HP Designjet 4000 and 4000ps Printers

Quick reference guide

hp

i n v e n t

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1 Introduction

Using this guide

The *User's Guide* and *Quick Reference Guide* are organized into the following chapters.

Introduction

This chapter provides a brief introduction to the printer and its documentation for new users.

How do I ...

These chapters help you to carry out various procedures such as loading paper or changing an ink cartridge. Many of these procedures are illustrated with drawings, and some are also illustrated with animations (in the *User's Guide* only).

The problem is ...

These chapters help you to solve problems that may occur while printing.

Tell me about ...

Available in the *User's Guide* only, these chapters contain reference information, including the specifications of the printer, and the part numbers of paper types, ink supplies, and other accessories.

Legal information

This chapter contains HP's limited warranty statement, software license agreement, open source acknowledgments, regulatory notices, and declaration of conformity.

Index

In addition to the table of contents, there is an alphabetical index to help you to find topics quickly.

The printer's main features

Your printer is a color inkjet printer designed for printing high-quality images on paper up to 42 in (1.06 m) wide. Some major features of the printer are shown below:

- Production speeds of up to 1.5 m²/min (16 ft²/min), using HP Universal InkJet Bond Paper with the **Fast** print quality option and the **Optimize for Lines and Text** option
- Print resolution of up to 2400×1200 optimized dpi, from a 1200×1200 dpi input, using the **Best** print quality option, the **Maximum Detail** and **Optimize for Images** options, and glossy paper (for more information on print resolution, see "Tell me about functional specifications" in the *User's Guide*)
- Unattended printing using 400 cm³ ink cartridges and rolls of paper up to 90 m or 300 ft in length (see "Tell me about ink cartridges" in the *User's Guide*)
- High productivity features such as multi-file job submitting, job previewing, queueing, and nesting using the printer's Embedded Web Server (see "Tell me about the Embedded Web Server" in the *User's Guide*)
- Ink and paper usage information is available from the front panel, and on the Web from the Embedded Web Server
- Accurate and consistent color reproduction features:
  - Press emulations for U.S., European, and Japanese standards; and color monitor RGB emulations (see "Tell me about color emulation modes" in the *User's Guide*)
  - Automatic color calibration

The printer's main components

The following front and rear views of the printer illustrate the main components.

Front view
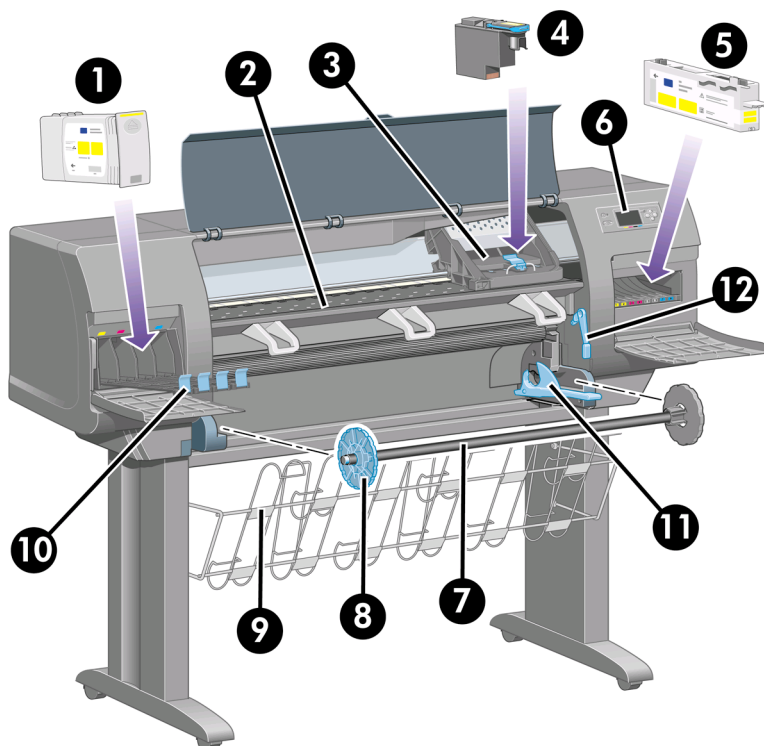
1.   Ink cartridge
2.   Platen
3.   Printhead carriage
4.   Printhead
5.   Printhead cleaner
6.   Front panel
7.   Spindle
8.   Blue removable paper stop
9.   Bin
10. Ink cartridge drawer
11. Spindle lever
12. Paper load lever

Rear view
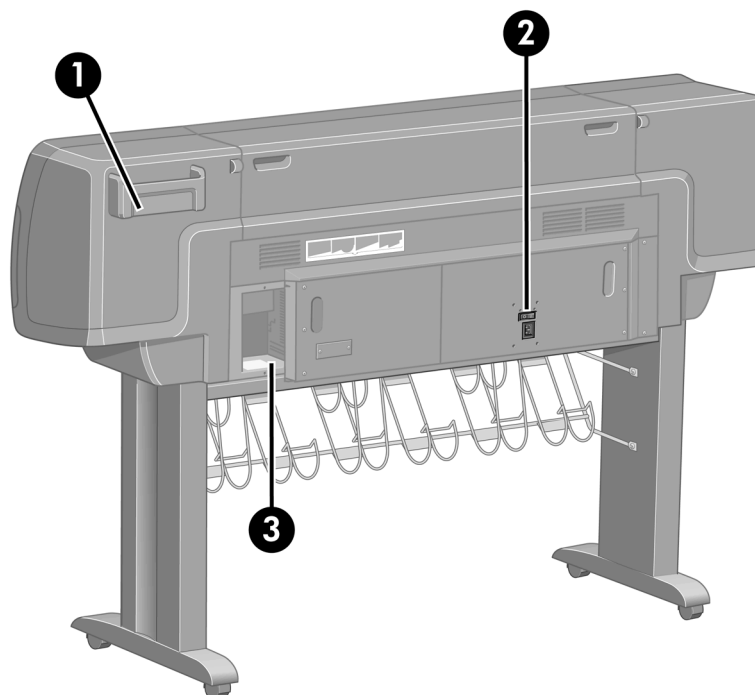
1. Quick Reference Guide holder
2. Power socket and on/off switch
3. Sockets for communication cables and optional accessories

The front panel

Your printer's front panel is located on the front of the printer, on the right-hand side. It has the following important functions:

- It must be used to perform certain operations, such as loading and unloading paper.
- It can display up-to-date information about the status of the printer, the ink cartridges, the printheads, the paper, the print jobs, etc.
- It can provide guidance in using the printer.
- It displays warning and error messages when appropriate.
- It can be used to change the values of printer settings and thus change the operation of the printer. However, settings in the printer are overridden by settings in the Embedded Web Server or in the driver.
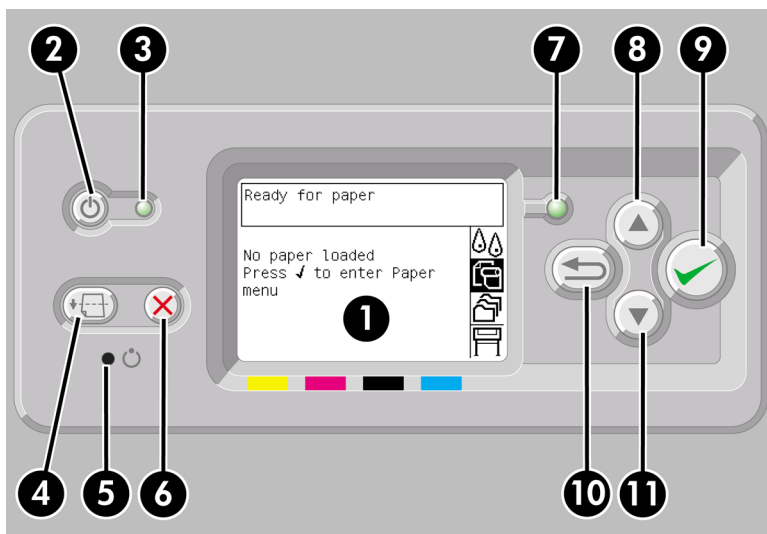
The front panel has the following components:

1. The display area, where information, icons, and menus are displayed.
2. The **Power** key turns the printer on and off. If the printer is in sleep mode, this key will wake it up.
3. The Power light is off when the printer is off; amber when the printer is in sleep mode; green when the printer is on; green and flashing when the printer is in transition between off and on.
4. The **Form Feed and Cut** key normally ejects the sheet (if a sheet is loaded) or advances and cuts the roll (if a roll is loaded). However, if the printer is waiting for more pages to be nested, this key cancels the waiting time and prints the available pages immediately.
5. The **Reset** key restarts the printer (as if it were switched off and switched on again). You will need an implement with a narrow tip to operate the **Reset** key.
6. The **Cancel** key cancels the current operation. It is often used to stop printing the current print job.
7. The Status light is off when the printer is not ready to print: it may be off, or in sleep mode. It is green when the printer is ready and idle; green and flashing when the printer is busy; amber when a serious internal error has occurred; amber and flashing when awaiting human attention.
8. The **Up** key moves to the previous item in a list, or increases a numerical value.
9. The **Select** key selects the item that is currently highlighted.
10. The **Back** key goes back to the previous menu. If you press it repeatedly, or hold it down, you will soon return to the main menu.
11. The **Down** key moves to the next item in a list, or decreases a numerical value.

To **highlight** an item in the front panel, press the **Up** or **Down** key until the item is highlighted.

To **select** an item in the front panel, first highlight it and then press the **Select** key.

The four front-panel icons are all found in the main menu. If you need to select or highlight an icon, and you don't see the icons in the front panel, press the **Back** key until you can see them.

When this guide shows a series of front panel items like this: **Item1** > **Item2** > **Item3**, it means that you should select **Item1**, then select **Item2**, then select **Item3**.

Information about specific uses of the front panel can be found throughout this guide.

Printer software

The following software is provided with your printer:

- The Embedded Web Server, which runs in the printer and enables you to use a Web browser on any computer to submit and manage print jobs, and check ink levels and printer status
- The HP-GL/2 and RTL driver for Windows
- The PostScript driver for Windows
- The PostScript driver for Mac OS 9 and Mac OS X
- The ADI driver for AutoCAD 14

2   How do I operate the printer?

How do I switch the printer on and off?

The normal and recommended way to switch the printer on and off is to use the **Power** key on the front panel.
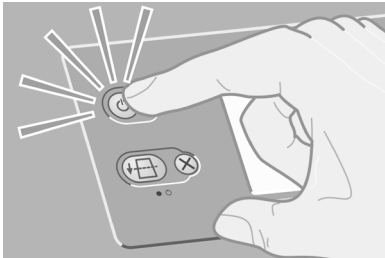
When you switch off the printer this way, the printheads are automatically stored with the printhead cleaners, which prevents them from drying out.

If you are not planning to use the printer for a long time (for instance, a day or more), you are recommended to switch it off using the **Power** key, and then also switch off the power switch at the rear.
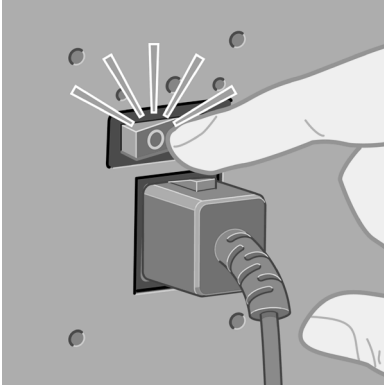
To switch it back on later, use the power switch at the rear, and then the **Power** key.

When the printer has not been used for a certain period of time (30 minutes by default), it will save power by going into sleep mode. However, any interaction with the printer will return it to active mode, and it can resume printing immediately.

How do I restart the printer?

In some circumstances you may be advised to restart the printer. Please proceed as follows:

1. Press the **Power** key on the front panel to switch the printer off, wait a few moments, then press the **Power** key again. This should cause the printer to restart; if not, continue with step 2.
2. Use the **Reset** key on the front panel. You will need an implement with a narrow tip to operate the **Reset** key. This normally has the same effect as step 1 above, but may work if step 1 does not.
3. If neither of the above steps seem to have any effect, you should switch off the printer using the power switch at the rear of the printer.
4. Remove the power cord from the power socket.
5. Wait for 10 seconds.
6. Insert the power cord into the power socket and switch on the printer using the power switch.
7. Check that the Power light on the front panel comes on. If it does not, use the **Power** key to switch the printer on.

How do I change the language of the front panel?

To change the language of the front-panel menus and messages, start with the printer powered off.

1. At the front panel, press the **Select** key and hold it down.
2. While holding the **Select** key down, press the **Power** key and hold it down.
3. Continue to hold down both keys until the green light on the left side of the front panel starts flashing. You can expect a delay of about one second. If the green light starts flashing without any delay, you may need to start again.
4. Release the **Select** and **Power** keys.

The language selection menu should now appear on the front panel.

```
Language
☐ English                ▲
☐ Français
☐ Italiano
☐ Deutsch
☐ Español
☐ Português
☐ ニホンゴ              ▼
```
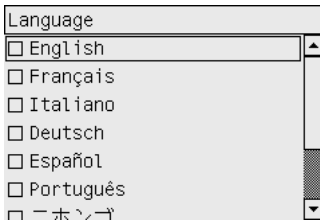
How do I access the Embedded Web Server?

The Embedded Web Server enables you to manage your printer and your printing jobs remotely using an ordinary Web browser running on any computer.

Note In order to use the Embedded Web Server, you must have a TCP/IP connection to your printer. If you have an Appletalk, Novell, or USB connection to your printer, you will not be able to use the Embedded Web Server.

The following browsers are known to be compatible with the Embedded Web Server:

- Internet Explorer 5.5 or later, for Windows.
- Internet Explorer 5.2.1 or later, for Mac OS 9.
- Internet Explorer 5.1 or later, for Mac OS X.
- Netscape Navigator 6.01 or later.
- Mozilla 1.5 or later.
- Safari.

There are several ways to access the Embedded Web Server:

- On any computer, open your Web browser and give the address of your printer. You can find out the address of your printer (starting with **http:**) from the front panel, by highlighting the 🖳 icon.
- Select **Status of my printer**, **Check media available**, or **Manage my printer's queue** from the Services tab of your Windows printer driver, or from the Services panel of your Mac OS printer driver.
- On a computer running Windows with your printer software installed, double–click the Printer Access Utility icon on your desktop, then select your printer.

If you have followed these instructions but failed to get through to the Embedded Web Server, see "The problem is I cannot access the Embedded Web Server from my browser" on page 159.

Using IP over FireWire with Mac OS X 10.3

If you are using Mac OS X 10.3 and have a FireWire connection to your printer, it is possible to set up an IP address for the printer in order to use the Embedded Web Server. To do this:

1. Open **System Preferences** and click **Network**.
2. Choose **Network Port Configurations** from the **Show** pop-up menu.

3. Click **New**, and then choose **FireWire** from the **Port** pop-up menu. You can give the new port configuration a name, FireWire.
4. Drag the port configuration to the top of the Port Configuration list. This ensures that the port is assigned an IP address.
5. Click **Apply Now**.

If you don't drag the FireWire port configuration to the top of the Port Configuration list, you need to choose **Manually** (or **DHCP with manual address**) from the **Configure IPv4** pop-up menu, and then enter an IP address. See **http://www.apple.com/** for more detail or updated information on activating IP over FireWire.

When the printer is connected through FireWire, we recommend adding the printer using the FireWire modules in order to take full advantage of FireWire printing, and to use the IP over FireWire only to visit the printer's Embedded Web Server.

If you connect your printer through FireWire and the printer is also connected to the network through Fast Ethernet or Gigabit Ethernet, the printer's IP over FireWire will not be available and you will not be able to access the Embedded Web Server from the Printer Dialog. However, you will be able to print through FireWire.

Also in the case of printer sharing over FireWire, remote users will not be able to access the Embedded Web Server from the Printer Dialog, although they will be able to print.

How do I change the language of the Embedded Web Server?

The Embedded Web Server can work in the following languages: English, Portuguese, Spanish, French, Italian, German, Simplified Chinese, Traditional Chinese, Korean, and Japanese. It will choose whichever language you have specified in your Web browser's options. If you have specified a language that it cannot support, it will work in English.

To change the language, you must change your Web browser's language setting. For example, in Internet Explorer version 6, go to the Tools menu and select **Internet Options**, **Languages**. Then ensure that the language you want is at the top of the list in the dialog box.

How do I password–protect the Embedded Web Server?

1. In the Embedded Web Server, go to the Security page, which you can find in the Settings tab.
2. Enter a password of your own choice in the **New password** field.
3. Enter it again in the **Confirm password** field to guard against misspelling.
4. Click **Set password**.

Now no-one will be able to perform the following actions with the Embedded Web Server without giving the password:

*   Manage print jobs in the queue (cancel, delete)
*   View previews of print jobs
*   Delete stored jobs

- Clear accounting information
- Update the printer's firmware

> **Note** If you forget the password, see "The problem is I cannot access the Embedded Web Server from my browser" on page 159.

How do I request e-mail notification of specific error conditions?

1. In the Embedded Web Server, go to the E-mail server page, which you can find in the Settings Tab, and ensure that the following fields are correctly filled in:
   - **SMTP server**: the IP address of the outgoing mail server (SMTP) that will process all e-mail messages from the printer. If the mail server requires authentication, e-mail notifications will not work.
   - **Printer e-mail address**: each e-mail message sent by the printer must include a return address, which does not need to be a real, functional e-mail address, but it should be unique, so that recipients of the message can identify the printer that sent it.
2. Go to the Notification page, which is also in the Settings tab.
3. Click **New** to request new notifications (or **Edit** to edit notifications that have already been set up). Then fill in the e-mail addresses to which notifications should be sent, and select the incidents that should result in notification messages. Initially the most commonly-specified incidents are shown; to see all the possibilities, click **Show all alerts**.

How do I change the sleep mode setting?

If the printer is left switched on but unused for a certain period of time, it will go automatically into sleep mode to save power. To change the time the printer waits before it goes into sleep mode, go to the front panel and select the ⊟ icon, then **Configuration menu** > **Sleep mode wait time**.

How do I turn off the buzzer?

To turn the printer's buzzer on or off, go to the front panel and select the ⊟ icon, then **Configuration menu** > **Buzzer**.

How do I change the front panel contrast?

To change the contrast of the front panel display, select the ⊟ icon, then **Configuration menu** > **Display contrast**, and choose a value using the **Up** or **Down** key. Press the **Select** key to set the value you have chosen.

How do I change the units of measurement?

To change the units of measurement displayed in the front panel, select the ⊟ icon, then **Configuration menu** > **Unit selection**, and select **English** or **Metric**.

How do I adjust for altitude?

Your printer will work better if you tell it roughly at what altitude it is. To set the altitude, go to the front panel and select the ⊟ icon, then **Configuration menu** > **Altitude**, and select a range.

3 How do I handle paper?

How do I load a roll onto the spindle?

1. Make sure the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.
2. Lower the spindle lever.
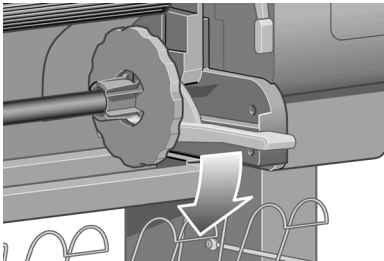
3. Remove the right-hand end of the spindle (1) from the printer, then move it to the right in order to extract the other end (2). Do not insert your fingers into the spindle supports during the removal process.
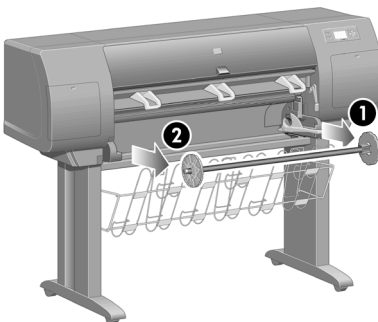
The spindle has a stop at each end to keep the roll in position. The stop at the left-hand end can be removed to mount a new roll, it slides along the spindle to hold rolls of different widths.

4. Remove the blue paper stop (1) from the left-hand end of the spindle.

5. If your roll has a three-inch cardboard core, ensure that the core adaptors supplied with the printer have been installed. See below:
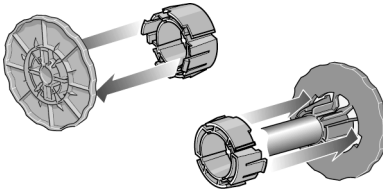
6. The roll may be very long; rest the spindle horizontally on a table and load the roll on the table. Bear in mind that you may need two people to handle it.

7. Slide the new roll onto the spindle. Make sure the paper type is oriented as shown. If it is not, remove the roll, turn it 180 degrees and slide it back on to the spindle.

    Note There is also a label on the spindle showing the correct orientation.
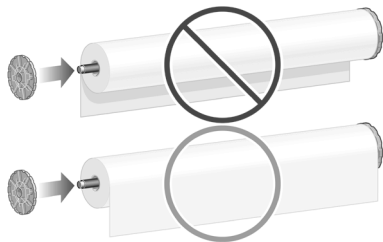
8. Put the blue paper stop on to the upper end of the spindle, and push it towards the end of the roll.
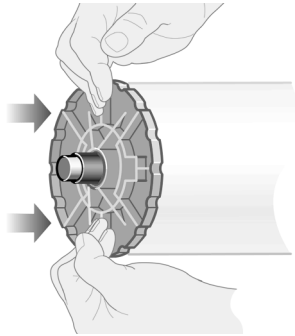
9. Ensure the blue paper stop is pushed in as far as it will go, without using excessive force.
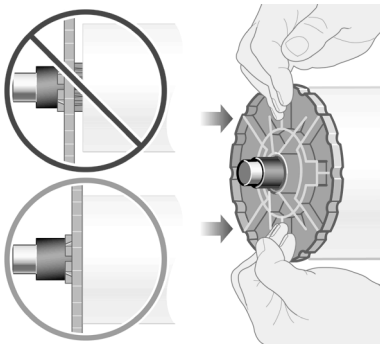
10. With the blue paper stop on the left, slide the spindle into the printer left and then right as shown by the arrows 1 and 2.
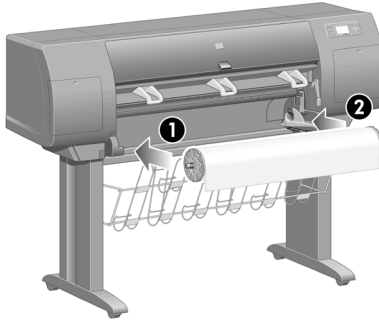
11. To make sure that the right end of the spindle is in place, check that the spindle lever is in its top position (horizontal). You can move the lever yourself if necessary.
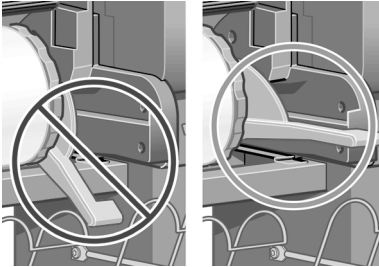
If you are a regular user of different paper types, you can change rolls more quickly if you pre-load rolls of different paper types on different spindles. Extra spindles are available for purchase.

How do I load a roll into the printer?

Note To start this procedure you need to have a roll loaded on the spindle. See "How do I load a roll onto the spindle?" on page 17.

1. At the printer's front panel, select the ⬚ icon, then **Roll** > **Load roll now**.
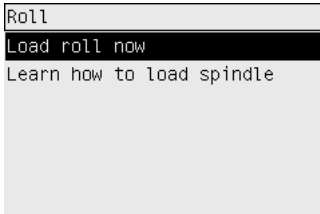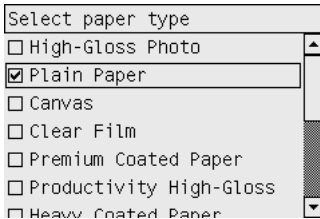
```
Roll
Load roll now
Learn how to load spindle
```

2. The front panel displays a list of paper types.

```
Select paper type
☐ High-Gloss Photo
☑ Plain Paper
☐ Canvas
☐ Clear Film
☐ Premium Coated Paper
☐ Productivity High-Gloss
☐ Heavy Coated Paper
```

3. Select the paper type you are using. If it is not clear which you should select, see "How do I select supported paper types?" on page 32.
4. Wait until the front panel prompts you to open the window.
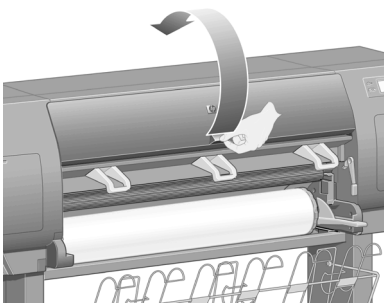
5.   Lift the paper load lever.
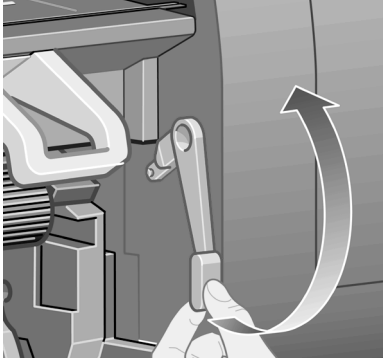
6.   Pull out approximately 1 m (3 ft.) of paper.
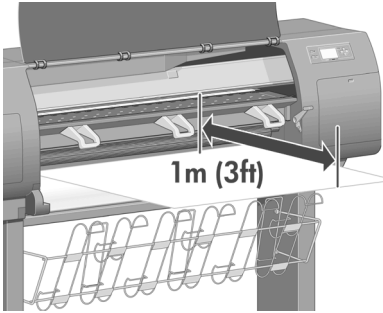
7. Carefully insert the leading edge of the roll above the black roller.

⚠ Warning 1 Take care not to touch the rubber wheels on the platen while loading paper: they may rotate and trap skin, hair, or clothing.

Warning 2 Take care not to push your fingers inside the printer's paper path. It is not designed to accommodate fingers, and the results may be painful.
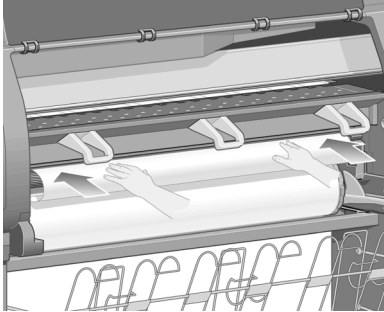
8. Wait until the paper emerges from the printer as shown below.
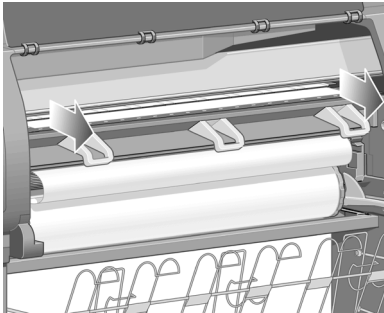
📝 Note If you have an unexpected problem at any stage of the paper loading process, see "The problem is the paper cannot be loaded successfully" on page 147.

9. Align the right-hand edge of the paper with the blue line and the left edge of the half-circle on the right of the platen.
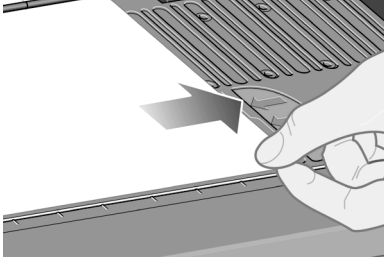
10. When the paper is correctly aligned with the blue line and half-circle, lower the paper load lever.
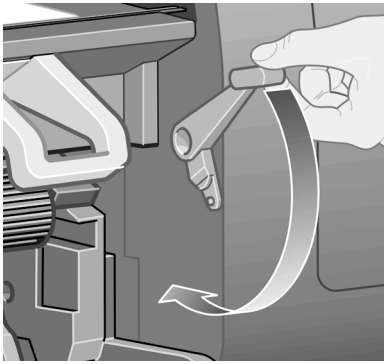
11. The front panel prompts you to wind excess paper onto the roll.
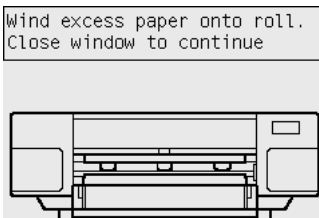
12. Wind the excess paper onto the roll. Use the paper stop to turn the roll in the direction shown.
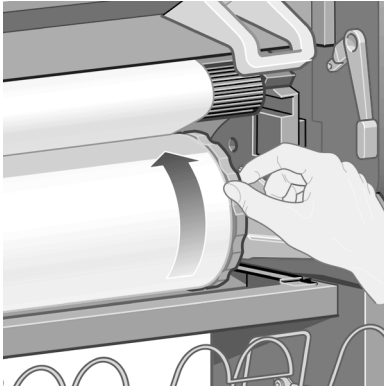
13. Lower the window.
14. The front panel again prompts you to wind excess paper onto the roll.

```
Loading roll
Wind any excess paper onto
roll to ensure image quality
when printing.

Press √ to continue
```
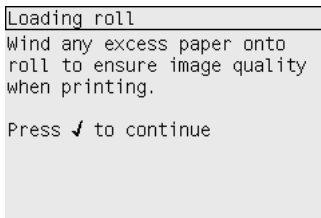
15. The printer will perform a color calibration, if it has not already calibrated the paper type you are using, and if color calibration is turned on. See "How do I perform color calibration?" on page 77.
16. The front panel displays the **Ready** message and the printer is ready to print.

How do I unload a roll from the printer?

If there is more than 30 cm of paper remaining of the roll, use the following procedure.

