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# **QMS<sup>®</sup> 1725E Print System Operation**

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**1800386-001B**

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## **Index**



# 1

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## Introduction

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### In This Chapter . . .

- About this guide
- Typographic conventions

# Introduction

This guide will lead you through procedures for installing consumables such as media and toner cartridges. You'll also find information on advanced printing features, printer care, print quality, and a troubleshooting section in case something goes wrong. Use this guide in conjunction with your other QMS 1725E Print System documentation.

This chapter gives you a brief overview of this manual.

## About This Guide

The information in this manual is divided into the following sections:

■ **Chapter 1—Introduction**

Provides an overview of this guide.

■ **Chapter 2—Consumables**

Describes the paper stocks best suited for your printer; how to load paper, labels, transparencies, envelopes; and how to replace the toner cartridge.

■ **Chapter 3—Advanced Printing Features**

Explains how to print duplex, chain cassettes, collate output, print a status page, cancel a print job, and end a print job.

■ **Chapter 4—Printer Care**

Describes how to handle and clean the printer.

■ **Chapter 5—Print Quality**

Gives information on how to improve print quality through adjustments of print density, gamma correction and printer resolution.

■ **Chapter 6—Troubleshooting**

Provides media jam prevention tips, explains how to locate and clear media jams, lists printer status messages, outlines printer

and print quality problems and solutions, and describes how to place a service call.

■ **Appendix A—QMS Customer Support**

Provides world-wide product sales and support telephone numbers and describes how to communicate with QMS through the QMS Bulletin Board, CompuServe, the Internet, and Q-FAX.

## **Typographic Conventions**

The following typographic conventions are used throughout this manual:

Mixed-Case Courier      Text you type, and messages and information displayed on the screen

*Mixed-Case  
Italic  
Courier*      Variable text you type; replace the italicized word(s) with information specific to your printer or computer

UPPERCASE  
COURIER      Information displayed in the printer message window

**lowercase  
bold**      PostScript operators and DOS commands

*lowercase  
italic*      Variable information in text and PostScript variables

UPPERCASE      File and utility names

↵      Press the Enter key (PC) or Return key (Macintosh)

^      Press and hold down the Ctrl key (PC)

» *Note:* Notes contain tips, extra information, or important information that deserves emphasis or reiteration.


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ⓘ **Caution:** Cautions present information that you need to know to avoid equipment damage, process failure, or extreme annoyance.

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## About This Guide

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 **WARNING!** Warnings indicate the possibility of personal injury if a specific procedure is not performed exactly as described in the manual.

*ACHTUNG!* Bitte halten Sie sich exakt an die im Handbuch beschriebene Vorgehensweise, da sonst Verletzungsgefahr bestehen könnte.

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# 2

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## Consumables

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### **In This Chapter . . .**

- Preventing media jams
- About paper
- Loading paper, transparencies, labels, and envelopes
- Toner cartridges

# Introduction

This chapter covers basic printer operation using various kinds of paper and print media; loading paper, transparencies, labels, and envelopes; and toner cartridge handling and replacement.

## Preventing Media Jams

There are several things you can do to reduce the occurrence of media jams.

- Your paper, labels, and overhead transparencies must meet the guidelines set for the printer. See appendix B, “Technical Specifications,” in your *Reference* guide.
- If you have problems with double feeding, remove the media from the cassette or input bin and fan the edges. The sheets may be sticking together. However, do not fan transparencies since this causes static electricity.
- Print media must be stored away from moisture and humidity.
- Many manufacturers place an arrow on the end of the wrapper that indicates which side of the media should be used for printing. If you have problems and cannot determine which side of the paper should be printed, remove the paper from the cassette, rotate the stack a half-turn, turn the stack over, and then place it back in the cassette.
- If none of the above relieves media jamming, notify your vendor.

# About Paper

Your print quality depends in large part on the quality of the paper. You can get sharper contrast on printed pages by using special laser printer paper, which is available from a variety of paper manufacturers. This paper is thicker, smoother, and whiter than copier paper and gives your page a more professional appearance.

The printer accommodates paper from 16 to 24 pounds (60 to 90 g/m<sup>2</sup>) with cassette feed and 16 to 36 pounds (60 to 135 g/m<sup>2</sup>) with manual feed. Conventional copier paper is adequate for most applications. Copier paper has a smooth, clean surface, controlled electrical properties, and heat stability. This assures good image transfer without excessive curling of the paper.

You can use special paper, such as bond paper, often used for stationery, for special applications. However, textured paper may result in uneven toner placement and print quality may vary. You may want to do a test run before printing a large quantity. Colored paper may also be used, but not paper with a colored coating applied. Appendix B, "Technical Specifications," in your *Reference* guide contains additional paper specifications.

## Paper Sizes

Your printer supports four different paper sizes. It automatically detects which size paper cassette is installed and judges the paper size accordingly; letter-size paper in a legal-size cassette does not work. Be sure to match the paper size to the appropriate paper cassette. You may purchase additional paper cassettes from your QMS vendor.

## About Paper

The table that follows gives exact paper sizes your printer supports as well as the imageable area. This imageable area is smaller than the size of the paper.

- » Note: Imageable areas are not centered on their respective pages and may vary plus or minus 1/16" (1.6 mm). This can be adjusted from the control panel in the Administration/Engine/Image Alignment menu.

Type	Size	Imageable Area
Letter	8.50" x 11.00" (215.90 x 279.40mm)	8.20" x 10.66" (208.28 x 270.76mm)
Legal	8.50" x 14.00" (215.90 x 355.60mm)	8.20" x 13.66" (208.28 x 346.96mm)
Executive	7.25" x 10.50" (184.15 x 266.70mm)	6.95" x 10.16" (176.53 x 258.06mm)
A4	8.27" x 11.69" (210.00 x 297.00mm)	7.97" x 11.36" (202.50 x 288.50mm)

## Paper Storage

How you store paper can make a big difference in print quality and printer operation. Improperly stored paper increases the chance of paper jams during printing and can drastically affect the appearance of your printed pages. Keep paper in good condition by storing it

- In its wrapper
- On a flat surface
- In a closed cabinet
- In a cool, dry area

Do not leave paper unwrapped or in a place where heat and humidity can damage it.

# Paper Feeding

There are two ways of feeding paper through your printer:

- Cassette feed (automatically)
- Manual feed (by hand)

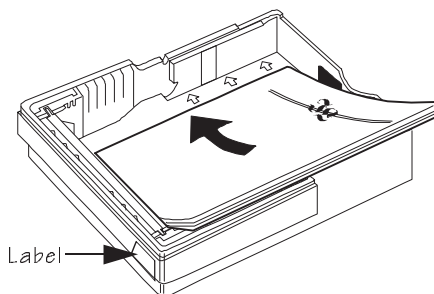
Cassette feed automatically pulls paper from one of the cassettes at the front of the printer. The cassettes handle paper as light as 16 pounds (60 g/m<sup>2</sup>) or as heavy as 24 pounds (90 g/m<sup>2</sup>), and the maximum loading depth is 1.97 inches (50 mm).

Use the following instructions to install a cassette:

## 1 Fill the cassettes with paper.

If you're using

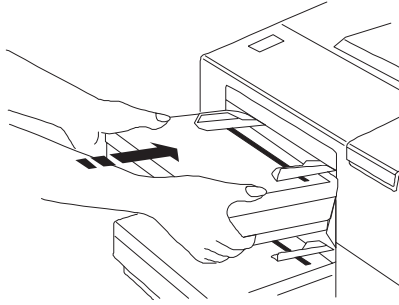
- Letterhead and printing simplex (single sided), be sure to place the paper face up, top edge inserted first.
- Letterhead and printing duplex (double sided), place the paper face down, bottom edge inserted first.
- Letterhead and printing combination simplex and duplex jobs, refer to the Letterhead option in the Engine submenu covered in chapter 4, "Printer Configuration," of your *Reference* guide.



- » Note: The cassette label indicates which size paper to use. When inserted in the printer, each cassette sets off a series of internal switches which the printer reads to determine page size. Use only the size paper marked on the cassette's label for cassette feed.

## Face-up Output Bin

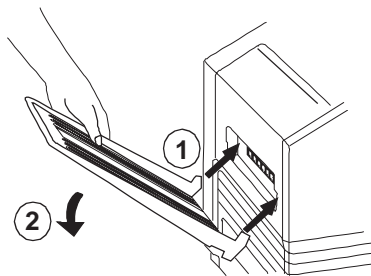
- 2 Place the covers on the cassettes.
- 3 Slide the filled cassettes into the proper openings in the front of the printer.



