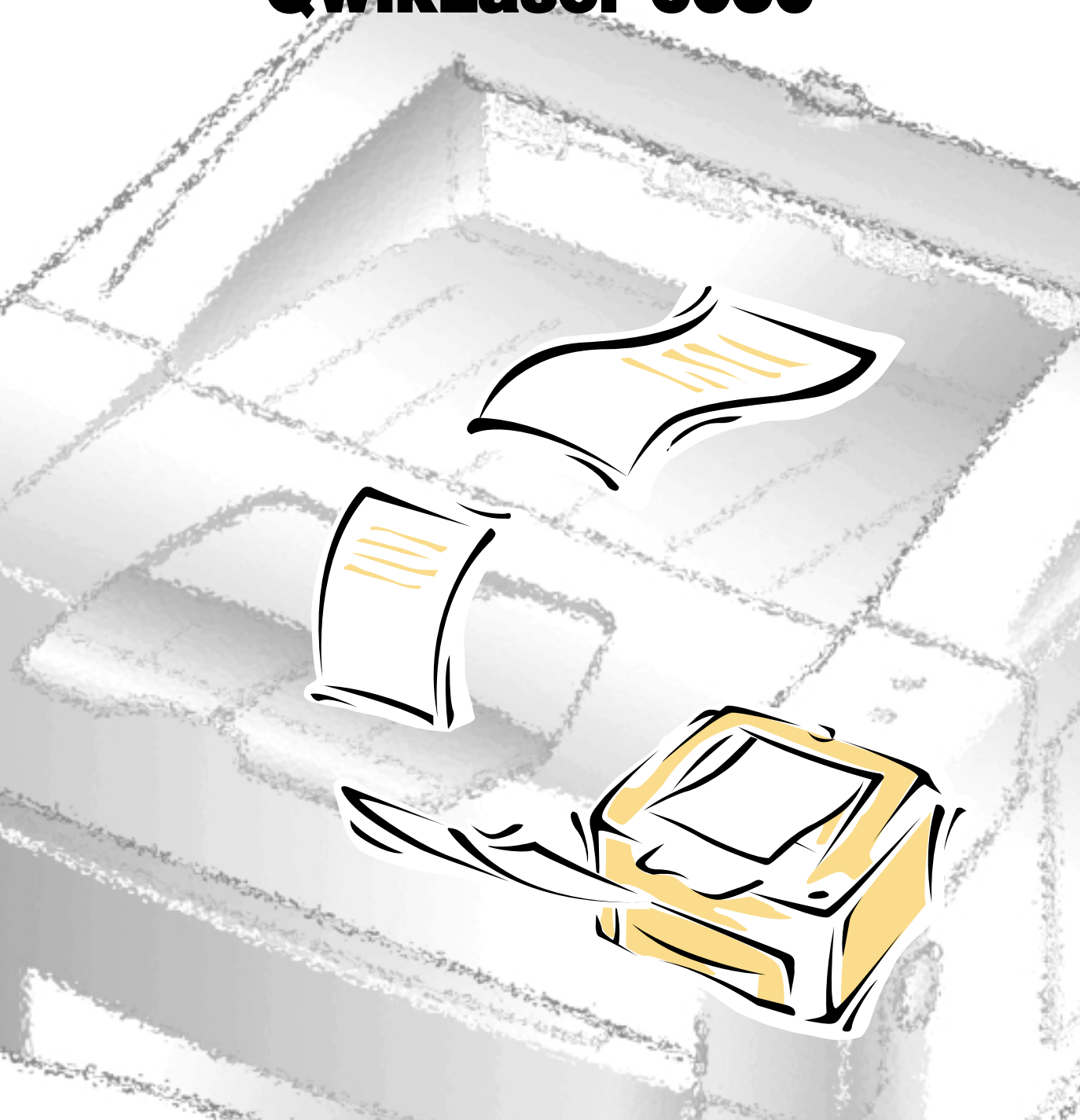


**SAMSUNG**

# **Laser Printer**

**User's Guide**

## **QwikLaser 6050**



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## Notice

### FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of FCC Rules.

### Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par l'Industrie et Sciences Canada.

## EC Declaration of Conformity

We,

SAMSUNG ELECTRONICS CO.,LTD  
#259, Gong Dan-Dong, Gumi-City, Kyung Buk, Korea

declare sole responsibility that the

QwikLaser 6050 Laser printer

meets the intent of Directive 89/336/EEC for Electromagnetic Compatibility and Low Voltage Directive 73/23/EEC.

Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities:

EN 50081-Emissions:

EN 55022 Radiated, Class B

EN 55022 Conducted, Class B

EN 61000-3-2 Power Harmonics

EN 61000-3-3 Voltage Fluctuations and Flicker

EN 50082-Immunity:

IEC 801-2 Electrostatic Discharge

IEC 801-3 RF Radiated

IEC 801-4 Fast Transient/Burst

EN 60950-Safety

## Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I(1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 825.

Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

**WARNING** Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes.



CAUTION -INVISIBLE LASER RADIATION WHEN THIS COVER IS OPEN. DO NOT OPEN THIS COVER

VORSICHT -UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSETZEN.

ATTENTION -RAYONNEMENT LASER INVISIBLE EN CAS D'OVERTURE. DANGEREUSE AU FAISCEAU.

ATTENZIONE -RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE AL FASCIO.

PRECAUCION -RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL -USYNLIG LASERSTRÅLNING VED ÅBNING NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLNING.

ADVARSER -USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN. UNNGÅ EKSPONERING FOR STRÅLEN.

VARNING -OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPAND OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN STRÅLEN ÄR FARLIG.

VARO -AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

## Safety Information

### PRODUCT SAFETY

USA & CANADA	UL 1950 Third Edition (C-UL LISTING)
EEC(Europe)	EN 60950 (TÜV GS Certification)
CB	IEC 60950

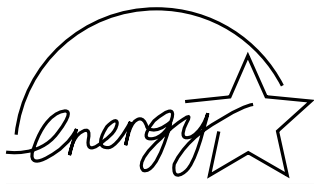
### LASER SAFETY

EEC(Europe)	EN 60825
USA	21 CFR, Chapter 1, Subchapter J (CDRH Certified)

### Power Saver

This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use.

When the printer does not receive data for an extended period of time, power consumption is automatically lowered. For potentially faster printing of the first page, you may turn the power save off from the Remote Control Panel setting.



The energy star emblem does not represent EPA endorsement of any product or service.

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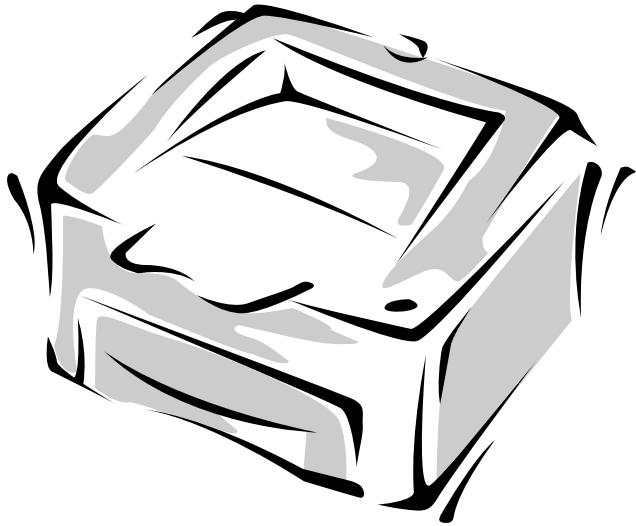
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© Chapter 1

# *Introduction*



---

## Unpacking the Printer

Make sure that you have the items listed below:

- Toner cartridge
- Power cord
- Centronics-compatible parallel cable (IEEE 1284-compliant)
- Setup CD-ROM
- This manual
- Diskette (Only in U.S.A.)

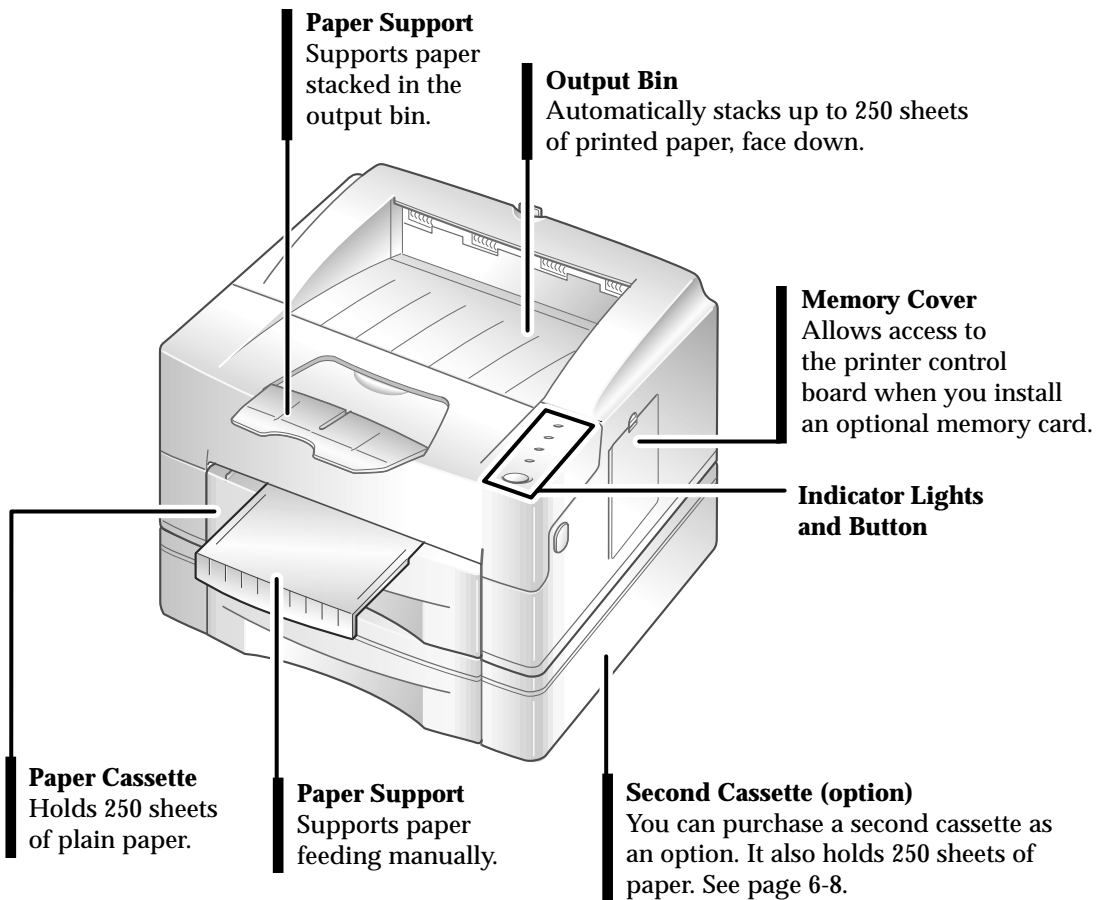
### **Notes:**

- *If you need help during setup, or if any items are missing or damaged, notify your dealer immediately.*

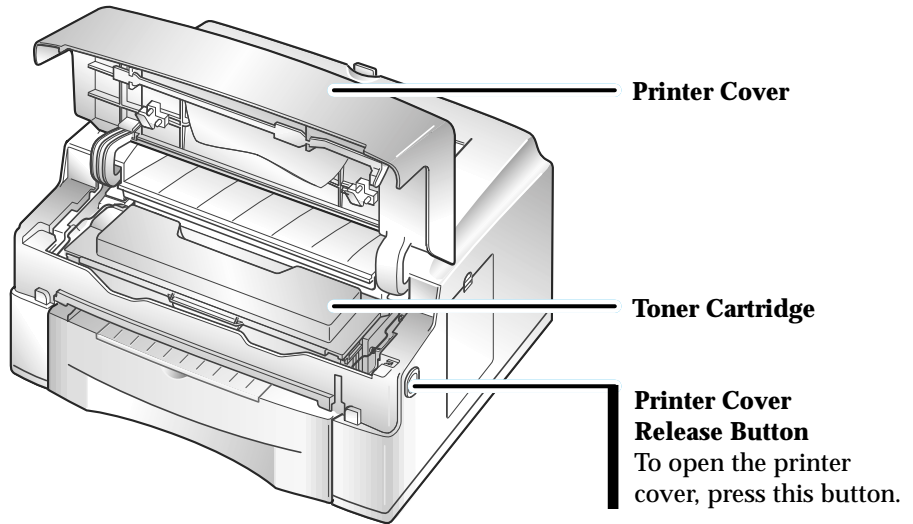
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## Control Locations and Functions

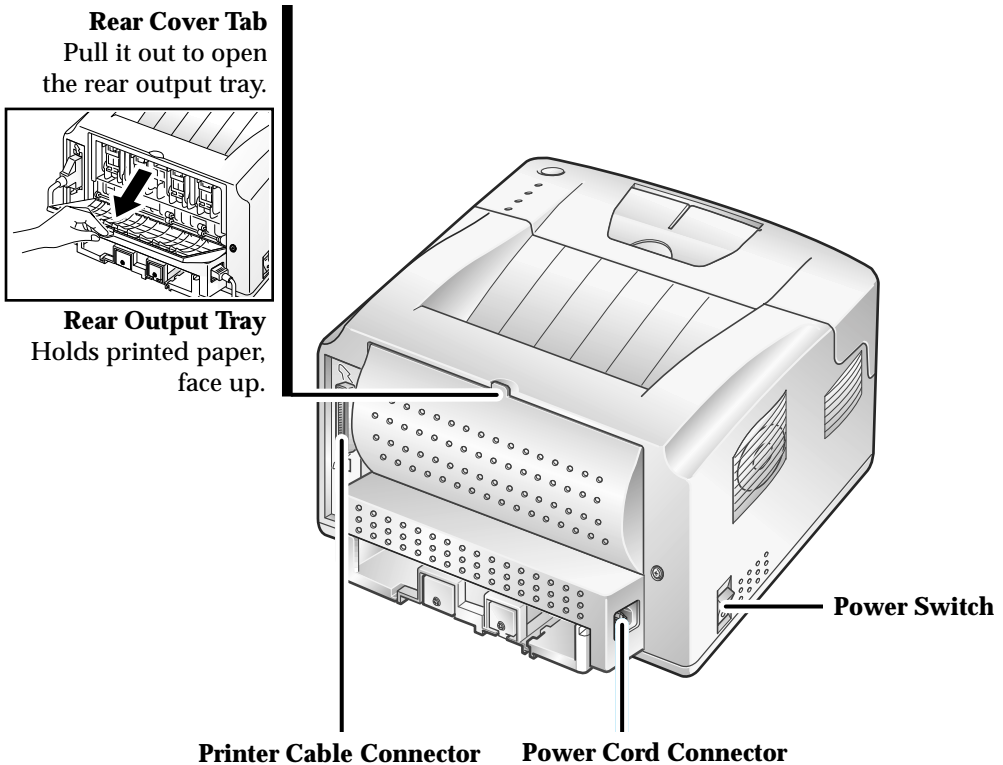
### Front View



## Inside

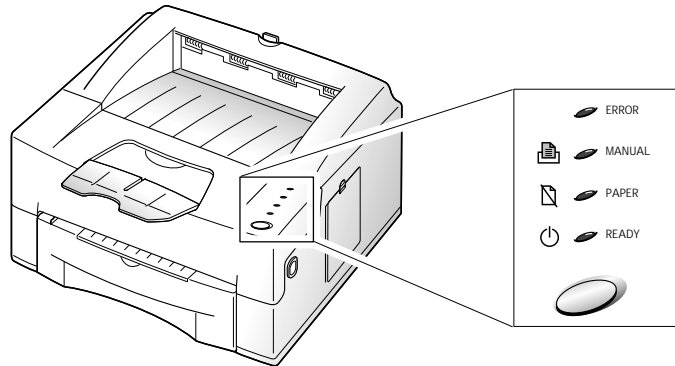


## Rear View






# Using the Operator Panel

















The operator panel has 4 indicator lights and 1 button.

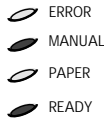
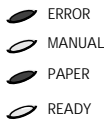
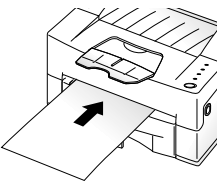
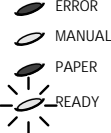
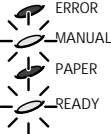
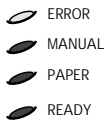
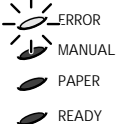
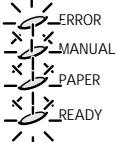


## Indicator Light Status

The indicator lights shows the current status including error condition.

