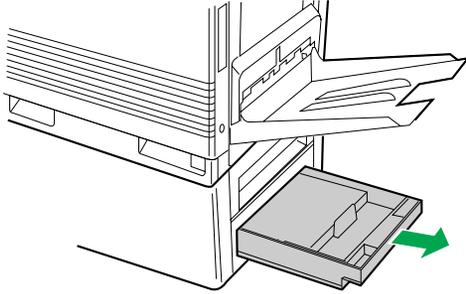
- 2** Remove the jammed media.



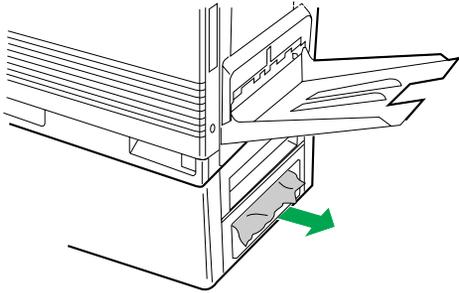
- 3** Close the lower left side door.

— OR —

- 1 Remove the selected media tray (middle or lower media tray).



- 2 Remove the jammed media from inside the printer.

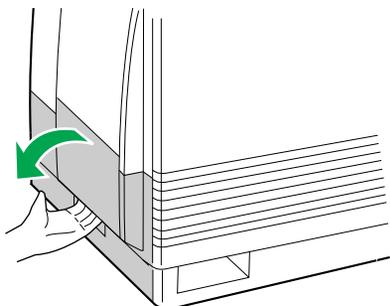


- 3 Reinsert the media tray.
- 4 Open and close the front door to clear the error message from the LCD.

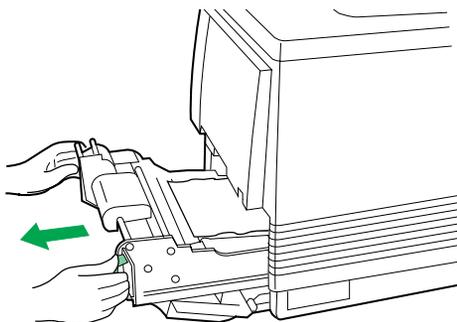
Jam at B

■ Jam at B in the media tray:

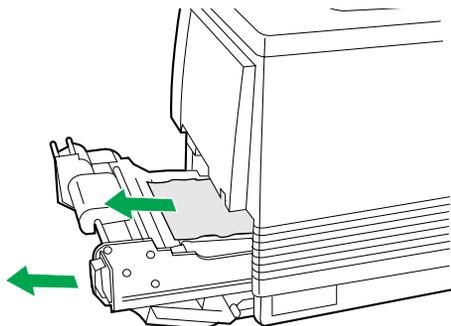
- 1 Open the left side door.



- 2 Use the green handles to pull out the paper feeder.



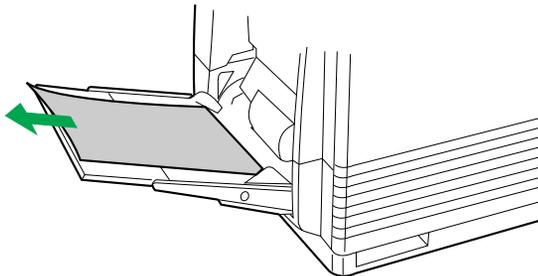
- 3 Remove the jammed media on or under the paper feeder.



- 4 Reinsert the paper feeder and close the left side door.

■ Jam at B in the multi-purpose tray:

- 1 Remove the jammed media from the multi-purpose tray.



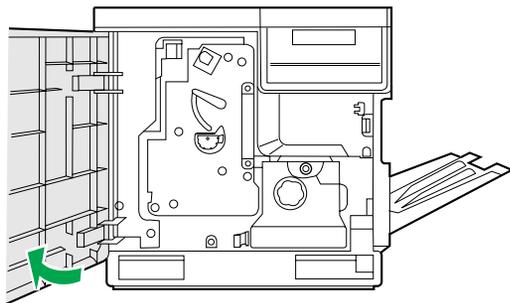
- 2 Open and close the front door to clear the error message from the front panel.

NOTE

- A few sheets of paper printed after clearing media jam may be dirty.

Jam at C

- 1 Open the printer front door.



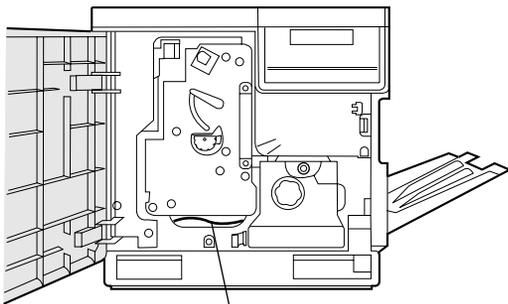
SAFETY CAUTION

- The fuser is hot; to avoid personal injury, turn off the printer and wait 10 minutes (after opening the front door) for the fuser unit to cool before touching it.

- 2 Check whether the media is jammed under the color imaging unit.

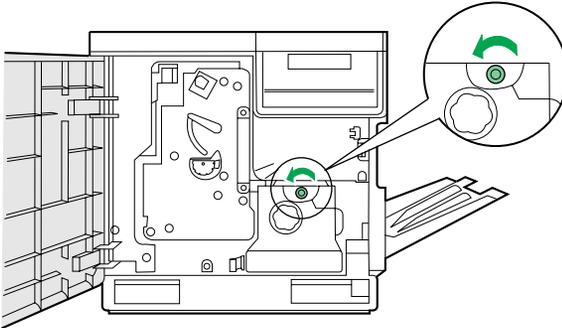
If the media jam is not found, go to next step.

- If the media is jammed,
 - (a) Remove it by following the steps 1 to 4 in “Jam at B in the media tray” on [page 15](#).
 - (b) To clear the error message “Jam at C”, slide out the fuser unit (see steps 3 and 4 on [page 18](#)), then slide it back to the printer and secure it.

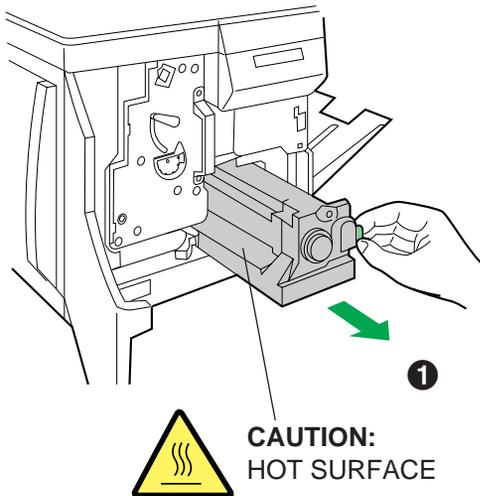


Jammed media

- 3** Turn the small green thumbscrew counterclockwise to unlock the fuser unit.



- 4** Holding the green tab on the right, slide the fuser unit out until it stops.

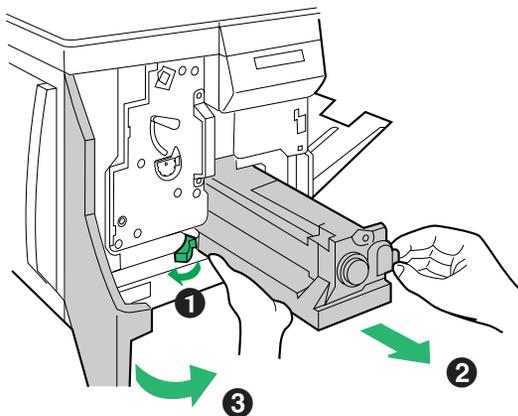


- 5 **1** Press the green lever on the left to release the safety catch.
- 2** Hold the fuser unit as shown below, and slide it out of the printer.

SAFETY CAUTION

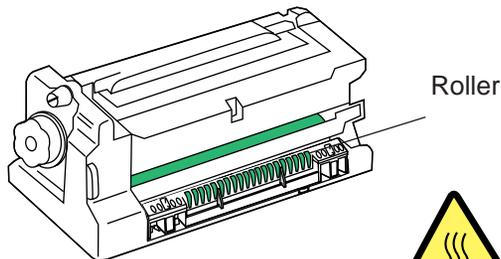
- The fuser unit weighs approximately 3.1 kg {6.8 lbs.}. Take care when handling it.

- 3** Close the front door.



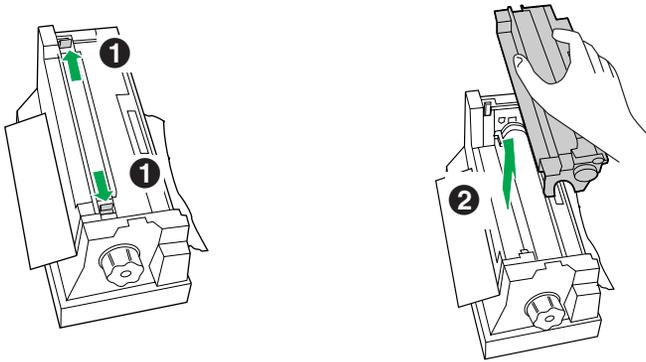
! SAFETY CAUTION

- Do not touch the roller and the parts around the roller when handling the fuser unit, because they may be hot.



