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| HP | **DesignJet 1050C/1055CM** | **Large-Format Printers** |

**User's Guide**

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**Safety Symbols**

The product is marked with this symbol when it is necessary for you to refer the instruction manual in order to protect against damage to the product.

Hazardous voltage symbol.

**WARNING**

The Warning symbol calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury. Do not proceed beyond a Warning symbol until the indicated conditions are fully understood and met.

**CAUTION**

The Caution symbol calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond a Caution symbol until the indicated conditions are fully understood and met.

# User's Guide

# HP DesignJet 1050C Printer
# HP DesignJet 1055CM Printer

# Finding Information

**This *User's Guide* contains:**

■ A comprehensive explanation of all the printer's features and how to operate it efficiently.

■ Specific information directly associated with the HP No.80 Supplies.

**The *Assembly Instructions* contain:**

Step-by-step instructions for unpacking the printer and assembling the stand. It also contains disassembly instructions and repacking instructions.

**The *Setup Guide* contains:**

■ Detailed information on setting up your printer for the first time, including:
  – priming and initial installation of the HP No.80 supplies
  – loading paper (roll and sheet)
  – connecting your printer to a computer or network
  – setting up and configuring your printer software
  – installing additional memory expansion modules.

**The *Quick Reference Guide* contains:**

■ Information that you are most likely to need for printer operation on a day–by–day basis, such as loading paper or replacing ink supplies.

**Video**

When this symbol is displayed it indicates that there is video available which gives you more information on the subject. The online version of this manual will enable you to click on the film icon to go to the video screen.

**Web Page**

Also you can visit us on our web page: **www.hp.com/go/designjet**

**1055CM**

> Throughout this User's Guide any information that is only relevant to a particular model of printer is shown in a gray box like this. The name of the relevant printer will be in the side heading.

# Where to find the most commonly needed information

| To find how to … | Go to … |
|---|:---:|
| Connect the printer and perform the first time priming of the ink system | **Setup Guide** |
| Assemble the printer | **Assembly Instructions** |
| Use the front panel | **Chapter 2** |
| Load roll paper | **Chapter 3** |
| Load sheet paper | **Chapter 3** |
| Use the HP No.80 supplies | **Chapter 4** |
| Install ink cartridges | **Chapter 4** |
| Install printheads | **Chapter 4** |
| Install printhead cleaners | **Chapter 4** |
| Control the page format | **Chapter 5** |
| Control the appearance of the print | **Chapter 6** |
| Manage the print | **Chapter 7** |
| Manage queueing and nesting | **Chapter 7** |
| Reconfigure the printer | **Chapter 8** |
| Control the image quality | **Chapter 9** |
| Maintain the printer | **Chapter 10** |
| Troubleshoot the printer | **Chapter 11** |
| Troubleshoot print quality | **Chapter 11** |
| Interpret the front panel messages | **Chapter 12** |
| Order accessories | **Chapter 13** |
| General specifications | **Chapter 13** |

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# Welcome

# *1*

# A Five-Minute Guide To Your Printer

## Your Printer's Main Features

Your printer is an E/A0-size color inkjet printer designed for printing high-quality, large-format engineering line drawings, maps and images. Some major features of the printer are:

- It can print an A1/D-size color line drawing in draft mode with bond paper in less than 1-minute. This is six times faster than the HP DesignJet 750C Plus.
- Extra wide printheads with 512 nozzles, which enables wider coverage per pass.
- Line and text sharpness in Best mode. Your printer prints in true 600dpi color or addressable 1200dpi in grayscale lines.
- Large capacity ink cartridges (up to 350 ml) combined with 300ft (91m) rolls allow you to print for much longer periods without replacing ink or paper.
- The new dual paper feed system that makes roll and cut sheet loading simple.
- A wide choice of HP paper which is designed to provide you with the best line and image quality you can get.
- An easy-to-use front-panel interface giving you access to a comprehensive set of printer functions.

**1055CM**

- Built-in Adobe PostScript 3 Raster Image Processor.

  Automatic color calibration to improve color consistency between jobs.

  Ink emulation allowing the printer to print jobs intended for devices using standard pre-press color gamuts.

  PostScript queueing and nesting to reduce paper waste.

- 32MB of memory and a 2GB built-in hard disk for large file processing and improved printing and nesting.

## The HP No.80 Supplies

The HP No.80 Supplies are designed to work together with your HP DesignJet 1055CM or 1050C printer.

The supplies comprise of three components: printheads with their printhead cleaners and the ink cartridges. The printer uses four sets of each respectively.

Each 600-dpi thermal inkjet **printhead** applies ink droplets onto the paper. The printer automatically refills the printhead as it prints, enabling continuous uninterrupted printing. The ink is supplied to each printhead from a separate large capacity **ink cartridge**.

The printer uses **printhead cleaners** to clean and maintain the printheads, to ensure best possible image quality, and to seal the printheads when they are not in use to ensure long life. Printhead life is anticipated to be 700ml or twelve months in the printer, whichever occurs first, provided that the printhead is used under normal operating conditions (using HP ink cartridges only) and its "install before date" has not lapsed. However results vary depending on the print quality setting you use.

There is more information available in a pamphlet which comes with the printheads and also on page 4, *Working with HP No.80 Supplies.*

### Print Resolution

You can choose between three levels of print quality: Best, Normal or Draft from your software or from the printer's front panel.

Print resolution for Best print quality is 600 x 600 dots per inch, or 1200 x 600 dots per inch for mono lines.

Print resolution for Normal print quality is 300 x 300 dots per inch, or 600 x 600 dots per inch depending on what driver you use. The drivers supplied with your printer will default to 600 x 600 dots per inch.

Print resolution for Draft print quality is 300 x 300.

Use **Draft** to get draft copies of your prints at maximum throughput. **Normal** is optimized so that you get the best line quality with the quickest throughput. Select **Best** if you want to get the best quality for images and renderings

## Paper

You can print on roll paper or sheet paper up to E/A0-size. The following paper types are supported for HP 80 Modular Ink Supplies:

- Plain paper
- Translucent bond
- Bright White Inkjet paper
- Vellum
- Coated paper
- Heavyweight coated paper
- High-gloss photo paper
- Matte film
- Clear film
- Natural tracing paper
- Thin natural tracing paper.

For detailed information on Hewlett-Packard paper, see page *3-3*, *Supported Paper Types* of this manual and the *HP Printing Material Guide* provided with your printer.

## User Interface

The printer's front panel includes an easy-to-use interface with a display, giving you access to a comprehensive set of printer functions and to a number of useful internal prints. See Chapter 2, *Using the Front Panel*, for a short tutorial to teach you how to navigate through the menus and a description of internal prints.

## Connections

Your printer comes with an HP JetDirect Print Server Fast ethernet 10/100 base TX (a network interface card), for LAN connections, as well as a parallel interface for a direct connection to your computer. See the *Setup Guide* for information on connecting your printer to a computer or network.

Your printer has a RS-232 interface, it is there only for testing and manufacturing purposes.

## Memory

**1055CM**

The 1055CM printer comes with 32 MB of memory. You can expand this memory by installing 16MB, 32-MB or 64-MB memory DIMMS up to a maximum of 128 MB. For part numbers see page 13-15, *Memory Modules*.
In addition to this memory, the printer has an internal hard disk drive used as extended memory for PostScript and HP-GL/2 rendering and print management.

**1050C**

The 1050C printer comes with 16 MB of memory. You can expand this memory by installing additional 16MB, 32-MB or 64-MB memory expansion modules up to a maximum of 128 MB.

If you want to upgrade your printer with a hard disk, a kit is available. For part numbers see page 13-14, *Ordering Accessories*.

## Upgrading

**1050C**

If your printer is a 1050C and you want to upgrade your printer so that it will print PostScript files, an upgrade kit is available; see page 13-14, *Ordering Accessories*.

## Software Applications and Drivers

To make sure that your printer prints exactly what you were expecting - in terms of size, position, orientation, color and quality - use the correct driver for the combination of your application software and your printer, and make sure that it is configured correctly.

Many software applications include their own drivers. A set of *Software Application Notes* is provided with this printer for the most popular applications. If you find your application in these notes, use the information they contain as a guide to configuring it for this printer.

**1055CM**

> Your printer comes supplied with:
> - HP DesignJet PostScript® drivers for Macintosh® (QuickDraw™)
> - HP DesignJet PostScript® drivers for Microsoft® Windows™ applications
> - Windows drivers
> - AutoCAD drivers for DOS and Windows.
> - HP DesignJet Toolbox

**1050C**

> Your printer comes supplied with:
> - Windows drivers
> - AutoCAD drivers for DOS and Windows.
> - HP DesignJet Toolbox

Some printer functions behave differently when the printer receives a PostScript file as opposed to files formatted in other printer languages (HP-GL/2 or RTL). Throughout this manual, references to "PostScript files" mean files sent to the printer using the HP DesignJet PostScript driver supplied with the printer and installed by you on your Macintosh or PC.

If AutoCAD drivers are available for the specific AutoCAD release you are using, it is strongly recommended that you install them to print from AutoCAD.

# Front View of Printer
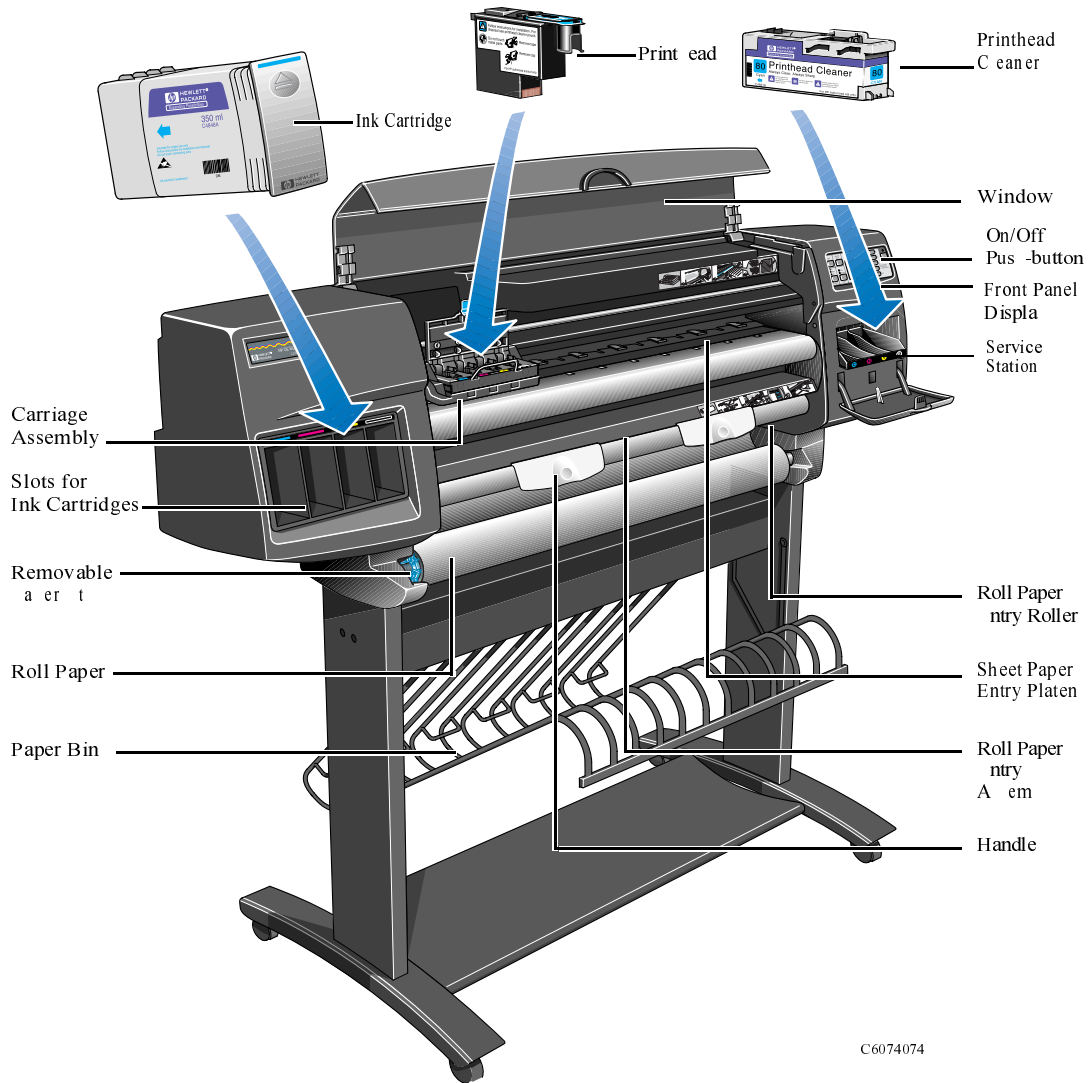
Print ead

Printhead
C ean er

Ink Cartridge

Window

On/Off
Pus -button

Front Panel
Displa

Service
Station

Carriage
Assembly

Slots for
Ink Cartridges

Removable
a er t

Roll Paper
ntry Roller

Roll Paper

Sheet Paper
Entry Platen

Paper Bin

Roll Paper
ntry
A em

Handle

C6074074

# Rear View of printer

Hard Disk
(1055CM only)

Slots for Upgrades
(Behind Cover)

Network Interface

Power Isolator Switch

Socket for
Power Cord
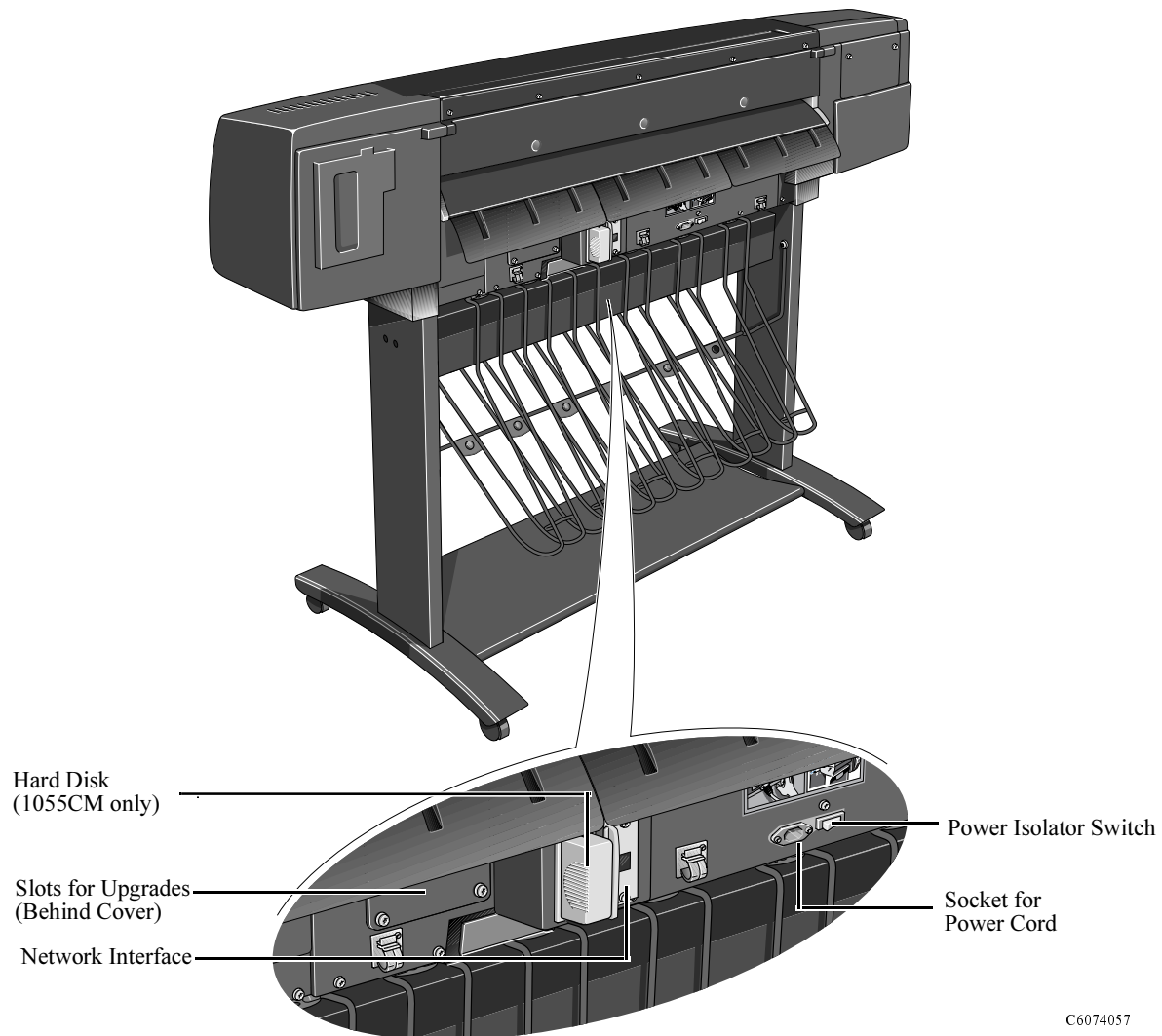
C6074057

## Starting Up Your Printer

**NOTE:** When starting up the printer for the **first** time it is important to refer to the *Setup guide* which came with your printer, as there are special procedures that you have to follow.

For safety, keep objects such as hair, jewelry and clothing away from the printer mechanisms and electronics.

Make sure that the power cord supplied with your printer matches your AC power outlet connection. Use only a three-wire (earth-grounded) power cord with this printer.

## Switching On

The printer has two power switches:

    a ) A power isolator switch located at the back of the printer.

    b ) An On/Off push-button located on the front panel of the printer.

To switch the printer on you must use both of these switches.

**1** Switch the rear power isolator switch to the On (I) position.

Power Isolator Switch
in the ON (I) position

C6074059

**NOTE:** The LED on the front panel illuminates red, indicating that the printer is in the power saving mode and ready to be turned on.

**2** Push the On/Off push-button on the front panel; the front panel display will then indicate the status of the printer.

Green LEDs show Start-up self test   Start-up front panel message

Red LED
goes out



SELF TEST...
PLEASE WAIT

On/Off
push-button
pushed to
turn printer
On
C6074084
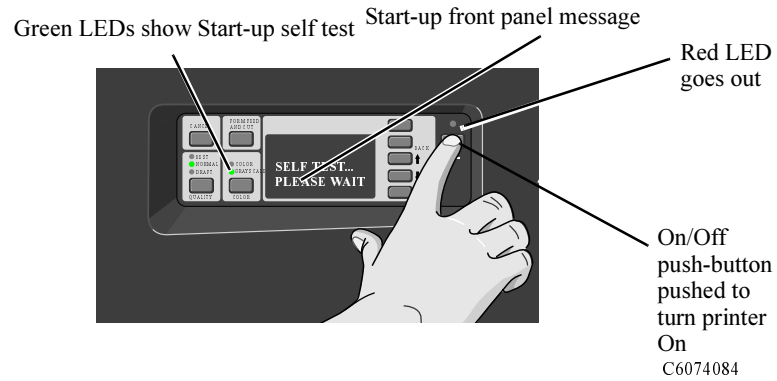
## Switching Off

**1** To turn the printer off, press the On/Off push-button to the off position. The LED will illuminate red again and the front panel will go blank, this may take a few seconds to complete.

No front panel messages        Red LED comes On

On/Off
push-button
pushed to turn
printer Off



SELF TEST...
PLEASE WAIT

C6074084
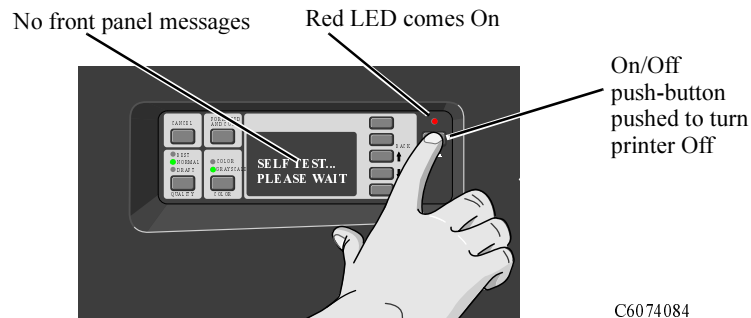
## Power Isolation Switch

The power isolator switch should only be switched off for power isolation requirements:

**a)** Removing/Installing memory expansion modules.

**b)** Removing/Installing JetDirect Print Server and Hard Disk.

**c)** Connecting to a computer.

**d)** Transportation.

Power Isolator Switch
in OFF (0) position
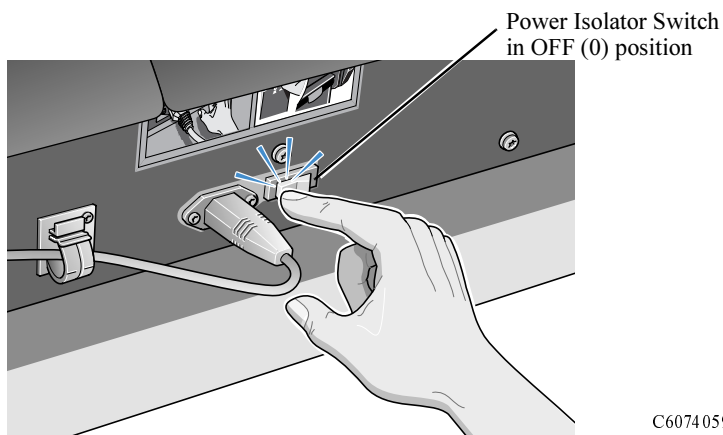
C6074059

| CAUTION | The power isolator switch should only be switched to the Off (0) position while the printer is in the power saving mode (On/Off push-button in the Off position). |
| --- | --- |

Welcome
A Five-Minute Guide To Your Printer

# Using the Front Panel

# 2

# The Front Panel

The front panel of the printer is made up of the following functional areas:

■ A message display screen

■ Display keys

■ Action keys and associated Status Lights, on the left

■ On/off button and status light.



Status Lights (green)    Action Keys    Message Display Screen    Display Keys    On/Off Push-button    On/Off Power LED (red when off)
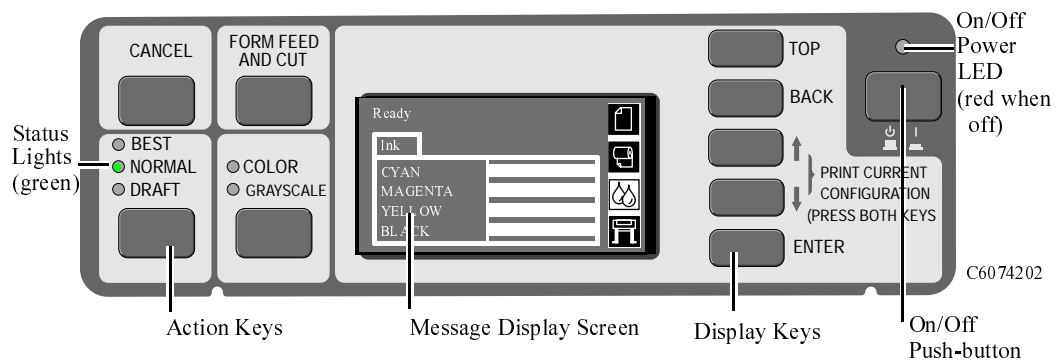
**The Display Keys**    The display section of the front panel consists of a display screen and five display keys: **Top, Back**, ↑, ↓ and **Enter.**
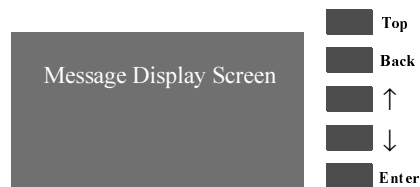


You use the display keys to navigate through the menu system and to select menu icons and menus, see page *2-20, Navigation Examples*. You also use the display keys to respond to messages. see chapter *12-2, Message Descriptions and Actions*, for detailed descriptions for error and status messages.

**Display Screen**    The display can show several lines of text and menu icons. They are used for displaying:

■ Information on the status of the HP No.80 Supplies.

Information on
Printhead status

Information on
Ink Cartridges

| Replace Printhead | |
|---|---|
| Printhead | |
| CYAN | Replace |
| MAGENTA | OK |
| YELLOW | OK |
| BLACK | OK |

| Replace ink cartridge | |
|---|---|
| Ink | |
| CYAN | |
| MAGENTA | Low |
| YELLOW | |
| BLACK | Empty |

■ messages and menus.

Ready ——————————————— General Printer Status Messages

| Ink | |
|---|---|
| CYAN | |
| MAGENTA | |
| YELLOW | |
| BLACK | |

Menu Icon
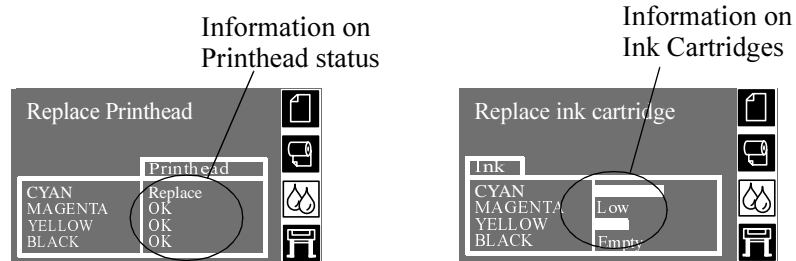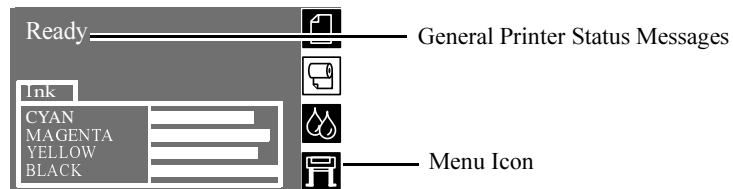
■ menus used to configure the printer.

Printer Setup menus ———————— Menu Title

Image quality ... ——————— Menu
Device setup ...
I/O setup ...
Utilities ...
Demos ...

■ instruction for loading and aligning roll paper.
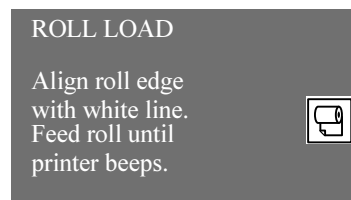
ROLL LOAD

Align roll edge
with white line.
Feed roll until
printer beeps.

■  information on the HP No.80 supplies:

Cyan cart. info
HP No.80 ink cartridge
Ink level=87%
Capacity=350ml
Part number=C4871A
Mfg. month=5/1998
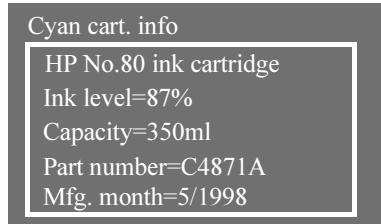
**Action Keys**     The action section of the front panel consists of four action keys: **Cancel, Form Feed and Cut**, **Color and Print Quality**. The Color and Print Quality sections have green status lights next to the selected setting.

The action keys let you:

■ cancel the following printer operations while they are in progress (**Cancel**):

   – Printing

   – Paper loading

■ advance and cut paper (**Form Feed and Cut**)

■ select color or grayscale printing (**Color**)

■ select the printing resolution (**Print Quality - Draft, Normal and Best**). See chapter 7, *Managing Your Prints*, for information on the use of these keys.
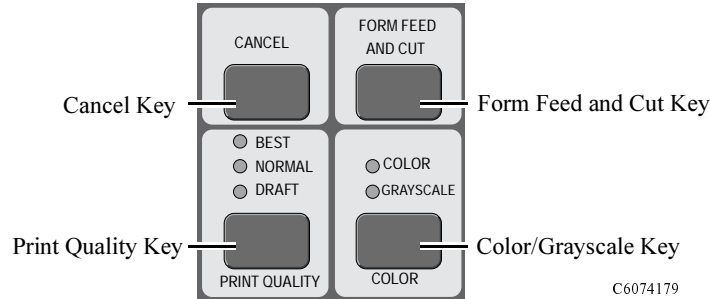


**Status Lights**     The status lights provide status information about the current configuration and state of the printer.



**NOTE**     **In most cases, settings in your application software or printer driver will override any settings you make on the front panel of the printer.**

**Power Section**     The power section contains the On/Off Push-Button. This is the way you must
always power-off the printer. It turns the printer off making sure that the printheads
are returned to the part of the printer which prevents the printheads from drying out.
The status light above is red when the printer is turned off correctly.

```
 ┌─────────────────────────┐
 │  ┌────┐  TOP      ○      │
 │  └────┘      ┌──────┐    │──── On/Off Push
 │  ┌────┐  BACK │      │    │      Button
 │  └────┘      └──────┘    │
 │  ┌────┐  ↑   ⏻  |       │
 │  └────┘  │PRINT CURRENT  │
 │  ┌────┐  │CONFIGURATION  │
 │  └────┘  ↓ (PRESS BOTH KEYS│
 │  ┌────┐  ENTER           │
 │  └────┘          C6074181 │
 └─────────────────────────┘
```
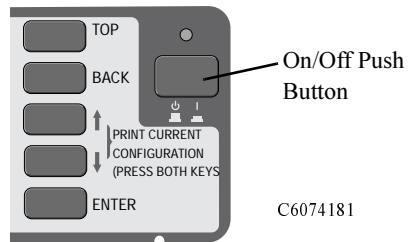
# Printing the Current Configuration

To request a "Current Configuration Print" from the front panel:

**1** Make sure that paper is loaded, either roll paper or sheet. If it is sheet media, then it can be A4 or US letter size.

**2** Press the **Top** button to select the main menu on the front panel.

**3** Make sure that the front panel displays the **Ready** message.
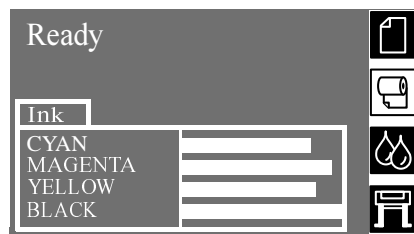


**4** Press the ↑ and ↓ keys on the front panel simultaneously to print the Current Configuration Print.



C6074181
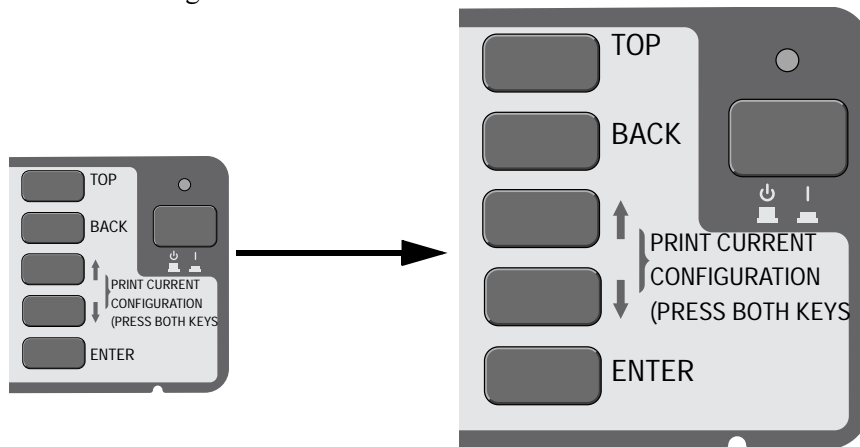
**5** The front panel displays the message **Receiving** while the file is being processed, and then **Printing** as the printer starts printing.

**NOTE:** Printing is automatic and takes about two minutes. Save the print for future reference.

# Entering the Printer Setup Menu System ⊞

1   Make sure a status screen is displayed, similar to the examples shown below:
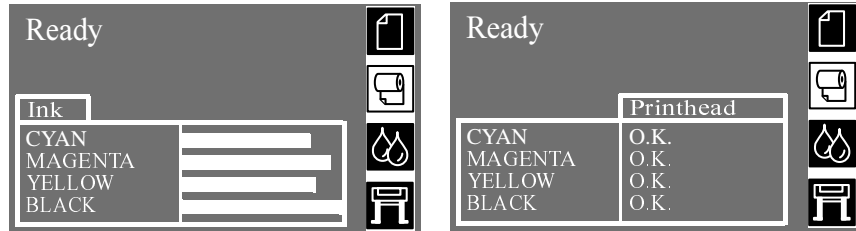


2   By pressing either the ↑ or the ↓ key you will be able to select any of the printer's four menus. The four icons correspond to the four printer menus:
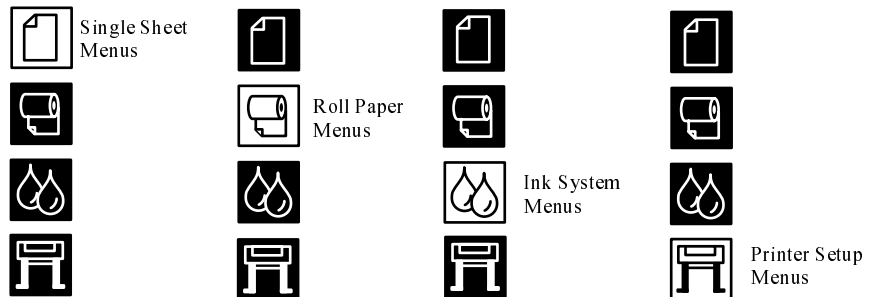
**NOTE:** To see information on the roll paper and single sheet menus see pages *3-8* and *3-9*. To see information on the ink system menus see page *4-12, The Ink System Menu Structure*

**3** Press the ↑ or ↓ key until the front panel displays the printer setup menu icon, as shown below:

```
Ready


 Ink
 CYAN
 MAGENTA
 YELLOW
 BLACK
```

**4** Press the **Enter** key to enter the printer setup menu. The front panel will now display the printer setup menus:

```
Printer setup menus
 Queueing & nesting ...
 Page format ...
 Pen settings ...
 Device setup ...
 I/O setup ...
```
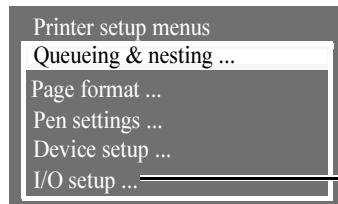
Note: If the short menu is selected the I/O setup menu will not be available.

To find out how to change from the full to the short menu see page *2-20, Selecting the Full Menu Mode.*

| NOTE | **You may not be able to access the menu system immediately, if the current task overrides it. If this happens, wait until the task is completed and try again.** |
| --- | --- |

# Printing the Front Panel Menu Print

You can see the complete menu structure available on the printer by printing the Front-Panel Menus print or refer to page *2-13, Front-Panel Menu Structure.* Use it to help you to understand the menu structure and its navigation.

**NOTE**    **The Menu print is printed in the size specified in the** Page Format → Size **settings in the front panel. However if sheet paper is loaded it will automatically shrink to fit. Make sure this setting specifies the size you want before printing.**

**1**    Make sure that paper is loaded. See page *3-13, Loading Roll Paper*, for loading information.

**2**    Press the **Top** button to select the main menu on the front panel.

**3**    Make sure the front panel displays the **Ready** message.
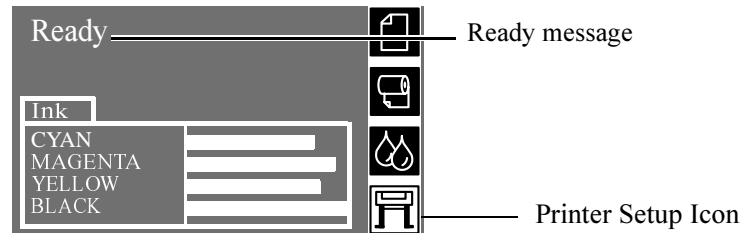


**4**    Select the Printer Setup Menu Icon on the front panel by using the ↓ or ↑ keys, then press the **Enter** key.

**5**    The front panel will now display the printer setup menus:
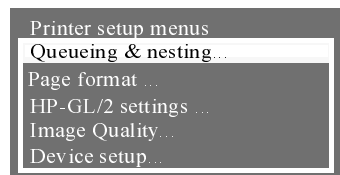


**6**    Press ↓ key until "Demos" is selected.
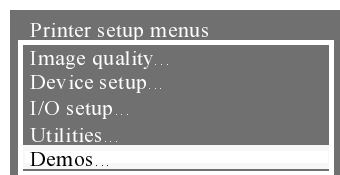


**7**    Press the **Enter** key.

**8** Press ↓ or ↑ key until "Menu" is displayed.

Demos

Palette...
Menu...
Samples

**9** Press the **Enter** key.

**10** The front panel will now display the message "Receiving" while the file is being processed, and then the printer starts printing the Front-Panel Menus print. When this print is completed the printer drops the print into media bin below the printer. To see the front-panel menu print see page *2-13, Front-Panel Menu Structure.* Look at the Front-Panel Menu print. It shows the full menu structure.

# Printing Internal Prints

There are several internal prints available in the printer. The prints are listed below:

**HP-GL/2 Configuration**

The HP-GL/2 Configuration print shows the current settings for all the printer's features. See page *8-2, HP-GL/2 Configuration Print*

**Printer Usage Information print**

The Printer Usage Information print shows the status of the printer's usage counters. This information includes the total number of prints, number of prints by paper size, number of prints by paper type, number of prints per print mode, and total amount of ink used per color. The counts in this report are estimates.

**Print Quality Print**

The Print Quality Print can be used to help diagnose whether the printer has image quality problems, and if problems exist, help determine the cause of image quality problems see *9-4, How to Use the Print Quality Print.*

**Service Configuration**

The Service Configuration print provides information needed for the service engineer, such as the internal current configuration, operating conditions (temperature and humidity), ink levels, and other statistics about printer usage.

**Front Panel Menus Print**

The Front Panel Menu print shows the printer setup menu structure. This is available to help you in locating menus in the front panel. See page *2-10, Printing the Front Panel Menu Print.*

**HP-GL/2 Palette**

The HP-GL/2 Palette print shows the color or grayscale definitions in the currently-selected color palette. See page 6, *Controlling the Overall Appearance of a Print.*

**Samples**

These are prints showing the capabilities of the printer.

# Front-Panel Menu Structure

**Key:**

**1** The items in yellow shaded boxes always appear on the Front Panel.

**2** The items in the white boxes appear in the Front Panel only when the **Utilities -
>Menu mode** is set to **Full**. Full is the default.

**3** The items marked with (**@**) require PostScript drivers.

**Page Format**

Size — Inked Area, Software etc
- Oversize — Over A2, Over A1 Statistics
- ARCH — Best ARCH, ARCH A ... E1
- JIS — Best JIS B, JIS B4 ..... B1
- ANSI — Best ANSI, ANSI A ... E
- ISO — Best ISO A, ISO A4 ... A0

Rotate — 0 .... 270

Margins — Normal, Extended

Nest Spacing — Automatic / Manual — 30...5

Mirroring — On, Off

PostScript Scale @ — 100% ...... 419% @ Fit to Page

| HP-GL/2 Settings | Palette | Software, Factory, Palette A, Palette B | | | |
|---|---|---|---|---|---|
| | Define palette | Palette A, Palette B | Pen Number 0 ... 15 | Width | 0.13 mm - 12.0 mm |
| | | Factory | Pen Number 0 ... 15 | Color | 255 ... 1, 0 |
| | Merging | Off, On | | | |

**I/O Setup**

Network ID → DNS Name, Appletalk, IP Address HW Address

Network Card → Configuration → JetDirect Menu See the *Setup Guide*

Configuration → Advanced → Reset Card

I/O Timeout → 0.5 min … 30 min

Create pattern,
Measure pattern

Restore Factory

Recalibrate

Up, Down

RAM present,
Hard disk, Code Rev

PostScript Code Rev,
PostScript Font Rev @

Printhead alignment

Accuracy

HP-GL/2 Config,
Service Config,
Usage Report,
Print Quality

Short, Full

Display contrast

Statistics

Recover printheads,
Default menu,
Display data

Calibration

Test prints

Menu mode

Utilities

Palette, Menu,
Samples

PostScript Fonts @

Demos

# Navigating the Menu System

Once in the first-level menu, you can navigate the menu system using the display keys.