## Face-up Output Bin

After being printed, paper normally stacks face down in the recessed area on the top of the printer. The face-down output bin holds up to 500 sheets of paper. For face-up output, you must attach the face-up output bin to the rear of the printer and configure the printer to access this bin. This output bin holds up to 50 sheets of paper. Use the following instructions to attach the face-up output bin:

- 1 Insert the two end tabs of the face-up output bin into the slot on the back of the printer.
- 2 Allow the extended part of the bin to lean back into its normal position.



# Manual Feed

Manual feed is the method of feeding media by hand. You can use the manual feed slot with the adjustable feed guide on top of the paper cassettes for a single manual-feed job. Single-sheet manual feed makes it possible to feed individual sheets of paper or other material (such as envelopes, label stock, and transparencies) into your printer. Paper weight can range from 16 to 36 pounds (60 to 135 g/m<sup>2</sup>).

Envelopes can be fed from the manual feed slot of the upper cassette or with the optional envelope feeder (see chapter 6, "Printer Options," in the Reference guide for more information). Cut sheets, labels, and transparencies can be fed from the manual feed slot of either cassette.

- » *Note: Use the face-up output bin (described in the previous section) when printing heavy-weight stock and envelopes. Using this bin bypasses some internal printer rollers and results in less curl. It is used often with manual feed.*

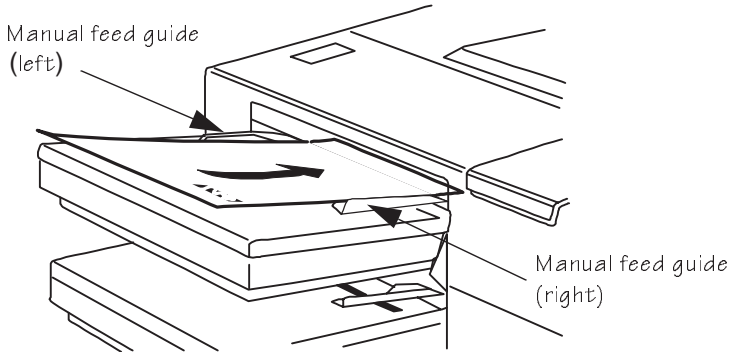
Specify the size of the media to be manually fed in the Operator Control/Manual Feed Size menu option. The printer remains in manual feed mode after pulling a sheet from the manual feed slot. Manual feed is very useful for

- Odd-sized paper (cut sheets)
- Transparencies
- Heavy-weight labels and envelopes

Use the following instructions to feed media by hand.

## Printing Transparencies

- 1 After selecting manual feed in the Operator Control menu, adjust the manual feed guides on the upper or lower paper cassette to match the width of media you are using.



- 2 Insert the media along the guides as far as it goes.

The media is automatically fed into the printer, and the printed media is forwarded to the selected output bin.

## Printing Transparencies

You can also print transparencies for overhead projectors. Use only transparencies recommended for laser printers, such as Canon brand type D and 3M type PP2500. Always use manual feed from either the upper or lower paper cassette, and the face-up output bin at the back of the printer. Remove each transparency from the face-up bin after printing to avoid jams. Transparencies must withstand temperatures up to 356° F (180° C). Other specifications on overhead transparencies are

- Thickness: 0.111 to 0.113 mm (4.37 to 4.45 mils)
- Cutting Dimension Tolerance: +/-0.7 mm (0.031")
- Cutting Angle: 90° (+/- 0.2°)

Transparencies are especially sensitive to a dirty paper path. If there are shadows either on the top or the bottom of the sheets, see chapter 4, "Printer Care," of this manual for instructions on how to clean the media path.

## Printing Labels

Adhesive label stock has pressure-sensitive (peel and stick) adhesive backing. The procedure for feeding labels is almost the same as for regular paper; however, you must use the face-up output bin.

Recommended labels have the following specifications:

- **Type:** Use only labels recommended for laser printers, such as Avery 5260. Adhesive label stock should have pressure-sensitive (peel-and-stick) adhesive backing.
- **Weight:** The printer supports 17-34 lb (64-128 g/m<sup>2</sup>) labels when using manual feed.

» *Note: Label data should be formatted within your application. Try printing your data on a plain sheet of paper first to check placement. This reduces the number of label sheets you use.*

## Printing Envelopes

Envelopes may be printed in two ways:

- From the manual feed slot on the upper cassette (single envelopes)
- From the optional envelope tray (up to 100 envelopes)

Non-standard-size envelopes are acceptable using manual feed as long as they fall into the following size ranges:

- **Minimum size:** 3.5" x 7" (86 mm x 178 mm)
- **Maximum size:** 7.4" x 10.5" (188 mm x 267 mm)

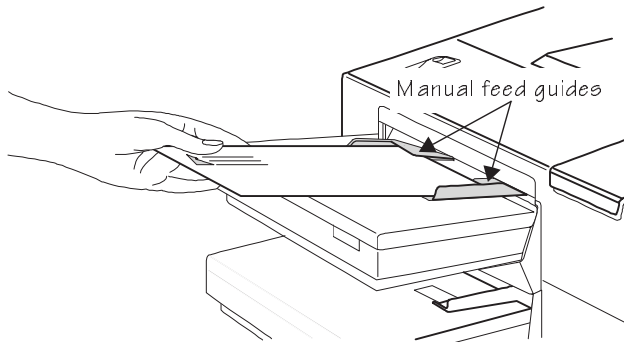
## **Formatting Data for Envelopes**

Your printer receives the necessary instructions to print on envelopes from your software. Read the printing section of your application manual to find out how your software supports envelope printing. The printer should be in landscape mode for most applications. Usually, this is accomplished through the application.

When formatting data for envelopes, leave a 0.6" (15 mm) margin from the edges of the envelope. Print on only one side. Remember, some parts of an envelope consist of three layers of paper the front, back, and flap. Print in these layered regions may be faded.

## **Printing a Single Envelope**

Adjust the manual feed guides on top of the cassette to the correct size of the envelope. Insert a single envelope into the manual feed slot as shown in the following illustration, with the face up and the flap side toward the left manual feed guide.



Because envelopes pass through heated rollers, the gummed area on the flap may seal. Open the flap immediately after it passes through the printer, before the seal cools. You may then reseal in the

normal manner. The use of envelopes with emulsion-based glue avoids this problem.

- » *Note: Before printing envelopes, disable the duplexer if it is installed and check the manual feed guides to make sure they're not too tight and buckling the envelopes. Also, make sure envelope size and type meet specifications listed in appendix B, "Technical Specifications," of your Reference guide. If envelopes curl excessively, use the face-up output bin at the rear of the printer.*

## **The Optional Envelope Cassette**

To load up to 100 envelopes at a time, use the optional envelope cassette. Instructions for installation and use are in chapter 6, "Printer Options," in your *Reference* guide. See your QMS vendor for more information on the optional envelope cassette.

# **Using Toner Cartridges**

Quality printing requires uniform toner application and a clean paper path. This chapter explains basic maintenance to keep your printer running smoothly. It includes installing a toner cartridge, cleaning printer parts, and general printer care.

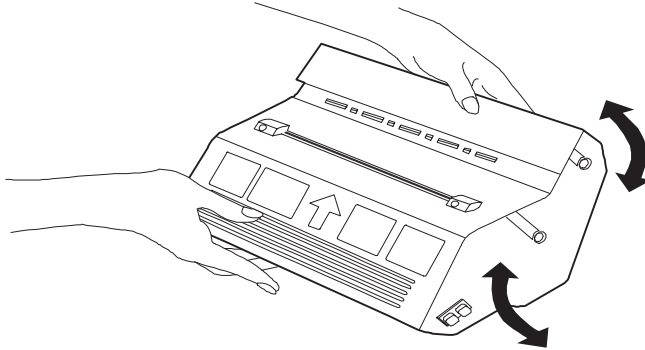
## **When to Replace the Toner Cartridge**

The toner cartridge lasts for approximately 8,000 prints at 5% coverage. (For example, a one-page letter with no graphics.) When the cartridge toner supply runs low, the printer message `TONER OUT` displays. Usually, parts of the page print lighter. It is your option whether or not to continue printing when the engine senses it is out of toner.

When toner is low, it is sometimes helpful to take the cartridge out of the printer and redistribute the toner. This is done by gently rocking the cartridge side to side. Then reinstall the cartridge. If the `TONER OUT` message remains in the display panel after redistributing toner,

## Using Toner Cartridges

the cartridge must be replaced.