CAUTION:
HOT SURFACE

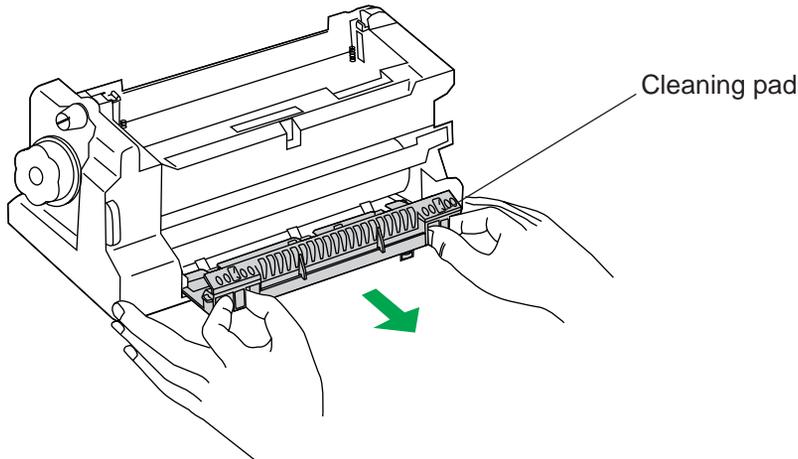
- 6** Remove the oil supply roll:
- 1** Press out on tabs to unlock the oil supply roll.
 - 2** Remove the oil supply roll out of the fuser.



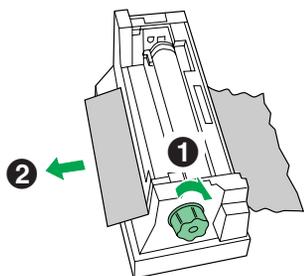
NOTE

- If the paper is not jammed in the fuser unit, repeat steps 1 to 4 in “Jam at B in the media tray” on [page 15](#).

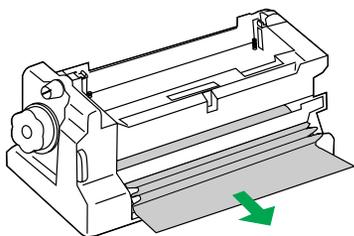
- 7** Holding the tabs, remove the cleaning pad.



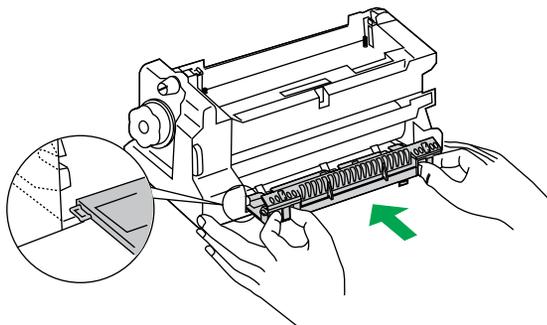
- 8**
- 1 Turn the fuser unit's green knob clockwise.
 - 2 Remove the jammed media.



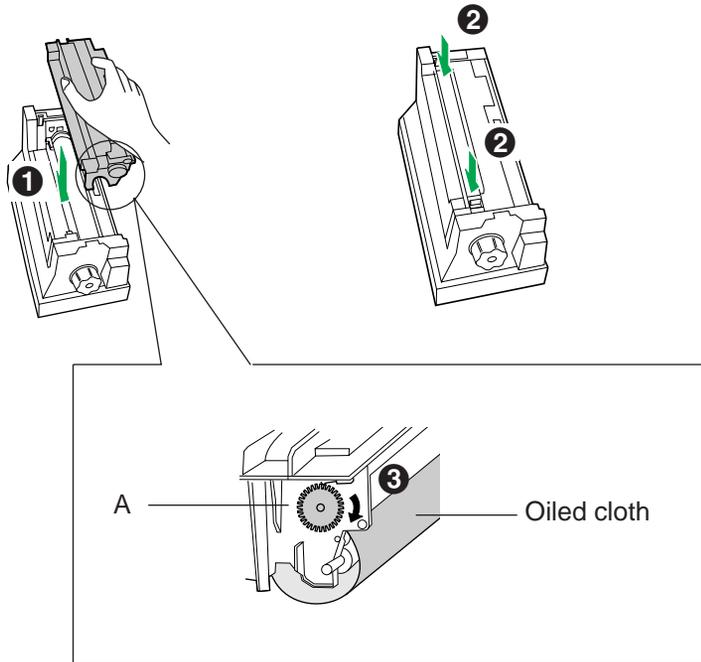
OR



- 9** Replace the cleaning pad.



- 10**
- 1 Replace the oil supply roll into the fuser unit.
 - 2 Press down firmly on the oil supply roll to snap both sides into place.
 - 3 If the oiled cloth is loose, rotate the gear (A) clockwise until it is tight.



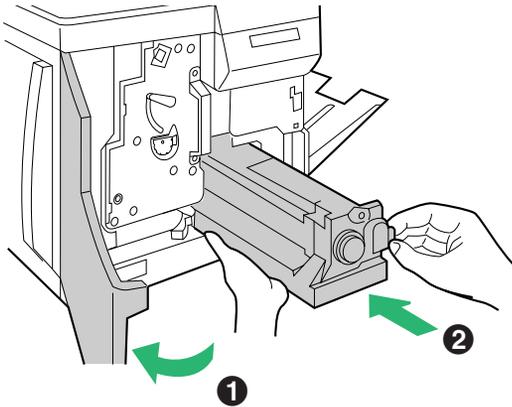
NOTE

- Do not touch the oiled cloth.

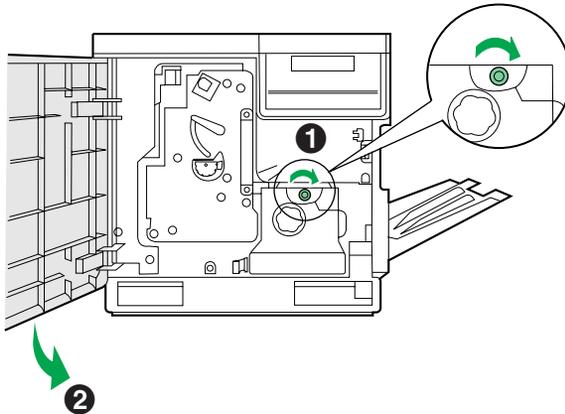
CAUTION

- If the oil supply roll is not installed correctly, print quality will be diminished.

- 11**
- 1 Open the front door.
 - 2 Slide the fuser unit back into the printer.



- 12**
- 1 Turn the small green thumbscrew clockwise to lock the fuser unit.
 - 2 Close the front door.



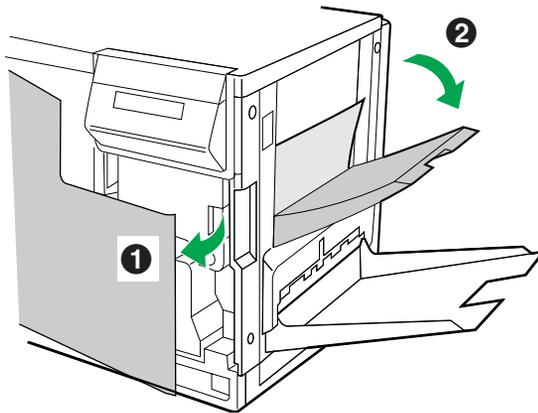
NOTE

- The error message "Jam at C" is cleared by sliding out the fuser unit, then sliding it back to the printer.

Jam at D

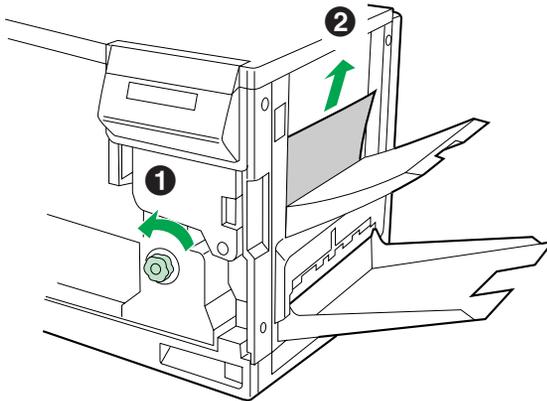
■ Jam at D when printing face down :

- 1** Open the front door.
- 2** Pull open the access door (above the plastic output tray); see if the media is visible.