1. At the printer's front panel, select the ⬓ icon, then **Unload paper now**.
2. The paper will normally be removed from the printer.
   If the paper is not automatically removed from the printer, the front panel will prompt you to lift the paper load lever and turn the paper stop (1) by hand until the paper is removed from the printer. When you have finished, lower the paper load lever.
3. Turn the paper stop (1) by hand, until the paper is fully wound onto the roll.
4. Press the **Select** key.
5. Press the spindle lever (2) down and remove the roll from the printer, pulling out the right-hand end first. Do not insert your fingers into the spindle supports during the removal process.
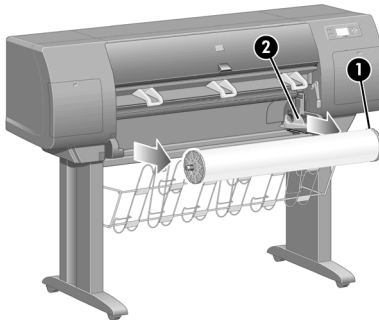
If there is less than 30 cm remaining of the roll, use the following procedure:

1. If you have already selected **Unload paper now** at the front panel, press the **Cancel** key to cancel that procedure.
2. Ensure that the paper load lever is in the down position, and press the **Form Feed and Cut** key twice (or until the paper advances).
3. Raise the paper load lever and pull the paper out manually.
4. Press the spindle lever (2) down and remove the empty spindle from the printer, pulling out the right-hand end first. Do not insert your fingers into the spindle supports during the removal process.

How do I load a single sheet?

Any loaded roll must be unloaded before loading a sheet. See "How do I unload a roll from the printer?" on page 26.

1. At the printer's front panel, select the ⊟ icon, then **Sheet** > **Load sheet now**.

```
Sheet
Load sheet now
```

📝 **Note** As usual, you must press the **Select** key to select this option.

2. The front panel displays a list of paper types.
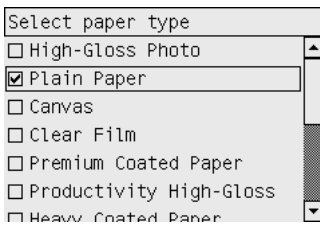
```
Select paper type
☐ High-Gloss Photo          ▲
☑ Plain Paper
☐ Canvas
☐ Clear Film
☐ Premium Coated Paper
☐ Productivity High-Gloss
☐ Heavy Coated Paper        ▼
```

3. Select the paper type you are using. If it is not clear which you should select, see "How do I select supported paper types?" on page 32.

4.   Wait until the front panel prompts you to open the window.
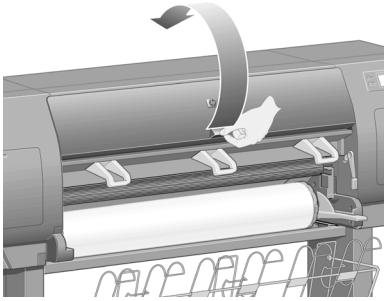
5.   Lift the paper load lever.
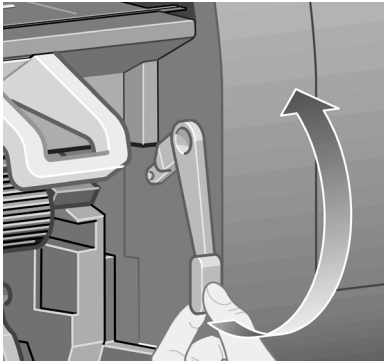
6.   Insert the sheet into the printer as shown below.
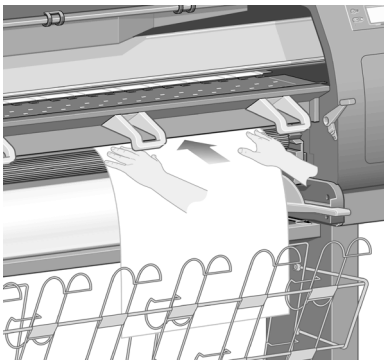
7. Insert the sheet until it reappears from the printer as shown below.

> ⚠️ **Warning 1** Take care not to touch the rubber wheels on the platen while loading paper: they may rotate and trap skin, hair or clothing.
>
> **Warning 2** Take care not to push your fingers inside the printer's paper path. It is not designed to accommodate fingers, and the results may be painful.
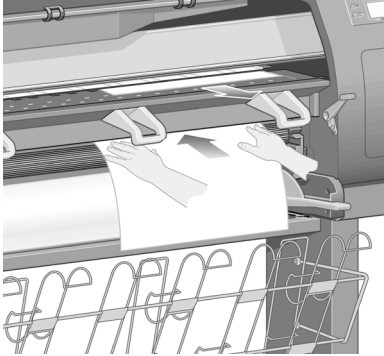
8. Pull the sheet out from the top.
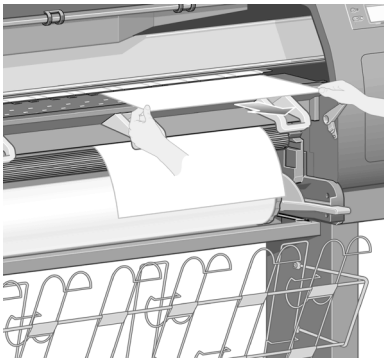
9. Align the leading edge of the sheet with the metal bar in the platen.
   Align the right-hand edge of the sheet with the left edge of the half-circle on the platen, as shown below.

10. Lower the window.
11. Lower the paper load lever.
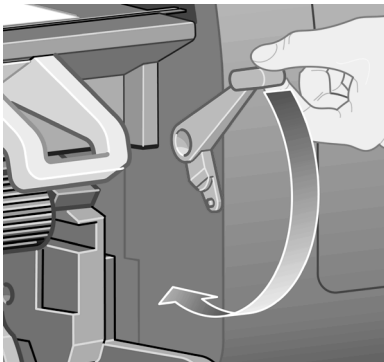
12. If the paper has been loaded successfully, the front panel displays the **Ready** message and the printer is ready to print. If something has gone wrong (paper mispositioned or misaligned), follow the instructions on the front panel.

13. If you are printing on a sheet of paper less than 900 mm in length (up to A1 size), deploy the three mobile stoppers on the bin.

Note 1 When printing on sheet paper you are recommended to select **Normal** or **Best** print quality, see "How do I change the print quality?" on page 67.

Note 2 If you have an unexpected problem at any stage of the paper loading process, see "The problem is the paper cannot be loaded successfully" on page 147.

How do I unload a single sheet?

At the printer's front panel, select the ☐ icon, then **Unload paper now**.

To give the ink time to dry, the printer holds the sheet for some time (see "Tell me about drying time" in the *User's Guide*).

How do I select supported paper types?

The following tables list the HP paper types that are suitable for use with your printer, and show the name that you should select in the front panel when loading each paper type. The "recommended" paper types, listed first, have been thoroughly tested and are known to provide the best print quality when used with your printer. The "other supported" paper types can be used with your printer but are not guaranteed to provide the best print quality. For the part numbers, widths, and weights of these papers, see "Tell me about ordering paper" in the *User's Guide*.

Note This list is likely to change over the course of time. For the latest information, see **http://www.hp.com/go/designjet**.

Recommended paper types

Product name	Front panel name
HP Bright White Inkjet Bond Paper	Bright White Max Speed Bright White
HP Matte Film	Matte Film
HP Clear Film	Clear Film
HP Natural Tracing Paper	Natural Tracing Paper
HP Translucent Bond	Translucent Bond
HP Vellum	Vellum
HP Coated Paper	Coated Paper
HP Heavyweight Coated Paper	Heavyweight Coated Paper
HP Heavyweight Coated Paper—long roll	Heavyweight Coated Paper
HP Productivity Photo Gloss	Productivity Photo Gloss
HP Productivity Photo Semi-Gloss	Productivity Photo Gloss
HP Photo Paper RC Matte	High-Gloss Photo Paper
HP Proofing Paper RC Satin	High-Gloss Photo Paper
HP Universal High-Gloss Photo Paper	High-Gloss Photo Paper
HP Universal Semi-Gloss Photo Paper	High-Gloss Photo Paper
HP Universal Inkjet Bond Paper	Bond Paper Max Speed Bond Paper

Other supported paper types

Product name	Front panel name
HP Polyester Film Opaque White Glossy	High-Gloss Photo Paper
HP Universal Coated Paper	Bright White
	Max Speed Bright White
HP Universal Heavyweight Coated Paper	Heavyweight Coated Paper
HP Super Heavyweight Coated Paper	Super Heavy Coated Paper
HP Banners with Tyvek	Super Heavy Coated Paper
HP Colorfast Adhesive Vinyl	High-Gloss Photo Paper
HP Backlit Film Reverse Print Matte	Matte Film
HP Studio Canvas	Canvas
HP Outdoor Billboard Paper Blue Back	Super Heavy Coated Paper
HP Canvas Matte	Canvas
HP Outdoor Paper	Super Heavy Coated Paper
HP Canvas Paper 140 gsm	Canvas
HP Canvas Paper 180 gsm	Canvas
HP Fine Art Paper Aquarella	Super Heavy Coated Paper
HP Fine Art Paper Cream	Super Heavy Coated Paper
HP Fine Art Paper Sahara	Super Heavy Coated Paper
HP Indoor Paper Self-Adhesive	Super Heavy Coated Paper

How do I view information about the paper?

At the printer's front panel, highlight the ⬜ or ⬜ icon.

You will see the following information displayed on the front panel:

- The paper source (roll or sheet)
- The paper manufacturer's name
- The paper type you have selected
- The total width of the paper in millimeters (as measured by the printer)

If no paper is loaded, the message **Out of paper** is displayed.

The same information (apart from the manufacturer's name) is displayed on the Embedded Web Server's Supplies page.

How do I download media profiles?

Each supported paper type has its own characteristics. For optimum print quality, the printer changes the way it prints on each different paper type. For example, some may need more ink and some may require a longer drying time. So the printer must be given a description of the requirements of each paper type. This description is called the "media profile". The media profile contains the ICC profile, which describes the color characteristics of the paper; it also contains information on other characteristics and requirements of the paper that are not directly related to color. Existing media profiles for your printer are already installed in the printer's software.

However, you would find it inconvenient to scroll through a list of all paper types available for your printer, so your printer contains media profiles for only the most commonly used paper types. If you buy a paper type for which your printer has no media profile, you will find that you cannot select that paper type in the front panel. To download the correct media profile, go to **http://www.hp.com/support/designjet-downloads/**, select the name of your printer, then select **Media profiles**.

If you do not find the media profile you want on the Web, you may find that it has been added to the latest firmware for your printer. You can check the firmware release notes for information. See "How do I update my printer's firmware?" on page 111.

How do I use non-HP paper?

HP's own paper types have been fully tested with the printer and can be expected to give the best print quality.

However, you can print on paper from any manufacturer. In that case, you should select (in the front panel) the HP paper type that is most similar to the paper you will be using. If in doubt, try several different HP paper type settings, and choose the one that provides you with the best print quality. If results are not entirely satisfactory with any paper type setting, see "General advice" on page 127.

How do I cancel the drying time?

Press the **Form Feed and Cut** key (1) on the front panel.
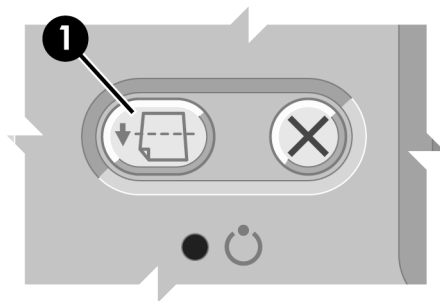
⚠ **Caution**   A print that has had insufficient time to dry can suffer from quality problems.

How do I change the drying time?

You may wish to change the drying time setting to suit special printing conditions.

Select the 🖋 icon, then **Drying options** > **Drying time**. You can then select Extended, Optimal, Reduced, or None.

```
Drying options
Drying time
```

See "Tell me about drying time" in the *User's Guide*.

How do I handle paper?

4 How do I handle the ink system?

How do I remove an ink cartridge?

There are two types of ink cartridge removal.

- The ink cartridge is very low and you want to replace it with a full cartridge for unattended printing (you can use up the remaining ink in the first cartridge at a more convenient time).
- The ink cartridge is empty or faulty, and you must replace it to continue printing.

```
Cartridge error: out of ink
```
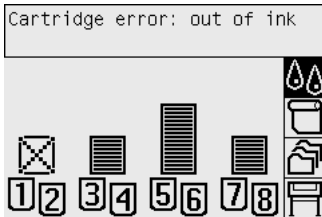

⚠ **Caution 1** Do not try to remove an ink cartridge while printing.

Caution 2 Remove an ink cartridge only if you are ready to insert another one.

⚠ **Warning** Make sure the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

1. At the printer's front panel, select the ⬧⬧ icon, then **Ink cartridges** > **Replace ink cartridges now**.

```
Ink cartridges
Replace ink cartridges now
Ink cartridge information
```
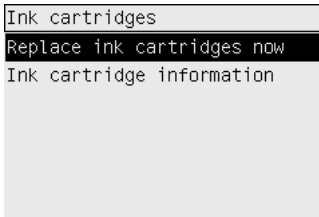
2. The ink cartridge door is on the left-hand side of the printer.
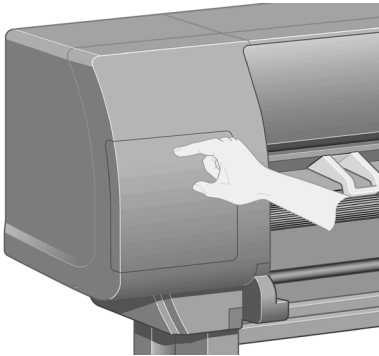
3. Release the door catch by pressing on the top until it clicks.
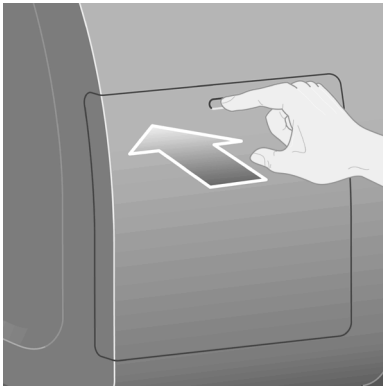
4. Pull the door fully open.
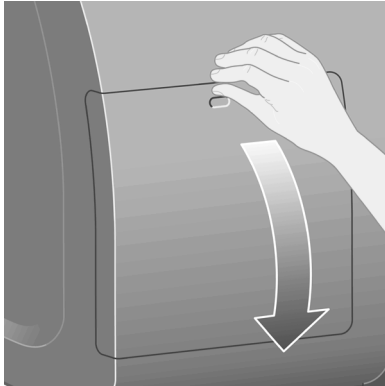
5. Grip the blue tab in front of the cartridge you wish to remove.
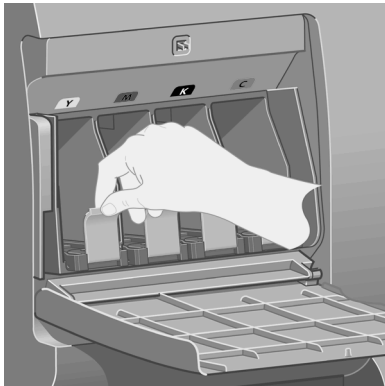
6. Pull the blue tab down.
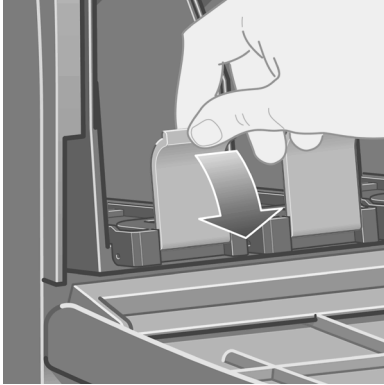
7. Then pull it outwards, towards you.
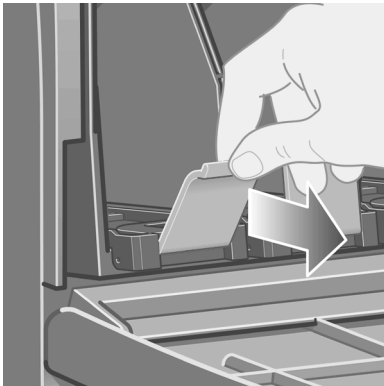
8. The cartridge comes out, in its drawer.

9. Lift the cartridge out of its drawer.
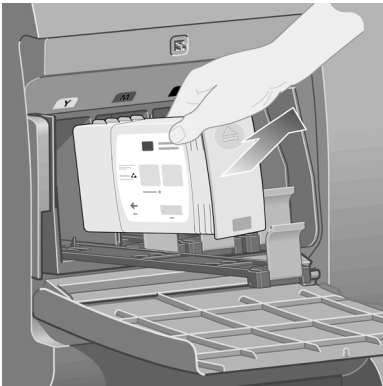
	Note 1 Avoid touching the end of the cartridge that is inserted into the printer, as there may be ink on the connection.

> **Note 2** Avoid storing partially used ink cartridges on their ends.

10. The front panel display will identify the missing ink cartridge.


```
Ink cartridge empty.
Replace ink cartridge
```
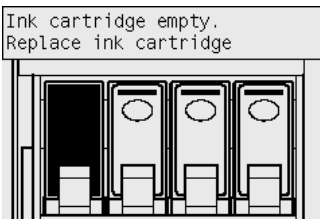
How do I insert an ink cartridge?

1. Pick up the new ink cartridge and find the label identifying the ink color. Hold the ink cartridge so that you can see the identifying colored label at the top of the side facing you.
2. Check that the colored label above the empty slot in the printer matches the color of the label on the cartridge.
3. Insert the ink cartridge into the cartridge drawer.
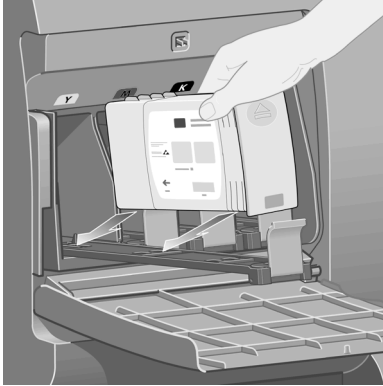
Position the cartridge at the rear of the drawer as indicated below.
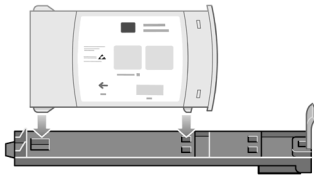
4. Slide the drawer and cartridge into the slot until it locks into position.
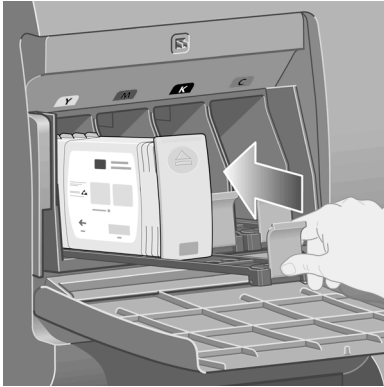
If you have difficulty, see "The problem is I cannot insert an ink cartridge" on page 145.

5. When all cartridges have been inserted, close the door (push it until it clicks shut).

6. The front panel display confirms that all cartridges have been correctly inserted.

Press √ to continue
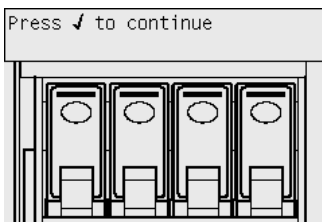
How do I remove a printhead?

> ⚠️ **Warning**   Make sure the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

Printhead replacement must be performed with the printer switched on at the power isolation switch.

1. At the printer's front panel, select the 👁👁 icon, then **Printheads** > **Replace printheads now**.

```
Printheads
Recover printheads
Align printheads
Calibrate color
Replace printheads now
Printhead information
```
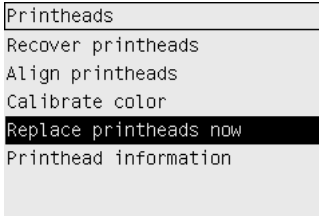
2. The printer moves the carriage into the correct position.

> ⚠️ **Caution**   If the carriage is left in the central part of the printer for more than seven minutes. it will try to move back to its normal position in the right-hand end.

3. When the carriage has stopped moving, the front panel will ask you to open the window.
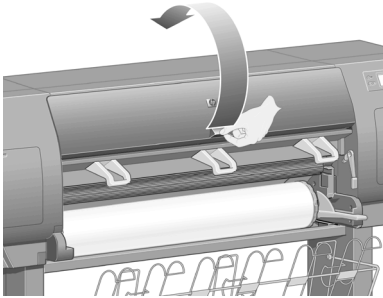
4. Locate the carriage.
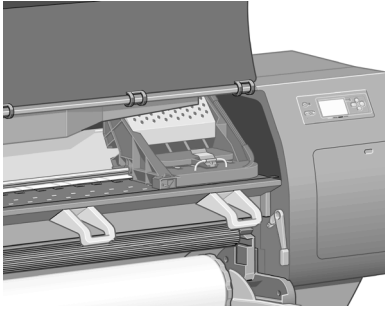
5. Pull up and release the latch on top of the carriage.
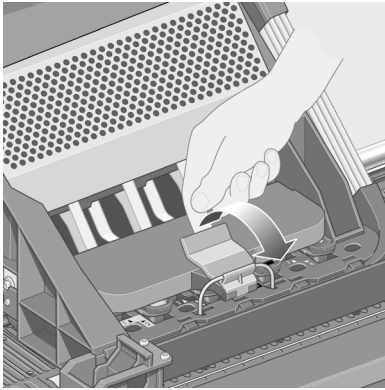
6. Lift up the cover. This will now give you access to the printheads.
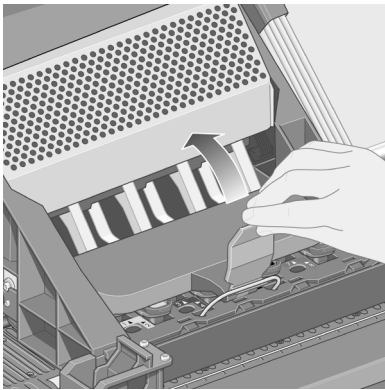
7. To remove a printhead, lift up the blue handle.
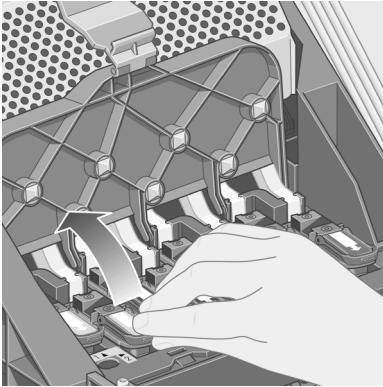
8. Using the blue handle, gently disengage the printhead.
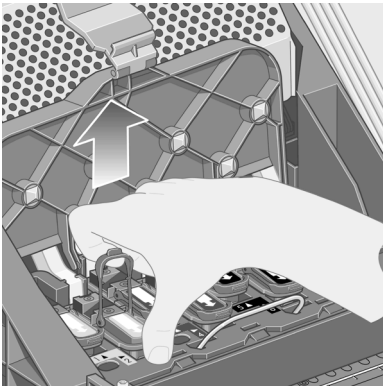
9. Gently pull the blue handle upward until the printhead is released from the carriage.

> ⚠ **Caution** Do not pull abruptly because this can damage the printhead.
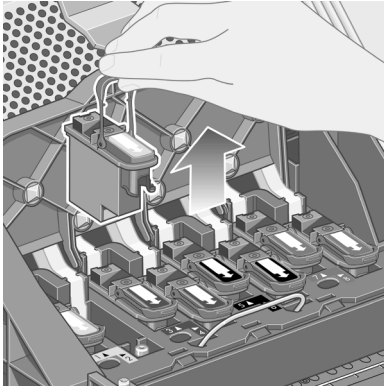
10. The front panel display identifies the missing printhead.

Lift printhead cover.
Install missing printheads.
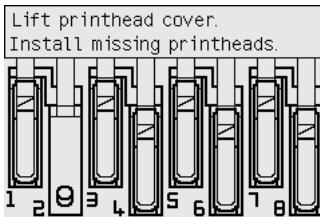
How do I insert a printhead?

1. If the printhead is new:
   a. Remove the blue protective cap by pulling down on it.
   b. Remove the clear protective tape from the printhead's nozzles by pulling on the paper tab.
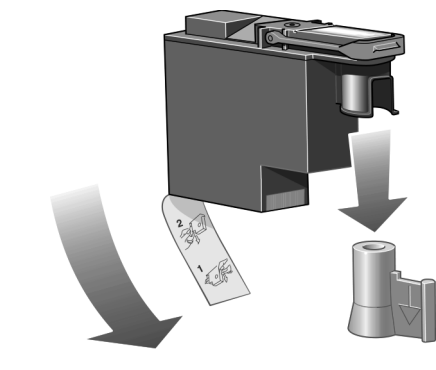
The printhead is designed to prevent you from accidentally inserting it into the wrong position. Check that the colored label on the printhead matches the colored label of the carriage position into which the printhead is to be inserted.

2. Insert the new printhead into its correct position in the carriage.

   Caution Insert the printhead slowly and vertically, straight down. It may be damaged if you insert it too fast, or at an angle, or if you turn it as you insert it.
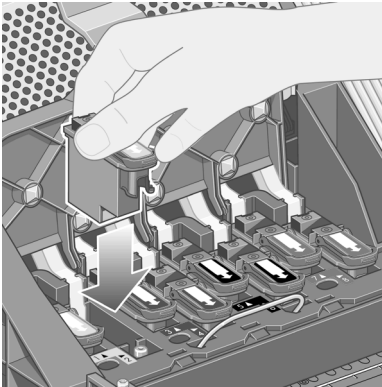
3. Push down as indicated by the arrow shown below.
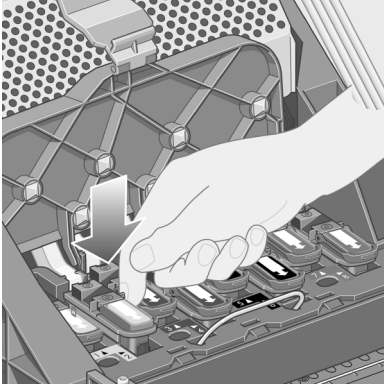
When installing the new printhead there may be some resistance, so you need to press it down firmly but smoothly.

If you have difficulty, see "The problem is I cannot insert a printhead" on page 145.

4. Insert any other printheads that need to be installed, and close the carriage cover.
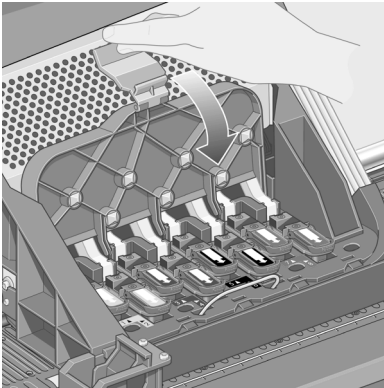
When all the printheads have been inserted correctly and accepted by the printer, the printer will beep.

Note   If the printer does not beep when you insert the printhead and the **Replace** message appears on the front panel, the printhead may need to be reseated.

5. Latch the carriage cover.
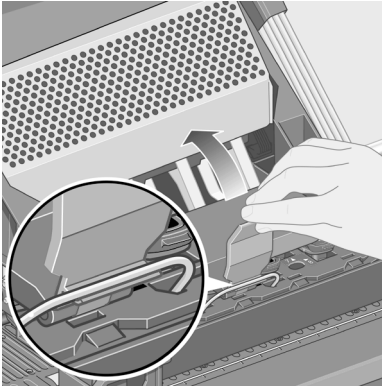
When the carriage has been correctly latched, it looks like this:
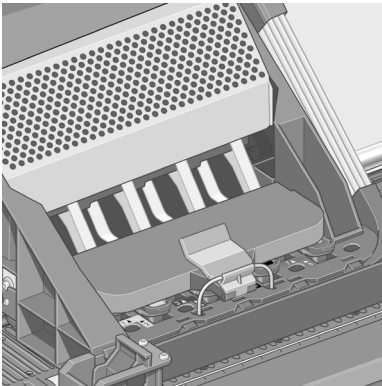
6. Close the window.
7. The front panel display confirms that all printheads are correctly inserted.
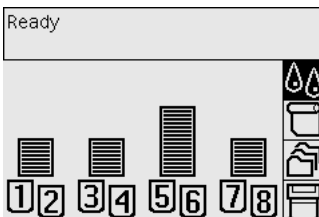
8. Now replace the printhead cleaners for any printheads that have been changed. See "How do I remove a printhead cleaner?" on page 58 and "How do I insert a printhead cleaner?" on page 60.

⚠️ **Caution** Leaving the old printhead cleaner in the printer will shorten the new printhead's life and possibly damage the printer.

How do I manage printhead monitoring?

The printer automatically checks the status of the printheads from time to time in order to monitor their health and detect any problems that might affect print quality. The frequency of these checks is optimized to maintain good throughput.

If you want to increase the frequency of printhead monitoring in order to detect any problems sooner, select the 🗄 icon, then **Configuration menu** > **Printhead monitoring** > **Intensive**. When the printer is printing and printhead monitoring is set to **Intensive**, the front panel and the Embedded Web Server printer status line will display the following message: Printing. Printhead monitoring (instead of just Printing).

📝 **Note** When **Intensive** is selected, the throughput of the printer will be reduced because of the increased frequency of printhead checks.

To return to the default printhead monitoring frequency, select the 🗄 icon, then **Configuration menu** > **Printhead monitoring** > **Optimized**.

How do I recover (clean) the printheads?

To clean the printheads (which often enables them to recover from problems), go to the printer's front panel and select the 🖋🖋 icon, then **Printheads** > **Recover printheads**. Cleaning takes about two to four minutes.

```
Printheads
Recover printheads
Align printheads
Calibrate color
Replace printheads now
Printhead information
```
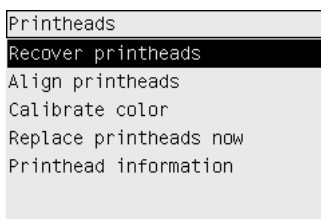
How do I clean a printhead's electrical connections?