### Handling the Toner Cartridge

The cartridge contains the toner and laser-sensitive drum needed to operate the laser printer. The cartridge

- Is sensitive to light; do not expose it to direct sunlight after opening
- Should be installed immediately after opening
- Should be kept level for storage; do not stand or store the cartridge on its end
- Contains a magnet; keep the cartridge away from CRTs, disk drives, and floppy disks since damage may occur to stored data

Additional toner cartridges may be purchased from your QMS vendor. Toner specifications are in appendix B, "Technical Specifications," of your *Reference* manual.

# Installing the Toner Cartridge

The toner cartridge contains the toner and laser-sensitive drum needed to operate the laser printer.

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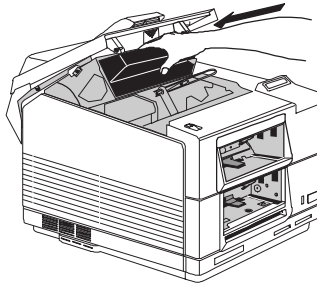
**CAUTION:** The toner cartridge is sensitive to direct sunlight. Do not remove the cartridge from its protective bag until you are ready for installation.

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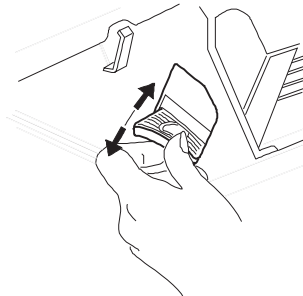
- 1 Open the printer top cover.**
- 2 Hold the new cartridge with both hands and gently rock it from side to side.**

This distributes toner inside the cartridge and helps assure quality printing.

- 3 Gently push the cartridge into the printer until it fits firmly.**

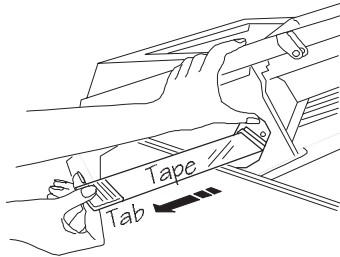


- 4 Grasp the tab protruding from the left side of the cartridge and flex it to break it loose.**



## Installing the Toner Cartridge

- 5 Pull the tab straight out. Pull the attached 22 inches (55 cm) of tape completely out of the cartridge. Discard the tab and tape.



- 6 Close the printer top cover.  
The toner cartridge is now ready for use.



# 3

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## Advanced Printing Features

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### In This Chapter . . .

- High-resolution printing
- Chaining cassettes
- Collating output
- Working with status pages
- Cancelling a print job
- Ending a print job

# Introduction

This chapter describes changing print resolution, using high-resolution while duplexing, chaining paper cassettes, collating output, printing a status page, cancelling a print job, and ending a print job.

## High-Resolution Printing

The QMS 1725E Print System supports two print resolutions: 300 and 600 dpi (dots per inch). Printing at 300 dpi, your printer requires less processing time compared to 600 dpi, since it has fewer dots per inch to map, therefore reducing the time it takes to print. Printing at 300 dpi also reduces the amount of toner used compared to pages printed at 600 dpi. For pages that contain great detail, such as graphics with multiple levels of shading, or for documents requiring the best possible character detail, you should set your printer to 600 dpi resolution. Your *QMS 1725E Print System* comes from the factory with 8 MB (megabytes) of memory, more than enough to handle both 300 or 600 dpi during simplex printing.

You can set the default resolution of your printer through the Administration/Engine/Def Resolution menu.

<b>Menu</b>	Administration/Engine/Def Resolution
<b>Choices</b>	300 dpi—300x300 dpi resolution. 600 dpi—600x600 dpi resolution.
<b>Default</b>	600 dpi

## High-Resolution Printing and Duplexing

If you purchased a printer with the duplex option installed, you may print on any of the media sizes at 300x300 dpi. However, printing duplex at 600x600 dpi will require additional memory. The following

table lists the minimum amount of memory necessary for each resolution/media size combination:

Media	Minimum RAM (in MB)			
	300x300 dpi		600x600 dpi	
	Simplex	Duplex	Simplex	Duplex
Letter	4 MB	6 MB	8 MB	12 MB
Legal	4 MB	6 MB	8 MB	16 MB
Executive	4 MB	6 MB	8 MB	12 MB
A4	4 MB	6 MB	8 MB	12 MB

## Cassette Chaining

This printer has two cassettes (also known as trays or input bins) for a total media capacity of approximately 1000 sheets before a reload is necessary. You may choose to have the printer automatically draw from the alternate cassette when the current cassette empties. There are three ways to do this:

- Your application may include a specific procedure for using a dual-cassette printer. Check your documentation.
- The PS Executive Series Utilities offer a menu-driven program for paper tray selection in the paper source section. If you have this program installed, you can use it to help you configure the printer's paper source.
- The most convenient way to configure the printer is through its control panel.

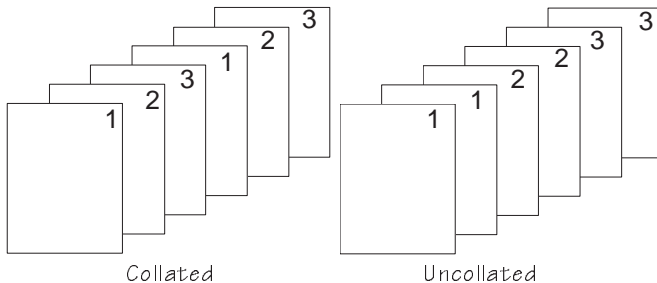
Use the following table to help you configure cassette chaining through the control panel.

- » *Note: Make sure that the two paper cassettes installed in your printer use the same size paper.*

<b>Menu</b>	Operator Control/Chain Inputbins
<b>Choices</b>	On—turns on tray chaining. Off—turns off tray chaining.
<b>Default</b>	On
<b>Notes</b>	Use the Operator Control/Inputbin menu to set the default input bin.

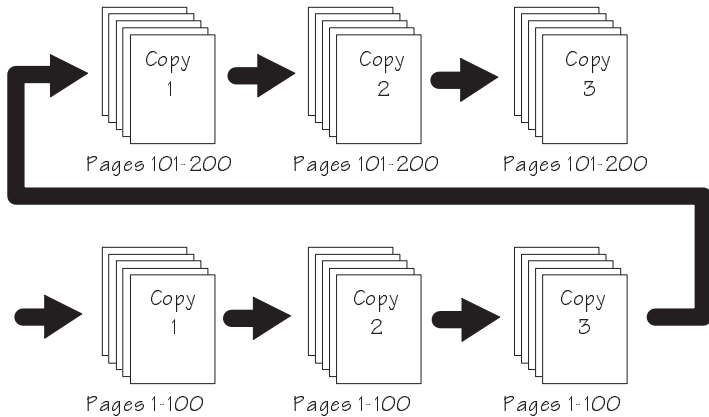
## Collating Output

With sufficient memory (12MB minimum) or a hard disk installed, the QMS 1725E Print System can deliver multiple copies of your files in collated order to the face-down output bin without having to send the file repeatedly. This feature dramatically reduces your data transmission and improves performance. The illustration below shows collated and uncollated stacking for two copies of a three-page file.



The face-down output bin has an offset stacking feature that when enabled, offsets the multiple copies of a print job. With a hard disk installed, collation performance is greatly improved because the file is stored in QMS-compressed format for repeated printing. When disk space is consumed during a print job, the printer begins chunk collating. Chunk collation breaks a job into sections and performs collation on each of those sections. The next diagram shows the printing

order of three copies of a large document when chunk collation is used. Several factors control the point when chunk collation occurs.



The maximum collation sequence is 100 sheets. See the “Collation” section in chapter 4, “Printer Configuration,” in your *Reference* guide for more information on collation.

## **Working with Status Pages**

Printing a status page is a two-step procedure: Identify the type of status page you want to print, and then print it.

### **Identifying a Status Page Type**

Two types of status pages are available:

- **Standard**—This one-page document provides printer identification information (printer type and name, firmware version and release, and number of sheets printed), printer settings (PostScript level, start-up options, paper handling information, resolution, and gamma correction setting), current memory configuration, time-outs, communication settings and input buffer sizes for all standard and optional interfaces, and hard disk status

## Cancelling/ Ending Print Jobs

(address, size, and free space). In addition, an angle bar prints in the lower-left corner for image alignment.

- **Advanced**—This document, which can be five or more pages long, contains the same information as the standard status page as well as configuration menu settings and a full list of fonts and downloaded emulations.

<b>Menu</b>	Administration/Special Pages/Status Page Type
<b>Choices</b>	Standard, Advanced
<b>Default</b>	Standard

### Printing a Status Page

After you have identified the type of status page to print, send it to the printer in one of the following ways:

- Use the PS Executive Series Utilities (see the PS Executive on-line help for instructions).
- Use the control panel keys to select “Yes” in the Print Status menu option.