(Continued)

- 2
 - 1 Turn the large green knob on the fuser unit counterclockwise.
 - 2 Remove the media from inside the access door.



CAUTION

- If the knob of the fuser unit will not turn, do not force it, or you may damage the fuser unit. Instead, follow these steps:
 - a) Unlock the fuser unit by turning the small green thumbscrew counterclockwise.
 - b) Pull the fuser unit out. The media will probably tear.
 - c) Remove the oil supply roll.
 - d) Turn the fuser unit's large green knob to release the jammed media.
 - e) Remove the jammed media from the fuser unit and the printer.



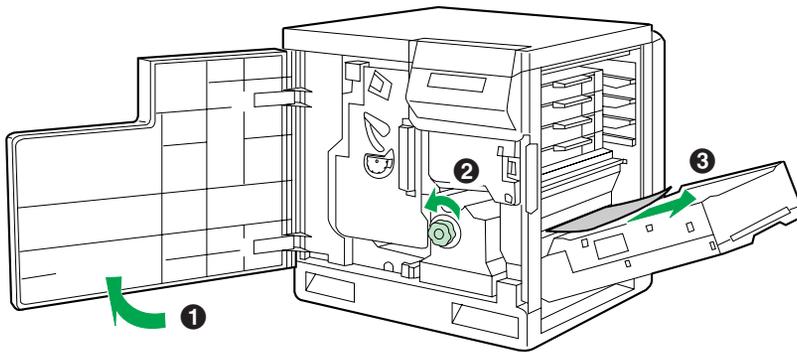
SAFETY CAUTION

- The fuser unit is hot; to avoid personal injury, turn off the printer and wait 10 minutes for the fuser unit to cool before touching it.

- 3 Close the front door.

■ Jam at D when printing face up:

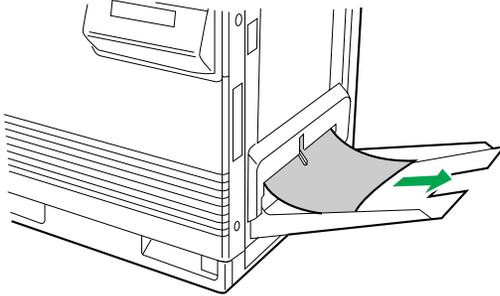
- 1
 - 1 Open the front door and the right side door.
 - 2 Turn the fuser unit's large green knob counterclockwise to release the jammed media.
 - 3 Remove the jammed media from the right side of the printer.



- 2 Close the front door and the right side door.

Jam at E

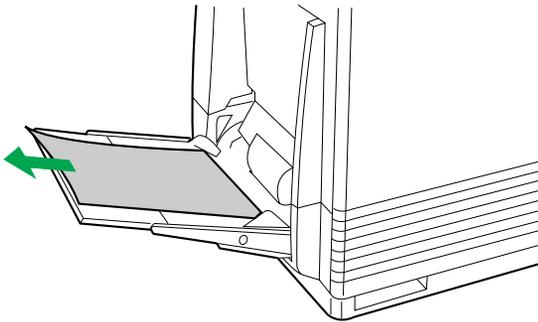
- 1 Remove the jammed media from the output tray.



- 2 Open and close the front door to clear the error message from the LCD.

Jam at MPT (Multi-purpose tray)

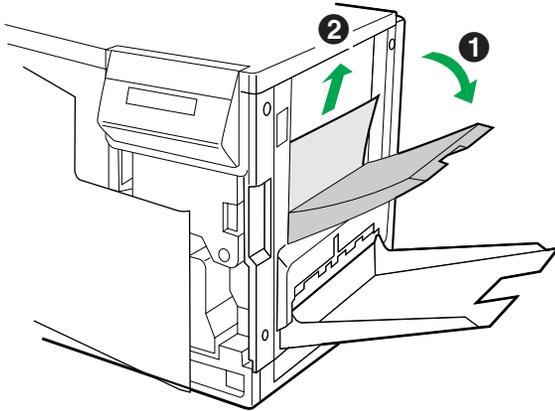
- 1 Remove the jammed media from the multi-purpose tray.



- 2 Open and close the front door to clear the error message from the LCD.

Jam at F

- 1 Pull open the access door (above the plastic output tray) and remove the jammed media.



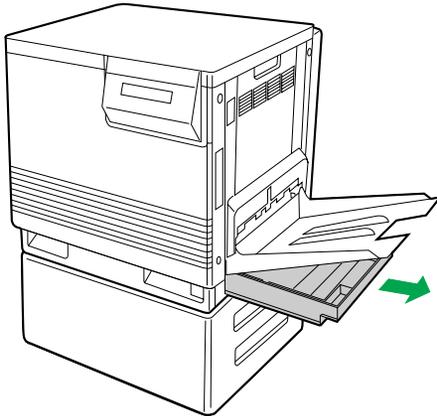
- 2 Open and close the front door to clear the error message from the LCD.

— OR —

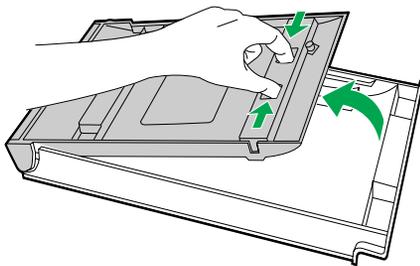
- 1 Perform steps 1 through 5 of Jam at G, H (see [page 29-30](#)).

Jam at G, H

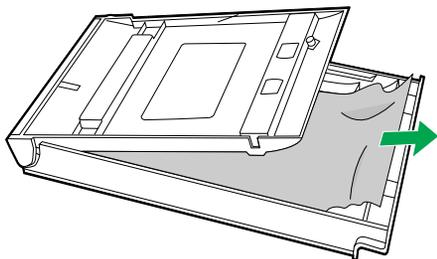
- 1 Remove the auto duplex printing unit.



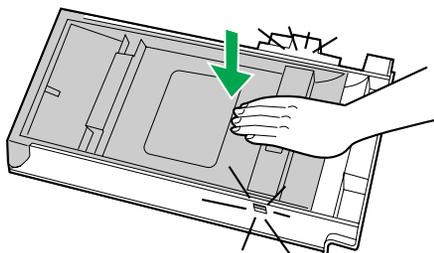
- 2 Open the lid of auto duplex printing unit while squeezing the green knobs.



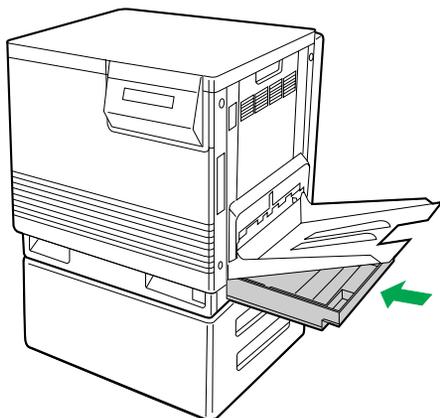
- 3** Remove the jammed paper.



- 4** Close the lid and press down firmly on it to snap both sides into place.



- 5** Reinsert the auto duplex printing unit.



Troubleshooting

■ Executing the Test Print

It enables you to print each color (Cyan, Magenta, Yellow and Black) halftone page to check the print quality.

- 1 Press the **MENU/EXIT** button on the printer panel.
- 2 Press the **▶/ENTER** button.
- 3 Press the **▲/CONTINUE** button twice.
The Test Print menu will appear.
- 4 Press the **▶/ENTER** button to print each color page.

