HP LaserJet M1005 MFP Service Manual

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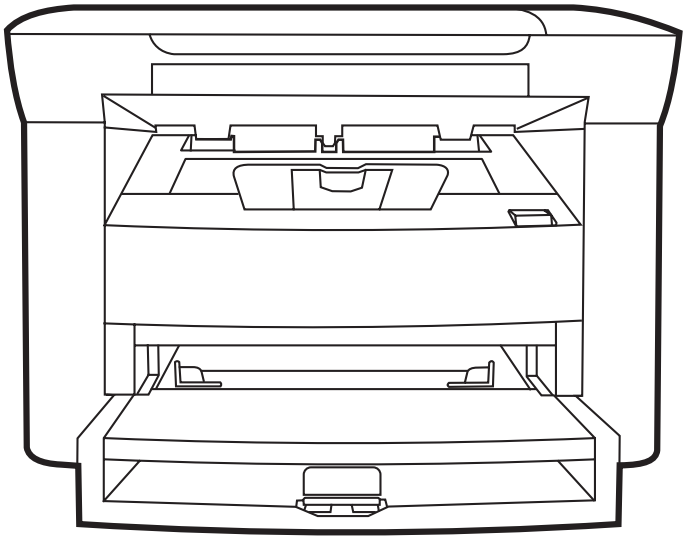

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HP LaserJet M1005 MFP

Service Manual

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Part number CB376-90929

Edition 1, 8/2006

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1 Device information

- Quick access to device information
- Model and serial number label
- Features at a glance
- Walkaround
- General guidelines
- Choosing paper and other media
- Guidelines for using media
- Supported media weights and sizes
- Printing and storage environment

Quick access to device information

Several references are available for use with this device.

- **HP LaserJet M1005 MFP**: www.hp.com/support/LJm_1005.

Table 1-1 Device guides

Guide	Description
Getting started guide	Provides step-by-step instructions for installing and setting up the device.
User guide	Provides detailed information for using and troubleshooting the device. Available on the device CD.
Online Help	Provides information about options that are available in the device drivers. To view a Help file, open the online Help through the printer driver.

Model and serial number label

The model and serial number are located on a label found on the back of the device.

Figure 1-1 Model and serial number label

Features at a glance

Table 1-2 Features

Feature	Description
Print	• Prints letter-size pages at speeds up to 15 pages per minute (ppm) and A4-size pages at speeds up to 14 ppm • Prints at 600 dots per inch (dpi) and FastRes 1200 dpi • Includes adjustable settings to optimize print quality • Average yield for the standard black print cartridge is 2,000 pages in accordance with ISO/IEC 19752. Actual yield depends on specific use.
Copy	• Copies at 600 dots per inch (dpi)
Memory	• Includes 32-megabyte (MB) random-access memory (RAM)
Paper handling	• Priority input tray holds up to 10 pages • Tray 1 holds up to 150 sheets of print media or 10 envelopes • Output bin holds up to 100 sheets of print media
Scan	• Provides 1200 pixels per inch (ppi) full-color scanning
Printer driver	• FastRes 1200 produces 1200-dots-per-inch (dpi) print quality for fast, high-quality printing of business text and graphics
Interface connections	• Includes a Hi-Speed USB 2.0 port
Environmental features	• ENERGY STAR®-qualified
Economical printing	• Provides N-up printing (printing more than one page on a sheet) • Provides an EconoMode setting, which uses less toner
Supplies	• Uses a print cartridge that has a no-shake design
Accessibility	• Online user guide is compatible with text screen-readers • Print cartridge can be installed and removed by using one hand • All doors and covers can be opened by using one hand

Walkaround

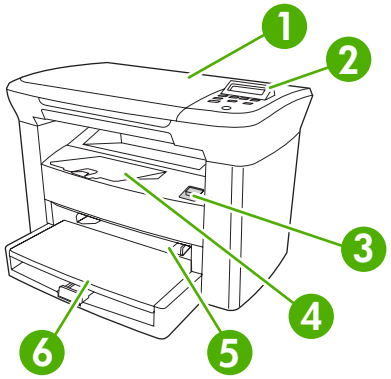


Figure 1-2 Front view

1	Flatbed scanner cover
2	Control panel
3	Cartridge-door release
4	Output bin
5	Priority input tray
6	Tray 1

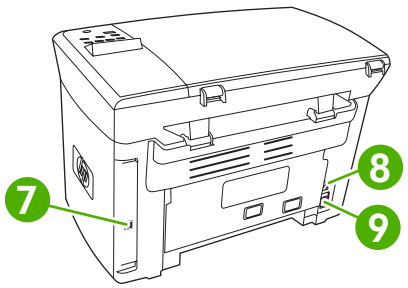


Figure 1-3 Back view

7	Hi-Speed USB 2.0 port
8	Power switch
9	Power receptacle

General guidelines

Some media might meet all of the guidelines in this manual and still not produce satisfactory results. This problem might be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Hewlett-Packard has no control.