<b>Menu</b>	Administration/Special Pages/Print Status
<b>Choices</b>	Yes, No
<b>Default</b>	Yes

- » *Note: Only standard status pages can be printed from PS Executive. Advanced status pages are not available.*

## Cancelling/Ending Print Jobs

The Cancel key has two functions:

- It cancels all print jobs that are currently printing, interpreting, or spooling.
- It allows you to send an end-of-job indicator to a currently compiling print job that is waiting for incoming data.

Once the print jobs are canceled or ended, the printer resumes printing other jobs in the queue.

You don't have to press the Online/Offline key to take the printer off line before using the Cancel key. There are no equivalent functions in the configuration menu.

- » *Note: If you need to cancel the cancel job or end job procedure, press the Menu key.*

## **Cancelling a Print Job**

Press the control panel keys in the order shown in the following instructions to cancel a print job.

<b>Press this key</b>	<b>to...</b>	<b>The message window reads...</b>
Cancel	Access the Cancelling Job menu. You are prompted for confirmation that you want to cancel the print job.	CANCELLING JOB? YES
Cancel or Select	Select Yes.	YES IS SELECTED
	Cancel all print jobs in the queue that are currently printing, interpreting, or terminating. The CANCELLING JOB message displays until the print job is completely removed from the printer.	CANCELLING JOB

## **Ending a Print Job**

If the first print job in the queue is waiting for, but not receiving the data it needs to finish printing, the message window displays

```
WAITING FOR INPUT  
END JOB?
```

Use the following procedure to end all print jobs in the queue that are waiting for incoming data.

- » *Note: This procedure does not end a print job that is still receiving data. Its only purpose is to provide an end-of-job indicator for a print job that does not have one. You can identify an end-of-job indicator in the Administration/Communications/Parallel and Administration/Communications/Serial menu. (See chapter 4, "Printer Configuration," in the Reference guide for more information). Also see chapter 5, "Additional Technical Information," in the Reference guide for a complete discussion of End Job Mode.*

<b>Press this key</b>	<b>to...</b>	<b>The message window reads...</b>
Cancel	Access the Cancelling Job menu.	CANCELLING JOB? YES
Next	Advance to the End Job option.	CANCELLING JOB? END JOB
Cancel or Select	Select End Job.	END JOB IS SELECTED



# 4

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## Printer Care

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### In This Chapter . . .

- Handling the printer
- Cleaning the printer

# Introduction

This chapter describes the proper handling and cleaning procedures used during routine maintenance. Keeping your printer clean will help maintain the professional appearance of your documents.

## Handling the Printer

Handle the printer with care to preserve its life. Abuse may cause damage.

- Do not place anything on the top of the printer.
- Two or more people are required to move the printer. Never carry or move the printer by lifting from the paper cassette slot. Lift the printer from the bottom only.
- Keep the output bin at minimum level. If paper stacks too high, you may experience paper jams and excessive paper curl.
- Do not leave the printer open for any length of time, especially in well-lit places. Light may damage the toner cartridge.
- Remove the toner cartridge before moving the printer. Never ship printer with a toner cartridge installed.
- If you are not going to use the printer for an extended length of time
  - Unplug the power cord from the power source outlet
  - Leave the cartridge inside the printer

# Keeping the Printer Clean


To maintain sharp print quality, clean the inside of the printer at the following times:

- Every time the toner cartridge is changed
- After printing 8,000 single-sided pages
- Whenever print quality becomes unsatisfactory

The inside of the printer must be wiped clean of any toner residue and paper dust. The areas requiring regular cleaning are

- The anti-static teeth
- The transfer-guide lock-tray (green with handle)
- The transfer-guide strip (silver metal)
- The media-feed-guide area (black steel)

---

 **WARNING!** Unplug the printer's power cord before cleaning the printer.

**ACHTUNG!** Ziehen Sie den Netzstecker aus der Steckdose bevor Sie den Drucker reinigen.

---

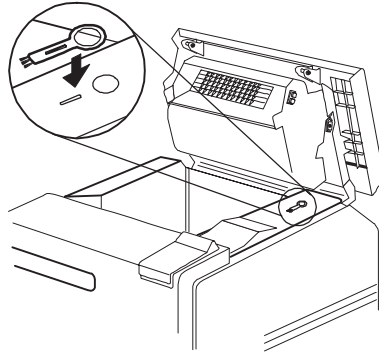
## Cleaning the Anti-Static Teeth

The anti-static teeth decrease the static charge placed on each sheet of media as it passes through the printer. This allows the media to pull toner from the toner cartridge drum. If the anti-static teeth are dirty, too much of the static charge remains on the media and can cause light or missing print on pages (especially in duplex operation).

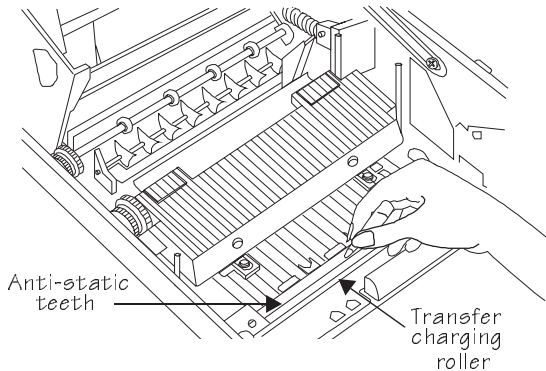
## Keeping the Printer Clean

To clean the anti-static teeth

- 1 **Open the printer top cover to the upright position and remove the cleaning brush from its position guides located directly behind the control panel on the inside of the printer.**



- 2 **Use the cleaning brush to wipe clean the anti-static teeth.**



---

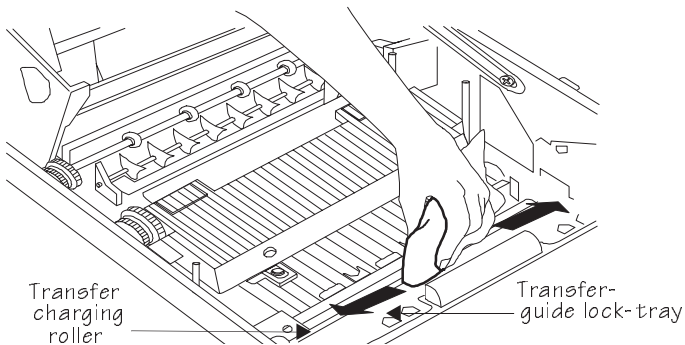
**Caution:** Be careful not to touch the transfer charging roller when cleaning the anti-static teeth. Finger oil, scratches, or other contaminants on the roller may reduce print quality.

---

## Cleaning the Transfer-Guide Lock-Tray and Strip

The transfer-guide area controls the path of the media as it passes through the printer. Dust can accumulate over time on these guides and affect the appearance of your print. To clean the transfer-guide area

- 1 **Make sure the printer's power cord is unplugged and open the printer top section.**
- 2 **With a water-dampened, soft cloth, gently wipe off any dust that may have accumulated on the transfer-guide lock-tray and the transfer-guide strip.**



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**Caution:** Be careful not to touch the transfer charging roller with the water-moistened cloth. Finger oil, scratches, and other contaminants may reduce the print quality.

---

- 3 **Using a dry, soft cloth, wipe the cleaned area to remove moisture.**

## **Cleaning the Media-Feed-Guide Area**

The media feed guide area provides the media path between the transfer guide area and the fuser assembly.

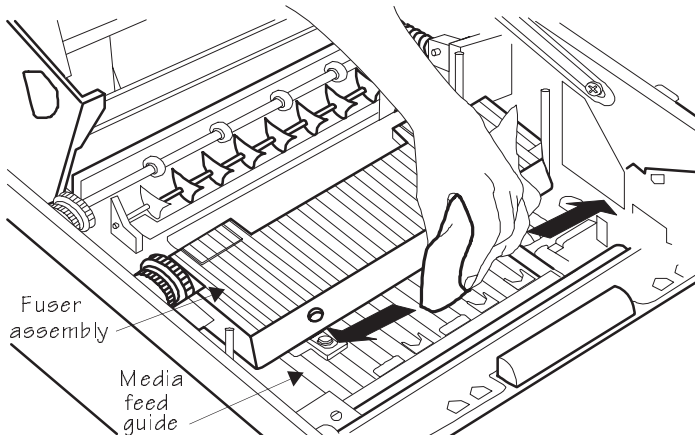
---

**⚠ WARNING:** Be careful; the area around the fuser assembly is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umgebung der Fixiereinheit heiß.