■ Printing the test pattern for Adjustment to Media setting

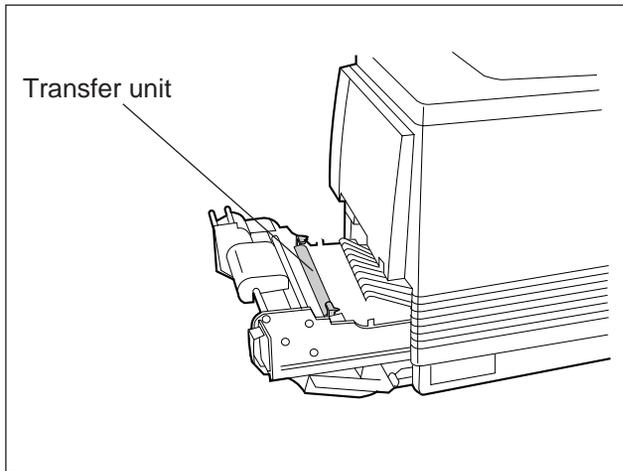
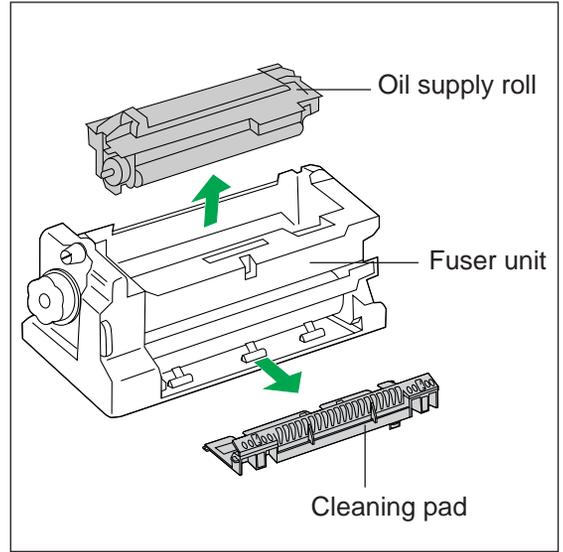
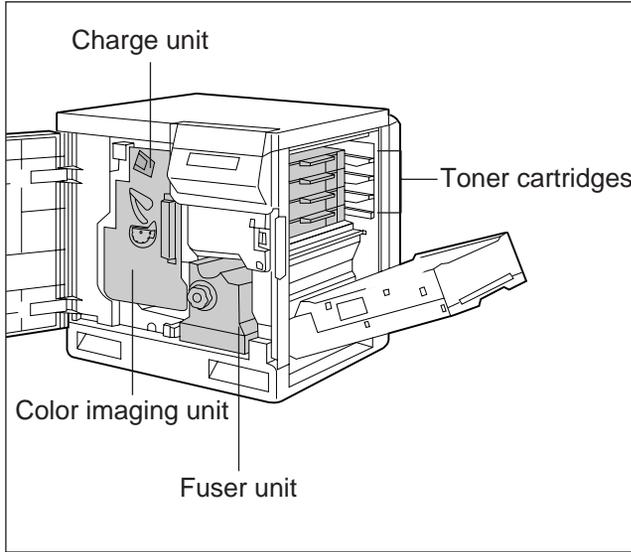
When using media types other than those recommended, you may need to confirm the print quality by printing the test pattern below. To print the test pattern, see “Setting the Adjustment to Media” in the [Settings and Printing](#).

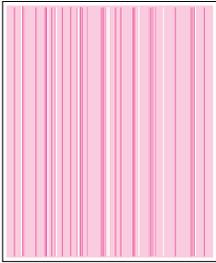
Test pattern:

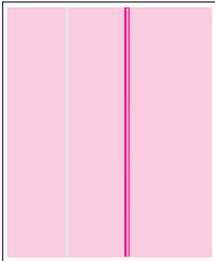


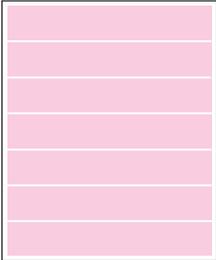
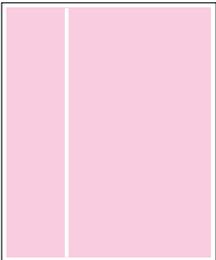
■ Printer Components

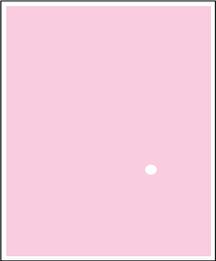
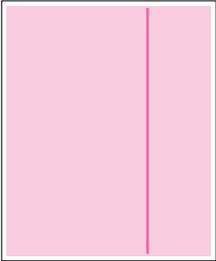
You may need to replace the following components if they have expired. For product numbers of supplies, refer to the supplement for supplies provided.

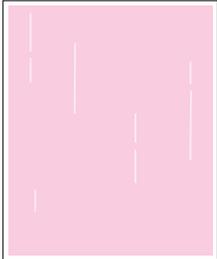


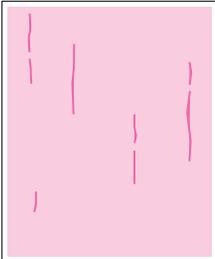
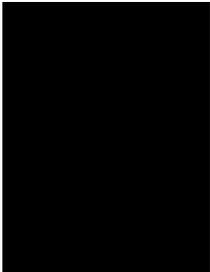
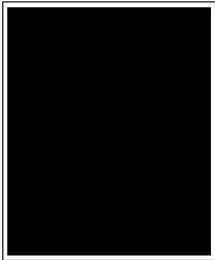
Trouble	Possible Cause	Corrective Action
READY indicator is blinking.	The printer is receiving, processing or printing job.	Wait for the job to be completed or cancel the job.
	You have entered the Menu mode in the printer panel.	Exit the Menu mode by pressing the MENU/EXIT button.
READY indicator is off.	The printer is not ready, is disabled, or has detected an error.	Read the printer panel message to determine the printer status.
ERROR indicator is on.	Error occurred that is not user-correctable.	Turn the printer off and back on again. If the indicator is still on, the printer requires service.
ERROR indicator is blinking.	The printer has stopped because it detected a user-correctable error such as an open door or a media jam.	Correct the condition displayed on the printer panel (e.g., close the door or clear the media jam).
<p>On the Test Print, a single color is not uniform or many vertical streaks (both light and dark) of slightly different density and non-uniform color.</p> 	The toner is almost depleted.	Replace the color toner cartridge.
<p>On the Test Print, half tone area has areas of weak color.</p> 	Paper doesn't match the environmental conditions, or it has too much moisture.	<p>Try fresh paper, or another type of paper.</p> <p>Store media in the original, dust-free package in the same environmental conditions as the printer.</p>

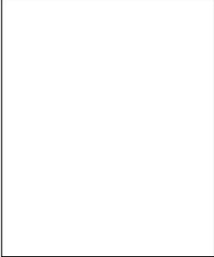
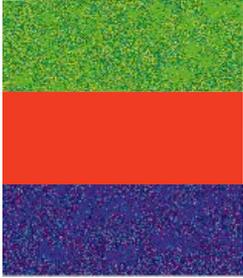
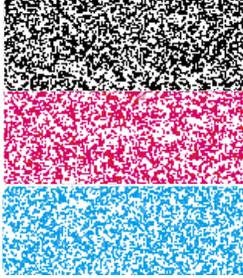
Trouble	Possible Cause	Corrective Action
<p>A single color appears faded.</p>	<p>The color density is set incorrectly in the printer panel.</p>	<p>Check the density setting by printing the Calibration Test Print in the Bias Adjustment menu from the printer panel. Compare the settings with the color density samples on the Color Calibration Card and, if necessary, adjust the density from the printer panel. Refer to “Adjusting the Color Density” in Settings and Printing.</p>
	<p>The toner is almost depleted.</p>	<p>Replace the color toner cartridge soon (depending on the complexity of your prints, you can continue to print up to 100 more pages).</p>
<p>On the Test Print, a single color has a sharp, dark or light vertical streak.</p> 	<p>The toner cartridge is almost depleted and is not properly applying toner.</p>	<p>Replace the color toner cartridge.</p>
<p>Small white spots appear on OHP transparency.</p> 	<p>OHP transparency has dust on its surface.</p>	<p>Remove dust or stain from OHP transparency.</p>

Trouble	Possible Cause	Corrective Action
<p>On the Test Print, a single color shows a light, repeating horizontal line.</p> 	<p>The roller in the toner cartridge has a slight impression after a long period of storage.</p>	<p>Run 20-30 prints. The impression will disappear with continued time and use.</p>
<p>Prints are missing fine-line detail.</p>	<p>The color imaging unit has reached the end of its useful life.</p>	<p>Replace the color imaging unit.</p>
<p>Dark color spots and dark or light streaks appear in all colors.</p>	<p>The color imaging unit has reached the end of its useful life.</p>	<p>Replace the color imaging unit.</p>
<p>On the Test Print, straight, thin light vertical line in colors.</p> 	<p>The photosensitive belt inside the color imaging unit is scratched.</p>	<p>Replace the color imaging unit.</p>
<p>On the Test Print, each color "bleeds" into the color band.</p> 	<p>The color imaging unit's internal waste toner box is full.</p>	<p>Replace the color imaging unit.</p>

Trouble	Possible Cause	Corrective Action
<p>On the Test Print, a single white spot appears in approximately the same vertical place on the page.</p> 	<p>The color imaging unit is damaged.</p>	<p>Replace the color imaging unit.</p>
<p>On the Test Print, large light spot(s) appear randomly.</p> 	<p>Fingerprint(s) on the underside belt or photosensitive belt (inside) of the color imaging unit.</p>	<p>Print several pages until the spots fade.</p>
<p>On the Test Print, one or more dark vertical lines appear on the print in all colors.</p> 	<p>The color imaging unit is scratched.</p>	<p>Replace the color imaging unit; make sure that the old imaging unit is not exposed to light for more than 45 seconds. If a new color imaging unit does not correct the problem:</p> <ul style="list-style-type: none"> ● Put the old color imaging unit back into the printer. ● Repack the new color imaging unit.
	<p>The fuser unit is damaged.</p>	<p>Replace the fuser unit.</p>