Press **Top** to go back to the top (1st) level without changing any menu selections. This will bring you to the four menu icons

**Top**

Press **Back** to display the previous menu level, without changing any menu selections (equivalent to moving left [←]* one column in the Front-Panel Menus print).

**Back**

Press ↑ to scroll up, or ↓ to scroll down through the menus in a menu (equivalent to moving up [↑] or down [↓] a column in the Front-Panel Menus print).

↑

↓

**Enter**

Press **Enter** to:

a. Select a menu and move to the next menu level, when in the menu system (equivalent to moving one column to the right [→] in the Front-Panel Menus print).

b. Change the printer's configuration to the highlighted menu item [↵].

*The arrows ↑↓← →↵, shown in square brackets above, are used to represent pressing the relevant keys once, in the following navigation example.

NOTE    **The ... characters in a menu box indicate that another level of menu is available.**

# Navigation Examples

Use the following examples to practice navigating the menu system. All examples assume that you have entered the menu system from the status screen shown below.

Ready
Ink
CYAN
MAGENTA
YELLOW
BLACK

## Selecting the Full Menu Mode

**1** Make sure the status "Ready" is shown on the front panel.
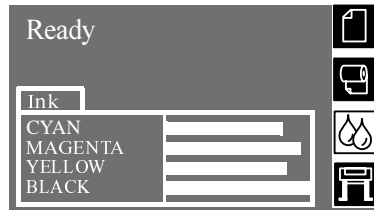
Ready
Ink
CYAN
MAGENTA
YELLOW
BLACK

**2** Press the ↓ key once to select the Printer setup menu icon.

Ready
Ink
CYAN
MAGENTA
YELLOW
BLACK

Printer-setup menu icon selected

**3** Press the **Enter** key to enter the printer setup menu. The front panel will now display the printer setup menus:

Printer setup options
HP-GL/2 settings...
Image quality ...
Device setup ...
Utilities ...
Demos ...
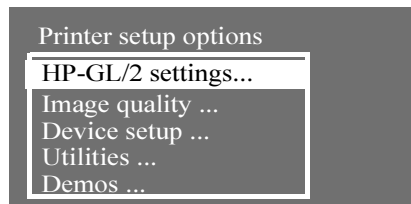
**4** Press the ↓ key until "Utilities" is selected.

```
Printer setup options
HP-GL/2 settings...
Image quality ...
Device setup ...
Utilities ...
Demos ...
```

**5** Press the **Enter** key.

```
Utilities


Menu mode=Short. . .
Change display contrast
```
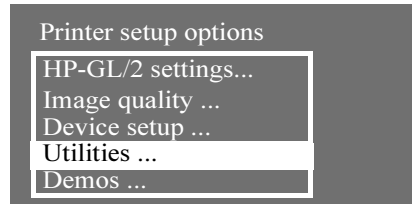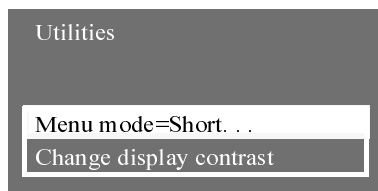
**6** Press the **Enter** key again.

```
Menu mode



Short √
Full
```

**7** Press ↓ key.

```
Menu mode



Short √
Full
```

**8** Press the **Enter** key.

```
Menu mode



Short
Full √
```
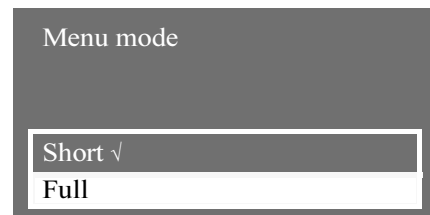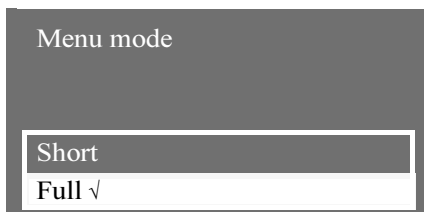
**9** Press the **Top** key to exit the menu system. The menu mode has now been changed from short to full.

```
Ready                    [ 📄 ]

 Ink                     [ 📃 ]
 CYAN      [▭▭▭▭▭ ]     [ 💧 ]
 MAGENTA   [▭▭▭▭▭ ]
 YELLOW    [▭▭▭▭▭ ]     [ 🖨 ]
 BLACK     [▭▭▭▭▭▭]
```

## Changing the Color Calibration Setting in the Image Quality Menu (PostScript only)

In this example, you will change the Color Calibration setting in the Image Quality option. The arrows on the excerpt from the Front-Panel Menus print on page *2-25* correspond to the numbered instructions given below. From the previous example, you should now have the status screen displayed on the front panel, with Full Menus mode selected.
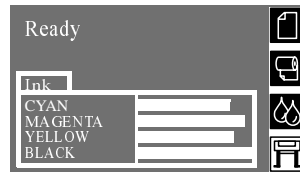
1   Select the Printer Setup Menu Icon on the front panel by using the ↓ or ↑ keys, then press the **Enter** key.
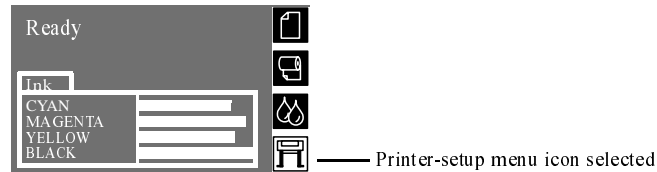
2   The front panel will now display the printer setup options:
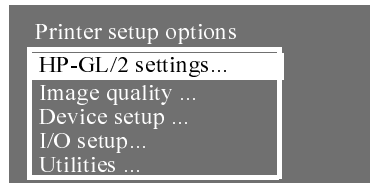
3   Press the ↓ key until "Image quality" is selected.
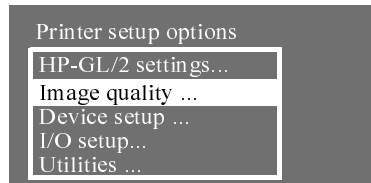
**4** Press the **Enter** key to enter the "Image quality" menu. The front panel will now display the following message:

> Image quality
>
> Ink emul. = Native...
> Color calib. = On...
> Ink Limiting = On...
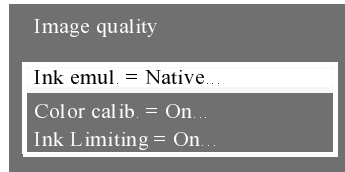
**5** Press the ↓ key once to select the "Color calibration" menu.

> Image quality
>
> Ink emul. = Native...
> Color calib. = On...
> Ink Limiting = On...
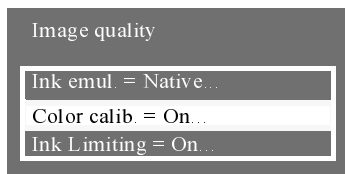
**6** Press the **Enter** key to enter the Color calibration menu. The menu currently selected is displayed with a *"√"*. for more details on color calibration see page *9-3, Calibrating the Color Output (PostScript only).*

> Color calibration
>
> Off
> On √
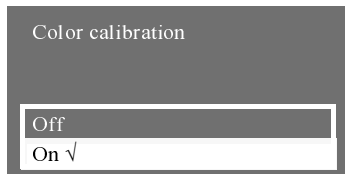
**7** Change the displayed menu by pressing the ↑ key.

> Color calibration
>
> Off
> On √
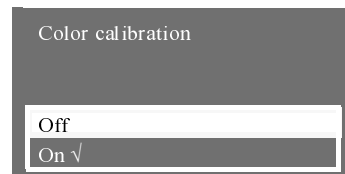
**8** Press the **Enter** key to set the new displayed setting.

> Color calibration
>
> Off √
> On
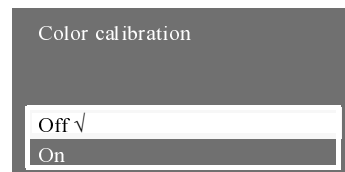
**9** To exit the menu system, press the **Top** key.

If you now reenter the menu system and repeat steps 3 to 7, you will see the menu that you selected displayed with a **"√"**.

9

4

3

Ink emulation = ...

Native√
SWOP
EuroScale
TOYO/DIC

Image quality...

Color calibration.= ...

6

Off
On √

8
↵

TOP 9

Ink limiting ...

Off
On √
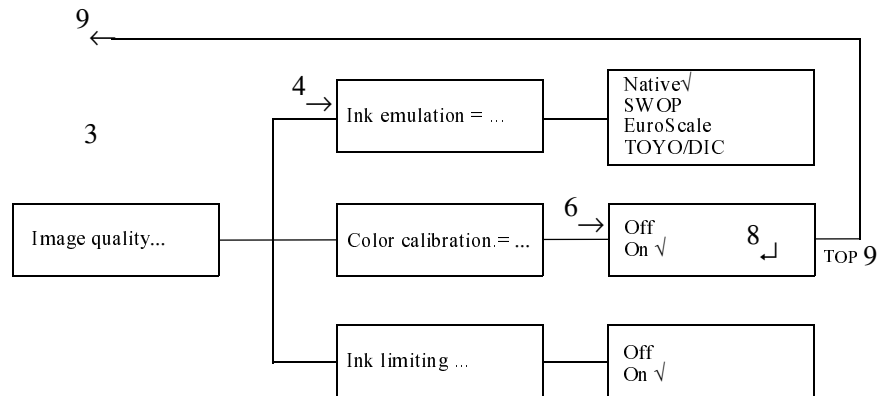
**NOTE**      **The ... characters in a menu box indicates that a lower level of menu is available.**

## Changing the Page Size

This example shows how to adjust the page size.

Make sure the status "READY" is shown on the front panel.

1 Press the ↓ key once to select the Printer setup menu icon.

Printer-setup menu icon selected

2 Press the **Enter** key to enter the printer setup menu. The front panel will now display the printer setup menus:

Printer setup menus
Queueing & nesting ...
Page format ...
HP-GL/2 settings ...
Device setup...
I/O setup ...
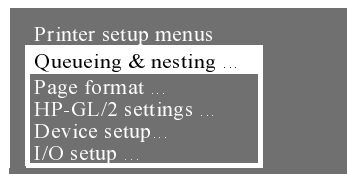
3 Press the ↓ key until "Page Format" is selected.

Printer setup menus
Queueing & nesting ...
Page format ...
HP-GL/2 settings ...
Device setup...
I/O setup ...

4 Press the **Enter** key.

Page format

Size=Inked area...
Rotate=0 ...
Margins ...
Nest Spacing...

**5** Press the **Enter** key.

```
Size
Inked area √ ...
Oversize ...
ARCH ...
JIS ...
ANSI ...
```
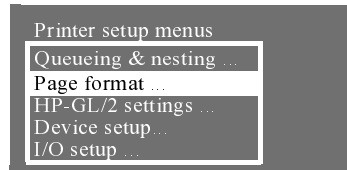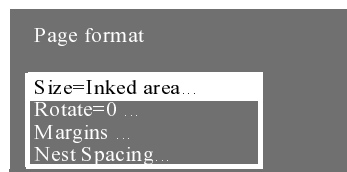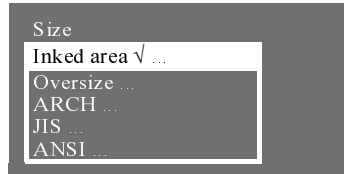
**6** Press the ↓ key once to display the "Oversize" menu.

```
Size
Inked area √ ...
Oversize ...
ARCH ...
JIS ...
ANSI ...
```

**7** Press the **Enter** key.

```
Oversize


Over A2 √
Over A1
```
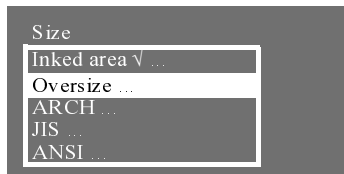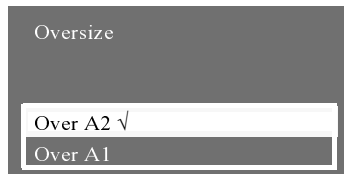
**8** Use the ↓ keys to display the available menus and, when the desired menu is displayed, press the **Enter** key to select it as the page size setting.

**9** To exit the menu system, press the **Top** key.

## Changing the Drying Time

This example adjusts the drying time, a setting used to suit special printing conditions. See page *3-29, Drying Time* for more details.

Make sure the status "READY" is shown on the front panel.

1  Press the ↓ key once to select the Printer setup menu icon.

Printer-setup menu icon selected
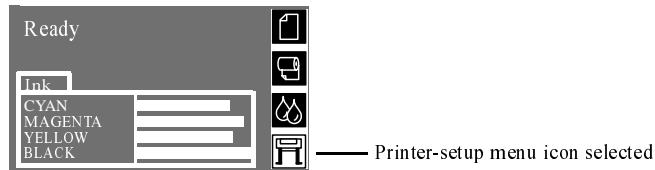
2  Press the **Enter** key to enter the printer setup menu. The front panel will now display the printer setup menus:

3  Press the ↓ key until the "Device setup" menu is selected.

**4**   Press the **Enter** key.

> Device setup
>
> Cutter=On …
> Lang=7586, HP-GL/2 …
> Drying time=Automatic
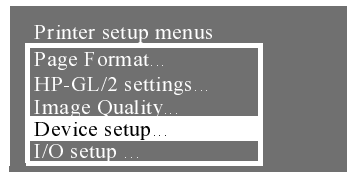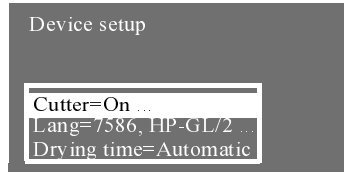
**5**   Press the ↓ key to select the "Drying time" menu.

> Device setup
>
> Cutter=On …
> Lang=7586, HP-GL/2…
> Drying time=Automatic
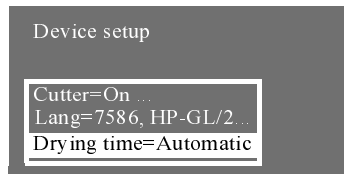
**6**   Press the **Enter** key to display the "Drying time" menu.

> Drying time
>
> Automatic √
> None
> Manual=1 min
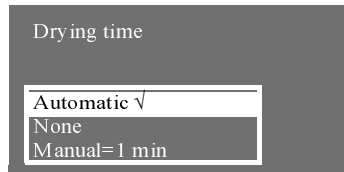
**7**   Use the ↑ and ↓ keys to select the desired menu and then press the **Enter** key to select it as the setting for Drying time.

**8**   To exit the menu system, press the **Top** key.

IMPORTANT        You have now finished the examples for front-panel navigation. If you are unsure about the settings you have made, or if you prefer to reset the printers' default menu, continue with the following procedure:

# Restoring the Default Menu

> Utilities
> └ Default menu
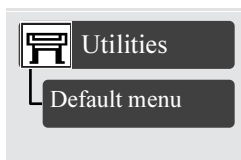
From the "Utilities" menu, choose "Default menu".

# Menu Graphics Used in This Manual

A menu graphic is displayed in the left margin when you need to use the menu system. This menu graphic gives a concise explanation of how to navigate to the exact place.

The graphics look similar to this, but further levels may be shown:



Represents pressing **Enter** key

Menu mode required,
and other useful information

Icon selection

Second level selection

Full menu mode
Default: 0
Affects next file sent
Stays after power off

C4704018
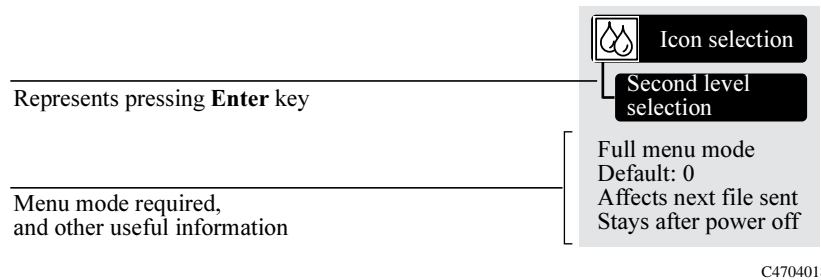
Currently selected menus are displayed with a "√" in the front-panel display.

# Working with Paper

# 3

# Choosing Paper

Your printer supports several types of paper. Choosing the best paper type for your needs is an essential step in ensuring good image quality. For best printing results, use only genuine Hewlett-Packard paper, whose reliability and performance have been developed and thoroughly tested. All HP printing components (printer, ink system, and paper) have been designed to work together to give trouble-free performance and optimal image quality.

For detailed information on Hewlett-Packard paper, see page 3-3, *Paper Types*, and the *HP Printing Materials* catalog supplied with the printer.

## Some Important Points about Paper Types

- This printer supports many types of paper. However, the quality of some images may be reduced if you do not use the correct paper for your application. For example images with large regions of intense color, i.e., where many ink drops are needed to fully saturate the color, will not print well on HP Bright White InkJet Paper. On HP Coated Paper, the same images might cause the paper to wrinkle and then come into contact with the printheads, smearing your print and risking damage to the printhead. See page 3-6, *Combinations of Paper Type and Print Quality Selection.*

- Whenever you load a roll or a sheet, the printer's front-panel display prompts you to specify the paper type you are loading. It is absolutely essential to specify this correctly for good image quality. The table on page 3-3, *Paper Types*, gives you all the information you need. If paper is already loaded and you are unsure which paper type was specified, go to the roll or sheet icon and press **Enter,** refer to page 3-8, *Obtaining Roll Paper Information.*

- Make sure the appropriate print-quality setting (*Best, Normal or Draft*) is selected. You can set the print quality either from your software or from the printer's front panel (software driver settings override any print-quality settings made on the front panel). The combination of paper type and print-quality settings tells the printer how to place the ink on the paper - for example, the ink density, dithering method, and number of passes of the printheads. For more details, see the table on page 3-6, *Combinations of Paper Type and Print Quality Selection.*

- Included with this printer is an *HP Printing Materials* catalog which gives ordering details for Hewlett-Packard paper supplies. To get the latest version of this document, contact your local HP Sales and Support office.

# Paper Types

## Supported Paper Types

Your printer supports several types of paper. The supported types and their most common names are shown in the table below.

| Name on Front-Panel Display | Other names used for this paper type | Available from HP as.... | Cost |
|---|---|---|---|
| Plain Paper | Plotter paper<br>Plain paper | White inkjet paper (from the front panel choose white inkjet paper) | Low |
| Translucent bond | | HP Translucent bond | Low |
| White inkjet paper | Color bond paper<br>Color Inkjet paper | HP Bright White Inkjet Paper | Low |
| Coated paper | Special paper<br>Inkjet paper<br>Color Inkjet paper<br>Matte paper<br>Presentation | HP Coated Paper<br>Note: HP Special Inkjet Paper is not supported | Low/Mid |
| Heavy coated paper | Heavyweight coated paper<br>Heavyweight special paper<br>Heavyweight Inkjet paper<br>Heavyweight matte paper<br>Heavyweight color Inkjet paper | HP Heavy Weight Coated Paper.<br>*Note: HP Heavy Weight Special Inkjet Paper is not supported* | Mid |
| Matte film | Matte polyester<br>Poly. matte film<br>Mylar | HP Matte film | High |
| Clear film | Translucent film<br>Clear polyester | HP Clear film | High |

| Name on Front-Panel Display | Other names used for this paper type | Available from HP as.... | Cost |
|---|---|---|---|
| High-gloss photo | High-gloss photo paper High-gloss paper | HP High-Gloss Photo paper for the HP DesignJet 1050C and HP DesignJet 1055CM | High |
| Vellum | | HP Vellum | Mid |
| Nat. tracing paper | Natural tracing paper Tracing paper Extra translucent bond | HP Natural Tracing Paper | Low |
| Thin Nat. tracing paper | Rice paper Japanese tracing paper | Not available | Low |

Once you have chosen your paper and loaded it into the printer you cannot change the setting in the front panel. To do this, you will have to unload the paper and then re-load it.

All of the above papers can be used to perform the printhead alignment except clear film and the two types of tracing paper listed above, see page 9-16, *Aligning the Printheads*

**NOTE:** To order the above paper types see the pamphlet *HP Printing Materials.*

From time to time, new paper types may become available. For up-to-date information, please contact your HP dealer, local HP Sales and Support Office or our web page www.hp.com/go/designjet.

# Physical Characteristics of Paper Types

The following table lists the physical characteristics of the different supported paper types. See also page 3-25, *Which side?*

**NOTE:** To order the supported paper types see page the pamphlet *HP Printing Materials* that came with your printer.

| Paper Type on the Front-panel Display | Physical Characteristics | |
|---|---|---|
| | **Opacity** | **Matte or Glossy** |
| Plain paper | Opaque | Matte |
| Translucent bond | Semi-Opaque | Matte |
| Vellum | Semi-Opaque | Matte |
| Coated paper | Opaque | Matte |
| Matte film | Semi-Opaque | Matte |
| Clear film | Clear | |
| High-gloss photo | Opaque | Glossy |
| Heavy coated paper | Opaque | Matte |
| White inkjet paper | Opaque | Matte |
| Nat. tracing paper | Semi-Opaque | Matte |
| Thin Nat. tracing paper | Semi-Opaque | Matte |

## Combinations of Paper Type and Print Quality Selection

Use this table to guide you when choosing your paper and selecting the print quality setting (Draft, Normal, Best). As a guide remember:

Use **Draft** to get draft copies of your prints at maximum throughput.

**Normal** is optimized so that you get the best line quality with the fastest throughput

Select **Best** if you want to get the best quality for images and renderings.

| Application | Usage | Typical media selection | Recommended Print Quality setting |
|---|---|---|---|
| CAD-drawings MONO | Drafts | Plain Paper<br>Bright Inkjet Paper<br>Natural Tracing Paper<br>Translucent Bond | Draft or Normal |
| | Final Versions | Plain Paper<br>Bright Inkjet Paper<br>Natural Tracing Paper<br>Translucent Bond<br>Coated paper<br>Heavy Coated Paper<br>Matte Film<br>Clear film | Normal or Best* |
| | Archives | Vellum<br>Matte Film<br>Clear Film | Best* |
| | Diazo | Translucent Bond<br>Natural Tracing Paper<br>Vellum<br>Matte Film | Normal or Best* |

| | | | |
|---|---|---|---|
| CAD-drawings & GIS **COLOR** (Lines and low density) | Drafts | Plain Paper Bright Inkjet Paper Natural Tracing Paper Translucent Bond Coated Paper | Draft or Normal |
| | Final Versions | Plain Paper Bright Inkjet Paper Coated Paper Heavy Coated Paper Matte Film Clear Film | Normal or Best* |
| | Archives | Matte Film Clear Film | Best* Normal or Best* |
| | Transparencies | Clear Film | Normal or Best* |
| CAD rendering, GIS and Images- **COLOR and CAD** (high ink density) | Matte Paper | Heavy Coated Paper | Normal or Best* |
| | Glossy | High Gloss Photo Paper | Normal or Best* |
| | Transparencies | Clear Film | Best |

**NOTE:** Do **NOT** print in Best mode with high density ink areas and light weight paper such as HP Bright White Inkjet paper or HP Coated papers. Under these conditions the paper may wrinkle and it could come into contact with the printheads, potentially damaging them. Avoid this problem by using Heavy Coated Paper or film. If these media are not available, set the margins to **Extended.** See page **5-9,** *Adjusting Margins.*

# Handling Your Paper

■ Handle film and glossy paper by the edges or wear cotton gloves. Skin oils can interact with the ink and cause it to smear.

■ Although the ink systems supplied with this printer have good lightfastness, colors will eventually fade or change if exposed to sunlight over a long period of time.

■ Rewrap partially used rolls if they are not being used and do not stack rolls.

■ Always keep unused rolls wrapped in the plastic wrap to prevent discoloration.

# Obtaining Roll Paper Information

**1**  To get information on your roll of paper press the **Top** key on the front panel to go to the main menu.

```
Ready


Ink
CYAN          ■ Very Low
MAGENTA
YELLOW
BLACK
```

**2**  Press the ↑ or ↓ key until the front panel highlights the roll paper menu icon. Press **Enter.**

```
Ready


Ink
CYAN
MAGENTA
YELLOW
BLACK
```
— Roll Paper Menu Icon
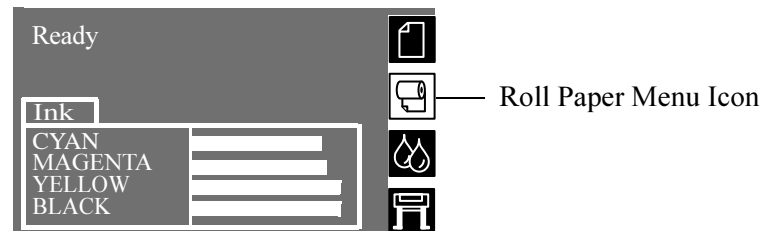
**2a**  If there is no roll paper loaded instructions are displayed on how to load roll paper.

**2b**  If a roll of paper is loaded then the following is displayed:

```
Roll Information

Paper=Bright white inkj.
Width=914mm
Max XY=1355x904mm
Lift handles to
unload roll
```
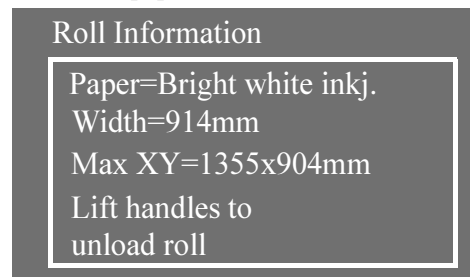
The information supplied is:

- Type of paper that you have selected
- Total width of the roll of paper in millimeters
- Maximum printable area that the paper has to print on
- Instructions on how to unload the paper

For detailed instructions on how to load a roll of paper see page *3-13*

# Obtaining Sheet Paper Information

**1** To get information on the sheet of paper you have selected press the **Top** key on the front panel to go to the main menu.

```
Ready

Ink
CYAN        ■ Very Low
MAGENTA
YELLOW
BLACK
```

**2** Press the ↑ or ↓ key until the front panel highlights the sheet paper menu icon. Press **Enter.**

```
Ready                        ⎯⎯ Single Sheet Menu Icon

Ink
CYAN
MAGENTA
YELLOW
BLACK
```
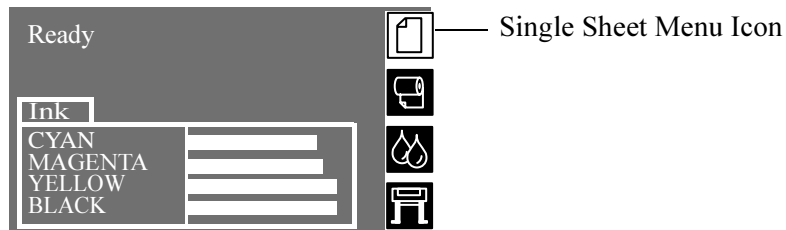
**2a** If there is no paper loaded, instructions are displayed on how to load single sheet paper.

**2b** If a sheet of paper is loaded then the following is displayed:

```
Sheet Information

Paper=Bright white inkj.
Size=210x297mm
Max XY=210x297mm
PRESS FORM FEED/CUT
to unload sheet
```
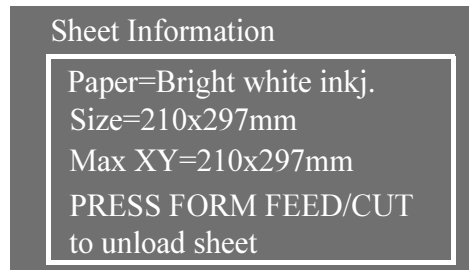
The information supplied is:

■ Type of paper that you have selected

■ Total width of the sheet of paper in millimeters

■ Maximum printable area that the paper has to print on

■ Instructions on how to unload the single sheet of paper

For detailed instructions on loading a sheet of paper see page *3-25*

# Installing a New Roll into the Printer

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

**2** Remove the empty spindle by pulling firmly on each end A and then B as indicated below.
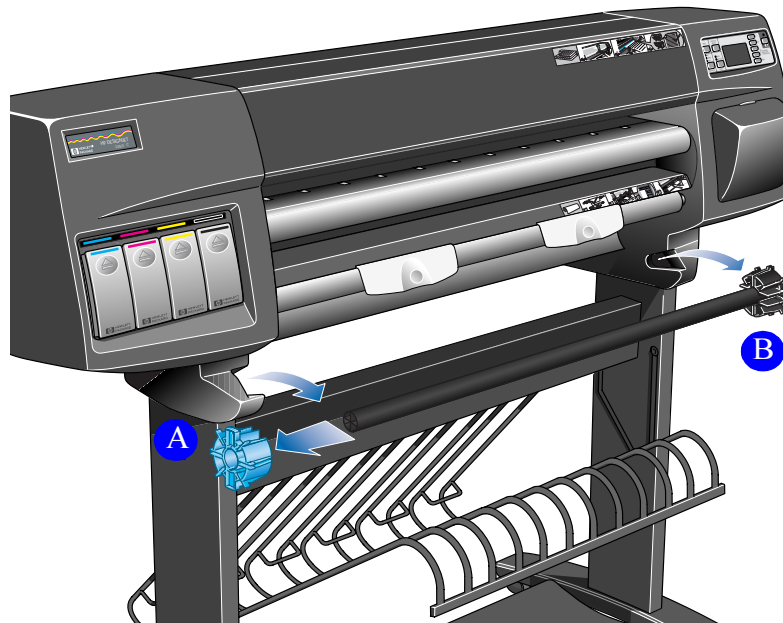
C6074045

The spindle has a stop at each end to keep the roll in position. The stop at the left-hand end (colored blue) can be removed to mount a new roll, it slides along the spindle to hold rolls of different widths.

**3**  Remove the blue colored stop (A) from the left-hand end of the spindle, and stand the spindle vertically, with the fixed stop (B) on the floor.

Removable

Fixed

C6074246
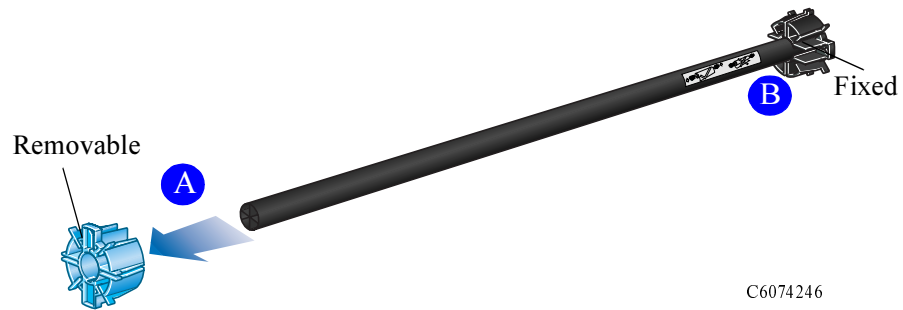
**4**  Slide the new roll of paper on to the spindle. Make sure the orientation of the paper is loaded exactly as shown. If it is not, remove the roll, turn it through 180 degrees vertically and slide it back on to the spindle.

Correct          Incorrect

C6074247
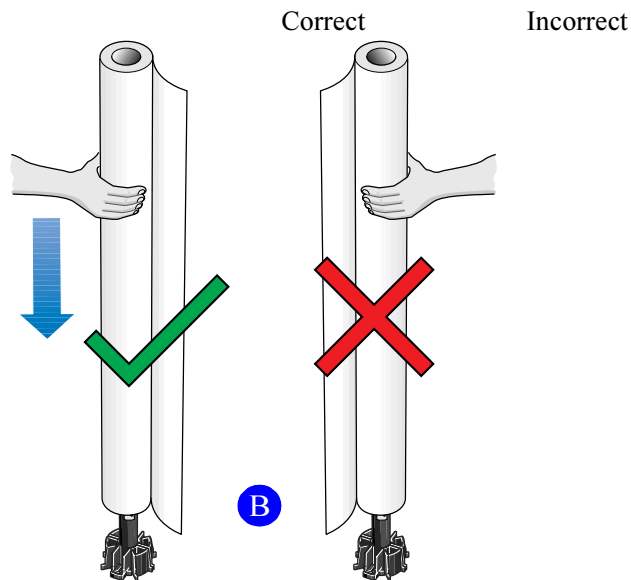
**5** Put the removable stop on to the upper end of the spindle, and push it down as far as it will go. Do not use excessive force.



C6074248
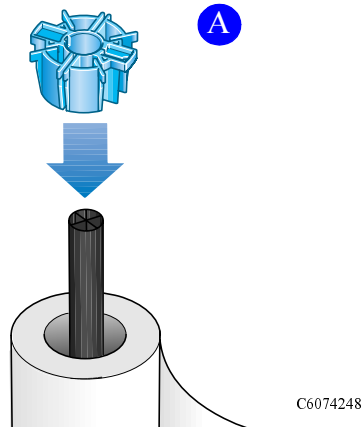
**6** With the blue colored roll stop on the left, slide the spindle into the printer left and then right as shown by the arrows A and B. The paper should hang down from the roll exactly as shown below.



Spindle
Guides
C6074249
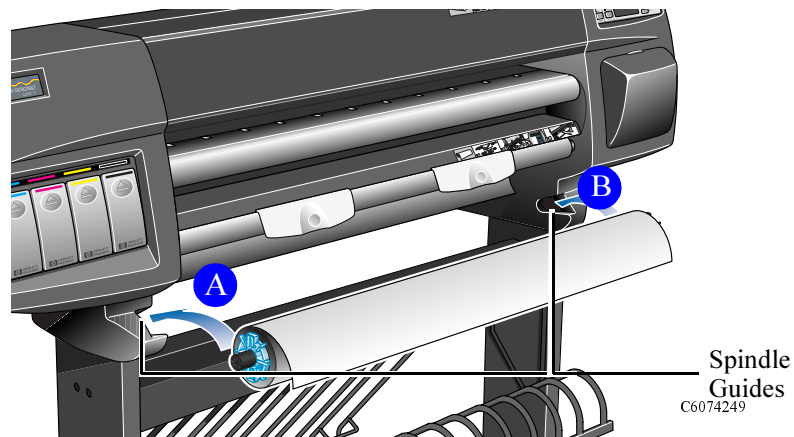
If you are a regular user of different types of paper, you can change the paper over quicker if you have more than one spindle, perform the following.

**a)** pre-load the different types of paper onto the spindles.

**b)** remove and replace the spindle with the new type of paper.

**NOTE:** Extra spindles are available from HP see page *13-16*.

# Loading Roll Paper

**NOTE**    **To start this procedure you need to have a roll of paper installed on to the printer spindle. See page 3-10, *Installing a New Roll into the Printer.***

**1**  Check the leading edge as it unwinds from the spool. If it is not evenly cut or if it is skewed (not perpendicular to the guides), continue with the next procedure. If the paper is cut correctly go to step 3.

**WARNING**    **The knife used in the next step is sharp. Be sure the printer's wheels are locked. Keep fingers clear of the cutting path. Keep the knife away from children.**

**2**  Trim the leading edge of the paper roll only if it is not straight:

**a)**  Pull the paper over the top of the machine and lay it over the cutting track.

**b)**  Use the knife in the pocket located on the back of the printer to cut off the first few inches of the paper.

**c)**  Retract the blade and return the knife to its pocket.
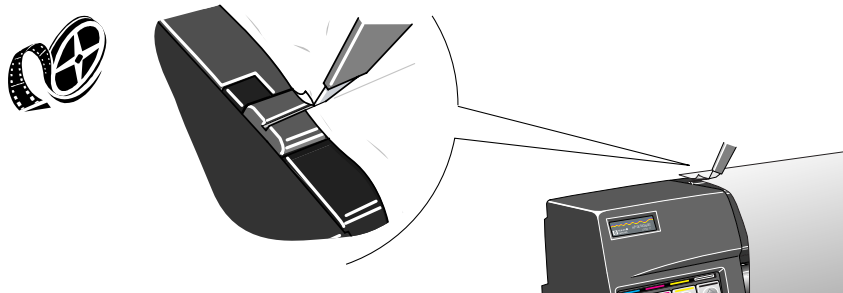


C6074310

**3**  Press the **Top** button to select the main menu on the front panel.

**4**  Make sure that the front panel displays the **Ready for paper** message.



Roll Paper
Menu Icon

In addition to these instructions the **front panel** displays step-by-step instructions on how to load roll paper. There are also **labels** on the printer which give you a pictorial view of the paper loading procedure.

**5** Lift the handles so that they are in the up position.
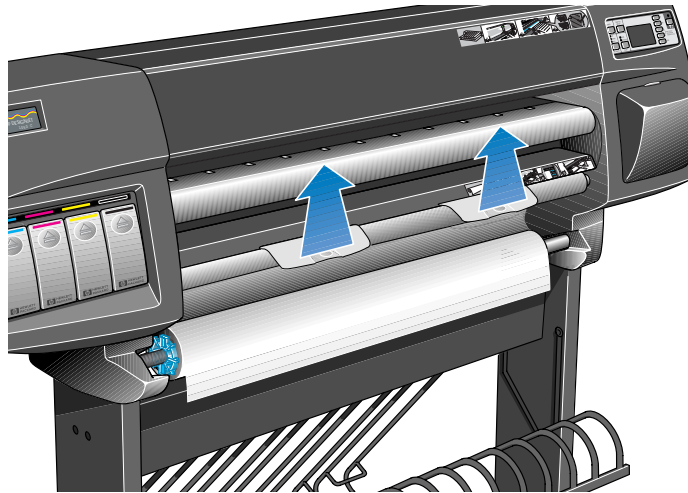


C6074051

**6** Pull out approximately 30 cm of paper (1ft).
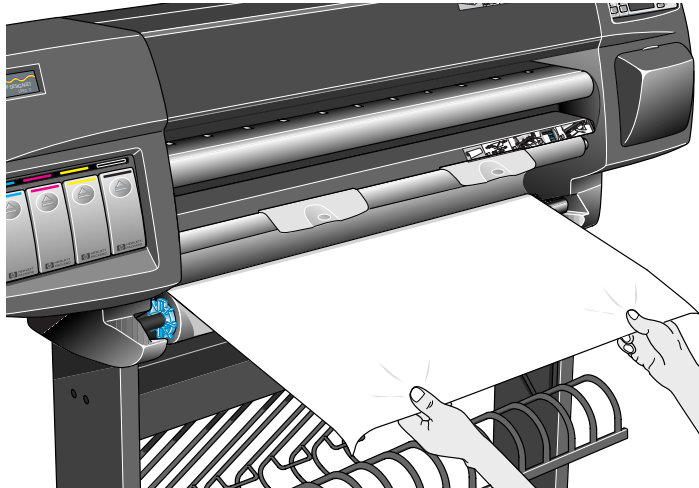


C6074053

**7** The front panel message will tell you how to load the roll paper.

ROLL LOAD

Align roll edge
with white line.