---

- 1 Make sure the printer's power cord is unplugged and open the printer top section.**
- 2 With a water-dampened, soft cloth, wipe off any accumulated dust from the media feed guide area.**



- 3 Using a dry, soft cloth, wipe the cleaned area to remove moisture.**



# 5

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## Print Quality

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### In This Chapter . . .

- About print quality
- About gamma correction
- Changing print resolution

# **Introduction**

Density, gamma correction, and print resolution are some of the factors that affect print quality. High-resolution technology, while more complex, gives you more flexibility to control the print quality factors. This chapter will aid you in setting your printer up for maximum performance. For a more detailed explanation of factors that affect your printer's output, refer to chapter 5, "Additional Technical Information," in your *Reference* guide.

## **About Print Density**

Changing the print resolution setting from 300 to 600 dpi decreases the spacing between dots of toner put on the page. Print density is the amount of toner placed on each dot, making the print appear lighter or darker. The higher the density, the darker the print looks and the higher the contrast is on the page. To adjust the print density

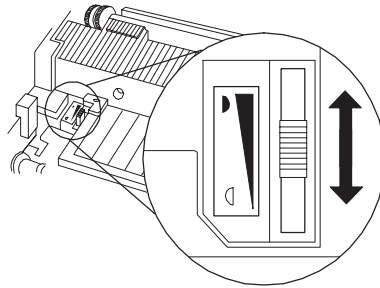
- 1 Open the printer top cover.**
- 2 Locate the density adjustment dial that is inside the printer on the left side.**

The scale on the density adjustment dial shows the density setting; the dark marking identifies increased density, and the light marking identifies reduced density.

**3 Adjust the dial to the desired setting.**

To increase density (darken print on the page), slide the dial toward the rear of the printer. To decrease density (lighten print on the page), slide the dial toward the front of the printer. The dial clicks at the center setting.

- » *Note: You may want to increase density as the toner cartridge depletes.*



## **About Gamma Correction**

Gamma correction is an adjustment of the ranges of shading in a printed image to provide the best copy of scanned images. Through manipulation of shading levels, your printer can be set to improve the print quality of a scanned image automatically. For detailed information on the steps taken during the automated process, see chapter 5, "Additional Technical Information," in your *Reference* guide.

The main benefit of gamma correction is that it improves the print quality of a scanned image by improving contrasts at a given resolution. To get the best gray-scale PostScript image at any resolution, gamma correction should be turned on.

## Changing Print Resolution

You can set gamma correction through PS Exec or through the Administration/Engine/Gamma Correction menu.

<b>Menu</b>	Administration/Engine/Gamma Correction
<b>Choices</b>	On, off
<b>Default</b>	Off
<b>Notes</b>	When gamma correction is set to "on," gamma correction is automatically adjusted when printer resolution is changed. Gamma correction applies only to PostScript images. If turning on gamma correction doesn't yield a suitable gray-scale image for your needs, set a specific gamma correction value through your drawing application or through the PostScript <b>settransfer</b> operator. (See your drawing application documentation, the <i>QMS Crown Technical Reference Manual</i> , and the <i>PostScript Language Reference Manual</i> for more information.)

## Changing Print Resolution

Another way to sharpen the images printed on your pages is through setting the print resolution. Your printer is capable of printing at 300 or 600 dpi. For pages requiring the best quality your printer can provide, set the printer resolution to 600 dpi.

## **Setting Default Resolution**

This option sets the print engine's default resolution.

<b>Menu</b>	Administration/Engine/Def Resolution
<b>Choices</b>	300 dpi—300x300 dpi resolution. 600 dpi—600x600 dpi resolution.
<b>Default</b>	600 dpi
<b>Notes</b>	Printing duplex using 600x600 resolution with legal size media requires 16 MB of printer memory.





# 6

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## Troubleshooting Printer Problems

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### In This Chapter . . .

- Status messages
- Printer problem checklist
- Media jams
- Problem descriptions
- Print quality problems
- Image defects
- Placing a service call

# Introduction

This chapter provides information to aid you in resolving printer problems you may encounter, or at least guide you to the proper sources of help. You'll find in this chapter tables of common status messages, a problem checklist, and actions you should take when a specific problem occurs. There are step-by-step instruction for removing media jams from the key locations along the media path, as well as descriptions of common print quality problems with corresponding solutions. You'll also find what information you'll need to have before placing a service call if one becomes necessary.

## Status Messages

Printer control panel messages help you locate many problems. When the printer needs operator assistance, the message window displays one of the following messages:

Status message	Explanation
<i>x</i> ACTIVE JOBS	The printer is on line. <i>x</i> identifies the number of jobs in process.
ADJUST <i>INPUTBIN</i> BIN	The specified input bin (cassette) isn't inserted correctly, or the cover is open.
<i>INPUTBIN</i> BIN JAM	Media has jammed while being pulled from the specified input bin.
CANCELLING JOB	The Cancel key has been pressed, and the oldest job in the print queue is being cancelled.
CLOSE ENGINE DOOR(S)	One or more of the front or side covers is open and must be closed.
DUPLEXER ABSENT	The optional duplexer unit is not installed.
DUPLEXER JAM	Media has jammed while passing through the duplexer.

## Status Messages

IDLE	The printer is on line, but no jobs are in process.
ILLEGAL DUPLEX PRINTING	The optional envelope feeder was selected as the input bin and the duplexer as the output bin. The printer does not support duplexing envelopes.
ILLEGAL MANUAL FEED PRINTING	Media has been inserted in the manual feed slot before the paper tray lifting mechanism is in the ready position.
INITIALIZING	The printer is getting ready to go on line.
INPUT IDLE PRINTING	The printer is on line and printing jobs already in the queue. No new jobs are arriving at the communication interfaces.
OUTPUTBIN <i>OUTPUTBIN FULL</i>	The specified output bin is full.
OUTPUTBIN <i>OUTPUTBIN JAM</i>	Media has jammed between the printer engine and the specified output bin (tray).
PRINTING STATUS	A status page is printing
PUT <i>SIZE PAPER IN INPUTBIN BIN</i>	The selected input bin (cassette) needs paper of the specified size.
TEST PRINT	A test print page is printing.
TONER ABSENT	The toner cartridge is not installed.
TONER OUT	The engine's toner cartridge is empty.
TRANSPORT JAM	Media has jammed while passing through the engine.
WAITING FOR IDLE	A job is in process. Access to the menu is not allowed until the job is finished.

## Status Messages

WAITING ON INPUT END JOB?	The compiler is waiting on incoming data for the first job in the queue. The job may not have an end-of-job indicator and therefore cannot end. The message clears if more input arrives from the port or if you press the Cancel key. No other jobs can be printed until this job has ended.
WARMING UP	The printer is warming up.

## Service Messages

When the printer requires service, operation stops and the message window displays `CALL FOR SERVICE` followed by the location of the problem and error number. Have this information available when you call for service.

- » *Note: A service message sometimes occurs as a result of an unusual combination of events, not because of an actual problem. When the printer stops and a service message displays in the message window, turn the printer off and back on. This often clears the service message indicator and printer operation resumes. Always try this before making a service call.*

Service calls should be placed to the vendor from whom you purchased the printer. If you cannot get service from your vendor, see appendix A, "QMS Customer Support."

## **HP-GL Error Codes and PCL Error Codes**

The following tables list error codes that could appear on the printer message window when running HPGL or PCL emulations.

<b>HP-GL Error Code</b>	<b>Explanation</b>
0	Not enough memory for job.
1	Too many transformations.
2	Math error.
3	Job aborted.
4	Instruction not recognized.
5	Wrong number of parameters.
6	Out of range parameter, or illegal character.
7	Not used.
8	Unknown character set.
9	Position overflow.
10	Buffer overflow.

<b>PCL Error Codes</b>	<b>Explanation</b>
0	Not enough memory for job.
1	State lost.
2	Math error.
3	Job aborted.
4	Out of memory for macros.
5	Disk full. Cannot store fonts.
6 - 13	Internal error 1 - 8.

## **PostScript Errors**

If your printer is having trouble printing when using PostScript emulation, you should turn on the Error Handler in the control panel menu. Error Handler is a diagnostic tool that identifies PostScript errors encountered during a print job.

## Printer Problem Checklist

<b>Menu</b>	Administration/Startup Options/Do Error Handler
<b>Choices</b>	Yes—Load the Error Handler. No—Don't load the Error Handler.
<b>Default</b>	No
<b>Notes</b>	Refer to the <i>PostScript Language Reference Manual</i> (Adobe Systems Incorporated, Reading, PA: Addison-Wesley, 1990, ISBN 0-201-18127-4) for information on PostScript errors.