 Off  
  On  
  Blinking

<ul style="list-style-type: none"> <li> ERREUR</li> <li> MANUEL</li> <li> PAPIER</li> <li> PRET</li> </ul>	<p><b><u>On line</u></b></p> <p>If the READY light is on steadily, the printer is ready to print.</p>
<ul style="list-style-type: none"> <li> ERROR</li> <li> MANUAL</li> <li> PAPER</li> <li> READY</li> </ul>	<p><b><u>Printer busy</u></b></p> <p>If the READY light is blinking slowly, the printer is receiving data from PC.</p> <p><b><u>Printing</u></b></p> <p>If the READY light is blinking fast, the printer is printing a page.</p>
<ul style="list-style-type: none"> <li> ERROR</li> <li> MANUAL</li> <li> PAPER</li> <li> READY</li> </ul>	<p><b><u>Off line</u></b></p> <p>The printer is off-line. The printer cannot receive data from the computer. Press the operator panel button to switch to on-line.</p>
<ul style="list-style-type: none"> <li> ERROR</li> <li> MANUAL</li> <li> PAPER</li> <li> READY</li> </ul>	<p><b><u>No paper</u></b></p> <p>If the PAPER indicator is blinking, the printer is out of paper. See 'Loading a Stack of Paper' on page 3-2.</p>

	<p><b><u>Paper jam</u></b></p> <p>If the ERROR and the PAPER light both are steadily on, there is paper jammed in the printer. See 'Clearing Paper Jams' on page 5-2.</p>
	<p><b><u>Manual feed mode</u></b></p> <p>If the MANUAL and the READY light both are steadily on, the printer is in manual feed mode. It happens when you insert paper into manual feed slot, or when you select 'Manual Feed' source from your software application.</p> 
	<p><b><u>Manual feed printing</u></b></p> <p>If the MANUAL light is steadily on and the READY light is blinking, the printer prints a job with paper fed manually.</p>
	<p><b><u>Waiting for the next sheet from manual feed</u></b></p> <p>If the MANUAL and the READY light both are blinking, the printer is waiting for the next sheet to be fed in the manual slot.</p>
	<p><b><u>Cover open or no cartridge</u></b></p> <p>If the red ERROR light is steadily on, the printer has experienced an error.</p> <p>Check for:</p> <ul style="list-style-type: none"> <li>•The printer cover is open or not closed securely.</li> <li>•The print cartridge is either missing or not installed.</li> </ul>
	<p><b><u>Overrun or memory overflow</u></b></p> <p>If the red ERROR indicator blinks for a while, then only the READY indicator comes on, data which was too complex was sent to the printer or there is no available memory in the printer.</p> <p>The printer will print a page, telling you the error status. Simplify the page layout and remove any unnecessary graphics. Or, you might want to add more memory.</p>
	<p><b><u>System error or operating error</u></b></p> <p>If all indicator lights blink at the same time, it is a system error. If the indicator lights are scrolling, it is an operating error. Turn the printer off and back on. If your printer is still not operating properly and all indicators blink, you have to call for service. Contact the point of purchase.</p>

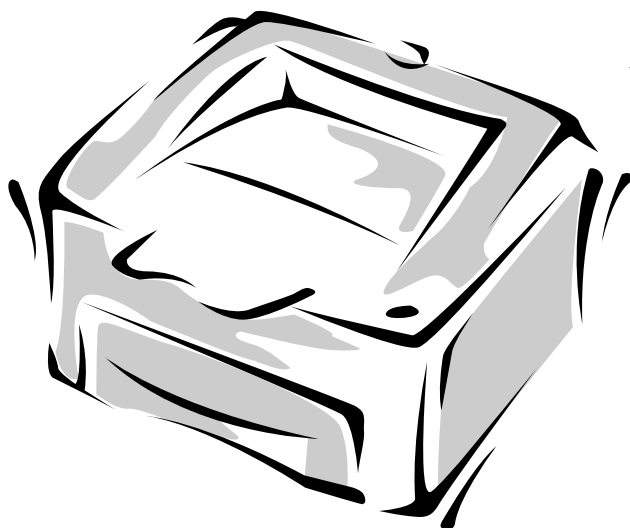
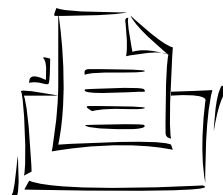
## Operator Panel Button Usage

The operator button is located in the operator panel. It can be used to accomplish the following functions:

Function	Description
On line and Off line	<p>Briefly press the button. Each time you press the button, the printer goes to on-line or off-line status. The READY light goes on and off according to the line status.</p> <p>To print data, the printer should have on-line status.</p>
Self test	<p>To perform a printer self-test:</p> <p>While the printer is on-line (READY light on), press and hold down the button until all three lights are blinking (approximately four seconds), then release the button. A one-page printer status sheet will be printed.</p>
Printer reset	<p>If the READY light is blinking slowly and the printer does not print any image, or if you want to cancel the print job and remove the unprinted data from the printer, reset the printer.</p> <p>Press the button to turn the printer off-line. With the READY light off, press and hold down the button until all lights are blinking (approximately four seconds), then release the button.</p>
OPC Cleaning	<p>If you are getting streaks or spots on your prints, the OPC drum on your printer may need to be cleaned.</p> <p>While the printer is on-line (READY light on), press and hold down the button until all three lights remain lit (not blinking; approximately seven seconds) and the printer begins to cycle up (the printer begins to feed paper), then release the button. One sheet will be printed.</p>



# *Setting Up Your Printer*



---

## Selecting a Location

Place your printer on a flat, stable surface near your workstation. Leave enough space around the printer, so that you can easily:

- open the printer cover
- open the rear cover to remove jammed paper, or retrieve the paper when you use the rear output path
- remove and install the paper cassette to load paper
- allow air circulation around the vents to prevent the printer from overheating

### **Do not place the printer:**

- in direct sunlight
- near heat sources or air conditioners. Place the printer where the temperature is stable and set for human comfort.
- in dusty or dirty environments. Dust accumulation may prevent the printer from functioning properly.
- near devices that contain magnets or generate magnetic field (such as loudspeakers or base units of cordless telephones).

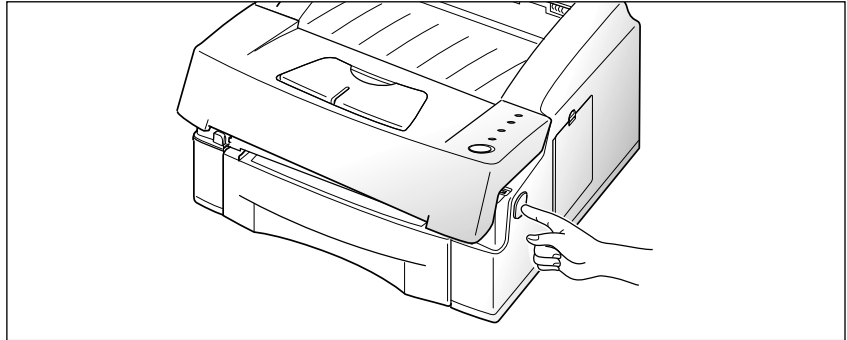
Make sure your printer is placed in a well ventilated area.



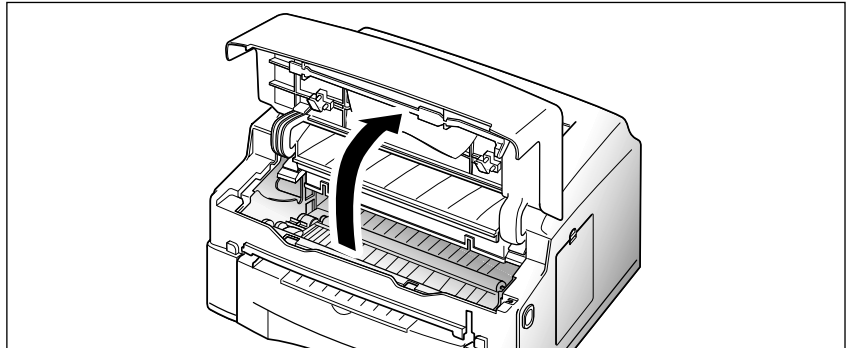
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## Installing the Toner Cartridge

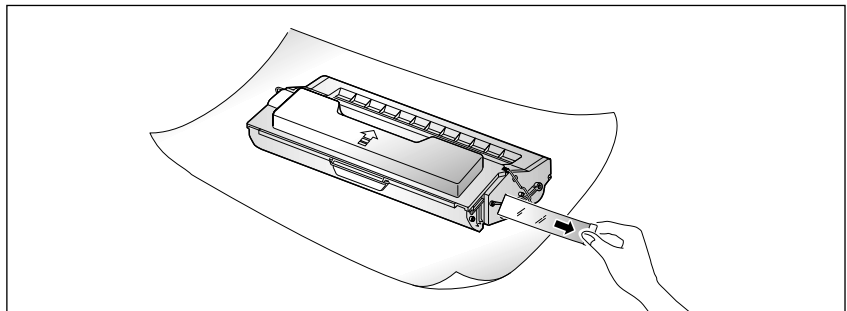
**1. Open the printer cover by pressing the cover release button.**



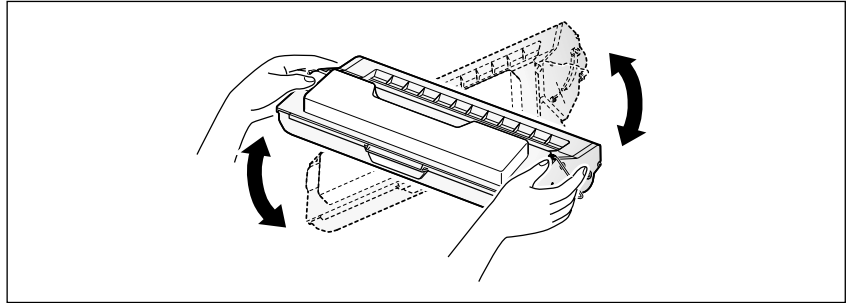
**2. Raise the printer cover.**



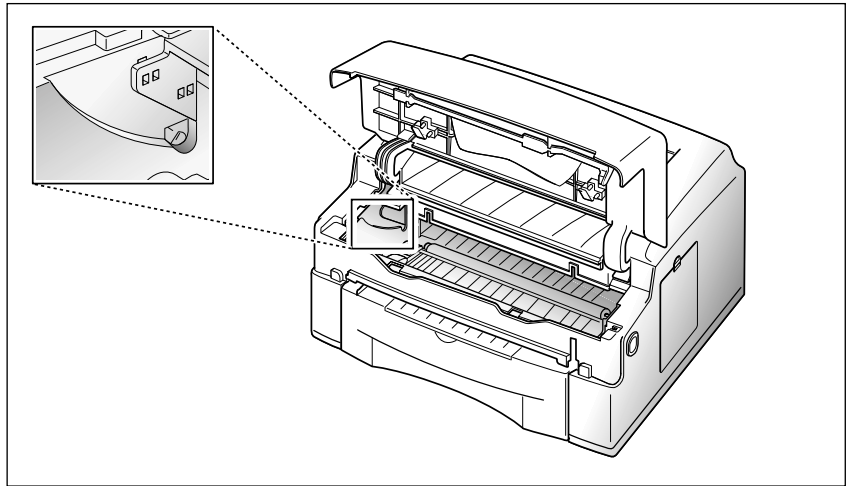
**3. Unpack the toner cartridge, and carefully remove the sealing tape.**



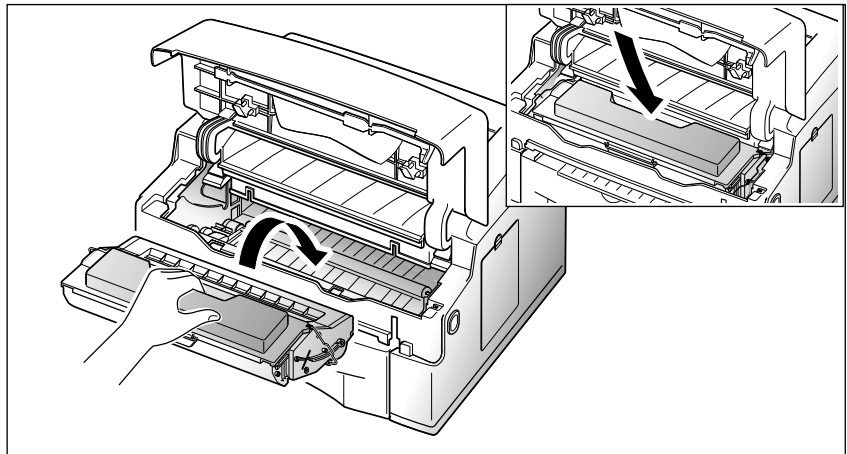
- 4. Gently shake the cartridge from side to side 5 or 6 times to distribute the toner evenly inside the cartridge.**



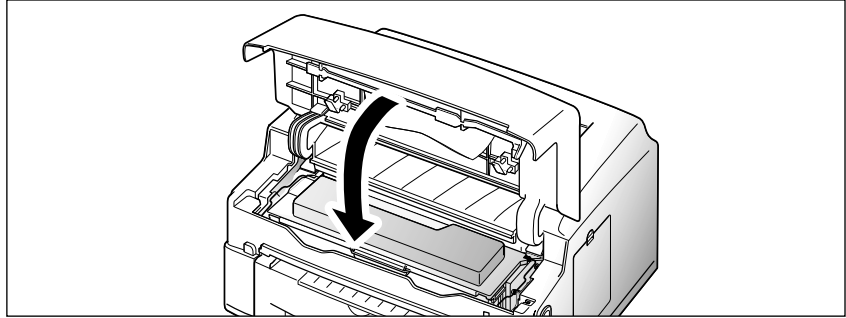
- 5. Find the cartridge slots inside the printer, one on each side.**



- 6. Grasp the handle and slide the cartridge down between the cartridge slots, until it drops into place.**



7. Close the printer cover. Make sure that the cover is securely closed.



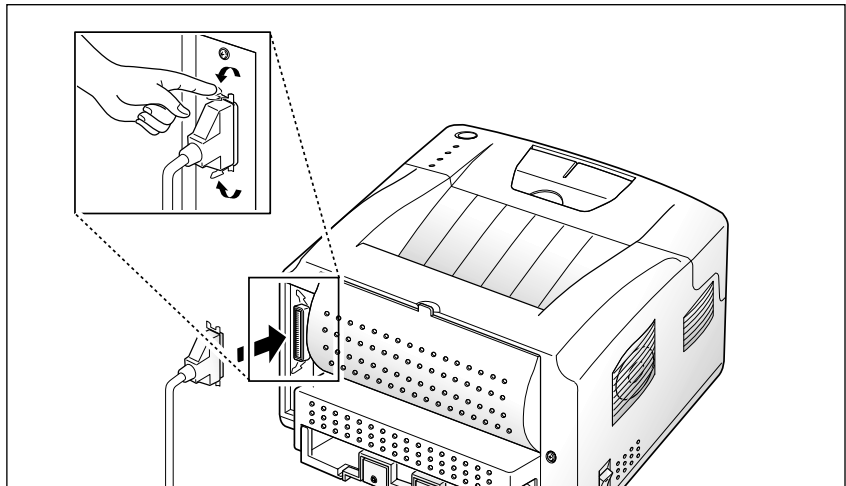
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## Connecting Your Printer to the Computer

Your printer has parallel interface port, which allows you to use it with IBM PC and compatible computers.

To connect the printer to the computer, follow the steps below:

1. Make sure that both the printer and computer are turned off.
2. Plug the cable into the connector on the back of the printer. Push the metal clips down to fit inside the notches on the cable plug.

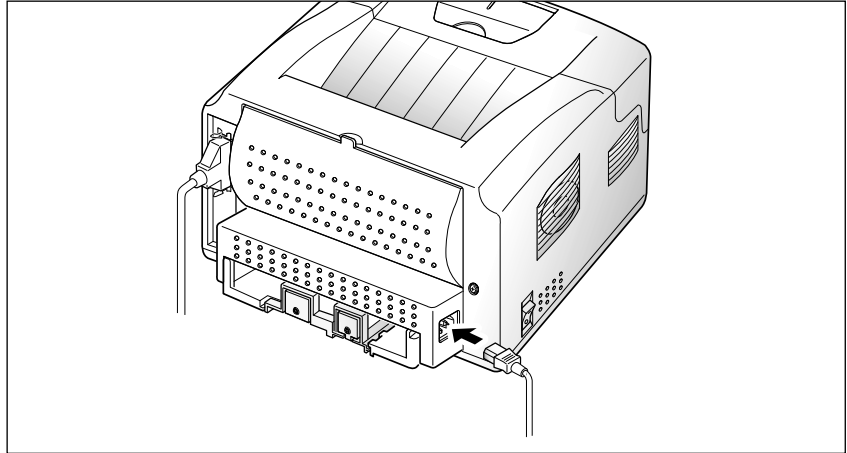


3. Connect the other end of the cable to the parallel interface port on your computer. See your computer documentation if you need help.

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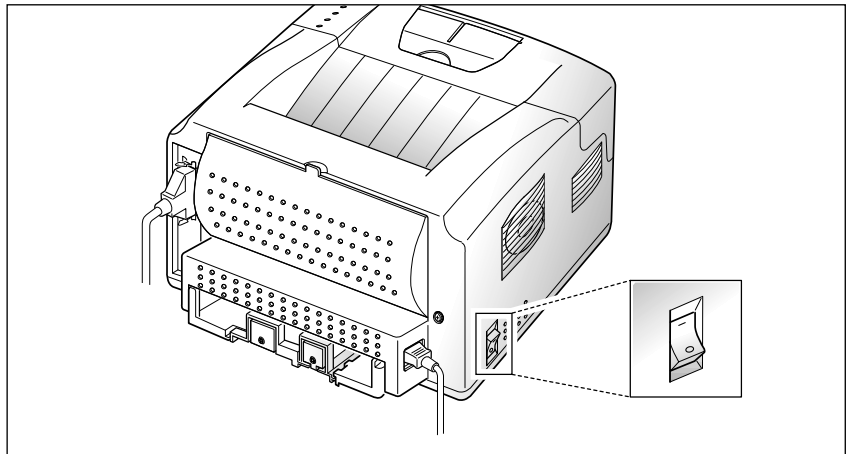
## Attaching the Power Cord

1. Plug one end of the power cord into the connector on the printer.



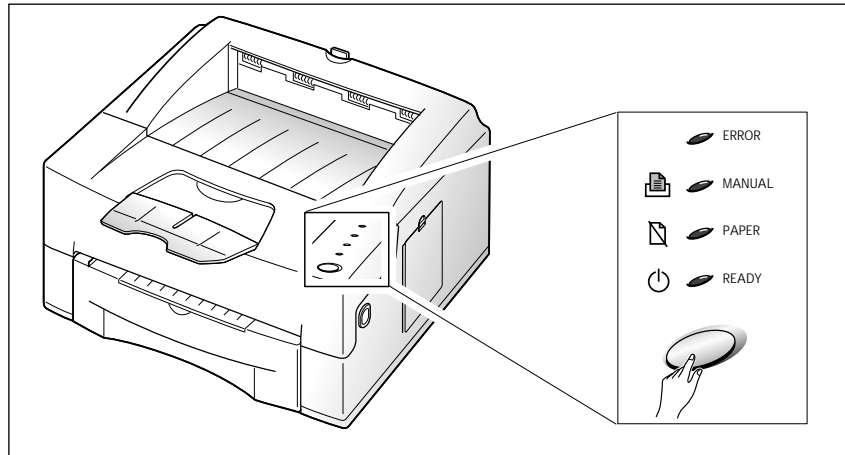
2. Plug the other end into a properly grounded AC outlet.

3. Turn the printer on.



**4. As the printer powers up, all operator panel lights turn on briefly.**

When only the READY light is steadily on, press and hold the operator panel button until all lights are blinking (approximately four seconds), then release the button. A test page should print out. If this does not happen, re-check the installation.



The test page lists your printer model and default settings along with the data streams available for your printer model.

---

# Installing Printer Driver

## Overview

Included with your printer is a CD-ROM containing printer drivers for some of the most popular Windows software applications. You must install a printer driver, which translates data from your application into data the printer understands.