Trouble	Possible Cause	Corrective Action
<p>A piece of the printed image is missing and reappears out of place, approximately 129 mm (5") down the page.</p>	<p>The fuser unit's internal roller is not being consistently oiled. or The fuser unit's internal roller is contaminated with toner particles.</p>	<p>Print 5-10 pages of blank pages to clean the roller. If you still see the problem:</p> <ul style="list-style-type: none"> ● Replace the oil supply roll. <p>If you still see the problem:</p> <ul style="list-style-type: none"> ● Replace the fuser unit.
<p>The surface of the printed image appears to have vertical scratches (visible by holding the print at an angle and observing the "shine" of the image). At first, the scratches appear only on the printed image; eventually, dark vertical scratches appear on the unprinted portion of the page.</p>	<p>The fuser unit is near the end of its useful life.</p>	<p>Replace the fuser unit (depending on your quality needs, you can continue to print until the dark vertical lines appear).</p>
<p>Media frequently wraps around the fuser unit.</p>	<p>The oil supply roll has reached the end of its useful life.</p>	<p>Replace the oil supply roll.</p>
<p>Light vertical streaks appear in all colors.</p> 	<p>The charge unit is dirty.</p>	<p>Replace the charge unit.</p>

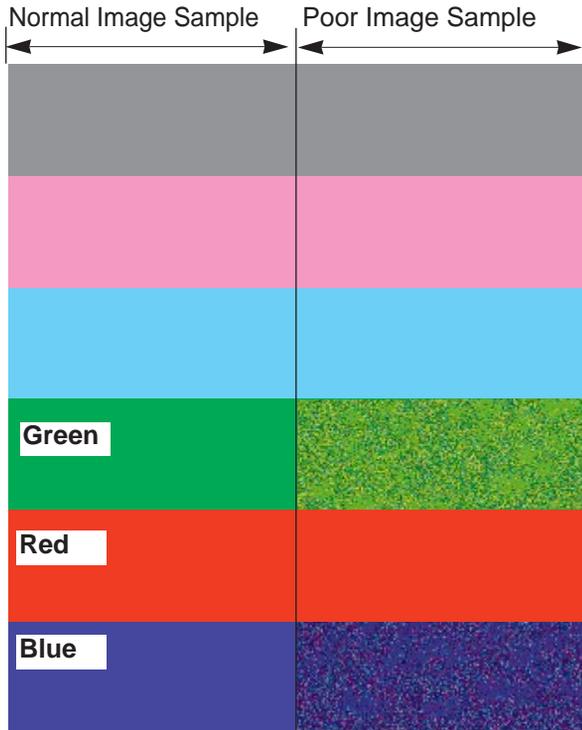
Trouble	Possible Cause	Corrective Action
<p>Dark and wavy vertical streaks appear in all colors.</p> 	The charge unit is dirty.	<p>Remove and reinsert the charge unit.</p> <hr/> <p>Replace the charge unit.</p>
<p>The entire page prints in black, including the borders.</p> 	<p>Bad electrical contact for the charge unit.</p> <hr/> <p>The charge unit is broken.</p>	<p>Remove and reinsert the charge unit.</p> <hr/> <p>Reinsert the color imaging unit to correct the contact for the charge unit.</p> <hr/> <p>Replace the charge unit.</p>
<p>Toner spots appear on the back of the media.</p>	The transfer unit is worn out.	Replace the transfer unit.
<p>The page prints in black in the image area only. (The borders are clear.)</p> 	Either the image processor board or engine control board is not functioning properly.	Turn the printer off and back on again. If the problem persists, call for service on your printer.

Trouble	Possible Cause	Corrective Action
<p>The page is completely blank.</p> 	<p>The problem could be with one of the following:</p> <ul style="list-style-type: none"> ● Engine control board. ● Developer voltage. ● Laser scanning unit mirror. 	<p>Turn the printer off and back on again. If the problem persists, call for service on your printer.</p>
<p>Solid color print for green, red and blue are not printed out evenly in the Adjustment to Media test pattern.</p> 	<p>Unrecommended media is used.</p>	<p>Adjust the Adjustment to Media value using the Printer panel. (See “Adjusting the Adjustment to Media Setting” in the Settings and Printing).</p>
<p>Black, magenta and cyan halftone have weak color area.</p> 		<p>Use the Recommended media (see Specifications).</p>
<p>Service Error is displayed on the LCD.</p>	<p>An error occurred that is not user-correctable.</p>	<p>Turn the printer off and back on again. If the error persists, call for service.</p>

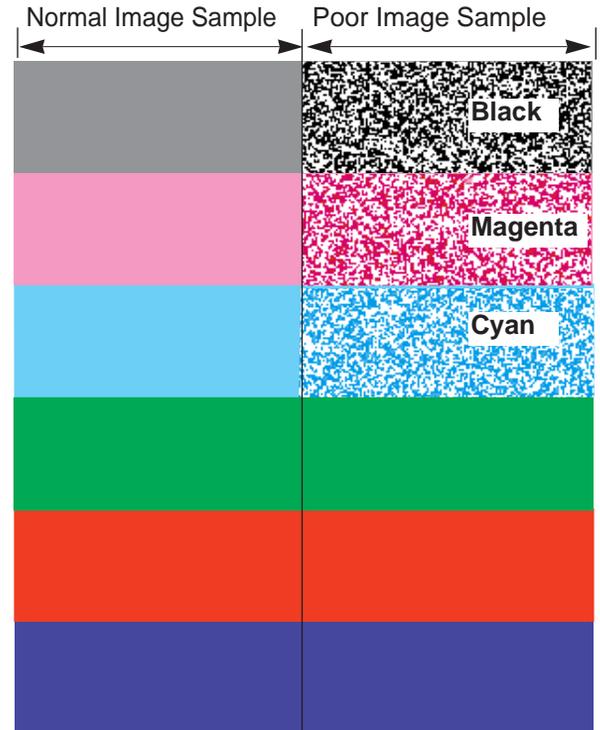
*1,2 For the entire image, see [page 40](#).

■ Entire image samples

*1 Image Quality (at Solid Image Pattern)



*2 Image Quality (at Halftone Image Pattern)



NOTE

- These image samples may differ depending on the media or circumstances (temperature and humidity) using the printer.

■If you can't make a print

Trouble	Possible Cause	Corrective Action
Printer not operating.	The printer may not be plugged into an AC outlet or turned on.	Make sure that you plugged in the printer and turned it on.
	The interface cable(s) may not be connected properly.	Make sure that you connected the interface cable(s) properly.
The printer does not print correctly.	Appropriate driver may not be installed or KX-P8415 printer may not be selected.	If the communication link between your computer and the printer is working but the printer ejects a blank page when printing from your application or through Windows, make sure that the appropriate driver is installed and that you have selected the printer correctly.
The setting for printing is not effective.	Some applications may not allow you to change the settings through the KX-P8415 printer driver's setting window.	Change the application's settings.

■Media problems

Trouble	Corrective Action
Frequent paper-picking errors.	Fan the paper or transparencies before installing them in their respective trays; this is especially important for transparencies because they tend to stick together.
	Make sure that you have loaded paper in the paper tray and transparencies in the transparency tray.
	Make sure that the media is installed under the hooks at the front of the media tray.
	If printing on transparencies and your printer has a 2nd Cassette Feeder, make sure that the transparency tray is installed in the upper or middle tray slot.
	Clean the paper-pick rollers (see page 2 for instructions).
Frequent media jams.	Make sure that you use a high-quality laser paper: 60-105 g/m ² (16-28 lbs.) paper in the media trays and 75-165 g/m ² (20-44 lbs.) paper in the multi-purpose tray.
	If you are using media that is 105 g/m ² (28 lbs.), check if the Face Down media output setting is selected in the driver. If it is, change the setting to Face Up.
	Use only recommended transparencies (see Specifications). We cannot guarantee the results of other transparencies.
	Make sure that the media is installed under the hooks at the front of the media tray.
	Do not overfill the media tray, as indicated by the red line on the right side of the tray.
	Clean the paper-pick rollers (see page 2 for instructions).
	Make sure that the media thickness switch is set correctly for the installed media (see Settings and Printing).
Frequent media jams at C.	The cleaning pad may be dirty with toner. Replace the cleaning pad (see the supplement for supplies provided).

■ Problems with image size and position

Trouble	Corrective Action
Off-set images.	Check your application for correct image sizing.
Cut-off images.	Check your application for image sizing.
	Make sure that the correct size media is in the media tray.
	Make sure that the image size is smaller than printable area (see “Margins and Print Area” in the “Specifications”).