In some extreme cases it is possible that the printer will not recognize a printhead after it has been installed. This is due to the build-up of ink deposits on the electrical connections between the printhead and the printhead carriage. Under these circumstances you are recommended to clean the printhead's electrical connections. Routine cleaning of the connections when there are no apparent problems is not recommended.

Included with your printer (in the Maintenance Kit box) is a carriage interconnect wiper.
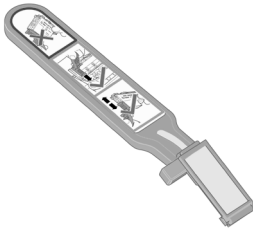
This should be used for cleaning the electrical interconnects of both the printhead carriage and the printhead, which should be done if the front panel persistently displays the **Reseat** or **Replace** message next to the printhead.

1. Remove a new pre-moistened replacement sponge from its pouch.
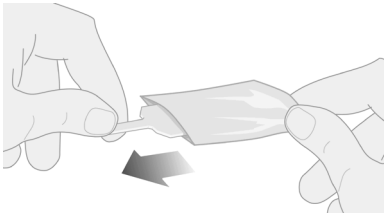
A supply of sponges is included in the box with the wiper. If all sponges have been used, more can be obtained by contacting your customer service representative.

2. Open the carriage interconnect wiper.
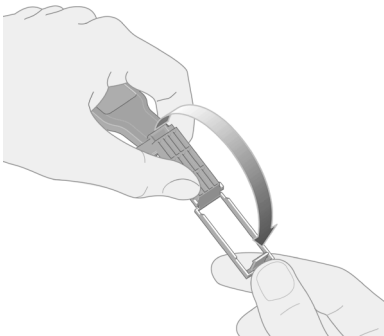
3. Load the sponge into the carriage interconnect wiper by positioning the sponge on the face of the carriage interconnect wiper with the shorter tab in the locating slot.
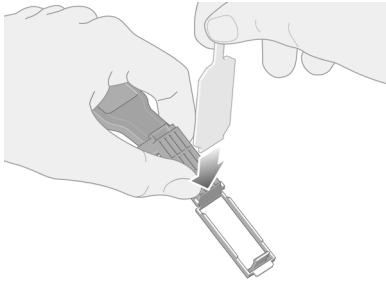
4. Close the carriage interconnect wiper, trapping the sponge in place.
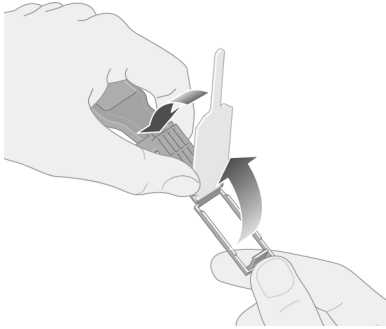
5. Open the printhead carriage latch and extract the printhead that has the problem, as indicated on the front panel. See "How do I remove a printhead?" on page 44.

6. Insert the carriage interconnect wiper into the printhead slot at the back. Wipe the electrical contacts by inserting the tool between the electrical connections at the back of the slot and the steel spring with the sponge facing away from you and towards the electrical contacts. Try to avoid picking up any ink deposit which may have accumulated on the bottom surface of the slot.

    ⚠ **Caution** If the carriage is left in the central part of the printer for more than seven minutes. it will try to move back to its normal position in the right-hand end.
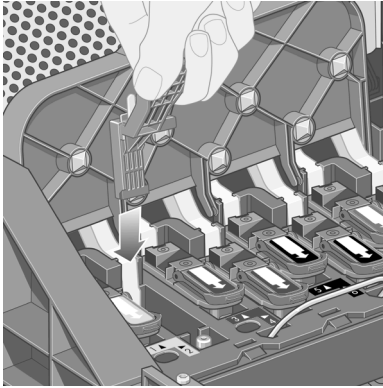
7. Rub the sponge against the contacts with a **light** force along the entire depth of the flex connector as allowed by the mechanical stop on the tool.
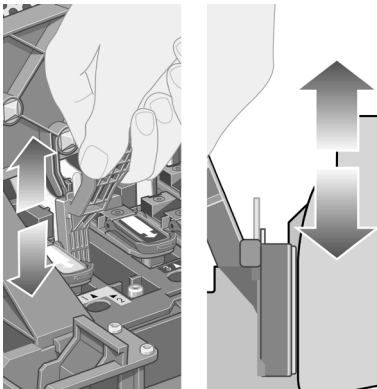
8. Take special care to clean all contacts thoroughly, including the ones at the lowest point of the connector.
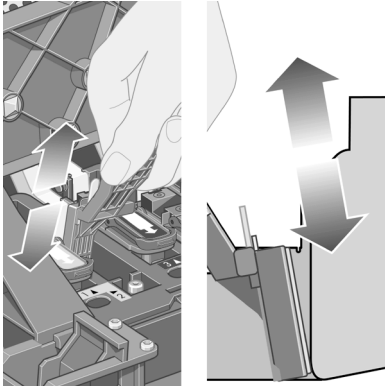
9. Using the same sponge, clean the lower strip of electrical contacts on the printhead (unless the printhead is new), avoid touching the upper set of electrical contacts.
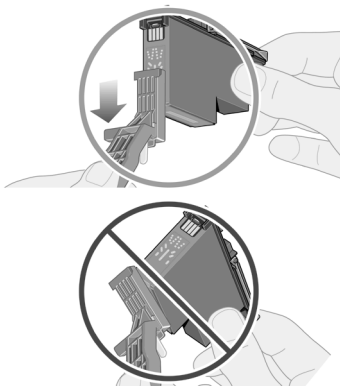
⚠ **Caution** Do not touch the surface of the printhead containing the nozzles, which are easily damaged.

10. After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage. See "How do I insert a printhead?" on page 48.

11. On completion of the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.
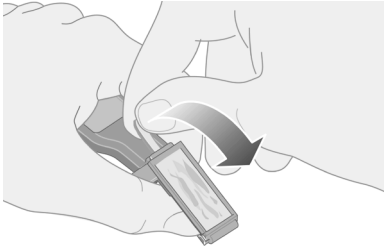
12. Remove the soiled sponge from the carriage interconnect wiper.
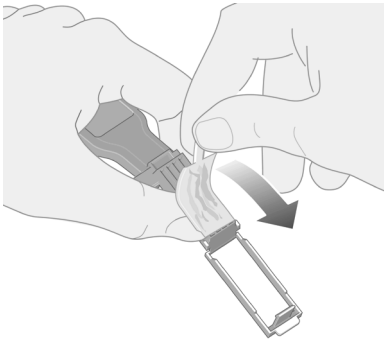
13. Dispose of the soiled sponge in a safe place to prevent the transfer of ink onto hands and clothing.
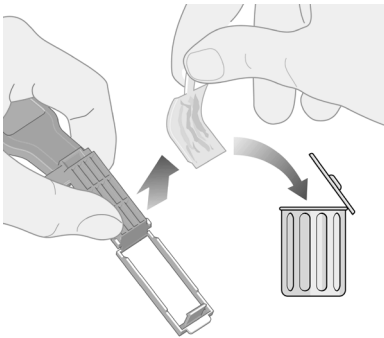
If the front panel continues to display the **Reseat** or **Replace** message, replace the printhead or contact your customer service representative.

How do I align the printheads?

The printer will normally perform printhead alignment whenever printheads are replaced. If there is no paper loaded when a printhead is replaced, the printer will perform the alignment the next time you load paper.

> **Note** You can turn off these automatic printhead alignments from the front panel: select the ⊟ icon, then **Configuration menu** > **Auto. printhead alignment: Off**.

In addition, you should align the printheads if the Image Diagnostics Print indicates an alignment error. See "How do I use the Image Diagnostics Print?" on page 113.

1. Make sure that you have a roll of opaque paper loaded in the printer; the best results will be achieved with the type of paper that you normally use for printing. Single sheets of paper, and transparent materials such as translucent bond, clear film, matte film, tracing paper, and vellum are not suitable for printhead alignment.

2. To request printhead alignment (if the alignment is not being performed automatically), go to the front panel, select the ◊◊ icon, and then **Printheads** > **Align printheads**.

```
Printheads
Recover printheads
Align printheads
Calibrate color
Replace printheads now
Printhead information
```
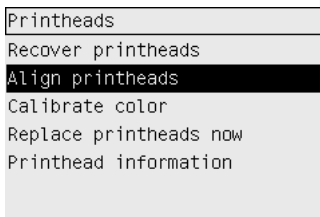
3. If you are close to the beginning of a roll, the front panel will report that the printer may need to feed up to 3 m (≈ 10 ft) of paper before starting the printhead alignment. This is necessary to ensure a successful alignment. In this case, you will be given the following options:
   – To continue with the printhead alignment, allowing the printer to feed as much paper as necessary
   – To schedule the printhead alignment to be performed later, after you have used a few meters of paper for printing
   – To cancel the printhead alignment

4. If you choose to continue with the printhead alignment, the process will start immediately, unless an image is currently being printed, in which case the alignment will be done as soon as the current print job is finished.
   The alignment process takes about twelve minutes.

How do I remove a printhead cleaner?

After you have replaced a printhead, the front panel will prompt you to replace the printhead cleaner.

Caution When replacing a printhead, always replace the corresponding printhead cleaner. Leaving the old cleaner in the printer will seriously shorten the new printhead's life and possibly damage the printer. A new printhead cleaner is provided with each new printhead.

When removing a printhead cleaner:

● Be careful not to get ink on your hands. There may be ink on, around, and inside the replaced printhead cleaner.
● Always handle and store the replaced printhead cleaner upright to avoid spilling any ink.

Warning Make sure the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

1. The printhead cleaners are located in slots underneath the front panel, at the front of the printer. Press the top of the service station door to release the catch.
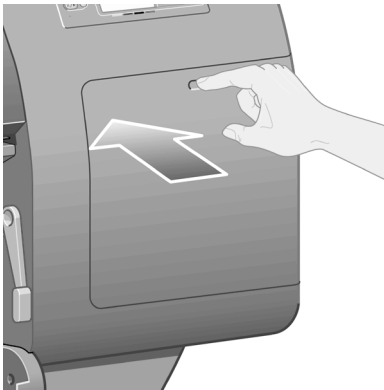
2. Open the door.
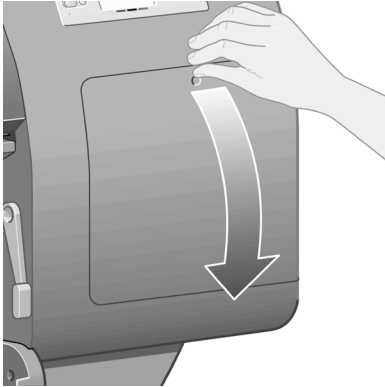
3. Each printhead cleaner has a handle on the front. To remove the cleaner, press inward and upward as indicated by the arrow shown here, until the cleaner is released.
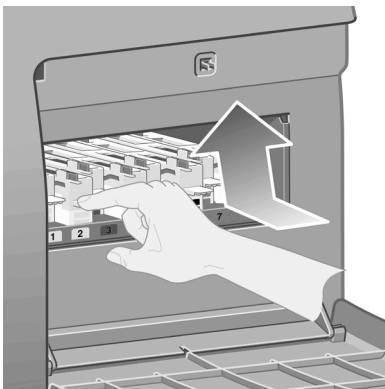
4. Lift up the printhead cleaner to remove it from the slot, and slide it out horizontally as shown below.
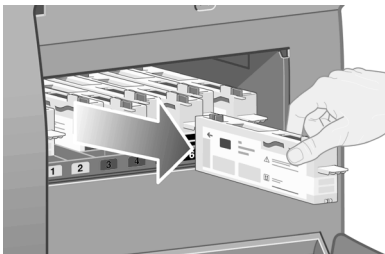
See also "How do I insert a printhead cleaner?" on page 60.

How do I insert a printhead cleaner?

The plastic bag in which the new printhead cleaner comes can be used to dispose of the old printhead and printhead cleaner.

1. Insert each printhead cleaner into the correct color slot location, in the service station, in the direction indicated by the arrow shown here.
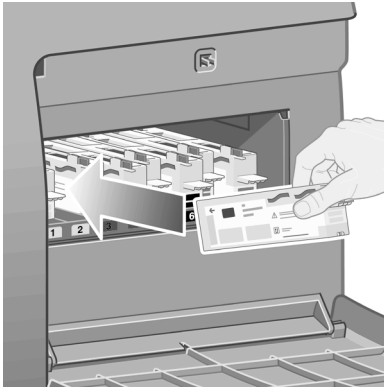
2. When the printhead cleaner has been pushed all the way in, press inwards and downwards as indicated by the arrow shown here, until it clicks into place.
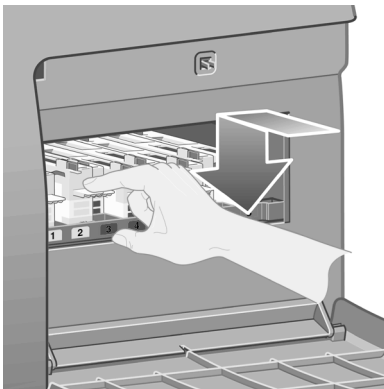
If you have difficulty, see "The problem is I cannot insert a printhead cleaner" on page 145.

Note The front panel will not show the new printhead cleaner until the right-hand door is closed.

3. When you have inserted the printhead cleaner(s) into the printer, close the door.
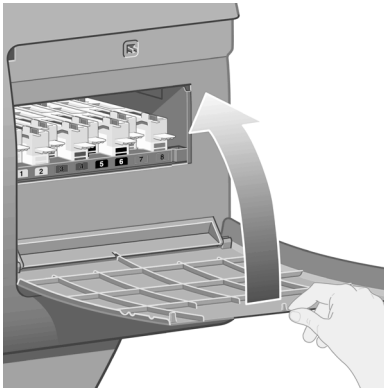
> **Note** The printer needs all the ink cartridges, printheads, and printhead cleaners to be installed before it can continue.

4. If no paper is loaded, the front panel will instruct you to load some.

Whenever you insert a new printhead and cleaner, the printer will normally perform a printhead alignment and color calibration. Both are recommended for best print quality. In some cases, you may decide to postpone printhead alignment until after some further printing has been done.

> **Note** If you prefer to save some time at the expense of print quality, you can turn off these automatic procedures from the front panel, by selecting the 🖵 icon, then **Configuration menu** > **Auto. printhead alignment** > **Off** and **Configuration menu** > **Color calibration** > **Off**.

The front panel may request that you load paper that is suitable for printhead alignment. The printhead alignment procedure requires a roll of opaque paper: not a single sheet, and not any kind of transparent or translucent material.

When the front panel displays **Ready**, you are ready to print.

> **Note** Make sure the printer window and the right-hand door are closed after you replace the supplies. The printer will not print while these are open.

How do I check the status of the ink system?

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Supplies** page.
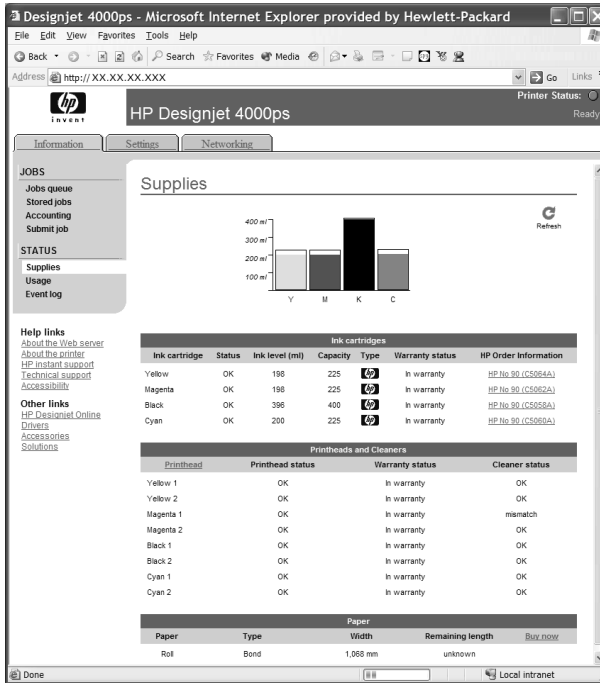
The **Supplies** page shows you the status of the ink cartridges (including the ink levels), the printheads, the printhead cleaners, and the loaded paper.

How do I get ink cartridge statistics?

To get information on your ink cartridges:

1. Go to the front panel and select the 🔷🔷 icon.
2. Select **Ink cartridges** > **Ink cartridge information**, then select the cartridge on which you want information.
3. The front panel displays:
   – Its color
   – Its product name
   – Its serial number
   – Its status
   – Its ink level, if known
   – Its total ink capacity in milliliters
   – Its warranty status

You can also get most of this information without leaving your computer by using the Embedded Web Server.

For an explanation of the ink cartridge status messages, see "The problem is an ink cartridge status message" on page 146.

How do I get printhead statistics?

To get information on your printheads:

1. Go to the front panel and select the 🖋🖋 icon.
2. Select **Printheads** > **Printhead information**, then select the printhead on which you want information.
3. The front panel displays:
   – Its color
   – Its product number
   – Its serial number
   – Its status
   – The volume of ink it has used
   – Its warranty status
   – The status of its cleaner

You can also get most of this information without leaving your computer by using the Embedded Web Server.

For an explanation of the printhead and printhead cleaner status messages, see "The problem is a printhead status message" on page 146 and "The problem is a printhead cleaner status message" on page 146.

If the warranty status is **See warranty note**, this indicates that non-HP ink is being used. See "Worldwide Limited Warranty—HP Designjet 4000 Printer series" on page 163 for details of the warranty implications.

How do I check printer usage statistics?

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Usage** page.
3. Go to the **Historical** tab to see the accumulated usage of the printer since the first day.
4. Go to the **Snapshot** tab to save a record of the accumulated usage since the first day, and reset the **Accumulated** tab's counters to zero.
5. Go to the **Accumulated** tab to view the accumulated usage since the last snapshot.

How do I handle the ink system?

5 How do I adjust my printed images?

How do I change the page size?

The page size can be specified in the following ways:

- Using a Windows printer driver: select the Paper/Quality tab, then **Size is**.
- Using a Mac OS printer driver: select the Page Attributes panel, then **Paper size**.
- Using the Embedded Web Server: go to the Page Size section of the Submit Job page.
- Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Size**.

Note If a page size is set with the printer driver or with the Embedded Web Server, it overrides the page size set with the front panel.

How do I create a custom page size?

You can create a custom page size using a printer driver or the Embedded Web Server.

Using the HP-GL/2 & RTL printer driver for Windows
1. Select the Paper/Quality tab.
2. Press the **Custom** button.
3. Choose one of the selectable names (**Custom 1** to **Custom 5**) for your custom page size.
4. Enter its width and height.
5. Press the **OK** button.

Using the PostScript printer driver for Windows XP or Windows 2000

1. Select the Paper/Quality tab.
2. Press the **Custom** button.
3. Enter your choice of name for your custom page size.
4. Enter its width and height.
5. Press the **Save** button.

Using the PostScript printer driver for Windows Me or Windows 98

1. Select the Paper/Quality tab.
2. Select **Custom page 1**, **Custom page 2**, or **Custom page 3** from the **Size is** list.
3. Choose the width and height of your custom page.
4. Press the **OK** button.

Using the PostScript printer driver for Windows NT

1. Select the Page Setup tab.
2. Select **PostScript Custom Page Size** from the list of page sizes.
3. Choose the width and height of your desired page size.
4. Press the **OK** button.

Using the PostScript printer driver for Mac OS X

1. Select **Page Setup** from the **File** menu.
2. Select the Custom Paper Size panel.
3. Press the **New** button.
4. Enter your choice of name for your custom page size.
5. Enter its width and height.
6. Press the **Save** button.

Using the PostScript printer driver for Mac OS 9

1. Select **Page Setup** from the **File** menu.
2. Select the Page Attributes panel.
3. Select the Custom Page Default panel.
4. Enter your choice of name for your custom page size.
5. Enter its width and height.
6. Press the **Add** button.

Using the Embedded Web Server

1. Go to the Page Size section of the Submit Job page.
2. Select the **Custom** option.
3. Choose the width and height of your desired page size.

How do I change the print quality?

Your printer has three different print quality options: **Best**, **Normal**, and **Fast**. There are also two supplementary options that have an effect on print quality: **Optimize for drawings/text** or **Optimize for images**, and **Maximum detail**. See "How do I choose print quality settings?" on page 68 for guidance on choosing among these options.

You can specify the print quality in the following ways:

●   Using a Windows printer driver: go to the Print Quality section of the Paper/Quality tab.

●   Using a Mac OS printer driver: go to the Image Quality panel.

●   Using the Embedded Web Server: go to the Image Quality section of the Submit Job page.

●   Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Image quality**.

> **Note 1**   If a print quality is set with the printer driver or with the Embedded Web Server, it overrides the print quality setting from the front panel.
>
> **Note 2**   You cannot change the print quality of pages that the printer is already receiving or has already received (even if they have not started to print yet).

How do I choose print quality settings?

The following table shows suggested print quality settings and paper types for various different kinds of prints, assuming that you are using roll paper. You are not obliged to follow these suggestions, but you may find them helpful.
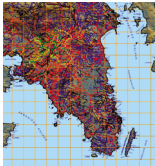
If you are using sheet paper, you are recommended to set print quality to **Best**.

If you are not sure how to change the print quality settings, see "How do I change the print quality?" on page 67.

Note High-density images should be printed on heavier paper (heavyweight or glossy).

Print content	Image quality settings			Paper types (front panel)
	Print quality	**Optimized for**	**Maximum detail**	
Lines (draft)	Fast	Drawings/ text	On	Bright White Bond Paper Translucent materials* Coated Paper
Lines	Normal	Drawings/ text	Off	Bright White Bond Paper Translucent materials* Coated Paper
Lines and area fills	Best	Drawings/ text	Off	Bright White Bond Paper Translucent materials* Coated Paper Heavyweight Coated Paper Productivity Photo Gloss
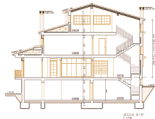
Print content	Image quality settings			Paper types (front panel)
	Print quality	Optimized for	Maximum detail	
Lines and images	Best	Drawings/text	On	Coated Paper Heavyweight Coated Paper Productivity Photo Gloss
In-store advertising	Normal	Images	Off	Coated Paper Heavyweight Coated Paper Productivity Photo Gloss
Renderings	Best	Images	Off	Heavyweight Coated Paper Productivity Photo Gloss
Photographs	Best	Images	Off	Productivity Photo Gloss

* Translucent materials include Vellum, Translucent Bond, Natural Tracing Paper, Clear Film, and Matte Film.

For technical details of print resolution, see "Tell me about functional specifications" in the *User's Guide*.

How do I print at maximum speed?

There are two paper type settings in the front panel especially designed for printing at maximum speed.

Print content	Image quality settings			Paper types (front panel)
	Print quality	**Optimized for**	**Maximum detail**	
Lines (draft)	Fast	Drawings/ text	Off	Max Speed Bright White* Max Speed Bond Paper†

* To use Max Speed Bright White, load HP Bright White Inkjet Bond Paper and select Max Speed Bright White from the list of paper types in the front panel.

† To use Max Speed Bond Paper, load HP Universal Inkjet Bond Paper and select Max Speed Bond Paper from the list of paper types in the front panel.

How do I adjust the margins?

The printer margins determine the printable area of the page that can be used by your application. There are two margin options: Extended and Normal. For the dimensions of the margins, see "Tell me about functional specifications" in the *User's Guide*.

You can specify the margins in the following ways:

- Using the Windows HP-GL/2 printer driver: Normal margins are selected by default. To select Extended margins, select the Paper/Quality tab and check the **Extended margins** box.
- Using the Windows PostScript printer driver: select the Paper/Quality tab, then **Size is**. You select the page size and the margins at the same time.
- Using a Mac OS printer driver: select the Page Attributes panel, then **Paper size**. You select the paper size and then select the margins.
  With the Mac OS 10.1 driver, you can select only Normal margins.
- Using the Embedded Web Server: select the Submit Job page, then **Margins**.
- Using the front panel: select the 🖶 icon, then **Printing defaults menu** > **Paper options** > **Margins**.

> **Note** If margins are set with the printer driver or with the Embedded Web Server, they override the margins set with the front panel.

How do I print on oversize page sizes?

For technical reasons, it is impossible to print an image that covers the full width or length of the paper. There must always be a margin around the image. If you want to print, for example, an A3–sized image with no margins around it, you must print on paper larger than A3 (leaving margins around the image as usual), and then cut off the margins after printing.

Oversize page sizes are designed to meet this need. Each oversize page size is large enough to accommodate a standard paper size plus margins.

You can specify an oversize page size in the following ways:

● Using the Windows HP-GL/2 printer driver: select one of the oversize paper sizes from the **Size is** list.

● Using the Windows PostScript printer driver: select the Paper/Quality tab, then **Size is**. You select the oversize page size and the margins at the same time.

● Using a Mac OS 9 or 10.1 printer driver: create a custom paper size with zero margins, and take into account that the margins added to the final job will be the ones that are set in the printer's front panel.

● Using a newer Mac OS printer driver: select the Page Attributes panel, then **Paper size**. You select the oversize paper size and then select the margins.

● Using the Embedded Web Server: for PDF, TIFF, and JPEG jobs, oversize page sizes are automatically selected if you leave margins set to **Default**. If you select Normal or Extended margins, normal page sizes will be used.
The Embedded Web Server does not support the use of oversize page sizes for HP-GL/2, RTL, CALS G4, or PostScript jobs (you must use a printer driver).

● Using the front panel: for PDF, TIFF, and JPEG jobs, front panel margin settings are ignored and you are assumed to be using oversize pages in all cases.
The front panel does not support the use of oversize page sizes for HP-GL/2, RTL, CALS G4, or PostScript jobs (you must use a printer driver).

How do I change the paper's orientation?

You can select portrait or landscape orientation of the paper using a printer driver or the Embedded Web Server.

● Using the PostScript printer driver for Windows NT: go to the Orientation section of the Page Setup tab.

● Using any other printer driver for Windows: go to the Orientation section of the Finishing tab.

● Using the PostScript printer driver for Mac OS: select **Page Setup** from the **File** menu, then go to the Orientation section of the Page Attributes panel.

● Using the Embedded Web Server: go to the Orientation section of the Submit Job page.

How do I rotate an image?

Images are normally printed in portrait orientation. You may wish to rotate an image by 90 degrees in order to save paper. You can do this in the following ways:

- Using a Windows printer driver: select the Finishing tab, then **Rotate by 90 degrees**.
- Using a Mac OS printer driver: select the Finishing panel, then **Rotate by 90 degrees**.
- Using the Embedded Web Server: select the Submit Job page, then **Rotate**.
- Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Rotate**.

> **Note 1**   If rotation is set with the printer driver or with the Embedded Web Server, it overrides the setting in the front panel.
>
> **Note 2**   When you rotate a job, the page length may be increased to avoid clipping, because the top and bottom margins are usually larger than the side margins.

Possibility of clipped images

With either rolls or sheets, if you rotate an image to landscape whose original orientation was portrait, the paper may not be wide enough for the image, and it may be clipped. For example, rotating a portrait D/A1-size image on D/A1-size paper by 90 degrees will probably result in a clipped image. If you are using the Embedded Web Server, the preview screen will confirm this with a warning triangle.

How do I print a mirror image?

If you are using clear imaging paper, sometimes called backlit, you may want to print a mirror image of your drawing, so that when the paper is lit from behind it is in the correct orientation. To do this without changing the image in your application:

- Using a Windows printer driver: select the Finishing tab, then **Mirror image**.
- Using a Mac OS printer driver: select the Finishing panel, then **Mirror image**.
- Using the Embedded Web Server: select the Submit Job page, then **Mirror**.
- Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Mirror**.

> **Note**   If mirror image is set with the printer driver or with the Embedded Web Server, it overrides the setting in the front panel.

How do I scale an image?

You can send an image to the printer at a certain size but tell the printer to rescale it to a different size (normally larger). This may be useful:

- If your software does not support large formats
- If your file is too large for the printer's memory—in this case you can reduce the page size in your software and then scale it up again using the front panel option

You can rescale an image in the following ways:

● Using a Windows printer driver: select the Effects tab, then **Resizing options**.

– The **Print document on** option (with **Scale to fit** checked) adjusts the image size to the page size selected for your printer. For example, if you have selected ISO A2 as the page size and you print an A4-size image, it will be enlarged to fit the A2 page. If the ISO A3 page size is selected, the printer would reduce a larger image to fit the A3 size.

– The **% of normal size** option enlarges the printable area of the original page by the percentage indicated and adds the printer margins to make up the output page size.

● Using a Mac OS printer driver: select the Finishing panel, then **Print document on**. No **Scale to fit** option is displayed, because it is permanently on: the driver always adjusts the image size to the page size selected for your printer.

● Using the Embedded Web Server: select the Submit Job page, then **Scaling**.

● Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Scale**.

If you are printing to a single sheet, you must ensure that the image can actually fit onto the page, otherwise clipping will occur.

How do I change the palette settings?

You cannot change the Factory palette, but you can define Palettes A and B to be whatever you choose.

These palettes will be applied only to HP-GL/2 jobs with no software palette embedded.

📝 **Note** All HP-GL/2 jobs generated by the HP-GL/2 driver that comes with the printer will include an embedded software palette, and thus any palette settings in the front panel will be ignored.