The CD-ROM shipped with your printer contains the following printer drivers and utilities. PCL6 is the combination of PCL5e and the new PCLXL printer language.

- **PCL5e:** Printer driver for Windows 95/98, Windows 3.1x, and Windows NT 4.0
- **PCLXL:** Printer driver for Windows 95/98, and Windows 3.1x.  
*Note: You cannot use the PCLXL driver in Windows NT 4.0.*
- **Smart Monitor:** The Smart Monitor is installed automatically with the printer driver. If you click on the “Smart Monitor” in Samsung ML&QwikLaser 6050 folder, you can monitor the printer’s status via the Smart Monitor. You cannot monitor the status of the printer which is connected to a network.
- **Font Navigator:** It’s a font manager. It gives a quick and easy way to find fonts, install the fonts, and print the font samples. The Font Navigator is installed automatically with the printer driver.

## System Requirement

Before you start, make sure that you have the following computer setup. (These are the minimum requirements.)

- IBM or compatible with a 486 or higher processor
- Microsoft Windows 95/98, Windows 3.1x, or Windows NT 4.0
- 7 MB of available hard disk space
- 8 MB of RAM for Windows 3.1x  
16 MB of RAM for Windows 95/98, Windows NT 4.0
- CD-ROM drive
- Centronics-compatible parallel cable (IEEE 1284-compliant)

*Note: If you do not have access to a CD-ROM drive, contact your local dealer.*

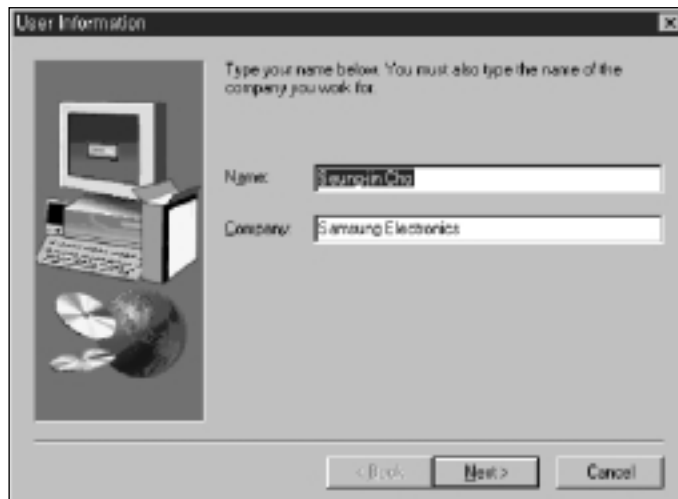
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## Installation Procedure

Before you start, make sure that your computer meets or exceeds the system requirements for the driver and application program you want to install.

### In Windows 95/98/NT 4.0

1. Insert the CD-ROM into your CD-ROM drive.
2. Type in the user name and company. Then click on the **Next** button.



3. Select the model to install. Then click on the **Next** button.
4. Follow the instructions on the screen.

### **IF WINDOWS DOES NOT RUN THE CD-ROM**

1. Insert the CD-ROM into your CD-ROM drive.
2. Select **Run** from the **Start** menu.
3. Type **d: (or e:) \setup.exe** on the command line, then click on the **OK** button.
4. Follow the instructions on the screen.

## **IN CASE OF PLUG AND PLAY**

### **For Windows 95**

1. Make sure the printer is plugged and connected to your computer.
2. Turn on the printer and start Windows on your computer.
3. Windows recognizes the printer, and 'New Hardware Found' dialog box is displayed.
4. Click on the **OK** button.
5. Insert the CD-ROM into your CD-ROM drive, and click on the **Browse** button.
6. Select the CD-ROM drive, then click on the **OK** button.
7. Follow steps 2 through 4 on page 2-9 to complete the installation.

### **For Windows 98**

1. Make sure the printer is plugged and connected to your computer.
2. Turn on the printer and start Windows on your computer.
3. Windows recognizes the printer, and the Add New Hardware Wizard dialog box is displayed.
4. Select **Search for the best driver for your device (Recommended)**, then click on the **NEXT** button.
5. Insert the CD-ROM into your CD-ROM drive, then click on the **Browse** button.
6. Select the CD-ROM drive, then click on the **OK** button.
7. Follow steps 2 through 4 on page 2-9 to complete the installation.



## With Windows 3.1x

1. Make sure the printer is plugged in and connected to your computer. **Turn on your printer and computer.**
2. **Insert the CD-ROM disk into your CD-ROM drive.**
3. **From Program Manager window, select Run from the File menu. The Run dialog box appears.**
4. **Type d: (or e:) \setup.exe on the command line, then click on the OK button.**
5. **Type the user name and company. Click on the Next button.**
6. **Select the model to install. Click on the Next button.**
7. **Follow the instructions on the screen.**

---

## Uninstalling the Printer Driver

An uninstall utility is supplied with the printer driver to enable you to remove the driver and all associated files from your hard disk, if so required.

To uninstall the driver, proceed as follows:

**From the Start menu, select Programs, Samsung ML&QwikLaser 6050, then Samsung 6050 Uninstaller.**

---

## Tips on Network Printing

### Using Your Printer on NT TCPIP Network

You can use your printer on NT TCPIP network. Connect your printer on the network using a HP Jetdirect Explus external printer server with 8 MB RAM on your printer. For information on installing optional memory, see page 6-5.

### To Install Shared Win 95/98 Printer Driver from NT Server to Client PC

1. Select **Sharing** in **Properties** of the printer driver.
2. Select **Windows 95** in **Alternate Drivers**.
3. Type in **D: (or E:) \PCLDRV\ PCLXL\ENGLISH\ WIN95\_98\QL**.
4. Install the network printer on the client PC.

# MEMO



© Chapter 3

# *Paper Handling*

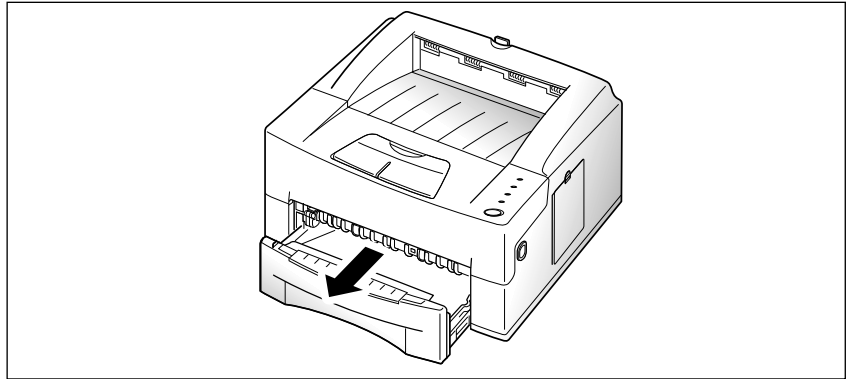


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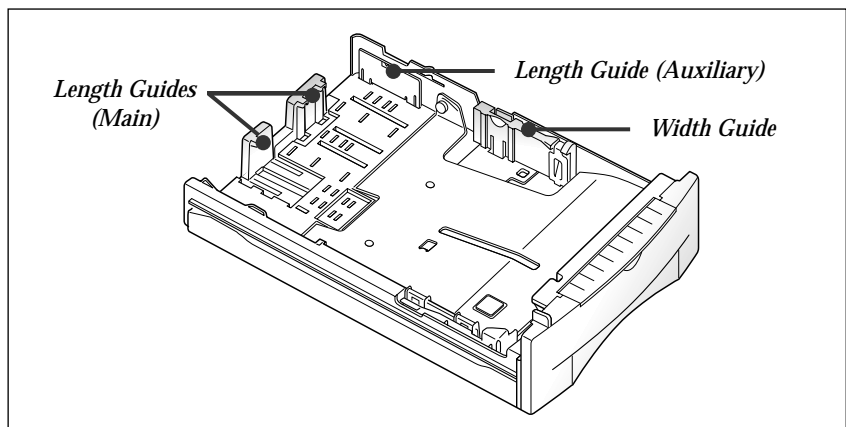
## Loading a Stack of Paper

You can load approximately 250 sheets of paper in the paper cassette. If you purchase an optional cassette and attach it below the standard paper cassette (see 'Second Cassette' on page 6-8), you can also load paper in the optional cassette.

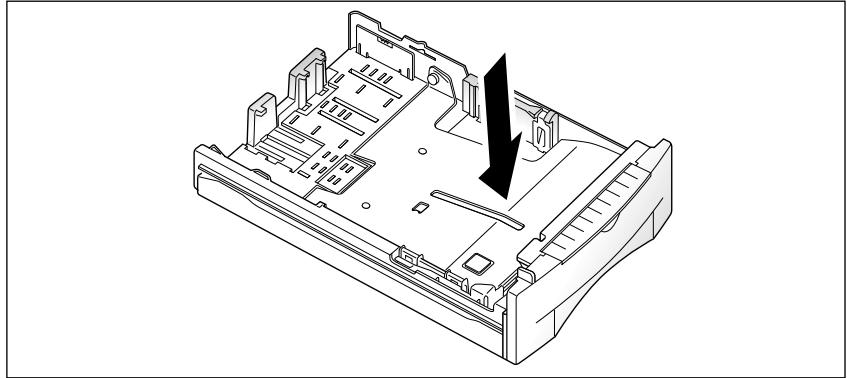
### 1. Remove the paper cassette by pulling it toward you.



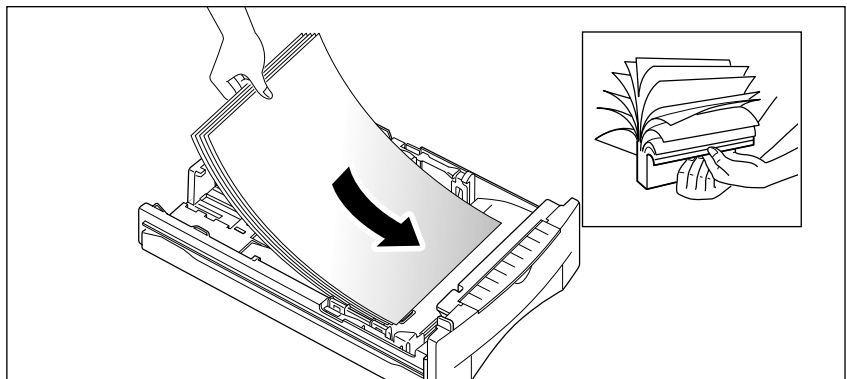
### 2. The paper cassette is preset to load A4 size paper. If you want to load letter or legal size paper, move the guides to adjust the width and length you want to use. For details on how to adjust the paper guides, see 'How To Adjust Paper Guides' on page 3-5.



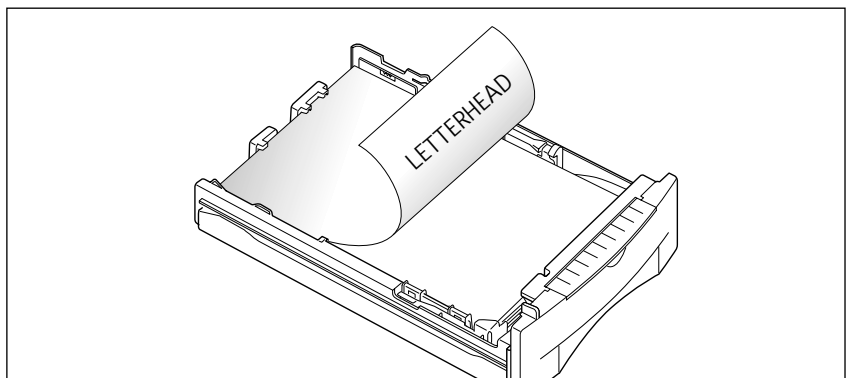
**3. Push down the metal plate to load paper.**



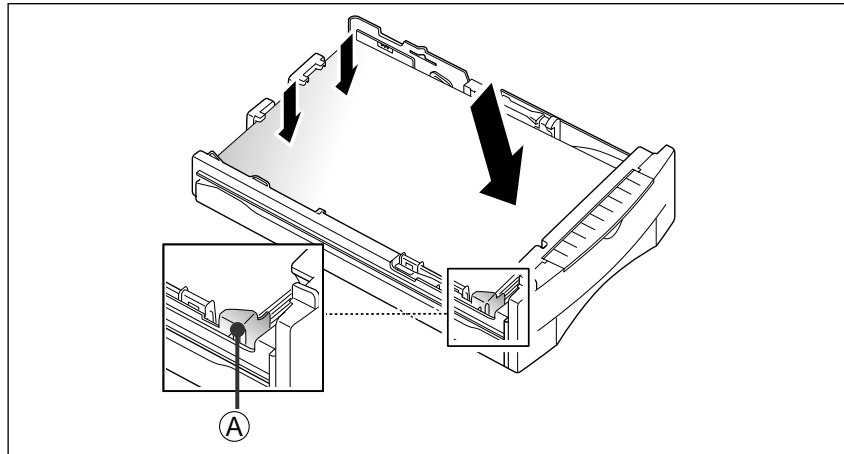
**4. Fan the paper and load the paper in the cassette with the print side facing down.** The print side is usually indicated on the paper package.




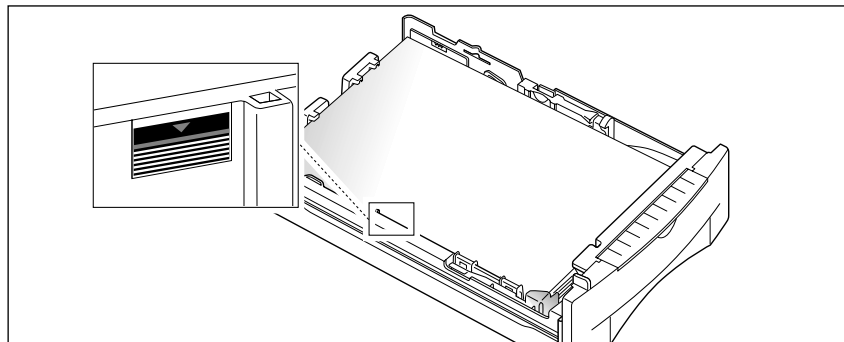
If you are using a preprinted stock, such as letterhead, place the printed design side face down with the top edge of the page toward the front of the cassette.



- 5. Make sure that the stack goes under the metal retaining clip <sup>(A)</sup> and the plastic tabs on the end guides. Paper overloading may cause paper jams.**

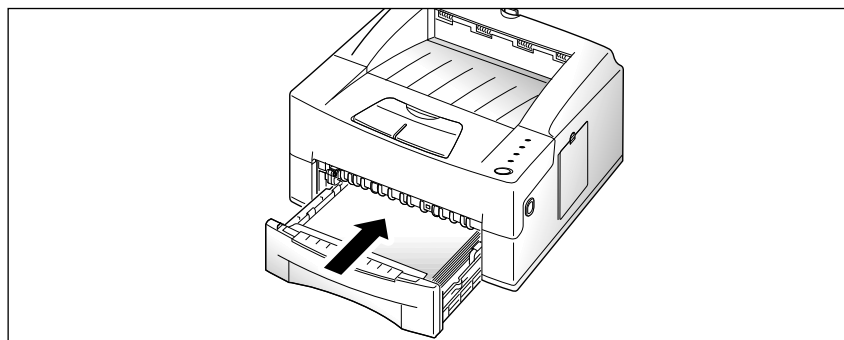


- 6. Make sure that the stack of paper does not exceed the line indicated by  mark on the left inside wall of the cassette.**



- 7. Adjust the guides if necessary. See page 3-6.**

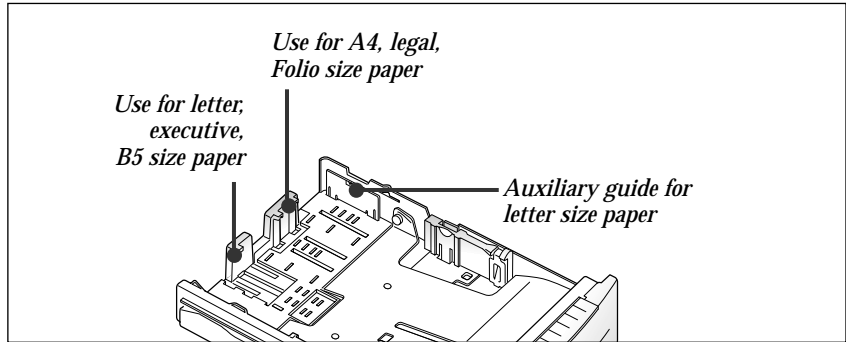
- 8. Insert the cassette back into the printer.**



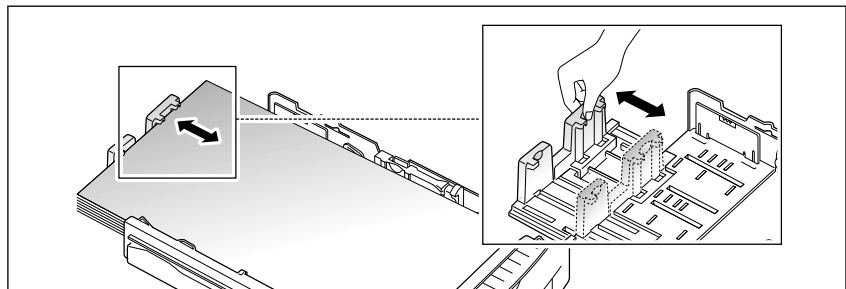
# How To Adjust Paper Guides

## LENGTH GUIDES

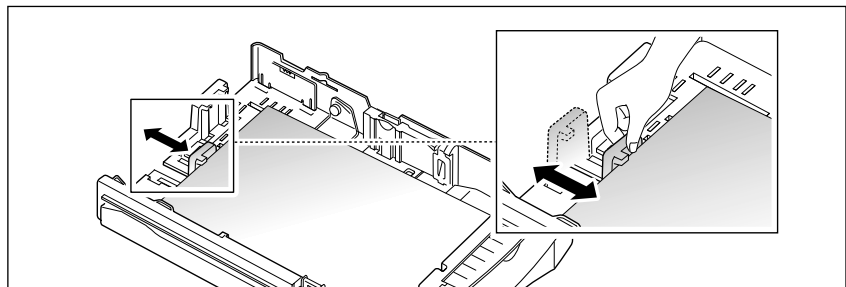
There are two main guides and one auxiliary guides for adjusting paper length. Please refer to the diagram below. One of main guides is for legal, A4, or folio size. The other is for letter (LTR), executive (EXEC), or B5 size paper. It is recommended that you use the auxiliary guide on the upper right corner of the cassette, in conjunction with the appropriate main guide, when loading letter size paper.