■ Print quality problems

Trouble	Corrective Action
Prints have dull, faded colors.	Print the Calibration Test Print from the Bias Adjustment menu in the printer panel. Check the density settings for each color and compare them with the color density samples on the Color Calibration Card. Refer to “Adjusting the Color Density” in the “Settings and Printing” for instructions on comparing and setting color density.
	Make sure that the color imaging unit stays covered until immediately before installing it in the printer. Exposure to light can damage the color imaging unit and will produce light streaks or faded prints.
	Make sure that the toner cartridges are installed correctly.
	Make sure that you use a high-quality laser paper: 60-105 g/m ² (16-28 lbs.) paper in the media trays and 75-165 g/m ² (20-44 lbs.) paper in the multi-purpose tray.
Image is very faded or pieces of the image are missing; toner on the page is loose.	When using the multi-purpose tray, make sure that you have selected the correct media type in the driver.

Trouble	Corrective Action
Streaks or spots	Most spots are caused by fingerprints or dust introduced into the printer while installing the color imaging unit or loading media. Make sure that the surface where you unpack the color imaging unit, paper, and transparencies is free of dust. Keep supplies in a covered area or a closed box.
	Make sure that the color imaging unit stays covered until immediately before installing it in the printer. Exposure to light for more than 45 seconds can damage the color imaging unit.
	Do not touch the right side or underside of the color imaging unit; fingerprints affect print quality.
	Make sure that the paper or transparency film is clean.
	Make sure that you handle the media on the outside edges to avoid fingerprints.
	To get rid of fingerprint spots, print a few prints.
The back of the printed page appears dirty.	Toner particles have contaminated the transfer roller. This can happen if the printed image is larger than the media (for example, when printing on envelopes). Run 10-20 prints to clean the transfer roller.
	The cleaning pad may be dirty with toner. Replace the cleaning pad (see the supplement for supplies provided).
The print quality of a transparency is poor.	There is a defect on the coated surface of the transparency. Print on the other side.

Error Messages

Printer LCD Panel

Error Message	Possible Cause	Corrective Action
All Media Tray Empty	All media trays are empty.	Install a media tray with media in it.
Black Toner Empty	Black toner cartridge is empty.	Replace the black toner cartridge now.
Black Toner Cartridge Not installed	Black toner cartridge is not installed.	Install the black toner cartridge.
Charge Unit Not installed	Charge unit is not installed.	Install the charge unit.
Charge Unit wearing out	The charge unit is wearing out.	Replace the charge unit soon.
Cleaning Pad wearing out	Cleaning pad is wearing out.	Replace the cleaning pad and reset the counter (see "Using the Printer Panel (Menu Mode)" in Settings and Printing).
Cyan Toner Empty	Cyan toner cartridge is empty.	Replace the cyan toner cartridge now.
Cyan Toner Cartridge Not installed	Cyan toner cartridge is not installed.	Install the cyan toner cartridge.
Ethernet Card Check Error	Printer Ethernet Card I/F Error.	Install the Ethernet Card correctly.
Front or Right door Open	Front or right side door is open.	Close the front or right side door.
Fuser Unit Not installed	Fuser unit is not installed.	Install the fuser unit.
Fuser Unit* ¹ Wrong Type	An incompatible fuser unit is installed in the printer.	Replace the fuser unit with the one compatible with this model (see the supplement for supplies provided).

*¹This message is displayed when an improper option is used. You can still print a page by pressing **▲/CONTINUE** even when this message is displayed. However, it is not recommended because we cannot guarantee the printing results.

Error Message	Possible Cause	Corrective Action
Fuser Unit and Oil Roll* ² Worn out	Fuser unit is worn out.	Replace the fuser unit now.
Fuser Unit wearing out	Fuser unit is wearing out.	Replace the fuser unit soon.
Imaging Unit No tension	Color imaging unit is not installed correctly.	Install the color imaging unit correctly.
Imaging Unit Not installed	Color imaging unit is not installed.	Install the color imaging unit.
Imaging Unit* ¹ Wrong Type	An incompatible color imaging unit is installed.	Replace the color imaging unit with the one compatible with this model (see the supplement for supplies provided).
Imaging Unit* ² Worn out	Imaging unit is worn out.	Replace the color imaging unit now.
Imaging Unit wearing out	Color imaging unit is wearing out.	Replace the color imaging unit soon.
Jam at A See front door label	A jam has occurred in the media feed area.	Refer to page 11 to clear the jam.
Jam at B See front door label	A jam has occurred in the media feed area.	Refer to page 15 to clear the jam.
Jam at C See front door label	A jam has occurred in the fuser unit.	Refer to page 17 to clear the jam.
Jam at D See front door label	A jam has occurred inside the access door or the right side door.	Refer to page 24 to clear the jam.
Jam at E See front door label	A jam has occurred in the output area.	Refer to page 27 to clear the jam.

*¹This message is displayed when an improper option is used. You can still print a page by pressing **▲/CONTINUE** even when this message is displayed. However, it is not recommended because we cannot guarantee the printing results.

*²You can still print a page by pressing **▲/CONTINUE** even when “Worn out” message is displayed. However, it is not recommended because we cannot guarantee the printing results.

Error Message	Possible Cause	Corrective Action
Jam at F See front door label	A jam has occurred in the media feed area of the auto duplex printing unit.	Refer to page 28 to clear the jam.
Jam at G See front door label	A jam has occurred in the auto duplex printing unit.	Refer to page 29 to clear the jam.
Jam at H See front door label	A jam has occurred in the auto duplex printing unit.	Refer to page 29 to clear the jam.
Jam at MPT See front door label	A jam has occurred in the multi-purpose tray.	Refer to page 27 to clear the jam.
Left side door Open	Left side door is open.	Close the left side door.
Load A4	A4 size media tray is not installed.	Install the A4 size media tray with media in it or press ▼/CANCEL button on the printer panel to cancel the print job. When the lower line indicates the location for the media tray to be installed, follow that message.
Load Legal	Legal paper tray is not installed.	Install the legal size paper tray with media in it or press ▼/CANCEL button on the printer panel to cancel the print job. When the lower line indicates the location for the media tray to be installed, follow that message.
Load Letter	The letter sizer media tray is not installed.	Install the letter size media tray with media in it or press ▼/CANCEL button on the printer panel to cancel the print job. When the lower line indicates the location for the media tray to be installed, follow that message.
Low Black Toner	Black toner cartridge is almost empty.	Replace the black toner cartridge soon.

Error Message	Possible Cause	Corrective Action
Low Cyan Toner	Cyan toner cartridge is almost empty.	Replace the cyan toner cartridge soon.
Low Magenta Toner	Magenta toner cartridge is almost empty.	Replace the magenta toner cartridge soon.
Low Yellow Toner	Yellow toner cartridge is almost empty.	Replace the yellow toner cartridge soon.
Lower Left side door Open	Left side door of the 2nd cassette feeder is open.	Close the left side door.
Lower Tray Empty	Lower tray is empty in the 2nd cassette feeder option.	Load media in the lower media tray.
Lower Tray Not installed	Lower tray is not installed.	Install the lower tray in the 2nd cassette feeder.
Magenta Toner Empty	Magenta toner cartridge is empty.	Replace the magenta toner cartridge now.
Magenta Toner Cartridge Not installed	Magenta toner cartridge is not installed.	Install the magenta toner cartridge.
Media Tray Empty	Standard media tray is empty.	Install the media tray with media in it.
Media Tray Not installed	Standard media tray is not installed.	Install the standard media tray.
Memory Overflow	There is not enough memory in the printer.	Add memory or select a lower resolution in the printer driver.
Middle Tray Empty	Middle tray is empty in the 2nd cassette feeder option.	Load media in the middle media tray.
Middle Tray Not installed	Middle tray is not installed.	Install the middle tray in the 2nd cassette feeder.
Multi-Purpose Tray Empty	Multi-purpose tray is empty.	Load media in the multi-purpose tray.
Media type mismatch	Media is loaded in the incorrect media tray or different media is selected in the printer driver.	Verify the media is loaded in the correct media tray or change the media setting in the printer driver.

Error Message	Possible Cause	Corrective Action
Oil Roll Not installed	Oil supply roll is not installed.	Install the oil supply roll.
Oil Roll Worn out	Oil supply roll is worn out.	Replace the oil supply roll now.
Oil Roll wearing out	Oil supply roll is wearing out.	Replace the oil supply roll soon.
Option feeder Incompatible	An incompatible 2nd cassette feeder is installed.	Replace the 2nd cassette feeder with the one compatible with this model.
Output Tray Full	Output tray is full.	Remove the printed media from the output tray.
Overrun	Overrun error	Check on the Page Protection check box in the Setup tab.
Paper feeder Not installed	Paper feeder is not installed.	Install the paper feeder.
Paper Tray Empty	No media tray is installed or media tray is empty.	Install a media tray with paper in it.
Paper Tray Not installed	Paper tray is not installed.	Install the paper tray.
Too hot to print Label Remove Label, Cancel job	The printer is too hot or room temperature is too high to print Labels.	Wait until the printer cools down, or use in a cooler place [below 35°C (95°F)].
Transfer wearing out	Transfer unit is wearing out.	Replace the transfer unit and reset the counter (see "Using the Printer Panel (Menu Mode)" in Settings and Printing).
Transparency Tray Empty	Transparency tray is empty.	Install the transparency tray with transparencies in it.
Transparency Tray Not installed	Transparency tray is not installed.	Install a transparency tray.
Upper Left side door Open	Standard cassette side door is open.	Close the left side door.