Before purchasing large quantities of print media, always test a sample and make sure that the print media meets the requirements specified in this service manual and in the *HP LaserJet Printer Family Print Media Guide*, which you can view on the Web at www.hp.com/support/ljpaperguide.

CAUTION Using media that does not meet HP specifications can cause problems for the device, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

The device accepts a variety of media, such as cut-sheet paper (including up to 100% recycled-fiber-content paper), envelopes, labels, transparencies, LaserJet glossy paper, HP LaserJet Tough paper, and custom-size paper. Properties such as weight, composition, grain, and moisture content are important factors that affect performance and output quality. Media that does not meet the guidelines outlined in this manual can cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the device, requiring repair

Choosing paper and other media

Properties such as weight, grain, and moisture content are important factors that affect performance and quality. To achieve the best possible print quality, only use high-quality media that is designed for laser printers.

NOTE Always test a sample of the media before you purchase large quantities. Your media supplier should understand the requirements specified in the *HP LaserJet Printer Family Print Media Guide* (HP part number 5963-7863).

HP media

HP recommends that you use HP LaserJet media in the device.

Media to avoid

The device can handle many types of media. Using media that is outside the specifications degrades print quality and increases the chance of jams occurring. See Guidelines for using media on page 8.

- Do not use media that is too rough.
- Do not use media that contains cutouts or perforations other than standard 3-hole punched paper.
- Do not use multipart forms.
- Do not use paper that contains a watermark if you are printing solid patterns.

Media that can damage the device

In rare circumstances media can damage the device. Avoid the following types of media to prevent possible damage:

- Do not use media with staples or paper clips attached.
- Do not use transparencies designed for inkjet printers or other low-temperature printers. Use only transparencies that are specified for use with HP LaserJet devices.
- Do not use photo paper intended for inkjet printers.
- Do not use paper that is embossed or coated and is not designed for the temperature of the image-fuser. Select media that can tolerate temperatures of 200°C (392°F) for 0.1 second.
  HP manufactures a media that is designed for the device.
- Do not use letterhead paper that was produced with low-temperature dyes or thermography. Preprinted forms or letterhead must use inks that can tolerate temperatures of 200°C (392°F) for 0.1 second.
- Do not use any media that produces emissions, or that melts, offsets, or discolors when exposed to 200°C (392°F) for 0.1 second.

To order HP LaserJet printing supplies, go to www.hp.com/go/ljsupplies in the U.S. or to www.hp.com/ghp/buyonline.html/ worldwide.

Guidelines for using media

The following sections provide guidelines and instructions for printing on transparencies, envelopes, and other special media. Guidelines and specifications are included to help you select media that optimizes print quality and avoid media that can cause jams or damage the device.

Paper

For best results, use conventional 80-g/m^2 or 20-lb paper. Make sure that the paper is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges.

If you are unsure about what type of paper you are loading (such as bond or recycled), check the label on the package of paper.

Some paper causes print quality problems, jamming, or damage to the device.

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion Problems with feeding	Too moist, too rough, too smooth, or embossed	Try another kind of paper that has a smoothness rating of 100-250 Sheffield and has 4-6% moisture content. Check the device and make sure that the appropriate media type has been selected.
Dropouts, jamming, or curl	Stored improperly	Store paper flat in its moisture-proof wrapping.
Increased gray background shading	Might be too heavy	Use lighter paper.
Excessive curl Problems with feeding	Too moist, wrong grain direction, or short-grain construction	Use long-grain paper. Check the device and make sure that the appropriate media type has been selected.
Jamming or damage to device	Cutouts or perforations	Do not use paper with cutouts or perforations.
Problems with feeding	Ragged edges	Use good quality paper.

NOTE The device uses heat and pressure to fuse toner to the paper. Make sure that any colored paper or preprinted forms use inks that are compatible with the fuser temperature of 200°C (392° F) for 0.1 second.

Do not use letterhead that is printed with low-temperature inks, such as those used in some types of thermography.

Do not use raised letterhead.

Do not use transparencies that are designed for inkjet printers or other low-temperature printers. Use only transparencies that are specified for use with HP LaserJet printers.

CAUTION Failure to follow these guidelines could cause jams or damage to the device.

Colored paper

- Colored paper should be of the same high quality as white xerographic paper.
- Pigments used must be able to withstand the fuser temperature of 200°C (392°F) for 0.1 second without deterioration.
- Do not use paper with a colored coating that was added after the paper was produced.

Custom-size media

Use the main input tray for multiple sheets.

CAUTION Make sure that the sheets are not stuck together before you load them.