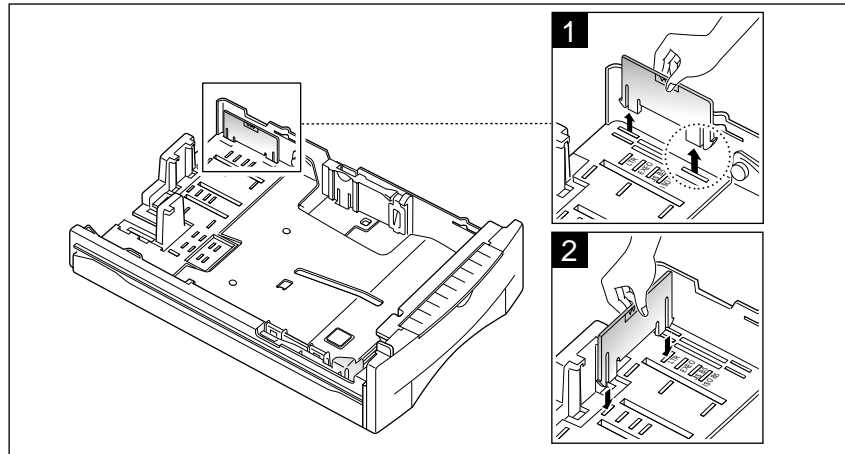
To adjust for legal, or folio size paper, squeeze the right guide, then slide the guide until it lightly rests against the edge of the paper stack.



To adjust for letter (LTR), executive (EXEC), JIS B5, or ISO B5 size paper, squeeze the left guide and slide it until it lightly rests against the paper stack.

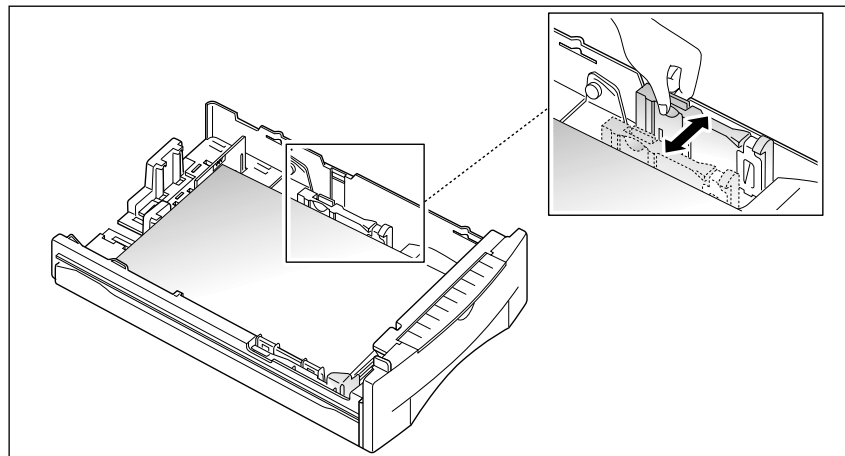


When you load letter, executive, or B5 size paper, it is recommended that you use the auxiliary guide with the main guide before loading paper. To adjust the auxiliary guide, remove the guide **1**, then insert it to the appropriate position **2**.

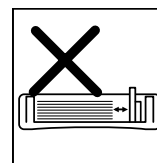
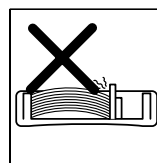
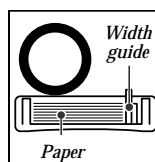


### WIDTH GUIDE

Squeeze the guide as shown and slide the guide to the left until it lightly rests against the edge of the paper stack.



**Note:** Do not push the width guide far enough to cause the paper to move up. If you do not adjust the width guide, it may cause paper jams.

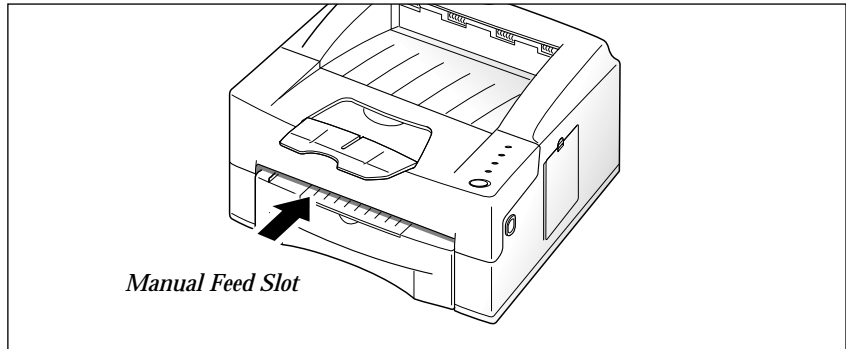




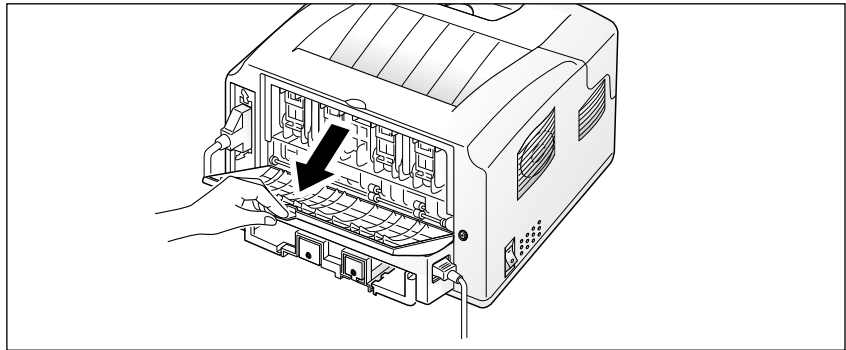
---

## Manually Feeding Paper

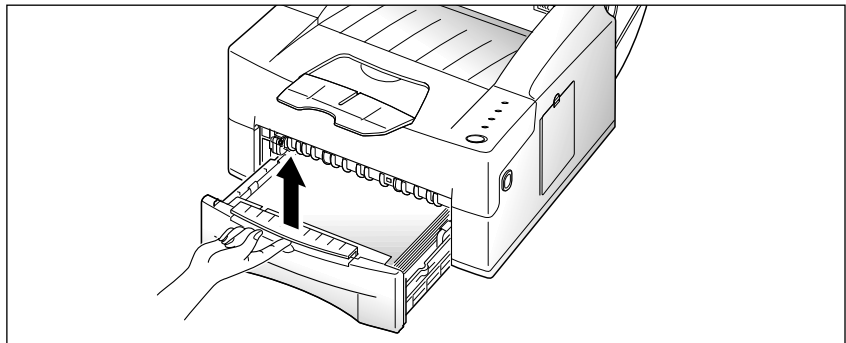
When you print on envelopes, heavier weight papers, transparencies, index cards, or paper labels, you must manually feed them one at a time through the manual feed slot. The manual feed slot is located on the top of the paper cassette.



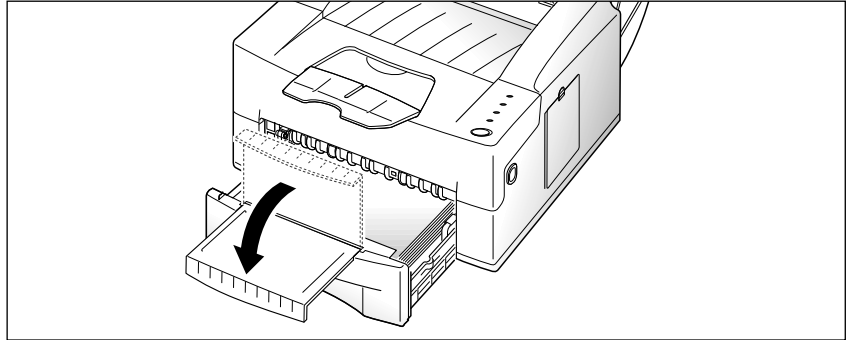
**1. Open the rear output tray, if you want to use the rear output path.**



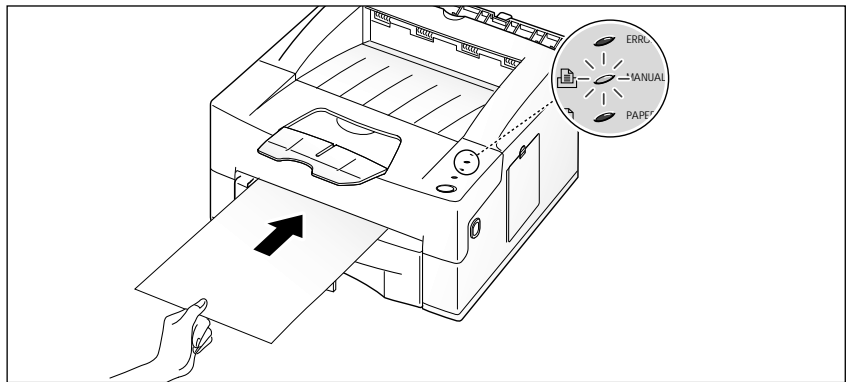
**2. Pull the paper cassette slightly toward you holding it by the hand grip on the front of the cassette and pulling it straight up and out.**



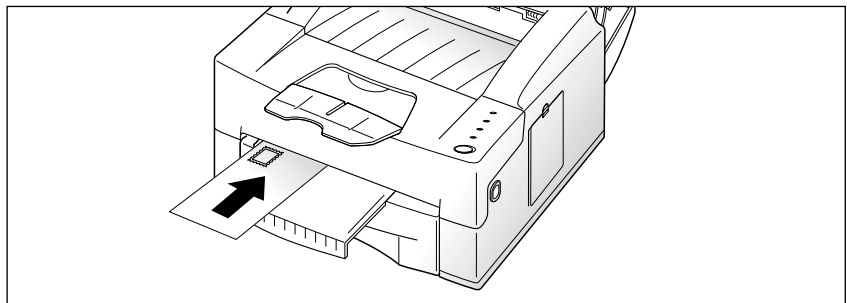
The paper cassette tray drops down and fits into place.



**3. Load the desired print material in the manual slot with the left edge to the far left of the slot. You must feed one at a time.**

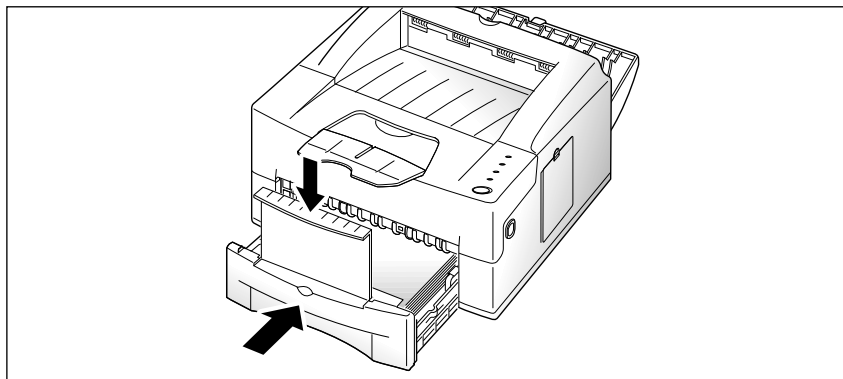


- If you use letterhead paper, load the letterhead paper with the design facing up. The top edge of the sheet with the logo should enter the printer first.
- When you load transparency or label sheet with a paper backing, load with the paper side down.
- If you print on envelopes, load them with the flap side down. The stamp area is on the right side. The end of the envelope with the stamp area enters the printer last.



**Note:** *Never use envelopes with clasps, snaps, windows, coated linings, or self-stick adhesives. These envelopes may severely damage the printer.*

- 4. Gently insert the print material until the printer starts to pick it, then let it go.** The MANUAL light comes on.
5. Make sure that the paper source, the paper size, and the paper type are set to the correct value for the print material you are using from your software application, and start your print job.
6. When the MANUAL and the READY light both are blinking on the printer operator panel, place another sheet in the manual feed slot.
7. When you are not using the manual tray, raise the tray and slide it down into place.



**Note:** *If 'Auto Continue' option is available in your printer driver and if you set the option to 'ON', the printer will automatically use paper in the paper cassette if you do not feed paper into the manual feed slot within 15 seconds.*

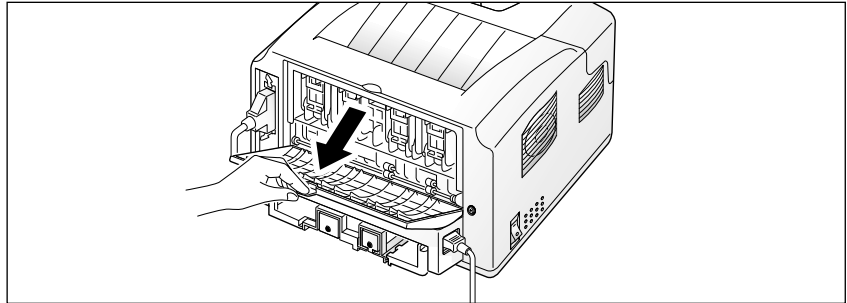
*With 'Auto Continue' option set to 'OFF', the printer will not print unless you feed paper into the manual feed slot. If you press and hold the operator panel button for about 4 seconds, the printer uses just one sheet from the paper cassette and waits for next sheet from the manual feed slot.*

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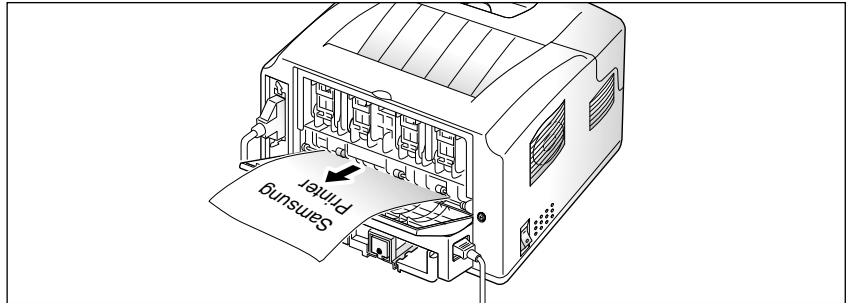
## Using Rear Output Tray

If you open the rear output tray, the printed paper is placed on the tray with the printed side facing up. If you experience paper jams, especially when you load paper, envelopes, or other special media manually, use the rear output tray.

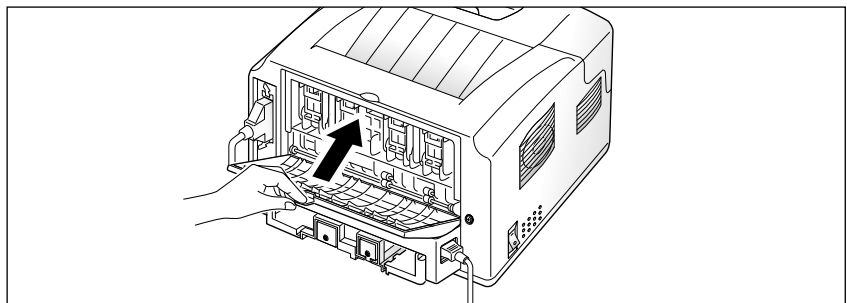
**To use the rear output tray, open the rear cover.** The cover functions as an output tray.



Printed page is placed facing up.



**Note:** The printed pages do not stack on the standard output bin unless you close the rear output tray. If you want to stack the printed pages on the output bin, close the rear output tray.



## Selecting Paper Types and Feed Source

One of the most important things you can do to assure the best possible print quality from your printer is to select the correct paper. Your printer produces letter quality output on most plain bond papers, including cotton bond and photocopying papers; it does not require special papers. However, the print quality varies with different paper types. Be sure to test a small quantity of paper before you purchase a large quantity.

You can print on any of the following paper types.

Type	Size	Feed Source	Capacity
Plain paper (20 to 24 lb)	Letter: 8 1/2 x 11" Legal: 8 1/2 x 14" Executive: 7 1/4 x 10 1/2" Folio: 8 1/2 x 13" A4: 210 x 297 mm	Cassette	250 sheets (Approx.)
			1 sheet at a time
Envelopes	Com-10: 4 1/8 x 9 1/2" Monarch: 3 7/8 x 7 1/2" B5: 176 x 250 mm C5: 162 x 229 mm DL: 110 x 220 mm C6: 114 x 162 mm	Manual Feed	1 envelope at a time
Cards (16 to 32 lb)	A5: 100 x 148 mm	Manual Feed	1 item at a time
Transparency Film Paper Labels	A4: 210 x 297 mm Letter: 8 1/2 x 11"		

### Notes:

- For details, see page A-2 'Specifications'.
- When you print, select the paper size and the feeding source in your software application.
- Depending on paper thickness, the maximum capacity may be reduced.