Error Message	Possible Cause	Corrective Action
Upper Tray Empty	Media tray is empty.	Load media in the standard tray.
Upper Tray Not installed	Standard tray is not installed.	Install the standard tray.
Yellow Toner Empty	Yellow toner cartridge is empty.	Replace the yellow toner cartridge now.
Yellow Toner Cartridge Not installed	Yellow toner cartridge is not installed.	Install the yellow toner cartridge.

Repacking

It is highly recommended that you keep the original carton and ALL packing materials. Should you need to transport or ship your printer, please follow these instructions.

SAFETY CAUTION

- The printer weighs about 49.2 kg {108.4 lbs.}. It must be handled by two people.

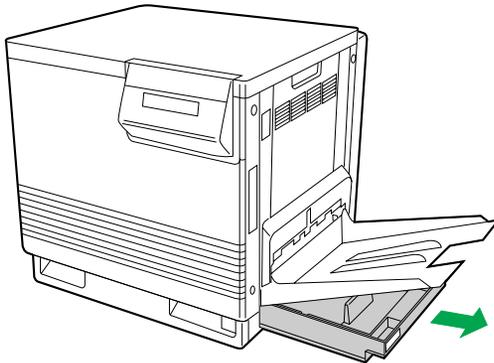
NOTES

- Should you need to send your printer for service, consult your reseller first or Panasonic.
- Please use the original carton and all of the original packing materials.
- If you do not have the packing for the color imaging unit and the transfer unit: contact Panasonic for packing.
- Improper repacking of the printer may result in a service charge to remove spilled toner.
- Since the printer uses dry toner, extreme care must be taken when handling. The printer should be handled in the upright (vertical) position.

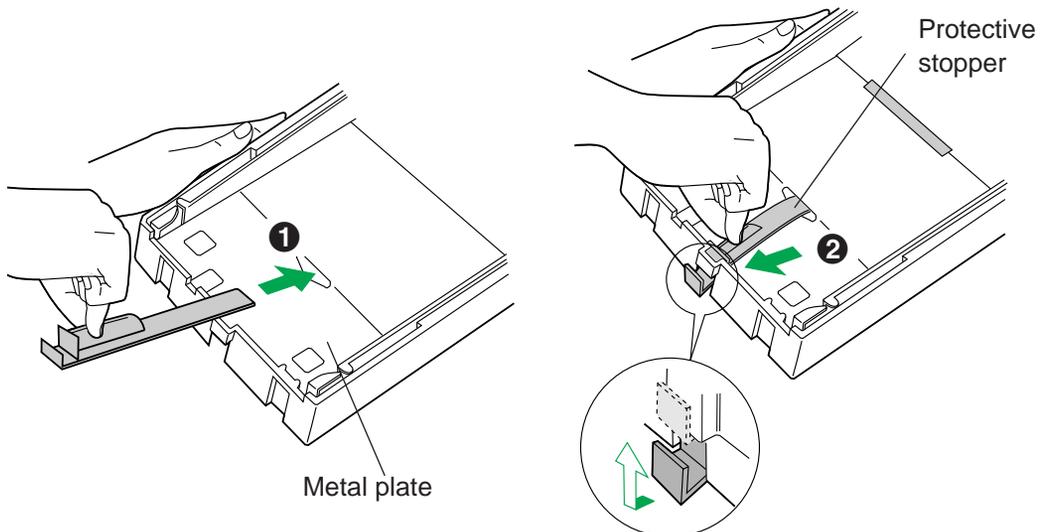
Material required:

- Original cartons and packing materials
- Newspaper or drop cloth
- Shipping tape and scissors

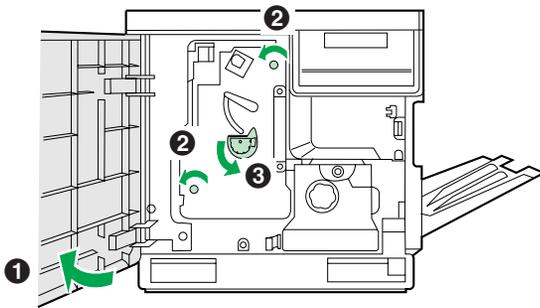
- 1 Turn off the printer; remove the power cord and all interface cables.
- 2 Remove the media tray(s) from the printer; remove the media from the tray(s).



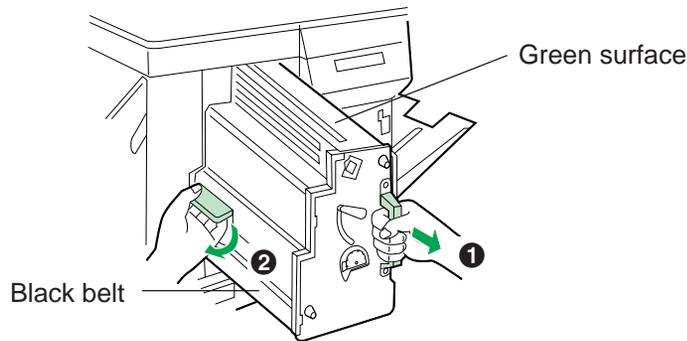
- 3
 - 1 Put the protective stopper (included in the original packing material) into the hole in the metal plate as shown below.
 - 2 Pressing down the metal plate, put the other end of the protective stopper into the hole in the media tray to secure the metal plate.



- 4 Reinsert the media tray into the printer; use adhesive tape to secure the tray to the printer.
- 5 If you have other media trays, repack them for shipping or storage in their original shipping boxes.
- 6
 - 1 Open the printer's front door.
 - 2 Loosen the two thumbscrews by turning them counterclockwise.
 - 3 Rotate the green knob 180° counterclockwise.
 - If the green knob is already in the right position, you do not need to rotate it.



- 7**
- 1 Grasping the front green handle, slide the color imaging unit out until it catches.
 - 2 Lift up the green handle on the left. Pull the color imaging unit out of the printer.



IMPORTANT

- Do not touch the green surface (the right side) or the black belt (the under side). Finger prints may affect the print quality.

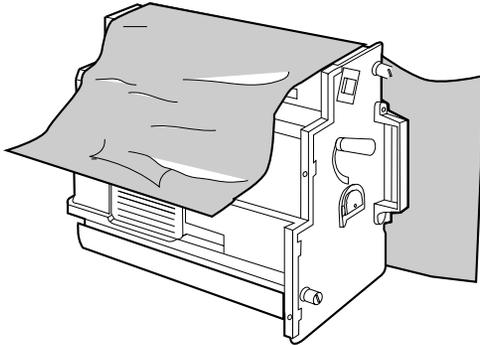
SAFETY CAUTION

- The color imaging unit weighs approximately 6.5 kg {14.3 lbs.}. Always use the handles when lifting it.

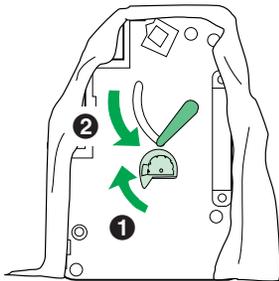
- 8 Wrap the color imaging unit with a protective black plastic sheet.

CAUTION

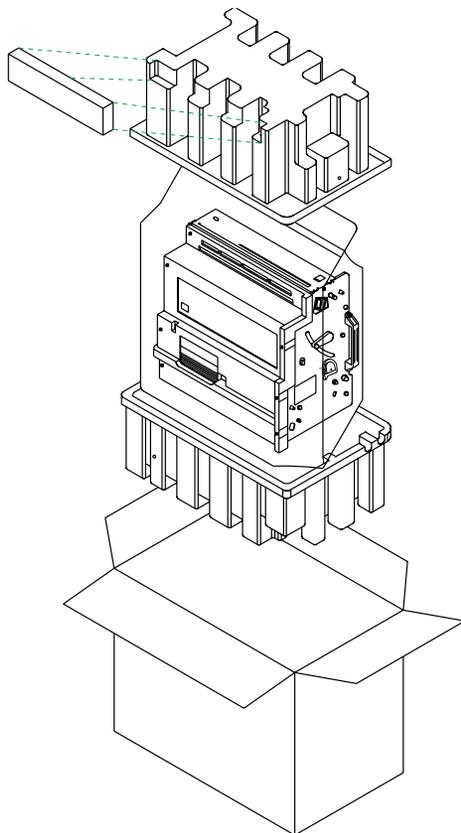
- Do not expose the color imaging unit to light for more than 45 seconds to avoid damage.