To redefine Palette A:

1. Go to the front panel, select the ⊟ icon, then **Printing defaults menu** > **HP-GL/2 options** > **Define palette** > **Palette A**.

```
Define palette
Palette A
Palette B
Factory
```
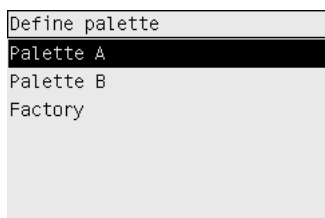
2. Scroll to the pen number you want to change and press **Select**.
3. The current width assigned to this pen is displayed, for example **Width=0.35 mm**. If you want to change it:
4. Press **Select**.
5. Scroll to the width you want.

6. Press **Select** again.
7. Press **Back** to get to the previous menu: **Color/Width**. Otherwise, scroll to **Color**.
8. The current color assigned to the pen is displayed, for example **Color=110**. If you want to change it:
9. Press **Select**.
10. Scroll to the color you want.
11. Press **Select** again.
12. Press **Back** to get to the previous menu.
13. When both width and color are correct, press **Back**.
14. Scroll to the next pen number you want to change, press **Select** and then repeat the above process.
15. When all pen definitions are correct, press **Back** to exit the menus.

Note   The palette you have just defined will take effect only when you select it to be the current palette.

If you do not get the results you expect, see "The problem is pen settings seem to have no effect" on page 144.

How do I change the treatment of overlapping lines?

The Merge setting controls the overlapping lines in an image. There are two settings, Off and On.

- If Merge is Off, where the lines cross only the color of the top line is printed.
- If Merge is On, where the lines cross the colors of the two lines are merged.

To turn Merge on, select the ⊟ icon, then **Printing defaults menu** > **HP-GL/2 options** > **Merge**: **On**. You can set the merge setting from your software in some applications. Settings in your software override the front-panel settings.

```
Merge
☑ On
☐ Off
```
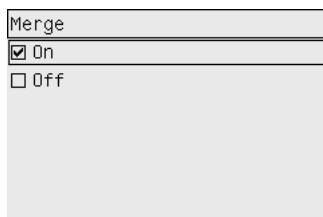
Note   Merge settings have no effect on PostScript files.

How do I change the graphic language setting?

Unless you are troubleshooting one of the problems mentioned below, you should not need to change the default setting (**Automatic**), and you are not recommended to do so, because setting a specific graphic language means that you will be able to print only files in that language.

To change the graphic language setting, select the ▤ icon, then **Printing defaults menu** > **Graphic language**, where the following options are available.

```
Graphic language
☑ Automatic              ▲
☐ HP-GL/2
☐ CALS/G4
☐ PS
☐ PDF
☐ TIFF
☐ JPEG                   ▼
```
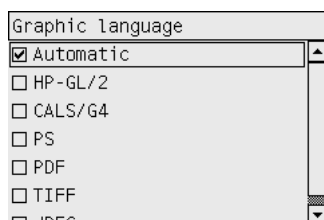
- Select **Automatic** to let the printer determine which type of file it is receiving. This setting works for most software applications.
- Select **HP-GL/2** if you are not working with PostScript files, and you have experienced image position problems or timing problems.
- Select **PS** if you are printing only PostScript files and your PostScript jobs do not start with the standard PostScript header (%!PS) and do not include PJL language switching commands.
  Alternatively, select **PS** if you have experienced problems while downloading PostScript fonts. In this case, please reselect **Automatic** after you have downloaded the fonts.

  If you are downloading fonts over a USB connection, select the ▤ icon, then **Printing defaults menu** > **PS options** > **Encoding** > **ASCII**.
- Select **TIFF**, **JPEG**, **PDF**, or **CALS G4** only if you are sending a file of the appropriate type directly to the printer without going through a printer driver. This is normally done only from the Embedded Web Server, in which case the language setting is done by the Embedded Web Server and you do not have to do it yourself.

📝 **Note** The **PS** and **PDF** options are available with PostScript printers only.

How do I adjust my printed images?

6 How do I get accurate colors from my printer?

How do I perform color calibration?

Color calibration improves color consistency between prints, and from one printer to another.

It is normally performed whenever a printhead is replaced, and whenever a new paper type is introduced that has not been calibrated yet with the new printhead(s). However, this automatic behavior can be turned off, and a default color correction used for each of the known paper types.

1. From the front panel, select the ▭ icon, then **Configuration menu** > **Color calibration**.
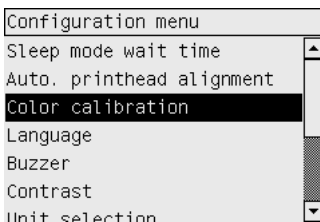
2. The available options for color calibration are:
    -   **On**: the printer performs color calibration whenever you introduce a new paper type that has not yet been calibrated with the current set of printheads.

The color correction resulting from the calibration is then used for subsequent prints on that paper type with the same print quality setting.

– **Off**: the printer uses a default color correction, different for each paper type and print quality setting.

3. The printer calibrates the colors by printing a calibration strip, scanning the strip with a built-in optical sensor, and calculating the color corrections required. The color calibration strip is 269 mm wide, and 18 mm long when using glossy paper; on other paper types, it is 109 mm long. Color calibration takes about three to six minutes, depending on the paper type.

> **Note** Color calibration can be requested manually at any time from the front panel, by selecting the ◊◊ icon, then **Printheads** > **Calibrate color**.

How do I perform black point compensation?

The black point compensation option controls whether to adjust for differences in black points when converting colors between color spaces. When this option is selected, the full dynamic range of the source space is mapped into the full dynamic range of the destination space. It can be very useful in preventing blocking shadows when the black point of the source space is darker than that of the destination space. This option is allowed only when the relative colorimetric rendering intent is selected (see "How do I set the rendering intent?" on page 78).

Black point compensation can be specified in the following ways:

● Using a Windows printer driver: select the Color tab, then **Black point compensation**.

● Using a Mac OS printer driver: select the Color Options panel, then **Black point compensation**.

● Using the Embedded Web Server: select the Submit Job page, then **Black point compensation**.

● Using the front panel: select the 🖶 icon, then **Printing defaults menu** > **Color options** > **Black point compensation**.

How do I set the rendering intent?

Rendering intent is one of the settings used when doing a color transformation. As you probably know, some of the colors you want to print may not be reproducible by the printer. The rendering intent allows you to select one of four different ways of handling these so–called out–of–gamut colors.

● **Saturation (graphics)**: best used for presentation graphics, charts, or images made up of bright, saturated colors.

● **Perceptual (images)**: best used for photographs or images in which colors blend together. It tries to preserve the overall color appearance.

● **Relative colorimetric (proofing)**: best used when you want to match a particular color. This method is mainly used for proofing. It guarantees that, if a color can be printed accurately, it will be printed accurately. The other methods will probably provide a more pleasing range of colors but do not guarantee that any particular

color will be printed accurately. It maps the white of the input space to the white of the paper on which you are printing.

● **Absolute colorimetric (proofing)**: the same as relative colorimetric, but without mapping the white. This rendering is also used mainly for proofing, where the goal is to simulate the output of one printer (including its white point).

The rendering intent can be specified in the following ways:

● Using a Windows printer driver: select the Color tab, then **Rendering intent**.
● Using a Mac OS printer driver: select the Color Options panel, then **Rendering intent**.
● Using the Embedded Web Server: select the Submit Job page, then **Rendering intent**.
● Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Color options** > **Rendering intent**.

How do I select the color emulation mode?

You can set the color emulation mode in the following ways:

● Using a Windows printer driver: select the Color Management section of the Color tab.
● Using a Mac OS printer driver: select the Color Options panel.
● Using the Embedded Web Server: select the Color Management section of the Submit Job page.
● Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Color options**.

See "Tell me about color emulation modes" in the *User's Guide*.

How do I produce matching prints from different HP Designjets?

See "The problem is color matching between different HP Designjets" on page 137.

How do I get accurate colors from Adobe Photoshop CS (HP–GL/2 & RTL driver)?

This topic outlines one way to have good control over the printed colors you will obtain from your printer; there are many other ways. Before starting, ensure that your paper type has already been calibrated.

Application settings

1. Open Adobe Photoshop and select **Color Settings** from the **Edit** menu.
   – **Working spaces**: the working space is the color space you want to use when manipulating the image. We recommend using the color space that comes with the image (see Color Management Policies below), if any; otherwise, our recommended default settings are: RGB: Adobe RGB 1998, CMYK: SWOP for the USA and Euroscale Coated v2 for the rest of the world.
   – **Color Management Policies**: select 'Preserve Embedded Profiles'.

– **Rendering Intent**: see "How do I set the rendering intent?" on page 78.
– **Black Point Compensation**: this option is recommended if you have chosen the Relative Colorimetric rendering intent. See "How do I perform black point compensation?" on page 78.

2. Open the image. Accept the embedded color profile if there is one:

Otherwise accept the default that Adobe Photoshop proposes:

3. Once you have defined the color space in which you are going to work, you can if you like make a soft proof, which means emulating on the screen how the image will look when printed. To do this, you will need an ICC profile for your monitor. Select **View** > **Proof Setup** > **Custom**. Use the following information to select options in the Proof Setup window.

    –   **Profile**: choose the profile based on the printer model and paper type you intend to use.
    –   **Preserve Color Numbers**: this checkbox tells the application how to simulate the document's appearance without converting colors from the Document Space to the Proof Profile Space. It simulates the color shifts that may occur when the document's color values are interpreted using the Proof Profile instead of the Document Profile. This option is not recommended.
    –   **Intent**: this menu allows you to choose a rendering intent for the conversion from document space to simulation space, letting you preview the effects of different renderings. See "How do I set the rendering intent?" on page 78.
    –   **Use Black Point Compensation**: this option is recommended if you have chosen the Relative Colorimetric rendering intent. See "How do I perform black point compensation?" on page 78.
    –   **Paper White**: this checkbox emulates the whiteness of the paper on the monitor. The effect is the same as using the Absolute Colorimetric rendering intent.
    –   **Ink Black**: this checkbox turns off the black point compensation for the rendering from simulation to the monitor. So, if the simulation space black is lighter than the monitor black, you will see the washed-out blacks on the monitor. This option is not recommended.
    –   **Preview**: if this checkbox is enabled (recommended), the changes you make in this window are reflected in the image immediately.

4. When you are ready to print the image, open the Print with Preview window from the File menu. In the Color Management tab you can select:
   – **Source Space**: 'Document' (automatically assigned for you).
   – **Profile**: select the profile you will use. We recommend using Adobe RGB. If neither Adobe RGB or sRGB is selected, then choose the appropriate ICC profile for the paper loaded, and remember to select later on in the driver the option **Managed by Application**.
   – **Intent**: See "How do I set the rendering intent?" on page 78.
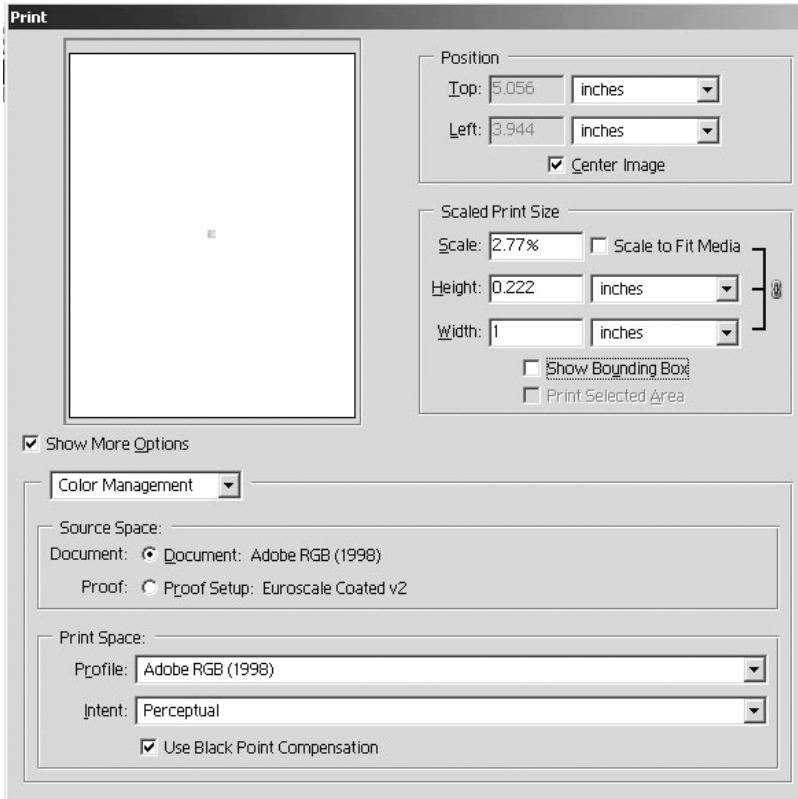
Driver settings

In the Paper/Quality tab (Windows) or Image Quality panel (Mac OS), set **Print Quality** to **Best**.

In the Color tab (Windows) or Color Options panel (Mac OS), you have the following Color Management options. Select the same option that you selected in the Print dialog box above (Print Space section, Profile option).

● **sRGB**: this is the default color space. The input RGB data are converted to CMYK using the printer's internal color maps, which depend on the paper type and print quality selected. These are the most "versatile" color maps, producing

saturated colors for CAD and office applications and also producing good results with photographic images.

- **AdobeRGB**: similar to sRGB, but using the AdobeRGB to CMYK internal color maps, which are designed for AdobeRGB input data with a bigger source gamut. Best suited to digital photography.
- **Managed by Application**: the driver will not perform any color correction. This path can be used when building custom RGB printer profiles and applying them within the application (the application is responsible for applying the right color management by using the custom RGB printer profiles). In this case, make sure that you have selected the right media profile in the "Print Space, Profile" option in the application print command (see above).
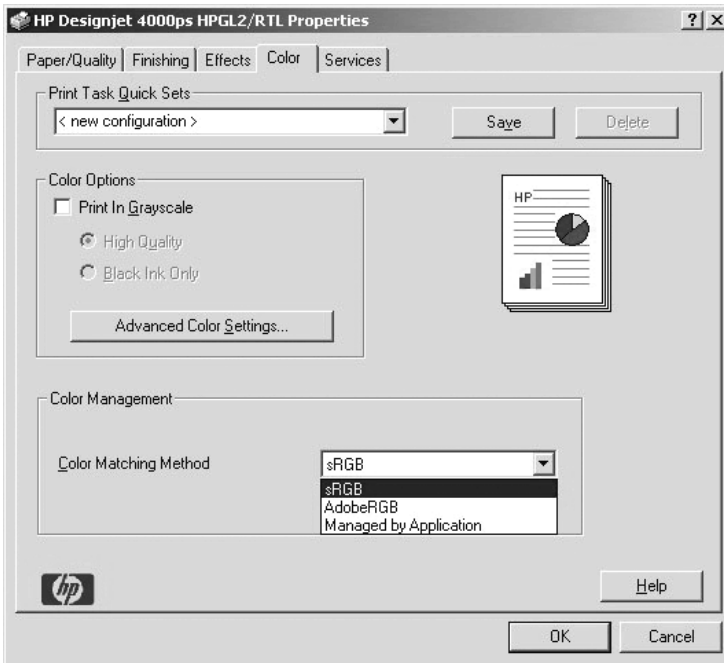
Printer settings

Ensure that the Paper Type setting on the front panel corresponds to the paper you intend to use.

How do I get accurate colors from Adobe Photoshop CS (PostScript driver)?

This topic outlines one way to have good control over the printed colors you will obtain from your printer; there are many other ways. Before starting, ensure that your paper type has already been calibrated.

Application settings

1. Open Adobe Photoshop and select **Color Settings** from the **Edit** menu
   (Windows) or from the **Photoshop** menu (Mac OS).

   – **Working spaces**: the working space is the color space you want to use
     when manipulating the image. We recommend using the color space that
     comes with the image (see Color Management Policies below), if any;
     otherwise, our recommended default settings are: RGB: Adobe RGB 1998,
     CMYK: SWOP for the USA and Euroscale Coated v2 for the rest of the world.

   – **Color Management Policies**: select 'Preserve Embedded Profiles'.

   – **Rendering Intent**: see "How do I set the rendering intent?" on page 78.

   – **Black Point Compensation**: this option is recommended if you have chosen
     the Relative Colorimetric rendering intent. See "How do I perform black point
     compensation?" on page 78.

2. Open the image. Accept the embedded color profile if there is one:

Otherwise accept the default that Adobe Photoshop proposes:

3. Once you have defined the color space in which you are going to work, you can if you like make a soft proof, which means emulating on the screen how the image will look when printed. To do this, you will need an ICC profile for your monitor. Select **View** > **Proof Setup** > **Custom**. Use the following information to select options in the Proof Setup window.

   – **Profile**: choose the profile based on the printer model and paper type you intend to use.
   – **Preserve Color Numbers**: this checkbox tells the application how to simulate the document's appearance without converting colors from the Document Space to the Proof Profile Space. It simulates the color shifts that may occur when the document's color values are interpreted using the Proof Profile instead of the Document Profile. This option is not recommended.
   – **Intent**: this menu allows you to choose a rendering intent for the conversion from document space to simulation space, letting you preview the effects of different renderings. See "How do I set the rendering intent?" on page 78.

- **Use Black Point Compensation**: this option is recommended if you have chosen the Relative Colorimetric rendering intent. See "How do I perform black point compensation?" on page 78.
- **Paper White**: this checkbox emulates the whiteness of the paper on the monitor. The effect is the same as using the Absolute Colorimetric rendering intent.
- **Ink Black**: this checkbox turns off the black point compensation for the rendering from simulation to the monitor. So, if the simulation space black is lighter than the monitor black, you will see the washed-out blacks on the monitor. This option is not recommended.
- **Preview**: if this checkbox is enabled (recommended), the changes you make in this window are reflected in the image immediately.

4. When you are ready to print the image, open the Print with Preview window from the File menu. In the Color Management tab you can select:

 – **Source Space**: 'Document' (automatically assigned for you). This is the color space in which you have been working while editing the image.

 – **Profile**: select PostScript Color Management. With this option, the application tells the driver which source profile and rendering intent should be used for the conversion to the print space. In this case the driver will use the 'Document' profile and the rendering intent selected below. The driver's Input Profile and Rendering Intent settings are overridden.

 – **Intent**: see "How do I set the rendering intent?" on page 78.
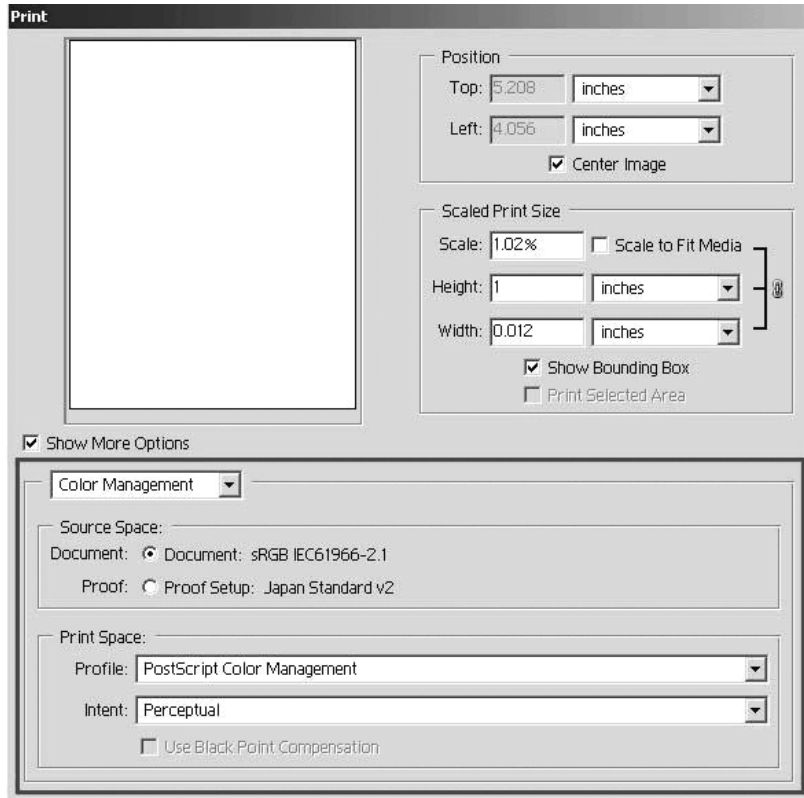
Driver settings

The application's PostScript Color Management option will override the color settings of the driver (Input Profile and Rendering Intent). In this case, the driver will use the application's "Document" profile and selected rendering intent. Then, we have only to select in the driver:

● In the Paper/Quality tab (Windows) or Image Quality panel (Mac OS), set **Print Quality** to **Best**.

● In the Color tab (Windows) or Color Options panel (Mac OS), check the Automatic PANTONE Calibration box.

Printer settings

Ensure that the Paper Type setting on the front panel corresponds to the paper you intend to use.
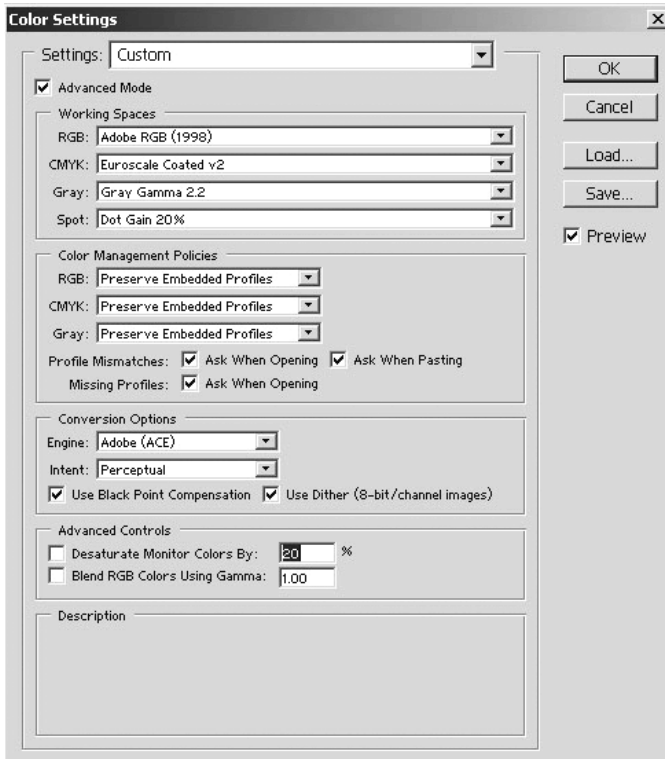
How do I get accurate colors from Adobe InDesign CS?

This topic outlines one way to have good control over the printed colors you will obtain from your printer; there are many other ways. We describe the hard-proofing technique that shows you on your printer how your colors will appear when reproduced in a press. Before starting, ensure that your paper type has already been calibrated.

Note EPS, PDF, and grayscale images don't allow page-layout applications to manage their colors. In addition, such images are displayed very poorly on a monitor.
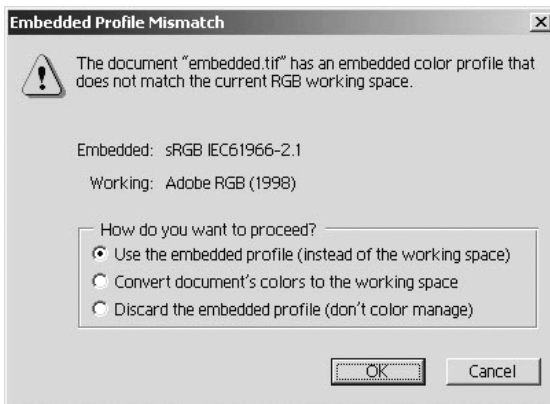
Application settings

1. Open Adobe InDesign and select **Color Settings** from the **Edit** menu.
    –   **Working spaces**: the working space is the color space you want to use when manipulating the image. We recommend using the color space that comes with the image (see Color Management Policies below), if any; otherwise, our recommended default settings are: RGB: Adobe RGB 1998, CMYK: SWOP for the USA and Euroscale Coated v2 for the rest of the world.
    –   **Color Management Policies**: select 'Preserve Embedded Profiles'.
    –   **Rendering Intent**: see "How do I set the rendering intent?" on page 78.
    –   **Black Point Compensation**: this option is recommended if you have chosen the Relative Colorimetric rendering intent. See "How do I perform black point compensation?" on page 78.
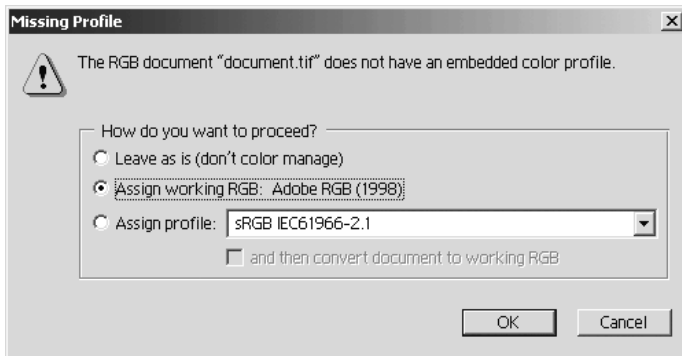
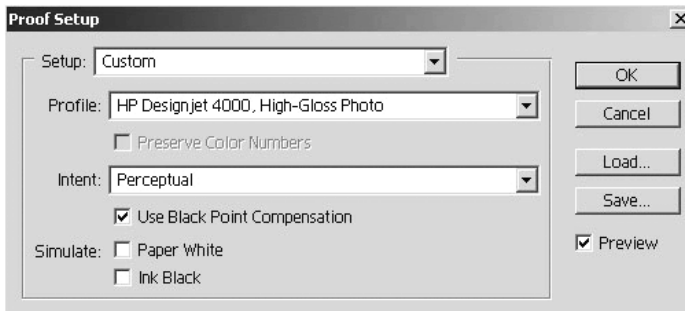2. Create or open the image with its own or the most appropriate color space. Then retouch the image as needed.
3. When you have the image ready to send to the output device, that is the moment to simulate on your printer what will appear on the output device. You must

convert the image from the source or work profile to the output CMYK device, and then again from the output CMYK device to the printer profile (calibrated).

In InDesign we recommend the Proof Setup command (**View** > **Proof Setup** -> **Custom**). This command lets you select the "proof profile" in the source space when printing. You can also see a simulation on your monitor. We recommend as follows:
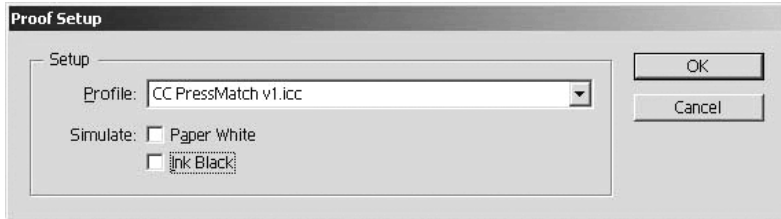
Each object in InDesign has its own color management. The InDesign elements (native) use the working spaces (default profiles) and the rendering intent defined in Color Settings , and the placed objects have their own assigned profile and rendering intent. Then, each element is converted from its own color space to the simulation color space, using its own rendering intent.

– **Profile**: select the profile that corresponds to the device you want to emulate (usually a particular press profile or an standard press profile)
– **Paper White**: this checkbox emulates the whiteness of the paper on the monitor. The effect is the same as using the Absolute Colorimetric rendering intent.
– **Ink Black**: this checkbox turns off the black point compensation for the rendering from simulation to the monitor. So, if the simulation space black is lighter than the monitor black, you will see the washed-out blacks on the monitor. This option is not recommended.

4. Select **File** > **Print** to print the image, converting it to an output space that depends on the printer, the paper type, and the print quality.
   – Select the Output tab (on the left), and then select **Composite CMYK**, in order to see the CMYK profiles.
   – Select the Color Management tab to see the following options.
   – **Source Space**: select 'Proof' to emulate the proof color space.
   – **Profile**: choose the profile based on the printer model and paper type you intend to use.
   – **Intent**: select Relative or Absolute Colorimetric. The only difference is that Absolute Colorimetric emulates the background color of the paper to be used by the press, while Relative Colorimetric maps the paper color of the press to the paper color of the printer.
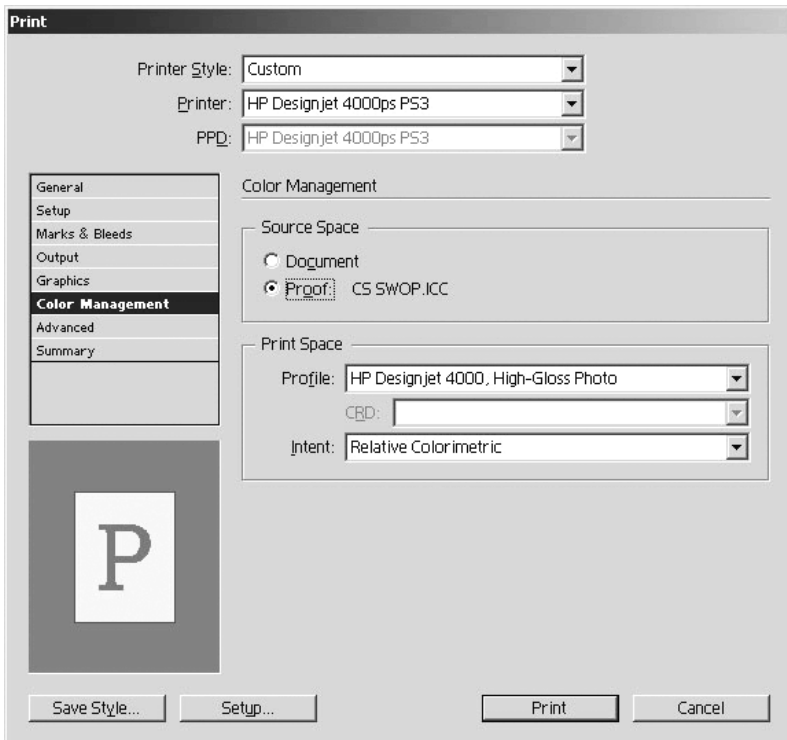
Driver settings

The PostScript driver is recommended for page-layout applications because it can color–manage CMYK data, RGB data, or both simultaneously.