---

## Paper Guidelines

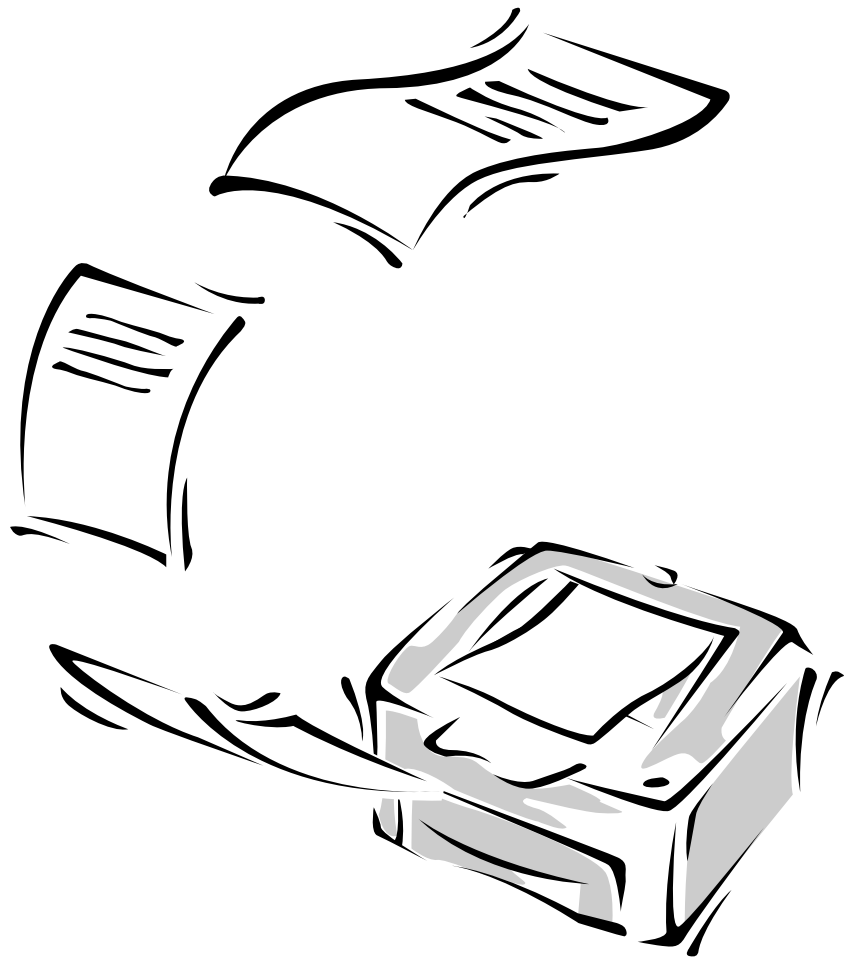
When selecting or loading paper, envelopes, or other special media, keep these guidelines in mind:

- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- Use cut-sheet paper only. You cannot use multipart paper.
- Use only high quality, copier grade paper. Avoid paper with embossed lettering, perforations, or texture that is too smooth or too rough.
- Coloured paper should be of the same high quality as white photocopy paper. The pigments must withstand the printer's fusing temperature of 400 °F (205 °C) for 0.1 second without deterioration. Do not use paper with a colored coating that was added after the paper was produced.
- Pre-printed forms must be printed with non-flammable, heat-resistant inks that do not melt, vaporize, or release hazardous emissions when subject to the printer's approximately 400 °F (205 °C) fusing temperature for 0.1 second.
- Store paper in its ream wrapper until ready to use. Place cartons on pallets or shelves, not on the floor. Do not place heavy objects on top of the paper, whether it is packaged or unpackaged. Keep it away from moisture, or other conditions that can cause it to wrinkle or curl.
- During storage, moisture-proof wrap (any plastic container or bag) should be used to prevent dust and moisture from contaminating your paper.
- You can use transparencies and labels designed for laser printers. Transparencies used in the printer must be able to withstand 400 °F (205 °C), the printer's maximum temperature.
- Always use paper and other media that conforms with those listed under 'Specifications' on page A-2.
- When you choose envelopes, use only well-constructed envelopes with sharp, and well creased folds.
  - DO NOT use envelopes with clasps and snaps.
  - DO NOT use envelopes with windows, coated linings, self-stick adhesives, or other synthetic materials.
  - DO NOT use damaged or poorly made envelopes.



© Chapter 4

# *Operating Your Printer*



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## Selecting Your Printer

To use all of the features of your Samsung QwikLaser 6050 printer, make sure it is selected as the default printer. When you install the printer driver, Samsung QwikLaser 6050 is automatically set as the default printer. If you use more than one printer, select QwikLaser 6050 as the default printer as follows:

### **Windows 95/98/NT 4.0**

- 1. Select Start, Settings, then Printers.**
- 2. Double-click Samsung 6050 PCL5e or Samsung 6050 PCLXL.**
- 3. Select Set As Default from the Printer menu.**

### **Windows 3.x**

- 1. Double-click Main from the Program Manager. Then double-click Control Panel, and Printers.**
- 2. Select Samsung 6050 PCL5e or Samsung 6050 PCLXL.**
- 3. Click Set As Default printer.**



---

## Printing a Document

This procedure describes the general steps required for printing from various Windows applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to your software application's documentation for the exact printing procedure.

- 1. Start the program you are using to create the document, and open the document you want to print.**
- 2. Choose Print or Print Setup from the File menu.** The Print or Print Setup dialog box appears, allowing you to change the printer settings.
- 3. If you click on Properties, Setup or Options, you can make any additional settings that are appropriate for printing your document** (see 'Printer Settings' on page 4-4). The settings you can change depend on the printer you have and the printer driver you selected.
- 4. Select OK to close the dialog box.**
- 5. After making any necessary changes to the printing parameters, select OK to start the print job.**

*Note: The way you access the printer driver varies depending on the software programs you use.*

---

## Printer Settings

Most Windows applications allow you to make changes to the print settings. This changes the number of copies, sequence of the pages, paper orientation, and margins.

If you click **Properties**, **Setup**, or **Options** in the Print dialog box, you'll access the printer driver's dialog box. It allows you to change additional printer settings.

***Note:** Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and any remaining settings with the printer driver.*

Samsung 6050 PCL5e driver's Printer Setup dialog box includes 4 tabs.

### Setup

Using this tab, you can change the number of copies, resolution, page orientation, paper size, and paper source.

**Source** setting identifies the default paper source. **Second Cassette** source is available if the *optional* second cassette is *installed*.

**Manual Feed** source is used when manually feeding envelopes or other print material. With it set to **Auto Select**, the printer automatically selects the print material according to the print job.

### Advanced Setup

Using this tab, you can change graphic settings, graphic mode, gray scale, graphic quality. It also includes settings that determine how the printer handles True Type font. When you upgrade your printer memory, you have to set the correct memory size using this tab.

## RCP

Using this tab, you can control the following printer features:

### ***Auto Continue***

It determines the action to be taken when a manual feed print job is sent to the printer and there is no paper in the manual feeder. If Auto Continue option is set to **ON**, the printer picks up the paper from the paper cassette after 10 seconds. Otherwise, the printer waits for you to load paper in the manual feeder.

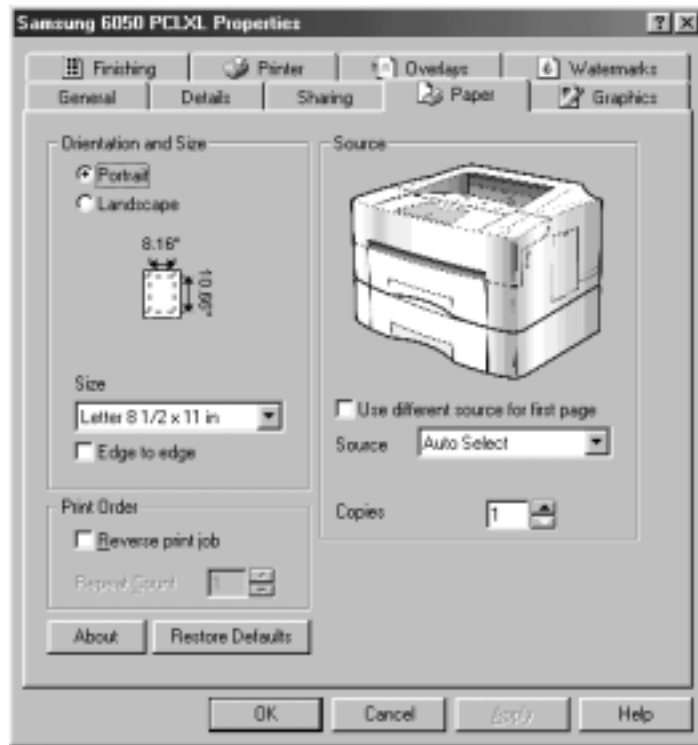
### ***Econo Mode***

It determines the toner quantity to use when printing. If this mode is set to **ON**, the printer conserves toner when printing. When the default value is **OFF**, it provides 100% usage.

### ***Paper Type***

If you use thick paper with weight of more than 42 lb (90 gr) or envelopes, you have to insert it into the manual feed slot. Select **THICK**.

Samsung 6050 PCLXL driver's Properties dialog box includes 9 tabs.



### Paper

Using this tab, you can change the paper orientation and size, and source.

**Source** setting identifies the default paper source. **Option Cassette** source is available if the *optional cassette is installed*.

**Manual Feed** source is used when manually feeding envelopes or other print material. With it set to **Auto Select**, the printer automatically selects the print material according to the print job.

**Use different source for first page:** Click to specify different paper settings for the first and following pages of your print job, clear if you want to use the same paper settings for all pages of your print job. The paper size for all pages of the print job must be the same.

### Graphics

Using this tab, you can change graphic mode and halftoning, select true type options, and print quality.

## Finishing

Using this tab, you can select job finishing mode, e.g., Multiple pages per side and Fit to page.

## Printer

Using this tab, you can change the printer resolution, memory setting, and print to file format.

## Overlays

This tab displays a list of currently loaded overlays and the options to load an overlay or create a new overlay.

## Watermarks

Using this tab, you can print texts in the foreground of a document. There are a few predefined watermarks that come with the printer driver. They can be modified or you can add new ones to the list.

## **Using HELP**

Each printer driver includes comprehensive screen help that is specific to the driver's settings and options.

For detailed information about each setting, click **Help** at the bottom of each dialog box.

## **Changing Printer Settings for All Documents**

Changing the printer settings from your program will change them for one document. If you want to make the change for all documents you print on this printer, do as follows:

### **In Windows 3.1x**

- 1. From Program Manager, double-click Main.**
- 2. Double-click Control Panel and then Printers.** The Print dialog box appears.
- 3. Make sure that the correct printer is selected as default printer.**
- 4. Click Setup.** The selected printer's Setup dialog box appears.
- 5. Change the printer settings you want for all of the documents.**

### **In Windows 95/98/NT 4.0**

- 1. Select Settings from the Start menu.**
- 2. Select Printers.**
- 3. Make sure that the correct printer is selected as default printer.**
- 4. From the File menu, click Properties.** The selected printer's Properties dialog box appears.
- 5. Change the printer settings you want for all of the documents.**

---

## Font Navigator

Font Navigator is a font manager for Windows 95/98, Windows NT 4.0, and Windows 3.1x. It gives a quick and easy way to find fonts, install fonts, and print font samples.

**To access the Font Navigator, select Programs from the Start menu, and select Font Navigator.**



---

## How to use “Disk Image Utility”

1. Insert the CD-ROM.
2. Change directory to “Diskutil”. (ex; D:\Diskutil\)
3. Select the model that you want.
4. Select the language that you want to install.
5. Execute “CDTODISK.exe”.
6. Follow the instruction on the screen.

---

## Remote Control Panel for Windows/Dos

The Remote Control Panel dialog box includes six tabs.

### PRINTER

#### ***Power Save***

Determines the length of time the printer waits after a job is printed before it goes to a reduced power state. If the printer is used constantly, select **OFF** which keeps the printer ready to print with the minimum warm-up time. This uses more energy to keep the printer warm and ready to print.

#### ***Timeout***

Determines the amount of time in seconds the printer waits before printing the last page of a print job that does not end with a command to print the page.

#### ***Econo Mode***

To get the most from your toner supply, set **Econo Mode** to **ON**. If you set Econo Mode to **ON**, print quality may be reduced.

**Note:** *Econo Mode* item is available in PCL5e driver only.

#### ***Jam Recovery***

If paper jams as it exits to the output bin, the data on the jammed page will be lost. If you set **Jam Recovery** feature to **ON**, the printer keeps the image for a printed page until the printer signals that the page has successfully exited the printer. The printer reprints all jammed pages.

With the feature set to **OFF**, the printer does not reprint a page that has jammed.

### PAGE SETUP

#### ***Paper Size***

Sets the paper size.

#### ***Paper Source***

Sets the default paper source.

#### ***Lines Per Page***

Use this menu item to change the number of lines that print on each page. The setting can range from 5 to 128 lines per page.

#### ***Copies***

Sets the number of copies printed for each page.



### ***Orientation***

Determines how the printing is oriented on the page.

## FONT SETUP

### ***Typeface***

Allows you to select the desired typeface. This setting is ignored when the software application specifies a font.

### ***Symbol Set***

Determines the symbol set. A symbol set is a set of alphabetic and numeric characters, punctuation, and special symbols used when printing with a selected font.

### ***Pitch***

If you chose a scalable monospaced font, you can select the font pitch. Pitch refers to the number of fixed-space characters in a horizontal inch of type.

### ***Point Size***

If you chose a scalable typographic font, you can select the point size for the font. Point size refers to the height of the characters in the font. One point equals approximately 1/72 of an inch. You can select point sizes from 4 to 999.75 in increments of 0.25 points.

### ***Courier***

Determines the courier font type; **Regular** or **Dark**.

### ***Font List***

Prints the font list showing all the fonts available for PCL emulation.

## QUALITY

### ***Density***

Determines the overall density of the printed image.

### ***Paper Type***

If you use thick paper with weight of more than 42 lb (90gr) or envelopes, you have to feed into the manual feed slot. Select **THICK**.

### ***SMET***

SMET (Samsung Memory Enhancement Technology) mode makes the printer process more data by optimizing the memory. With this mode set to **ON**, the complex data can be processed.

**Note:** *SMET Mode item is available in PCLXL driver only.*

### **TEST**

#### ***Configuration Sheet***

This prints detailed information on the printer.

#### ***Demonstration Page***

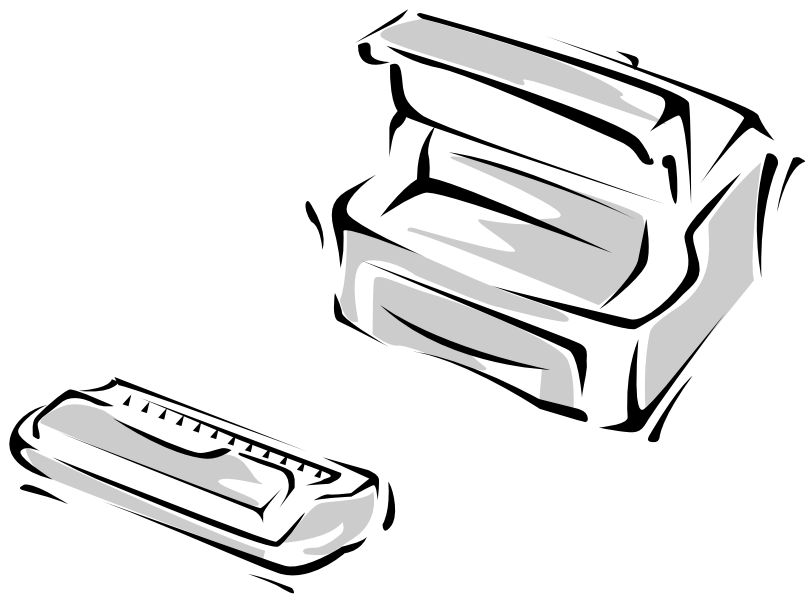
This page prints a one page summary of the main features of this printer.

### **ABOUT**

This tab shows the software version and copyright information.



# *Troubleshooting and Maintenance*



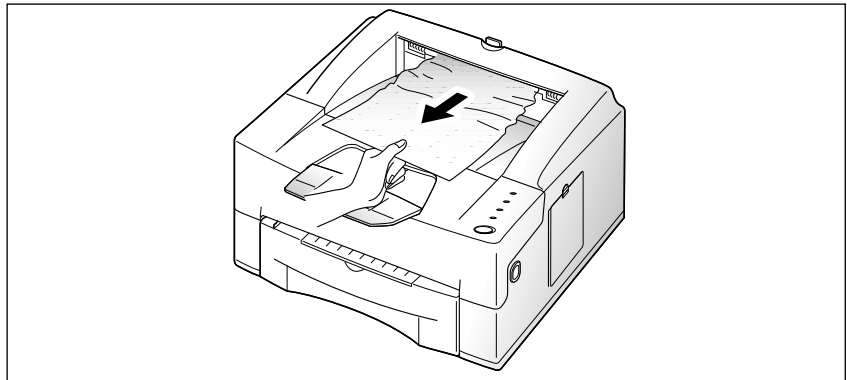
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## Clearing Paper Jams

By carefully selecting paper types and loading them properly, you should be able to avoid most paper jams. If paper jams occur, an error message appears on the Status Monitor which pops up automatically each time you use the printer. The PAPER and the ERROR indicator light both come on steadily on the operator panel. Follow the steps below to clear jam. To avoid tearing paper, pull the jammed paper out gently and slowly.

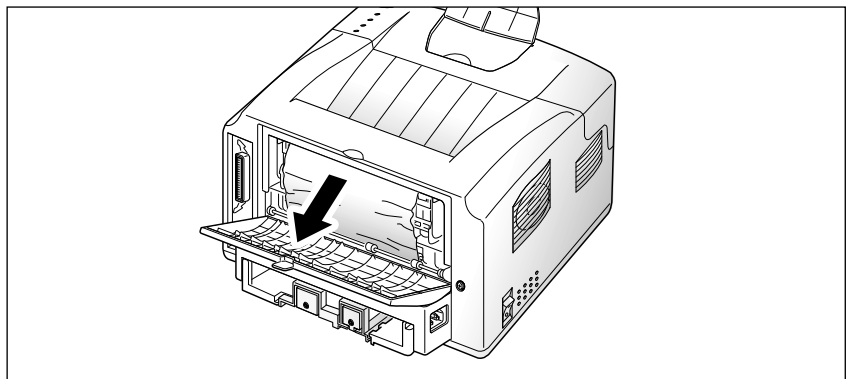
### Paper Jam in Output Area

- 1. If the paper jams as it exits to the output bin and a long portion of the paper is visible, pull the paper straight out.**

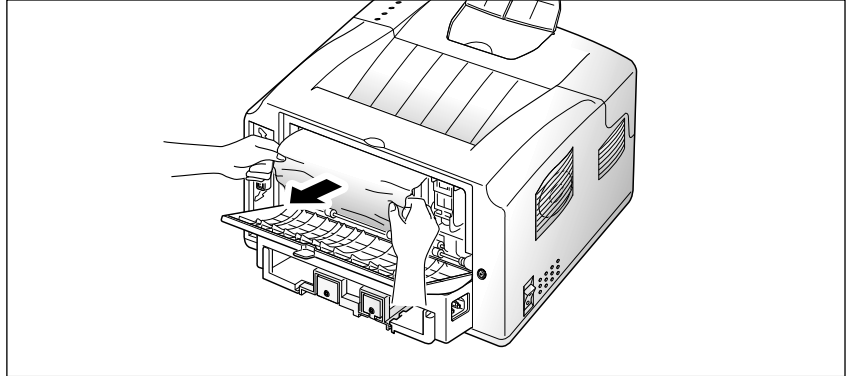


If there is resistance to the paper, and it does not move immediately when you pull, stop pulling. Continue with the next step.