Feed roll until
printer beeps.
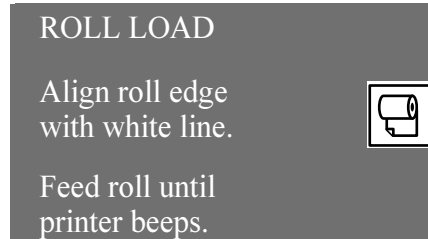
**8** Insert the roll paper edge below the handles and above the paper entry roller.
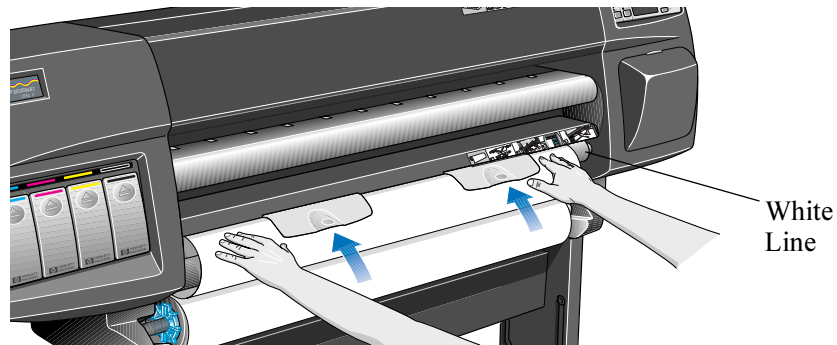
White
Line

C6074

**9** Align the right edge of the paper with the white line on the right side of the entry roller.

Entry
Roller
White
Line
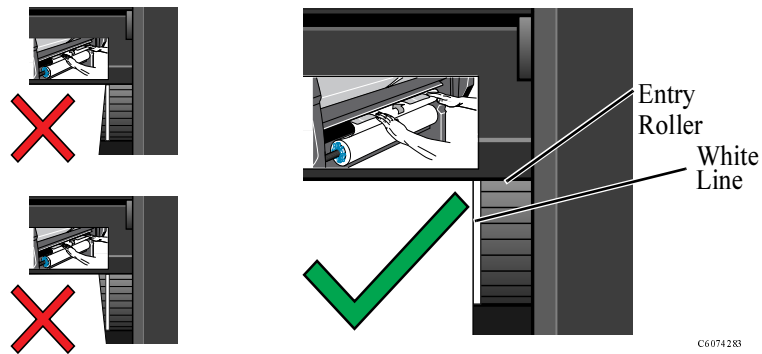
C6074283

**10** When the paper has been inserted enough the printer will "BEEP".

**11** Lower the handles.



Lower
Handles

C6074255
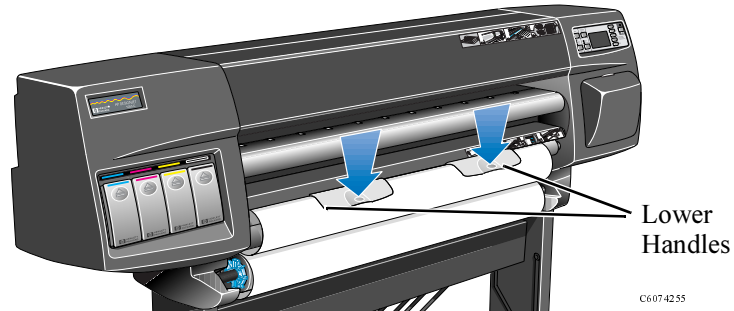
**12** The front panel will ask you to wrap any excess paper back onto the roll and press **ENTER**.



ROLL LOAD

Wrap any excess
paper onto roll.
Press ENTER to
continue.
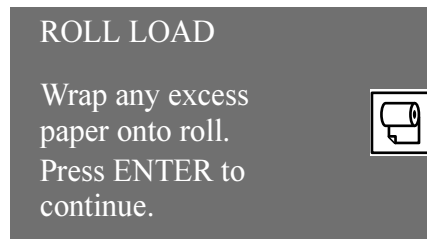
**13** Carefully wind the excess roll paper back onto the spindle. Use the wings on the blue removable paper stop to turn the roll paper in the direction shown below.

**NOTE:** It is important to perform this step as the paper will not enter the printer correctly and there will be a misalignment.



C6074256
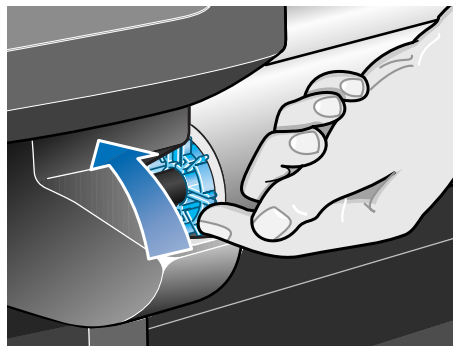
**14** Press the **ENTER** key.

**15** The front panel will ask for the type of roll paper loaded.
Select it from the options displayed on the front panel using the ↑ and ↓ keys and then press the **ENTER** key.

```
SELECT PAPER
 Translucent bond
 Vellum
 Coated paper
 Matte film
 Clear film
```
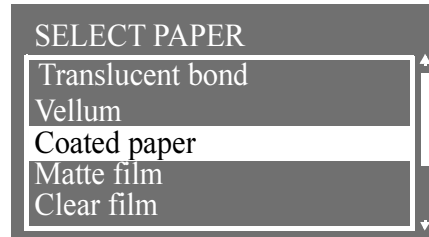
- To ensure you get the best image quality it is important to select the correct paper type, if you are unsure what paper type you have, see page 3-5, *Physical Characteristics of Paper Types*.

- If you do not select a paper type within 2 minutes, the printer will select the default paper type and automatically load the roll paper.

- Once you have finished this procedure you cannot change the paper type. To do this you must unload the paper and then reload it.

**16** The printer will now automatically:

**a)** Load, check and align the paper.

**b)** Trim a strip off the lead edge of the paper to give a straight edge.

**NOTE:** If a problem occurs while loading the roll paper, instructions will be displayed on the front panel.

**17** If the paper is well aligned, the printer will accept the roll load and give one more single "BEEP".

**18** The front panel should now say "**Ready**" and you can begin to print.

```
Ready

 Ink
 CYAN
 MAGENTA
 YELLOW
 BLACK
```
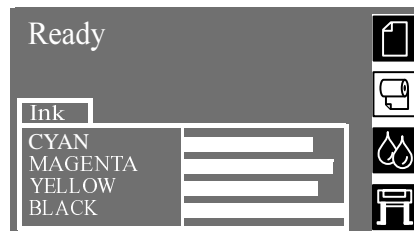
**NOTE**    **If you have problems loading the roll because of incorrect paper alignment, try loading the roll using the manual alignment procedure. Refer to page *3-18*.**

# Loading Roll Paper Using Manual Alignment

**NOTE**   **To start this procedure you need to have a roll of paper installed on to the printer spindle. See page 3-10,** *Installing a New Roll into the Printer.*

This procedure can be used to load roll paper without using the printer's automatic loading feature. If you have problems aligning roll paper try this simple manual alignment procedure.

**1**   The front panel should display "Ready for paper" before you can load the paper.



**IMPORTANT**   **This manual alignment procedure will override the printer's automatic loading function. Therefore ignore the messages displayed on the front panel during the manual alignment.**

**2**   Lift the handles. You will hear a single "BEEP". **Ignore the message on the front panel instructing you how to perform an automatic load**.



Handles
in raised
position
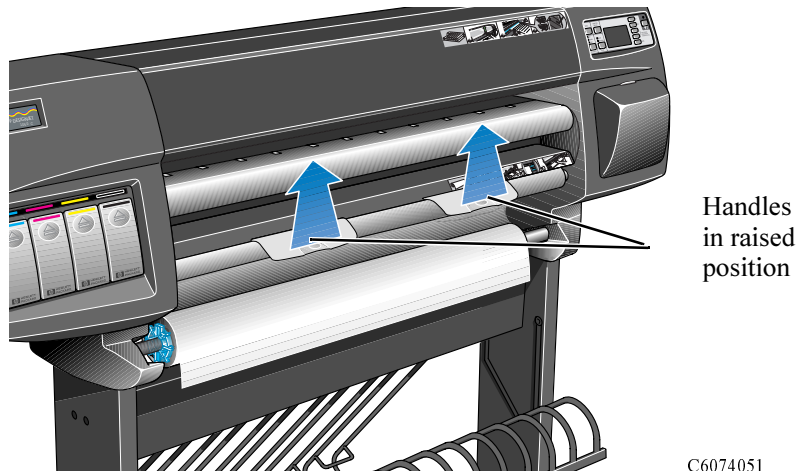
C6074051

**3** Lift the window. You will hear 3 successive "BEEPS". Ignore the message shown on the front panel.
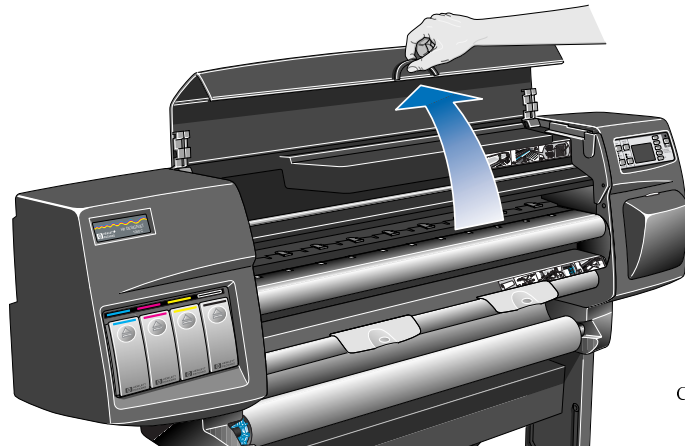
C6074228c

**4** Pull out approximately 30cm (1ft) of paper.
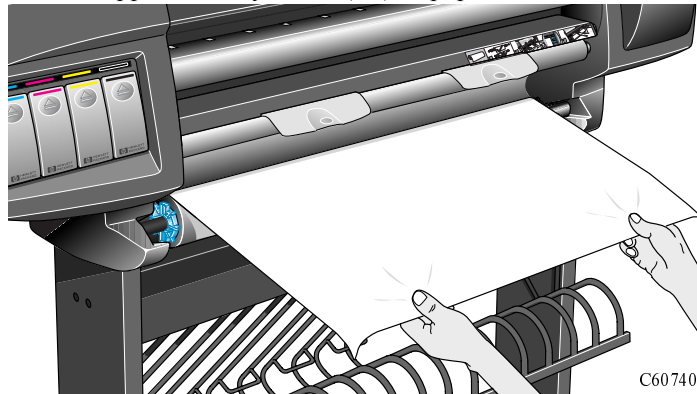
C6074053

**5** Carefully insert the roll paper edge, below the handles and above the roll paper entry roller. At some point, you will hear a single "BEEP".



C6074254
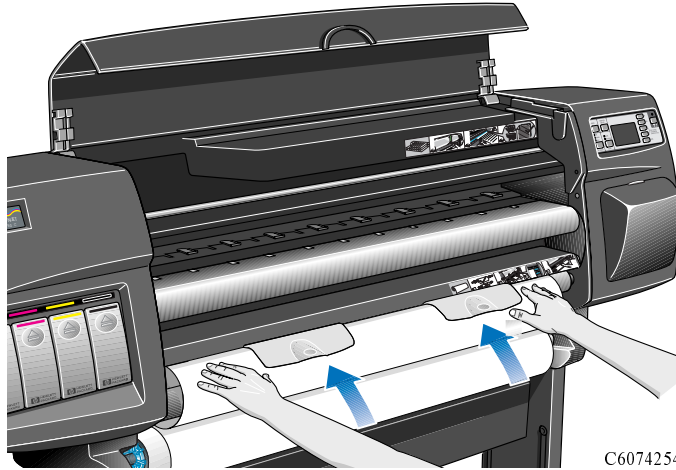
**6** Continue inserting the roll paper below the handles and above the entry roller until it emerges from the sheet paper entry platen.



C6074254c
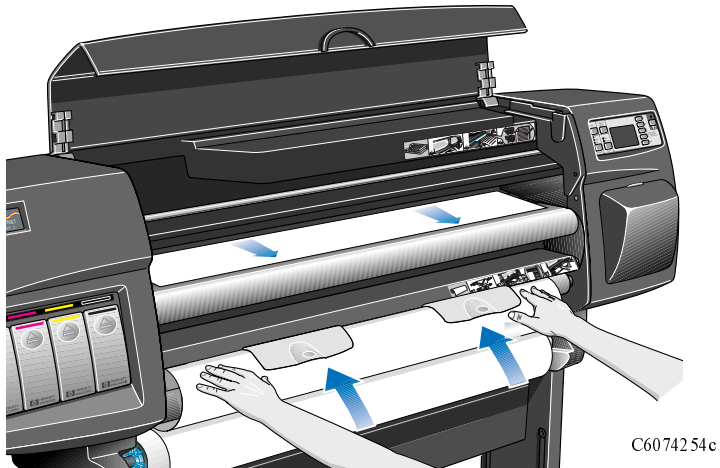
**7** Take hold of the leading edge of the paper and carefully align the right edge with the blue dashed lines on the right side of the sheet paper entry platen.
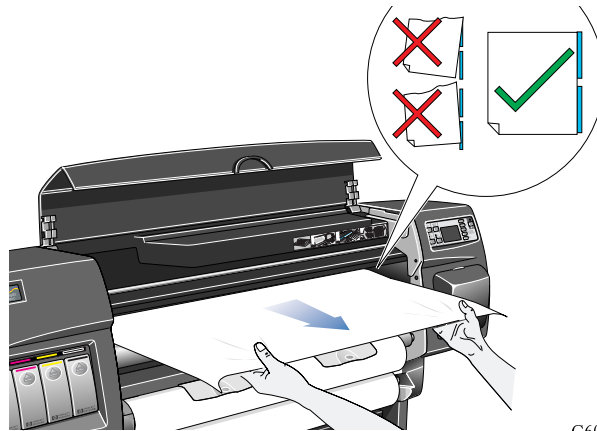


C6074282b

**8** When the paper is correctly aligned with the blue dashed lines on the **sheet paper entry platen** lower the handles to hold the paper in place.
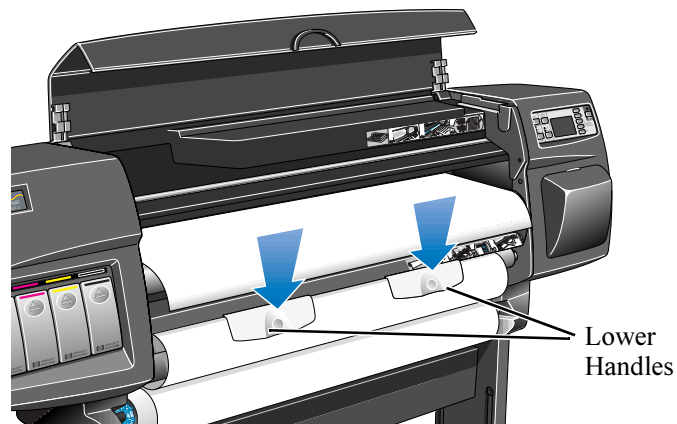


Lower Handles

C6074155c

**9** Close the window and the printer will begin the roll paper load process in the same way as for an automatic load. Refer step *12* on page *3-16* to continue.
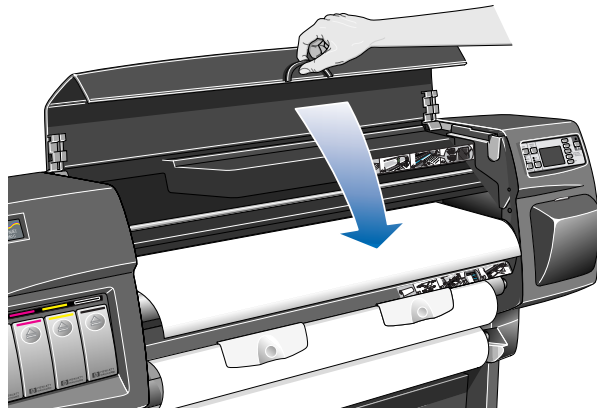


C6074229b

# Unloading a Roll from the Printer

**1** Lift the handles and turn the roll of paper in the direction indicated by the arrow shown below.
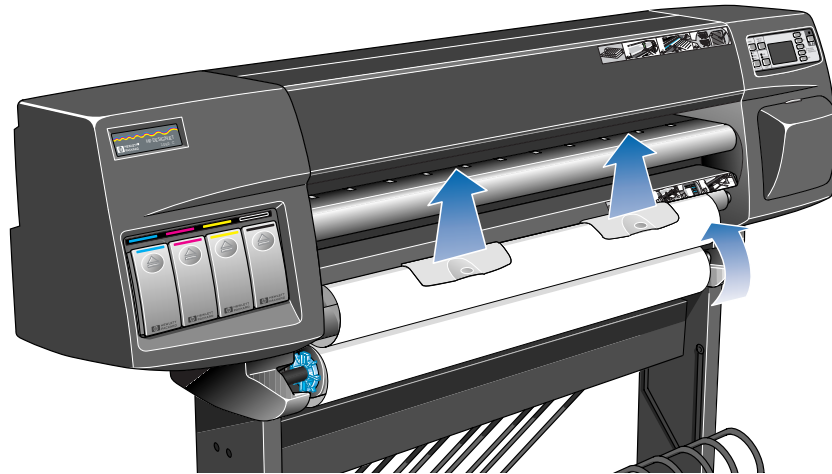
C6074052

**2** Turn the blue removable paper stop by hand, using the wings as shown below, until the paper is removed from inside the printer.

C6074256

3-23

**NOTE:** Keep the paper tightly wound on the roll throughout the unloading procedure. If it begins to unwind, it will become more difficult to handle.

**3** Remove the roll paper from the printer by pulling first the left side of the roll and then the right side as indicated by the arrows A and B.
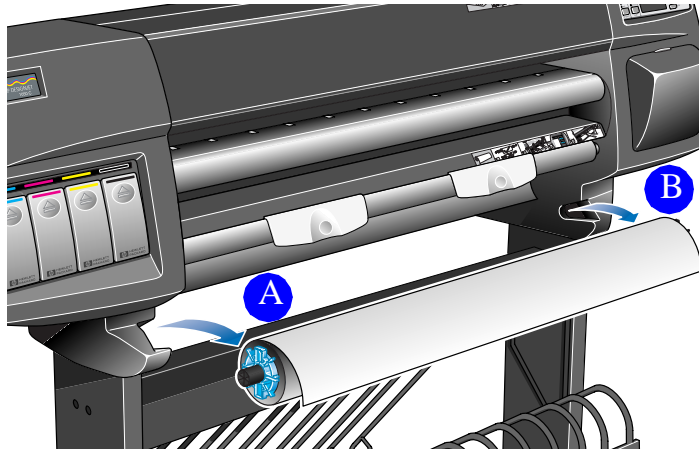
C6074250

# Sheet Paper

**Do I have to remove the roll of paper?**   When loading a single sheet of paper it is **not necessary** to remove the roll of paper that you may have already loaded into the printer. The printer will remove the roll of paper to a standby position.

**IMPORTANT**   **When loading a single sheet of paper always ensure the handles are in the down position.**

**Which side?**   It is the side facing up on which the printer prints. It is important to load the sheet with the correct side facing up. See the table below.

| Paper type | Paper loading tips |
| --- | --- |
| Plain Paper | Both sides are the same. If the sheet is curled, load with the curl down. |
| Translucent Bond | Both sides are the same. If the sheet is curled, load with the curl down. |
| Vellum | Both sides are the same. If the sheet is curled, load with the curl down. |
| Coated paper | Load with the coated side up. |
| Matte film | Load with the matte side up. |
| High-gloss Photo | Load with the glossy side up. |
| Heavy Coated paper | Load with the coated side up. |
| Bright white inkjet paper | Both sides are the same. If the sheet is curled, load with the curl down. |
| Natural tracing paper | Both sides are the same. If the sheet is curled, load with the curl down. |
| Thin Natural tracing paper | Both sides are the same. If the sheet is curled, load with the curl down. |

**Which edge first?** You can load a sheet in either portrait or landscape orientation. Unless using the Rotate option (see page 5-10, *Rotating an Image (PostScript)*), load the sheet in the same orientation as you have specified in your software. If printing a PostScript file, always load the sheet with the short edge first, even if the width of your image is greater than its length.

C4704020

Portrait (short edge first)
- always use for PostScript files

Landscape (long edge first)

# Loading Sheet Paper

**1** Open the window.
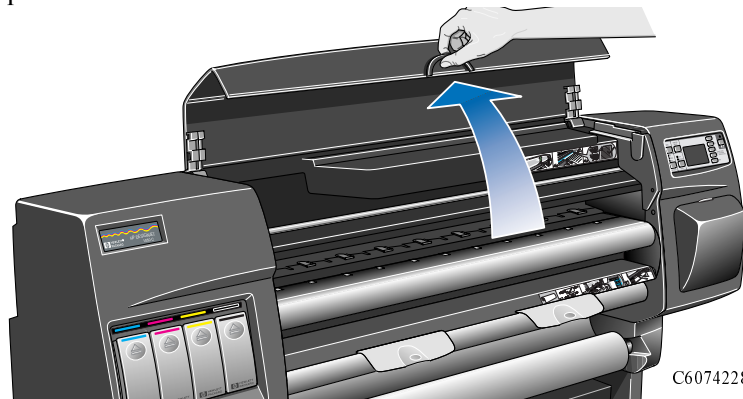
C6074228c

**2** The front panel will display the following message:

SHEET LOAD

Placing printable side up,
align it to blue lines and
Lower window to
continue
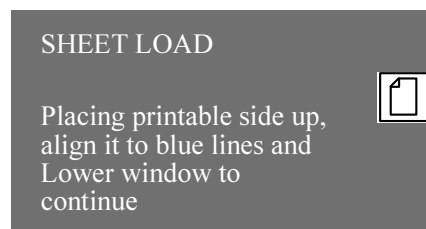
**3** Place the bottom edge of the sheet paper onto the printer as shown below,

**NOTE**     **Make sure the correct side is facing upwards, if you're not sure which side is correct see page 3-25,** *Which side?*

**4** Align the edge of the paper with the blue dashed lines on the printer. Air suction will hold the paper in place.



C6074182

**5** Close the window.

**6** Using the ↑ or ↓ key, select the type of paper you are loading and then press the **ENTER** key.



SELECT PAPER
 Translucent bond
Vellum
Coated paper
Matte film
Clear film
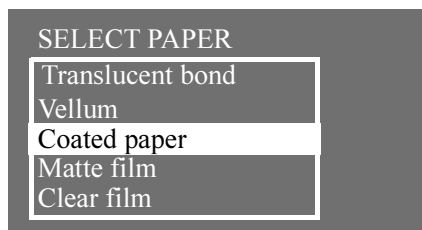
The printer will now load the paper, checking the alignment.

**7** If the paper is correctly aligned, the printer will accept the single sheet and will give a "BEEP". If it is not correctly aligned the front panel will display an instruction.

**8** The front panel will now display "Ready" and you can now begin to print.

## Unloading Sheet Paper

To unload a single sheet of paper from the printer, press the **Form Feed and Cut** action key located on the front panel.

To give the ink time to dry the printer holds the paper for some time. (Refer to Drying Time  3-29). It is then released into the paper bin.

```
CANCEL          FORM FEED
                AND CUT

[  ]            [  ]  ———————— Form Feed and Cut Key

○ BEST
○ NORMAL        ○ COLOR
○ DRAFT         ○ GRAYSCALE

[  ]            [  ]

PRINT QUALITY    COLOR        C6074179
```

# Drying Time

Device Setup

Drying time

Default: Automatic
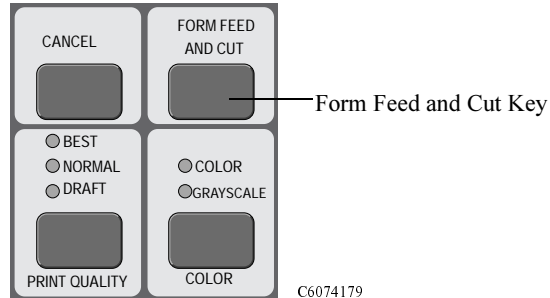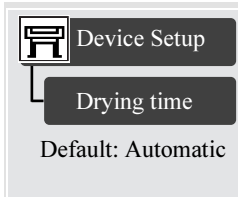
With some paper types and environmental conditions the ink needs time to dry before the paper is unloaded. The printer has three settings which you can choose through the front panel; see page 2-28, *Changing the Drying Time* for more help.

### Manual

Paper which has a specific drying time will be held in place by the printer and a "drying time to go" countdown will be displayed on the front panel. You can change this dry time to what you want.

### Automatic

The printer automatically determines the appropriate drying time, based on the type of paper you have selected and the current temperature and humidity. If there is any drying time, a "drying time to go" countdown will be displayed on the front panel.

### None

With this setting, when the printer has finished printing an image the paper will fall into the paper bin under the printer.

**CAUTION**

**Changing the drying time to speed up the printer could result in damage to your printed image and/or reduce the quality of your print.**

Below is a table showing the typical drying times for HP tested paper at approximately 25°C with 50% relative humidity.

| HP Tested Paper type | Drying Time (seconds) | |
|---|---|---|
| | Draft | Normal/Best |
| Plain Paper | 25 | 43 |
| HP Translucent Bond | 35 | 60 |
| HP Vellum | 30 | 50 |
| HP Coated paper | 5 | 5 |
| HP Matte film | 180 | 180 |
| HP Clear film | 240 | 240 |
| HP High-gloss Photo | 180 | 180 |
| HP Heavy coated paper | 5 | 5 |

| HP Tested Paper type | Drying Time (seconds) | |
|---|---|---|
| | Draft | Normal/Best |
| HP Bright white inkjet paper | 25 | 43 |
| HP Natural tracing paper | 45 | 100 |
| Thin Natural tracing paper | 45 | 100 |

**Drying Procedure**

1   The printed image emerges from beneath the printer window:

   **a)** For a **roll** of paper, the printer automatically cuts the paper and is held on the platen of the printer by a vacuum.

   **b)** For a **sheet** of paper, the printer finishes printing and the sheet is held by a vacuum.

2   The front panel displays:

Ink Drying,
Please Wait
XX min XX sec

The countdown timer displays how much drying time is remaining

Press Enter to finish drying
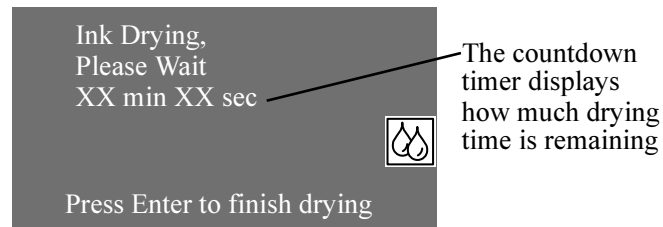
3   You can press **Cancel** or the **Enter** key to cancel the drying time.

4   After the drying time has elapsed the vacuum is turned off and the printed image falls into the bin.

# Working with HP No.80 Supplies

# 4

# What are HP No.80 Supplies?

For each of the four ink colors used in the printer, there are three separate components. The printhead and the printhead cleaner are supplied together, the ink cartridge is supplied separately. All of these components are called the HP No.80 Supplies. They are coded with an HP No.80 selection number to help you reorder the correct replacement supplies.



**Printhead and
Printhead Cleaner**

**Ink Cartridge**

### Ink Cartridges

The HP No.80 ink cartridges for your printer require no maintenance or cleaning. As long as each ink cartridge is inserted correctly into its slot, the ink will flow to the printheads. Because the printheads control the amount of ink transferred to the page, you will continue to see high-quality printing results, even when the ink levels are getting low.

The front panel notifies you when an ink cartridge's ink level is low. You can also check the ink levels of all the ink cartridges to determine if an ink cartridge needs to be replaced, see page 4-13, *Obtaining Ink Cartridge Information.* If the ink cartridge is empty, the printer stops printing. See page 4-6, *When Should You Replace the HP No.80 Supplies?*

### Printheads

The HP No.80 printheads are extremely durable and do not need to be replaced every time an ink cartridge is replaced. They are independent of the ink cartridges and will continue giving excellent image quality results even if the ink cartridges are low in ink. See page 4-6, *When Should You Replace the HP No.80 Supplies?*

If you notice a decline in print quality such as lines or dots missing from text or graphics, go to page 11-5, *Solving Image-Quality Problems.*

**Printhead Cleaners**

The HP No.80 printhead cleaners keep the printheads in good condition and they prevent them from being damaged when the printer is not active. They service the printhead, making sure it's always ready to be used.

## Identifying the Components

The following illustration will help you identify the components of the HP No.80 supplies.

Printhead

Ink Cartridge

Printhead Cleaner
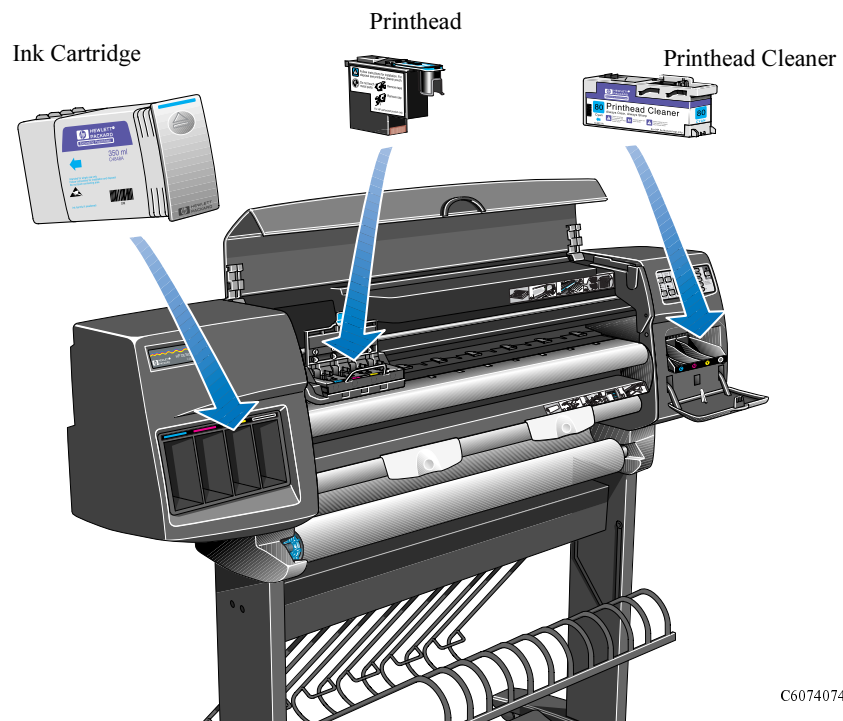
Printhead Cleaner

C6074074

The selection number HP No.80 on the ink cartridges, printheads and printhead cleaners makes it easy for you to find the correct HP printing supplies for your printer. Determine the color of the printhead or ink cartridge you need, then make sure you purchase or order an HP No.80 printhead with printhead cleaner or ink cartridge. Each ink cartridge and printhead with printhead cleaner can be purchased separately from your usual HP retailer. See pages 13-14, *Ordering Accessories* and page 4-6, *When Should You Replace the HP No.80 Supplies?*

## General Information About HP No.80 Supplies

**For optimum results from your printer and modular ink delivery system always follow these guidelines when handling the HP No.80 supplies:**

■ Always install the ink cartridges, printheads and printhead cleaners before the expire date, which is on the packaging.

■ Install a new printhead cleaner every time you change a printhead.

■ Allow the printer and printhead cleaners to automatically clean the printheads.

■ Install ink cartridges, printheads and printhead cleaners in their color-coded slots.

■ Follow the instructions on the front panel of the printer during installation.

■ Avoid unnecessary removal of the ink cartridges and printheads.

■ When turning off your printer always use the power off button on the front panel. The printheads are then stored correctly which prevents them from drying out.

■ The ink cartridges should never be removed while the printer is printing. They should only be removed when the printer is ready for you to replace them. The front panel will guide you through the removal and installation procedure. See page 4-6, *When Should You Replace the HP No.80 Supplies?*

.

**CAUTION**     **When you first received your printer it was supplied with a set of four setup printheads installed in the printhead carriage. These setup printheads are used for the priming of the tubes in the modular ink delivery system. Do not remove the setup printheads from the carriage without following the procedures in the *Setup Guide*.**

## Some General Precautions When Handling HP No.80 Supplies

**CAUTION**

**Do not touch, wipe or attempt to clean the printhead nozzles. This can damage the printhead.**
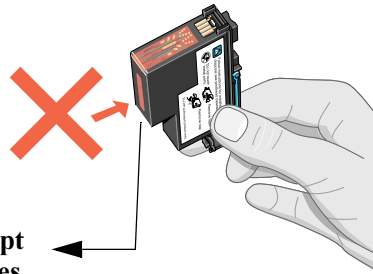
**Do not touch, wipe or attempt to clean the printhead nozzles. This can damage the printhead.**

C6074297a

Handle the HP No.80 supplies with care. In particular the printhead, which is a high precision device and must be handled carefully.

■ Do not touch the printhead nozzles.

■ Do not put the printhead down on the nozzles.

■ Do not be rough when handling the printheads. Always set them down gently.

■ Do not drop the printheads.

■ Proper handling will assure optimum performance throughout the printhead life.

■ The printhead cleaner should always be handled and stored upright to avoid a potential spillage of ink.

■ Do not touch the end of the ink cartridge which is inserted into the printer as there may be a small amount of ink on the connection.

■ Avoid storing partially used ink cartridges on their ends.

# When Should You Replace the HP No.80 Supplies?

When to change your HP No.80 supplies is mostly determined by you with guidance from the front panel. In conjunction with the messages displayed in the front panel and the message explanations in this chapter, you will be able to choose for yourself when is the right time (for your particular case) to change the HP No.80 supplies.

The printer will also display the ink level and will tell you when your ink supply is low, very low or empty. This means you have constantly updated information about your HP No.80 supplies.

Printhead life is anticipated to be 700ml or twelve months in the printer, whichever occurs first, provided that the printhead is used under normal operating conditions (using HP ink cartridges only) and its "install before date" has not lapsed. However results vary depending on the print quality setting you use.

## The Front Panel Displays

The front panel display has a dedicated area to report the status of your HP No.80 supplies. There are two different screens:

■ One screen displays information on the ink cartridges:

| Ready | Cyan status bar |
|---|---|
| Ink | |
| CYAN | Black Ink |
| MAGENTA    Low | Cartridge is |
| YELLOW | Very Low |
| BLACK    Very Low | |
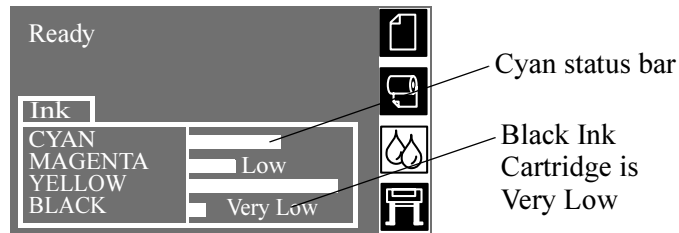
■ The other screen displays information on the printheads and the printhead cleaners.

| Printing | Printing/Monitor |
|---|---|
| Monitor Quality | |
| Printhead | |
| CYAN    Monitor | Monitor is displayed against the relevant |
| MAGENTA    OK | printhead as the printer is printing. |
| YELLOW    OK | |
| BLACK    OK | |
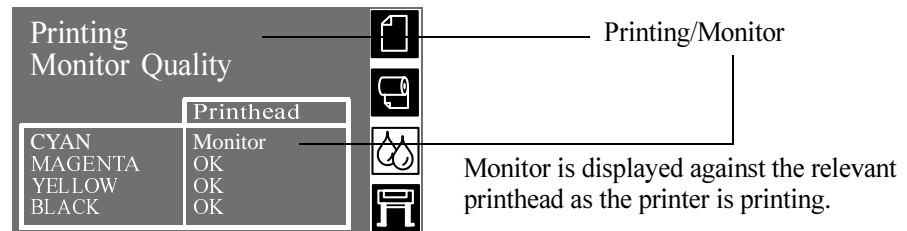
■ During normal operation the front panel displays the ink levels, however if there is a printhead status message such as: **monitor** for example see page 4-9, *Printhead Status Messages*, the printhead message will take precedence. This is the case until you replace the printhead. If you need to see the ink levels when they are not being displayed you can use the ink systems menu to check them, see page 4-13, *Obtaining Ink Cartridge Information.*

# Ink Cartridge Status Messages

**Status Bars**

The front panel displays four horizontal bars. These bars represent how much ink is remaining in the ink cartridges: as ink is used up the bars get shorter in length. To see how much ink you have remaining go to the 'Ink Cartridge Info' menu. See page *4-13, Obtaining Ink Cartridge Information*
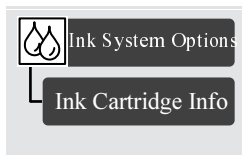


**Low**

The **Low** message means that you should obtain new supplies of that particular color. It is an early warning sign. To see how much ink you have remaining go to the 'Ink Cartridge Info' menu. See page *4-13, Obtaining Ink Cartridge Information*

**Very Low**

When the **Very Low** message is displayed you should not attempt any overnight printing. It is strongly recommended that you change the ink cartridge to avoid stopping the printer halfway through a print. To see how much ink you have remaining go to the 'Ink Cartridge Info' menu. See page *4-13, Obtaining Ink Cartridge Information*

**Empty**

The printer will stop and will not be able to continue printing until a new ink cartridge has been installed. If this occurs halfway through printing an image, you should check the quality of this image, as stopping mid-plot can affect the print.

**Faulty**

The ink cartridge is faulty and must be replaced, before you can continue printing.

**Wrong Model**

The ink cartridge is not recognized by the printer and needs to be replaced before the printer can continue.

# Printhead Status Messages

Detailed below are the printhead status messages that may come across while using the printer.

**OK**

The printhead is operating correctly and will provide an acceptable level of print quality. To find more information on your printheads you can go to 'Printhead info.' in the front panel. See page 4-13, *Obtaining Ink Cartridge Information.*

**Ready/Replace**

The front panel displays Ready and the printhead status is REPLACE. The printer is giving an early warning that there may be a degradation of print quality. You should buy a new printhead. Depending on the print mode you are using (best, normal or draft) you may still be able to print with an acceptable print quality, there may be however, a slight loss in speed. Refer to the table on page *4-10* for more details.

| | Printhead | | Ready/Replace |
|---|---|---|---|
| Ready | | | |
| CYAN | Replace | | Ready/Replace |
| MAGENTA | OK | | |
| YELLOW | OK | | |
| BLACK | OK | | |
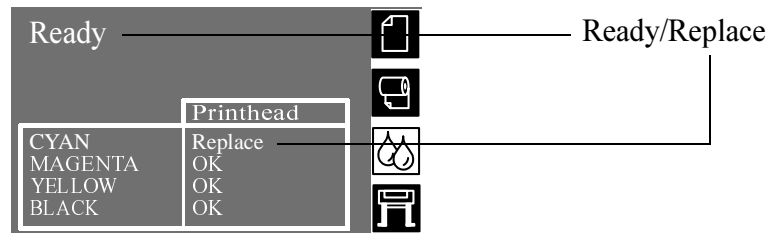
The printer will still operate with a printhead that needs replacing, the front panel will display**:**
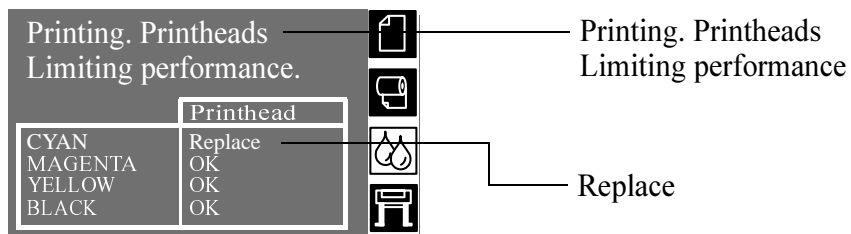
| | Printhead | | Printing. Printheads Limiting performance |
|---|---|---|---|
| Printing. Printheads Limiting performance. | | | |
| CYAN | Replace | | |
| MAGENTA | OK | | |
| YELLOW | OK | | Replace |
| BLACK | OK | | |

| Front panel displays Ready/Replace | | |
|---|---|---|
| **Draft** | **Normal** | **Best** |
| Print Quality is Affected | Print Quality is maintained but under the "normal" setting the printer changes the printing process to compensate for an ageing printhead. Subsequently the printer will print slower. | Printer will try to compensate for an ageing printhead |
| Speed not affected | Speed is affected | Speed not affected |

**Replace Printhead**

The front panel displays a warning, meaning that the printhead has quite a few nozzles operating incorrectly. There is a risk that you could waste media. The printer will stop at the beginning of every print job and the front panel will display:

> Warning! Printhead
> quality degrading select
> YES to replace failing
> printheads
>
> YES (Replace)
> NO (Continue)
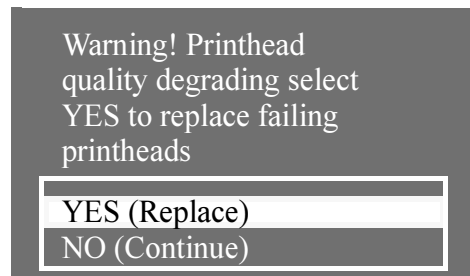
Press the ↓ or ↑ down key to select YES or NO. Press the **Enter** key. If you select **YES** the print job will be cancelled and a replacement will be started. See page 4-22, *Printhead Removal*. If you say **NO**, the printer will continue printing.