In the Paper/Quality tab (Windows) or Image Quality panel (Mac OS), set **Print Quality** to **Best**.

In the Color tab (Windows) or Color Options panel (Mac OS), select 'Application Managed Colors' and check the Automatic PANTONE Calibration box. When the application performs color conversion to the printer's color space, the printer should

accept these colors without changing them. Make sure you have selected the right media profile in "Print Space, Profile" above.
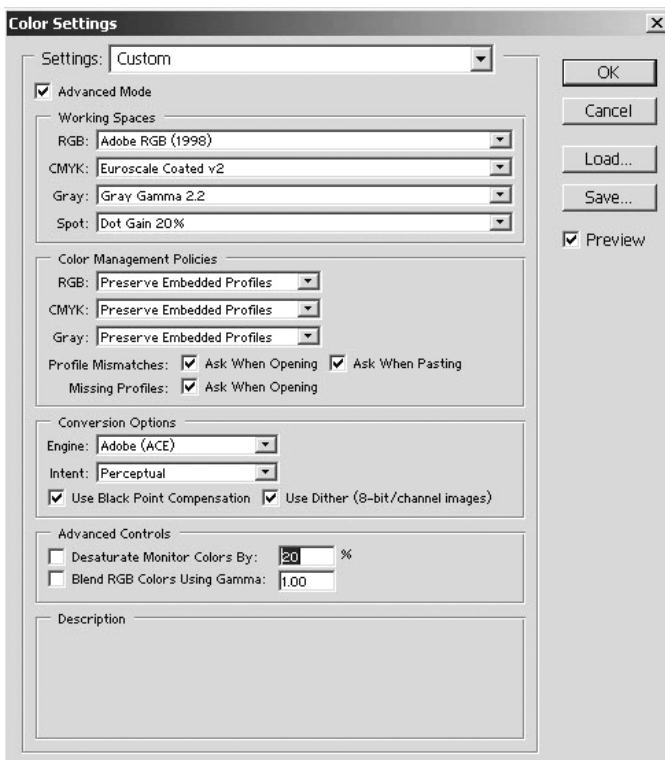
Printer settings

Ensure that the Paper Type setting on the front panel corresponds to the paper you intend to use.

How do I get accurate colors from QuarkXPress 6?

This topic outlines one way to have good control over the printed colors you will obtain from your printer; there are many other ways. We describe the hard-proofing technique that shows you on your printer how your colors will appear when reproduced in a press. Before starting, ensure that your paper type has already been calibrated.

Note EPS, PDF, and grayscale images don't allow page-layout applications to manage their colors. In addition, such images are displayed very poorly on a monitor.

Application settings

1. Open QuarkXPress and select **Properties** from the Edit menu (Windows) or from the QuarkXPress menu (Mac OS). Then select **Quark CMS** from the Properties dialog box.
   – Ensure that the Color Management Active box is checked.
   – The Destination Profiles area lets you choose profiles that correspond to your devices: Monitor profile, Composite Output profile, and Separation Output profile. Select in the Separation Output profile the profile of your output device (press) which you want to emulate on your printer later. Select in the Composite Output profile your printer profile; remember that it depends on the printer model, paper type, and print quality option.
   – In the Default Source Profiles you must set the default profiles for solid colors and images that don't have embedded profiles. The following default profiles are recommended: RGB: Adobe RGB 1998, CMYK: SWOP for the USA and Euroscale Coated v2 for the rest of the world. Also select the rendering intent, which QuarkXpress uses for all conversions; if in doubt, select Relative Colorimetric. See "How do I set the rendering intent?" on page 78.
   – Check the box **Color Manage RGB sources to RGB destinations** in the RGB Default Source Profiles and **Color Manage CMYK sources to CMYK destinations** in the CMYK Default Source Profiles.
   – The Display Simulation tells QuarkXPress how the display simulation should behave:
     • **None** means that it doesn't simulate anything on the display.
     • **Monitor Color Space** means that it converts from the source profile to the display profile for display only.

- **Composite Output Color Space** makes the display simulate a composite printer: that is, a printer without separate plates for different colors, such as an inkjet printer.
- **Separation Output Color Space** makes the display simulate a separations printer: that is, a printer with separate plates for different colors, such as a digital press.

You can select **Monitor Color Space** if you want to display only, or you can select the **Separation Output Color Space** if you also want to see the simulation of the output device on the monitor. You can simulate the final output with the printer (hard–proofing) and with the monitor (soft-proofing).
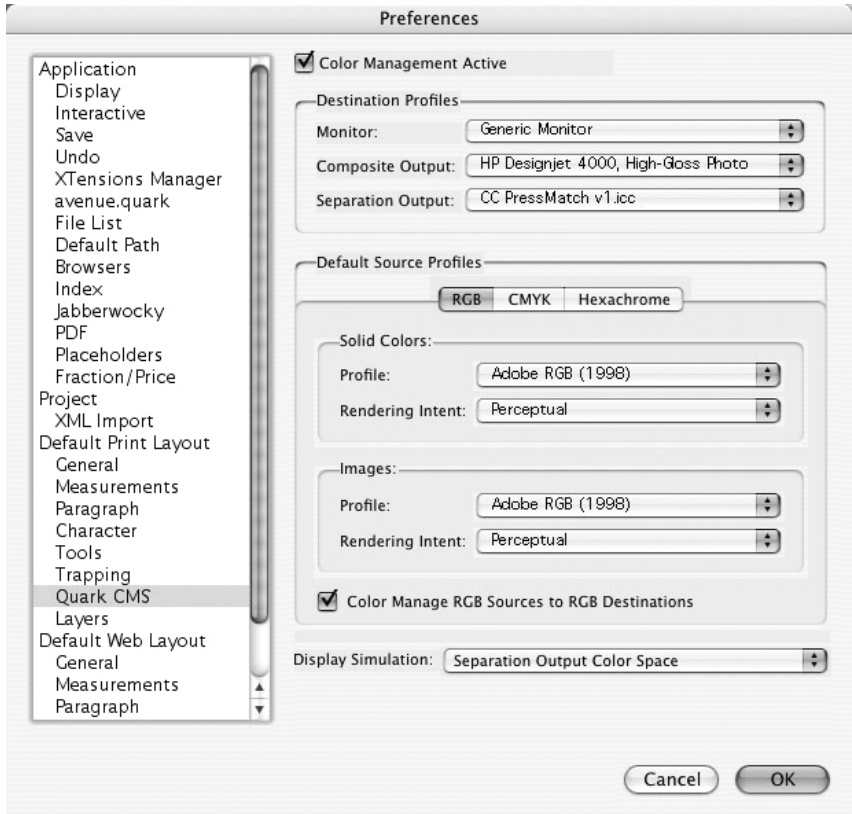
2. Open and retouch the document as you like.
3. Select **File** > **Print** > **Setup** > **Printer Description**, and select your printer.
4. Select **File** > **Print** > **Profiles**.
   – Select the appropriate Separation Output Profile (emulation) and Composite Output Profile (printer).
   – Check the Composite Simulates Separation box, then Quark will perform the simulation.
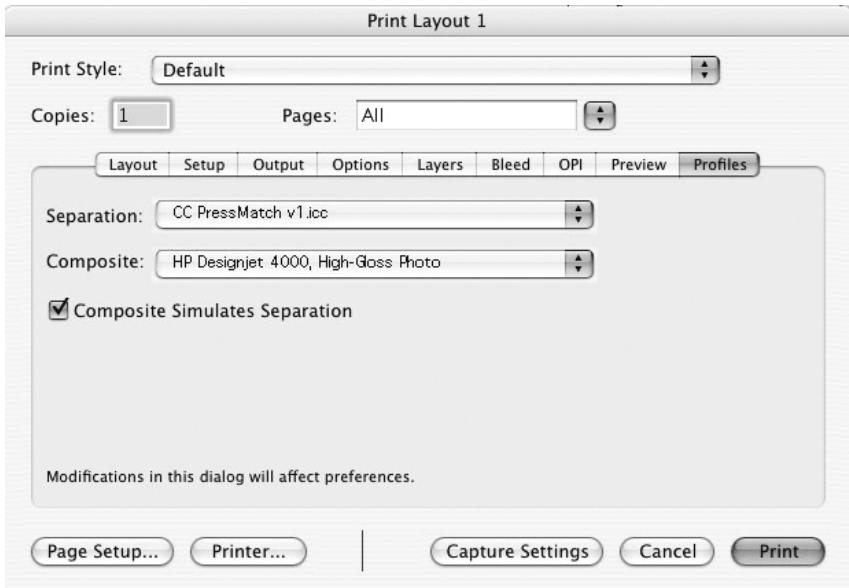
> **Note**   Each object in QuarkXpress has its own color management. The solid colors use the color profile and rendering intent selected in the default source profiles for Solid Colors (RGB, CMYK, or Hexachrome) of the Color Management Preferences dialog box. The imported objects have their own assigned profile and rendering intent. QuarkXPress will use the rendering intent assigned to the image for both conversions, from the image color space to the simulation color space, and from the simulation color space to the printer color space.

Driver settings

The PostScript driver is the best choice for page-layout applications because it can color–manage CMYK data, RGB data, or both simultaneously.

In the Image Quality panel, set **Print Quality** to **Best**.

In the Color Options panel, select **Application Managed Colors** and check the **Automatic PANTONE Calibration** box. When the application performs color conversion to the printer's color space, the printer should accept these colors without changing them. Make sure you have selected the right media profile in **Composite Output** in the Preferences dialog box.

Printer settings

Ensure that the **Paper Type** setting on the front panel corresponds to the paper you intend to use.

How do I get accurate colors from Autodesk AutoCAD 2002?
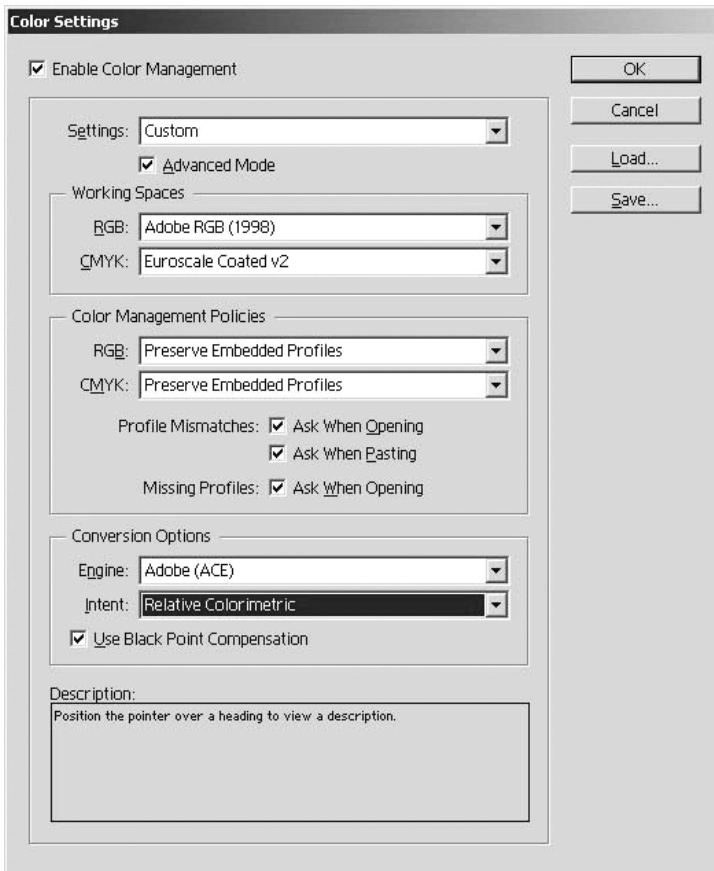
AutoCAD has no color management settings, so the best you can do is to configure the driver correctly. If you are using the HP-GL/2 and RTL driver, click the Properties button and configure the driver as follows.

● In the Paper/Quality tab, set **Print Quality** to **Best**.
● In the Color tab, ensure that the **Print In Grayscale** box is unchecked, and set **Color Matching Method** to 'sRGB'.

How do I get accurate colors from Microsoft Office 2003?

Microsoft Office has no color management settings, so the best you can do is to configure the driver correctly. If you are using the HP-GL/2 and RTL driver, click the Properties button and configure the driver as follows.

● In the Paper/Quality tab, set **Print Quality** to **Best**.
● In the Color tab, ensure that the **Print In Grayscale** box is unchecked, and set **Color Matching Method** to 'sRGB'.

How do I get accurate colors from ESRI ArcGIS 9?

ArcGIS is a scalable system of software for geographic data creation, management, integration, analysis, and dissemination for every organization, from an individual to a globally distributed network of people.

The application always sends RGB data to the printer driver; you can choose between several different printer engines. The printer engine determines the format and method used by ArcMap to send the print job to the printer. There are from one to three options available, depending on license and printer configurations.

● **Windows** is the default and is always available, regardless of the printer in use. It allows the application to use the installed HP-GL/2 and RTL driver.
● **PostScript** is available only if your printer supports PostScript and the PostScript driver was selected in the Name section. This allows you to output the file as a Postscript file. This option may be useful in certain specific cases, but in general it is **not recommended**.
● **ArcPress** is an extension that can be purchased for printing from ArcGIS. It is a software RIP that takes the original metafile and rasterizes it before sending it to the printer, so that the printer does not need to rasterize it. This is beneficial because some printers are not capable of rasterization or do not have enough memory to process large jobs. **Use ArcPress always with HP RTL (RGB) TrueColor.**

Printing with the Windows printer engine

1. Ensure that you have installed the HP-GL/2 and RTL driver.
2. When you are ready to print, select **File** > **Page and Print Setup**, and select the HP-GL/2 and RTL driver.
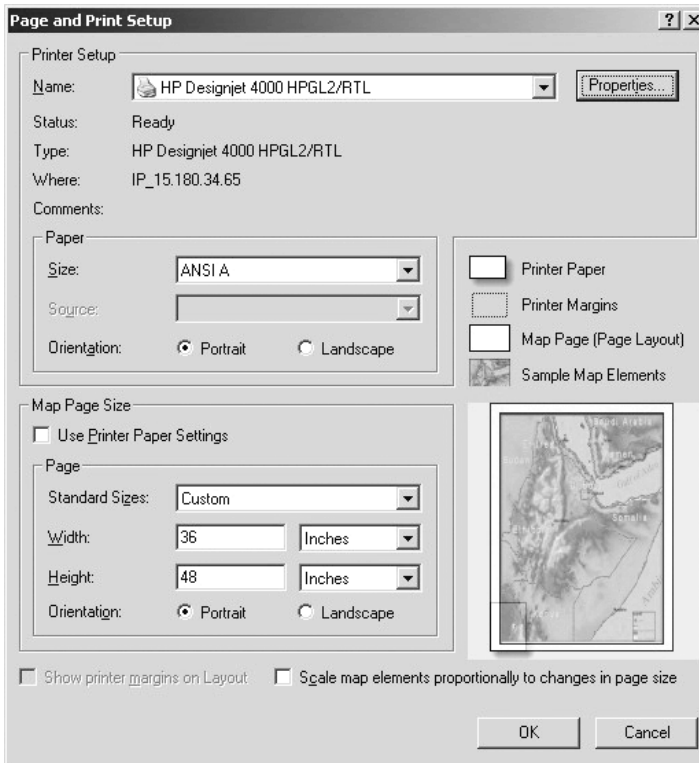
3. Click the Properties button and configure the driver as follows.
   – In the Paper/Quality tab, set **Print Quality** to **Best**.
   – In the Color tab, ensure that the **Print In Grayscale** box is unchecked, and set **Color Matching Method** to 'sRGB'.
4. Click the OK button.
5. Select **File** > **Print**.
   – **Printer Engine**: select Windows Printer (it will use the selected raster driver).
   – **Output Image Quality (Resample Ratio)**: this setting alters the number of pixels sampled when an ArcMap print file is generated; it determines how many pixels in the map document will be used to create the file sent to the printer.
     • Fast = 1:5
     • Normal = 1:3
     • Best = 1:1 (as is)

     The 'Best' choice requires a lot of resources to process the print job, and could cause long processing times and perhaps out–of–memory messages,

depending on the map size. If you have these problems, select an Output Image Quality lower than 'Best'. Bear in mind that you will gain no advantage in print quality by sending an image whose resolution is higher than the printer's input resolution.
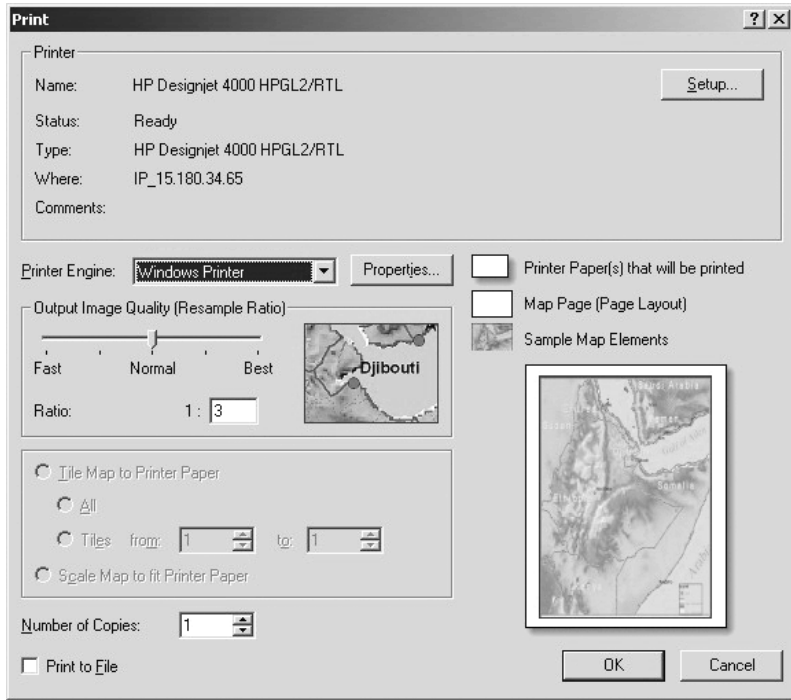
6. You can print now (click the OK button).

Printing with the ArcPress printer engine
1. You must have the driver you need installed, although it will function only as a port.
2. When you are ready to print, select **File** > **Page and Print Setup**, select the driver (the driver settings have no effect), and click the OK button.
3. Select **File** > **Print**.
   – **Printer Engine**: select ArcPress.
   – Click the **Properties** button, select the HP RTL (RGB) TrueColor driver, and select the resolution that will be sent to the printer.
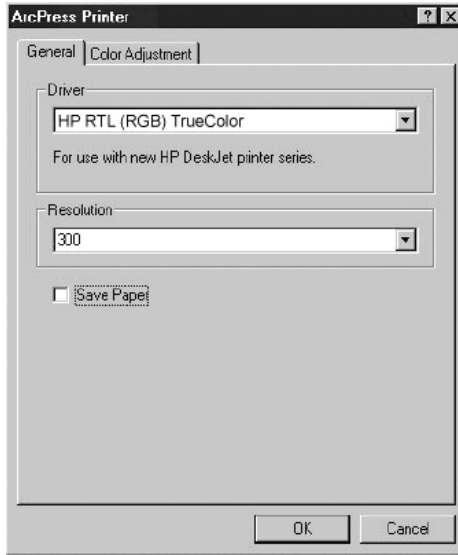
– Select the Color Adjustment tab if you want to adjust gamma, brightness, contrast, or saturation. You can preview the changes.
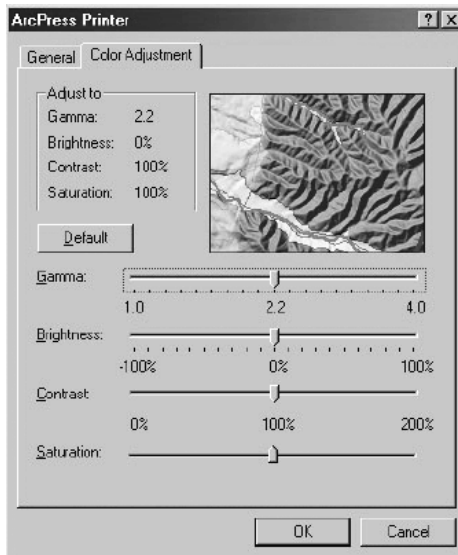
4. You can print now: click the OK button in this dialog box and in the Print dialog box.

**How do I get accurate colors
from my printer?**

7 How do I manage print jobs?

- ● "How do I submit a job?" on page 101
- ● "How do I save a job?" on page 102
- ● "How do I print a saved job?" on page 102
- ● "How do I check ink and paper usage for a job?" on page 102
- ● "How do I cancel a job?" on page 102
- ● "How do I manage the print queue?" on page 103
- ● "How do I nest jobs to save roll paper?" on page 105

How do I submit a job?

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Submit job** page.
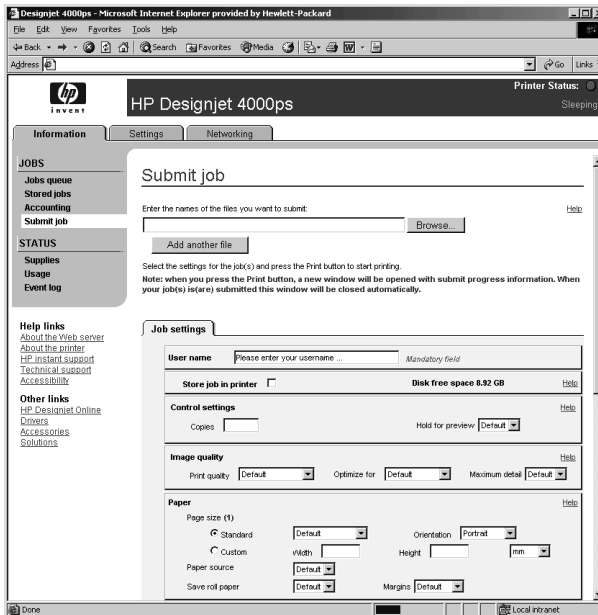
3. Browse your computer and select the file to print.

    Note Submitting a job to be printed via the Embedded Web Server does not require you to have the printer driver nor the file's native application installed on your computer.

4. If you want to submit more than one file, click the **Add another file** button to add another file.
5. Set the job options.

If you leave an option set to **Default**, the setting saved in the job will be used. If the job contains no setting for that option, the setting in the printer will be used. The setting in the printer can be changed from the front panel, or in some cases from the Device Setup page in the Embedded Web Server.

6. Click the **Print** button.

How do I save a job?

If you intend to reprint a job later with some changes to the job settings (such as size or quality), you can store the job inside your printer so that you will not need to resubmit it later.

Note If you want to reprint a job without changes, you can do that from the print queue without needing to save the job.

You can save a job only while submitting it for printing:

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Submit job** page.
3. Browse your computer and select the file to print.
4. If you want to submit more than one file, click the **Add another file** button to add another file. All files submitted together will have the same job settings.
5. In the job options, check the **Store job in printer** option.
6. Set the rest of the job options.
7. Click the **Print** button.

How do I print a saved job?

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Stored jobs** page.
3. Select the job or jobs that you want to print, using the check box beside each job name.
4. Click the **Print** button to print the job with the original settings, or **Advanced Print** to change the settings.

How do I check ink and paper usage for a job?

1. Access the Embedded Web Server (see "How do I access the Embedded Web Server?" on page 13).
2. Go to the **Accounting** page, which shows you all the information regarding the jobs recently printed by the printer.
   Alternatively, go to the **Jobs Queue** page, and click on the name of the job on which you want information. Its properties page will then be displayed.

How do I cancel a job?

A job can be canceled from the front panel by pressing the **Cancel** key, or from the Embedded Web Server by selecting the job and clicking the **Cancel** icon..

The printer advances the paper as though the print were finished.

> **Note** A multi-page job or a big file may take longer to stop printing than other files.

How do I manage the print queue?

This information below applies only if you are using the drivers that came with your printer or the Embedded Web Server to submit printing jobs.

Your printer can store pages in a queue while it is printing the current page. The queue may contain pages from more than one job.

> **Note** If the printer hangs up while printing a job, and the queue facility is turned on, the partially printed job will appear in the queue as "On hold" when the printer is next turned on. When you resume the job, it will start printing at the page at which it was interrupted.

Turning off the queue

If you wish, you can turn off the queue from the Web server (**Settings** tab > **Device setup** > **Queue**), or from the front panel: select the 🗗 icon and then **Queue**.

```
Queue
□ On
☑ Off
```

The When To Start Printing options

> **Note** The When To Start Printing options cannot be used with PostScript jobs.

You can select at what point you want to print a file you have in the queue. From the Web server, select the **Settings** tab > **Device setup** > **When to start printing**; or, from the front panel, select the 🗗 icon and then **When to start printing**.

There are three options you can select:

- When **After Processing** is selected, the printer waits until the whole page has been processed and then it starts to print. This is the slowest setting but offers the best print quality.
- When **Immediately** is selected, the printer prints the page as it is processed. This is the quickest setting, but the printer may stop halfway through a print to process data. This setting is not recommended for complex images with dense color.
- When **Optimized** is selected (this is the default setting), the printer calculates the best time to begin printing the page. It is usually the best compromise between the **After Processing** and **Immediately** settings.

Identifying a job in the queue

The best way to look at the queue is in the Embedded Web Server (**Information** > **Jobs queue**), where you can manage the queue and get full information on every job (by clicking the name of the file).

However, you can also manage the queue from the front panel. To do so, select the ⌂ icon and then **Queue management**, where you can see a list of the jobs in the queue.

Each has an identifier, comprising:

<position in queue>: <image name>

The job currently being printed is in position 0. The next job to be printed is in position 1, the previous job already printed is in position -1.

Prioritizing a job in the queue

To make any job in the queue the next one to be printed, select it and choose **Reprint** (in the Embedded Web Server) or **Move to front** (in the front panel).

If nesting is turned on, the prioritized job may still be nested with others. If you really want this job to be printed next, and on its own on the roll, first turn nesting off and then move it to the front of the queue as described above.

Deleting a job from the queue

Under normal circumstances, there is no need to delete a job from the queue after printing it, as it will just fall off the end of the queue as more files are sent. However, if you have sent a file in error, and want to avoid any chance of it being reprinted, you can simply delete it, by selecting it and choosing **Delete** (in the Embedded Web Server or in the front panel).

In the same way, you can delete a job that has not been printed yet.

If the job is currently being printed (Status = printing in the Web server, or its queue position is 0 in the front panel), and you want both to cancel the job and to delete it, first click the Cancel icon in the Web server, or press the **Cancel** key on the front panel, and then delete it from the queue.

Making copies of a job in the queue

To make extra copies of any job in the queue, select the job in the Embedded Web Server and click the **Reprint** icon, then specify the number of copies you want. The job will be moved to the top of the queue.

You can also do this from the front panel: select the job and choose **Copies**, then specify the number of copies required and press the **Select** key. This overrides any value set by your software.

Note If **Rotate** was **On** when you sent the file, every copy will be rotated.

If the job has already been printed, use **Move to front** to move it to the top of the queue.

How do I nest jobs to save roll paper?

Nesting means placing pages side by side on the paper, rather than one after the other. This is done to avoid wasting paper.
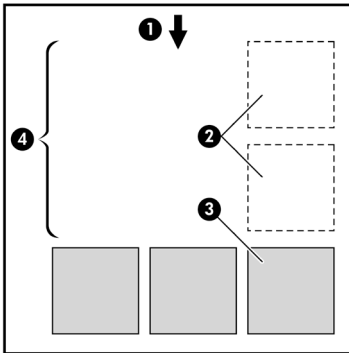
1. Direction of paper flow
2. Nesting off
3. Nesting on
4. Paper saved by nesting

When does the printer try to nest pages?

When both of the following are true:

- The printer is loaded with roll paper, not sheet paper.
- In the front panel's Job Management menu or the Embedded Web Server's Device Setup page, **Nest** is On.

Which pages can be nested?

All pages can be nested, unless they are so large that two of them cannot fit side by side on the roll.

Which pages qualify for nesting?

In order to be in the same nest, the individual pages must be compatible in all of the following ways:

- All pages must have the same print quality setting (Fast, Normal, or Best).
- Pages must be all Optimized for Drawings/Text or all Optimized for Images.
- The Maximum Detail setting must be the same on all pages.
- The Margins setting must be the same for all pages (Extended or Normal).
- The Mirror setting must be the same for all pages.
- The Rendering Intent must be the same for all pages.
- The Cutter setting must be the same for all pages.

- The color adjustment settings must be the same for all pages. These are known as Advanced Color Settings in the Windows driver, and CMYK Settings in the Mac OS driver.
- Pages must be all color, or all grayscale: not some in color and some in grayscale.
- All pages must be in one or other of the following two groups (the two groups cannot be mixed in the same nest):
  - HP-GL/2, RTL, CALS G4
  - PostScript, PDF, TIFF, JPEG
- JPEG, TIFF, and CALS G4 pages with resolutions greater than 300 dpi may not nest with other pages in some cases.

How long does the printer wait for another file?

So that the printer can make the best nest possible, it waits after a file has been received to check whether a subsequent page will nest with it or with pages already in the queue. This waiting period is the nest wait time; the factory default nest wait time is two minutes. This means that the printer waits for up to two minutes after the last file is received before printing the final nest. You can change this waiting time from the printer's front panel: select the ⬚icon, then **Nest options** > **Wait time**. The available range is 1 to 99 minutes.