Labels

HP recommends that you print labels from the priority input tray.

CAUTION Do not feed a sheet of labels through the device more than once. The adhesive degrades and might damage the device.

Label construction

When selecting labels, consider the quality of the following components:

- **Adhesives**: The adhesive material should be stable at 200°C (392°F), the maximum fuser temperature.
- **Arrangement**: Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl**: Before printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.
- **Condition**: Do not use labels with wrinkles, bubbles, or other indications of separation.

Transparencies

Transparencies must be able to withstand 200°C (392°F), the maximum fuser temperature.

CAUTION You can print transparencies from the 150-sheet tray (tray 1). However, do not load more than 75 transparencies at one time into the tray.

Envelopes

HP recommends that you print envelopes from the priority input tray.

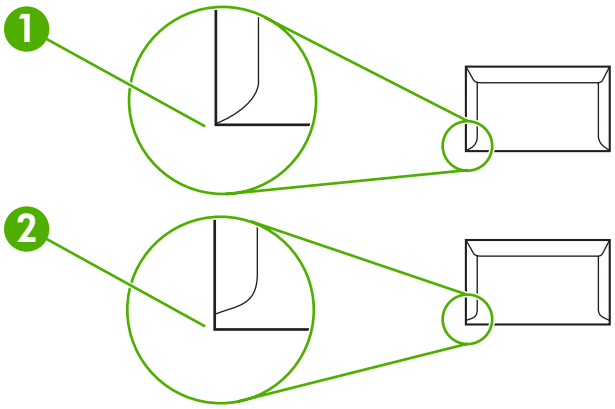
Envelope construction

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers, but also within a box from the same manufacturer. Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following components:

- **Weight**: The weight of the envelope paper should not exceed 90 g/m^2 (24 lb), or jamming might result.
- **Construction**: Before printing, envelopes should lie flat with less than 6 mm (0.25 inch) of curl, and should not contain air. Envelopes that trap air can cause problems. Do not use envelopes that contain clasps, snaps, tie strings, transparent windows, holes, perforations, cutouts, synthetic materials, stamping, or embossing. Do not use envelopes with adhesives that require pressure to seal them.
- **Condition**: Make sure that the envelopes are not wrinkled, nicked, or otherwise damaged. Make sure that the envelopes do not have any exposed adhesive.

Envelopes with double-side seams

An envelope with double-side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style might be more likely to wrinkle. Make sure that the seam extends all the way to the corner of the envelope as shown in the following illustration:



1	Acceptable envelope construction
2	Unacceptable envelope construction

Envelopes with adhesive strips or flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure in the device: 200°C (392°F). The extra flaps and strips might cause wrinkling, creasing, or jams.

Envelope storage

Proper storage of envelopes contributes to good print quality. You should store envelopes flat. If air is trapped in an envelope, creating an air bubble, the envelope might wrinkle during printing.

Card stock and heavy media

You can print many types of card stock from the input tray, including index cards and postcards. Some card stock performs better than others because its construction is better suited for feeding through a laser printer.

For optimum performance, do not use paper heavier than 157 g/m^2 (42 lb). Paper that is too heavy might cause misfeeds, stacking problems, jams, poor toner fusing, poor print quality, or excessive mechanical wear.

NOTE You might be able to print on heavier paper if you do not fill the input tray to capacity and if you use paper with a smoothness rating of 100-180 Sheffield.

In either the software program or the printer driver, select **Heavy** (106 g/m^2 to 163 g/m^2; 28- to 43-lb bond) or **Cardstock** (135 g/m^2 to 216 g/m^2; 50- to 80-lb cover) as the media type, or print from a tray that is configured for heavy paper. Because this setting affects all print jobs, it is important to return the device back to its original settings after the job has printed.

Card stock construction

- **Smoothness**: 135-157 g/m^2 (36-42 lb) card stock should have a smoothness rating of 100-180 Sheffield. 60-135 g/m^2 (16-36 lb) card stock should have a smoothness rating of 100-250 Sheffield.
- **Construction**: Card stock should lie flat with less than 5 mm (0.2 inch) of curl.
- **Condition**: Make sure that the card stock is not wrinkled, nicked, or otherwise damaged.

Card stock guidelines

- Set margins at least 2 mm (0.08 inch) away from the edges.
- Use tray 1 for card stock (135 g/m^2 to 216 g/m^2; 50- to 80-lb cover).

Letterhead and preprinted forms

Letterhead is premium paper that often has a watermark, sometimes uses cotton fiber, and is available in a wide range of colors and finishes with matching envelopes. Preprinted forms can be made of a broad spectrum of paper types ranging from recycled to premium.

Many manufacturers now design these grades of paper with properties optimized for laser printing and advertise the paper as laser compatible or laser guaranteed. Some of the rougher surface finishes, such as cockle, laid, or linen, might require the special fuser modes that are available on some device models to achieve adequate toner adhesion.