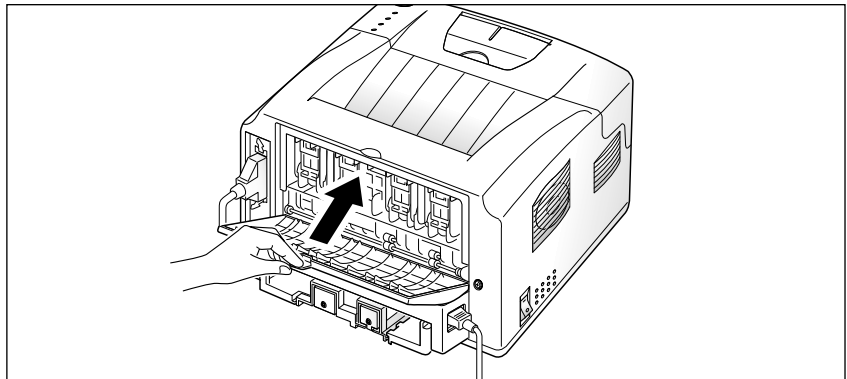
- 2. Locate the rear cover and pull it toward you.**



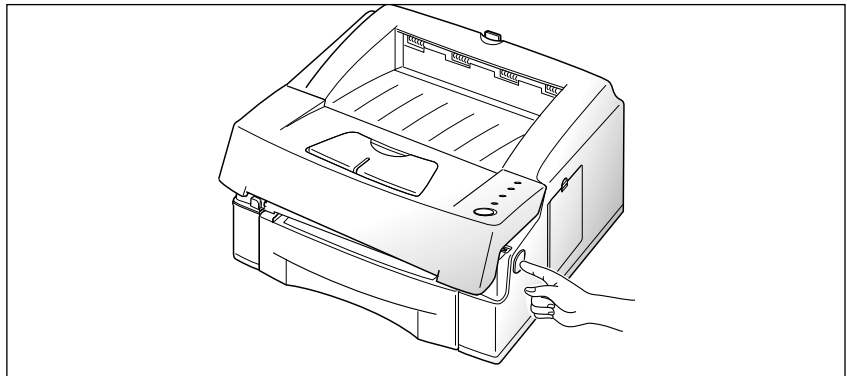
**3. Loosen the paper if it is caught in the feed rollers. Then pull the paper gently out.**



**4. Close the rear cover.**

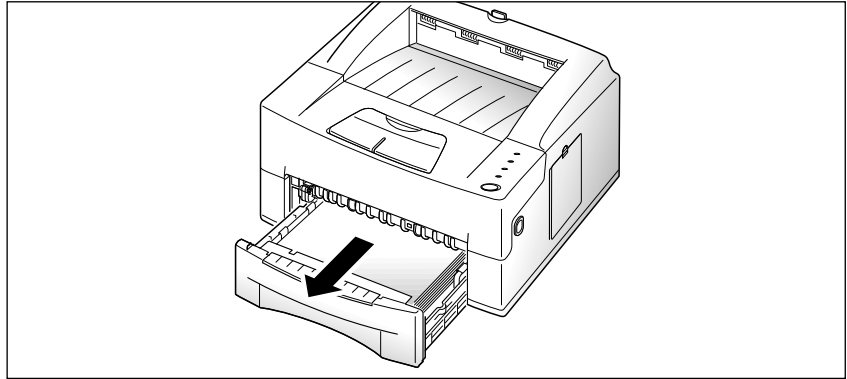


**5. To resume printing, open the printer cover, then close the cover back.**

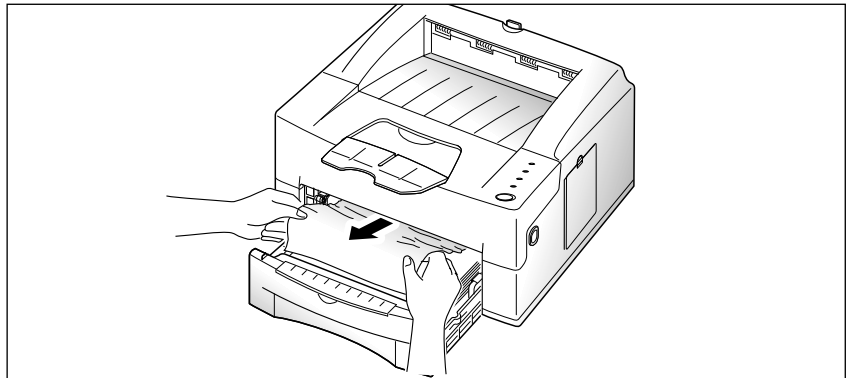


## Paper Jam in Input Area

1. Pull the paper cassette half way out of the printer.



2. If you see the paper jammed, pull the paper back out of the printer toward you.



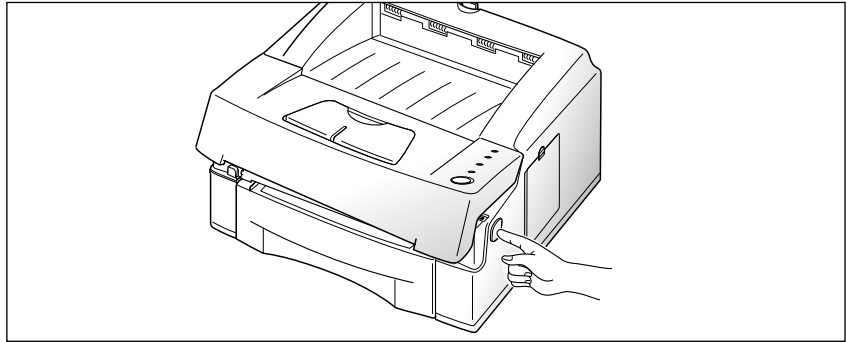
3. Slide the cassette back into the printer.

**Note:** *If a short piece is visible and you cannot grasp it, or if you do not see the paper, the jam has occurred inside the printer. See the following page.*

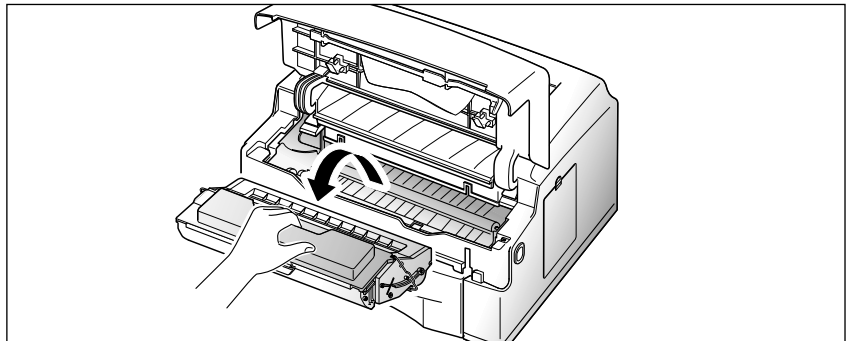
4. After clearing the jam, if the printer does not resume printing, open the printer cover, then close it back.

## Paper Jam Inside Printer

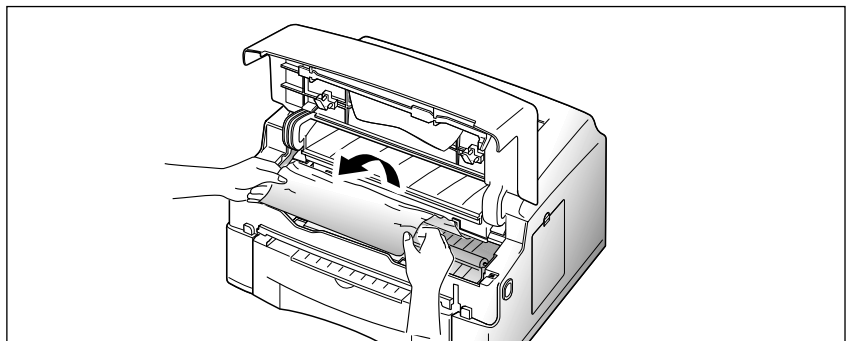
1. Open the printer cover by pressing the cover release button, and raise the cover.



2. Remove the print cartridge.



3. Gently pull the paper toward you.

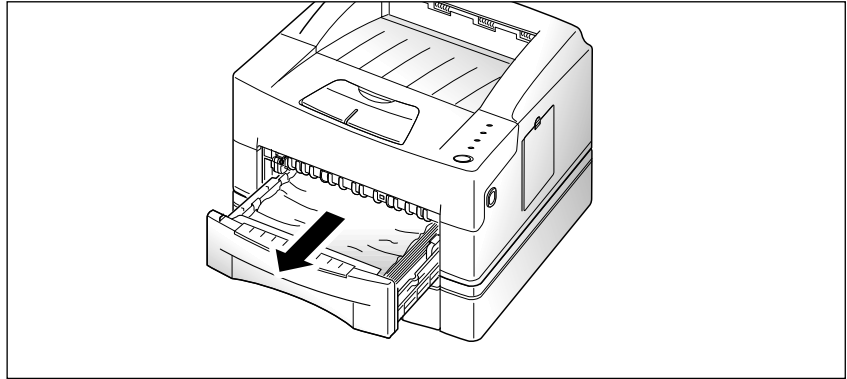


4. Check that there is no other paper in the printer.

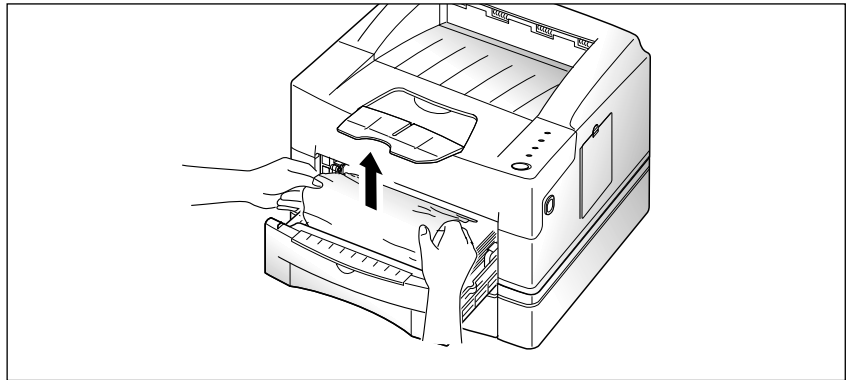
5. Reinstall the printer cartridge, then close the printer cover.

## Paper Jam in Optional Paper Cassette

1. Pull the upper paper cassette half way out of the printer.



2. If you see that the paper is jammed, pull the paper out.

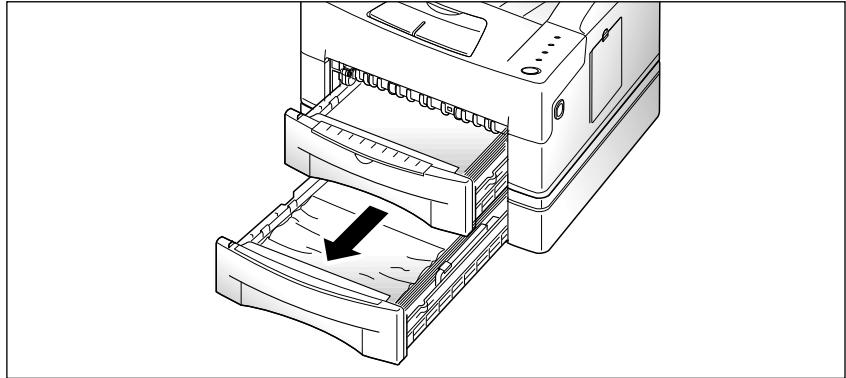


3. Slide the upper cassette back into the printer.

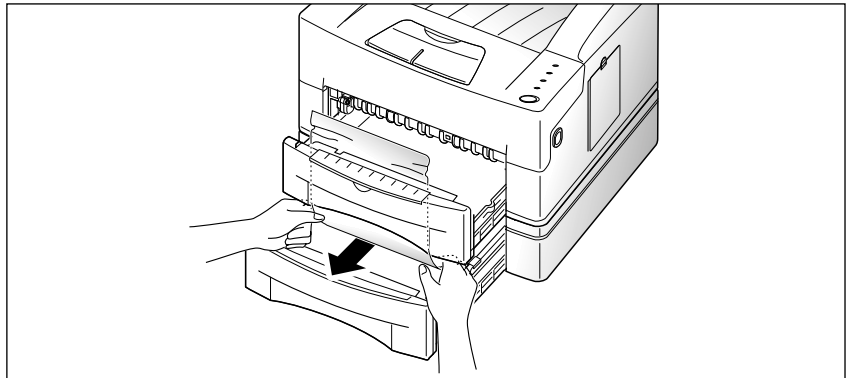
**Note:** *If a short piece is visible and you cannot grasp it, or if you do not see the paper, the jam has occurred inside the optional paper cassette. See the following page.*



**4. Pull the lower paper cassette out of the printer.**



**5. If you see that the paper is jammed, pull the paper out.**



**6. Slide the cassettes back into the printer.**

**7. After clearing the jam, if the printer does not resume printing, open the printer cover, then close it back.**

## Tips for Avoiding Paper Jams

By carefully selecting print materials and loading them properly, you should be able to avoid most paper jams. If jams do occur, follow the steps outlined in “Clearing Paper Jams” starting on page 5-2. If jams occur frequently, make sure you are following these tips to avoid jams.

- Follow the procedures in “Loading a Stack of Paper” on page 3-2 to load paper properly. Make sure the adjustable guides are positioned correctly.
- Do not overload the paper cassette. Make sure the paper is under the paper capacity mark on the inside of the paper cassette.
- Do not remove paper cassette while print jobs are in process.
- Flex, fan, and straighten the paper before loading it.
- Do not load stacks of labels or transparencies in the cassette. Labels or transparencies must be fed one at a time through the manual feed slot.
- Do not load wrinkled, creased, damp, or highly curled paper.
- Do not mix paper types in one cassette.
- Use only recommended print materials. See ‘Specifications’ on page A-2.
- Make sure the recommended print side is face down when loading the cassette.
- Keep print materials stored in an acceptable environment.

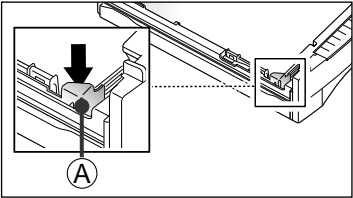
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## Fixing Problems

**Note:** *The causes listed in the table below are probable causes only, and may not represent all of the possible cases which may occur under actual operating conditions. If you experience a problem which does not seem to fall under any of the cases listed in this table, or if you are concerned about any other aspect of printer operation, contact an authorized service representative.*

### Printing Problems

Problem	Possible Cause and Remedy
The printer does not print.	<ul style="list-style-type: none"><li>• Your printer is not selected as a default printer. Select <b>Samsung 6050 PCL5e, Samsung 6050 PCLXL</b> as the default printer.</li><li>• The printer cover may be open. Make sure that all covers are closed securely.</li><li>• The printer cable is not connected properly. Check the connection.</li><li>• The printer cable is defective. Swap the cable with one known to work. If printing is still not possible, replace the cable.</li><li>• The port setting is incorrect. Check the Windows printer settings to make sure that the print job is being sent to the correct port (for example, LPT1)</li><li>• The print cartridge is not installed properly. Remove and reinsert the print cartridge.</li><li>• A paper jam has occurred. Clear the paper jam. See page 5-2.</li><li>• The printer may be configured incorrectly. Check the application to make sure that all print settings are correct.</li><li>• The printer driver may be incorrectly installed. Delete the printer driver, and reinstall the printer driver. Try printing a test page.</li></ul>

Problem	Possible Cause and Remedy
<p>The paper is not fed into the printer.</p>	<ul style="list-style-type: none"> <li>• Paper has not been loaded correctly. Remove the paper cassette and reload the paper correctly.</li> <li>• There is too much paper in the paper cassette. Remove some of the paper from the cassette.</li> </ul>
<p>The printer ejects blank pages.</p>	<ul style="list-style-type: none"> <li>• The print cartridge is empty. Replace the print cartridge. See page 5-16.</li> <li>• When you load paper, make sure that the paper stack goes under the metal retaining clip (A).</li> </ul> 
<p>Half of the page is blank.</p>	<ul style="list-style-type: none"> <li>• The page layout is too complex. Simplify the page layout and remove any unnecessary graphics from the document if possible. Install more memory. See page 6-5.</li> <li>• The page orientation setting may be incorrect. Change the page orientation in your application program.</li> <li>• The paper size and the software paper size settings do not match. Insert the correct paper into the printer or change the software paper size settings.</li> <li>• The printer cable specifications may be incorrect. Replace with the cable with an IEEE-1284 rated cable.</li> </ul>
<p>The printer prints the wrong data, or it prints incorrect characters.</p>	<ul style="list-style-type: none"> <li>• The printer cable is not connected properly. Check the connection.</li> <li>• There may be a problem with the printer driver software. Exit Windows and reboot the computer. Turn the printer off and then back on again.</li> <li>• The printer cable specifications may be incorrect. Replace with the cable with an IEEE-1284 rated cable.</li> </ul>

Problem	Possible Cause and Remedy
The paper keeps jamming.	<ul style="list-style-type: none"> <li>• There is too much paper in the paper cassette. Remove some of the paper from the cassette. If printing onto envelopes, transparencies, or labels, insert them one at a time in the manual feed slot.</li> <li>• An incorrect type of paper is being used. Use only paper that meets the specifications required by the printer.</li> <li>• An incorrect output method is being used. Items such as thick paper should not be printed using the standard output bin. Use the rear manual output tray instead.</li> </ul>
Printing is too slow.	<ul style="list-style-type: none"> <li>• If using Windows 3.1x, <b>Print Manager</b> may be disabled. From the Control Panel Printers menu, check the <b>Use Print Manager</b> box.</li> <li>• If using Windows 3.1x, the <b>Background Printing</b> item in the <b>Options</b> menu of <b>Print Manager</b> may be set incorrectly. Select <b>Background Printing</b> from the <b>Options</b> menu in the <b>Print Manager</b>.</li> <li>• If using Windows 95, the <b>Spooling Setting</b> may be set incorrectly. From the <b>Start</b> menu, select <b>Settings</b> and <b>Printers</b>. Click the <b>Samsung 6050 PCLXL</b> icon with the right mouse button, select <b>Properties</b>, click the <b>Details</b> tab, and then click the <b>Spool Settings</b> button. Select the desired spool setting from the available choices.</li> <li>• The computer may have insufficient random-access memory (RAM). Install more random-access memory (RAM) in your computer.</li> </ul>
Smart Monitor displays 'Check parallel cable / Smart Monitor can not monitor network printing.'	<ul style="list-style-type: none"> <li>• Make sure that the printer cable is connected properly.</li> <li>• Check if the printer is shared as a network printer. The Smart Monitor cannot monitor a network printer.</li> </ul>

## Print Quality Problems

Problem	Possible Cause and Remedy
Irregular faded patches of print	<ul style="list-style-type: none"><li>• There is a paper quality problem. Use only paper that meets the specifications required by the printer.</li><li>• Toner may be unevenly distributed. Remove the print cartridge and shake it gently to evenly distribute the toner. Then replace the print cartridge.</li></ul>
Black staining	<ul style="list-style-type: none"><li>• There is a paper quality problem. Use only paper that meets printer specifications.</li><li>• A print cartridge from another printer has been installed. Always use the same print cartridge with the same printer. Using a cartridge that has already been used in another printer may not give satisfactory results.</li><li>• If you are getting streaks or spots on your prints, the OPC drum on your printer may need to be cleaned. Please, the method of OPC cleaning refer to page 1-6.</li></ul>
Character voids	<ul style="list-style-type: none"><li>• The paper may be too dry. Try printing with a different batch of paper.</li></ul>
Background scatter	<ul style="list-style-type: none"><li>• The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture from the air.</li><li>• Printing over uneven surfaces. If printing onto envelopes, change your printing layout to avoid printing over areas that have overlapping seams on the reverse side.</li></ul>

Problem	Possible Cause and Remedy
Missing characters	<ul style="list-style-type: none"> <li>• The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture from the air.</li> </ul>
Back of printout dirty	<ul style="list-style-type: none"> <li>• The transfer roller may be dirty. Print a few blank pages to clean the transfer roller.</li> </ul>
Incorrect fonts	<ul style="list-style-type: none"> <li>• TrueType fonts may be disabled. Use the <b>Fonts</b> dialog box in the <b>Control Panel</b> to enable <b>TrueType</b> fonts.</li> </ul>
Faded graphics	<ul style="list-style-type: none"> <li>• Toner may be low. Remove the print cartridge and shake it gently to evenly distribute the toner. Then replace the print cartridge.</li> </ul>

## Before You Call For Service

If you're unable to solve your printer problems, you may want to call for service. Before you call, however, check these things:

- Is the power cord plugged into the printer?
- Is the power cord plugged directly into a wall outlet?
- Is your printer connected properly to your computer?
- Are all other devices attached to your PC plugged in and turned on?
- Is the wall outlet turned off by any switches?
- Is a print cartridge installed in the printer?
- Is the cover closed completely?