Next time you print the same message will appear until you select YES (Replace).

**Monitor**

When this message is displayed it means that the printhead has reached its life expectancy.

**NOTE:** Printhead life is anticipated to be 700ml or twelve months in the printer, whichever occurs first, provided that the printhead is used under normal operating conditions (using HP ink cartridges only) and its "install before date" has not lapsed. However results vary depending on the print quality setting you use. The printer will attempt to warn you when this stage is reached with the monitor message.

To find out how to see the amount of ink consumed by the printhead and the usage time, go to page 4-15, *Obtaining Printhead Information.*

Even with the monitor message being displayed you may still obtain good image quality, but it could start degrading. Look at the images you are receiving and decide if they are of an acceptable print quality.

If you want to ensure optimum print quality with maximum unattendedness, you should consider buying a new printhead and replacing the old printhead with a new one.

**Reseat**

The printhead has moved slightly and is not making good electrical contact with the carriage assembly. Reseat the printhead into the correct position. This situation must be corrected before the printer will operate. For more help see page 4-22, *Printhead Removal* or go to troubleshooting, see page 11-21, *Problems reseating the printhead.*

**Failed**

This message generally indicates that the printhead must be replaced. However, this problem may be corrected by reseating the printhead. See page 11-21, *Problems reseating the printhead.* If by reseating the printhead the failed message disappears but then reappears later change the printhead. This situation must be corrected before the printer will operate.

**Wrong Model**

The printer does not recognize the printhead or printhead cleaner that you have inserted into the printer. You will have to remove it before the printer can continue.

# The Ink System Menu Structure ⬦

The ink system menu has information on how to remove and replace the HP No.80 supplies. In addition to this it also supplies you more general information on the HP No.80 supplies.

```
                                          ┌──────────────────────┐
                                          │  Ink cartridge info. │
                ┌──────────────────────┐  └──────────────────────┘
                │  Replace printheads  │  ┌──────────────────────┐
                └──────────────────────┘  │  Ink cartridge info. │
                                          └──────────────────────┘
                ┌──────────────────────┐  ┌──────────────────────┐
                │ Replace ink cartridges│ │  Ink cartridge info. │
                └──────────────────────┘  └──────────────────────┘
                ┌──────────────────────┐  ┌──────────────────────┐
                │   Ink cartridge info.│  │  Ink cartridge info. │
                └──────────────────────┘  └──────────────────────┘

                ┌──────────────────────┐  ┌──────────────────────┐
                │    Printhead info.   │  │    Printhead info.   │
                └──────────────────────┘  └──────────────────────┘
                                          ┌──────────────────────┐
                                          │    Printhead info.   │
                                          └──────────────────────┘
                                          ┌──────────────────────┐
                                          │    Printhead info.   │
                                          └──────────────────────┘
                                          ┌──────────────────────┐
                                          │    Printhead info.   │
                                          └──────────────────────┘
```
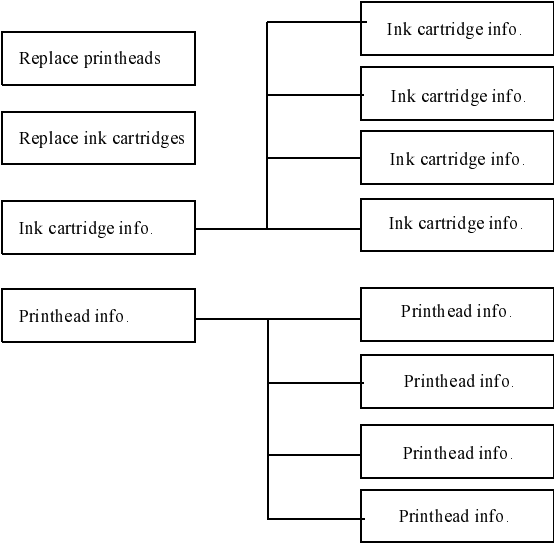
# Obtaining Ink Cartridge Information

**1** To get information on your ink cartridges press the **Top** key on the front panel to go to the main menu.



**2** Press the ↑ or ↓ key until the front panel displays the ink system menu. Press **Enter.**



**3** Press the ↑ or ↓ key until the front panel highlights "Ink Cartridge info". Press the **Enter** key.
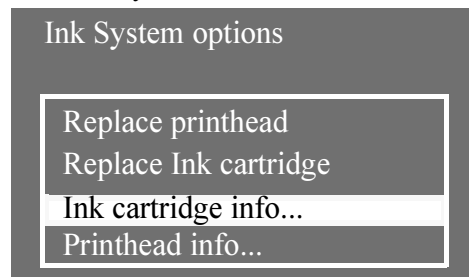
**4** Press the ↑ or ↓ key until the front panel highlights the color that you want to see information on. Press the **Enter** key.

Ink System options

Cyan cart. info...
Magenta cart. info...
Yellow cart. info...
Black cart. info...
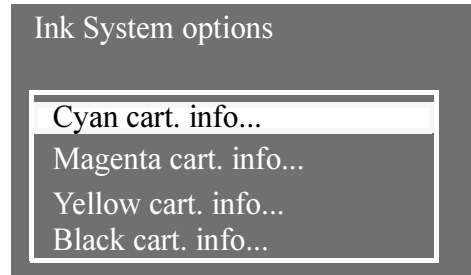
**5** The front panel displays information on the selected ink cartridge.

Cyan cart. info

HP No.80 ink cartridge
Ink level=87%
Capacity=350ml
Part number=C4871A
Mfg. month=5/1998
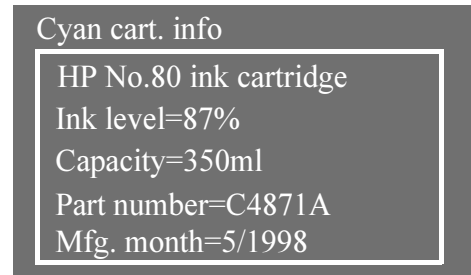
The information supplied is:

■ The make of the ink cartridge (HP No.80 are recommended)

■ The percentage of how much ink is remaining

■ Original capacity of the ink cartridge in milliliters

■ Re-order part number of the ink cartridge

■ The month and year that the ink cartridge was manufactured

# Obtaining Printhead Information

**1**  To get information on your printheads, press the **Top** key on the front panel to go to the main menu.



**2**  Press the ↑ or ↓ key until the front panel displays the ink system menu. Press **Enter.**



Ink System Menu
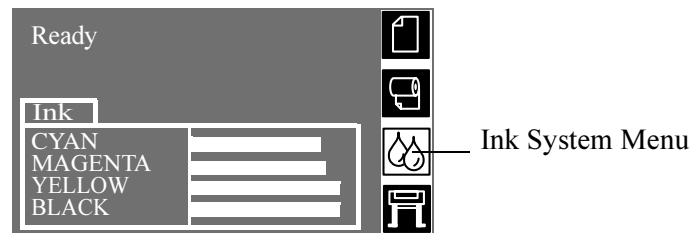
**3**  Press the ↑ or ↓ key until the front panel highlights "Printhead info". Press the **Enter** key**.**
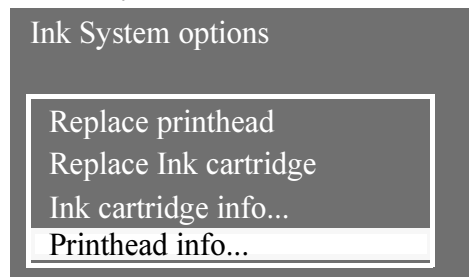
**4** Press the ↑ or ↓ key until the front panel highlights the color that you want to see information on. Press the **Enter** key.

Printhead info.

Cyan printhead info...
Magenta printhead info...
Yellow printhead info...
Black printhead info...
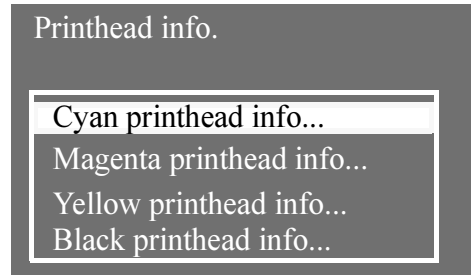
**5** The front panel displays information on the selected printhead.

Cyan printhead info

HP No.80 printhead

Status=OK

Part Number=C4821AW

Usage time=50h
Ink consumed=3ml
Mfg. month=5/1998
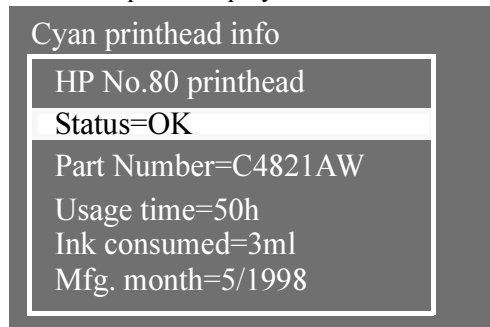
The information supplied is:

■ The make of the printheads (HP No.80 are recommended)

■ The current status of the printhead

■ Re-order part number of the printhead

■ The time that the printhead has been operating in the printer

■ How much ink has been consumed by the printhead. **Note:** It is possible for a printhead to consume more than one ink cartridge

■ The year and the month that the printhead was manufactured

# Ink Cartridge Removal

**CAUTION**          **Only remove an ink cartridge if you are replacing it. See page 4-6,** *When Should You Replace the HP No.80 Supplies?*

There are two types of ink cartridge removal.

- The ink cartridge is **empty** and the front panel tells you to replace the ink cartridge. Go directly to step five.
- The ink cartridge is **very low** and you want to replace the ink cartridge before it becomes empty. Go directly to step one.

**1** Press the **Top** key on the front panel to go to the main menu.

```
Ready

Ink
CYAN        ■ Very Low
MAGENTA
YELLOW
BLACK
```

**2** Select the Ink System Menu on the front panel by using the ↑ and ↓ keys, and then press the **ENTER** key.

```
Ready

Ink
CYAN        ■ Very Low
MAGENTA
YELLOW
BLACK
```
—— Ink System Menu
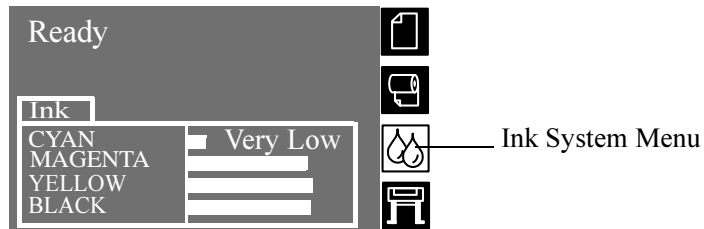
**3** Press the ↑ and ↓ keys until "Replace Ink cartridge" is selected. Press **Enter.**

```
Ink System options


  Replace printhead
  Replace Ink cartridge
  Ink cartridge info...
  Printhead info...
```
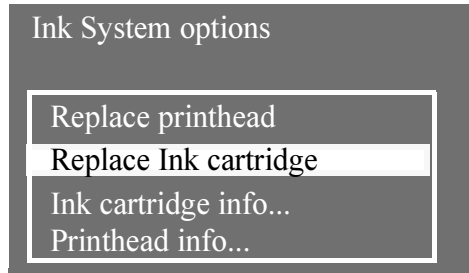
**4** Select "yes (replace)" as shown below and press **Enter**.

```
Warning! Ink cartridges
are still functional.
If you want to replace
any, please select YES
  Yes (replace)
  No (continue)
```
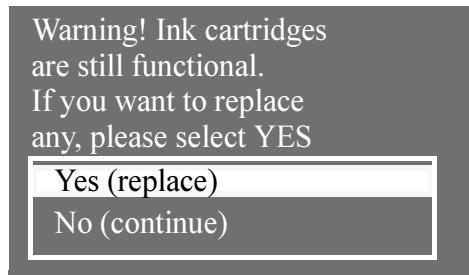
**5** The front panel displays either of the message displays shown below, depending on how the ink cartridge replacement was initiated: by the printer (because it's empty) or, by you.

This is displayed if you
initiated an ink cartridge replacement:
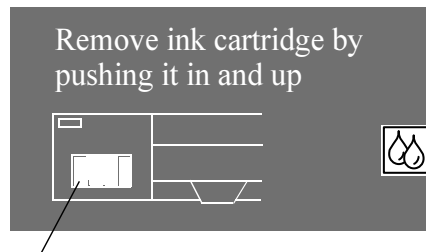
This is displayed if the printer
initiated an ink cartridge replacement:

```
Remove ink cartridge by
pushing it in and up
```

```
Replace ink cartridge


 Ink
 CYAN          Empty
 MAGENTA
 YELLOW
 BLACK
```
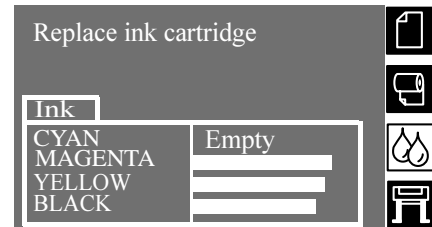
ink cartridge symbol

**6** Remove the corresponding color ink cartridge by pushing the dimpled recess in the ink cartridge inward and upward, as indicated by the arrow shown below. This releases the ink cartridge, you can then pull it out horizontally.
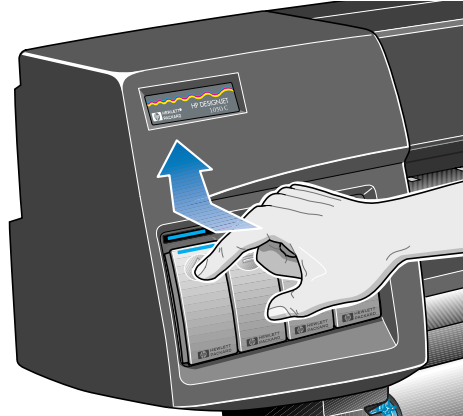
C6074127

**NOTE:** Avoid touching the end of ink cartridge which is inserted into the printer, as there may be ink on the connection

C6074225

# Ink Cartridge Installation

**NOTE:** Each ink cartridge slot has a colored label above it. This should match the colored label on the new 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 Insert the ink cartridge into the ink cartridge slot labelled with the same color.



Color identifier at the top of the Ink Cartridge
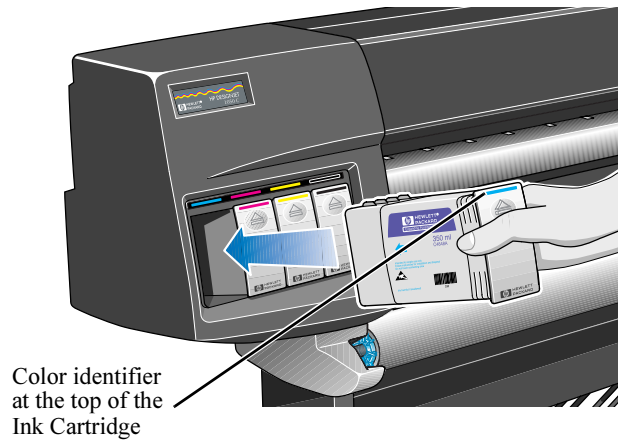
C6074278

**NOTE:** The ink cartridge is designed to prevent you from inserting it upside down or into the wrong color slot. If you have difficulty inserting the ink cartridge, do not attempt to force it. Check again that the color of the ink cartridge matches the color of the ink cartridge slot, also that the colored marker is at the top of the ink cartridge.

3 Slide the ink cartridge into the slot until you feel some resistance and stop.

**4** Press firmly with one finger, using the dimpled recess on the front of the ink
cartridge, inwards and then downwards, as indicated by the arrow shown below,
until the ink cartridge clicks into place.
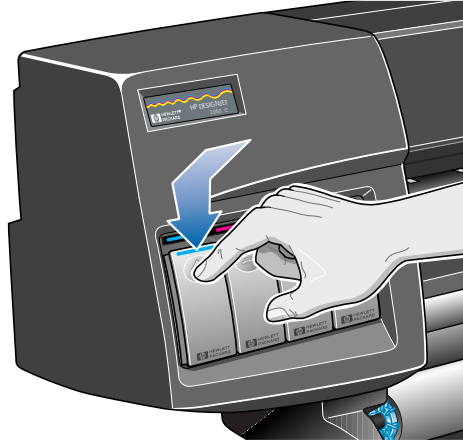
C6074226

**5** The front panel displays:

> INK CART. ACCESS
>
> HP No. (80) Ink
> cartridges
> successfully Installed
>
> Press ENTER to continue
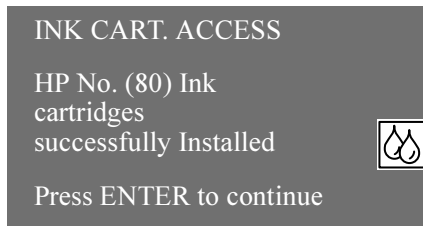
**6** Press the **Enter** key to continue.

**NOTE:** Avoid storing partially used ink cartridges on their ends.

# Printhead Removal

If the printer determines that a printhead will no longer provide the desired print quality, a warning message will be displayed advising you to replace the printhead. See page 12-2, *Message Descriptions and Actions* and page 4-6, *When Should You Replace the HP No.80 Supplies?*

Ready

|  | Printhead |
|---|---|
| CYAN | Replace |
| MAGENTA | OK |
| YELLOW | OK |
| BLACK | OK |
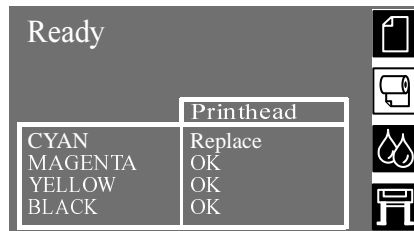
Printhead replacement must be performed with the printer switched on at both the Power Isolation Switch and the front panel **On/Off** push-button.

1  Press the **TOP** key on the front panel to go to the main menu.

2  Select the Ink System Menu on the front panel by using the ↑ and ↓ keys, and then press the **ENTER** key.

Ready

|  | Printhead |
|---|---|
| CYAN | Replace |
| MAGENTA | OK |
| YELLOW | OK |
| BLACK | OK |

Ink System Menu
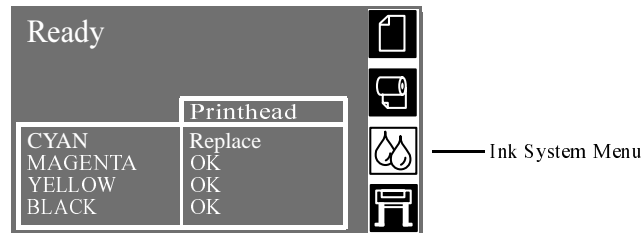
3  Select the "Replace printhead" option and press the **ENTER** key.

INK SYSTEM OPTIONS

Replace printhead
Replace ink cartridge
Ink cartridge info...
Printhead info...
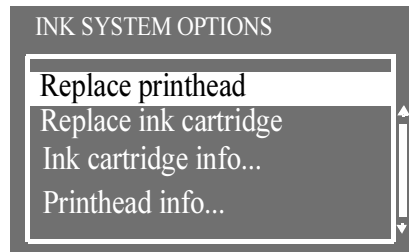
**NOTE:** The front panel will prompt you to lift the window and access printheads with a "BEEP" and a front panel message.

**4** Lift the window and locate the Carriage Assembly.



Window

Carriage

C6074028
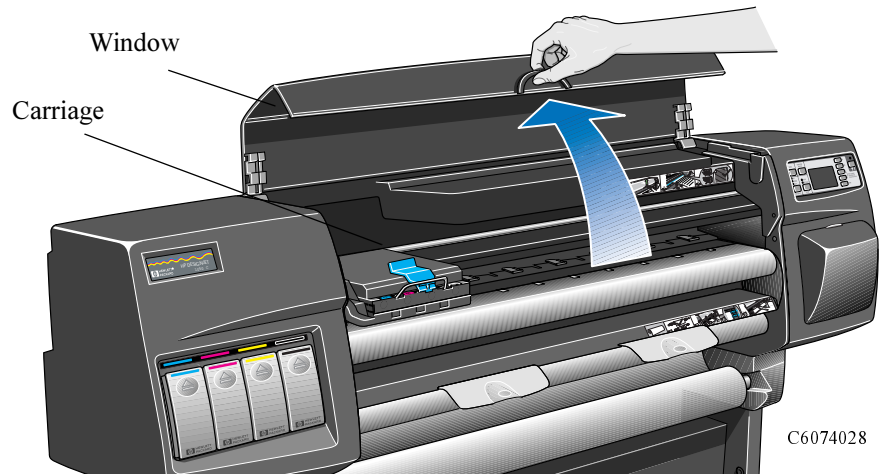
**5** Pull up and release the latch on top of the carriage assembly (as indicated by the arrow).
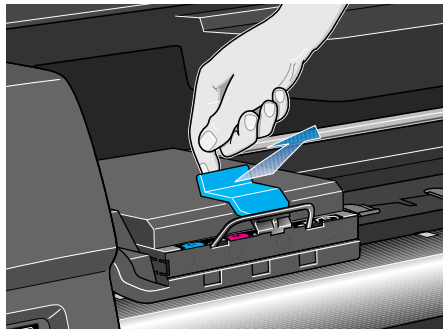


C6074231

**6** Lift up the cover (as indicated by the arrow). This will now give you access to the printheads.
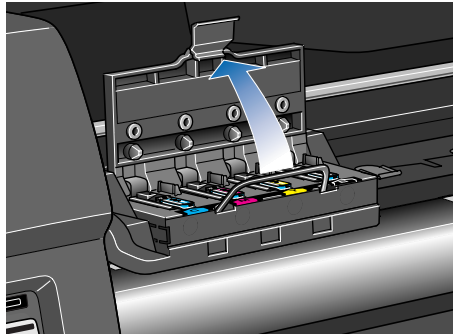
C6074133a

**7** To remove a printhead, lift up the blue handle.
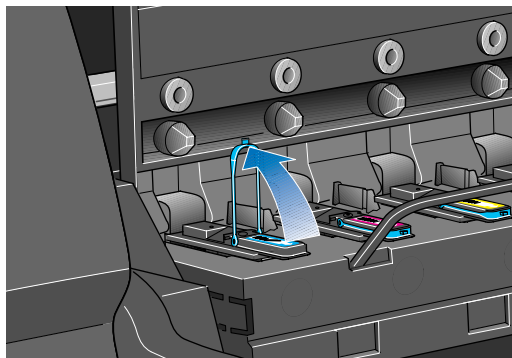
C6074261a

**8** Place your index finger through the loop of the blue handle.
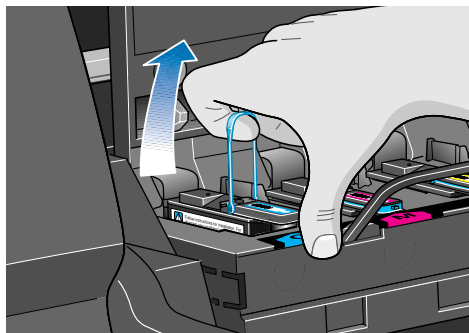
C6074261c

**9** With controlled pressure pull the blue handle upward until the printhead is released from the carriage assembly.
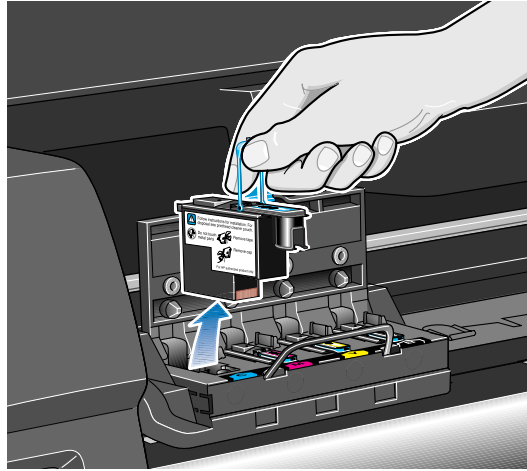


C6074262a

**10** When you remove the printhead, check the slot that you removed it from. If you notice the electrical contacts are dirty, clean them using the procedure on page 11-23, *Carriage Interconnect Wiper.*

**NOTE:** For information on disposing of the old printhead see page *4-32*

# Printhead Installation.

**1** Remove the blue protective cap by pulling down on it.

**2** Remove the clear protective tape from the printhead's nozzles by pulling on the paper tab.

**NOTE:** Make sure that all the tape has been removed.



Blue
Protective
Cap

C6074234
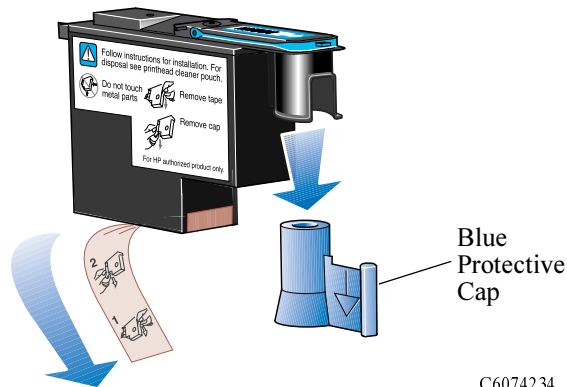
**NOTE:** The printhead is designed to prevent you from accidentally inserting it into the wrong position. Check that the colored label on the printhead matches the colored label of the carriage assembly position that the printhead is to be inserted in.

**3** Insert the new printhead into the correct carriage assembly position.

**4** Push down in the direction indicated by the arrow shown below.
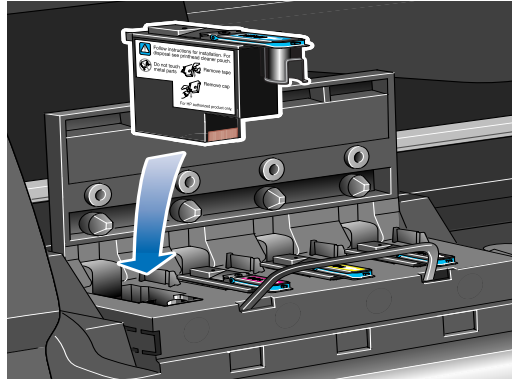
C6074235

**5** When installing the new printhead there may be some resistance, so you need to press it down firmly but smoothly. Only when **all** the printheads have been inserted correctly and accepted by the printer, will the printer "BEEP".
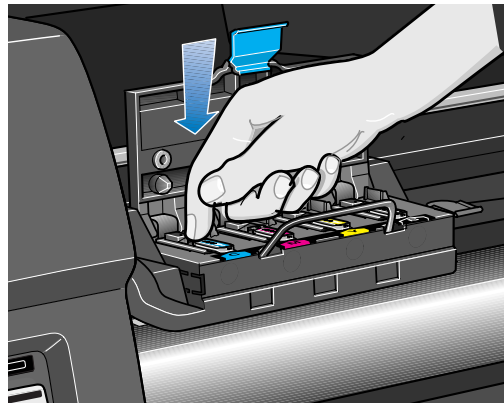
C6074264

> **NOTE:** If the printer does not "beep" when you insert the printhead and the "Reseat" or "Failed" message appears on the front panel, the printhead may need to be reaseated. for more information refer to page 11-21, *Problems reseating the printhead.*

**6** After replacing the printheads successfully the front-panel will prompt you to close the cover on the carriage and lower the window.

PRINTHEAD ACCESS

All printheads OK,
Close cover and
window to continue

**7** The front panel will now prompt you to replace the printhead cleaner.

PRINTHEAD ACCESS

Open right door to
access printhead
cleaners

**8** Now replace the old printhead cleaner.

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

# Printhead Cleaner Removal

When removing the printhead cleaners:

■ Be careful not to get ink on your hands. There may be ink on, around and inside the replaced printhead cleaner.

■ Do not lay the replaced printhead cleaner on its side or turn it upside down, as ink may leak out.

■ Always handle and store the replaced printhead cleaner upright to avoid spilling any ink.

**1** After replacing a printhead the front panel will prompt you to replace the printhead cleaner.

> PRINTHEAD ACCESS
>
> Open right door to access printhead cleaners

**2** The printhead cleaners are located in the slots, behind the service station door, at the front of the printer.
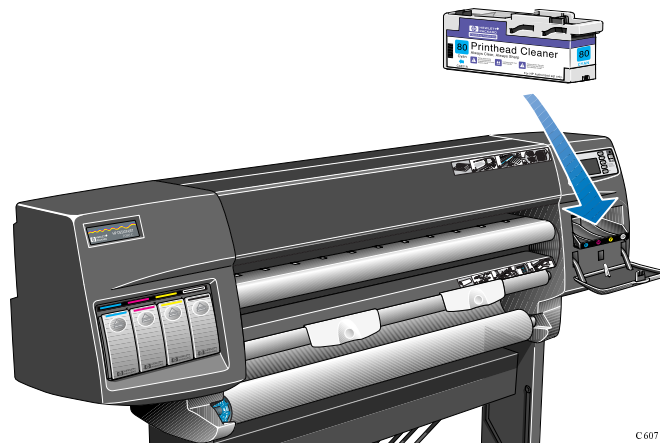


C6074266

**3** Open the service station door to access the printhead cleaners.
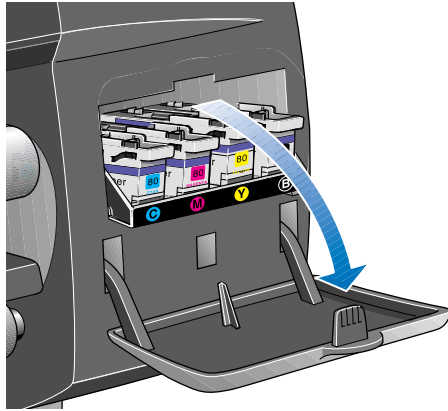


C6074040

**4** When the door has been opened the front panel displays:

| Replace cleaner | | |
| Close door when done | | |
| | Cleaners | |
| CYAN | Replace | |
| MAGENTA | OK | |
| YELLOW | OK | |
| BLACK | OK | |
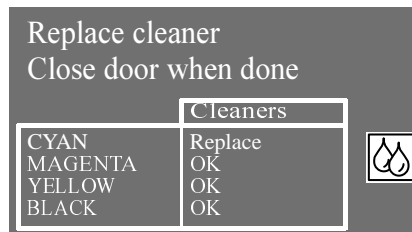
**5** Each printhead cleaner has a handle on the front. To remove, press inward and upward as indicated by the arrow shown below, until the printhead cleaner is released.
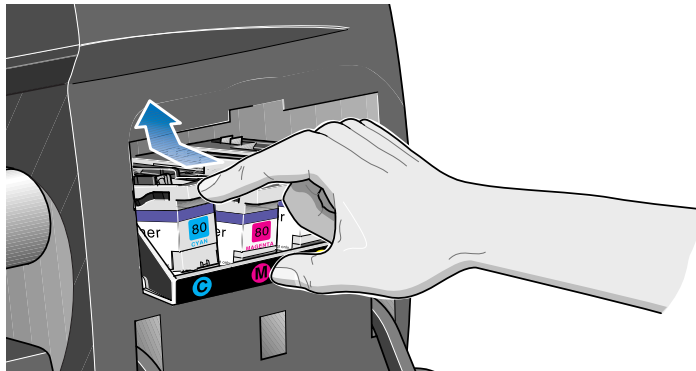


C6074244

**6** Lift the printhead cleaner up to remove it from the service station and slide the printhead cleaner out horizontally as shown below.
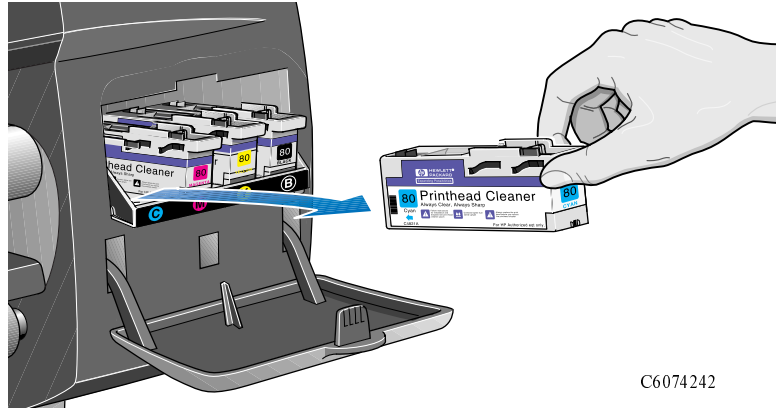


C6074242

**CAUTION** **When replacing a printhead always replace the corresponding printhead cleaner. Leaving the old printhead cleaner in the printer will seriously shorten the new printhead's life and possibly damage the printer.**

**7** To dispose of the old printhead and the old printhead cleaner refer to the next page 4-32, *Printhead Cleaner Installation*

# Printhead Cleaner Installation

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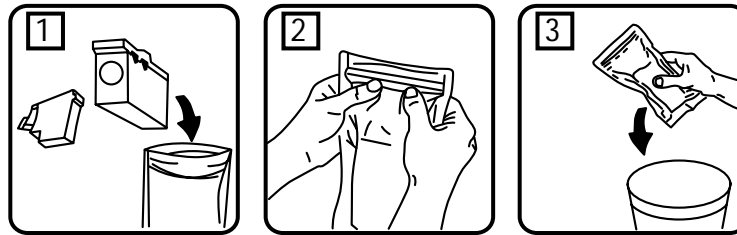


C6074311

1    Insert each printhead cleaner into the correct color slot location, in the service station, in the direction indicated by the arrow shown below.
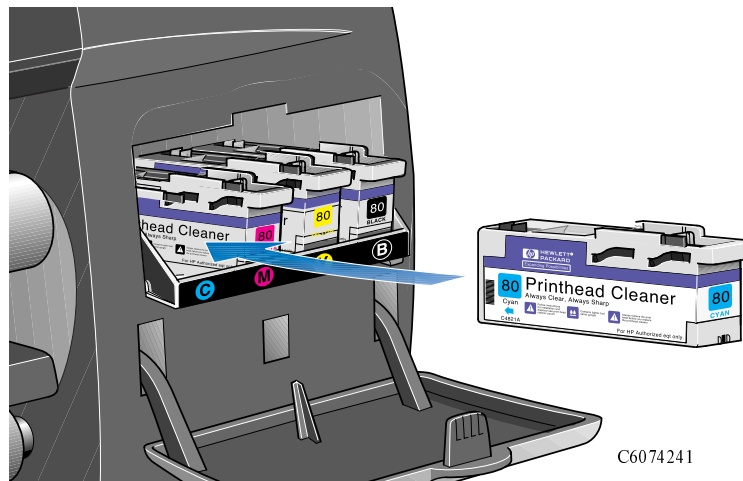


C6074241

**2**   When the printhead cleaner has been pushed all the way in, press inwards and downwards as indicated by the arrow shown below, until it clicks into place. The front panel will not register the new printhead cleaner until the service station door is closed.
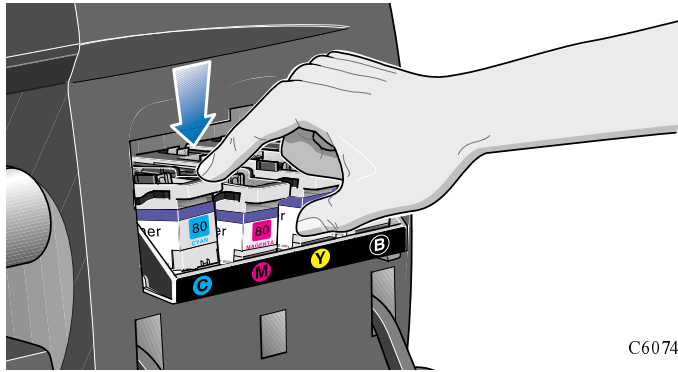


C6074238

**3**   When you have inserted the printhead cleaner into the service station, close the door.
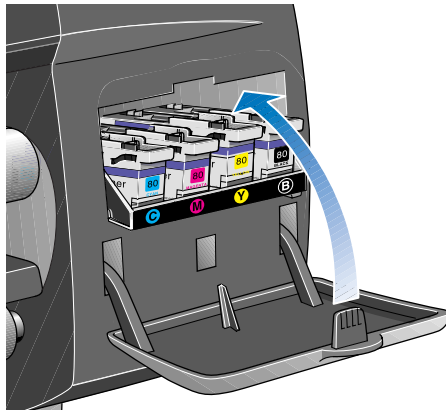


C6074243

**NOTE:** The printer needs all the printheads and printhead cleaners installed before it can continue.

**4**   If paper is not loaded, the front panel will instruct you to load the paper. Refer to page 4-34, *After Replacing a Printhead and Printhead Cleaner.*

# After Replacing a Printhead and Printhead Cleaner

After you replace a printhead and printhead cleaner, the printer will:

■ perform tests on the printhead nozzles to ensure correct operation

■ align the printheads

For more information on the printhead alignment see page 9-16, *Aligning the Printheads*

Load paper following the directions in chapter 3-13, *Loading Roll Paper*. The alignment procedure requires an A1 or D-size paper width. An A2 or C-size cut sheet paper can only be accepted if loaded in the landscape position. You can load most of the HP supported papers to perform the printhead alignment procedure, however natural tracing paper will not work. Vellum can be used but it is not recommended.

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

**NOTE:** Make sure the printer window and the right door are closed after you replace the HP No.80 supplies. The printer will not print while these are open.

**NOTE:** If after installing the HP No.80 supplies you experience problems see page 11-21, *Solving HP No.80 Supplies Problems.*

# Controlling the Page Format

# 5

# Page Format

This chapter explains how to make sure that the printer produces your print in the page format you want.



Page Size

Margin

Printing area

Inked area

C4704042
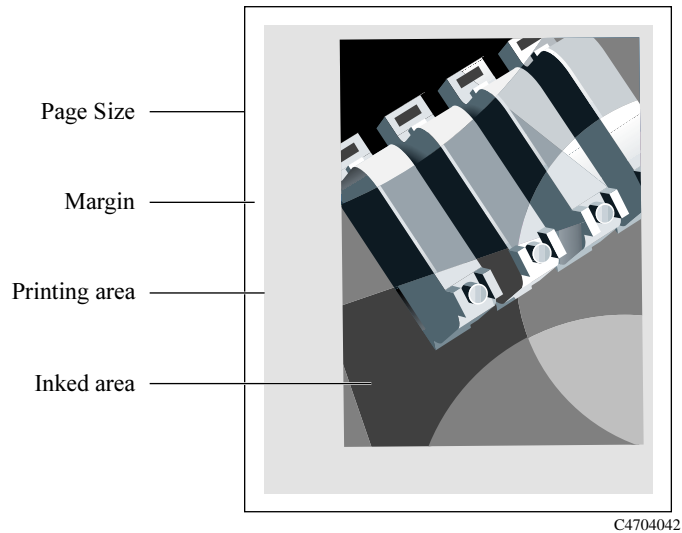
**Page size**

Page size can be specified from the front panel or in the software, where it may be called "Page Size", "Media Size", "Paper Size", etc., and where the options include, for example, ISO A3, ANSI Letter, Custom,. If your software does not define the page size in the print file, the front-panel setting is used. Otherwise, the software setting overrides the front-panel setting.