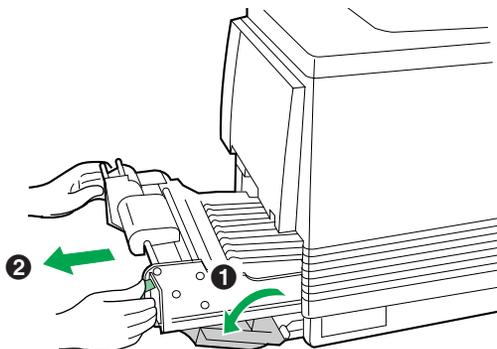
- 9 On the color imaging unit, turn the upper lever (2) 90° counterclockwise while rotating the green knob (1); this is necessary to protect the color imaging unit during shipment.



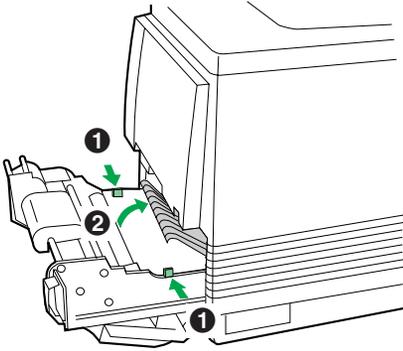
- 10** Insert the color imaging unit into the packing.



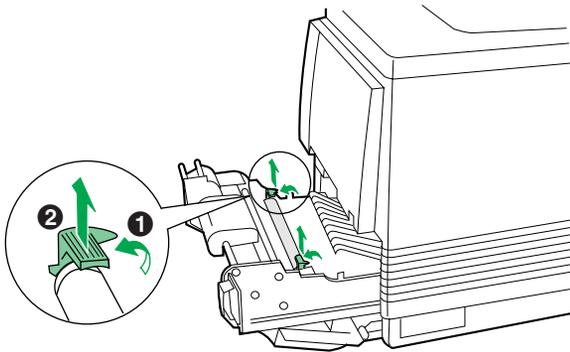
- 11** ① Open the left side door.
② Using the green handles, slide the paper feeder out.



- 12** ① Push in on green tabs to unlock the cover.
② Raise the cover until it catches in the open position.



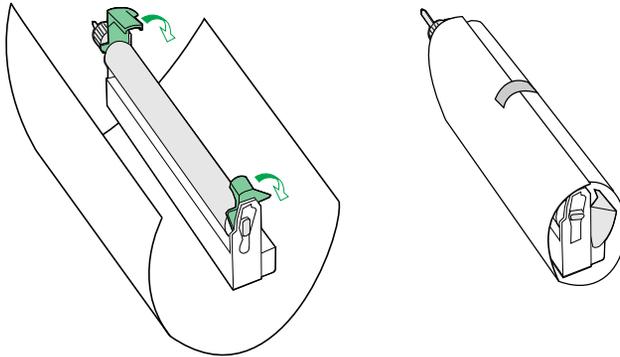
- 13** ① Rotate the transfer unit's green handles up.
② Lift out the transfer unit.



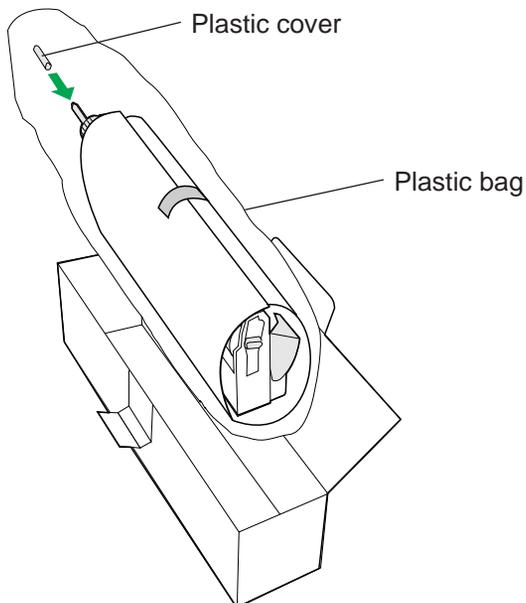
- 14** Place the transfer unit on newspaper or drop cloth. Rotate the handles down and wrap the transfer unit with a piece of paper and adhesive tape.

NOTE

- Do not touch or bump the roller; it can damage the roller

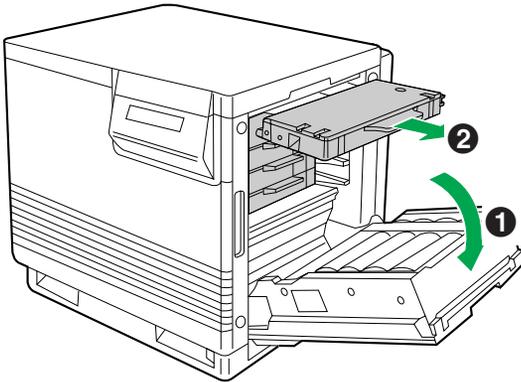


- 15** Install the plastic cover and insert the transfer unit into a plastic bag and seal the end tightly. Install the transfer unit into the packing.



16 Packing the toner cartridges:

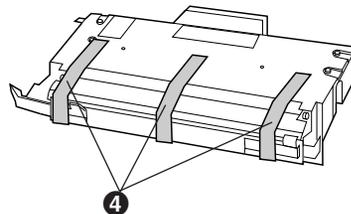
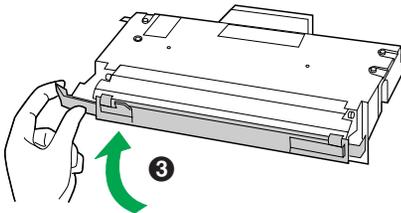
- 1 Open the right side door.
- 2 Remove a toner cartridge.



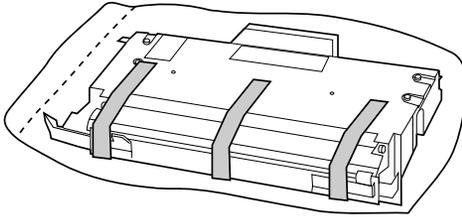
CAUTION

- To avoid possible toner spillage, do not tilt the cartridge.

- 3 Replace the shipping cover.
- 4 Secure the shipping cover with adhesive tape.



- 5 Insert each toner cartridge into a plastic bag and seal the end of the bag tightly.



- 6 Repeat instructions 2 to 5 for each toner cartridge.

- 17 Wipe off any loose toner in and around the printer.

NOTE

- If a toner vacuum is available, it is the best tool for cleaning spilled toner. Do not use a standard office vacuum; the toner will not be retained by typical vacuum dust collectors.

- 18 If you have an auto duplex printing unit and/or 2nd Cassette Feeder:

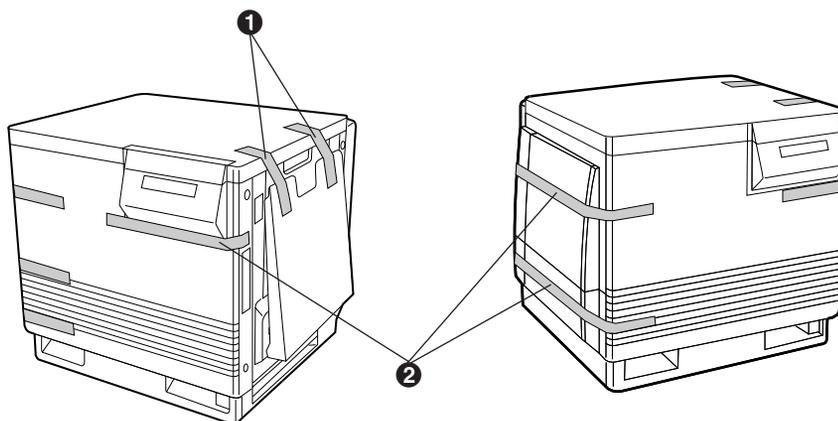
If you don't have an auto duplex printing unit and 2nd Cassette Feeder, go to [step 19](#).

- 1 Lift the printer up and away from the 2nd Cassette Feeder.

SAFETY CAUTION

- The printer weighs approximately 38.4 kg {84.6 lbs.} and the 2nd Cassette Feeder weighs approximately 14.3 kg {31.5 lbs.}. Observe standard precautions for lifting heavy objects.
- 2 Repack the auto duplex printing unit and/or 2nd Cassette Feeder in its original shipping box.

- 19** ① Raise the output tray and secure it to the printer with adhesive tape.
② Secure the front door, the multi-purpose tray and the left side door to the printer with adhesive tape.



- 20** Repack any other accessories in the original shipping box.

- 21** Repack the printer in the original shipping box. Make sure that you keep the printer upright and level when moving.