Once you've checked all these things, turn your printer off and back on again. If your printer is still not operating properly, call for service. Contact your point of purchase.

If the READY light is on, print out a test page by pressing and holding the operator panel button for about 4 seconds until all indicators blink, then let go of the button. Test page lists your printer model, any option you have installed, and your user default settings. The service representative will probably ask for this information.



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# Managing Toner Cartridge

## Expected Cartridge Life

The life of your toner cartridge depends on the amount of toner used in each print job. For instance, when you print a typical business letter with about 5% page coverage, you can expect a toner cartridge life of approximately 5,000 pages. (You can check the amount of printed page by printing a test page. See page 1-6.) The actual number may vary according to the print density of the page you print. If you print a lot of graphics, you may need to change the cartridge more often.

If Econo Mode option is available in your software application program, you can extend the life of your toner cartridge by using Econo Mode. Econo Mode uses approximately 50% less toner than normal printing. The printed image is much lighter, and is adequate for printing drafts or proofs.

## Replacing Toner Cartridge

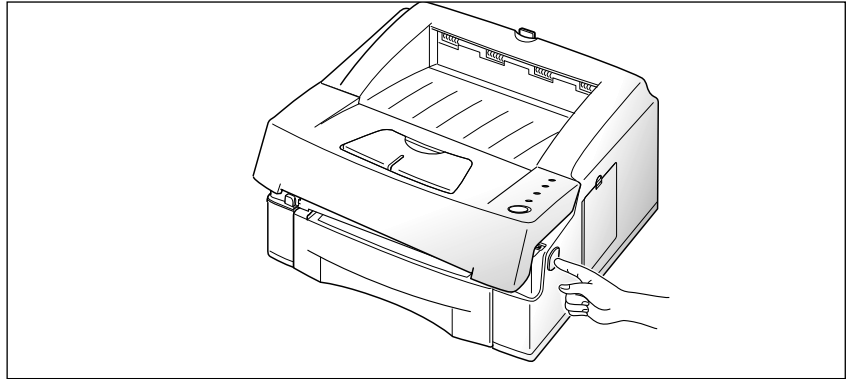
When the toner cartridge is near the end of its life, white vertical streaks or hue changes will occur. You can temporarily re-establish print quality by redistributing the remaining toner in the cartridge.

- 1. Open the printer cover and remove the toner cartridge.**
- 2. Gently shake the cartridge to distribute the toner evenly inside the cartridge.**
- 3. Reinstall the cartridge and close the cover.**

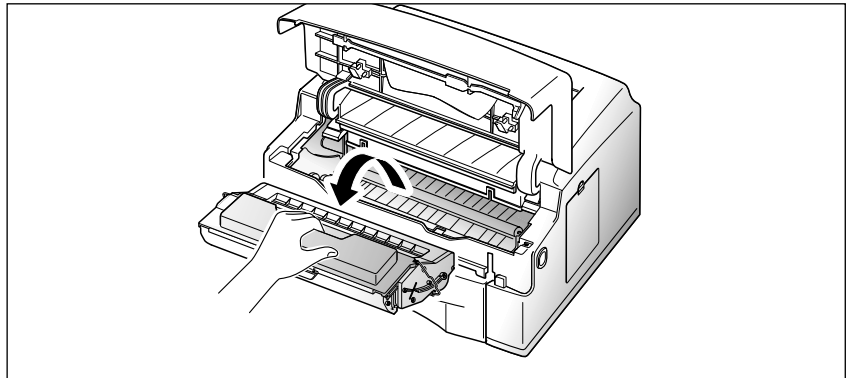
This is typically successful one time only. When the toner will eventually run out, print quality problems occur again and the ERROR light on the operator panel comes on. The toner cartridge needs to be replaced. See the following page.

To replace the toner cartridge:

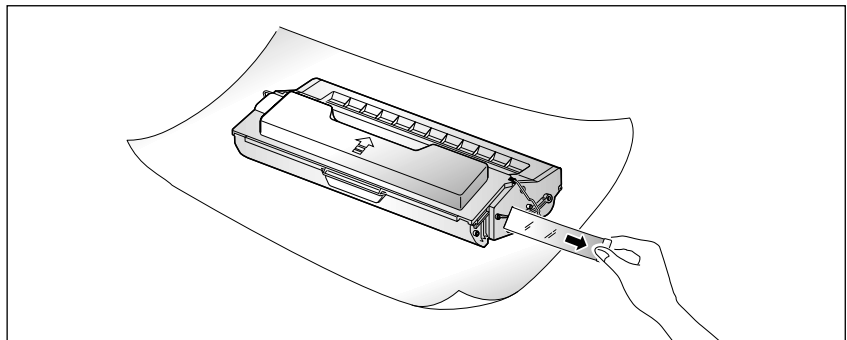
- 1. Open the printer cover by pressing the cover release button, and raise the printer cover.**



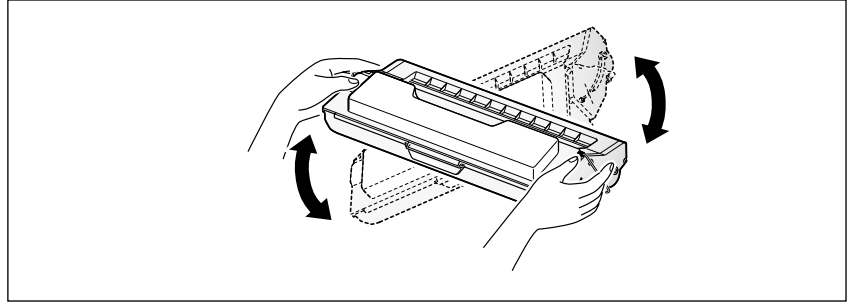
- 2. Remove the old toner cartridge.** Follow the instructions printed on the cartridge box to recycle the used cartridge.



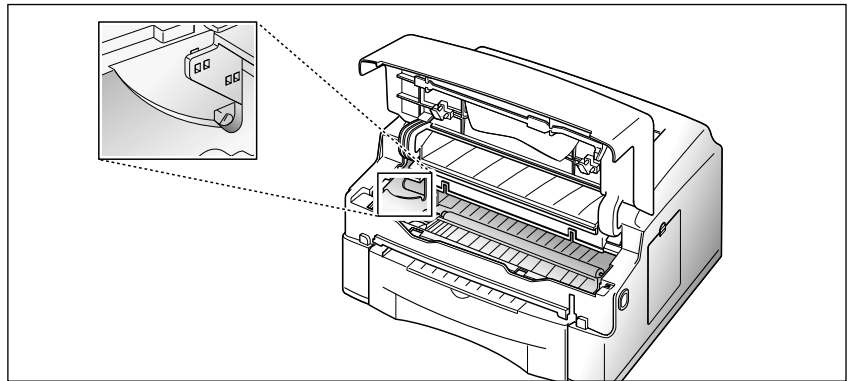
- 3. Unpack the new toner cartridge, and carefully remove the sealing tape.**



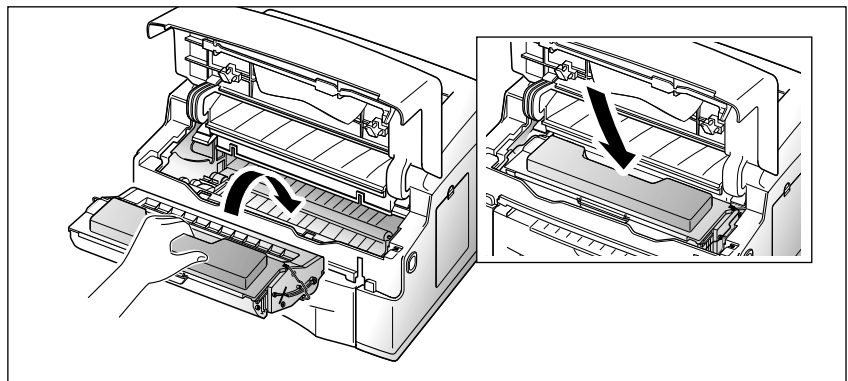
- 4. Gently shake the cartridge from side to side 5 or 6 times to distribute the toner evenly inside the cartridge.**



- 5. Find the cartridge slots inside the printer, one on each side.**



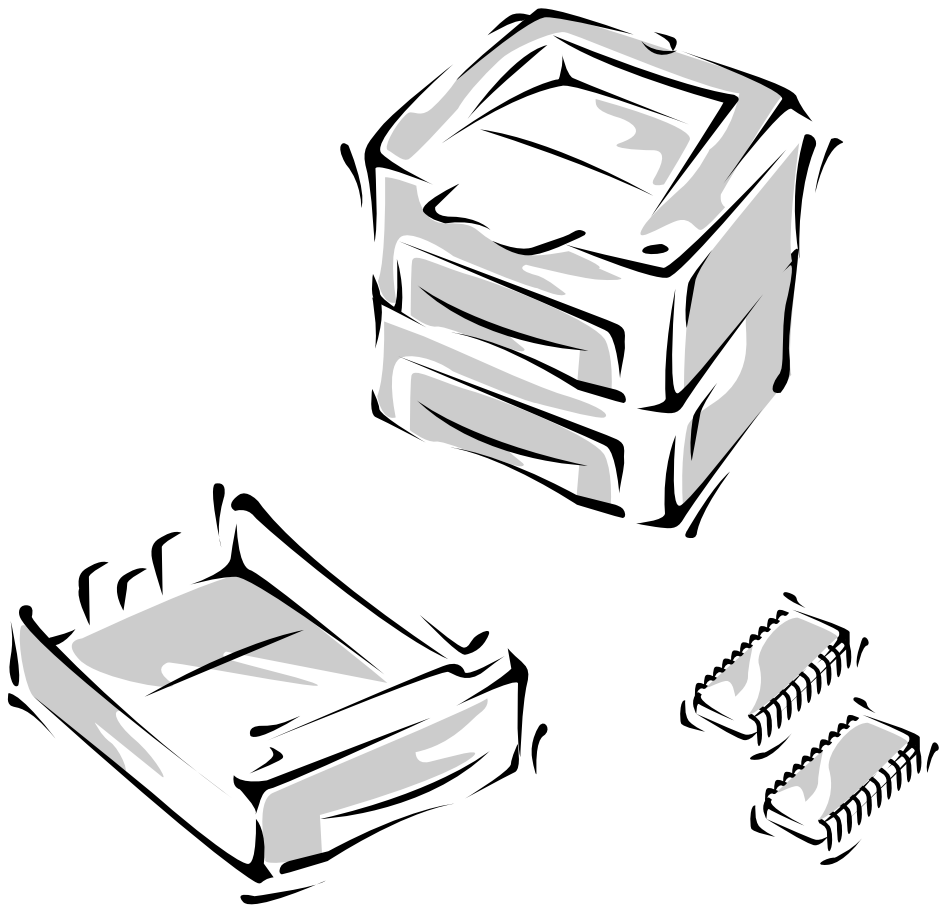
- 6. Grasp the handle and slide the cartridge down between the cartridge slots until it drops into place. Then, close the printer cover.**



# MEMO



# *Printer Options*



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## Memory and Option Cards

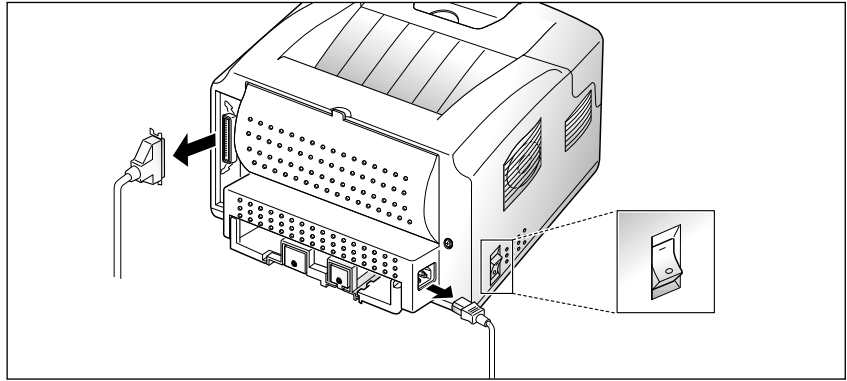
You can purchase optional memory for your printer to enhance its performance.

The cards are installed on the control board inside the printer.

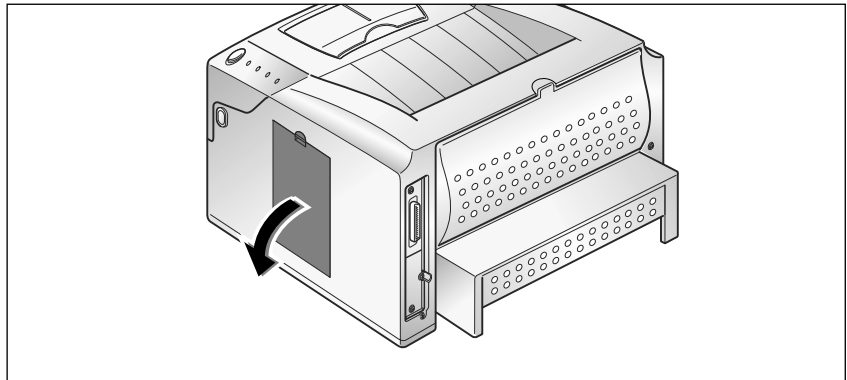
### Accessing the Printer Control Board

Complete the following steps before you install a printer memory option.

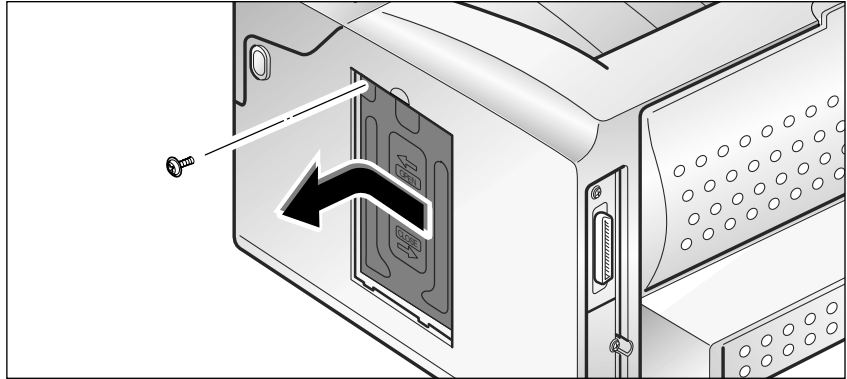
- 1. Turn the printer power Off (0) and unplug the printer power cord. Disconnect the printer cable.**



- 2. Remove the cover located at the right side of the printer.**

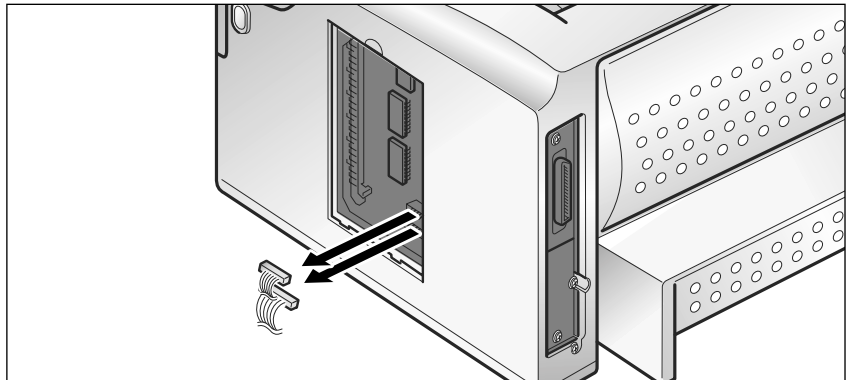


- 3. Remove one screw. Slide the metal shield cover in the direction of the OPEN arrow marked on the cover, then remove the shield cover.**

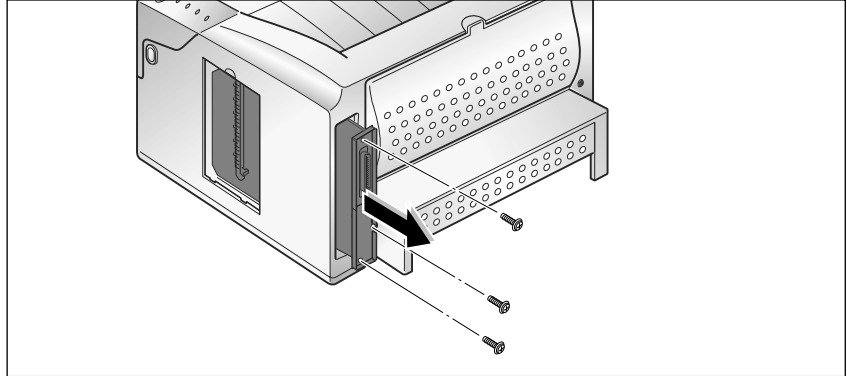


***Note:** You'll see a part of the control board. If you want to install only a printer memory option, you can now install the memory option. It's not necessary to open the control board again. Continue to 'Printer Memory Option' on page 6-5.*

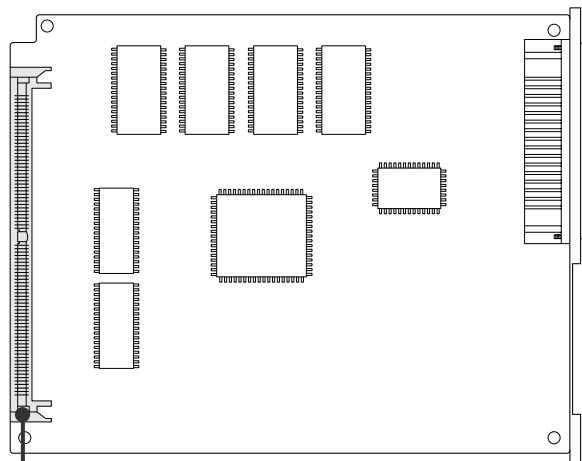
- 4. Unplug the two connectors from the control board.**



- 5. Remove the three screws securing the board and pull the board out of the printer.**



- 6. Locate the appropriate connector for the option you want to install.**



Memory connector

- 7. Continue to the appropriate section for installation instructions:**

- See 'Printer Memory Option' on page 6-5.