While the printer is waiting for nesting to time out, it displays the remaining time on the front panel. You can print the nest (cancel the nest wait) by pressing the **Cancel** key.

8 How do I maintain my printer?

- "How do I clean the exterior of the printer?" on page 107
- "How do I clean the platen?" on page 107
- "How do I lubricate the printhead carriage?" on page 109
- "How do I maintain the ink cartridges?" on page 110
- "How do I move or store my printer?" on page 110
- "How do I update my printer's firmware?" on page 111

How do I clean the exterior of the printer?

Clean the outside of the printer and all other parts of the printer that you regularly touch as part of normal operation (e.g. ink cartridge drawer handles) as required with a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap.

Warning To avoid an electric shock, make sure that the printer is switched OFF and unplugged before you clean it. Do not let water get inside the printer.

Caution Do not use abrasive cleaners on the printer.

How do I clean the platen?

You should plan to clean your printer's platen on a regular basis, every few months or when needed.

Note If you print on wide paper after using narrower paper for some time, you may find that the left side of the platen has become dirty and will leave marks on the back of the paper if not cleaned.

Follow these instructions to clean the platen.

1. Unload all paper from the printer.
2. Open the window.
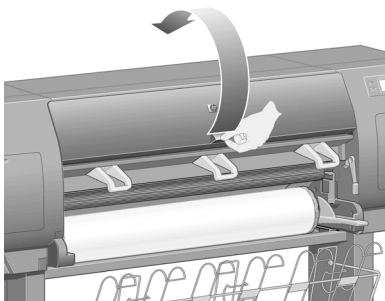
3. With a dry brush, remove ink deposits from the cutter groove.
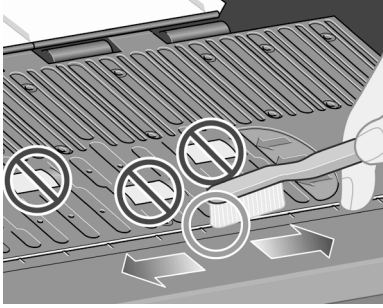
4. With the same dry brush, remove ink deposits from the platen surface.
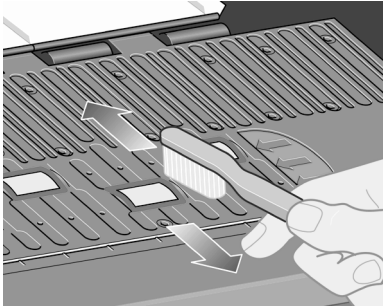
5. Use a clean, absorbent lint-free cloth, slightly dampened with isopropyl alcohol, to wipe off loosened ink deposits from the platen.

Note Isopropyl alcohol is not provided in the Maintenance Kit.
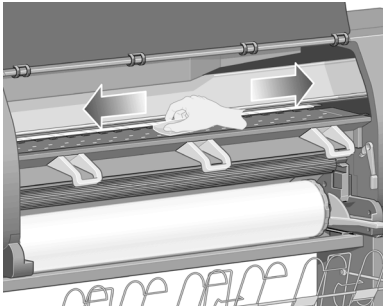
> ⚠ **Caution** Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly because you will leave too much moisture behind. Do not wet the rubber wheels at all (not even with the cloth).

6. Clean the cutter ramp with the damp cloth.
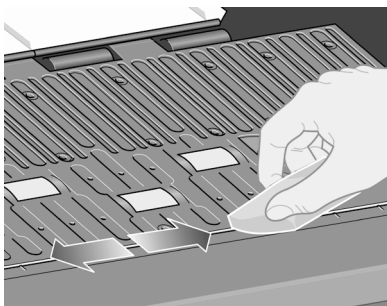
7. Clean the exposed part of the wheels with a dry cloth. Ideally you should clean the whole circumference of these wheels.
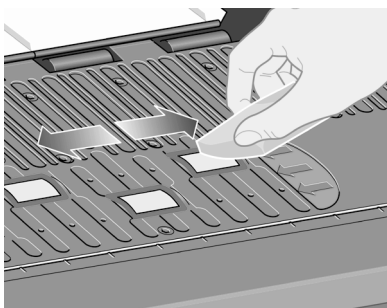
How do I lubricate the printhead carriage?

The printhead carriage occasionally (about once a year) needs lubrication to slide easily along the slider rod.

1. To gain access to the carriage, go to the front panel and select the 💧💧 icon, then **Printheads** > **Replace printheads now**. The carriage will slide into the middle section of the printer.

   > ⚠ **Caution** If the carriage is left in the central part of the printer for more than seven minutes. it will try to move back to its normal position in the right-hand end.

2. Take the bottle of oil from the Maintenance Kit that is supplied with your printer. A replacement kit can be ordered if necessary.
3. Open the window and apply a few drops of oil from the Maintenance Kit to the pads on either side of the carriage.
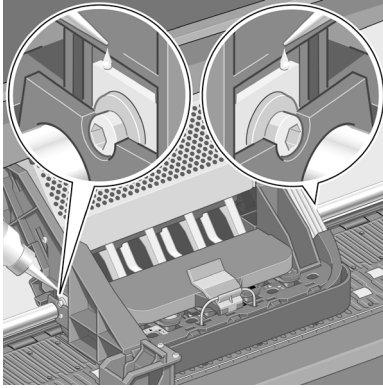
4. Apply a few drops of oil directly to the slider rod on either side of the carriage.
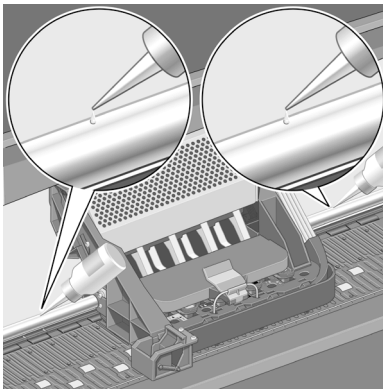
How do I maintain the ink cartridges?

During the normal lifetime of a cartridge, no specific maintenance is required. However, in order to maintain the best print quality, you should replace a cartridge when it has reached its expiration date, which is the date marked on the cartridge plus 6 months.

How do I move or store my printer?

If you need to move your printer or store it for an extended period of time, you need to prepare it properly to avoid possible damage to it. To prepare your printer, follow the instructions below.

1. Do not remove the ink cartridges, printheads, or printhead cleaners.
2. Make sure that no paper is loaded.
3. Make sure that the printhead carriage is located in the service station (the right-hand end of the printer).
4. Make sure that the front panel displays Ready.
5. Switch off the power using the **Power** key on the front panel.

6. Also switch off the power switch at the rear of the printer.
7. Disconnect any cables connected to the printer.
8. Repack the printer in its original packaging.

How do I update my printer's firmware?

Your printer's various functions are controlled by software that resides in the printer, otherwise known as firmware.

From time to time firmware updates will be available from Hewlett-Packard. These updates increase your printer's functionality and enhance the features that your printer already possesses. Firmware can be downloaded from the Internet and installed into your printer using the Embedded Web Server's **Firmware update** page (found in the **Settings** tab).

If you are unable to use the Embedded Web Server because you do not have a TCP/IP connection to your printer (for instance, when using USB or Appletalk), you can obtain firmware updates and installation software from these Web pages:

● **http://www.hp.com/support/designjet/fw4000/** or
● **http://www.hp.com/support/designjet/fw4000ps/**

How do I maintain my printer?

9 How do I use the Image Diagnostics Print?

How do I print the Image Diagnostics Print?

The Image Diagnostics Print consists of patterns designed to highlight print quality problems. It helps you to check whether you have a print quality problem, and if you have, what the cause of the problem is and how to resolve it.

Before using the Image Diagnostics Print, check that you have been using appropriate print quality settings (see "How do I choose print quality settings?" on page 68).

To print the Image Diagnostics Print:

1. Ensure that you have paper of at least A3 size (29.7 × 42 cm = 11.7 × 16.5 in) loaded into the printer. Use the same paper type that you were using when you detected a problem.

2. Ensure that the front panel has the same print quality settings that you were using when you detected the problem (see "How do I change the print quality?" on page 67). In the Image Diagnostics Print, the only difference between **Drawings/text** and **Images** is that the latter uses more ink in part 2, so that the colors appear darker.

   To print the Image Diagnostics Print will take about two minutes if you choose **Images**; sometimes less if you choose **Drawings/text** (depending on the paper type).

3. At the printer's front panel, select the 🗏 icon, then **Information** > **Internal prints** > **Print image diagnostics** > **Drawings/text** or **Images**.

```
Internal prints
Print demo              ▲
Print menu map
Print configuration
Print usage report
Print HP-GL/2 palette
Print PS font list
Print image diagnostics ▼
```
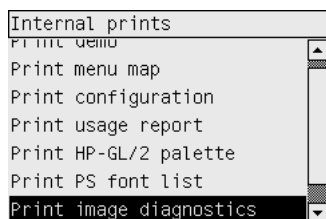
When the print is ready, see "How do I respond to the Image Diagnostics Print?" on page 114.

How do I respond to the Image Diagnostics Print?

The Image Diagnostics Print is in three numbered parts.

1. Part 1 tests printhead alignment. See "How do I interpret Image Diagnostics part 1?" on page 114.
2. Part 2 tests printhead performance and the paper advance mechanism. See "How do I interpret Image Diagnostics part 2?" on page 116.
3. If Part 2 has revealed a printhead problem, Part 3 identifies which of the eight printheads is responsible for it. See "How do I interpret Image Diagnostics part 3?" on page 118.

   If Part 2 has not revealed any problem, you can and should ignore Part 3.

How do I interpret Image Diagnostics part 1?

The purpose of part 1 is to identify color-to-color alignment and bidirectional alignment problems.
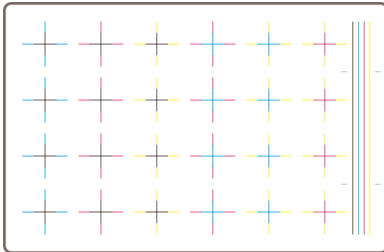
If you have horizontal misalignment, you will see something like this:
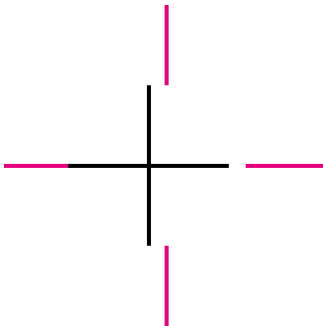
If you have vertical misalignment, you will see something like this:
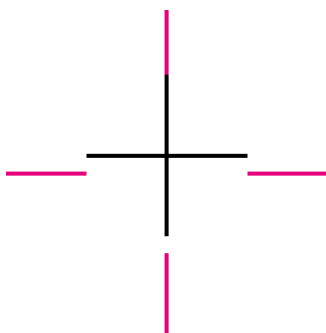
If you have bidirectional misalignment, you will see something like this:
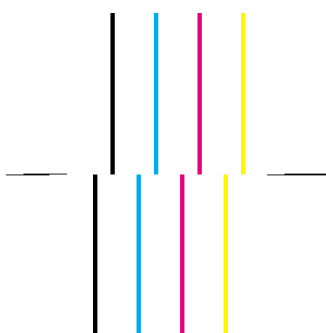
Corrective action
1. Align the printheads, using the same paper type with which you were experiencing unacceptable print quality, if feasible (some paper types are not suitable for printhead alignment). See "How do I align the printheads?" on page 57.
2. If there is no improvement in print quality, contact your customer service representative.

How do I interpret Image Diagnostics part 2?

The purpose of part 2 is to test whether the printheads and the paper advance mechanism are working correctly. This part of the print should not be used to check for color consistency or accuracy.
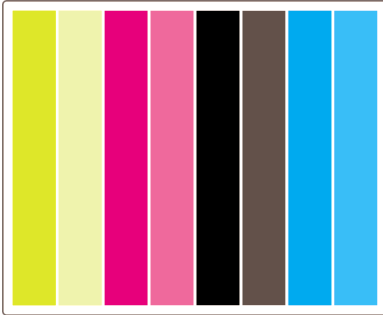
Banding

Banding has occurred when you see repetitive horizontal bands within the printed image. They can appear as light bands:
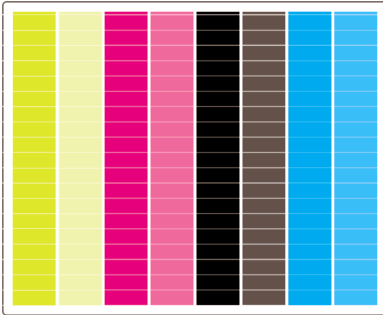
or dark bands:
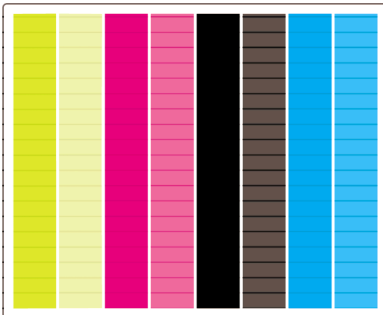
or as a more gradual wave effect:
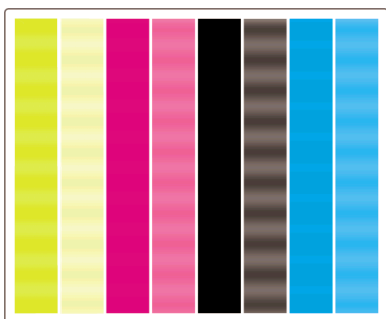
Horizontal bands across strips of one color only

If a printhead is faulty, you will see horizontal bands across strips of one color only; or at least the horizontal bands will be much more noticeable in one color than in the others.

Note Banding in the green strips is more difficult to see; and it may be caused by a yellow printhead or by a cyan printhead. If you see banding only in the green strip, it is caused by a yellow printhead; if you see banding in the green and cyan strips, it is caused by a cyan printhead.
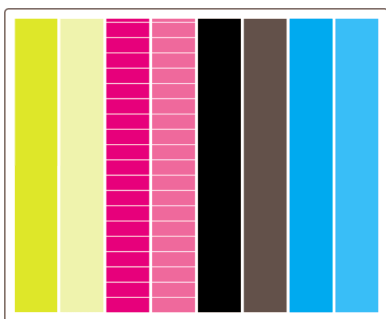
Corrective action

1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. Clean the printheads. See "How do I recover (clean) the printheads?" on page 51.
3. Reprint the Image Diagnostics Print. If you still see banding, continue with steps 4 and 5.
4. As there are two printheads for each color, check exactly which printhead is responsible for the problem, using Part 3 of the Image Diagnostics Print. See "Part 3" on page 118.
5. Replace the printhead that shows the problem. See "How do I remove a printhead?" on page 44 and "How do I insert a printhead?" on page 48.

Horizontal bands across all the colored strips

If the printer has paper advance problems you will see horizontal bands across all the colored strips.

📝 **Note** Banding in the green strips is more difficult to see.

Corrective action

1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. If you are using low-quality paper, try better-quality paper. The performance of your printer can be guaranteed only if you use recommended papers. See "How do I select supported paper types?" on page 32.
3. Perform paper advance calibration with the same paper type that you intend to use for the final print. See "How do I perform paper advance calibration?" on page 121.
4. If there is no improvement in print quality, contact your customer service representative.

How do I interpret Image Diagnostics part 3?

If part 2 has revealed a printhead problem, the purpose of part 3 is to identify which particular printhead is faulty. Each rectangle in this plot is labelled with the number of the printhead that produced it.
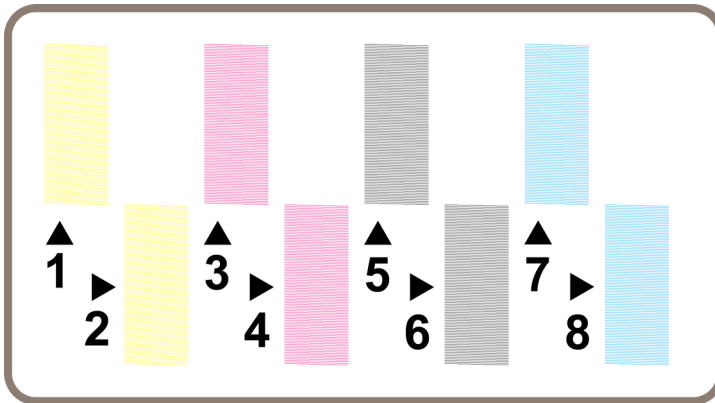
Here are three examples of a black rectangle in close-up, showing the fine lines of which it is made:
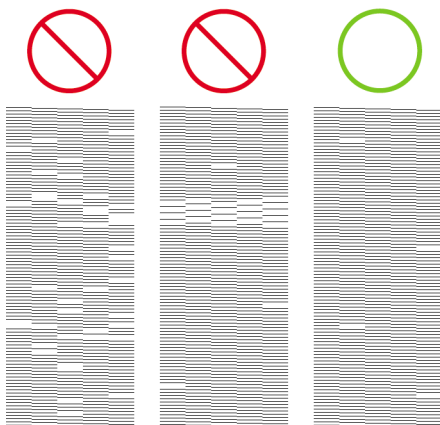
In the first two examples above, there are so many missing lines that the printhead may be faulty. In the third case there are only a few missing lines, which are acceptable, because the printer can compensate for such minor problems.

Corrective action

If part 3 shows a problem with one printhead, but part 2 shows no problem, there is no immediate need to take any corrective action, because the printer is able to compensate for the problem and maintain print quality. However, if part 2 also shows a problem, continue as follows:

1. Clean the printheads. See "How do I recover (clean) the printheads?" on page 51.
2. If there is no improvement in print quality, replace the printhead that shows the problem. See "How do I remove a printhead?" on page 44 and "How do I insert a printhead?" on page 48.

How do I proceed if I still have a problem?

If the entire Image Diagnostics Print contains no defects and you still experience print quality problems, here are some things to check:

● Try using a higher print quality option. See "How do I choose print quality settings?" on page 68 and "How do I change the print quality?" on page 67.
● Check the driver you are using to print with. If it is a non-HP driver, go to **http://www.hp.com/go/designjet/** and download the correct HP driver.
● If you are using a non-HP RIP, its settings may be incorrect. Refer to the documentation that came with the RIP.
● Check that your printer's firmware is up to date. See "How do I update my printer's firmware?" on page 111.
● Check that you have the right settings in your software application.
● If you are seeing a problem only at the top of the page, see "The problem is a defect near the start of a print" on page 133.

10 How do I perform paper advance calibration?

Your printer was calibrated at the factory to ensure that it advances the paper accurately when using supported paper types in normal environmental conditions. However, you may find it useful to recalibrate in certain circumstances:

●   Unsupported paper: different paper manufacturers provide papers with a wide range of properties such as paper thickness or stiffness, which may benefit from calibration. You can expect the best print quality when using HP's recommended papers (see "How do I select supported paper types?" on page 32).
●   Abnormal but stable environmental conditions: if you are printing in unusual conditions of temperature or humidity (see "Tell me about environmental specifications" in the *User's Guide*), and those conditions are expected to remain stable, recalibration may be worthwhile.

However, paper advance calibration assumes that you have an image quality problem and that you have already followed the appropriate troubleshooting procedure for that problem. If you have no particular problem, there is no need to perform the calibration.

Before performing paper advance calibration, use the Image Diagnostics Print to check that the printheads are correctly aligned (see "How do I print the Image Diagnostics Print?" on page 113).

Note   In theory, paper advance calibration should improve print quality. However, if you find the calibration print difficult to interpret, you may choose the wrong paper advance setting and thus degrade print quality. In this case, you can restore the original factory settings by selecting the ⬜ or ⬜ icon at the front panel, and then **Paper advance calibration** > **Drawings/text** or **Images** > **Select Pattern** > **Factory Default**.

Overview of the calibration process
1.   Use the front panel to print a colored pattern stored in the printer seven times, each time with a different paper advance setting.
2.   Decide which pattern has been printed most successfully.
3.   Use the front panel to tell the printer which pattern was best—and therefore which paper advance setting to use in future.

Note 1   There are separate paper advance settings for each paper type name in the front panel: each must be calibrated separately. When you calibrate a particular paper type, the settings for all other paper types are unaffected.

Note 2   There are separate paper advance settings for **Optimized for drawings/text** and **Optimized for images**: each must be calibrated separately.

Note 3   Papers from different manufacturers may require different paper advance settings even if they are of the same type, therefore the calibration will be useful only for the particular paper you calibrated. Remember that, when you perform the calibration, you will overwrite any previous paper advance settings for this paper type.

The calibration process in detail

1. Load the printer with the type of paper that you plan to use for printing subsequently. The paper must be at least 41 cm wide (16 in) and 75 cm long (30 in).

2. Select the ⬚ or ⬚ icon, and then **Paper advance calibration**.

```
Paper menu
Unload paper now
Roll
Sheet
Paper handling options
Paper advance calibration
```
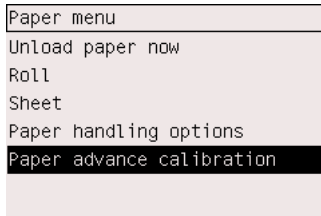
3. Select **Drawings/text** or **Images**, depending on the type of prints you wish to make subsequently.

    📝 **Note**   It is **very important** to use the same setting that you will later use for printing in the driver, the Embedded Web Server, or the front panel (**Optimized for drawings/text** or **Optimized for images**). Otherwise the calibration has no effect.

4. Select **Print Patterns**. The printer will print a series of numbered patterns (1 to 7), each looking like this if you selected **Drawings/text**:
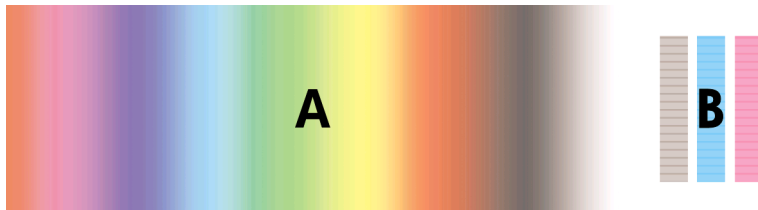
    or like this if you selected **Images**:
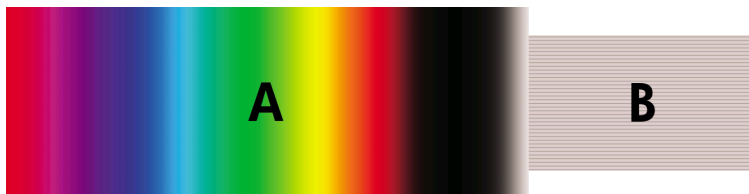
5. The **Drawings/text** print takes about three minutes, the **Images** print takes about five minutes. When the calibration print has finished printing, the printer will cut the paper.

6. Look at each of the printed patterns (1 to 7) and decide which one shows the best quality. Each pattern has one part on the left that is a continuous color gradient (A), and another part on the right (B). Either part can be used to help you decide which is the best of the series of patterns; it will depend on your circumstances. However, if you are using glossy paper or canvas, you are recommended to ignore part A and make your selection by looking at part B only.

   – In the color gradient, part A, you should look for light or dark horizontal bands (banding), which indicate that the paper advance is not quite right. Usually you will see dark bands across the first pattern and light bands across the last pattern (see the examples below). The best pattern is one with no banding; if in doubt, select the pattern in the middle, between the last pattern with dark bands and the first pattern with light bands.
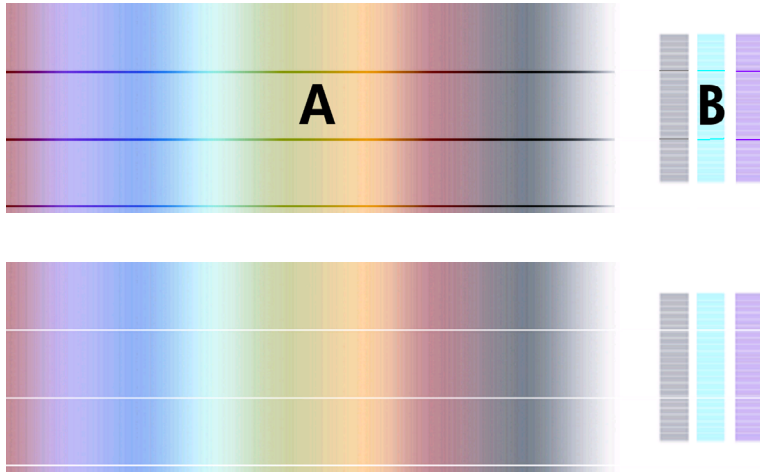
If you find it difficult to identify the best pattern, the following scenario descriptions may help you.

- Where you have only one pattern which is clearly the best and the ones above and below contain light/dark bands, select this pattern.
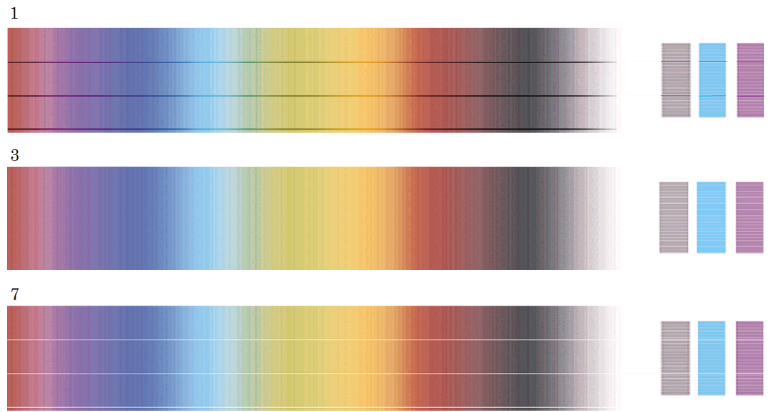
- Where you have two patterns next to each other which do not show signs of banding, see below, use the patterns above and below these two to help you select. For example, if the pattern above the two equal ones contains less banding then choose the pattern just below it.
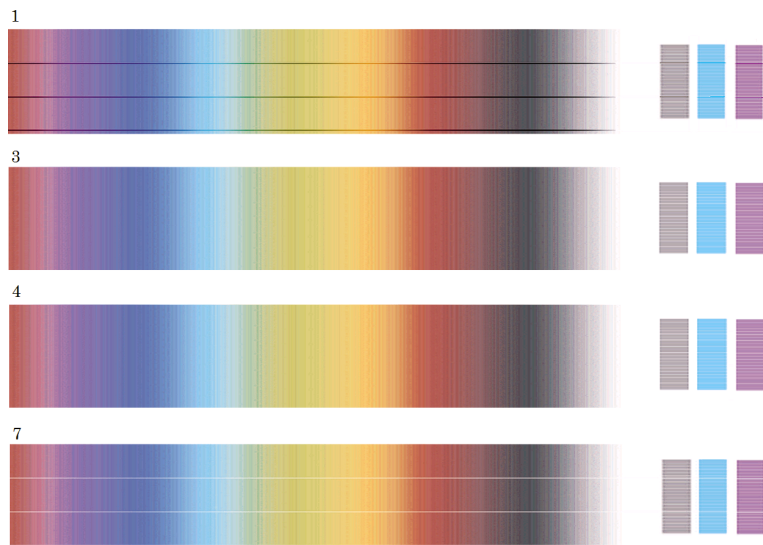
- Where you have three patterns which show no signs of banding, select the middle pattern.
- If you look at part B of the print, you will probably see that it appears darker in some patterns than in others. The best pattern is the one that appears lightest, most uniform, and least grainy.

7. Select the ⬜ or ⬜ icon, and then **Paper advance calibration** > **Drawings/text** or **Images** > **Select Pattern**.
8. Select the number of the pattern (1 to 7) that printed best. If you found it difficult to choose between two patterns e.g. patterns 3 and 4, then select "Between pattern 3 and 4"

The calibration is complete.

After calibration

If you find that the paper advance calibration has reduced but not eliminated your print quality problem, you could try step 7 again and select a different number. If you are seeing light bands, try selecting a lower number than your original selection; if you are seeing dark bands, try a higher number.

If you later want to cancel your calibration and restore the paper advance setting with which the printer left the factory, select the ⬜ or ⬜ icon, and then **Paper advance calibration** > **Drawings/text** or **Images** > **Select Pattern** > **Factory Default**.

11 The problem is print quality

General advice

When you have any print quality problem:

● To achieve the best performance from your printer, use only genuine manufacturer's supplies and accessories, whose reliability and performance have been thoroughly tested to give trouble-free performance and best-quality prints. For details of recommended papers, see "How do I select supported paper types?" on page 32.

● Make sure that the **paper type** selected in the front panel is the same as the paper type loaded into the printer. To check this, highlight the ⬜ or ⬜ icon on the front panel.

● Bear in mind that roll paper will generally give better print quality than a single sheet of the same kind of paper. When you are using single sheets of paper, we strongly recommend that you always set the print quality to **Best**.

● Check that you are using the most appropriate print quality settings for your purposes (see "How do I choose print quality settings?" on page 68). You are most likely to see print quality problems if you have set the print quality to **Fast**.

● To maintain the best print quality at the expense of speed, change the **Printhead monitoring** setting to **Intensive**. See "How do I manage printhead monitoring?" on page 51.

● Check that your environmental conditions (temperature, humidity) are suitable for high-quality printing. See "Tell me about environmental specifications" in the *User's Guide*.