**1055CM**

> **NOTE:** There is one exception to the above. If the front-panel setting is Inked area and you are sending a PostScript file, the front panel setting is used. See page *5-4*.

**Margins**       For a roll of paper the normal setting for side margins 5mm. These can be adjusted, however, to suit your requirements. See page 5-9, *Adjusting Margins*.

**CAUTION**       **If you are printing images with intense color that require large amounts of ink, it is strongly recommended that you avoid lightweight papers such as HP Bright white inkjet or coated papers and/or increase the margins. Lightweight papers are *not* designed to absorb large amounts of ink and may wrinkle severely, risking contact with the printheads and so potential damage to them. See the table which starts on page *3-6* to select the correct paper type and see page *5-9* on changing the margins settings to extended, which also helps to eliminate the risk of the printheads coming into contact with the paper.**

**Printing area**       Printing area is the page size minus the margins. For a table showing the printing areas for standard paper sizes, see page *13-7, Printing Area (= Paper Size Minus Margins)*.

**Inked area**       Inked area is the smallest rectangle that contains the entire image.

## Do You Need to Adjust the Page Size in the Front Panel?

The answer is normally no, because the page size you have selected in your HP driver overrides the page size selected in the printer. However, some of the circumstances in which you may want to change the default setting are:

**1055CM**
> - When you are using the PS Scale→Fit to page feature. See page 5-14, *Changing the Scale of a Printed Image.*
> - When you are not using one of the HP drivers supplied with your printer; for example, if you are sending a PostScript file from a UNIX application.
> - When you want to save paper by printing only the inked area of your print, plus the margins. In this case set Page format / Size to Inked area.

Depending on the driver you are using, you may not need to change the page size in the front panel. The default Size setting (Software) in the Page Format menu causes the printer to look for the page size information in the print file: if it is there, the printer uses it.

However, some of the circumstances in which you may want to change the default setting are:

- If you want to print the inked area only, but the driver you are using does not specify "Inked area".

In this case, set the Size setting in the Page format menu to Inked area.

If you can select Inked area from your driver, any selection you have made in the front-panel menu will be overridden by the settings in the driver.

■ When the prints you are creating need to be of a specific standard (for example, ISO or ANSI), but the actual size within that standard is not important. For example, your page size may need to conform to a standard ISO page size, but it does not matter whether the final page size is ISO A4 or ISO A3.

In this case, set Page format / Size to ISO –> Best... or ANSI –> Best... etc. The printer uses the smallest standard size into which the inked area will fit.

## Adjusting the Page Size in the Front Panel

**1055CM**

---

**PostScript Files**

Unless you are using the front-panel PS Scale→Fit to page option (see page 5-14, *Changing the Scale of a Printed Image*), the front-panel page-size settings have no effect on PostScript files that already contain page-size information, which includes all PostScript files sent using one of the HP DesignJet PostScript drivers supplied with this printer.

If you are using the front-panel PS Scale→Fit to page option, then the printer uses the page size set in the printer's front panel as follows:

- If the page size is set to a discrete size, it uses the specified page size.
- If the page size is set to Software, the printer calculates the page width as the width of the loaded paper, and the page length as 1.5 times the width of the loaded paper.
- If the page size is set to Inked area, the printer calculates the page width as the width of the loaded paper and the page length as the height of the inked area plus the top and bottom margins of the page.
- If the page size is set to a "Best…" option, the printer calculates the page length as 1.5 times the page width.

---

**Non-PostScript Files**

| | |
|---|---|
|  Page format | |
| Size = | |

All menu modes
Default: Software
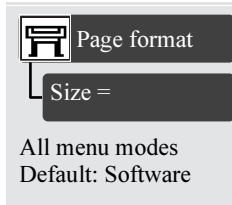
The Size option lets you select the page size of your print. The options are described in the following table. If you need to adjust the page size from the front panel, do so before sending the file from your computer. The printer determines the size of a print at the time it is received from your application.

**NOTE:** Settings will be overridden by your driver or application.

| Page format Size= | | Comments |
|---|---|---|
| Inked Area | | The printed page size is the inked area plus margins. For a definition of "inked area", see page *5-3*. |
| Software | | The printer looks to the print you have sent for a page size instruction. If it is present the printer uses this. If not, the printed page size is the inked area plus margins. |
| ISO | Best ISO A ISO A0/A1/A2/A3/A4 | **"Best..." Options** The printer chooses the smallest page size from the corresponding discrete options that will hold the inked area of the print. For example, if **Best ISO A** is selected and the inked area of the print is between A3 and A4,the printer chooses A3 as the page size. |
| ANSI | Best ANSI ANSI E/D/C/B/A | |
| JIS | Best JIS B JIS B1/B2/B3/B4 | |
| ARCH | Best ARCH ARCH E1/E/D/C/B/A | **Discrete Options** ISO A0/1/2/3/4 ANSI E/D/C/B/A JIS B1/2/3/4 ARCH E1/E/D/C/B/A Over A1/2 The printed page size is exactly the size you specify. The largest discrete page size you can specify is E/A0. |
| Oversize | Over A1/A2 (No "Best" option) | |

## Page Size and Clipped Images

If you specify in your software a page size that is larger than the paper size loaded in the printer, the printer will still print what it can, but may clip your image.

A2 paper in printer



Clipped Area

C4 704 049

A1 page size in software or front panel
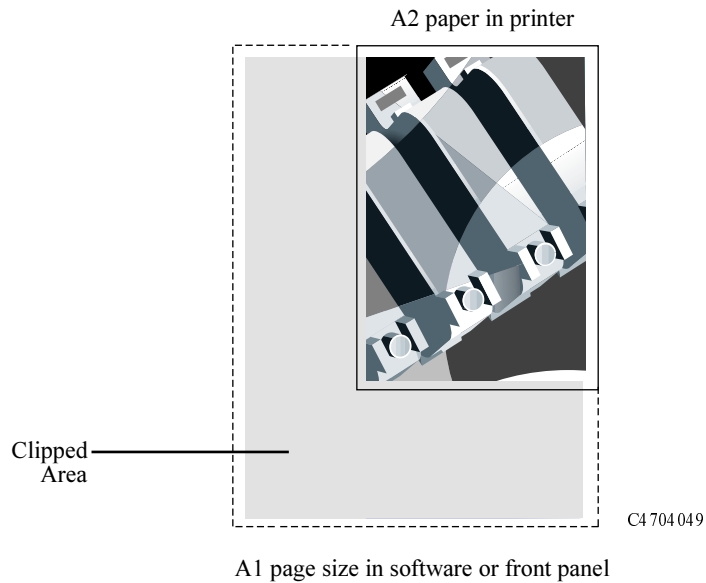
## Page Size and Nesting (Roll Paper Only)

Nesting means placing two or more pages side-by-side on a roll to save paper. There are certain cases when your prints can not be nested. For a complete explanation of nesting, see page *7-10, Avoiding Paper Waste by Nesting Pages.*

If you have queueing and nesting switched on, the printer will use the page size to determine which pages are nested and whether the pages can be automatically rotated when nesting. See page *7-11, Automatic Rotation*, for information about which pages can be automatically rotated.

# Page and Image Size Accuracy

Device Setup

Pg. Acc=

Default: Optimized √
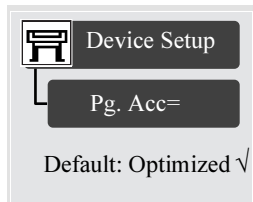
The printer dynamically modifies the advance of the paper. This is to achieve the best possible image quality without sacrificing accuracy of the length of the image or page. The width of the image will always be correct but the overall accuracy achieved by the printer depends on:

- content of the image (i.e. ink density and color)
- status of the printheads
- environmental conditions
- life of the printer.

The default setting optimizes print quality and page advance accuracy. If page advance accuracy is your primary concern, then the Maximum option is the best selection for you.

To change the page advance accuracy setting through the front panel go to Device Setup/Page. There are two settings to choose from.

| Page Accuracy Selection | Page Length Optimized | Image Quality Optimized |
| --- | --- | --- |
| Optimized | No | Yes |
| Maximum | Yes | No |

**Optimized**

You should choose this setting if the Image Quality is more important than the page length accuracy. Choosing the optimized setting will give you the best possible image quality, while not allowing the page length or image size to differ from its original size by more than 0.2%.

**Maximum**

Choose this setting if the accuracy of the printed image is more important than the image quality. By choosing this setting, the printer will advances the paper ignoring such factors as the environmental conditions, printhead status, etc.

**NOTE:** The Maximum setting should only be used when end-point accuracy is important, such as line drawings, or, for example, posters which must match an exact predefined size.

# Adjusting Margins

┌─────────────────┐
│ 🖶 Page format   │
│ └ Margins        │
└─────────────────┘

Full menu mode
Default: Normal
Affects next file
HP Drivers will override
this setting

The default settings for margins are set to ensure the maximum printable area on your paper. The two side margins are 5.0 mm. The margin settings for the trailing edges of the paper change, depending whether you are using roll or sheet paper, as shown in the illustrations below. It is important when working with images which demand a lot of ink that you use the correct paper with the correct margins see the caution on page *5-3*.

**Roll Paper**

Extended    Page Size    Normal   5 mm     P s Sc ip    15 mm

↓ Trailing Edge

( 2 i )

15 mm →    ← 15 mm   5 mm →   ← 5 mm   5 mm →   ← 5 mm

10 mm     10 mm     10 mm

Di ec i f
he pape eavi g
he p i e

↑ Leading Edge    Printing Area

e e     Normal     P s Sc ip

Page Size

↓ Trailing Edge    Printing Area    15 mm     15 mm

5 mm →   ← 5 mm   5 mm →   ←

10.0 mm     10.0 mm

= 2i
= 4i
= 9i

↑ ea i g ge

**Sheet Paper**
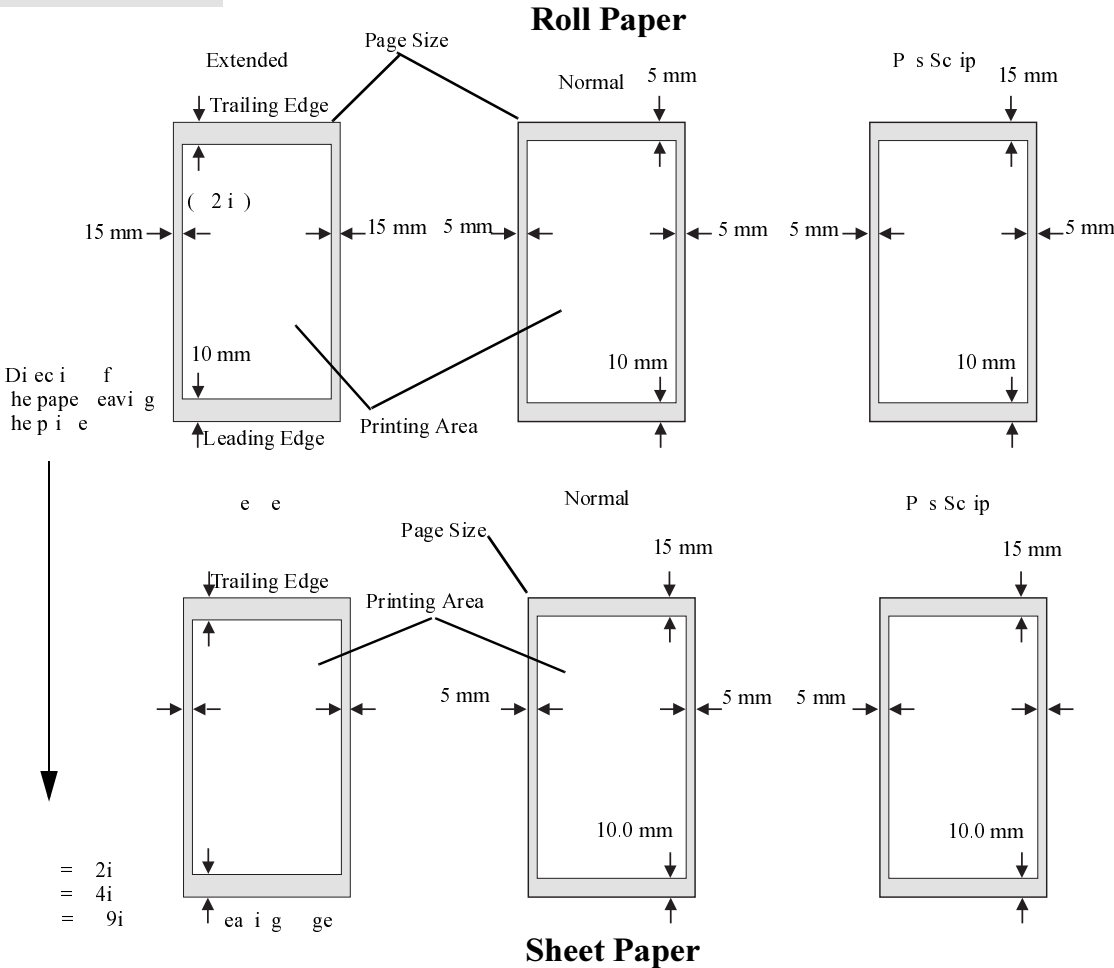
# Rotating an Image (PostScript)

**Rotating a job using the HP PostScript driver supplied with the 1055CM**

By default the jobs generated by any of the PostScript drivers provided with the 1055CM are printed in portrait, even if the image viewed in your application is in landscape orientation. In order to save paper you need to rotate the job through the Postscript driver interface.

Rotating a job is controlled by a setting in the PostScript driver, it can be enabled or disabled. When you enable the rotation feature both the page and the image are rotated 90 degrees counterclockwise.

Note that the HP driver will over-ride the setting in the front-panel.

**NOTE:** Consult the PostScript driver documentation to find out where you set the rotation feature.

**Page size and the rotation**

Note that when you rotate a job the page size is enlarged to avoid clipping, because the trailing and leading margins are not the same size as the side margins.

When you are working with the default (normal) margins see page 5-9, *Adjusting Margins*, the narrow margins are always at the left and right sides, regardless of the physical orientation on the roll. When rotating, the page size is enlarged across the paper direction to ensure that the drawing is not clipped.

When you are working with extended margins see page 5-9, *Adjusting Margins* the narrow margins are always on the bottom and top sides, regardless of the physical orientation on the roll. When rotating, the page size is enlarged across the paper direction to ensure that the drawing is not clipped.

Rotating a job using a third party PostScript driver

If you are using a third party PostScript driver, you can rotate the image using the rotate setting in the front panel (Page Format/rotate). For more information consult the documentation of the third party driver.

Page format
Rotate

Full menu mode
Default: Off
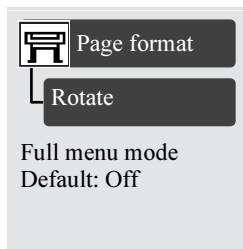
## What is Rotated?

◆ With roll paper, both the image and the page orientation are rotated.

0°      90°

C4704043
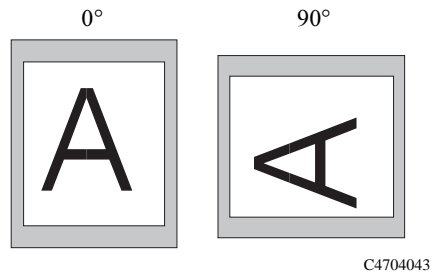
Notice that the narrow margins are always at the left and right sides, regardless of the orientation. The page size is adjusted to maintain the printing area, preventing clipping.

◆ With sheet paper, the image is rotated, but the page orientation specified in your software is retained. (You should always load sheet paper in the orientation you have specified in the software.)

0°      90°

C4704044
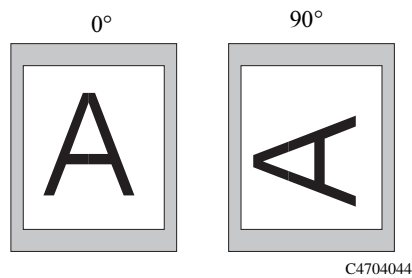
**For Non-PostScript Files**

■ The printer adds the rotation setting to any rotation angle you specify in your software. For example:

For software applications which, like the printer, rotate counter-clockwise the result is the sum of the rotation selected in the printer and the rotation selected in the software application. For example, if your software specifies 180 degrees rotation, and you set Rotate in the front panel to 90, your image's final rotation will be 270 degrees.

For software applications which rotate clockwise, the result is the difference between the rotation selected in the printer and the rotation selected in the software application. For example, if your software specifies 90 degrees rotation, and you set Rotate in the front panel to 90, there will be no rotation.

■ *Possibility of Clipped Images with Rotated Images*

With either roll or sheet paper, 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.

# Printing a Mirror Image

| Page format |
| Mirroring |

Full menu mode
Default: Off
Affects next print
Resets after power off.
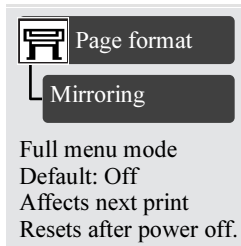
If you are using clear imaging paper, sometimes called backlit, you may want to print a mirror image of your print, so that when the paper is lit from behind it is in the correct orientation. This can be done from the front panel, without changing the image in your software.

Mirror Off                    Mirror On

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# Changing the Scale of a Printed Image

**1055CM**


Page format
PS Scale

Full menu mode only
Default: 100%

With a PostScript file, you can enlarge your printed image from the printer's front panel by using the PS scale option, accessed from the Page format menu.

The PS scale feature is useful:

■ If your software does not support large formats.

■ If your file is too large for the printer's memory, and you reduce the page size in your software and then scale it up again using the front-panel option.

**To scale your ANSI A PostScript file to:**

|        | ANSI B | ANSI C | Arch C | ANSI D | Arch D | Arch E1 | ANSI E | Arch E |
|--------|--------|--------|--------|--------|--------|---------|--------|--------|
| **Use...** | 129% | 200% | 210% | 258% | 282% | 352% | 400% | 419% |

**1055CM**

**To scale your ISO A4 PostScript file to:**

|        | ISO A3 | ISO/JIS A2 | OS A2 | ISO/JIS A1 | OS A1 | ISO/JIS A0 |
|--------|--------|------------|-------|------------|-------|------------|
| **Use...** | 129% | 200% | 210% | 258% | 352% | 400% |

**1055CM**
**Fit To Page**

The Fit to page setting 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 ISO A4 page size is selected, the printer would reduce a larger image to fit the A4 size.

# Controlling the Overall Appearance of a Print

# 6

# Ways of Controlling the Print's Appearance

**1055CM**

> **NOTE:** Unless you have specifically indicated in your software that the printer's front-panel settings are to be used (for example, Printer's default Setting in a Macintosh Print Options window), the software settings for a PostScript file override the printer front-panel settings described in this chapter.

This chapter discusses the ways you can control the overall appearance of your prints from the front panel in terms of:

- pen width
- pen color
- treatment of overlapping lines
- rendering color images in grayscale
- overall print quality and resolution.

Some front-panel selections affect the next file you send from your computer, not pages already in the printer's queue. If this is the case, it is stated in the relevant part of this chapter.

Some of the controls are available using the front-panel menus (for example) pen width, pen color, overlapping lines). Print mode and color/grayscale print options are controlled from the front-panel keys.

**Why Change the Appearance of the Print Using the Front Panel?**

By default, the printer looks to your software to provide information on all the above attributes. However, your driver or application may not provide these controls or you may want to experiment with various effects, or try a temporary change, without the need to change your images or your driver settings.

**1050C**

> Some of these settings do not affect the output generated when printing from most of the applications under Windows when using a HP-GL/2 driver.

# Changing Pen Widths and Colors Using the Internal Palettes

The "pens" discussed throughout this chapter are the conceptual pens in a software palette, rather than the printer's physical printheads.

**1055CM**

These settings have no effect on PostScript files.

**The printer has three pen palettes:**
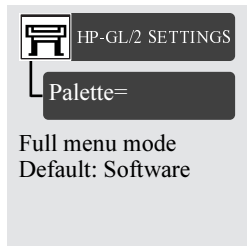
- Factory
- Palette A
- Palette B.

The factory palette cannot be changed. You can, however, change the line width and color settings for each pen in the remaining two palettes (palette A and palette B). Initially, all three palettes are identical. Each palette has 16 pens which can include pens of different widths and any combination of the printer's predefined 256 colors.

## To Select a Palette

To select a palette through the front-panel menu, go to the Define Palette selection under HP-GL/2 SETTINGS and choose the palette you want.

The following table describes the palette choices.

| Palette | Comments |
| --- | --- |
| Software | The printer looks to your software for pen settings and ignores all three internal palettes. |
| Palette A | The printer assigns the attributes defined in Palette A to the pens defined in your software as 0 through 15. |
| Palette B | The printer assigns the attributes defined in Palette B to the pens defined in your software as 0 through 15. |
| Factory | The printer assigns the attributes defined in the Factory Palette to the pens defined in your software as 0 through 15. |

HP-GL/2 SETTINGS

Palette=

Full menu mode
Default: Software

**1055CM**

These settings have no effect on PostScript files.

## Viewing Current Configuration Settings

1  Make sure either a roll or a sheet of paper is loaded.

2  Make sure that the front-panel **Color/Grayscale** switch is set to *Color.*

3  Print the Current Configuration Print, by pressing the ↑ and ↓ keys simultaneously.
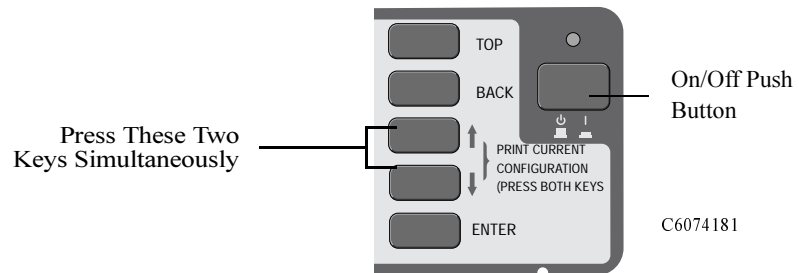


4  Notice on the Current Configuration Print that the 16 pens are numbered 0 through 15 and the 256 colors are numbered 0 through 255. These colors are specified in the Palette Print, as explained in the following sections.

**1055CM**

These settings have no effect on PostScript files.

## Viewing the Colors Available For a Palette

1   To print the palette Demo print make sure that the front-panel **Color/Grayscale** key is set to **Color**.

2   Go to the Demos menu and choose Palette.

Demos

Palette

All menu modes
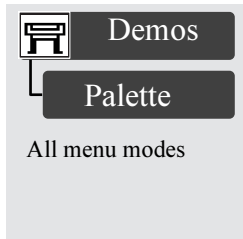
In the Palette print, there are 256 squares, numbered 0 through 255, each showing one of the colors available for selection in the printer's internal palettes. The example below is color 7 (magenta), which is assigned to pen 7 in the factory's default palette.

Pen number in factory default palette, and initially therefore in all three palettes. 0 through 15.

7

7

Color number. 0 through 255.

0,255,255

RGB composition, scaled to 255 = 100%. In this example, it is 100% red + 0% green + 100% blue, which is magenta.
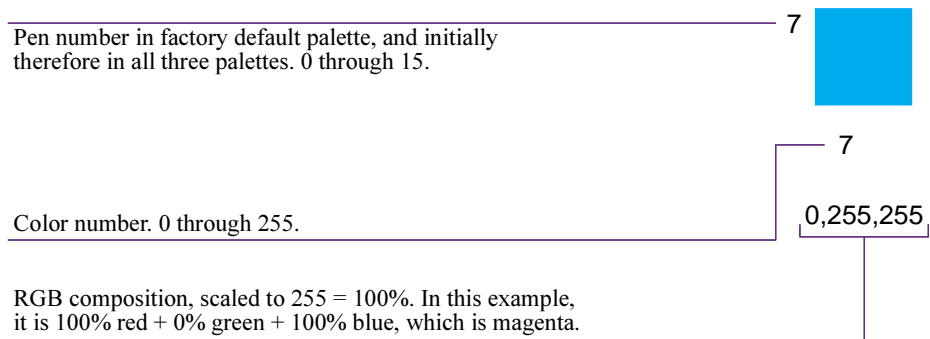
C4704021

Note that RGB and CMYK - plus white - are assigned by default to pens 0 through 7, and that eight grayscales are included in the 256 colors.

The 256 colors shown in the Palette Print are not the only colors you can print with your printer! Using your software, you can create many more colors and, as long as you are using the correct driver, the printer will reproduce these colors by an appropriate mix of inks from it's CMYK ink cartridges. The Palette Print merely shows the 256 colors available for use in the printer's internal palettes, should you choose to use them.

## To Change the Palette Settings

HP-GL/2 SETTINGS

Define palette

Full menu mode
Defaults:
 Palette: Factory
 Width:  0.35 mm
 Color:  See Palette
        Print

You cannot change the Factory palette, but you can define Palettes A and B to be whatever you choose.
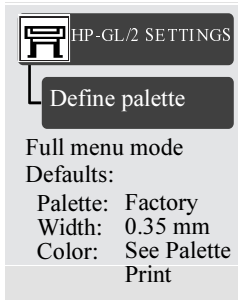
| Item | Available Options |
| --- | --- |
| Palettes | Factory, A, B. |
| Pens | 0 through 15. |
| Widths (mm) | 0.13, 0.18, 0.25, 0.35, 0.50, 0.65, 0.70, 0.80, 0.90, 1.00, 1.40, 2.00, 3.00, 5.00, 8.00, 12.00. Note that 0.13 mm is a one-pixel line width at 300 dpi and three-pixels line width at 600 dpi |
| Colors | 0 through 255. As specified on the Palette Print. |

**1055CM**

These settings have no effect on PostScript files.

The following steps explain how to define Palette A.

1 In the front-panel menu, go to the Define Palette selection and choose Palette A.

2 Scroll to the pen number you want to change and press **Enter**.

3 The current width assigned to this pen is displayed, for example Width=0.35mm. If you want to change it:

a Press **Enter.**

b Scroll to the width you want

c Then press **Enter** again.

d Press Back to get to the previous menu: Color/Width

Otherwise, scroll to Color.

4 The current color assigned to the pen is displayed, for example Color=110. If you want to change it:

a Press **Enter.**

b Scroll to the color you want.

c Then press **Enter** again.

**d** Press Back to get to the previous menu

**5** When both width and color are correct, press **Back**.

**6** Scroll to the next pen number you want to change, press **Enter** and then repeat steps 3 through 5 again.

**7** When all pen definitions are correct, press **Top** to exit the menus.

**IMPORTANT** **The palette you have just defined will take effect only when you select it to be the current palette, as explained on page 6-4, *To Select a Palette.***

# Changing the Treatment of Overlapping Lines (Merge)

HP-GL/2 Settings

Merge

Full menu mode
Default: Off
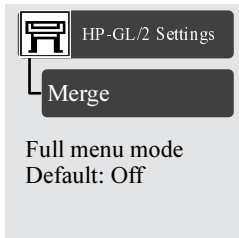
The Merge setting controls how overlapping lines are treated. Merge has two settings, Off and On. The following illustration shows the effect of each setting.

**Merge off**
A subsequent line hides a previous line where they overlap.
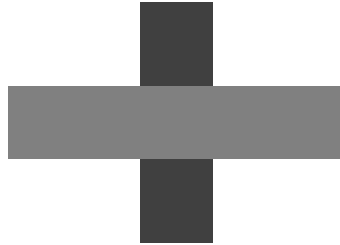
**Merge on**
Overlapping lines and area fills are merged.
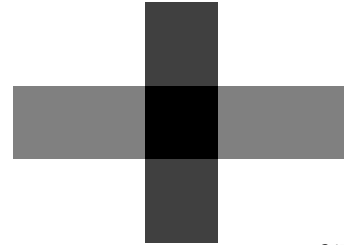
C4704022

You can set the merge setting from your software in some applications. Settings in your software override the front-panel settings.

**1055CM**

Merge settings have no effect on PostScript files.

# Printing Color Images in Grayscale

There are times when you may want to print a color image in grayscale because it is faster. Examples of this are:

■ You want a draft where color is not important, for example to check that the image is not going to be clipped,

■ You want a version for photocopying in black and white.

Grayscale printing renders colors as grayscales rather than all colors as black. If you want all colors to be printed as black, then you should set all your colors to black in your software. For example, if supported in your software, use a pen number that is 100% black.

Alternatively, you could make one of the printer's internal palettes (A or B) all black, and then select this as the current palette (see page *6-3* in this chapter for an explanation of palettes).

**1055CM**

> **NOTE:** The Palette Settings do not affect PostScript files.

■ You cannot change the color/grayscale setting for pages already in the printer's queue.

■ HP-GL/2 drivers may override this setting.

## Switching Between Color and Grayscale

**1** Use the front-panel key shown below to toggle between color and grayscale.
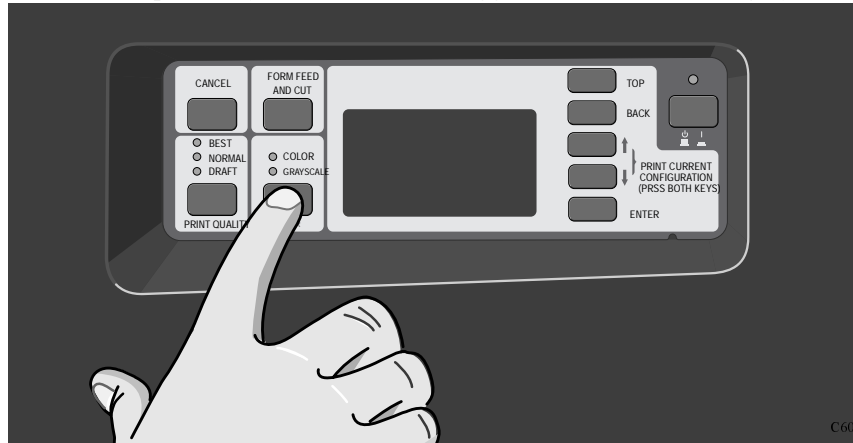


**2** Send the file from your computer. The setting you have in your driver will override the setting in the front panel

---

**NOTE** **The Color/Grayscale setting also effects most of the printer's internal prints. The Print Quality print is always printed in color, even when Grayscale is selected in the front panel.**

---

# Printing Speeds and Print Quality

| Some Typical Printing Times (line drawings @ 20-25$^0$C and 30-60$^\%$ relative humidity). | | | ANSI-D size | ANSI-E size |
|---|---|---|---|---|
| Paper | Color/Grayscale | | Time (in secs) | Time (in secs) |
| Bright White | Color | Best | 235 | 440 |
| Bright White | Color | Normal | 120 | 225 |
| Bright White | Color | Draft | 45 | 85 |
| Bright White | Grayscale | Best | 135 | 250 |
| Bright White | Grayscale | Normal | 80 | 150 |
| Bright White | Grayscale | Draft | 45 | 80 |
| Coated Paper | Color | Best | 490 | 980 |
| Coated Paper | Color | Normal | 120 | 225 |
| Coated Paper | Color | Draft | 85 | 160 |
| Coated Paper | Grayscale | Best | 325 | 625 |
| Coated Paper | Grayscale | Normal | 135 | 250 |
| Coated Paper | Grayscale | Draft | 45 | 80 |
| Heavy Coated Paper | Color | Best | 490 | 980 |
| Heavy Coated Paper | Color | Normal | 120 | 225 |
| Heavy Coated Paper | Color | Draft | 85 | 160 |
| Heavy Coated Paper | Grayscale | Best | 435 | 870 |
| Heavy Coated Paper | Grayscale | Normal | 135 | 250 |
| Heavy Coated Paper | Grayscale | Draft | 45 | 80 |
| Glossy Paper | Color | Best | 630 | 1200 |
| Glossy Paper | Color | Normal | 435 | 830 |
| Glossy Paper | Color | Draft | 325 | 620 |
| Glossy Paper | Grayscale | Best | 630 | 1200 |
| Glossy Paper | Grayscale | Normal | 435 | 830 |
| Glossy Paper | Grayscale | Draft | 325 | 620 |

## Print Quality Settings

You can set the overall print quality from the front panel. In general:

■ Choose **Draft** for maximum productivity. Ideal for checking prints, when print quality is not the most important.

■ Choose **Normal** to get a good combination of print quality and productivity. Ideal for line drawings with good print quality and at speed.

■ Choose **Best** to get the highest possible image quality.

You can print images in different settings to see which gives the best combination of throughput and quality for your application.

The resolution at which your print will be printed is summarized in the table below.

| Print quality setting | Resolution in dpi | |
|---|---|---|
| | **Grayscale** | **Color** |
| **Draft** | 300 x 300 | 300 x 300 or 600 x 600 (see note 1) |
| **Normal** | 600 x 600 | 300 x 300 or 600x 600 (see note 2) |
| **Best** | 600 x 600 or 1200 x 600 (see note 2) | 600 x 600 |

**Note 1:** If you print an RTL file processed as 600 dpi to the printer in DRAFT or NORMAL setting, it will be printed in NORMAL mode, but with a resolution of 600 dpi.

**Note 2:** To enable this resolution you need your software to support it.

**Note 3:** PostScript always uses 300 x 300 in draft and 600 x 600 in normal and best.

## Changing the Print Quality

Use the front-panel Print Quality key to toggle between the three print quality settings.

Any software driver will override the front panel setting (but it will not change the LED). Use your driver for setting the print quality of images sent from your computer. Use the front panel to set the print quality for internal prints.

If your software raster imaging processor (RIP) system has print quality settings, select your print mode from the RIP. It should override the front-panel settings.
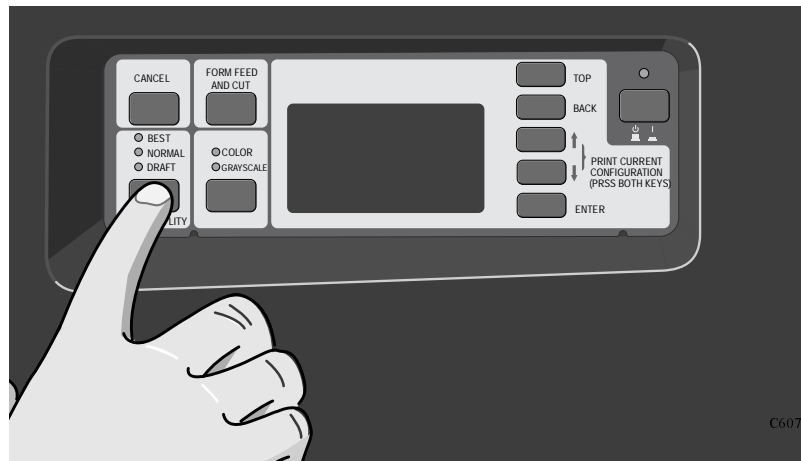


C6074192

See page 3-6, *Combinations of Paper Type and Print Quality Selection* for more information about appropriate combinations of paper type and print modes.

| NOTE | **You cannot change the print mode setting for pages being received or already in the printer's internal queue (memory).** |

# Managing Your Prints

# 7

# Managing Pages Currently being Printed or Drying

In this chapter, the terms job and page are used interchangeably for files. RTL and HP-GL/2 jobs are single page jobs. Where we talk about the print paper, the term page means a single output page.

**1055CM** | PostScript jobs may have multiple pages

## Cancelling a Page

**1**  Press **Cancel** on the front panel.
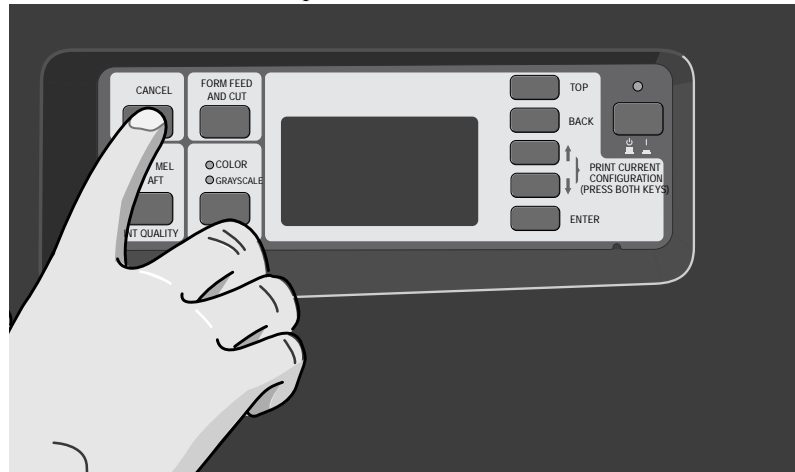


C6074194

The printer advances the paper as though the print were finished. A multi-page job or a big file may take longer to stop printing than other files.

**1055CM** | PostScript jobs may take longer to stop printing.

## Cancelling the Drying Time

**1** Press the **Cancel** or **Enter** key on the front panel.
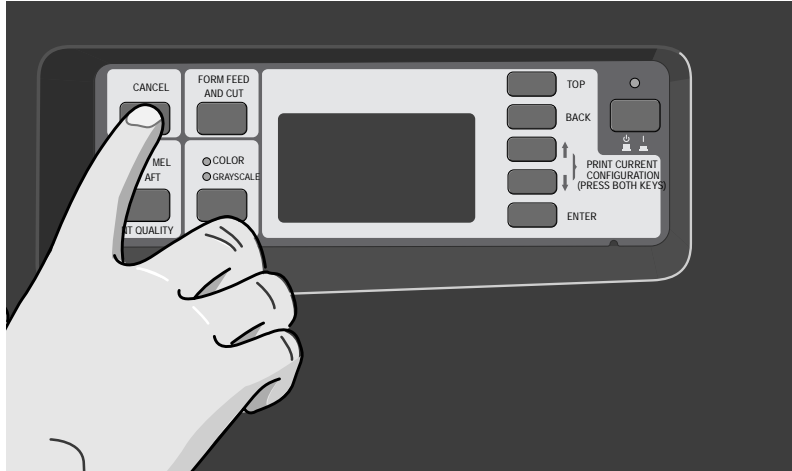


C6074194

**2** The printer will release the paper and it will fall into the paper bin.

**CAUTION**     **Use caution when performing this procedure as an image which has had insufficient time to dry could get damaged.**

# Managing Pages Not Yet Printed (the Queue)

## What is the Queue?

| QUEUEING & NESTING |
| Queue= |

All menu modes
Default: Off
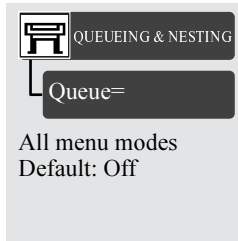
Your printer can store pages in a queue at the same time as printing the current page. It stores them page by page. If you send only single-page, you can regard these as files.

The size of the queue is limited by number of jobs (maximum of 32 jobs containing up to 64 pages total) and the total memory available. The queue stores processed output pages, not the input jobs. Remember that file size and memory usage are not the same thing, as explained on page 11-38, *File Size and Memory Usage*.

**1055CM**

> **NOTE:** If you send a very complex PostScript job with queueing turned off, the printer may stop during printing of the image while it is processing the job. This may result in an image quality defect. To avoid this, always print very complex files with queueing turned on.

### With Queueing Turned ON

**NOTE:** When Queueing is On and the printer receives print files, the files are stored in the queue in the order they are received. If Nesting is Off, the files are printed as soon as possible, in the order they are received. If Nesting is On, files are printed when the time-out period expires or there are enough files to fill a page width. You can resend files which have already been printed. For more information on nesting see page 7-10, *Avoiding Paper Waste by Nesting Pages*.

- You can send pages to the printer without waiting for the current page to finish printing.
- Pages are stored in the queue in the order they are received.
- You can manipulate the pages in the queue, for example prioritizing them and reprinting them.
- You can use nesting, the printer's paper-saving feature (see page 7-10, *Avoiding Paper Waste by Nesting Pages*).
- While one page is printing, the printer will accept and process the next file.