# Printer Problem Checklist

This section contains a list of possible printer problems and solutions. If you have just installed your printer, be sure you have followed the steps in chapter 2, "Setting Up Your Printer," in the *Getting Started* guide.

If there is no display message, use the following steps to identify the source of your problem and to learn of possible solutions:

### 1 Does the printer power light come on?

**YES** - Go to number 2.

**NO** - Check the following:

- Is the power cord plugged into both the power outlet and the printer?
- Are both printer power switches in the On position (I)?
- Is the power outlet working?
- Does the line voltage from the power outlet match the printer's power requirements? See appendix B, "Technical Specifications," in your *Reference* guide.

**2 Can you print a status page?**

**YES** - Go to question 3.

**NO** - Check the following:

- Is the printer off line before you try to enter the Administration/Special Pages/Print Status menu? It should be.
- Does the cassette have paper? If it is out of paper, the PAPER OUT message displays and the Error indicator lights.
- Is the method of tray delivery configured correctly? See chapter 4, "Printer Configuration," in your *Reference* guide.
- Are all the printer covers closed securely?
- Is there a media jam? If a paper jam message displays and the Error indicator lights, go to one of the following sections in this chapter on clearing a media jam.

**3 Is the printer receiving data from the computer? If the Data indicator blinks after a file is sent, the printer is receiving the data. If not, check the following:**

- Is the printer on line? The online/offline indicator should be on and the message window should display IDLE.
- Has the emulation been changed from ESP to an emulation that doesn't match the file you are sending. See chapter 4, "Printer Configuration," in the *Reference* guide.
- Print a status page from the control panel. If you are using the serial interface, is the baud rate (speed of data transmission) of the printer, the computer, and your software application the same? See chapter 4, "Printer Configuration," in the *Reference* guide.
- If you still cannot identify the problem, contact your QMS vendor.

### 4 Is the printer printing codes or not printing at all when in ESP mode?

- Reconfigure the port to the specific printer emulation of the file you are trying to print. See chapter 4, "Printer Configuration," in the *Reference* guide for instructions, or use the PS Executive Series Utilities to change modes.
- If a PostScript file prints PostScript emulation statements while in ESP mode, increase the ESP timeout. See chapter 4, "Printer Configuration," in your *Reference* guide to change it from the control panel, or use the PS Executive Series Utilities.
- If you continue to have problems with the ESP mode selecting the appropriate printer emulation, contact your QMS vendor.

### 5 If nothing prints at all, do an engine test print.

On the front of the printer below the control panel and above the power switch is a line indentation with an opening. Insert a pen or end of a paper clip into the opening until you hear a slight click. This should produce a page with vertical lines from one end to the other. If the test print shows any pattern other than this, contact your QMS vendor.

# Media Jams

## Locations

When a media jam occurs, the media path graphic on the printer's control panel lights in the area closest to the location of the jam and a paper jam message displays in the message window. Frequent jams in any area indicate that area should be checked, repaired, or

cleaned. Repeated jams may also happen if you are using the wrong weight paper. Jams can occur in the following areas:

- Upper input bin
- Lower input bin
- Image transfer area
- Fuser assembly area
- Output area
- Duplexing unit


After checking for and removing media from the areas indicated, open and close the printer cover to clear the jam signal. If all the jammed media has been removed, printing automatically restarts when the cover is closed. If printing does not restart or if the printer jams again, make sure that no pieces of media remain in the printer.

## **Clearing an Input Bin Media Jam**

Follow these instructions to clear a media jam from the upper or lower input bin:

- 1 Open the printer top cover and locate the transfer-guide lock-tray.**

---

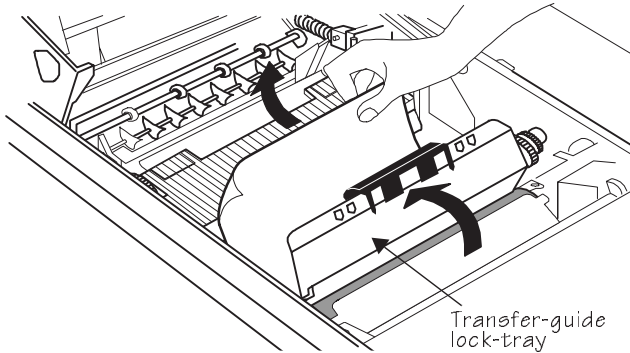
 **WARNING:** Be careful; the area around the transfer-guide and roller is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umgebung der Papierführung heiß.

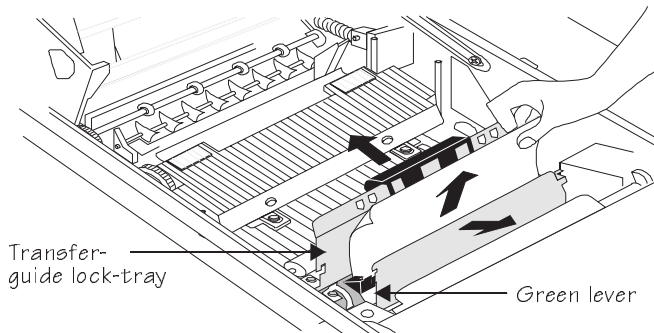
---

- 2 Gently open the transfer-guide lock-tray and remove any media.**

If necessary, remove the cassettes from the printer first.

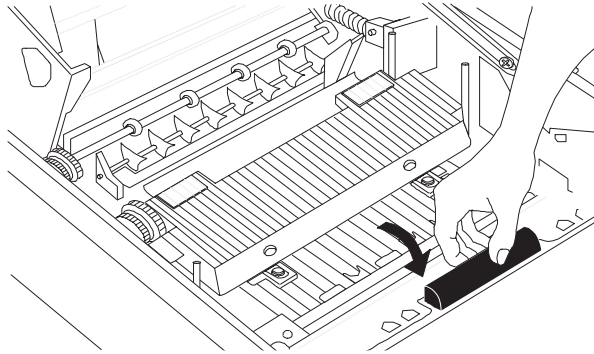


- 3 If you experience difficulty in removing the media, or if media isn't visible under the transfer-guide lock-tray, lift the green lever on the inner metal plate to check for jammed media under the metal plate. Remove the media.**



- 4 **Restore the inner metal plate to its original position and close the transfer-guide lock-tray.**

Both must be properly in place before closing the printer or the printer may be damaged.



- 5 **Close the printer's top cover.**

## Clearing an Image-Transfer Area Media Jam

To clear a media jam from the image-transfer area, follow these steps:

- 1 **Open the printer top cover and locate the transfer-guide lock-tray.**

---

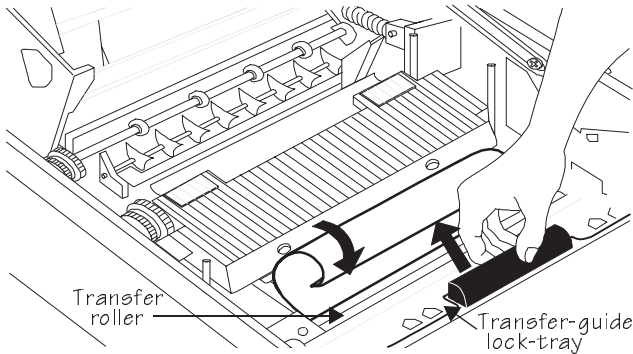
**⚠** **WARNING:** Be careful; the area around the transfer-guide and roller is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umbegung der Papierführung heiß.

---


- 2 Gently open the transfer-guide lock-tray and remove any media by rolling it toward you.

Avoid touching the transfer roller. Be careful not to get the paper near any clothing. It may contain some unfused toner.



- 3 After removing the media, close the transfer-guide lock-tray.

---

 **Caution:** Make sure the transfer-guide lock-tray is properly in place before closing the printer or the printer may be damaged.

---

- 4 Close the printer top cover.

## Clearing a Fuser Assembly Area Media Jam

Use this procedure to clear a paper jam from the fuser assembly area:

- 1 Open the printer top cover and locate the fuser assembly.

---

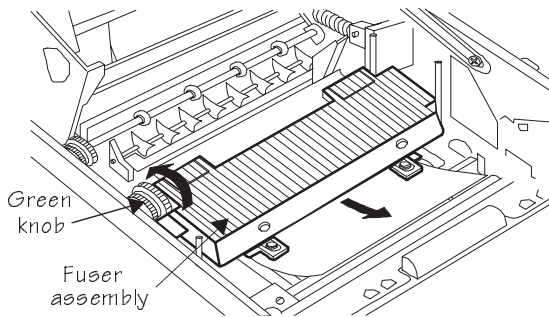
 **WARNING:** Be careful; the area around the fuser assembly is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umgebung der Fixiereinheit heiß.