The problem is banding (horizontal lines across the image)

If your printed image suffers from added horizontal lines as shown (the color may vary):
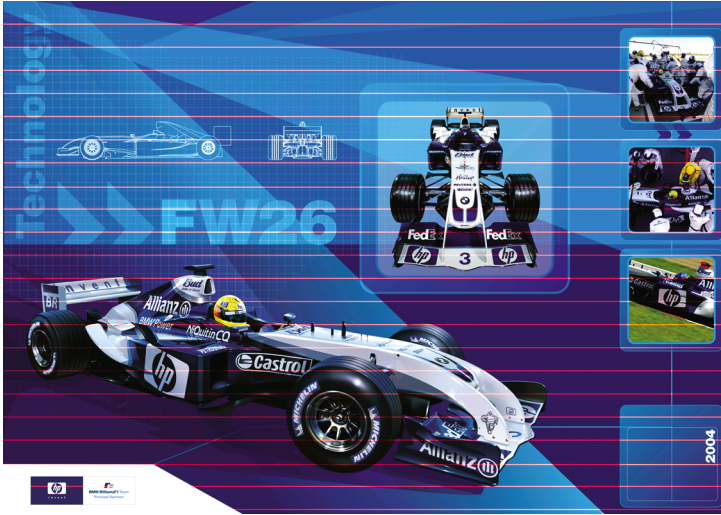
1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. If the problem persists, clean the printheads. See "How do I recover (clean) the printheads?" on page 51.
3. Consider changing to a heavier paper type: we recommend HP Heavyweight Coated Paper or HP Productivity Photo Gloss when printing dense colors.
4. If the problem persists, use the Image Diagnostics Print to find out more about it. See "How do I use the Image Diagnostics Print?" on page 113.

The problem is lines are missing or thinner than expected

1. Check that the line thickness and color settings are correct in your application.
2. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
3. If the problem persists, clean the printheads. See "How do I recover (clean) the printheads?" on page 51.
4. Consider changing to a heavier paper type: we recommend HP Heavyweight Coated Paper or HP Productivity Photo Gloss when printing dense colors.
5. If the problem persists, use the Image Diagnostics Print to find out more about it. See "How do I use the Image Diagnostics Print?" on page 113.

The problem is solid bands or lines printed over the image

This kind of problem can show itself in several different ways, illustrated below in magenta:

1. A thick colored band
2. Thinner colored bands
3. Discontinuous colored blocks
4. Thin lines
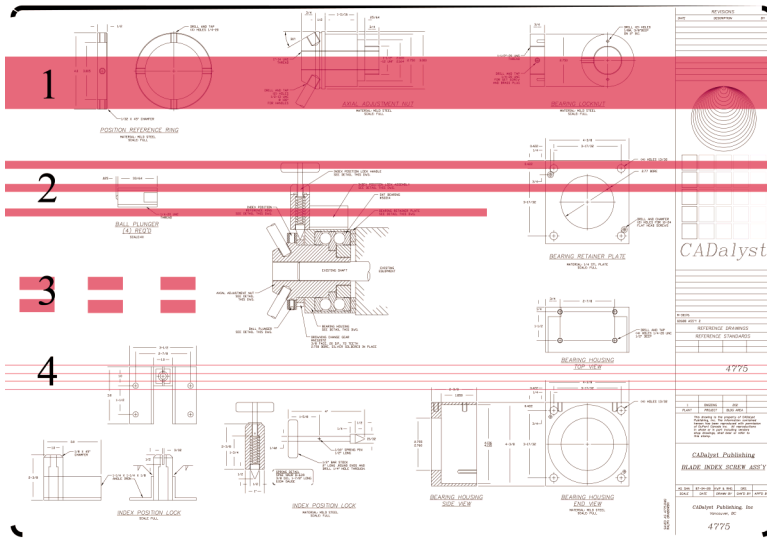
In each case the recommended procedure is as follows:

1. Clean the electrical connections of the printhead that seems to be responsible (in this example, the magenta printhead). See "How do I clean a printhead's electrical connections?" on page 51.
2. Clean the printheads. See "How do I recover (clean) the printheads?" on page 51.
3. Reprint your image with the same settings as before.
4. If the problem persists, replace the printhead that seems to be causing the problem. If you are not sure which printhead is responsible, use the Image Diagnostics Print to identify it. See "How do I use the Image Diagnostics Print?" on page 113.

The problem is graininess

1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. Use the Image Diagnostics Print to find out more about the problem. See "How do I use the Image Diagnostics Print?" on page 113.

The problem is the paper is not flat

If the paper does not lie flat when it comes out of the printer, but has shallow waves in it, you are likely to see visible defects in the printed image, such as vertical stripes. This can happen when you use thin paper that becomes saturated with ink.

Try changing to a heavier paper type: we recommend HP Heavyweight Coated Paper or HP Productivity Photo Gloss for printing dense colors. See also "How do I choose print quality settings?" on page 68.

The problem is the print smudges when touched

The black ink pigment can smudge when touched by a finger or pen. This is particularly noticeable on the following materials: vellum, translucent bond, films, productivity photo paper, and natural tracing paper.

To reduce the smudging:

- Try to print in an environment which is not too humid for the printer. See "Tell me about environmental specifications" in the *User's Guide*.
- Change pure black objects in your image to a dark color, such as dark brown, so that they will be printed with colored inks instead of black ink.
- Use HP Heavyweight Coated Paper.
- Increase the drying time (see "How do I change the drying time?" on page 35).

The problem is ink marks on the paper

This problem may occur for several different reasons.

Smears on the front of coated paper

If a lot of ink is used on coated paper, the paper absorbs the ink quickly and expands. As the printheads move over the paper, the printheads come into contact with the paper and the printed image is smeared.

Whenever you notice this problem, you should cancel the printing job immediately. Press the **Cancel** key and also cancel the job from your computer application. Otherwise the soaked paper may damage the printheads.

Try the following suggestions to avoid this problem:

- Use a recommended paper type (see "How do I select supported paper types?" on page 32).
- If the image you are printing contains intense color, try using HP Heavyweight Coated Paper.
- Use extended margins (see "How do I adjust the margins?" on page 70), or try to increase the margins by relocating the image within the page using your software application.
- If necessary, try changing to a non-paper-based material such as transparent film.

Smears or scratches on the front of glossy paper

Glossy paper may be extremely sensitive to the bin or to anything else that it contacts soon after printing. This will depend on the amount of ink printed and the environmental conditions at the time of printing. Avoid any contact with the paper and handle the print with care.

It is a good idea to leave a sheet of paper in the bin so that freshly-printed sheets do not make direct contact with the bin.

Ink marks on the back of the paper

Ink on the platen is likely to mark the back of the paper. See "How do I clean the platen?" on page 107.

The problem is a defect near the start of a print

There is a type of defect that affects only the start of a print, within 5.5 cm of the leading edge of the paper. You may see a thin or thick band of inconsistent color:
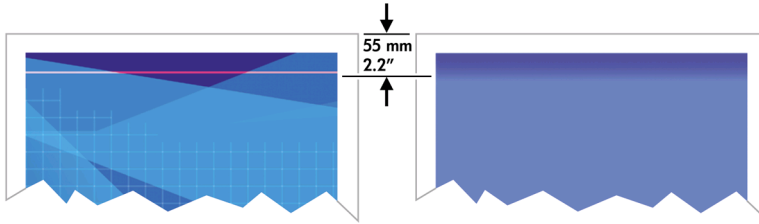
To avoid this problem:

1. The easiest solution is to select the **Extended Margins** option in the driver, the Embedded Web Server, or the front panel. This means that the area of the paper affected by the problem (at the start of the page) will no longer be printed on. See "How do I adjust the margins?" on page 70.
2. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.

The problem is lines are stepped

If lines in your image appear stepped or jagged when printed:

1. The problem may be inherent in the image. Try to improve the image with the application you are using to edit it.
2. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
3. Turn on the Maximum Detail option.

The problem is lines are printed double or in wrong colors

This problem can have various visible symptoms:

- Colored lines are printed double, in different colors.
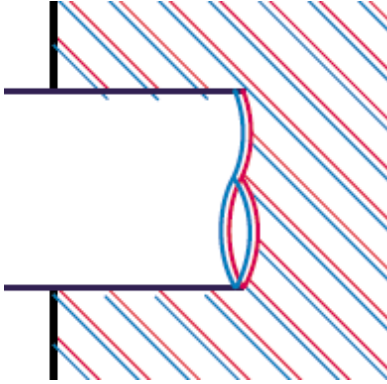
- The borders of colored blocks are wrongly colored.
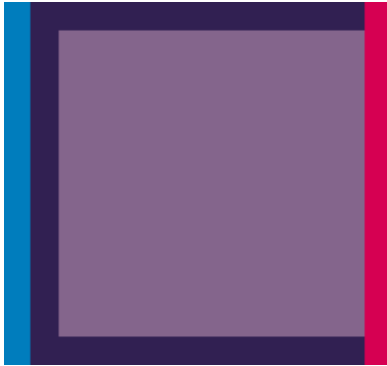
To correct this kind of problem:

1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. Align the printheads. See "How do I align the printheads?" on page 57.

The problem is lines are discontinuous

If your lines are broken in the following way:

1. Check that you are using appropriate print quality settings. See "How do I choose print quality settings?" on page 68.
2. You are more likely to get good vertical lines with roll paper than with sheet paper. If you must use sheet paper, set the print quality to **Best**.
3. Consider changing to a heavier paper type, such as HP Heavyweight Coated Paper or HP Productivity Photo Gloss. See"How do I choose print quality settings?" on page 68.
4. Align the printheads. See "How do I align the printheads?" on page 57.

The problem is lines are blurred (ink bleeds from lines)

If you see that the ink is soaking into the paper, making the lines blurred and fuzzy, this could be because of humidity in the air. Try the following:

1. Check that your environmental conditions (temperature, humidity) are suitable for high-quality printing. See "Tell me about environmental specifications" in the *User's Guide*.
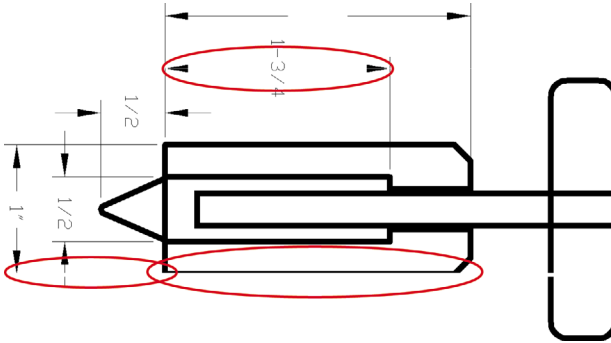2. Try changing to a heavier paper type, such as HP Heavyweight Coated Paper or HP Productivity Photo Gloss. See"How do I choose print quality settings?" on page 68.

   Note Glossy photo paper types are especially difficult to dry. Take extra care with them.

3. Check that the paper type selected in the front panel is the same as the paper type you are using.
4. Perhaps you have adjusted the drying time at the front panel to speed up the printer output. Select the 🖋 icon, then **Drying options** > **Drying time**, and make sure it is set to **Optimal**.
5. Allow the prints time to dry separately; do not cover or stack them.

The problem is lines are slightly warped

The paper itself may be warped. This can happen if it has been used or stored in an extreme environment. See "Tell me about environmental specifications" in the *User's Guide*.

The problem is color accuracy

There are two basic requirements for color accuracy:

1. Ensure that your paper type has been calibrated, which will give you consistency from print to print, and from printer to printer. See "How do I perform color calibration?" on page 77.
2. Select suitable options in your application: see "How do I get accurate colors from my printer?" on page 77.

> **Note** If you are not using PostScript, remember that your printer may be configured to use one of its internal pen palettes instead of your software's palette (which is the default). See "The problem is pen settings seem to have no effect" on page 144.

Color accuracy using EPS or PDF images in page layout applications

Page layout applications such as Adobe InDesign and QuarkXPress do not support color management of EPS, PDF, or grayscale files.

If you have to use such files, try to ensure that the EPS, PDF, or grayscale images are already in the same color space that you intend to use later on in Adobe InDesign or QuarkXPress. For instance, if your final goal is to print the job in a press that follows the SWOP standard, at the time of creating the EPS, PDF or grayscale you should convert the image into SWOP.

The problem is PANTONE color accuracy

Spot colors are special premixed inks to be used directly in the press, and the best–known spot colors are PANTONE colors.

If you have the PostScript model, your printer provides a facility called Automatic PANTONE Calibration, which can easily match most of the PANTONE Solid Coated spot colors. When an application sends a PANTONE color to print, it sends the PANTONE name together with its own estimate of equivalent CMYK values. The Automatic PANTONE Calibration facility recognizes the PANTONE name and converts it to CMYK in a way that depends on the printer model and the selected paper type, enabling the color to be rendered with greater precision than is possible with the generic CMYK values sent by the application.

Even when using Automatic PANTONE Calibration, you cannot expect the printer to match the PANTONE colors exactly. Your printer is certified by Pantone for some papers, but this does not mean that it can reproduce 100% of the PANTONE colors.

Using Automatic PANTONE Calibration (the best choice)

In order to use Automatic PANTONE Calibration, you need an application that recognizes the PANTONE colors, and a calibrated PostScript printer.

The Automatic PANTONE Calibration facility emulates PANTONE Solid Coated colors only (suffix C). Other PANTONE colors will be printed using the CMYK values sent by the application.

Converting PANTONE colors manually

If you have a non–PostScript printer, or if you are using an application (such as Adobe Photoshop) that does not send the name of the PANTONE color to the printer, you will not be able to use Automatic PANTONE Calibration. Instead, if you wish, you can convert each PANTONE color manually to CMYK values in the application, using tables produced especially for your printer and paper type.

If your application has a facility to convert PANTONE colors to CMYK values automatically, it probably does not take account of printer or paper type, so you will get better results with a manual conversion using the tables.

You can also obtain a PANTONE calibrated color chart in EPS, TIFF, and PDF format, which can be convenient if your application has an eyedropper tool with which you can pick up colors from an imported graphic.

Tips

- Automatic PANTONE Calibration works with PostScript printers only.
- Ensure that Automatic PANTONE Calibration is turned on in the driver.
- Some applications may not support PANTONE colors fully; for example, Photoshop 7.0 does not send the PANTONE Color with its name, it sends only the CMYK values from its standard table.
- Some colors may be out of gamut and impossible to match precisely with your printer and paper type.

The problem is color matching between different HP Designjets

If you print an image on two different printer models (for instance, on an HP Designjet 4000 Printer series and an HP Designjet 1000 Printer series), you may find that the colors of the two prints do not match well.

Matching two printing devices that use different ink chemistry, paper chemistry, and printheads is unlikely to be completely successful. The information provided here is the best way to emulate one printer with another. Even so, the end result may not be a perfect match.

Printing via separate PostScript drivers

The situation is that you are printing on each printer using the PostScript driver installed for that printer. In this example, we are using an HP Designjet 4000 Printer series and an HP Designjet 1000 Printer series.

1. Ensure that both printers have been updated to the latest firmware version. See "How do I update my printer's firmware?" on page 111.
2. Ensure that you have the latest printer driver for both printers. You can download the latest versions for any HP printer from **http://www.hp.com/go/designjet**.
3. Ensure that Color Calibration is turned on. At the front panel of the HP Designjet 4000 series, select the ⊟ icon, then **Configuration menu** > **Color Calibration** > **On** .
4. Load the printers with similar paper types.

5.   Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.

6.   Print your image on the HP Designjet 1000 Printer series using your normal settings.

7.   Now prepare to print the same image on the HP Designjet 4000 Printer series.

8.   In your application, set the color space of the image to emulate the HP Designjet 1000 Printer series and the specific paper type that you used in that printer. The data sent to the driver must be already converted to this emulation color space, which is a CMYK color space. See your application's online help for information on how to do this. In this way, the 4000 series will emulate the colors that the 1000 series can produce when printing on that paper type.

9.   In the PostScript driver for the HP Designjet 4000 Printer series, go to the Color Management section and set the CMYK input profile to the same HP Designjet 1000 Printer series color space that you selected in the application (the emulation color space).

> **Note**   When trying to emulate another printer you should always use CMYK colors, not RGB.

10. Set the rendering intent to Relative Colorimetric, or to Absolute Colorimetric if you want to emulate the whiteness of the paper.

11. Print the image on the HP Designjet 4000 Printer series.

Printing via separate HP-GL/2 drivers

The situation is that you are printing on each printer using the HP-GL/2 driver installed for that printer.

1.   Ensure that both printers have been updated to the latest firmware version. See "How do I update my printer's firmware?" on page 111.

2.   Ensure that you have the latest printer driver for both printers. You can download the latest versions for any HP printer from **http://www.hp.com/go/designjet**.

3.   Ensure that Color Calibration is turned on. At the front panel of the HP Designjet 4000 Printer series, select the ⊟ icon, then **Configuration menu** > **Color Calibration** > **On** .

4.   Load the printers with similar paper types.

5.   Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.

6.   With the HP-GL/2 driver for the HP Designjet 4000 Printer series, select the Color tab, and set the **Color Matching Method** to **sRGB**.

7.   With the HP-GL/2 driver for the HP Designjet 1000 series, select the Options tab, then **Manual Color** > **Color Control** > **Match Screen**. You should also select the Paper Size tab, then **Paper Type**, and select an Enhanced Colors paper type.

Printing the same HP-GL/2 file

The situation is that you have produced an HP-GL/2 file (also known as a PLT file) using the HP-GL/2 driver installed for one printer, and you intend to send the same file to both printers.

1.   Ensure that both printers have been updated to the latest firmware version. See "How do I update my printer's firmware?" on page 111.

2. Ensure that Color Calibration is turned on. At the front panel of the HP Designjet 4000 Printer series, select the ⊟ icon, then **Configuration menu** > **Color Calibration** > **On** .

3. Load the printers with similar paper types.

4. Ensure that the Paper Type setting on the front panel corresponds to the paper you have loaded.

5. If you have an HP-GL/2 file produced for an HP Designjet 1000 Printer series and you want to print it on an HP Designjet 4000 Printer series, proceed as follows using the Embedded Web Server or the front panel.

   – Using the Embedded Web Server: in the Color Management section of the Submit Job page, set the **Input Profiles: RGB** to **None (Native)**.

   – Using the front panel: select the ⊟ icon, then **Printing defaults menu** > **Color Options** > **RGB Input Profile: None (Native)**.

   For other HP Designjet Printers, set both printers to match the screen colors (sRGB if selectable), as when printing with separate HP-GL/2 drivers.

The problem is print quality

12 The problem is an image error

- "The problem is the print is completely blank" on page 141
- "The problem is the output contains only a partial print" on page 141
- "The problem is the image is clipped" on page 142
- "The problem is the image is in one portion of the printing area" on page 142
- "The problem is the image is unexpectedly rotated" on page 143
- "The problem is the print is a mirror image of the original" on page 143
- "The problem is the print is distorted or unintelligible" on page 143
- "The problem is one image overlays another on the same sheet" on page 144
- "The problem is pen settings seem to have no effect" on page 144

The problem is the print is completely blank

If the front-panel graphic language setting is **Automatic** (the default), try the other settings: **PostScript** for a PostScript file, **HP-GL/2** for an HP-GL/2 file, etc. (see "How do I change the graphic language setting?" on page 75). Then send the file again.

When you have finished this particular print, remember to reset the graphic language to **Automatic**.

The problem is the output contains only a partial print

- Did you press **Cancel** before all the data were received by the printer? If so, you have ended the data transmission and will have to print the page again.
- The **I/O timeout** setting may be too short. From the front panel, you can increase the **I/O timeout** setting to a longer period and then send the print again. Select the ⬓ icon, then **I/O setup** > **I/O timeout**.

```
I/O setup
I/O timeout
Interface selection
Fast Ethernet
Gigabit Ethernet
1394 FireWire
USB
Jetdirect EIO
```
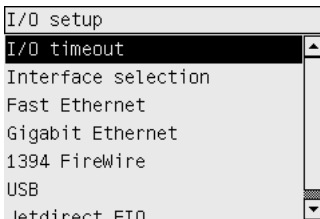
- There may be a communications problem between your computer and the printer. Check your interface cable.
- Check to make sure that your software settings are correct for your current page size (e.g. long-axis prints).
- If you are using network software, make sure it has not timed out.

The problem is the image is clipped

This normally indicates a discrepancy between the actual printable area on the loaded paper and the printable area as understood by your software.

● Check the actual printable area for the paper size you have loaded.
  printable area = paper size – margins
  The Windows HP-GL/2 driver displays the printable area in the Paper/Quality tab.
● Check what your software understands to be the printable area (which it may call "printing area" or "imageable area"). For example, some software applications assume standard printable areas that are larger than those used in this printer.
● If you are trying to print a very long image on a roll, check that your software is capable of printing an image of that size.
● Check that the orientation of the paper is the same as that assumed by your software. The front-panel **Printing defaults menu** > **Paper options** > **Rotate** option changes both the orientation of a print and the orientation of the page. It is possible that a rotated image on a roll may be slightly clipped in order to retain the correct page size.
● You may have asked to rotate the page from portrait to landscape on a paper size that is not wide enough.
● If necessary, change the printable area in your software.

There is another possible explanation for a clipped image. Some applications, such as Adobe Photoshop, Adobe Illustrator, and CorelDRAW, use an internal 16–bit coordinate system which means that they cannot handle an image of more than 32,768 pixels. If you try to print an image larger than this from these applications, the bottom of the image will be clipped. In this case, the only way to print the whole image is to reduce the resolution so that the whole image requires fewer than 32,768 pixels. The HP-GL/2 printer driver contains an option called **Compatibility with 16–bit applications**, which can be used to reduce the resolution of such images automatically. You can find this option by clicking the Troubleshooting button in the driver's Services tab.

The problem is the image is in one portion of the printing area

● Have you selected too small a page size in your application?
● Does your application think that the image is in one portion of the page?

The problem is the image is unexpectedly rotated

At the front panel, select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Rotate**. Check that the setting is what you wanted.

```
Paper options
Size
Save roll paper
Scale
Rotate
Margins
Mirror
```
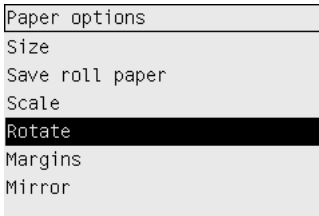
For non-PostScript files: if **Nesting** is **On**, pages may be automatically rotated to save paper. See "How do I rotate an image?" on page 72.

The problem is the print is a mirror image of the original

At the front panel, select the ⊟ icon, then **Printing defaults menu** > **Paper options** > **Mirror**. Check that the setting is what you wanted.

```
Paper options
Size
Save roll paper
Scale
Rotate
Margins
Mirror
```
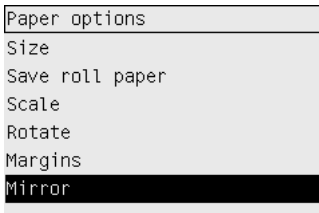
The problem is the print is distorted or unintelligible

- The interface cable connecting your printer to your network (or to your computer) could be faulty. Try another cable.
- If the front-panel graphic language setting is **Automatic** (the default), try the other settings: **PostScript** for a PostScript file, **HP-GL/2** for an HP-GL/2 file etc. (see "How do I change the graphic language setting?" on page 75). Then send the file again.
- Depending on the software, drivers, and RIPs you are using with your printer, there will be different ways of solving this problem. Refer to the vendor's user documentation for details.

The problem is one image overlays another on the same sheet

The **I/O timeout** setting may be too long. From the front panel, decrease the setting and print again. Select the ⊟ icon, then **I/O setup** > **I/O timeout**.

```
I/O setup
I/O timeout                    ▲
Interface selection
Fast Ethernet
Gigabit Ethernet
1394 FireWire
USB                            ▒
Jetdirect EIO                  ▼
```
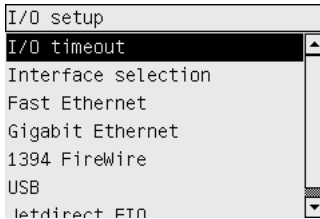
The problem is pen settings seem to have no effect

Here are some possible explanations:

- You have changed the settings in the front panel by selecting the ⊟ icon followed by **Printing defaults menu** > **HP-GL/2 settings** > **Define palette**, but you have forgotten to select that palette in **Printing defaults menu** > **HP-GL/2 settings** > **Palette**.
- If you want the software-driven pen settings, you must remember to go to the front panel and select the ⊟ icon followed by **Printing defaults menu** > **HP-GL/2 settings** > **Palette**, and set it to Software.

13 The problem is with the ink system

- "The problem is I cannot insert an ink cartridge" on page 145
- "The problem is I cannot insert a printhead" on page 145
- "The problem is I cannot insert a printhead cleaner" on page 145
- "The problem is the front panel keeps telling me to reseat or replace a printhead" on page 145
- "The problem is an ink cartridge status message" on page 146
- "The problem is a printhead status message" on page 146
- "The problem is a printhead cleaner status message" on page 146

The problem is I cannot insert an ink cartridge

1. Check that you have the correct type of cartridge (model number).
2. Check that the colored label on the cartridge is the same color as the label on the slot.
3. Check that the cartridge is correctly oriented, with the colored label at the top.

⚠ **Caution** Never clean inside the ink cartridge slots.

The problem is I cannot insert a printhead

1. Check that you have the correct type of printhead (model number).
2. Check that you have removed the blue protective cap and the clear protective tape from the printhead.
3. Check that the colored label on the printhead is the same color as the label on the slot.
4. Check that the printhead is correctly oriented (compare with the others).
5. Check that you have closed and latched the printhead cover.

The problem is I cannot insert a printhead cleaner

1. Check that you have the correct type of cleaner (model number).
2. Check that the colored label on the cleaner is the same color as the label on the slot.
3. Check that the cleaner is correctly oriented (compare with the others).

The problem is the front panel keeps telling me to reseat or replace a printhead

1. Remove the printhead and check that its protective film has been removed.
2. Try cleaning the electrical connections between the printhead and the carriage. See "How do I clean a printhead's electrical connections?" on page 51.
3. Reinsert the printhead into the carriage and check the front panel message.
4. If the problem remains, try a new printhead.

The problem is an ink cartridge status message

These are the possible ink cartridge status messages:

- **OK**: the cartridge is working normally, with no known problems
- **Missing**: there is no cartridge present, or it is not properly connected to the printer
- **Low**: the ink level is low
- **Very low**: the ink level is very low
- **Empty**: the cartridge is empty
- **Reseat**: you are recommended to remove the cartridge and then reinsert it
- **Replace**: you are recommended to remove the cartridge and then reinsert it; if that fails, replace the cartridge with a new cartridge
- **Altered**: there is something unexpected about the cartridge's status—perhaps it has been refilled

The problem is a printhead status message

These are the possible printhead status messages:

- **OK**: the printhead is working normally, with no known problems
- **Missing**: there is no printhead present, or it is not properly installed in the printer
- **Reseat**: you are recommended to start the printhead removal process from the front panel (see "How do I remove a printhead?" on page 44), but instead of removing the printhead, just press the **Select** key on the front panel
- **Replace**: you are recommended to remove the printhead and then reinsert it; if that fails, clean the electrical connections; if that fails, replace the printhead with a new printhead
- **Remove**: the printhead is not a suitable type for use in printing (for instance, a setup printhead)

The problem is a printhead cleaner status message

These are the possible printhead cleaner status messages:

- **OK**: the cleaner is working normally, with no known problems
- **Missing**: there is no cleaner present, or it is not properly installed in the printer
- **Reseat cleaner**: you are recommended to remove the cleaner and then reinsert it
- **Wrong stall**: the cleaner has been installed in the wrong place
- **End of life**: the cleaner has reached the end of its planned lifetime
- **Not replaced with printhead**: you have installed a new printhead without installing the new cleaner that came with it

If a printhead cleaner needs to be removed or reseated, you must start the printhead replacement process (see "How do I remove a printhead?" on page 44). Open the window when prompted to do so by the front panel. If the front panel shows the printheads with no printhead blinking, you do not need to touch the printheads. Just close the window again, and the printer will proceed to printhead cleaner replacement.

14 The problem is with the paper

- "The problem is the paper cannot be loaded successfully" on page 147
- "The problem is a paper jam (paper stuck in the printer)" on page 149
- "The problem is prints do not stack properly in the bin" on page 151
- "The problem is the printer uses a lot of paper to align the printheads" on page 151

The problem is the paper cannot be loaded successfully

- The paper may be loaded at an angle (skewed). Check that the right-hand edge of the paper is aligned with the half-circle on the right-hand side of the platen and, particularly in the case of sheet paper, that the leading edge is aligned with the metal bar in the platen.
- The paper may be crumpled or warped, or may have irregular edges.

Rolls

- If the paper gets stuck in the paper path to the platen, it may be that the leading edge of the paper is not straight or clean, and needs to be trimmed. Remove the initial 2 cm (1 in) from the roll and try again. This may be necessary even with a new roll of paper.
- Check that the spindle is correctly inserted. The blue spindle lever on the right should be in the horizontal position.
- Check that the paper is correctly loaded on the spindle, and that it loads over the roll towards you.
- Check that the paper is wound tightly on the roll.

Sheets

- Check that the leading edge of the sheet is aligned with the cutter channel in the platen.
- Do not use hand-cut sheets, which may be of irregular shapes. Use only purchased sheets.
  Here is a list of front panel messages related to paper loading, with the suggested corrective action.

Front panel message	Suggested action
Right edge of roll too far from load line.	The roll has not been loaded correctly, the right–hand edge was not aligned with the half–circle on the platen. Press the **Select** key to try to load the roll again.
Right edge of sheet too far from load line.	The sheet has not been loaded correctly, the right–hand edge was not aligned with the half-circle on the platen. Press the **Select** key to try to load the sheet again.