**With Queueing Turned OFF**

If Queueing is Off and the printer receives print files, the files are printed as they are received, and are not stored in the queue. Nesting settings have no effect when Queueing is Off.

■ Files are printed as they are received, and are not stored in the queue.

■ The printer will not accept another file sent from the computer until the current page has finished printing and the printer is ready.

■ You cannot use nesting.

If you turn queueing off while pages are still in the queue, they will be printed and (if nesting is on) nested, until the queue is empty.

**NOTE:** If the printer is turned off with unprinted files in the queue, the files are lost and must be resent.

## Starting to Print a File that 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. See page 8-8, *To Change the I/O Time-out Setting.*

■ 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. See page 7-15, *How Long does the Printer Wait for Another File?*

■ If your file has selected sheet or roll paper to print the job onto, but the selected paper is not loaded into the printer.

– the front panel will prompt you to load the selected paper, once you load the paper the printer will print the job

or

– Press the cancel key and resend the job with paper that you have available.

If you want to override the time-out period and start printing:

**1** Press **Form Feed and Cut** on the front panel.



C6074190

QUEUEING & NESTING

Queue mgmt

Job Name

All menu modes
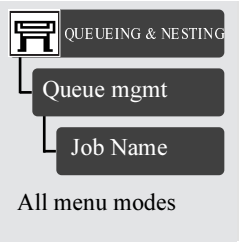
# Identifying a Job in the Queue

In Queueing / Nesting, you can scroll through the pages in the queue.

Each has an identifier, comprising:

<position in queue>: <image name>

**Position in Queue**

(If available)
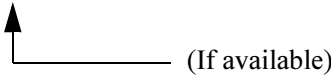
The job currently being printed is in position 0. The next job to be printed is in position 1, the one after in position 2, etc. The previous job printed is in position -1, the one before that in position -2, etc.



up to
32 jobs

3 — jobs yet to be printed
2
1
0 — current job
−1
−2
−3 — jobs already printed
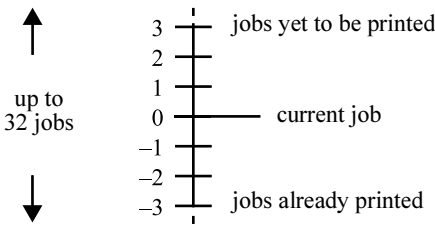
C4704012

## Viewing the Size of a Page in the Queue (Non-Postscript)
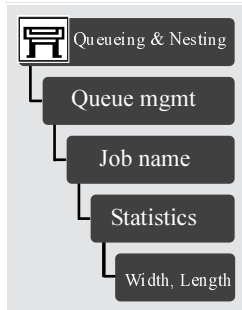
To view the size of any page in the queue, select it and choose Statistics.

| Statistic | Comments |
|---|---|
| Width | The shorter side of the page, in millimeters. |
| Length | The longer side of the page, in millimeters. |

## Prioritizing a Job in the Queue
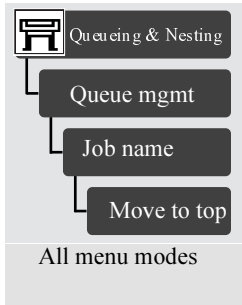
To make any job in the queue the next one to be printed, select it and choose Move to top.

If nesting is turned on (see page 7-10, *What is Nesting?*) 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, then first turn nesting off and then use Move to top to move it the top of the queue.

## Deleting a Job from the Queue
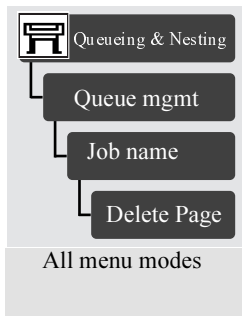
Under normal circumstances, there is no need to delete a job from the queue after printing it, as it will just "fall off the end" of the queue as more files are sent. However, if you have sent a file in error and want to avoid any chance of it being reprinted, you can simply delete it, by selecting it and choosing Delete.

To remove a job that has not yet been printed, simply identify it by its position in the queue (see page 7-7, *Position in Queue*) and delete it, by choosing Delete.

If the job is currently being printed (its queue position is 0), and you want both to cancel the job and to delete it, first press the **Cancel key** and then delete it from the queue.

Menu diagrams (left margin):

Queueing & Nesting
Queue mgmt
Job name
Statistics
Width, Length

Queueing & Nesting
Queue mgmt
Job name
Move to top
All menu modes

Queueing & Nesting
Queue mgmt
Job name
Delete Page
All menu modes

## Making Copies of a Job in the Queue

| Has the job already been printed? | Do you want one copy or several? | What to do |
|---|---|---|
| Yes | One | Use Move to top (see page 7-8, *Prioritizing a Job in the Queue*). |
|  | Several | Use Copies (see below) and then use Move to top (see page 7-8, *Prioritizing a Job in the Queue*). |
| No | One | Use Copies (see below). |
|  | Several | Use Copies (see below) |

In all cases, the job must be still in the queue.

Queueing & Nesting

Queue mgmt

Job name

Copies

99 .. 1, 0

All menu modes
Default: 1
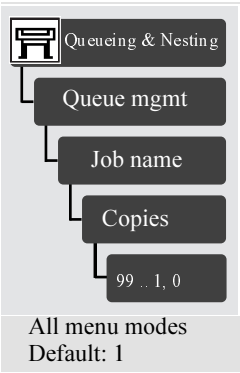
Having selected the job and chosen Copies, use the scrolling keys to specify the number of copies required, and press **Enter**. The number you enter is the actual number of pages to be printed; for example, choosing 2 for a page not yet printed means you will get the one original and one copy. The maximum is 99.

The setting you specify in this option overrides any value set by your software.

Note that, if Rotate (see page 5-10, *Rotating an Image (PostScript)* was on when you sent the file, every copy will be rotated also.

# Avoiding Paper Waste by Nesting Pages

**NOTE:** Nesting can only be used with roll paper.

**What is Nesting?**

Nesting means placing pages side-by-side on the paper (rather than one after the other), to avoid wasting paper.

Roll

Paper saved

Direction of
paper flow

Nesting off
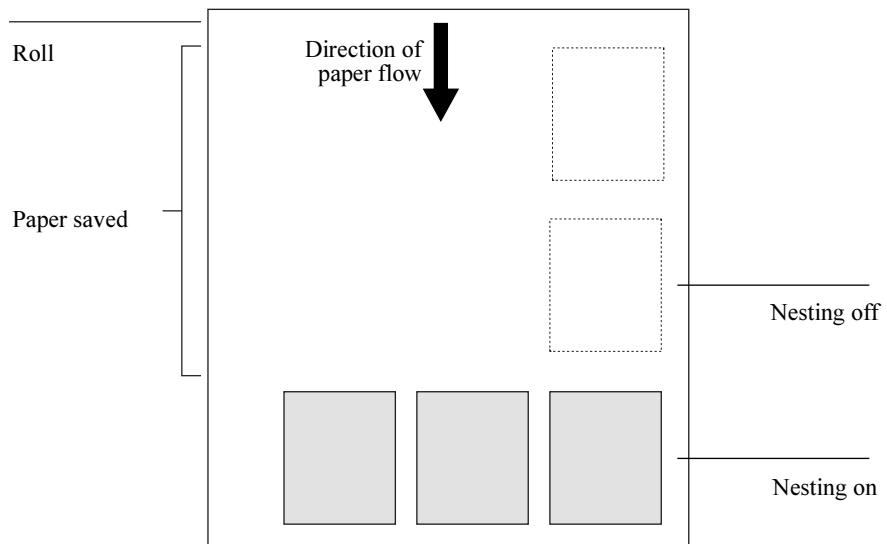
Nesting on

C4704010

# Automatic Rotation

The printer may automatically rotate a page in nesting (see page 7-14, *Turning Nesting On or Off and Choosing the Nesting Method*). It may do this even with a single page.



Direction of
paper flow

Paper saved

Nesting on with
automatic rotation

Nesting off

Nesting on
without automatic rotation

C4704011
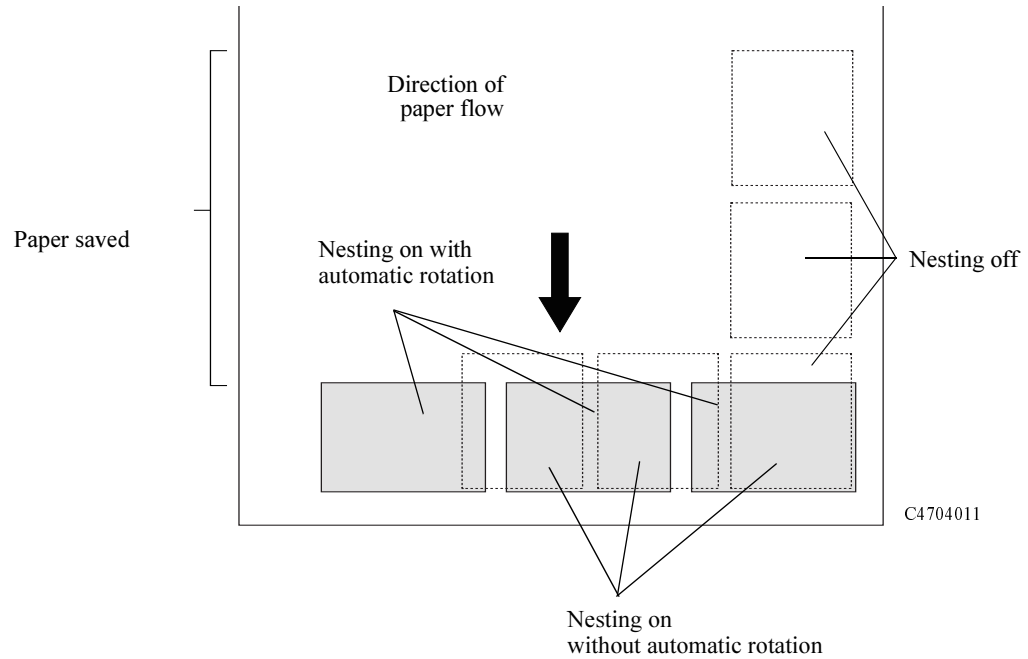
**PostScript**

The printer's automatic rotation does not apply to PostScript files. PostScript files will print in the orientation in which they were sent to the printer.

## Which Pages Cannot be Rotated?

Apart from obvious physical limitations on the roll, any HP-GL/2 page containing **raster data** will not be rotated.

**1050C**

> If your printer does not have a Hard Disk installed and does not have PostScript capabilities then rotation will not work.
>
> **NOTE:** You can upgrade your printer with a hard disk and PostScript by ordering an upgrade kit see 13-17, *How to Order Supplies and Accessories*

## Nesting and the Rotate Feature

Since nesting may automatically rotate pages, the Rotate setting in the Page format menu is ignored while nesting is on.

**1055CM**

> The printer's automatic rotation does not apply to PostScript files. PostScript files will print in the orientation in which they were sent to the printer.

## When Does the Printer Try to Nest Pages?

When all the following are true:

- The printer is loaded with roll paper rather than sheet paper.
- In the front-panel menus, Queue is ON (the default). See page 7-4, *What is the Queue?*
- In the front-panel menus, Nest is ON (that is, set to either Optimal or In order). See page 7-14, *Turning Nesting On or Off and Choosing the Nesting Method.*

## Which Pages Qualify for Nesting?

In order to be in the same nest, the individual pages must be compatible on both the following criteria:

■ Color or greyscale

**NOTE:** Either all are color or all are greyscale. Greyscale may include a color page rendered in grayscales by use of the front-panel **Color/Greyscale** key - see page 6-10, *Printing Color Images in Grayscale.*

■ Files must be at the same dots per inch setting.

■ All pages must have the same print quality setting (Best, Normal, Draft).

■ Margin sizes must be the same for all pages (normal, extended).

■ All pages must be HP-GL/2.

■ Equal page accuracy see page 8-4, *Recalibrating the Printer for Accuracy.*

■ Equal mirror setting

## Turning Nesting On or Off and Choosing the Nesting Method

QUEUEING & NESTING

Nest

All menu modes
Default: Off

| Nest Setting Selected | Printer's Response |
|---|---|
| Off | The printer will not nest pages. |
| Optimal | Choose this if you want to use the least amount of paper. The printer will search all through the queue for suitable pages. It will nest the pages according to an algorithm that, for most combinations of page sizes, saves the most paper. The resulting nesting pattern may still vary, depending on the size of the first page. |
| In order | Choose this if the speed with which you receive your prints is most important. The printer will try to nest pages in their queue sequence. If it comes across an incompatible page, it will stop searching and print any nest it has already created. |

**PostScript**

The Optimal setting does not affect PostScript files. If Optimal is selected when printing a PostScript file, Nesting will function as if In order is selected.

## What Happens to Nesting if You Turn Queueing Off?

Turning queueing off does not turn nesting off for pages already in the queue. The printer prints all the pages in the queue before accepting any more files. As soon as you turn queueing off, the nesting setting also changes to off. When queueing is turned on again, the printer restores nesting to its previous setting.

## How Long does the Printer Wait for Another File?

QUEUEING & NESTING

Nest

Optimal/In order

99 - 2, 1 min

All menu modes
Default: 2 minutes
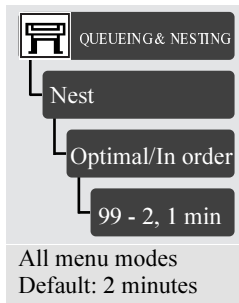
So that the printer can make the best nest possible, it waits after a file has been received to check if a subsequent page will nest with it or with pages already in the queue. This waiting period is the nest wait time. The factory default nest wait time is two minutes. This means that the printer waits for up to two minutes after the last file is received before printing the final nest. You can change this waiting time using the front panel menu. The available range is 1 to 99 minutes.

While the printer is waiting for nesting to time out, it displays the remaining time in the front-panel display. You can print the nest (cancel the nest wait) by pressing the **Form Feed and Cut** key.

# Nest Spacing (Setting the space in between nested pages)

To get the most from your paper it is possible to change the spaces in between the images on your paper. The result of this is you get more images onto the paper. There are two settings for nest spacing:

**Automatic**

The automatic setting is when the printer uses margins that it already has set, see page 5-9, *Adjusting Margins* for details on how to set these margins. When using the automatic setting you are guaranteed to keep the page size as defined by your driver and application.

**Manual**

Choose the manual setting when it is more important for you to be able to print more images on your paper than keeping the page size consistent. The setting allows you to override the printers' margins and put in a nest space that you want. In the example shown below, the nest spacing is set to 10mm.
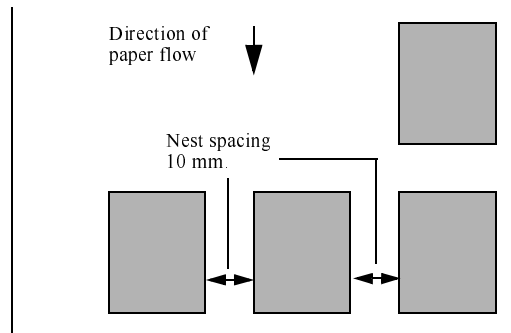
But by changing the nest spacing to 5mm you are able to print all four pages onto the same line, allowing more efficient use of the media.

To set the nest spacing go to Page Format/Nest Spacing.

| Page Format |
| Nest Spacing |

Full menu modes
Default: Automatic
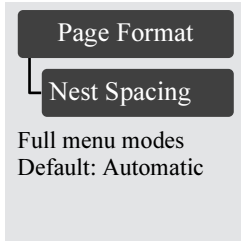
| Nest spacing setting selected | Printer's response |
|---|---|
| 30 mm<br>25 mm<br>20 mm<br>15 mm<br>10 mm<br>5 mm<br>0 mm | The printer leaves approximately the gap selected in between pages in a nest. The printer rounds up or down the gap selected with a maximum error of 1.25 mm. |

Managing Your Prints
Nest Spacing (Setting the space in between nested pages)

# Reconfiguring Your Printer

# 8

# HP-GL/2 Configuration Print

Utilities

Test Prints

HP-GL/2 Config.

To enable you to see all of the settings that your print currently has, you can print a HP-GL/2. Refer to page *2-7, Printing the Current Configuration.*

| Item | Comments |
|------|----------|
| Paper | Paper Format: Tells you if sheet paper is loaded or roll. Paper. Tells you what type of paper is loaded, see page *3-3, Paper Types*. Max XY: Displays what the maximum printing area is see page 13-7, *Printable Area.* |
| Ink Systems | This gives information on the status of the HP80 Ink Systems, how much ink is left, the status on the printhead etc. |
| Queueing & Nesting | The current queueing and nesting settings in the front-panel menu. |
| Page Format | Tells you information on the Margins, size of paper, nest spacing, if mirroring is on or off, the rotation settings, scaling. |
| HP-GL/2 settings | Current Palette and Merge settings. |
| Statistics | The code revision, DRAM present, information on the Hard disk if there is one, PostScript code rev. PostScript Font rev. what language the printer is set to, e.g. English. |
| I/O setup | Network card info (if installed):<br>■ DNS name<br>■ Applicable name<br>■ IP address<br>■ Hardware address |
| Device setup | Information on the graphics languages, terminator settings, drying time settings, cutter settings, printhead check settings. |
| Image quality | What the current settings are for ink emulation, color calibration, ink limiting. |

# Viewing the Current Configuration of the Front-Panel Settings

**1** Make sure either a roll or a sheet of paper is loaded.

**2** Print the Current Configuration Print, by pressing the ↑ and ↓ keys simultaneously.
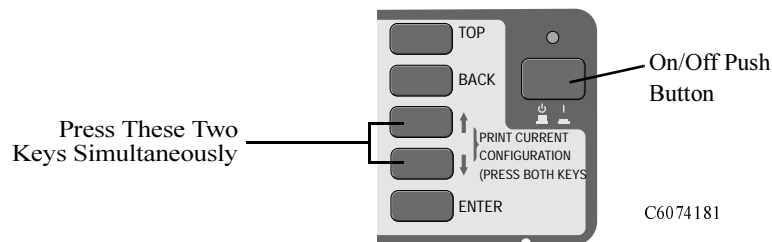


**3**

The Current Configuration Print lists in an easy-to-read format all the items available in the front-panel menus, together with their current settings (in red italics). Note that some of the items don't appear in the front-panel display unless you have set Menu mode selection to Full in the Utilities menu (the default is Full). See the legend at the bottom of the print for details.

**HP 2500CP Only**    **NOTE:** The PostScript configuration print is printed when you press the keys above. To print the HP-GL/2 configuration print, select HP-GL/2 config in the INTERNAL PRINTS menu.

# To Change the Front-Panel Settings

These graphics are

explained in

chapter 2.
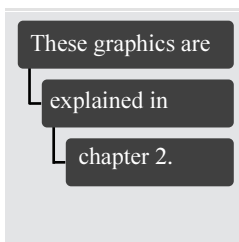
Page 2-19, *Navigating the Menu System*, explains how to use the front-panel display, including how to change any of the settings. It also explains the small menu graphics that appear in the left margins of this manual whenever a particular menu item is explained.

The meanings of all the items in the front-panel menus are explained at the relevant point in this manual. Refer to the index at the back of the manual for the item you want to change.

# Recalibrating the Printer for Accuracy

## When to Recalibrate the Printer
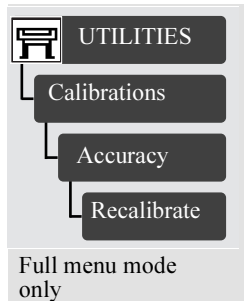
Your printer was calibrated at the factory to ensure that it operates with the greatest accuracy in normal environmental conditions. If you are operating under significantly different conditions, you should recalibrate the printer as explained here. The printer's environmental specifications are given on page *13-4*. You may also need to recalibrate the printer if you have image quality problems. Before recalibrating the printer, you should always use the print quality print to verify that you do have image quality problems. If you need to recalibrate the printer, you will be instructed in the print quality print procedure. See page 9-4, *How to Use the Print Quality Print*, for detailed instructions.

UTILITIES
— Calibrations
— Accuracy
— Recalibrate

Full menu mode only

## To Recalibrate the Printer

1  Choose your paper type. For information on paper types, see the *HP Paper Guide* provided with your printer.

2  Go to Recalibrate in the front-panel menus, as shown in the left margin of this page.

3  Choose Create pattern. The front panel displays:

ACCURACY

Calibrating

4  When prompted, load your paper, using the procedure in chapter 3, *Working with Paper*. If using sheet paper, load it in portrait orientation, unless you chose D/A1-size paper for an E/A0-size printer, in which case load it in landscape orientation.

5  When the calibration print is finished, remove it.

**6** When you are sure that the paper is dry, rotate the sheet 90° counterclockwise and reload it printed-side facing upwards, so that the black arrows go into the printer first.



C4704038
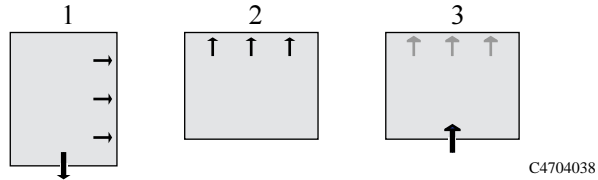
**7** Go to Recalibrate again, and choose Measure pattern.

When the printer has finished measuring and has ejected the sheet, the recalibration procedure is finished.



Full menu mode only
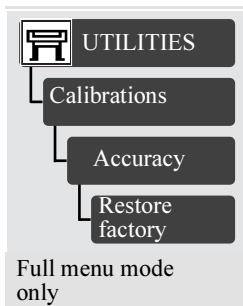
## To Restore the Factory's Calibration

If you notice that after the calibration the results are worse than before, you can return the setting back to the original setting.

# Changing the Graphics Language

Your software application communicates with the printer by a graphics language. The printer's default language setting, called Automatic, it works for most software applications. In Automatic mode, the printer determines which type of file it is receiving i.e. PostScript or HP-GL/2, and prints it. Unless you are troubleshooting any of the problems listed under Comments in the table below, you should not need to change this default.

DEVICE SETUP

Lang=

Full menu mode only
Defaults:
1055CM=Automatic
1050C=7586,HP-GL/2
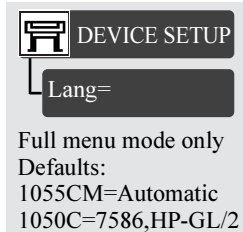
## To Change the Graphics Language Setting

To change the graphics language setting, go to the Device setup/Lang menu. There are five selections, as follows:

| Language | Comments |
|---|---|
| **Automatic** | Choose Automatic to let the printer determine which type of file it is receiving. This setting works for most software applications. |
| **HP-GL/2** | Choose this setting if you are not working with PostScript files and:<br>■ you have experienced image position problems.<br>■ you have experienced timing problems. |
| **7586, HP-GL/2** | Choose this setting if you are using an obsolete HP7586 (pen plotter) driver and your prints are incomplete.<br>This works successfully with most CAD applications. With this graphics language another setting is available: Terminator. Try changing this setting from "normal" (the default) to "special". |
| **CALS G4** | Choose this setting if your files are in the CALS G4 language. This must be selected because the Automatic setting is not sufficient. If you select the CALS G4 setting to print a CALS file, the printer must be returned to the default setting afterwards to enable printing in other languages. |
| **PostScript** | Choose PostScript if you are printing only PostScript files and your PostScript jobs do not include PJL language switching commands. |

## Graphics Language and Networks

**For system administrators**

If you are using the printer with a network spooler, consider having your system administrator modify the spooler to insert automatically the PJL language-switching commands at the beginning and end of each file. This allows the printer to switch automatically into the correct graphics language for your current print and returns the printer to the front-panel graphics language setting for subsequent prints. For information on ordering PJL reference information, see page 13-14, *Ordering Accessories*.

**1055CM**

> The HP PostScript printer driver for Windows provided with your printer, adds the PJL language-switching commands to your output file, allowing the printer to switch graphics languages automatically.
>
> **NOTE:** When using a Macintosh you should select the Automatic or Postscript setting, otherwise you will not be able to connect to the printer.

**NOTE:** If you are working with a multi-language environment select automatic.

# Changing the Interface Settings

I/O SETUP
Network Card
Configuration

Full menu mode only
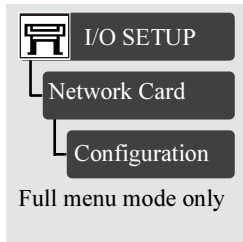
**Network**

With a network interface (such as the HP JetDirect Print Server), refer to your network interface documentation for advice on any front-panel configuration. The front-panel menu is I/O Setup / Network Card/ Configuration

# To Change the I/O Time-out Setting

I/O SETUP
I/O Time-out

Full menu mode only
Default: 30 min
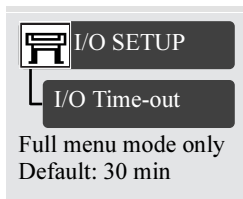
Some software applications do not write a file terminator at the end of a file. In this case, the printer does not know when the file is complete and will wait for more data until the end of the "I/O Time-out" period. By default, this period is 30 minutes. You can change the time-out setting in the front-panel menu to as little as 30 seconds.

# Upgrading Your Printer

### Installing a hard drive

The file types that take advantage from having a hard drive are:

■ Pure raster images (renders, solid murals...

■ complex line drawings

■ complex drawings mixing lines and backgrounds

If you are using an external RIP, you do not need an external hard disk.

If you are using the postscript option in a HP DesignJet 1050C, it is strongly recommended that you use the hard disk to enhance the performance.

### Printer Hardware Configuration

The following table shows the different upgrade options that are available, with their advantages and disadvantages.

| Configuration | Benefit | Comments |
|---|---|---|
| Designjet 1050C | Basic functionality | |
| Designjet 1050C + Hard Disk | Not a valid Option (extra memory required) | |
| Designjet 1050C + Extra Memory* | Complex file printing | |
| Designjet 1050C + Extra Memory* + Hard Disk | Faster processing and very complex file printing<br>Reprint of complex files<br>Enhanced queueing and nesting | Limiting maximum plot length (see table below) |
| Designjet 1050C + Extra Memory* + PostScript Upgrade Kit | Not recommended because you may need a additional hard disk. | |
| Designjet 1050C + Extra Memory* + PostScript Upgrade Kit + Hard Disk | Full Postscript support<br>Faster processing and very complex file printing<br>Easy reprint of files<br>Queueing and Nesting | Limiting maximum plot length (see table below) |
| Designjet 1055CM | Full Postscript support<br>Faster processing and very complex file printing<br>Easy reprint of files<br>Queueing and Nesting | Limiting maximum plot length (see table below) |
| Designjet 1055CM + Extra Memory* | Full Postscript support<br>Faster processing and very complex file printing<br>Easy reprint of files<br>Queueing and Nesting | Limiting maximum plot length (see table below) |

* Modules of 16MB, 32MB or 64MB up to a total of 128MB

### Upgrading Memory

If you occasionally get "Out of memory" error messages when printing, this may be an indication that you your print files require more memory in your printer. Adding memory may also slightly improve performance when printing some files.

### Long Axis Printing Limitations

To start the hard disk your printer needs a **minimum** of 32MB of RAM memory. With this minimum amount of memory there are certain limitations in printer length. In some cases adding extra memory can minimize these limitations. The figures shown below are approximate and may differ depending on file contents.

| | 32Mb | | 48Mb | | 64Mb | | 96Mb | | 128Mb | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 300 dpi | 600dpi | 300 dpi | 600dpi | 300 dpi | 600dpi | 300 dpi | 600dpi | 300 dpi | 600dpi |
| **Not using PostScript** | | | | | | | | | | |
| Lines HP-Gl/2 | 658.3in /16.7m | 329.2in / 8.4m | 1339in/ 34m | 669.7in / 17m | 2020in/ 51.3m | 1010in / 25.7m | 3382in/ 85.9m | 1691in / 43m | 4744in/ 120m | 2372in / 60m |
| Raster only files in RGB format | 590in/15m at 300 dpi<br>295 in/7.5m at 600 dpi | | | | | | | | | |
| Raster only files in RGB format | Not affected by hard drive<br>Unlimited printing length | | | | | | | | | |
| **PostScript** | | | | | | | | | | |
| **All types of contents** | 193in/4.9m | | 429in/10.9m | | 666in/16.9m | | 1138in/28.9m | | 1611in/40.9m | |

| | |
|---|---|
| **1055CM** | The 1055CM printer comes with 32 MB of memory. You can expand this memory up to a maximum of 128MB by installing 16-MB, 32-MB or 64-MB memory DIMMS. In addition to this memory, the printer has an internal hard disk drive used as extended memory for PostScript rendering and print management.<br><br>For part numbers see page 13-15, *Memory Modules* |

**1050C**

The 1050C printer comes with 16 MB of memory. You can expand the memory up to a maximum of 128MB by installing additional 16-MB, 32-MB, and 64-MB memory expansion modules.

You can also upgrade you printer with a hard disk, there is an HP kit available.for the part numbers see page 13-14, *Ordering Accessories*

# Improving Printer Throughput

There are many factors that affect the performance of your printer. Shown below are some settings that you may change in order to get the best performance.

**PostScript Only**

> **Queueing**
>
> If queueing is set to ON, the first file to be printed will take longer than if queueing is turned off, but the subsequent jobs will be faster with queueing ON because then the incoming jobs can be processed while the previous one is being printed. This means that if you send only one job and you want to get it printed as fast as possible, it is better to set queueing to OFF.
>
> See page 7-4, *Managing Pages Not Yet Printed (the Queue)*.
>
> **Ink Emulation**
>
> Using ink emulation increases the time to process a file because all of the colors in the file are converted.
>
> To improve speed, use ink emulation at the setting Native; see page 9-2, *Selecting the Ink Emulation Mode (PostScript Only)*.
>
> **File coding**
>
> Many applications allow you to use Binary or ASCII encoding to send the images. Select Binary whenever possible, since Binary is a lot faster than ASCII in sending the images to the printer.

**Macintosh only**

> **Background printing (Macintosh only)**
>
> Using background printing penalizes the performance of the printer: the less powerful your Macintosh is, the longer the sending time will be.

# Controlling Image Quality

# *9*

# Selecting the Ink Emulation Mode (PostScript Only)

IMAGE QUALITY

Ink emul.=

All menu modes
Default: Euroscale

Your printer can emulate the color behavior of offset printing presses, allowing you to use your printer for color proofing. To get accurate colors for your proof, select the color emulation mode that matches your offset printing standards. The selections are:
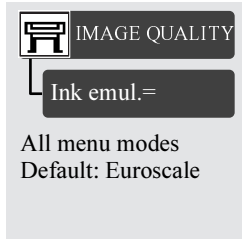
■ Native - No ink emulation

■ SWOP - U.S. Specification for Web Offset Printing

■ TOYO - Japanese standard for offset press

■ EuroScale - European standard for offset press.

# Ink Limiting

IMAGE QUALITY

Ink Limiting.=

All menu modes
Default: On
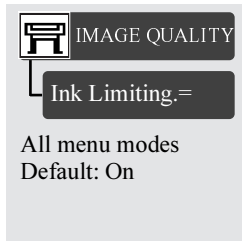
If your application generates CYMK color values and you select Native ink emulation (No color adjustment), the printer may apply an excessive amount of ink which may cause the paper to wrinkle on some types of paper. In extreme cases (more than 200% ink density) coated papers may become saturated, resulting in the printhead coming into contact with the paper causing serious printhead damage.

To avoid this problem you can select Ink Limiting. This setting will limit the amount of ink that the printhead will print.

# Calibrating the Color Output (PostScript only)

Color calibration improves color consistency between prints, and from one printer to another. The printer will sense the environment and analyze the printhead status without stopping the printer. Using this information a color calibration is performed and applied to the image. This enables the printer to compensate for variations between printheads and changes in the operating environment that affect color. The menu settings for Color calibration are:

**IMAGE QUALITY**

**Color calib.=**

All menu modes
Default: On
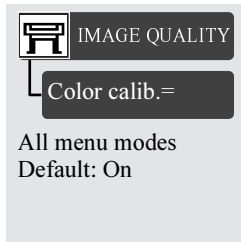
On   The printer uses the calibration the printer has performed before printing a page

Off   The printer does not use the color calibration performed.

# How to Use the Print Quality Print

**NOTE:** The following procedure is how to use the print quality print, for a more detailed step-by-step troubleshooting of some image quality problems see page 11-5, *Solving Image-Quality Problems.*

### What is the Print Quality Print?

Your printer provides you with an internal print quality print. This guides you to diagnose the possible source of your print quality defects. The print quality print is divided into three parts:

**a** Nozzle print test, designed to check if the printhead nozzles print correctly.

**b** Color alignment test, designed to check any color-to-color misalignment your printer may have.

**c** Overall print quality in **BEST** mode, specifically designed to diagnose banding problems in high density areas.

### Considerations for Printing the Print Quality Print.

1 The print quality prints in A3 and B sizes so you must have media loaded (roll or sheet) that is this size or larger.

2 Use the same type of media that you were using when you found the image quality problem.

3 If you are using non-HP media and after the Print Quality Print test you still have the same quality problems, change to genuine HP media and repeat the Print Quality Print test.

4 If you do not see any problems with the print quality print, then the problem may not be with the printer itself. The problem may be with your RIP or your driver for example. See page 11-15, *No Printing Defects Found in the Print Quality Print* for more troubleshooting information.

However if you do see problems with the print quality print pattern then continue with the following procedures, they will help you diagnose the problem.

# Printing the Print Quality Print

1   Go to the printer submenu and press **Enter**.

| Utilities |
| Test Prints |
| Print Quality |

Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK

Printer submenu
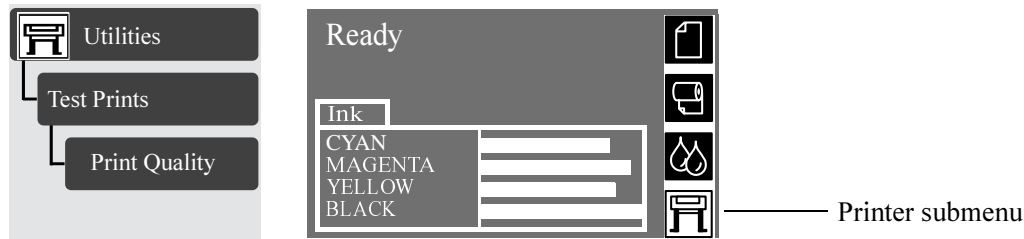
2   Select Print Quality from the Utilities/Test Prints menu, then press **Enter** to print the test.

The printer will print out a series of images. The print quality print is displayed on the next page:

**Note to Printer**

**Strip in Print Quality Print scan here as shown in printed sample**

# Nozzle Print Test



C6074301
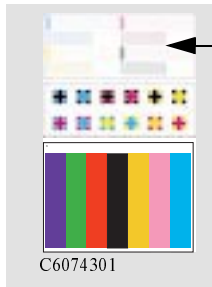
The nozzle print test is located on the print quality print in the top section. In this test the 512 nozzles that each printhead uses to print with are tested.

This is what you would see if there are nozzles not printing correctly:



Missing Lines          Misdirected Lines

Partial Printing          Unequal Spacing

Missing Lines

C6074282
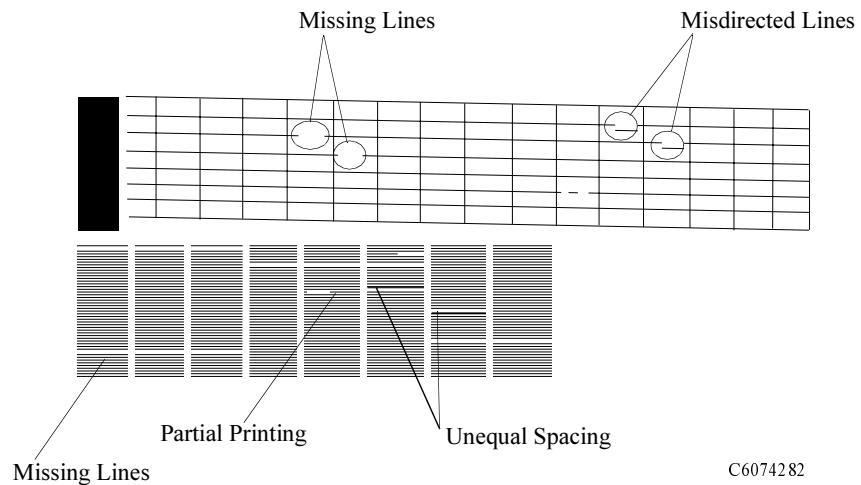
1   In the top pattern of the print quality print there is a series of stepped diagonal lines, if one or more of the nozzles are malfunctioning or mis-positioned you will see that the stepped lines are broken or misdirected in one or more places.

2   Below the top pattern on the print quality print there is a series of horizontal straight lines. If one or more nozzles are misdirected there will be unequal spaces between the corresponding lines.

## How to fix the Nozzle Defects

**NOTE**    **If your printer has nozzle defects, it does not mean that you will not get perfect image quality results. The printer has automatic procedures to hide many nozzle defects. This type of problem affects mostly Normal and Draft modes.**

1  Go to the Printer submenu and press **Enter.**

Utilities
Recover Printheads
All, cyan, magenta yellow, black

Ready

Ink

CYAN
MAGENTA
YELLOW
BLACK
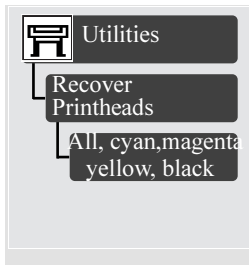
Printer submenu

2  Go to the Utilities/Recover Printheads.

3  Select the printhead color that is responsible for the problem. The printer will try to 'Recover' the defective printhead. If you are not sure which printhead color is giving you the problem select all of the printheads. Please wait as the process of recovery takes a few minutes.

4  Reprint the print quality print as described on page 9-5, *Printing the Print Quality Print* to check the defective nozzles have been corrected.

5  If the error is still present replace the worst printheads see page 4-22, *Printhead Removal*

# Color Alignment Print Test

This part of the print quality print is designed to check the color alignment. It produces twelve patterns each with two different primary colors. In each pattern you will see a cross surrounded by another color. If there is misalignment between the colors there will be inconsistent spacing between the cross and the other color.

There are two types of misalignment:

■ Horizontal - when the misalignment is in the horizontal axis.

■ Vertical - when the misalignment is in the vertical axis.

Below are shown two examples of alignment and misalignment:



C6074276

correct                    Incorrect

## Solving the Problem

1   Make sure you have paper loaded (not clear film, vellum or tracing paper).

2   Go to the printer submenu and press **Enter.**
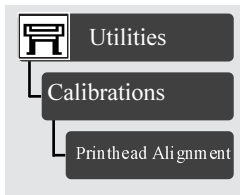
```
Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK
```
———— Printer submenu

```
Utilities
  Calibrations
      Printhead Alignment
```

3   Perform the Printhead Alignment Calibration. By going to Utilities/Calibration/ Printhead Alignment. Please wait as the process of aligning the printheads takes a few minutes.

4   Reprint the image you were attempting to print before (in the same mode) to see if the problem still exists.

5   If there is no improvement in the quality of the image see page 11-41, *Getting Help*.

# Overall Print Quality Test in BEST mode

### Blue, Green, Red, Black, Yellow, Magenta, Cyan Test

This test pattern checks performance for banding in **Best** mode only for the media you are using.



C6074279

### What is Banding?

Banding is when you see repetitive horizontal bands within your printed image (these may appear as light or dark bands).

The test pattern is printed with four primary colors; black, cyan, magenta and yellow. The three secondary colors printed are red, blue and green and they are formed by mixing the primary colors as shown in the table below:

| Secondary Color | Primary Color Components |
| --- | --- |
| Red (R) | Magenta (M) and Yellow (Y) |
| Blue (B) | Magenta (M) and Cyan (C) |
| Green (G) | Cyan (C) and Yellow (Y) |

## Solving the Problems

There main causes of banding:

■ Printhead problems *(see below)*.