---

- 2 If the jam is at the front of the fuser assembly, remove the media by using the green plastic knob at the left of the fuser and rolling it away from you.

Be careful not to get the media near any clothing. It may contain some unfused toner.



- 3 If the media is stuck in the rear of the fuser assembly, open the green fuser assembly rear door.

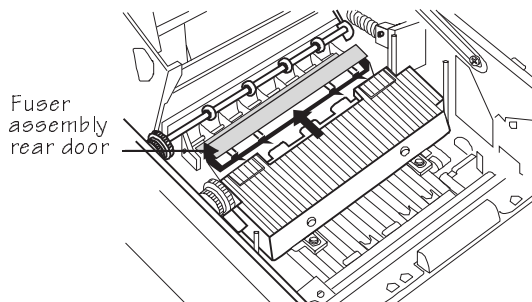
Remove the media by turning the green plastic knob at the left of the fuser to feed the media through the fuser assembly.

---

**⚠️ WARNING:** Be careful; the area around the fuser assembly is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umgebung der Fixiereinheit heiß.

---



- 4 After removing the media, close the fuser assembly rear door and make sure it is properly in place before closing the printer or the printer may be damaged.
- 5 Close the printer top cover.

## Clearing an Output Bin Media Jam

Follow these steps to clear a jam from the output area:

- 1 Open the printer top cover and locate the fuser assembly.

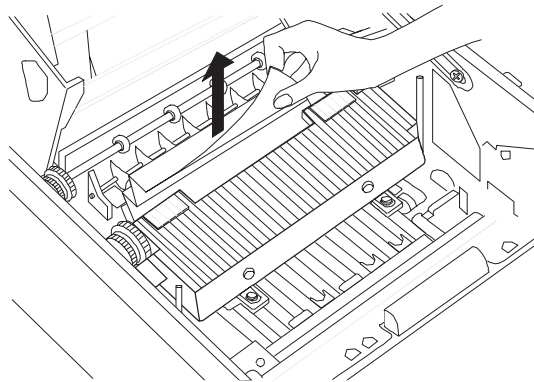
---

**⚠️ WARNING:** Be careful; the area around the fuser assembly is hot.

**ACHTUNG!** Verletzungsgefahr! Bei Betrieb wird die Umgebung der Fixiereinheit heiß.

---

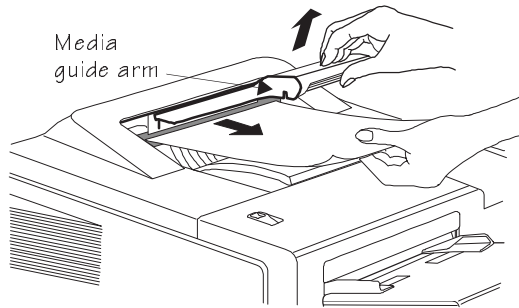
- 2 If the media is jammed inside the fuser assembly, grasp the edge of the media and remove it.



- 3 If the jammed media has passed completely through the fuser assembly and is partially visible in the upper output

bin, close the printer top cover, and then lift the media guide arm and pull out the media slowly.

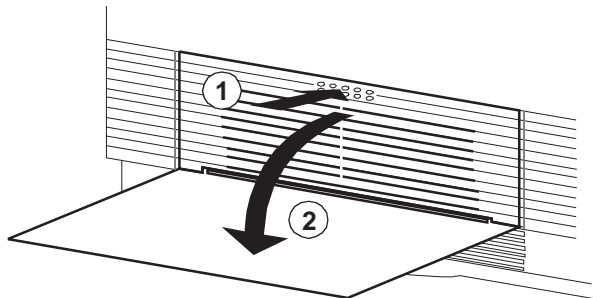
After removing the media, lower the media guide arm.



### Clearing a Duplexer Media Jam

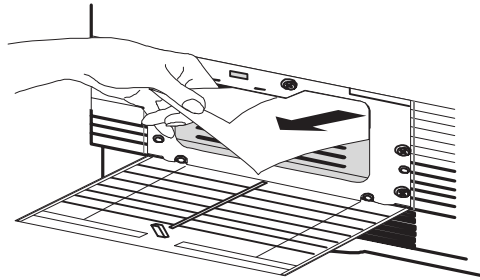
To clear a jam from the duplexing unit, follow these instructions:

- 1 Press lightly on the upper edge of the duplex access door on the lower-left side of the printer.
- 2 The door clicks and springs open.



## **Problem Descriptions**

- 3 Carefully remove any jammed media. Then close the duplex access door.**



# **Problem Descriptions**

## **Paper Jam Message Stays On**

If a PAPER JAM message stays on, open the printer and clear the jam. If the message is still there, try opening and closing the top of the printer again. See the preceding section on clearing media jams for more information.

## **Data Indicator Stays Lit**

If the printer has warmed up and the Data indicator stays on, two problems may exist. If you are downloading additional typefaces, too many can overload the printer's memory, causing the printer to reset and lose information previously downloaded to RAM. Make sure you have enough printer memory.

On an LocalTalk network, Macintosh computers sometimes interfere with each other. If this happens often, reinstall the LaserWriter and Laser Prep files, which reset the printer. If neither of these is the problem, place a service call to your QMS vendor.

## **No Advanced Status Page**

If your printer prints a standard status page even though you've configured the printer in the Administration/Special Pages/Status Page Type menu to print an advanced status page, your printer probably doesn't have enough free memory available. To print an advanced status page you may need to reduce the amount of memory assigned to one or more of the memory clients or add more memory (see the "Memory" section in chapter 5, "Additional Technical Information," of the *Reference* guide for information about memory clients).

## **No Start-up Page**

If the Ready indicator is on, but no start-up page prints, check the following:

**1 Has the start-up page been disabled?**

Use the PS Executive Series Utilities or the control panel to make sure the start-up page is on.

**2 Turn the printer off. From a cold start, the printer takes approximately 1 to 2 minutes to warm up.**

Be sure you wait long enough for a start-up page before suspecting a problem.

**3 Check to be sure the paper cassettes are loaded with paper, in place and secure.**

**4 Open the top cover of the printer and check for a media jam.**

**5 Make sure a toner cartridge is installed.**

If you still have not solved the problem, you need to call your QMS vendor for help. Go to the last section of this chapter, "Placing a Service Call."

## **Printer Resets**

Occasionally, Macintosh applications interfere with each other. Applications send a printer prep file to the printer at the beginning of each document. Other prep files cannot be sent without resetting the

## **Problem Descriptions**

printer. Monitor your activities to see if there is a correlation between your use of a certain application and the printer resetting. If so, contact the application developer.

Downloading too many typefaces can overload the printer memory and cause the printer to reset to default. Additional memory (RAM), which can be used for font storage, is available and easily installed. Contact your QMS vendor for information on RAM upgrades. See chapter 6, "Printer Options," in your *Reference* guide.

If the printer resets in other circumstances, you should call your QMS vendor for service.

### **Blank Pages**

If a blank start-up page ejects or blank pages come out during a printing job, try the following:

**1 Check the toner cartridge.**

The image does not print if the cartridge is empty.

**2 Be sure you have broken the tab on the side of the toner cartridge and removed the sealing tape.**

**3 If the toner cartridge is not empty, the sealing tape has been removed, and blank pages are ejecting, take the cartridge out, roll it from side to side, and reinstall the cartridge in the printer.**

**4 If these solutions do not work, contact your QMS vendor to purchase another toner cartridge.**

### **Not All Pages Print**

If the printer stops printing in the middle of your file, try the following:

**1 Check your cable.**

You could have the wrong kind of cable, or your printer may not be configured for the correct cable and port.

**2 Make sure no one pressed the Cancel key while your job was printing.**

- 3 Check the message window to see if the cassette you are using needs more media.**

## **Printer Will Not Duplex**

If the error message `DUPLEXER ABSENT` appears in the message window, make sure you have the optional duplexing assembly correctly installed by referring to chapter 6, "Printer Options," in your *Reference* guide. If you have correctly installed the duplexing unit and configured the printer from the front panel to duplex (Operator Control/Def.Duplex), but the printer continues printing simplex, you may need additional memory allocated to the frame buffer. See chapter 3, "Advanced Printer Features," in this guide for additional information on memory required for duplexing.

# **Print Quality Problems**

Print quality problems are those related to the appearance of the pages you print. Print quality problems include white lines on the page, uneven blacks, and other print distortions.

First, refer to the appendix B, "Technical Specifications," in your *Reference* guide for recommended media types. If you are using recommended media and continue to have problems with the quality of your printed pages, try this quick-check procedure:

- 1 Check the print density control lever on the inside of the printer.**

Change the setting and try printing another page. See chapter 5, "Print Quality," for information on setting the print density.