NOTE Some page-to-page variation is normal when printing with laser printers. This variation cannot be observed when printing on plain paper. However, this variation is obvious when printing on preprinted forms because the lines and boxes are already placed on the page.

To avoid problems when using preprinted forms, embossed paper, and letterhead, observe the following guidelines:

- Avoid using low-temperature inks (the kind used with some types of thermography).
- Use preprinted forms and letterhead paper that have been printed by offset lithography or engraving.
- Use forms that have been created with heat-resistant inks that will not melt, vaporize, or release emissions when heated to 200°C (392°F) for 0.1 second. Typically, oxidation-set or oil-based inks meet this requirement.
- When the form is preprinted, be careful not to change the moisture content of the paper, and do not use materials that change the paper's electrical or handling properties. Seal the forms in moisture-proof wrap to prevent moisture changes during storage.
- Avoid processing preprinted forms that have a finish or coating.
- Avoid using heavily embossed or raised-letterhead papers.
- Avoid papers that have heavily textured surfaces.
- Avoid using offset powders or other materials that prevent printed forms from sticking together.

NOTE To print a single-page cover letter on letterhead, followed by a multiple-page document, feed the letterhead face up in the priority input tray, and load the standard paper in the main input tray (tray 1). The device automatically prints from the priority input tray first.

Supported media weights and sizes

For optimum results, use conventional 80 to 90 g/m^2 (20 to 24 lb) photocopy paper. Verify that the paper is of good quality and is free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, curls, and bent edges.

NOTE The device supports a wide range of standard and custom sizes of print media. The capacity of trays and bins can vary depending on media weight and thickness and on environmental conditions. Use only transparencies that are designed for use with HP LaserJet printers. Inkjet and monochrome transparencies are not supported for the device.

Table 1-3 Priority input tray specifications

Media	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 89 x 44 mm (3.5 x 1.75 inches)	42 to 260 g/m^2 (11 to 69 lb)	Up to 10 sheets of 80 g/m^2 or 20 lb paper
	Maximum: 216 x 356 mm (8.5 x 14 inches)		
HP Cover paper[3]	Same as the preceding listed minimum and maximum sizes	203 g/m^2 (75 lb cover)	1 sheet
Transparencies and opaque film		Thickness: 0.10 to 0.13 mm (3.9 to 5.1 mils)	1 transparency
Labels[4]		Thickness: up to 0.23 mm (up to 9 mils)	1 sheet of labels
Envelopes		Up to 90 g/m^2 (16 to 24 lb)	Up to 10

1 The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.
2 Capacity can vary depending on media weight and thickness, and environmental conditions.
3 Hewlett-Packard does not guarantee results when printing with other types of heavy paper.
4 Smoothness: 100 to 250 (Sheffield).

Table 1-4 Tray 1 specifications

Media	Dimensions[1]	Weight	Capacity[2]
Minimum size	76 x 127 mm (3 x 5 inches)	60 to 163 g/m^2 (16 to 43 lb)	150 sheets of 80 g/m^2 (20 lb) paper
Maximum size	216 x 356 mm (8.5 x 14 inches)		
Letter	216 x 279 mm (8.5 x 11 inches)		
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
B5 (ISO)	176 x 250 mm (6.9 x 9.9 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10 inches)		
Executive	191 x 267 mm (7.3 x 10.5 inches)		
8.5 x 13 inches	216 x 330 mm (8.5 x 13 inches)		

1 The device supports a wide range of standard sizes of print media. Check the printer driver for supported sizes.
2 Capacity can vary depending on the media weight and thickness, and environmental conditions.

Product: 2000 HP SureStore Optical Jukebox 160ex/320ex/400ex/300mx/600mx/700mx Service Repair Workshop Manual
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Printing and storage environment

Ideally, the printing and media-storage environment should be at or near room temperature, and not too dry or too humid. Remember that paper absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can distort. This issue can cause jams.

As a result, paper storage and handling are as important as the paper-making process itself. Paper storage environmental conditions directly affect the feed operation and print quality.

Care should be taken not to purchase more paper than can be easily used in a short time (about three months). Paper stored for long periods can experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to a large supply of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environmental damage, especially if they are not wrapped with a moisture-proof barrier.

The media-storage environment should be maintained to ensure optimum performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of 45% to 55%. The following guidelines are helpful when evaluating the storage environment:

- Print media should be stored at or near room temperature.
- The air should not be too dry or too humid.
- The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the device environment is subject to extremes, unwrap only the amount of paper to be used during the day's operation to prevent unwanted moisture changes.
- Avoid storing paper and print media near heating and air conditioning vents or near windows and doors that are frequently open.

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