■ Use of Non-HP media

■ Incorrect media type selected in the front panel.

■ Media advance problems see page 9-14, *Banding Caused by Media Advance Problems*.

### Banding Caused by Printhead Problems

In this case you will see banding in only a few colors.

If the test pattern has clear or dark horizontal bands in one or more of the primary color columns, then several of the secondary color columns will also have the same type of bands in the same position (but perhaps with less intensity).

In the following example several nozzles in the magenta printhead are not printing. There will be clear repetitive bands (perhaps white) in the magenta column. Consequently, you will see lower intensity bands in the same print position in the red (which is Magenta + Yellow) and blue (which is Magenta + Cyan) of the secondary color columns.



C6074280

1   The bands could be caused by the nozzles not printing correctly. You can check the health of the nozzles by following the procedure on page 9-7, *Nozzle Print Test*.

2 The light or dark horizontal lines could also be caused by permanently damaged printheads. The possible combinations with this problem are:

■ Banding in **cyan**, **blue** and **green** columns only, but more evident in cyan. This means that the cyan printhead could be permanently damaged.

■ Banding in **magenta**, **red** and **blue** columns only, but more evident in magenta. This means that the magenta printhead could be permanently damaged.

■ Banding in **yellow**, **red** and **green** columns only, but more evident in yellow. This means that the yellow printhead could be permanently damaged.

■ Banding in **black** column only. This means that the black printhead could be permanently damaged.

If you want the best high quality image from your printer, replace the damaged printhead with a new one. See page 4-22, *Printhead Removal*

| NOTE | **However, your printer can still produce good quality line prints.** |

### Banding Caused by Media Advance Problems

Another type of banding is caused by an inaccurate media advance in this case there will be banding (horizontal repetitive bands along the test pattern) in **all** the primary and secondary color columns.

The bands can appear as dark bands, due to a shorter advance of the roller which causes an overlap, or lighter bands due to a longer advance causing spaces.
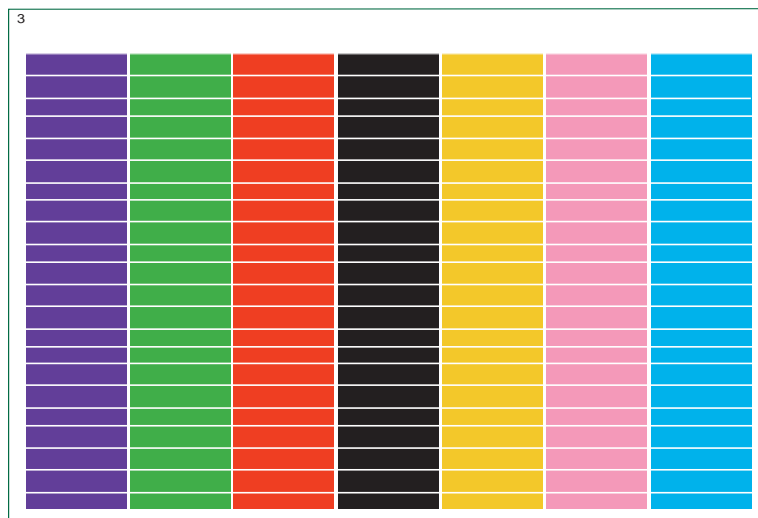
C6074281

### Banding in all of the colors

1 Ensure the paper you have selected in the front panel is the paper you have loaded.

2 It is possible that the banding was caused because you were using non-HP media. If you still want to use non-HP media recalibrate the paper accuracy. Go to page 8-4, *Recalibrating the Printer for Accuracy* and perform the accuracy calibration. Performing this will overwrite the default setting for **only** the paper that you have selected.

**NOTE:** If later you reload HP certified paper into your printer, you can restore the optimal setting to what it was. Go to Utilities/Calibration/Accuracy/Restore Factory.

3 Perform the printheads alignment procedure, refer to page 9-16, *Aligning the Printheads*
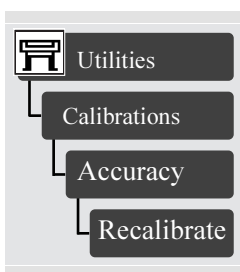
4   If you are using HP certified paper and you have performed all of the steps on page 11-6, *Problems with the Printer Configuration*, contact the HP support center; see page 11-41, *Getting Help*.

# Aligning the Printheads

| Utilities |
| Calibrations |
| Printhead Alignment |

Full menu mode only
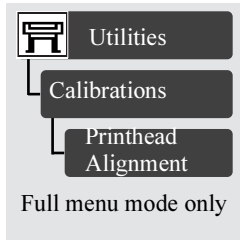
The printhead alignment selection causes the printer to align the printheads immediately, or if an image is being printed, as soon as the current print job is finished. The alignment procedure requires a minimum paper size of A2 or C-size.

You should not attempt to align the printheads with tracing paper, vellum or clear film.

The printer will automatically perform an alignment when printheads are replaced. You can use this feature if the print quality print indicates an alignment error. Refer to page 9-4, *How to Use the Print Quality Print.*

# Maintaining Your Printer 10

# Cleaning the Printer

| | |
|---|---|
| **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.** |
| **NOTE** | **Any maintenance or repairs beyond those described in this chapter should be done by a qualified service technician.** |

## Cleaning the Printer Exterior

■ Clean the outside of the printer as required with a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap.

# Normal Printer Use

"Normal" printer use is considered an average of 25-30 prints per day on A/0 size paper. This can vary depending on what print quality setting you use most frequently.

If your prints are smaller than this, the number of pages per day can be higher.

Under normal usage conditions. it will be approximately 5 years before your printer needs maintenance. If you use the printer more than this, it will need maintenance service more frequently. if you use the printer a lot less than this, it is unlikely you will need to get it serviced.

The printer itself keeps an internal count of the total of pages and the total number of passes of the printer carriage. If the printer displays:



This means that the use of the printer is going to exceed the defined "normal" printer use. At this time you should contact your local HP dealer or HP support. You can refer to the booklet HP Customer Care booklet for the telephone numbers. Arrange a time which is convenient for you and a service engineer will call.

The benefits of arranging a service engineer to visit when the front panel advises a maintenance call are two fold:

1   The printer down time will be limited to a time which is convenient for you.

2   When the service engineer calls he will replace **several** parts at one call. This will prevent the necessity of repeat visits and more printer "down time".

### Abnormal printer conditions

Under cold environmental conditions outside its operating range, the printer will stop. It does this to protect the ink systems inside the printer. If this should happen the printer will display the message "Printing temperature is out of operating range". Simply ensure the temperature is above 15°C and turn the printer off and on again. For details on the operating temperature see page 13-4, *Environmental Specifications*.

# Storing and Moving Your Printer

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

**NOTE**       **It is important that you do not remove the Ink Cartridges, Printheads and Printhead Cleaners before moving or storing the printer.**

**1**   Switch the power off; first at the On/Off power switch on the front panel and then second: at the power isolator switch at the back of the printer.
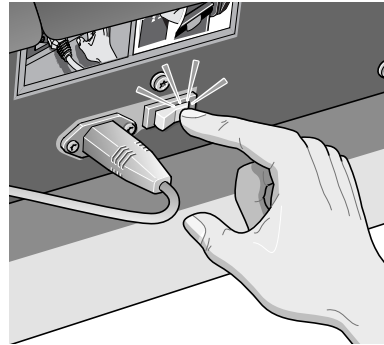


**2**   Disconnect any cables connected to the printer.

**3**   Repack the printer in its' original packaging. Refer to Assembly/Repacking Instructions booklet supplied with the printer for details.

**4**   If you have to move your printer you will need the original packaging. If necessary you can order a kit of the packaging materials. Contact HP support and they will supply it to you. If necessary they will repackage the printer for you.

Maintaining Your Printer
Storing and Moving Your Printer

# Troubleshooting

# *11*

# A Note About Troubleshooting

Much of the troubleshooting information contained in this chapter is provided to complement the printer's own internal image quality checking features.

- Fault Tolerant Print Modes
- Image Quality Consistency
- Continuous Printing
- Color Emulation
- Out of Ink Detection
- Printhead end of life early detection.

Troubleshooting should be an intuitive process with the printer either correcting its own faults or conveying a fault message via the front-panel display, prompting you to take corrective action. You should therefore only need to refer to these procedures if the printer does not correct the problem or instruct you via the front-panel display.

# Where to Find Help in Solving Problems

■ To find the meaning of front-panel messages, see chapter 12, *Front-Panel Messages*.

■ If you know the problem is related to a certain task, first check the relevant section in this manual, for step-by-step procedures. Use this manual's index or table of contents to find the section. For example, if you are having difficulty with page formatting, refer to chapter 5, *Controlling the Page Format.*

■ If the problem is related to the quality of your printed images, refer first to the section: Solving Image-Quality Problems 11-5.

■ Refer to the appropriate topic in this chapter:
   – *Solving Media-Handling Problems*
   – *Solving HP No.80 Supplies Problems*
   – *Clearing a Media Jam*
   – *Solving Communication Problems*
   – *Solving Problems with Image Position or Content*
   – *Solving Color Accuracy problems*
   – *Solving Front-Panel Problems*
   – *Solving Miscellaneous Problems.*

■ If the problem could be related to your software driver, and you are using an HP driver, refer to the driver's troubleshooting documentation and the on-line help in your application software.

■ If the problem has no obvious cause, refer to *Finding the Source of Your Problem* on the next page.

■ If you still cannot solve the problem, see page 11-41, *Getting Help*.

# Finding the Source of Your Problem

**1** Look at the front-panel display for messages. See chapter 12, *Front-Panel Messages* for an explanation of front-panel messages.

**2** Test the printer.

- Switch the printer off at the front panel and at the power switch at the back of the printer. Make sure that the power cord is firmly inserted in the printer and plugged in to an outlet that you know works.

- Switch the printer on. Print an internal print. If the printer prints the internal print correctly, the problem is probably not with the printer. See page 2-7, *Printing the Current Configuration.*

**3** Test your computer hardware and interface.

- Make sure that you have the correct interface cable between the computer and the printer and that it is firmly connected to the correct ports (see the *Setup Guide*).

- Check that your printer's graphics language setting (in Device setup / Lang) matches the requirements of your software.

If you have changed your interface, switch the printer off and then on again before trying to print.

# Solving Image-Quality Problems

**Problems with Printer Configuration** *11-6*

This is the first place you should find help when you find that the print quality is not at an acceptable level.

**Problems with Line Printing** *11-7*

Go to this procedure when you find your image has the following defects:

- Stepped lines
- Lines and Text broken and/or missing
- Lines missing
- Lines faint or thinner than expected.

**Problems with Color-to-Color Alignment** *11-9*

Go to this procedure when you find your image has the following defects:

- Some color lines appear as double lines
- Borders of colored areas have other colors in them where the borders meet.

**Problems with Light or Dark Horizontal Lines (Banding)** *11-11*

Go to this procedure if your image contains light and dark lines going from left to right across your image, which are most prominent in areas of high ink density.

**Problems with the Color** *11-16*

Go to this procedure when you find your image has the following defects:

- Color is not as expected
- The consistency of the colors is bad.

**Problems with Media** *11-18*

Go to this procedure when you find your image has the following defects:

- Slightly warped lines
- Blurred lines
- Smears/Scratches
- Marks on glossy media

**Problems with the Position and Content of your Image** *11-32*

Go to this procedure if the position of the image on the page is not what you expected.

- The output contains only a partial print
- The image is clipped.

**How to use the Print Quality Print** *9-5*

# Problems with the Printer Configuration

Before attempting the diagnostic procedures contained in this section to solve any print quality problems that you may have, it is important to first check that the printer is correctly set to print what you want. Many problems concerned with print quality can be solved by correcting the way the printer is configured.

1  To achieve the best performance from your printer, only use **genuine** HP accessories and supplies, whose reliability and performance have been thoroughly tested to give trouble-free performance and best-quality prints. For details of HP media, see page 3-3, *Paper Types* and the *Media Guide for the HP DesignJet Printers* supplied with the printer.

2  Make sure that the **type of paper** selected in the front panel is the same type of paper loaded into the printer. To check this go to the Roll or Sheet menu in the front panel and press **Enter**.

3  To ensure the maximum print quality use **HP certified media** only. For details of HP media see page 3-3, *Paper Types* and the *HP Printing Material Guide* supplied with this printer. You can also look at the web page **http://www.hp.com/go/ designJet** for the most up to date information.

4  Make sure that the **print mode quality** (best, normal, draft) used in your printer is correct. This is defined in the front panel and in the driver selection.

5  Select **Best** print mode for maximum print quality.

6  For **Non-HP drivers**, set media settings to match the media type loaded in the printer. See the documentation that came with your software for information.

7  If your image quality problem is **color accuracy** related, go to page 11-17, *Color Accuracy Configuration* for further configuration help.

# Problems with Stepped Lines

### Description of problem

When you look at the image you have printed there are **'stepped lines'** in the borders of arrows and diagonal lines. The lines should be straight with no stepping.

Shown below is an example of what you might see if you have problems with Stepped Lines.
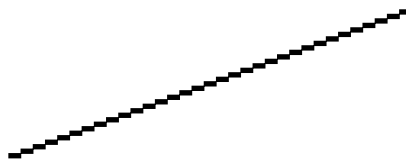
C6074283

## How to solve the problems

1 Increase the dpi setting by changing the print quality to best in the front panel and driver software.

2 The problems may be inherent in the image you are trying to print. Try to improve the image with the **application** that generated the file.

# Problems with printing lines

### Description of problem

When you look at the image you have printed there are:

■ Missing or faint lines

■ Printed text having missing parts to them.

Shown below are examples of what you might see if you have problems with printing lines.

Missing parts of text; this should
say TEST                    C6074284

Straight lines have missing sections
                            C6074285
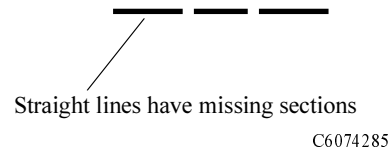
## How to solve the problems

**1** Go to the printer submenu and press **Enter.**

Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK

Printer submenu

**2** Go to Utilities/Recover Printheads.

Utilities

Recover
Printheads

All, cyan,magenta
yellow, black
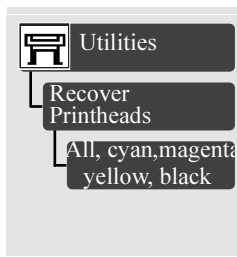
**3** Select the printhead color which has the problem. The printer will try to 'Recover' the defective printhead. If you are not sure which printhead color is giving you the problem, select all of the printheads. Please wait.

**4** **Reprint** the image you were attempting to print before (in the same mode) to see if the problem still exists.

**5** If the problems continue, reprint the image using **Best** mode.

**6** If printing in Best mode is not acceptable, replace the offending printheads. If you're not sure which printhead is giving you the problem, print out the Image quality Print. This will help you find the faulty printhead. For more details see page 9-4, *How to Use the Print Quality Print.*

# Problems with Color-to-Color Alignment

**Description of problem**

When you look at the image you have printed:

■ The colored lines are printing double and they are the wrong colors,
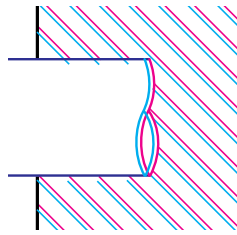
C6074286

■ The borders of colored blocks are overlapped and the overlapping areas have different colors in them.

C6074287

■ Vertical lines are mis-aligned or fuzzy (not smooth)
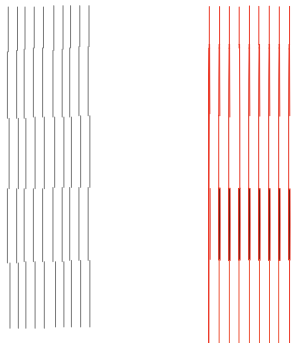
C6074304

## How to solve the problems

**1** Make sure you have paper loaded (not clear film, tracing paper or vellum).

**2** Go to the Printer submenu and press **Enter.**
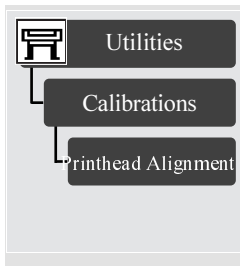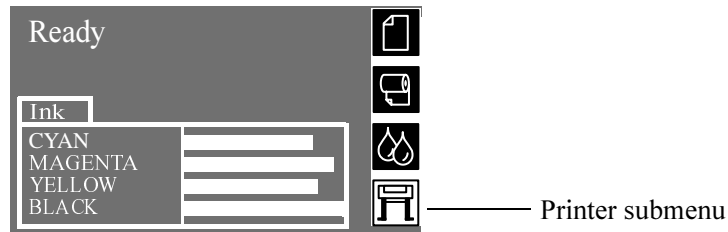
Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK

————— Printer submenu

Utilities

Calibrations

Printhead Alignment

**3** Perform the Printhead Alignment Calibration. By going to Utilities/Calibration/ Printhead Alignment. Please wait as the process of aligning the printheads takes a few minutes.

**4** Reprint the image you were attempting to print before (in the same mode) to see if the problem still exists.

**5** If there is no improvement in the quality of the image, see page 11-41, *Getting Help*.

# Problems with Horizontal Lines (Banding)

### Description of problem

When you look at the image you have printed there are light or dark lines on the image, these are particularly highlighted in high density ink areas. This problem is known as banding.

**IMPORTANT**     **Banding can occur to a certain degree in draft and normal mode when printing high density prints. To obtain the best image always print in Best Mode.**

Shown below is an example of what you might see if you have problems with banding.



C6074306
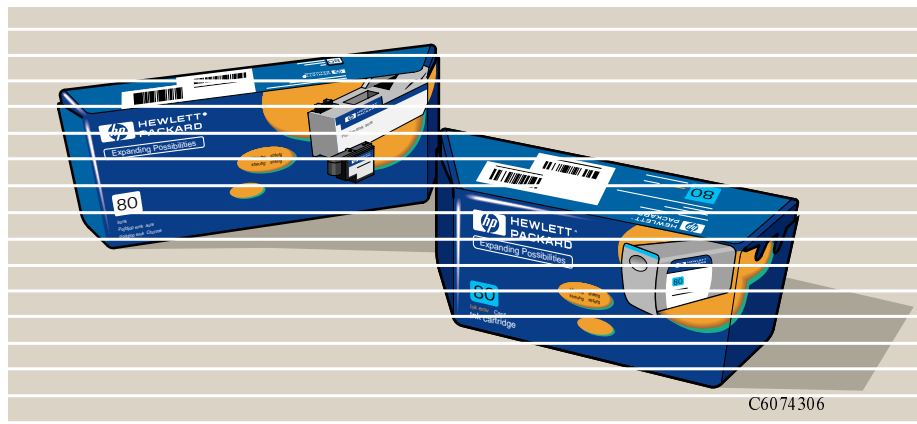
## How to solve the problem

**NOTE:** While performing the next procedure duplicate the condition the printer was in when you discovered the problem: use the same media and the same print mode.

1  Ensure that the paper you have selected in the front panel is the same paper that you have loaded.

2  Perform the Printhead Alignment Calibration 9-16, *Aligning the Printheads.*

3  Reprint your image.

4  If you have printed your image in Normal or Draft mode and it is not acceptable to you, re-print it in Best mode. Check the front panel and driver selection to make sure that Best mode is selected.

**5** Go to the printer submenu and press **Enter**.

Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK

——————— Printer submenu

UTILITIES

Test Prints

Print Quality

Full menu mode only

**6** Go to Utilities/Test Prints/Print Quality and press **Enter.**

**7** The printer will print a diagnostic test print. This will help you find the source of the banding problem. Please wait as the process of printing the print quality print takes a few minutes.

**8** Look in the **top** section of your print quality test print. Check to see if there are any of the following examples of defects in the print.

Missing lines

Misdirected lines

Very obvious
unequal spacing

C6074301

C607482

Missing lines
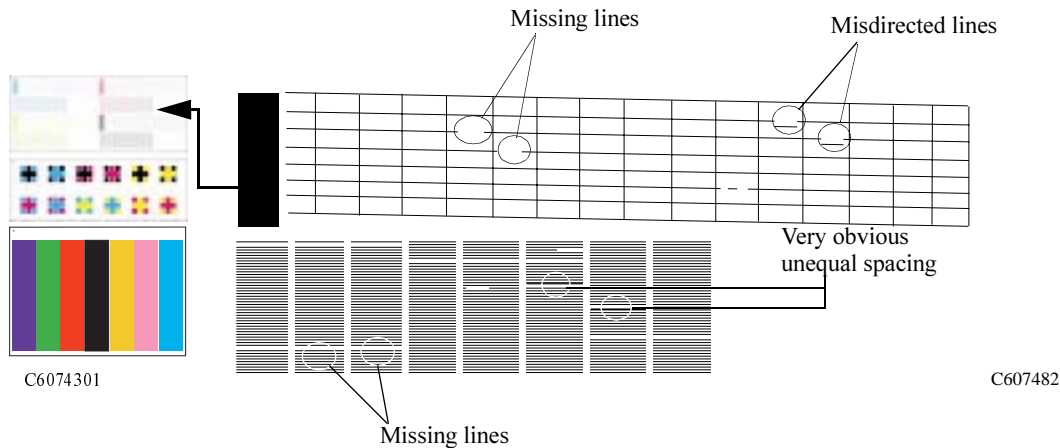
**9** If there are any of the above defects visible in the test print, continue with step 9a. If there are no defects in the top part of the print test, go to step 10 and miss out step 9a to 9f.

**9a** Go to the printer submenu and press **Enter.**

Ready

Ink
CYAN
MAGENTA
YELLOW
BLACK

——————— Printer submenu

**UTILITIES**

Recover
Printheads

Full menu only

**9b** Go to the Utilities/Recover Printheads and press **Enter**

**9c** Select the printhead color that displayed the defects in the Print Quality Test Print. If you are not sure which printhead color is giving you the problem select all of the printheads.

**9d** Perform the printhead alignment procedure 9-16, *Aligning the Printheads*

**9e** Reprint the image you were attempting to print before (in the same mode) to see if the problem still exists.

**9f** If there is no improvement in the quality of your image, print again the print quality test and continue to the next step.

**10** Check the **bottom** section of your Print Quality Test print. If there is banding in **all** colors continue with step 10a. If there is banding in only a few colors go to step 11.
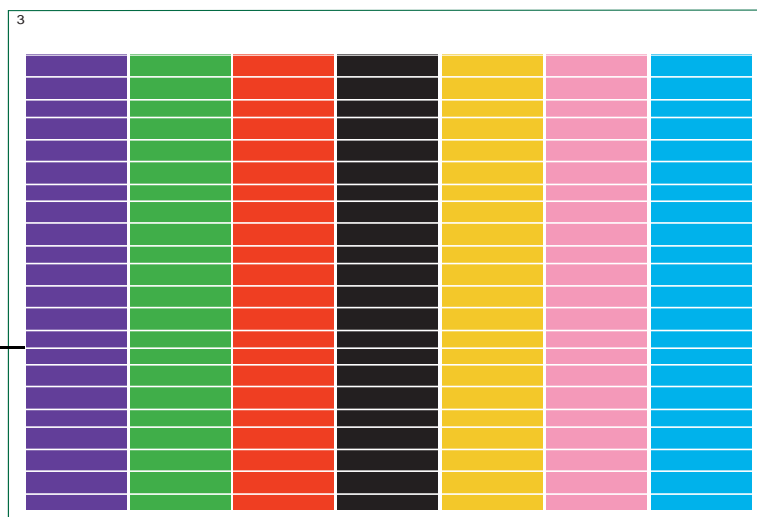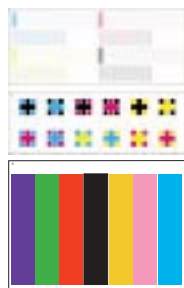
C6074301
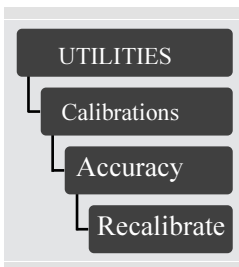
C6074281

**UTILITIES**

Calibrations

Accuracy

Recalibrate

**10a** It is possible that the banding was caused because you were using non-HP media. If you still want to use non-HP media, recalibrate the paper accuracy. Go to page 8-4, *Recalibrating the Printer for Accuracy* and perform the accuracy calibration. Performing this will overwrite the default setting for **only** the paper that you have selected.

**NOTE:** If later you reload HP certified paper into your printer, you can restore the optimal setting to what it was. Go to Utilities/Calibration/Accuracy/Restore Factory.

**10b** If you are using HP certified paper and you have performed all of the steps on page 11-6, *Problems with the Printer Configuration*, contact the HP support center see page 11-41, *Getting Help*.

**11** When you look at the image you have printed there is banding on the image, but only in a **few** colors similar to the example shown below.



C6074280

**11a** The possible combinations with this problem are:

- Banding in **cyan**, **blue** and **green** columns only, but more evident in cyan. This means that the cyan printhead could be permanently damaged.

- Banding in **magenta**, **red** and **blue** columns only, but more evident in magenta. This means that the magenta printhead could be permanently damaged.

- Banding in **yellow**, **red** and **green** columns only, but more evident in yellow. This means that the yellow printhead could be permanently damaged.

- Banding in **black** column only. This means that the black printhead could be permanently damaged.

**11b** If you want optimal image quality from your printer, replace the damaged printhead with a new one.

**NOTE**       **However, your printer can still produce good quality line prints.**

# No Printing Defects Found in the Print Quality Print

If all the test patterns from the print quality print are correct and you still experience print quality problems, here are some of the more likely causes to check:

■ The print mode used in your printer is not right for the image you are printing (this is defined by the printer's front-panel menu selections)

■ Non-HP driver

■ The RIP (If you are using one)

■ The software applications you are using.

Use the following table to configure your system correctly.

| What to Configure | Configuration Setting | Optimal Setting |
|---|---|---|
| Printer Front-Panel Menu | Media | Unload the current media and load it again after changing the media type in the front panel. |
| | Dry time | Set to Automatic. |
| HP driver (Windows, AutoCAD or Mac) | Print mode setting | Set to Best. |
| Non-HP drivers (Software RIPs) | The settings available depend on the driver. The most typical settings are:<br>■ Image Quality Settings<br>■ Half Tone<br>■ Media selection<br>See the user's guide for your application for more information about its print quality settings. | In your software application:<br>■ Set Image Quality to Best<br>■ Use no Half Tone (or printer default.)<br>■ Make sure that the media setting matches the media loaded in your printer. |

# Solving Color Accuracy problems

These are two areas you should review when troubleshooting a color accuracy problem:

**Configuration (PostScript option only)**

Check that you are using the correct driver setting and CRD information for your software. Check which ink emulation mode has been selected in the front panel; see page 9-2, *Selecting the Ink Emulation Mode (PostScript Only)*.

**Media**

Ensure the media loaded is genuine HP media and the correct media type selected on the front panel and in the driver.

## Color Consistency problems

■ If color consistency is important for you, it is recommended that you do not use HP-GL/2 to print with.

■ Some media may discolor or change with age. Check that your media is fresh and has been stored correctly.

■ If the environmental conditions you are printing in change rapidly, you may see changes in the color consistency. By reducing the time the print stays in extreme environmental conditions after being printed (especially very high humidity) you can reduce the color consistency problems.

■ If you notice that there are color changes between different printers i.e. between the 750C and this printer. It is normal. There will be color differences between HP DesignJet printers because the other printers use a different ink.

## Long Term Color Bleeding (Glossy Papers)

If you see the colors are bleeding into the paper i.e. the color is soaking into the paper making the lines fuzzy and bleary. This will be because of the humidity conditions that you are working under:

■ Change the paper that you are printing with.

or

■ Remove the printer from the high humidity conditions.

## Color Accuracy Configuration

The configurations of the printer, the driver, and the software RIPs define how ink is applied to each type of media. Use the information in the following table to configure your printer and software for best color accuracy.

| Location of Setting | Setting Description | Selection |
| --- | --- | --- |
| Printer Front-Panel Menu | Media | ■ Set to match the media type loaded in the printer. See page 3-3, *Paper Types*. |
|  | Ink Emulation (PS only) | ■ Set the type of CMYK inks that your software generates. If you use HP drivers use "Native". |
|  | Ink Limiting (PS only) | ■ Set to ON. |
|  | Color Calibration (PS only) | ■ Set to ON. |
| HP Drivers | Media | ■ Set to match the media type loaded in the printer. See page 3-3, *Paper Types*. |
| Non-HP drivers (Software RIPS) | Media or equivalent setting | ■ Set to match the media type loaded in the printer. See the documentation that came with your software for information. |
|  | Color correction option or equivalent | ■ Do the color correction calibration if one is available. |

## Media

Always make sure that you are using the appropriate media for your image and that it is consistent with your software application. To ensure color accuracy and print-quality performance of the printer, use only media types that have been certified for your printer. Use of non-HP media or HP media not certified for the your printer may significantly reduce the color and print quality of your images. For details of HP media, see page *3-3, Paper Types* and the *Media Guide for the HP DesignJet Printers* supplied with the printer.

## Where to Find Additional Information

The means of accurately managing the colors printed by your printer vary with the software application and driver being used. Refer to the following documentation:

■ The *Software Application Note*s for your application, in the package shipped with your printer.

■ On-line documentation in the drivers shipped with your printer. If you cannot find any reason for the discrepancy, before getting help, find out for which CMYK printer inks the colors have been specified.

**Non-PostScript**  Additionally, remember that for 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 section starting on page 6-3, *Changing Pen Widths and Colors Using the Internal Palettes*.

## If There are Slightly Warped Lines

■ The media itself may be warped. This can happen if it has been used or stored in an extreme environment. For all environmental specifications, see page *13-4*.

## If There are Blurred Lines (Ink "Bleeds" from Lines)

■ Perhaps you have adjusted the drying time in the front-panel menu to speed up the printer output. Set "Drying time" to "Automatic".

For details of drying time adjustments, see page *3-29*.

## If there are marks or scratches on glossy paper after printing.

Glossy paper may be extremely sensitive to the bin or anything that it comes into contact with directly after printing. This will depend on the amount of ink printed and the environmental conditions that are present at the time of printing. Avoid any contact with the paper and handle the print with care until quite some time has elapsed.

If you use glossy media and there is damage to the print from the paper bin, you can install a cover which goes around the bin assembly and protects the glossy paper from damage.

**NOTE:** Included with HP media is a book "Printer Tips" that includes a section on troubleshooting paper problems.

## There are Smears or Scratching on Your Printed Media

This problem can appear on paper-based coated media if a lot of ink printed quickly. The media cannot absorb the ink quickly enough and becomes distorted. As the printheads move over the media, the printheads and the media come into contact with each other and the printed image is smeared.

1  Press the **Cancel** key on the front panel; if you continue to print, the paper may damage the printheads.

2  Cancel the print job from your computer application.

In order to obtain better results perform the following:

■ Use HP recommended media. If the image you are printing has intense color, use HP Heavy Coated Paper

■ Use extended margins see page 5-9, *Adjusting Margins*, or try to increase the print margins by relocating the image in the page from your software applications.

■ If you are using 'Media Saving Options' from the advanced section of the HP-GL/2 Driver, try disabling one or both the options 'auto rotate' and 'inked area'.

If the above fails to solve the problem of smears and scratching, change the media you are using to a non-paper based media such as glossy film.

If you use glossy media and there is damage to the print from the paper bin underneath the printer, you can install a cover which goes around the bin assembly and protects the glossy paper from damage.

# Solving Media-Handling Problems

## The Front Panel Keeps Indicating that Media Is Misaligned or Incorrectly Positioned

**Roll media**
- The roll may be loaded the wrong way. The paper should load over the roll toward you.
- The paper may be loaded at an angle. The right-hand edge must be parallel to the line on the paper entry roller.
- Ensure that the paper is wrapped tightly on the roll.
- Perform the manual alignment procedure on page 3-18, *Loading Roll Paper Using Manual Alignment.*
- Check that the paper is corrdctly loaded onto the spaindle.

**Sheet media**
- It must be loaded with the right-hand edge against the blue perforated line on the printer.
- The media may be crumpled or warped or may have irregular edges.
- If you are using hand-cut media, the edges may not form a right-angle or they may be rough. Do not use hand-cut media. Use only purchased sheet media.
- If the media you are trying to load is very slippery, hold the media with both hands, and gentle push the media into the printer until it buckles upwards in the middle, this will help the printer to load it.

# Solving HP No.80 Supplies Problems

Most of the problems that you could encounter when working with the HP No.80 supplies are solved with guidance from the front panel. A full list of front messages are supplied on page 12-2, *Message Descriptions and Actions.*

## Problems reseating the printhead

If you have inserted the printhead into the printhead carriage assembly and the printer does not "BEEP" perform the following steps.

■ Check that you have removed the protective tape from the printhead.

■ Insert the printhead into the carriage assembly but this time close the cover using the latch.

■ Clean the electrical contacts on both the printheads and the printhead carriage assembly using the carriage interconnect wiper procedure refer to 11-23, *Carriage Interconnect Wiper*

■ Replace the printhead with a new one.

## You Cannot Insert the Ink Cartridge Into the Printer

1 Ensure that you have the correct HP No.80 ink cartridge.

2 Ensure that the cartridge is the correct color for that slot.

3 Ensure that the cartridge is the correct orientation, with the color coded label at the top.

**CAUTION**          **Never clean inside the ink cartridge slots.**

## You Cannot Insert the Printhead Into the Printer

1 Ensure that you have the correct HP No.80 printhead.

2 Ensure that the printhead is the correct color for that slot.

3 Ensure that the printhead is the correct orientation.
   See page 4-1, *Working with HP No.80 Supplies* for details

## You Cannot Insert the Printhead Cleaner Into the Printer

1   Ensure that you have the correct HP No.80 printhead cleaner.

2   Ensure that the printhead cleaner is the correct color for that slot.

3   Ensure that the printhead cleaner is the correct orientation.
    See page 4-1, *Working with HP No.80 Supplies* for details

## Carriage Interconnect Wiper

When ever you replace the printhead check the empty slots to see if they need cleaning. In extreme circumstances, when a printhead is inserted, it is possible that the printer will not recognize it due to the build-up of ink on the electrical connection between the printhead and the printhead carriage.

Included with your DesignJet printer, is a Carriage Interconnect Wiper (HP Model No. C6071-40171). This tool is provided in a separate package. It also contains replacement sponges and an instruction sheet. This tool should be used for cleaning the electrical interconnects of both the printhead carriage and the printhead.

If the front panel displays the message "Reseat" or possibly "Failed" next to the offending printhead try performing the following procedure.
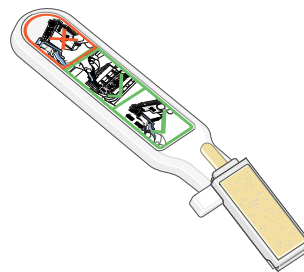
C6074288

**NOTE:** Do not touch, wipe or attempt to clean the printhead nozzles. This can damage the printhead and reduce print quality.

1  To Clean the Carriage Electrical Interconnect, remove a new pre-moistened replacement sponge from its pouch. A supply of sponges is included in the box with the tool. If all sponges have been used, more can be obtained by contacting your HP customer service representative.
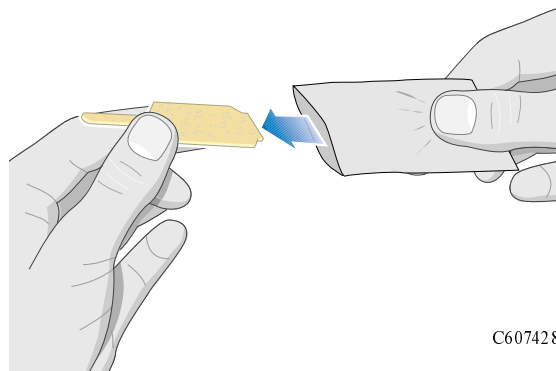
C6074289

**2** Open the carriage interconnect wiper.

C6074290
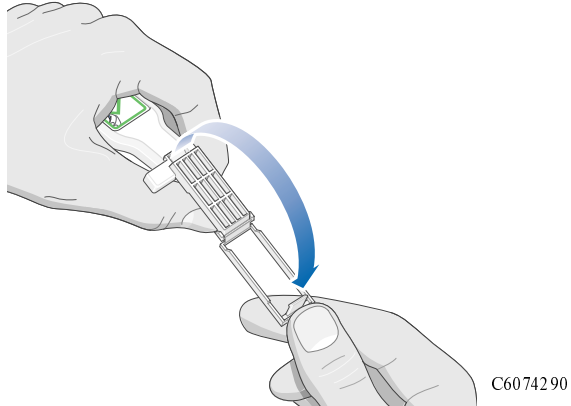
**3** Load the sponge into the carriage interconnect wiper by positioning the sponge on the face of the carriage interconnect wiper with the shorter tab in the locating slot.

C6074291
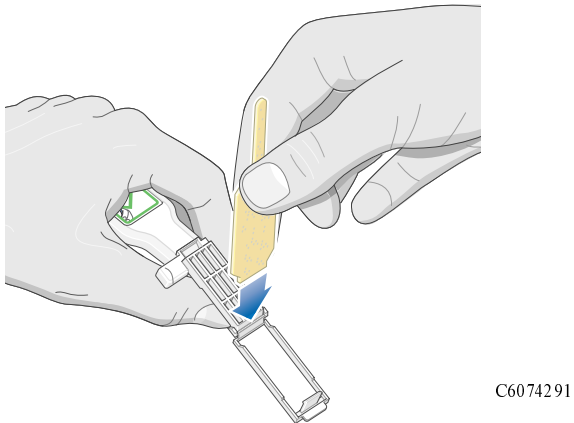
**4** Close the carriage interconnect wiper trapping the sponge in place.

C6074292
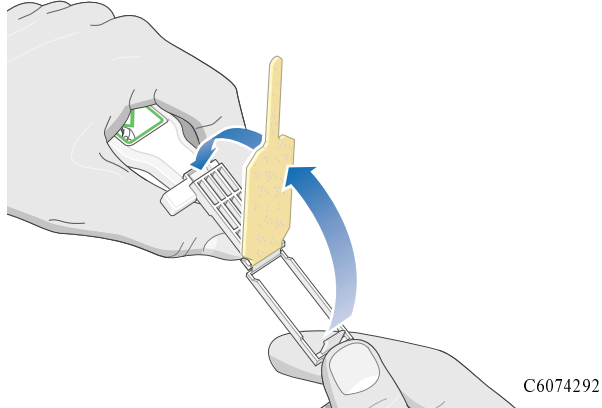
**5** Open the printhead carriage latch and extract the printhead that has the problem, as indicated on the front panel. Use the procedures on page 4-22, *Printhead Removal*.