Front panel message	Suggested action
Right edge not found.	The printer cannot locate the right–hand edge of the paper, the paper may be badly positioned. Press the **Select** key and try to load the roll again.
Sheet edge not found.	The printer cannot locate the edges of the paper, the paper may be badly positioned. Press the **Select** key and try to reload the sheet.
Paper not found.	During the paper load process the printer did not detect any paper. Press the **Select** key to retry.
Paper loaded with too much skew.	During the paper load process the printer detected that the paper had too much skew. Press the **Select** key to try to load the paper again.
Paper too small.	During the load process the printer detected that the paper is too narrow or too short to be loaded in the printer. Press the **Cancel** key to stop the load process. See "Tell me about functional specifications" in the *User's Guide*.
Paper too big	During the load process the printer has detected that the paper is either too wide or too long (sheet only) to be loaded properly. Press the **Cancel** key to stop the load process. See "Tell me about functional specifications" in the *User's Guide*..
Sheet too long.	During the load process the printer has detected that the sheet is too long to be loaded properly. Make sure that the printer expects sheet and not roll. Press the **Select** key to try to load the paper again. See "Tell me about functional specifications" in the *User's Guide*..
Lever lifted.	During the load process the blue paper load lever was lifted. This prevents the printer from loading the paper. Press the **Select** key to load the paper again.

The problem is a paper jam (paper stuck in the printer)

When a paper jam occurs, you will normally see the **Possible paper jam** message in the front panel, with one of two error codes:

- 81:01 indicates that paper cannot advance into the printer.
- 86:01 indicates that the printhead carriage cannot move from side to side.

```
81:01
Possible paper jam

Press √ to learn how to
clear a paper jam
```
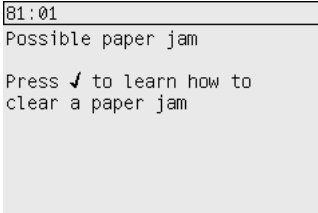
Check printhead path

1. Switch off the printer using the switch at the rear.
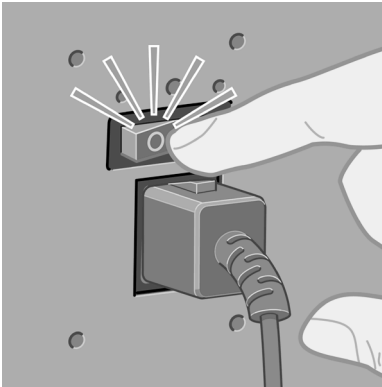
2. Open the window.
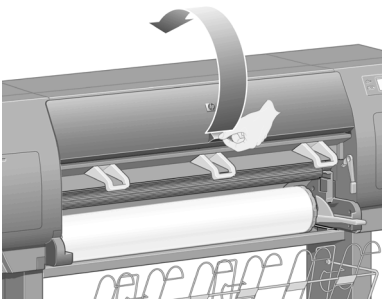
3.   Try to move the printhead carriage out of the way.
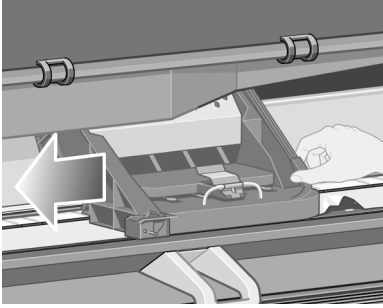
4.   Lift the paper load lever as far up as it will go.
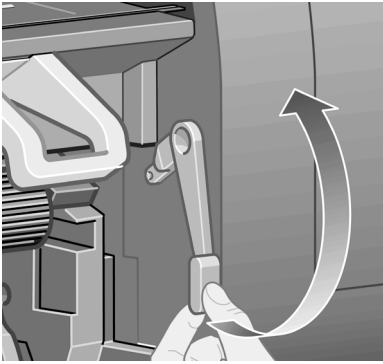
5.   Carefully remove any of the jammed paper that you can lift up and out from the top of the printer.
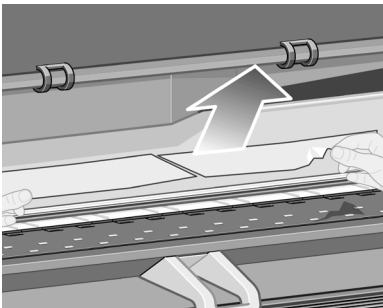
6.   Carefully pull the rest of the roll or sheet down and out of the printer.
7.   Switch on the printer.
8.   Reload the roll, or load a new sheet. See "How do I load a roll into the printer?" on page 21 or "How do I load a single sheet?" on page 27.

9. If you find that there is still some paper causing an obstruction within the printer, it can often be cleared by loading a rigid paper type into the printer.
10. If you find that you have print quality problems after a paper jam, try realigning the printheads. See "How do I align the printheads?" on page 57.

Check paper path

- This problem can occur when a roll has finished and the end of the roll is stuck to the cardboard core. If this has happened, cut the end of the roll away from the core; you should then be able to feed the paper through the printer, and load a new roll.
- Otherwise, follow the procedure described above, under "Check printhead path" on page 149.

The problem is prints do not stack properly in the bin

- Lift up the three loop stoppers when printing small sheets.
- Paper often tends to curl near the end of a roll, which can cause stacking problems. Load a new roll, or remove prints manually as they are completed.
- If you are mixing prints or nesting sets of several different sizes, you may have stacking problems because of the different sizes of paper in the bin.

The problem is the printer uses a lot of paper to align the printheads

In order to align the printheads accurately, the printer sometimes needs to feed through up to 3 m (≈10 ft) of paper before starting the printhead alignment process. This is normal behavior and you should not try to interrupt or prevent it. See "How do I align the printheads?" on page 57.

The problem is with the paper

15 The problem is something else

The problem is the printer's start–up process does not complete

If the printer's start-up process stops when the front panel is displaying the number 17, this indicates that there is a problem with the file system on the printer's hard disk, so the printer is checking the whole file system and making any necessary corrections. This problem can arise when there has been a power cut while the printer was switched on, or if there is a physical problem with the hard disk.

Checking the whole file system normally takes about half an hour. There is nothing you can do to speed it up. If you turn off the printer, the file system check will restart whenever you turn it on again.

If you experience this problem repeatedly when there has been no power cut, contact your customer service representative.

The problem is a front panel message

The front panel displays messages of many kinds; some allow you to continue using the printer while others require you to take action before you can continue.

- If the printer detects a condition of which you should be aware, it displays a message for your information. Examples of information messages are

performance limiting conditions, and printer maintenance requirements. Once you have read the message you can remove it by pressing the **Select** key and continue to use the printer.

● If the printer detects an error, an error code and short message are displayed on the front panel. The following table provides suggested actions to recover from these error conditions:

Code	Short message	Suggested action
13:01	Reseat all cartridges	Remove and re-insert all the print cartridges; see "How do I remove an ink cartridge?" on page 37 and "How do I insert an ink cartridge?" on page 42 for help. If the problem persists, please contact your customer service representative.
26.0:01	Reseat yellow cartridge	The yellow cartridge is not detected, please try to re-install it; see "How do I remove an ink cartridge?" on page 37 and "How do I insert an ink cartridge?" on page 42. If the problem persists, please contact your customer service representative.
26.1:01	Reseat magenta cartridge	The magenta cartridge is not detected, please try to re-install it; see "How do I remove an ink cartridge?" on page 37 and "How do I insert an ink cartridge?" on page 42. If the problem persists, please contact your customer service representative.
26.2:01	Reseat black cartridge	The black cartridge is not detected, please try to re-install it; see "How do I remove an ink cartridge?" on page 37 and "How do I insert an ink cartridge?" on page 42. If the problem persists, please contact your customer service representative.
26.3:01	Reseat cyan cartridge	The cyan cartridge is not detected, please try to re-install it; see "How do I remove an ink cartridge?" on page 37 and "How do I insert an ink cartridge?" on page 42. If the problem persists, please contact your customer service representative.
27:03	Restart the printer. If problem persists, call HP support.	An error has been detected during printhead detection. Reseat all the printheads; see "How do I remove a

Code	Short message	Suggested action
		printhead?" on page 44 and "How do I insert a printhead?" on page 48 and "How do I restart the printer?" on page 12 for help. If the problem persists, please contact your customer service representative.
61:01	Wrong file format. The printer cannot process the job.	The file format is wrong and the printer cannot process the job. Check the graphic language setting of your printer (see "How do I change the graphic language setting?" on page 75). If you are sending PostScript from Mac OS over a USB connection, select ASCII encoding in both the driver and the application. Check for the latest firmware and driver releases.
61:04.1	Update system software (firmware)	Even if you have the latest version installed on your printer, you are recommended to repeat the update process to clear this error. See "How do I update my printer's firmware?" on page 111.
61:08.1	File with password cannot be printed.	Resend this file without password protection.
62:04	Restart the printer. If problem persists, call HP support.	An error has been detected with the parallel port. See "How do I restart the printer?" on page 12 If the problem persists, check for the latest firmware release.
63:04	Restart the printer. If problem persists, call HP support.	An error has been detected with a LAN port. See "How do I restart the printer?" on page 12 If the problem persists, check for the latest firmware release.
64:04	Restart the printer. If problem persists, call HP support.	An error has been detected with the USB port. See "How do I restart the printer?" on page 12 If the problem persists, check for the latest firmware release.
66:08	Please resubmit the job as the paper type has changed	The paper type has changed since the job was submitter. The job cannot be printed on the paper that is loaded; please resubmit the job or change the paper.

(continued)

Code	Short message	Suggested action
71:03	Restart the printer. If problem persists, call HP support.	Out of memory failure. You are recommended to remove any unnecessary files from the hard disk using the Embedded Web Server. See "How do I restart the printer?" on page 12.
76:03	Restart the printer. If problem persists, call HP support.	The hard disk is full. If the problem persists, you are recommended to remove any unnecessary files from the hard disk, using the Web server. See "How do I restart the printer?" on page 12.
77:04	Restart the printer. If problem persists, call HP support.	The Embedded Web Server does not seem to be working. See "How do I restart the printer?" on page 12 If the problem persists, check for the latest firmware release.
81:01	Possible paper jam	See "The problem is a paper jam (paper stuck in the printer)" on page 149 for help.
86:01	Possible paper jam	See "The problem is a paper jam (paper stuck in the printer)" on page 149 for help

If your printer front panel is displaying an error code which is not in the list above, try the following: restart the printer see "How do I restart the printer?" on page 12 and/or check to make sure you have the latest firmware and driver versions; see "How do I update my printer's firmware?" on page 111 for help. If the problem persists, contact your customer service representative.

The problem is a "printhead monitoring" message

This is not an error message. The message is displayed whenever the **Printhead monitoring** option is set to **Intensive**. If you change the setting to **Optimized**, the message wil not appear. See "How do I manage printhead monitoring?" on page 51.

The problem is a "printheads are limiting performance" message

This message appears on the front panel during printing when the printer has detected that one or more printheads are not performing optimally, and so it needs to make extra passes to maintain print quality. To eliminate this message, choose one of the following:

- Select a higher print quality; see "How do I change the print quality?" on page 67.
- Clean the printheads; see "How do I recover (clean) the printheads?" on page 51.
- Use the Image Diagnostics Print to identify which printhead is causing the problem; see "How do I use the Image Diagnostics Print?" on page 113.

The problem is the printer does not print

Here are some possible explanations. See also "The problem is a print job is waiting for a time-out" on page 157.

- You may have an electrical power problem. If there is no activity at all from the printer, and the front panel does not respond, check that the power cable is connected correctly and that there is power available at the socket.
- In the presence of unusual electromagnetic phenomena, such as strong electromagnetic fields or severe electrical disturbances, the printer may behave strangely, or even stop working. In this case, turn off the printer using the **Power** key on the front panel, wait until the electromagnetic environment has returned to normal, and then turn it on again. If you still experience problems, please contact your customer service representative.
- Ensure that the graphic language setting is correct. See "How do I change the graphic language setting?" on page 75.
- Have you installed in your computer the correct driver for your printer? See the Setup instructions.
- If you are using Mac OS with a FireWire or USB connection, you may find that you need to change the data encoding. Select the ⊟ icon, then **Printing defaults menu** > **PS options** > **Encoding** > **ASCII**. Then configure your application to send ASCII data.

The problem is a print job is waiting for a time-out

If all is in order (paper loaded, all ink components installed, and no file errors), there are still reasons why a file you have sent from your computer may not start printing when expected:

- The print file may lack a proper file terminator and the printer is therefore waiting for the specified I/O time-out period before assuming it is complete.

  If you are using Mac OS with a FireWire or USB connection, select the ⊟ icon, then **Printing defaults menu** > **PS options** > **Encoding** > **ASCII**. Then configure your application to send ASCII data.
- Nesting may be on and the printer is waiting for the specified nest wait time-out period before calculating the appropriate nests. In this case, the printer display shows the remaining time for the nesting time-out.
- You may have requested a print preview from your printer driver. This is a function you can use to check that the image is the one you want. In this case, the preview is displayed in a Web browser window, and you must click a button to start printing.

The problem is the printer seems slow

Here are some possible explanations.

- Did you set the print quality to Best? Best-quality prints take longer.
- Did you specify the correct paper type when loading the paper? To find out the printer's current paper type setting, see "How do I view information about the paper?" on page 33.

- Are you using the printer with the Appletalk serial port on a Macintosh computer? It is normal for the Appletalk port to be slow. Consider using the Ethertalk interface to connect your printer to your Macintosh.
- Do you have a network connection to your printer? Check that all components used in the network (network interface cards, hubs, routers, switches, cables) are capable of high-speed operation. Is there a lot of traffic from other devices on the network?
- Did you specify Extended drying time in the front panel? Try changing the drying time to Optimal; see "Tell me about drying time" in the *User's Guide*..
- Are your printheads in good condition? The printer may print slower to maintain print quality when a printhead is faulty. Check the printhead status in the front panel or in the Embedded Web Server, and recover or replace printheads if necessary.
- Do you have high-density black areas in your image? In this case, the printer may change temporarily to a slower print quality option in order to maintain quality.

The problem is communication failures between computer and printer

Some symptoms are:

- The front-panel display does not show the "Receiving" message when you have sent an image to the printer.
- Your computer displays an error message when you are trying to print.
- Your computer or printer "hangs" (stays idle) while communication is taking place.
- Your printed output shows random or inexplicable errors (misplaced lines, partial graphics etc.)

To solve a communication problem:

- Ensure that you have selected the correct printer in your software.
- Ensure that the printer works correctly when printing from other software.
- Remember that very large prints may take some time to receive, process, and print.
- If the printer is connected to a network, try using it when connected directly to your computer through a FireWire or USB cable.
- If your printer is connected to your computer through any other intermediate devices, such as switch boxes, buffer boxes, cable adapters, cable converters, etc., try using it when connected directly to your computer.
- Try another interface cable. For details of supported cables, see "Interface specifications".
- Ensure that the graphic language setting is correct. See "How do I change the graphic language setting?" on page 75.

The problem is I cannot access the Embedded Web Server from my browser

If you have not done so already, please read "How do I access the Embedded Web Server?" on page 13.

- Have you set a password for the Embedded Web Server, and then forgotten the password? If so, select the ⊟ icon, then **Configuration menu** > **Reset EWS password**.

- At the printer's front panel, select the ⊟ icon, then **Configuration menu** > **Allow EWS**. If this option is off, turn it on.

- Check that you have a TCP/IP (network or FireWire) connection to your printer. If you connect directly to your printer with a USB cable, you cannot use the Embedded Web Server.

- If you are using a FireWire connection, make sure that your computer's operating system supports IP over IEEE-1394 (FireWire). For example, Windows XP and Windows 2003 Server support IP over FireWire, but Windows 2000 does not. Mac OS X 10.3 also supports IP over FireWire (see "How do I access the Embedded Web Server?" on page 13). Make sure that your operating system is configured to use IP over FireWire.

- At the printer's front panel, check that IP is enabled for the type of connection you are using. Select the ⊟ icon, then **I/O setup**, then the type of connection you are using, and check that you see **IP enabled**. If not, you may need to use a different type of connection.

- If you normally access the Web through a proxy server, try bypassing the proxy server and accessing the Web server directly. You can do this by modifying your browser settings.
  For instance, if you are using Internet Explorer 6 for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and check the 'Bypass proxy server for local addresses' box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of Exceptions for which the proxy server is not used.

- Try switching off the printer (with the **Power** key on the front panel) and then switching it on again.

The problem is an out-of-memory error

There is no direct relationship between the size of a file in your computer and the amount of memory needed in the printer to print the file. In fact, because of file compression and other complicating factors it is often impossible to estimate how much memory will be needed. So it is possible that a print will fail for lack of memory even though you may have successfully printed larger files in the past. In this case you may need to consider adding more memory to your printer.

If you are using the Windows HP-GL/2 driver, you can often solve printer memory problems by selecting the Services tab, then **Troubleshoot software problems**, then **Print job as a bitmap (process in computer)**.

Note If you select this option, the time needed to process the job in your computer may be considerably longer.

The problem is an AutoCAD 2000 memory allocation error

After installing the printer driver, when you try to print for the first time from AutoCAD 2000, you may see a message saying **Memory allocation error**, after which your image is not printed.

This is due to a problem in AutoCAD 2000, and it can be fixed by downloading the Plotting Update Patch (**plotupdate.exe**) from the Autodesk Web site, **http://www.autodesk.com/**.

This patch is also worth trying if you have any other strange problems when printing from AutoCAD 2000.

The problem is the platen rollers squeak

It may occasionally be necessary to oil the rollers. The Maintenance Kit, which came with your printer, contains a bottle of suitable oil.
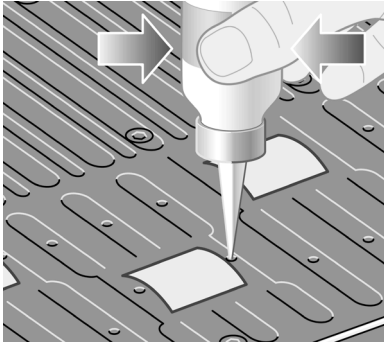
1. Open the window.
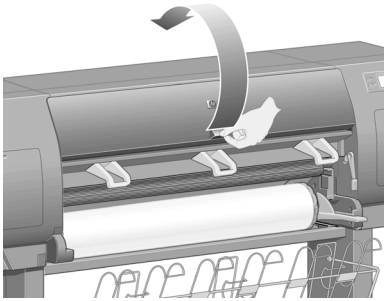
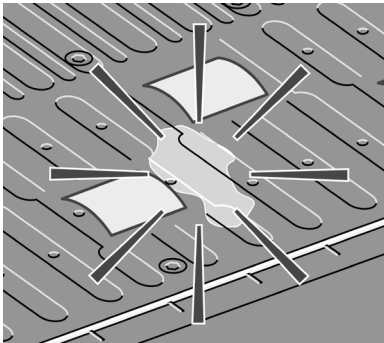2. There are small holes in the platen beside some of the rollers.
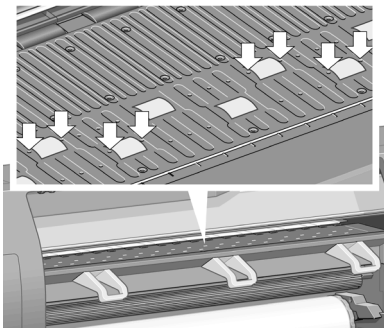
Using the bottle of oil supplied with the Maintenance Kit, insert the pointed end of the bottle into each hole in turn, and put three drops of oil into each hole.
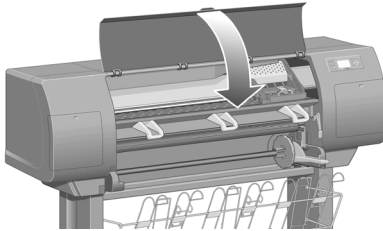

3. Repeat the process until all of the holes in the platen have had three drops of oil placed in them.
4. Be careful not to spill oil onto the platen.

5. If there is oil on the platen, wipe it away with the cloth supplied with the kit.
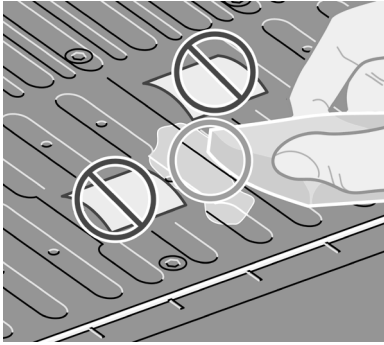
6. Lower the window.

16 Legal information

- "Worldwide Limited Warranty—HP Designjet 4000 Printer series" on page 163
- "Hewlett-Packard Software License Agreement" on page 166
- "Open source acknowledgments" on page 167
- "Regulatory notices" on page 168
- "DECLARATION OF CONFORMITY" on page 171

Worldwide Limited Warranty—HP Designjet 4000 Printer series

HP product	Limited Warranty Period
Printer and related HP hardware	1 year (from the date of purchase by the customer)
Software	90 days (from the date of purchase by the customer)
Printhead	Until the "end of warranty" date printed on the product is reached, or 1000 cm³ of HP ink have been cycled through the printhead, whichever occurs first
Ink cartridge	Until the genuine HP ink is depleted as indicated by the printer, or the "end of warranty" date printed on the product is reached, whichever occurs first

A. Extent of HP Limited Warranty

1. This Hewlett-Packard (HP) Limited Warranty gives you, the end-customer, express limited warranty rights from HP, the manufacturer. In addition, you may also have other legal rights under the applicable local law or special written agreement with HP.

2. HP warrants to you that the HP products specified above will be free from defects in materials and workmanship during the Limited Warranty Period specified above. The Limited Warranty Period starts on the date of purchase. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. You are entitled to warranty service according to the terms and conditions of this document if a repair or replacement of your HP Products is required within the Limited Warranty Period.

3. For software products, HP's Limited Warranty applies only to a failure to execute programming instructions. HP does not warrant that the operation of any product will be uninterrupted or error free.

4. HP's Limited Warranty covers only those defects that arise as a result of normal use of the HP products, and does not apply to any:

    a.   Improper or inadequate maintenance or modification;

    b.   Software, interfacing, media, parts, or supplies not provided or supported by HP; or

    c.   Operation outside the product's specifications.

    Routine printer maintenance operations in the HP Designjet 4000 Printer series, such as cleaning and preventive maintenance services (including parts contained in any preventive maintenance kit and HP service engineer visits), are not covered by HP's Limited Warranty, but in some countries may be covered under a separate support contract.

5.   YOU SHOULD MAKE PERIODIC BACKUP COPIES OF THE DATA STORED ON THE PRINTER'S HARD DISK OR OTHER STORAGE DEVICES AS A PRECAUTION AGAINST POSSIBLE FAILURES, ALTERATION, OR LOSS OF THE DATA. BEFORE RETURNING ANY UNIT FOR SERVICE, BE SURE TO BACK UP DATA AND REMOVE ANY CONFIDENTIAL, PROPRIETARY, OR PERSONAL INFORMATION. HP IS NOT RESPONSIBLE FOR DAMAGE TO OR LOSS OF ANY FILES, STORED BY YOU ON THE PRINTER'S HARD DISK OR OTHER STORAGE DEVICES. HP IS NOT RESPONSIBLE FOR THE RECOVERY OF LOST FILES OR DATA.

6.   For HP printer products, the use of a refilled or non-original HP consumable product (ink, printhead or ink cartridge) does not affect either HP's Limited Warranty to you or any HP support contract with you. However, if printer failure or damage is attributable to the use of a non-HP or refilled ink cartridge, HP will charge its standard time and materials charges to service the printer for the particular failure or damage.

7.   Your exclusive remedies for defective HP products are the following:

    a.   During the Limited Warranty Period, HP will replace any defective HP software, media, or consumable product which is covered by this Limited Warranty, and deliver another product to you to replace the defective one.

    b.   During the Limited Warranty Period, HP, at its sole discretion, shall either repair on site or replace any defective hardware product or component part. If HP elects to replace any component part, HP will provide to you (i) a replacement part, in return of the defective one, and (ii) remote part installation assistance, if needed.

    c.   In the unlikely event that HP is unable to repair or replace, as applicable, a defective product which is covered by this Limited Warranty, HP shall, within a reasonable time after being notified of the defect, refund the purchase price for the product.

8.   HP shall have no obligation to replace or refund until you return the defective product or component part to HP. All components, parts, or hardware products removed under this Limited Warranty become the property of HP. Notwithstanding the above mentioned, HP may waive the requirement for you to return the defective part.

9.   Unless otherwise stated, and to the extent permitted by local law, HP products may be manufactured using new materials or new and used materials equivalent to new in performance and reliability. HP may repair or replace products (i) with equivalent products to the products being repaired or replaced but which may have been subject to prior use; or (ii) with an equivalent product to an original product that has been discontinued.

10. THIS LIMITED WARRANTY IS APPLICABLE IN ALL COUNTRIES AND MAY BE ENFORCED IN ANY COUNTRY WHERE HP OR ITS AUTHORIZED SERVICE PROVIDERS OFFER WARRANTY SERVICE AND HP HAS MARKETED THIS PRODUCT, SUBJECT TO THE TERMS AND CONDITIONS SET FORTH IN THIS LIMITED WARRANTY. HOWEVER, WARRANTY SERVICE AVAILABILITY AND RESPONSE TIME MAY VARY FROM COUNTRY TO COUNTRY. HP WILL NOT ALTER FORM, FIT, OR FUNCTION OF THE PRODUCT TO MAKE IT OPERATE IN A COUNTRY FOR WHICH IT WAS NEVER INTENDED TO FUNCTION FOR LEGAL OR REGULATORY REASONS.

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C. Local law

1. This Limited Warranty gives you specific legal rights. You may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world. You are advised to consult applicable state, province, or national laws for full determination of your rights.

2. To the extent that this Warranty Statement is inconsistent with local law, this Warranty Statement shall be deemed modified to be consistent with such local law. THE WARRANTY TERMS CONTAINED IN THIS LIMITED WARRANTY, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT, OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Revision: August 1st, 2004

Legal information

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Open source acknowledgments

- This product includes software developed by the Apache Software Foundation (**http://www.apache.org/**).
- The source code, object code, and documentation in the com.oreilly.servlet package is licensed by Hunter Digital Ventures, LLC.

Regulatory notices

You can obtain current Material Safety Data Sheets for the ink systems used in the printer by mailing a request to this address: Hewlett-Packard Customer Information Center, 19310 Pruneridge Avenue, Dept. MSDS, Cupertino, CA 95014, U.S.A.

There is also a Web page: **http://www.hp.com/hpinfo/community/environment/ productinfo/psis_inkjet.htm**

Regulatory Model Number

For regulatory identification purposes, your product is assigned a Regulatory Model Number. The Regulatory Model Number for your product is BCLAA-0401. This regulatory number should not be confused with the marketing name (HP Designjet 4000 Printer series) nor with the product numbers (Q1273X, Q1274X, where X is any single letter).

ELECTROMAGNETIC COMPATIBILITY (EMC)

Warning   This is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC statements (U.S.A.)

The U.S. Federal Communications Commission (in 47 cfr15.105) has specified that the following notices be brought to the attention of users of this product.

Shielded cables

Use of shielded data cables is required to comply with the Class A limits of Part 15 of the FCC Rules.

Caution   Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by the Hewlett-Packard Company may cause harmful interference and void the FCC authorization to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

Normes de sécurité (Canada)

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le

réglement sur le brouillage radioélectrique édicté par le Ministére des Communications du Canada.

DOC statement (Canada)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Korean EMI statement

사용자 안내문 : A 급 기기

이 기기는 업무용으로 전자파적합등록을 받은 기기이오니, 판매자 또는 사용자는 이 점을 주의 하시기 바라며, 만약 잘못 구입 하셨을 때에는 구입한 곳에서 비업무용으로 교환 하시기 바랍니다.

VCCI Class A (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Safety power cord warning

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

Taiwanese EMI statement

警告使用者:這是甲類的資訊產品,在居住的環境中使用時,可能會造成射頻干擾,在這種情況下,使用者會被要求採取某些適當的對策.

Chinese EMI statement

此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

Sound

Geräuschemission (Germany) LpA < 70 dB, am Arbeitsplatz, im Normalbetrieb, nach DIN45635 T. 19.

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Supplier's name:	Hewlett-Packard Company
Supplier's address:	Avenida Graells, 501 08174 Sant Cugat del Vallès Barcelona, Spain

declares that the product

Regulatory Model [3]:	BCLAA-0401
Product family:	HP Designjet 4000 Printer series
Product options:	All
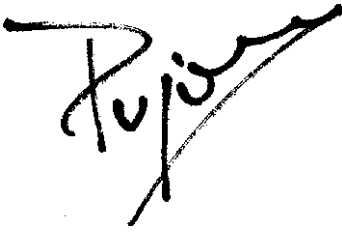
conforms to the following product specifications

Safety:	IEC 60950-1:2001 / EN 60950–1:2001
EMC:	CISPR 22:1997 / EN 55022:1998 Class A [1] EN 55024:1998 + A1 EN 61000-3-2:2000 EN 61000-3-3:1995 + A1:2001 FCC Title 47 CFR, Part 15 Class A [2]

Additional information

The product herewith complies with the requirements of the Low-Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC, and carries the CE marking accordingly.

1. The product was tested in a typical configuration with HP Personal Computer systems and peripherals.
2. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
   – This device may not cause harmful interference.
   – This device must accept any interference received, including interference that may cause undesired operation.
3. The product is assigned a Regulatory Model Number which stays with the regulatory aspect of the design. The Regulatory Model Number is the main product identifier in the regulatory documentation and test reports; this number should not be confused with the marketing name or the product numbers.

Josep–Maria Pujol

Hardware Quality Manager

Sant Cugat del Vallès (Barcelona)

July 9th, 2004

Local contacts for regulatory topics only

European contact: Hewlett-Packard GmbH, HQ-TRE, Herrenberger Strasse 140, D-71034 Böblingen, Germany.

United States contact: Hewlett-Packard Company, Corporate Product Regulations Manager, 3000 Hanover Street, Palo Alto, CA 94304, USA. Tel: (650) 857 1501.

Australian contact: Hewlett-Packard Australia Ltd, Product Regulations Manager, 31–41 Joseph Street, Blackburn, Victoria, 3130, Australia.

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