- 8. After you have completed installing all of your options on the printer control board, insert the board in place, tighten the screws, plug the connectors, replace the shield, then close the cover. To reinstall, reverse the removal procedure.**

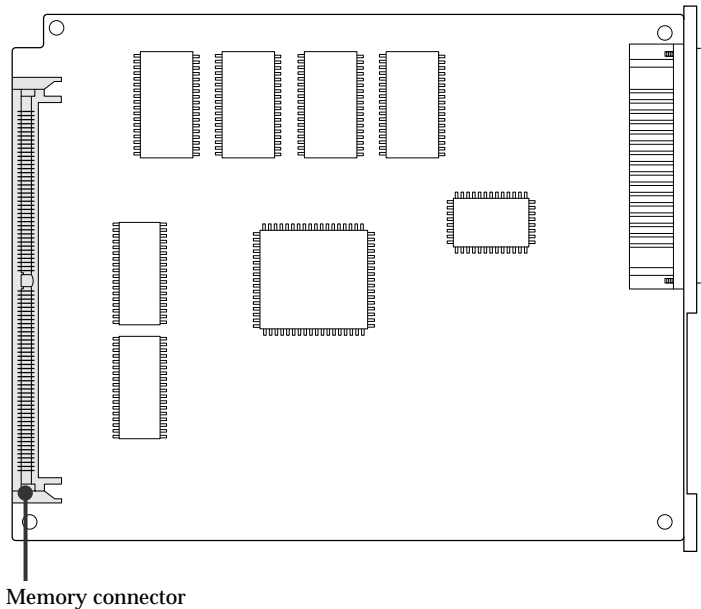


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## Printer Memory Option

The printer memory option increases the printer dynamic random access memory (DRAM). Additional printer memory allows the printer to print complex jobs and operate more efficiently. Anything that is stored in printer memory is lost when the printer is turned off.

Your printer is shipped with 4MB of standard memory. You can install one memory option in your printer. The upgrade options available are 4, 8, 16, or 32MB. If you need to remove a printer memory before you install a new one, see page 6-7.

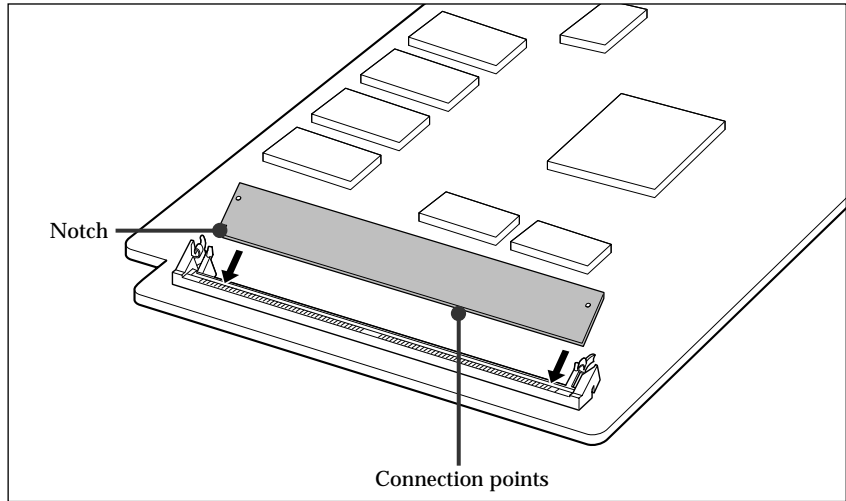


1. Before you install the memory option, follow the steps under 'Accessing the Printer Control Board' on page 6-2.

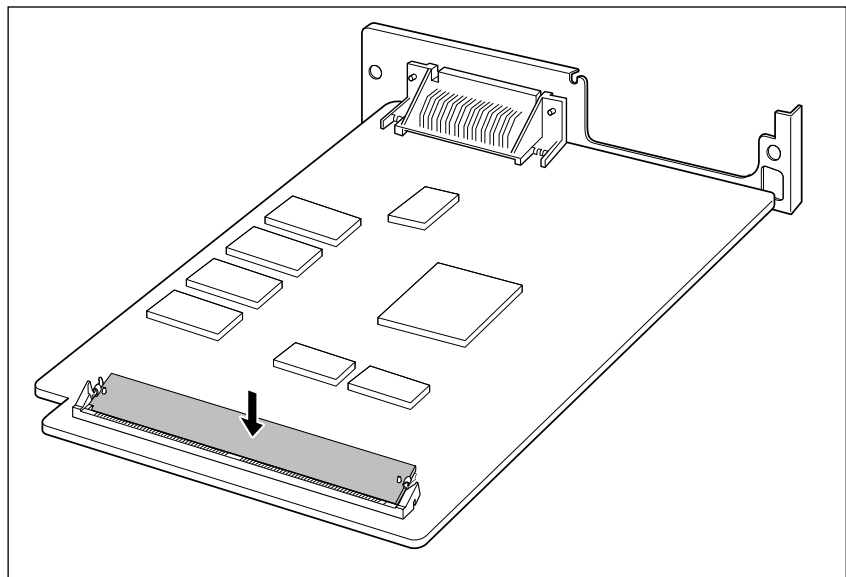
**Warning:** *The memory option is easily damaged by static electricity. Touch something metal before you touch the memory option.*

2. **Unpack the memory option.** Avoid touching the connection points along its edge.

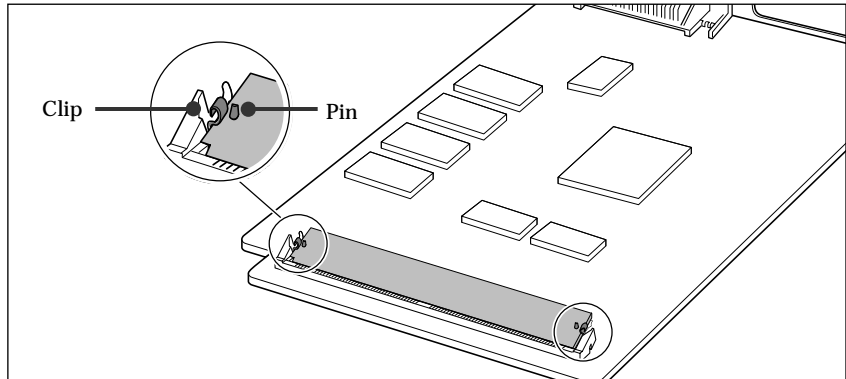
**3. Hold the memory option with the connection points pointing toward the connector and the notch upward.**



**4. Insert the memory option all the way into the connector at a 30° angle, and rotate it down until it snaps into place.**



5. Make sure both metal clips on the connector are fastened and the two pins on the connector are pushed through the holes on the memory option.

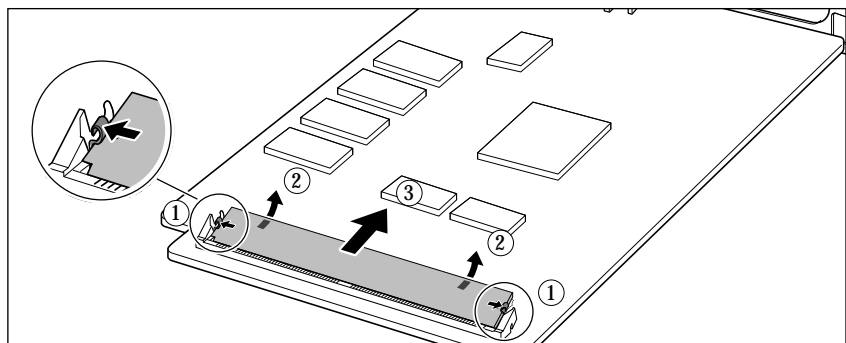


6. If you need to install another option on the control board:

**Note:** After you complete installing, you have to set the **Printer Memory** item on the **Printer Properties** dialog box to the upgraded value. To access the Properties dialog box, see page 4-8.

## Removing a Memory Option

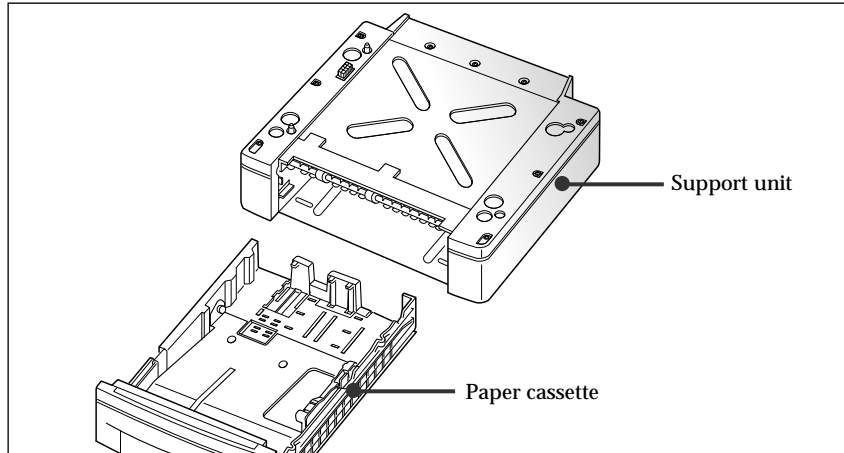
1. If necessary, follow the steps under 'Accessing the Printer Control Board' on page 6-2.
2. Locate the memory option you want to remove.
3. Push out on the metal clips at each end of the connector (①) and rotate the memory option up to a 30° angle (②). Pull it out of the connector (③).



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## Second Cassette

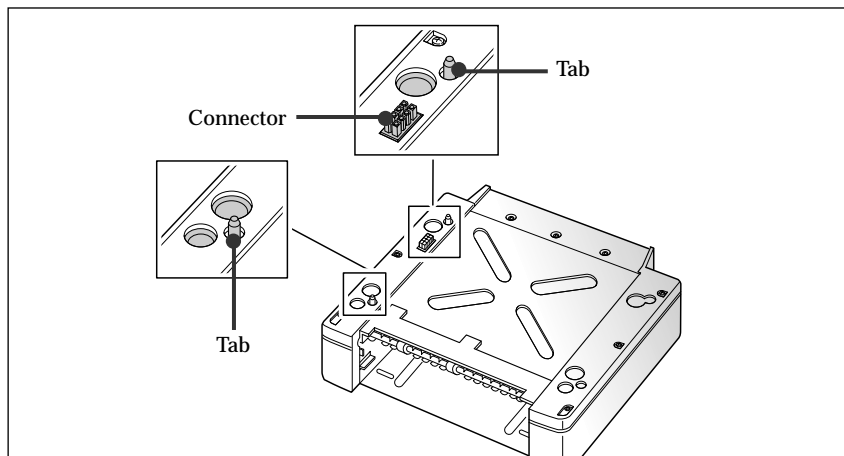
You can install an optional 250-sheet paper cassette. The cassette consists of a support unit and a paper cassette.



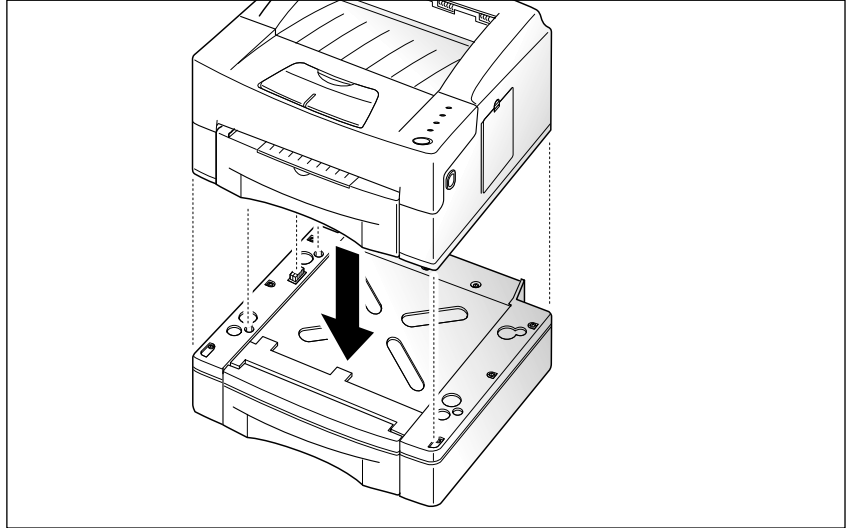
### Installing Second Cassette

If your printer is already set up, make sure the printer power is off. Unplug the power cord and disconnect the printer cable attached to the printer.

- 1. Locate the following parts located on the top surface of the support unit ; the tabs, and the connector.**



- 2. Place the printer on the top of the support unit.** Be sure the edges of the printer and the support unit are aligned so that all the parts fit.



- 3. Load paper in the cassette.** See 'Loading a Stack of Paper' on page 3-2.
- 4. Reconnect the printer cable, then plug in the printer power cord.** Then, turn the printer power On (I).
- 5. To use paper in the optional cassette, select the paper source as Option Cassette from your application program, then start your print job.** See page 4-4.

**Note:** To verify that the optional cassette is installed properly, print a test page. See page 1-6.

# MEMO



# ***Appendix***

# Specifications

## Paper Size

The following table gives details about the print material you can load in each of the printer trays.

Paper	Paper size	Cassette	Optional Cassette	Manual Tray
A4	210 × 297	●	●	●
LETTER	216 × 279 (8.5×11")	●	●	●
FOLIO (LEGAL 13")	216 × 330 (8.5×13")	●	●	●
LEGAL (LEGAL 14")	216 × 356 (8.5×14")	●	●	●
EXECUTIVE	184 × 267 (7.25×10.5")	●	●	●
STATEMENT	140 × 216 (5.5×8.5")			●
ISO B5	176 × 250	●	●	●
JIS B5	182 × 257	●	●	●
A5	148.5 × 210			●
A6	105 × 148.5			●
ENVELOPE				●
- COM-10	105 × 241 (4.12×9.5")			●
- MONARCH	98 × 191 (3.87×7.5")			●
- DL	110 × 220 (4.33×8.66")			●
- C5	162 × 229 (6.38×9.01")			●
- C6	114 × 162 (4.49×6.38")			●
TRANSPARENCY				
- A4	210 × 297			●
- LETTER	216 × 279 (8.5×11")			●
LABEL				
- A4	210 × 297			●
- LETTER	216 × 279 (8.5×11")			●
A6 (INTERNATIONAL POST CARD)	100 × 148			●
PAPER WEIGHT				
- CUT SHEET		16-24 lb	16-24 lb	16-43 lb
- ENVELOPE				
PAPER CAPACITY				
- CUT SHEET		250 (20 lb)	250 (20 lb)	1
- ENVELOPE				1
- LABEL				1
- TRANSPARENCY				1



## Controller

Characteristic	Description
CPU	ARM7 KS32C6100
Emulations	Default : PCL6
Memory	<ul style="list-style-type: none"><li>• 4MB Standard</li><li>• Max up to 36 MB</li></ul>
Interface	<ul style="list-style-type: none"><li>• IEEE 1284 B type</li></ul>
Font	45 Scalable font, 1 Bit Map
Device Driver	PCL : Windows 3.1x/95/98/NT 4.0

## Engine

Characteristic	Description
Speed	12 PPM
Resolution	600 DPI
Imaging	Electrophotography
Toning/Fusing	Non-mag monocomponent/contact
WarmUp time	Less than 70 seconds
FPOT	Less than 14 seconds
Size (WDH)	360 × 368 × 220 mm
Weight	Less than 11 kg
Power Consumption	300 W Printing Avg/ 14 W Printing Sleep
Noise Level	Printing : 49 dB Standby : 36 dB Sleep : Background noise
Image cartridge life	6,000 @ 5% coverage (A4)

## Cable

Characteristic	Description
Parallel	IEEE 1284

## Paper Handling

Characteristic	Description
Input Capacity	250 sheets
Optional Input	250 sheets
Output Capacity	250 sheets Facedown

## Environment

Characteristic	Description
Temperature	Operating : 10 °C ~ 30 °C Storage : 0 °C ~ 35 °C
Humidity	Operating : 30 % ~ 80 % Storage : 10 % ~ 90 %





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If you have access to this online service, you can download the User's Guide and drivers from Samsung Electronics.

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