- 2 If the `TONER OUT` message is on, remove the toner cartridge and gently rock it from side to side.**

The toner can settle, and this procedure redistributes the toner. Reinsert the cartridge and try printing again.

- 3 If the message remains on, replace the toner cartridge.**

- 4 **Place a service call to your QMS vendor.**

### **Printer Will Not Print 600 dpi**

If you have configured the printer from the front panel to print at 600 dpi resolution but the printer continues printing 300 dpi, you may need additional memory allocated to the frame buffer. See the “Memory” section in chapter 5, “Additional Technical Information,” in your *Reference* guide for additional information on memory configuration.

## **Image Defects**

The following list includes several image defects with possible solutions. Try the solutions in the sequence given. If the solutions listed don't solve the problem, place a service call to your QMS vendor. See the next section in this chapter, “Placing a Service Call.”

### **White or Light Lines**

- 1 **Remove the toner cartridge and gently rock it from side to side as you would before installing a new cartridge.**

This redistributes toner inside the cartridge. Reinstall the cartridge.

- 2 **If step 1 does not solve the problem, install a new toner cartridge.**

### **Light Image (Entire Page)**

- 1 **Make sure you pulled the tab from the toner cartridge.**
- 2 **Increase the print density by adjusting the print density control lever inside the printer to the thick end of the wedge-shaped scale.**

- 3 **Remove the toner cartridge and gently rock it from side to side as you would when installing a new cartridge.**

This redistributes toner inside the cartridge. Then, reinstall the cartridge.

- 4 **If steps 1, 2, and 3 do not solve the problem, install a new cartridge.**

### **Dark Image (Entire Page)**

- 1 **Decrease print density by adjusting the print density control lever inside the printer to the thin end of the wedge-shaped scale.**

- 2 **Remove the toner cartridge and gently rock it from side to side as you would when installing a new cartridge.**

This redistributes toner inside the cartridge. Then, reinstall the cartridge.

- 3 **If steps 1 and 2 do not solve the problem, install a new toner cartridge.**

### **Stain Along the Edge of the Page**

Install a new toner cartridge.

### **Stains on the Back of the Page**

The media path may be dirty. Clean the media path area. See chapter 4, "Printer Care," for more information.

### **Image Easily Smears when Rubbed**

Place a service call.

# Placing a Service Call

If you have a problem you cannot resolve, contact your QMS vendor. Your QMS vendor is best equipped to immediately handle any problem you may encounter.

If you have technical questions your vendor is unable to answer, you can call or fax questions to QMS Customer Technical Assurance (See Appendix A, "QMS Customer Support" for information on contacting QMS Customer Technical Assurance). If you've determined your printer needs to be examined by a QMS service technician, contact QMS National Service for work inside the US, or one of the QMS international offices for work outside of the US. (National and international contacts are listed in appendix A, "QMS Customer Support.") Before calling, be sure you have the answers to these questions handy to help our technicians serve you more quickly:

- 1 What is your printer model and serial number?**
- 2 What kind of host computer do you have?**
- 3 What operating system do you have and what version?**
- 4 What interface are you using? If serial, what protocol?**
- 5 What application are you using?**
- 6 What is the emulation of the file you're trying to print? In what emulation mode is the port?**
- 7 What is the firmware revision number for your printer? (It is listed on both the status and start-up pages.)**
- 8 If you can print, have a status page available.**

Your service representative needs to know these things prior to helping you.



# A

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## **QMS Customer Support**

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### **In This Chapter . . .**

- Sources of customer support
- QMS world-wide offices

# Sources of Support

Several sources of help and information are available, depending on the type of help you need:

## Your QMS Vendor

Your local vendor (the one from whom you bought the printer) may be best equipped to help you. Your vendor has specially trained service technicians available to answer questions, and the equipment to analyze your printer problems.

## Your Application Vendor

Often, "printing" problems have more to do with the application being used than with the printer. In this case, the application manufacturer is the best source of help.

## Q-FAX

Q-FAX, a QMS information retrieval service, provides application notes, technical support notes on common printing problems, and information about printer specifications, options, accessories, consumables, and prices.

In the United States and Canada, call (800) 633-7213 to reach Q-FAX. In all other countries, call (205) 633-3850. Have your fax number handy when you call (or place the call from your fax machine's handset).

» *Note: The 205 area code will change to 334 on January 15, 1995.*

You can choose to have either a directory (a list of currently available documents on a particular topic) or a specific document sent to you. The first time you call, request the directory (press 2 on your phone or fax keypad when prompted). Then call back to request specific documents. You can order up to three documents per call.

## **The QMS Corporate Bulletin Board System**

The QMS Corporate Bulletin Board System (BBS) contains technical support notes, application notes, drivers, patches, and utilities. Technical questions not requiring an immediate response can be left on electronic mail for the Sysop (System Operator).

The bulletin board [(205) 633-3632] operates at 1200, 2400, 9600, and 14400 baud, 8 data bits, no parity, 1 stop bit, with XMODEM, YMODEM, and ZMODEM capabilities. Contact QMS Customer Technical Assurance for more information about the bulletin board.

» *Note: The 205 area code will change to 334 on January 15, 1995.*

## **CompuServe**

Through CompuServe, you can ask general (non-technical) questions, share information with other users, and access printing information and programs. When you use CompuServe, type the following command:

- `go qmsprint` takes you to the forum where QMS is located.

The QMS library section contains application notes, printer drivers, utilities, technical information, and announcement files.

## **Internet**

The QMS server provides access to technical reports, new product announcements, a trade show schedule, and other general information about QMS.

You can access the QMS server via any one of the many web viewers available to Internet users. If you don't have access to a web viewer, we recommend the NCSA Mosaic web viewer (Mosaic is at <ftp.ncsa.uiuc.edu>). The QMS home page is at <http://www.qms.com/>. The QMS ftp resource is <ftp.qms.com>.

## **QMS Customer Technical Assurance (CTA)**

QMS Customer Technical Assurance is available M-F, 7:00 am-6:00 pm, Central Standard Time, at (205) 633-4500 (US). You can also fax questions to CTA at (205) 633-3716 (US). Please indicate whether you would like a fax or a phone call.

- » *Note: The 205 area code will change to 334 on January 15, 1995.*

If you call for assistance, have the following information ready so our technicians can help you more quickly:

- Your phone number, fax number, and shipping address
- A description of the problem
- The printer model and serial number
- The type of host computer you are using
- The type and version of operating system you are using
- The interface you are using, and, if serial, the protocol
- The application and version you are using
- The emulation you are using
- Your printer firmware version (listed on the status and start-up pages)

## **QMS National Service**

The following numbers are valid in the US. To contact QMS in other countries, see the list of world-wide offices in the following section.

<b>(800) 762-8894</b>	Call for service information and maintenance pricing for repair of all QMS printers and printers of various other manufacturers.
<b>(800) 858-1597</b>	On-Site Service and Depot Repair Information 7:00 am - 7:00 pm, Central Standard Time
<b>(205) 633-4300</b>	Spare Parts Ordering and Information 8:00 am - 5:00 pm Central Standard Time

» Note: The 205 area code will change to 334 on January 15, 1995.

# **QMS World-wide Offices**

<b>United States/ Latin America</b>	<p>QMS, Inc. One Magnum Pass Mobile, AL 36618 (205) 633-4300</p> <p>Product Information: (800) 523-2696 OEM Information: (800) 631-2692 Consumables: (800) 777-7782 Fax: (205) 633-4866 E-mail: info@qms.com Latin America Fax: (205) 639-3347</p> <p>» Note: The 205 area code will change to 334 on January 15, 1995.</p>
<b>Asia-Pacific</b>	<p>QMS Asia-Pacific Auckland 64 (9) 630 7912 Melbourne 61 (3) 899 5777 Sydney 61 (2) 901 3235 Tokyo (81) (3) 3437 4030</p>
<b>Canada</b>	<p>QMS Canada, Inc. 9630 Rte. Trans-Canadienne Saint-Laurent, Québec H4S 1V9 Telephones: (514) 333-5940, (800) 361-3392 Fax: (514) 333-5949 National Service: (800) 268-4969 National Service Fax: (905) 673-7676</p> <p>Offices in Ottawa, Québec City, Toronto, and Vancouver</p>
<b>Europe, Middle East, Africa</b>	<p>Düsseldorf (49) 211/596 1333 London (44) 1 784 442255 Maarssen (31) 3465 51 333 Paris (33) (1) 4107 9393 Stockholm (46) (8) 725 5680</p>



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