**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, towards the electrical contacts.
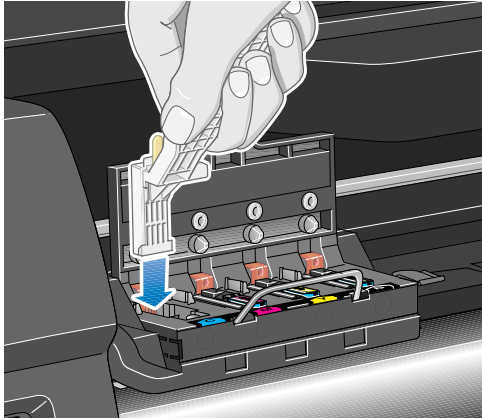


C6074293

**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.
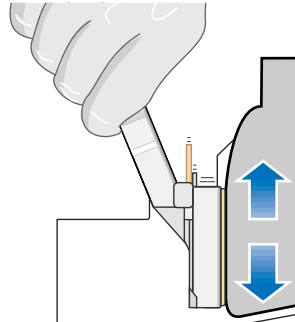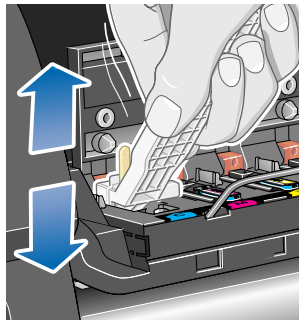


C6074294

**8** Take special care to thoroughly clean all contacts including the ones at the lowest point of the connector.
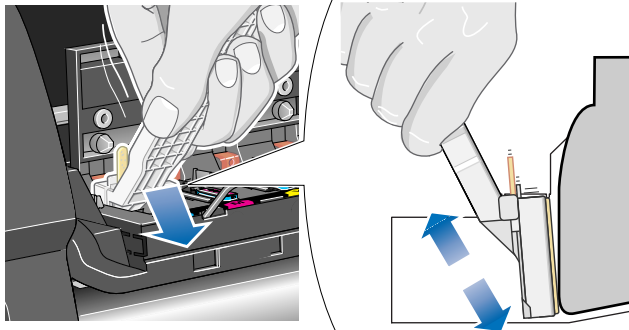


C4704295

**9** Using the same sponge, clean the electrical contacts on the printhead.
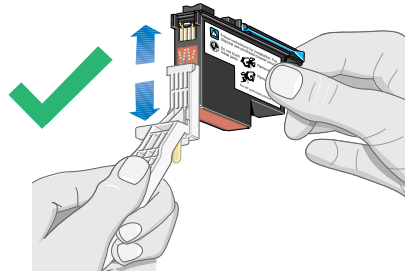
Clean the electrical
contacts                                                **Do not** clean here
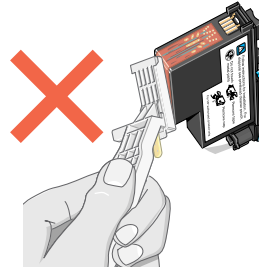


C6074296

| CAUTION | **Do not touch the surface of the printhead containing the nozzles as it may damage them.** |
|---------|---------------------------------------------------------------------------------------------|

**10** After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage as instructed by the *Printhead Installation* procedure.

**NOTE:** If the problem still persists, replace the printhead or call your HP representative.

**11**  On completion of the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.
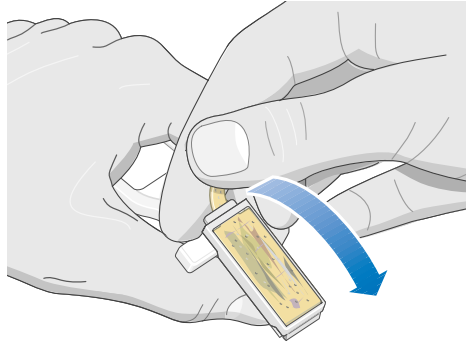
C6074298

**12**  Remove the soiled sponge from the carriage interconnect wiper.
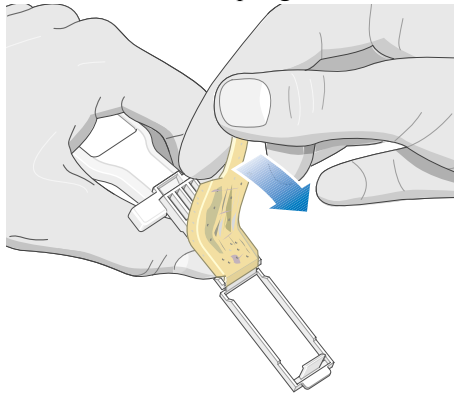
C6074299

**13** Dispose of the soiled sponge in a safe place to prevent the transfer of ink onto hands and clothing.
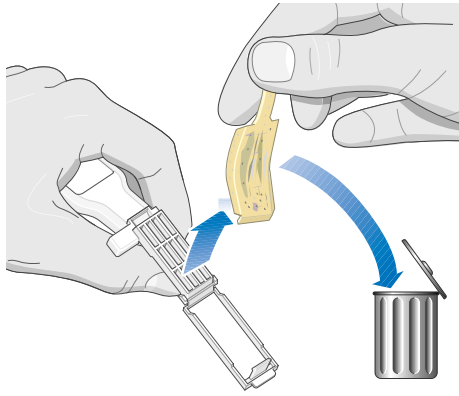
C6074300

# Clearing a Media Jam

If the front panel displays any of the following:

| | |
|---|---|
| Switch Power off<br><br>Check printhead path<br><br>(xxxxx shut down) | Switch Power off<br><br>Check paper path<br><br>(xxxxx shut down) |

**1**  Switch the printer off at the front panel open the window.

**2**  Carefully move the printhead carriage out of the way - if possible all the way to the enclosed area on the left or the right. Which way you are able to move it depends on where the media is jammed.

---

**CAUTION**       **When moving the printhead carriage, touch only the black plastic parts.**

---

**3**  Carefully remove any of the jammed media which you can easily lift up and out from the top of the printer.

**4**  Carefully pull the rest of the roll or sheet down and out of the printer.

**5**  Lower the window and lift up the handles and switch on the printer. Press the Form Feed and Cut key to eject any pieces of media that are still in the media path.

   **NOTE:** Depending on the status of the printer when the media jam occurred, it may check the ink system components now see chapter 4, *Working with HP No.80 Supplies*, for more information.

**6**  Reload the media as normal see page 3-13, *Loading Roll Paper*. If you are using roll media you may need to trim the edge first.

**7**  If you have image quality problems after a paper jam, remove the printheads and re-install them see *4-22* for details on how to do that.

   **NOTE:** If there is still paper left in the paper path, try loading a stiff/rigid paper type into the printer such as heavy coated or matte film, this will help to force out and paper jammed in the paper path.

# Solving Communication Problems

## If there is a Problem Communicating between Your Computer and the Printer

**Some symptoms of a communication problem are:**

- The front-panel display does not show STATUS / Receiving.
- 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.)

**Items to start checking are:**

- Have you selected the correct interface port in your software?
- Does the printer work correctly when receiving files from other software?
- If the printer is connected to a network, try using it when connected directly to your computer.
- 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 page 13-8, *For specifications of the HP JetDirect Print Server (Network Interface), see the JetDirect Print Server documentation supplied with the Print Server Interface or consult your dealer.*.

# Solving Problems with Image Position or Content

If you don't find the solution to the problem here, other sources of help are:

■ The documentation supplied with the driver that you are using to manage the output from your software application to the printer.

For example, the on-line and printed documentation included in the following drivers supplied with your printer

– HP DesignJet PostScript® drivers for Power Macintosh® and Macintosh® (QuickDraw™)

– HP DesignJet PostScript® drivers for Microsoft® Windows™ applications.

– HP drivers for AutoCAD™ users

– HP-GL/2 Windows drivers

■ The HP-GL/2 driver documentation supplied with your application software.

## If the Print is Completely Blank

■ If the front-panel graphics 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., and send the file again.

## If the Output Contains Only a Partial Print

■ Did you press **Cancel** or **Form Feed and Cut** before all the data was received by the printer? If so, you have ended the data transmission and will have to print the page again. (You normally don't need to press **Form Feed and Cut** to unload the print.)

■ The I/O Setup / I/O Timeout setting may be too short. From the front-panel menu you can increase the I/O Timeout setting to a longer period and then send the print again.

■ The file may be too large for the printer's memory. You can install extra memory in you printer, see page *8-9, Upgrading Your Printer*. See the Setup Guide for installation information.

■ 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.

## If the Image is Clipped

- This normally indicates a discrepancy between the actual printing area on the loaded media and the printing area as understood by your software. For general advice on printing areas and page size, see chapter 5.

- Check the actual printing area for the media size you have loaded. printing area = media size minus margins. For media size and margins, see page *13-7*.

- Check what your software understands to be the printing area (which it may call "printable area" or "imagable area"). For example, some software applications assume standard printing areas that are larger than those used in this printer.

- Check that the orientation of the media is the same as that assumed by your software. The front-panel Page format / Rotate option changes the orientation of a print and, on roll media, the orientation of the page. It is possible that a rotated image on roll media may be slightly clipped in order to retain the correct page size, as explained on page *5-7*.

- You may have asked to rotate the page from portrait to landscape on media that is not wide enough, for example a D/A1-size page rotated on a D/A1-size roll.

- If necessary, change the printing area in your software.

- The file may be too large for the printer's memory. This is the case if the front panel displays "Out of memory - data was lost". See page 13-14, *Ordering Accessories* for details of memory expansion modules.

## If a Long-Axis Print Is Clipped

- Does your software support long-axis prints?

- Have you specified an appropriate media size in your software?

- Unless it is a PostScript file, make sure that the printer's Page format / Size is set to Inked area.

- There may not be sufficient memory. See page 8-10, *Long Axis Printing Limitations*.

## If the Entire Image is in One Quadrant of the Correct Printing Area

- Is the page size configured in the software too small?
- Are you sure that your software doesn't believe the image to be in one quadrant of the page?

Otherwise, this indicates an incompatibility between the software and the printer:

- Is your software configured for this printer? For general advice, see *Set Up Your Software* in the *Setup Guide*. For advice specific to your software, see either the documentation supplied with the driver or any *Software Application Notes* supplied with your printer.
- If you still haven't found the solution, try changing the printer's Graphics Language setting on the front panel (Device setup / Lang).

## If the Image Is Unexpectedly Rotated

- Check the front-panel Page format / Rotate setting.
- For non-PostScript files: If Queueing and Nesting are both ON, pages may be automatically rotated to save media. See page 5-10, *Rotating an Image (PostScript)*
- For an explanation of rotation for PostScript files, see page 5-10, *Rotating an Image (PostScript)*.

## If the Print Is a Mirror Image of Your Image

- Check the front-panel Page format / Mirror setting.

## If the Print is Distorted or Unintelligible

- The interface cable between your computer and the printer could be faulty. Try another cable to see if the problem is corrected.
- If you have connected your computer to the parallel port on the printer, make sure you are using a genuine HP parallel interface cable.
- If the front-panel graphics 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.) and send the file again.
- Depending on the software, drivers and RIPs you are using with your printer, there will be different solutions to solving this problem. Refer to the Vendor's User Documentation for details.

## If One Image Overlays Another on the Same Sheet

■ The I/O Setup / I/O Timeout setting may be too long. From the front-panel menu decrease the setting and print again.

## If Pen Settings Seem to have No Effect

■ Either: you have changed them in Pen settings / Define palette but forgotten to select that palette in Pen settings / Palette,

■ Or: you expected the software-driven pen settings but in the front-panel Pen settings / Palette is not set to Software.

■ Or: you changed the setting in the front panel but this has been ignored by the printer because the driver setting has not been changed.

## If the Printer Produces a Black and White Print When You Expected a Color Print

■ Check the front-panel Color/Grayscale setting, and the equivalent setting in your software.

## If the Printer has Printed a Different Print from the One You were Expecting

**One possibility is that you have accidentally initiated one of the printer's internal prints:**

■ The printhead Alignment Print. (A small pattern of colored squares without text.) This is printed automatically every time you replace a printhead.

■ The Current Configuration Print. This is printed by simultaneously pressing the two arrow keys on the front-panel.

■ The print quality print. This is printed from the Utilities / Service tests/ Image quality print menu.

■ The Service print. This provides information needed for printer servicing, such as the current configuration, operating conditions (temperature and humidity), ink levels, and other statistics about printer usage.

**Or you may have initiated one of the following Internal prints which are**

■ PostScript Fonts print.

■ The HPGL/2 Configuration print

■ The menu print.

■ The Palette print.

■ Usage Report

■ Print Quality Print

■ Service Configuration

## If Page Format or Rotate does not Work

■ The file may be too large for the printer's memory. This is the case if the front panel displays "Out of memory - data was lost". See page 13-14, *Ordering Accessories* for details of memory expansion modules.

■ The printer cannot rotate raster images (except for PostScript files). If your non-PostScript file contains raster data (typically, images with heavy area fill and shading that you have scanned into your software) you will not be able to rotate the print.

■ Your driver does not allow this to happen.

# Solving Front-Panel Problems

## If a Display Message is not Clear

■ Look up the message in chapter 12, *Front-Panel Messages*. The message description may help you understand and resolve the problem.

■ If looking up the message did not help, press **Enter**. If that does not work, turn the power off, then on again. If the message still displays, have the printer serviced. If the message says "System Error" and has an alphanumeric code, refer to the next explanation.

## System Errors

There are two types of system error meesage.

■ Continuable.



```
          ⚠
      System error
    060303 0AF0706B
  Contact HP representative
   Press enter to continue
```

If every time you switch the printer on it displays this message you must contact HP support. A printer with this message is still capable of printing but check the image quality.

■ Non-continuable.



```
          ⚠
      System error
    060303 0AF0706B
  Contact HP representative
     Switch printer off
```

1  Turn the printer off, then on again to try to clear the error message.

2  Contact HP see page 11-41, *Getting Help* or refer to the HP Support Services booklet. If you have the current configuration print with you it will help the service engineer

## If an "Out Of Memory/Data Was Lost" Message Is Displayed

■ The current file is too large for the printer's memory.

## File Size and Memory Usage

There is no direct relationship between file size on your computer and memory used in the printer to print that file. In fact, because of file compression (and general complexity) it is often impossible to estimate how much memory will be used.

# Solving Miscellaneous Problems

## If the Printer does not Print

■ You may have a power problem. If there is no activity at all from the printer, and no lights on the front panel, check that the power cable is connected correctly and that there is power available at the socket.

■ If you are using a Macintosh and the print job does not print, ensure the printer language is set to Postscript or Automatic. See page 8-6, *Changing the Graphics Language*.

■ You may have a problem with your application driver. Is your software configured for this printer? For general advice, see the *Setup Guide*. For advice specific to your software, see either the documentation supplied with the driver or the *Software Application Notes* supplied with your printer.

■ If you have connected your computer to the printer's parallel port and tried to print a binary-encoded PostScript file it will not print. The parallel port will only accept ASCII-encoded PostScript print files. The front panel will display the message "Error processing job / Flushing rest of job". Connect your computer to the JetDirect Print Server and send the print file again.

■ The file may be too large for the printer's memory. This is the case if the front panel displays "Out of memory - data was lost". Look on your computer screen for any error message; some drivers allow you to choose a different printing mode and try to send the file again.

■ If you continue to have problems, see page 11-41, *Getting Help*.

## If the Printer Seems Too Slow

■ Did you specify Best print quality level on the front panel? Best quality prints are produced more slowly.

■ Did you specify the right media type when loading the media? For details of front-panel media types, see page 3-3, *Paper Types*. To find out the printer's current media type setting, see page *8-3*.

■ Are you using the printer with the Appletalk serial port on Macintosh? It is normal for the Appletalk port to be slow. Consider using the Ethertalk interface to connect your printer to your Macintosh.

■ The printhead may need replacing. See page 4-6, *When Should You Replace the HP No.80 Supplies?*

■ Did you specify a Manual Dry Time in the front panel. Change the dry time to Automatic see page 3-29, *Drying Time*.

■ If the printer is in Normal mode and the file it is printing contains high density inked areas the printer will need to slow down to compensate.

## If the Printer Waits Too Long to Print a Nest

■ Change the Nest wait setting. See page *7-15*.

# Getting Help

## About HP Customer Care

As your strategic support partner, we make it our business to help keep your business running smoothly. HP Customer Care offers award-winning support to ensure you get the most from your HP DesignJet.

HP Customer Care provides comprehensive, proven support expertise and leverages new technologies to give customers unique end-to-end support. Services include setup and installation, troubleshooting tools, warranty upgrades, repair and exchange services, phone and Web support, software updates, and self-maintenance services. To find out more about HP Customer Care, please visit us at: **www.hp.com/go/support**

## What to Do Before You Call

1 Review the troubleshooting suggestions in this chapter:

  ■ In the relevant driver documentation supplied with this printer (for users sending PostScript files or those using Microsoft Windows).

  ■ If you have installed third party software drivers and RIPs refer to that user documentation.

  ■ In any relevant *Software Application Notes* supplied with this printer.

2 If the problem appears to be related to your software application, first contact your software vendor.

3 If you still have difficulty, refer to the HP Support Services booklet shipped with this printer. This document contains a comprehensive list of various support services available to help solve printer problems.

4 If you do call one of the Hewlett-Packard offices, please have the following information available to help us answer your questions more quickly:

  ■ The printer you are using (the product number and the serial number, found on the label at the back of the printer).

  ■ The computer you are using.

  ■ Any special equipment or software you are using (for example, spoolers, networks, switch-boxes, modems, or special software drivers).

  ■ The cable you are using (by part number) and where you purchased it.

  ■ The type of interface used on your printer (parallel, or network).

■ The software name and version you are currently using.

■ If the problem is a system error it will have a error number; record the error number and have it ready. See page 11-38, *System Errors*

■ If possible print out the following reports. See page 2-12, *Printing Internal Prints* and FAX them to the support center helping you:

– Usage report

– Service print.

– Current Configuration

# Front-Panel Messages

# *12*

Message Descriptions and Actions  12-2

# Message Descriptions and Actions

This is a list of the messages in the front-panel display. If an action is needed, it is shown in the Description and Action column. The messages are listed in alphabetical order.

| Message | Description/Action |
|---|---|
| **Accessing Ink cartridges** | The printer is checking the status of the ink cartridges. The front panel will prompt you with further instructions after it has performed this procedure. |
| **Accessing Printheads.** | The printer is moving the printheads to an accessible position. |
| **Action unavailable.**<br>**Page being printed** | The printer is busy printing an image, it is not possible to perform the requested task, you will have to wait until it has finished. |
| **Aligning printheads**<br>**Approximate time remaining**<br>**xx min xx sec** | The printer is aligning the printheads. The time remaining before completion is displayed you cannot take any further action until this is completed. |
| **Aligning roll** | The printer is moving the roll paper backward and forward in order to get correct alignment. |
| **Alignment cancelled** | The printhead alignment has been cancelled, this can happen because either the Cancel key was pressed or there was an internal error. you can restart the alignment using the front panel menus. |
| **Align roll edge with white line. Feed roll until printer beeps.** | Insert the paper between the entry roller and the handles, align the edge of the paper with the white line on the entry roller, on the right hand side. When the paper has been inserted sufficiently you will hear a 'beep'. |
| **All ink cartridges successfully installed** | The removal and installation of your ink cartridges has been accepted by the printer. |
| **All printhead CLEANERS are OK.**<br>**Close right door to continue** | The printer has checked that the printhead cleaners are installed correctly. |
| **All printheads OK, Close cover and window to continue** | The printer has gone "BEEP" and the printer has accepted the new or reseated printheads. |
| **Already on Top.** | The front panel is already showing the "Top" menu screen. |
| **Calibrating** | The printer is performing the Accuracy calibration see page 8-4, *Recalibrating the Printer for Accuracy* |
| **Cancelling.** | You have selected Cancel from the front panel. The printer is in the process of cancelling the current print file. If the job that you have cancelled is large you may have to wait a while. |

| Message | Description/Action |
|---|---|
| **Check ink cartridges.** | The printer has detected missing ink cartridges or there is an installation problem with one or more of the ink cartridges. Select the "Ink system options/Ink cartridge info" menu on the front panel to determine the quantity of ink remaining in the cartridge. If necessary, replace an empty ink cartridge. |
| **Check printheads.** | The printer has detected missing printhead or there is an installation problem with one or more of the printheads. Select the "Ink system options/printhead info" menu on the front panel to determine the printhead problem. If necessary, replace the indicated printhead. |
| **Check printhead CLEANERS.** | The printer has detected missing printhead cleaner or there is an installation problem with one or more of the printhead cleaners. If necessary, replace the indicated printhead cleaner. |
| **Checking printhead CLEANERS.** | The printer is checking the printhead cleaners. |
| **Checking paper.** | The printer is in the process of checking the alignment of the paper. |
| **Close right door to continue.** | The printer has sensed that the right door on the ink service station is open at an incorrect time. Check the right door on the ink service station. If it is not secured make sure that it is correctly shut. |
| **Close door when done** | The printer is informing you that before it can continue with the next task, you must close the door on the right of the printer. |
| **Close right door when finished with printhead CLEANERS** | The printer is informing you that you must close the printhead service station door when you have finished replacing the printhead cleaners. |
| **Contact HP representative** | There is a system error and you need to switch the printer off and call your HP support see page 11-41, *Getting Help.* |
| **Cover not properly closed. Please close cover.** | Check the cover on the printhead carriage. It is not correctly secured. Make sure that the blue latch on top of the printhead carriage is correctly closed. |
| **Edge not found.<br>Reload paper.** | The printer has not sensed the paper edge so the load has failed. Start the load procedure again. |
| **Edge not found.<br>Unload paper.** | The printer has not sensed the paper edge and it cannot reload it at that moment. Unload the paper manually. |
| **End of paper not detected.<br>Remove paper.** | The printer has tried to eject the paper out of the paper path, and is unable to do so.<br>The paper needs to be manually removed. |
| **Failed** | There is a problem with your printhead or ink cartridge see page 4-9, *Printhead Status Messages* or 4-8, *Ink Cartridge Status Messages.* |
| **Error processing a job.<br>Flushing rest of job.** | There has been an error while processing a PostScript job and therefore the rest of the job will be ignored. |

| Message | Description/Action |
|---|---|
| **Faulty** | There is a problem with the printhead or ink cartridge that you are trying to install. See page *4-8* for more details. |
| **Full ink cartridges needed** | To perform the priming procedure correctly you need full ink cartridges, replace the ink cartridges with new ones. |
| **Have ink tube replaced or risk printer damage. Contact HP** | Ink tube system has reached its design life. You need to have them replaced as soon as possible, or risked an unexpected printer stoppage. |
| **HP is not responsible for damage from use of USED CLEANERS**<br>**Select YES to replace** | The front panel is warning you that it is vital to install new printhead cleaners when changing the printheads see page 4-29, *Printhead Cleaner Removal* for details on how to change them. |
| **HP is not responsible for damage from use of non-HP Printheads**<br>**Select YES to replace** | To ensure that you always get excellent image quality from you printer it is important that you use genuine Hewlett-Packard components. |
| **HP is not responsible for damage from use of non-HP ink**<br>**Select YES to replace** | To ensure that you always get excellent image quality from you printer it is important that you use genuine Hewlett-Packard components. |
| **HP No. 80 Ink cartridges successfully installed** | The ink cartridges have been accepted by the printer. |
| **Initializing printer, please wait.** | The printer is being initialized and you cannot take any further action until this is completed. |
| **Ink cartridge replacement not available now**<br>**Cancel print jobs before** | If the printer is busy trying to print something, you will not be able to replace any of the HP 80 modular ink system. |
| **Ink drying, please wait**<br>**xx min xx sec** | The printer is pausing so that the ink will dry. The amount of time left to dry is also displayed on the front panel.<br><br>**NOTE:** You can interrupt the drying time from the front panel by pressing the **ENTER** key or wait until it has finished. |
| **Ink levels are OK.**<br>**Press ENTER =accept** | The ink levels in your printer are low or very low, this may not be a problem since the printer can still print. For more detailed information see page 4-6, *When Should You Replace the HP No.80 Supplies?* |
| **Ink tube maintenance advised** | Ink tube system is approaching its design life and will need to be replaced soon. You must contact HP to get them serviced. |
| **Ink tube maintenance required now** | Ink tube system has reached its design life. You need to have them replaced as soon as possible, or risked an unexpected printer stoppage. |

| Message | Description/Action |
|---|---|
| **Insert cleaner** | The printer is prompting you to insert a new printhead cleaner into the printhead service station, which is located on the right hand side of the printer. |
| **Insert Ink cartridge** | The printer is prompting you to insert an ink cartridge into the slots on the left side of the printer. |
| **Insert Ink cartridges** | The printer is about to perform the priming procedure, it must have full ink cartridges in order to prime the printer correctly. |
| **Insert printhead** | The printer is prompting you to insert a new printhead into the printhead carriage. |
| **Lift window to access printheads** | You have selected a printhead replacement and the front panel is going to guide you through the procedure. |
| **Lift window to load printed sheet** | The printer is about to read an accuracy calibration pattern, you should now lift the window to load the sheet with the pattern. When you have done this the printer will guide you further. |
| **Lift window to replace SETUP printheads** | The printer is performing the priming procedure and is prompting you to lift up the window. See your *Setup guide* which came with your printer. |
| **Load cancelled.** **Remove paper.** | Paper load has been cancelled and the paper needs to be removed from the printer before starting to load new paper. |
| **Load paper to align printheads** | You have initiated a printhead alignment, however you must have paper loaded in the printer. Do not load tracing paper or film for the alignment procedure however. |
| **Load paper for current job** | You have sent a job to the printer but there is no paper loaded, you need to load paper before you can proceed, see page 3-13, *Loading Roll Paper*. |
| **Loading roll.** | The printer is in the process of loading a roll of paper. |
| **Loading sheet** | The printer is in the process of loading a sheet of paper. |
| **Load roll for current job** | You have sent a job to the printer that will be printed on a roll, but there is no roll paper loaded, you need to load the roll paper before you can proceed, see page 3-13, *Loading Roll Paper* |
| **Load sheet for current job** | You have sent a job to the printer that will be printed on a sheet, but there is no sheet loaded, you need to load sheet paper before you can proceed, see page 3-25, *Sheet Paper*. |
| **Lower handles to continue.** | The printer has sensed that the handles on the roll-paper entry-slot are up at an incorrect time. You must lower the handles to continue. |
| **Lower window to continue.** | The printer has sensed that the window covering the sheet entry platen is open at an incorrect time. You must close the window to continue. |

| Message | Description/Action |
|---|---|
| **Measuring** | The printer is performing the accuracy calibration print see page 8-4, *Recalibrating the Printer for Accuracy*. |
| **Monitor** | This is a HP No.80 supplies status message. It refers to the status of the printhead. See page 4-9, *Printhead Status Messages*. |
| **OK** | This is a HP No.80 supplies status message. It refers to the status of the printhead. See page 4-9, *Printhead Status Messages*. |
| **Open right door to access printhead CLEANERS** | You have requested a printhead replacement and the front panel is going to guide you through the procedure. You now need to open the printhead service station door located on the right side of the printer. |
| **Open right door to insert printhead CLEANERS** | You have requested a printhead replacement and the front panel is going to guide you through the procedure. You now need to open the printhead service station door located on the right side of the printer. |
| **Out of disk space, data was lost.** | The printer ran out of disk space while processing a print job but will continue to print what remains in memory. |
| **Out of memory. Data was lost.** | The printer ran out of memory while processing a print job but will continue to print what remains in memory. |
| **Paper too small.** | Loaded paper is too small for printing the incoming print job. The print job will be clipped to fit on the paper. |
| **Paper loaded incorrectly. Remove paper.** | The paper load has failed, the paper needs to be removed before paper can be loaded again. |
| **Placing printable side up, align sheet to blue lines. Lower window to continue.** | The sheet paper needs to be placed on the sheet entry platen, printable side upwards, and aligned with the blue dashed-line on the sheet entry platen, air suction will hold the sheet paper in place until the window is closed. |
| **PostScript resource area is full, unable to save to resource.** | The print job has tried to create a resource in the resource area of the hard disk and there has not been enough space for it. |
| **Press ENTER for ink system menu** | You are using the ↑ and ↓ keys on the front panel to scroll through the four printer menus, see page 2-8, *Entering the Printer Setup Menu System*. |
| **Press ENTER for roll menu** | You are using the ↑ and ↓ keys on the front panel to scroll through the four printer menus, see page 2-8, *Entering the Printer Setup Menu System*. |
| **Press ENTER for sheet menu** | You are using the ↑ and ↓ keys on the front panel to scroll through the four printer menus, see page 2-8, *Entering the Printer Setup Menu System*. |
| **Press ENTER for printer setup menu** | You are using the ↑ and ↓ keys on the front panel to scroll through the four printer menus, see page 2-8, *Entering the Printer Setup Menu System*. |

| Message | Description/Action |
|---|---|
| **Press ENTER to continue** | The printer has informed you and needs you to press the enter key on the front panel before it can continue. |
| **Press ENTER to finish drying.** | Pressing the **ENTER** key will cancel the drying time countdown. |
| **Printer maintenance advised** | This means that your use of the printer has exceeded the normal printer use and you should contact your local HP dealer or HP service engineer. Arrange a time, which would be convenient for you and he will service the printer see page 10-3, *Normal Printer Use* |
| **Printer start-up has finished** | The printer has finished the priming procedure and is now ready. |
| **Printer temperature is out of the printer's operating range. Printer cannot function** | Under cold environmental conditions outside its operating range the printer will stop. It does this to protect the ink systems inside the printer. Simply ensure the temperature is above 15 °C and turn the printer off and on again. |
| **Printing.** | The printer is in the process of printing a print file. |
| **Printing.**<br>**Low Memory.** | The printer previously compressed a print file while it was receiving and it is now expanding the file. Printing will continue after expanding the data but it will be slower than usual. |
| **Printing.**<br>**Monitor quality.** | The printer has detected that one or more of the printheads is nearing the end of its useful design life. Printing will continue but you may notice some degradation in the quality of you printing. Replace the printheads if the image quality is not acceptable, see page 4-6, *When Should You Replace the HP No.80 Supplies?* |
| **Printing.**<br>**Printheads limiting performance.** | The printer has detected that the printheads are limiting either the print quality or throughput performance. Printing will continue but you may notice some degradation in the quality of you printing and that the time taken for each print will increase. Replace the printheads if the image quality is not acceptable, see page 4-6, *When Should You Replace the HP No.80 Supplies?* |
| **Printhead replacement not available now.**<br><br>**Cancel print jobs before** | If the printer is busy trying to print something, you will not be able to replace any of the HP 80 modular ink system. |
| **Processing.** | The printer has received a print file and is processing the information before commencing printing. |
| **Ready for paper.** | The printer is ready to accept paper. |
| **Ready/Replace** | This is a HP No.80 supplies status message. It refers to the status of the printhead. See page 4-9, *Printhead Status Messages.* |
| **Receiving.** | The printer is receiving a print file. |

| Message | Description/Action |
|---|---|
| **Receiving.**<br>**Low memory.** | While receiving a print file, the printer's memory has become low. The printer will compress the file while it continues to receive the data. |
| **Refining roll alignment.** | After accepting a roll load and before cutting the roll leading edge, the printer advances an amount of paper and moves it back to improve roll paper alignment. |
| **Recovering /cyan/magenta/yellow/**<br>**black / printhead** | You have selected recover the cyan printhead because of some image quality problems that you have detected. Wait while the printer performs the procedure. You also have the option of recovering the other printheads individually or all together. |
| **Remove ink cartridges by pushing**<br>**it in and up** | The printer is guiding you through the ink cartridge replacement procedure, for more detailed information see page 4-17, *Ink Cartridge Removal* |
| **Remove printhead** | The printer is at the stage in the printhead replacement procedure when it is ready for you to remove the printheads, see page 4-22, *Printhead Removal* for more detailed information. |
| **Recovering printheads** | You have selected recover all printheads because of some image quality problems that you have detected. Wait while the printer performs the procedure. You also have the option of recovering the other printheads individually or all together. |
| **Replace CLEANERS or risk**<br>**printhead damage.**<br>**Select YES to replace** | It is important that when you replace the printhead, you also replace the printhead cleaners. If this not done you will shorten the life of your new printhead and you could even damage the printer. For printhead cleaner replacement see page 4-29, *Printhead Cleaner Removal*. |
| **Replace cleaner** | The printer is guiding you through the removal of the printhead cleaner and it is now ready for you to remove the printhead cleaners. |
| **Replace ink cartridge** | The printer is prompting you to replace the ink cartridge located on the left side of the printer. For more detailed information see page 4-17, *Ink Cartridge Removal* |
| **Replace (insert) failing (missing)**<br>**printheads.** | A print job has been sent to the printer that the printer cannot print. Some of the printheads are either missing or faulty and need to be replaced. |
| **Replace printhead** | The printer is informing you that there is a printhead that needs replacement. Your decision to change the printhead will depend on what you are printing and what print quality you have selected. See page 4-6, *When Should You Replace the HP No.80 Supplies?* for more details. |

| Message | Description/Action |
|---|---|
| **Replace SETUP printheads with new printheads** | The printer is prompting you to remove the setup printheads so that you can continue with the setup procedure. Setup printheads are temporary "dummy" printheads, you cannot print with them and they must be removed when you have primed the printer. See the *Setup guide* for the full procedure. |
| **Reseat** | This is a HP No.80 supplies status message. It refers to the status of the printhead. See page 4-9, *Printhead Status Messages.* |
| **Roll misaligned.** **Reload roll** | The printer has sensed that the paper has not been loaded correctly. The roll of paper will be ejected. Realign the roll with the white dashed-lines on the roll paper entry-path. |
| **Roll mispositioned.** **Check white line** **Check spindle** **Reload roll.** | The roll of paper is not aligned with the white line. There are two possible causes. Either the roll edge is not aligned correctly or the roll spindle has not been properly inserted. Reload the roll of paper. |
| **Roll mispositioned.** **Unload roll** | The roll of paper is not aligned with the white line on the Entry Roller and the printer cannot reload the roll paper at that moment. Load the roll of paper. |
| **Roll rejected, unload roll.** **Lower handles to continue.** | The handles have been lifted when roll paper was loaded, that is an invalid action that causes the roll paper to be rejected. You need to lower the handles before you load new roll paper. |
| **Searching roll edge.** | The printer is searching for the start of the paper. |
| **Sheet misaligned.** **Reload sheet** **Align with blue lines** | The printer has sensed that the paper has not loaded correctly. The sheet paper will ejected. Re-align the sheet with the vertical and horizontal blue dashed lines on the sheet entry platen. |
| **Sheet mispositioned.** **Reload sheet.** **Align with horizontal and vertical blue lines.** | The sheet load has failed. The sheet of paper is not aligned with the vertical and horizontal blue dashed-lines on the sheet entry platen. Reload the sheet. |
| **Sheet rejected, unload sheet.** **Lower handles to continue.** | The handles have been lifted when a single sheet was loaded, that is an invalid action that causes the single sheet to be rejected. You need to remove the sheet manually and then lower the handles. |
| **Storing Printheads.** | The printer is moving the printheads to the default position. |
| **Switch power off** | A fatal error has occurred. It is cleared by turning the printer power Off and then On again at the front panel push-button. |

| Message | Description/Action |
|---|---|
| **Switch power off.**<br>**Check printhead cleaner path.** | The printer has detected a jam in the ink service station. Switch the power of and check that all printhead cleaners are installed correctly.<br><br>**NOTE:** The front panel will not display any messages while the printer is switched off. |
| **Switch power off.**<br>**Check paper path.** | Paper has jammed in the paper path. Switch the printer off and clear the paper path.<br><br>**NOTE:** The front panel will not display any messages while the printer is switched off. |
| **Switch power off.**<br>**Check printhead path.** | The path of the printhead is blocked. Switch the printer off and clear the blockage.<br><br>**NOTE:** The front panel will not display any messages while the printer is switched off. |
| **Switch power off.**<br>**Check printhead cover.** | The path of the printhead is blocked. The most likely reason is that the printhead cover blue latch is not safely closed. Switch the printer off and close it.<br><br>**NOTE:** The front panel will not display any messages while the printer is switched off. |
| **Switch power off**<br><br>**Restart printer start-up with all Ink cartridges** | You have removed the ink cartridges at an incorrect moment, replace the ink cartridges and turn the printer off and on. |
| **Switch power off and put at least 32 MB of RAM for the hard disk.** | There is not enough RAM memory in the printer to manage the hard disk drive. The printer needs at least 32 MB of RAM to operate. To increase the memory of the printer a memory module can be fitted at the rear of the printer in the memory port.<br><br>**NOTE:** The front panel will not display any messages while the printer is switched off. |
| **Switching power off. Please wait...** | You are correctly turning the printer off. The printer is moving the printheads to a position which will stop them from drying-out |

| Message | Description/Action |
|---|---|
| **System error** | There are two types of system error. |
| | ■ A system error when you will have the option of pressing Enter to continue. The printer will continue but the problem will still be there. |
| | ■ Switch power off=The system error gets cleared by switching off and on. If this error persists, contact your HP representative. |
| | ■ Contact your HP representative, you have a hardware problem. |
| | You need you to contact your HP support, see page 11-38, *System Errors*. |
| **Testing printheads** | Printer is testing the printhead nozzles. |
| **Trimming edge** | The printer is in the process of trimming the edge of the roll paper. |
| **Unclear if loading roll or sheet. Use window for sheets. Use handles for rolls.** | The printer is asking you to use the correct paper path. **NOTE:**If you are loading sheet use the single sheet entry platen and if you are loading roll paper use the roll paper entry slot. |
| **Unknown ink cart. Press ENTER=accept** | The printer is warning you that it does not recognize the ink cartridges as genuine HP components. It is recommended that you always use genuine HP components to ensure the correct operation of your printer. |
| **Waiting for Nest.** | The printer is in the process of nesting. Refer to Chapter 7 for an explanation of nesting. |
| **Warning! Ink cartridges are still functional. If you want to replace any, please select YES** | You have chosen to initiate an ink cartridge replacement and the printer is confirming that you really want to continue see page 4-17, *Ink Cartridge Removal*. |
| **Warning! Printhead failure detected. Select YES to replace failing printhead(s)** | The printer has detected a problem with the printheads, you must replace them as soon as possible see page 4-6, *When Should You Replace the HP No.80 Supplies?* |
| **Warning! Printhead quality degrading. Select YES to replace failing printhead(s)** | The printer is warning you that the printheads will need replacing, for more information about this see page 4-6, *When Should You Replace the HP No.80 Supplies?* |
| **Warning! printheads are still functional. If you want to replace any please select YES** | You have chosen to initiate a printhead replacement, for more details on this see page 4-6, *When Should You Replace the HP No.80 Supplies?* and page 4-22, *Printhead Removal* |
| **Wrap any excess paper onto roll.** | The printer requires that you wrap any excess roll paper onto the roll to help manage the roll feed system and ensure a successful roll paper load. |

| Message | Description/Action |
|---------|--------------------|
| **Wrong Model** | There is a problem with either your ink cartridge or your printhead see page 4-8, *Ink Cartridge Status Messages* or 4-9, *Printhead Status Messages*. |

# Reference

# *13*

# Printer Specifications

| Functional Specifications | | | | |
|---|---|---|---|---|
| **HP No.80 Supplies** | Four colors: cyan, magenta, yellow and black. | | | |
| | Printheads: | 600 dpi, | 12.0 kHz (Cyan, Magenta, Yellow).<br>12.0 kHz (Black). | |
| | Printhead Cleaners: | Cyan, magenta, yellow and black. | | |
| | Ink Cartridges: | Cyan, magenta and yellow, each containing 175cc or 350cc of ink<br>Black contains 350cc of ink. | | |
| **Paper sizes** | Width (carriage axis) | | Length (paper axis) | |
| | Minimum | Maximum | Minimum | Maximum |
| **Roll** | 610mm | 917 mm | 600 mm | The maximum length depends on the amount of memory the printer has see page *8-9, Upgrading Your Printer* |
| **Sheet** | 210 mm<br>A/A4 | E/A0 | 210 mm<br>A/A4 | 1.6m |
| **Paper types** | Plain Paper<br>HP Translucent bond<br>HP Bright White Inkjet paper<br>HP Vellum<br>HP Coated paper<br>HP Heavy coated paper<br>HP High-gloss photo paper<br>HP Matte film<br>HP Clear film<br>HP Natural tracing paper<br><br>Thin natural tracing paper (greater than 70 $g/m^2$) | | | |
| From time to time, new paper types may become available. For up-to-date information, please contact your HP dealer or our web site www.designjet-online.hp.com.<br>Also see the *Supplies Source* catalog and (in Europe and USA) *HP Paper Guide.* For alternative names, HP commercial names and physical characteristics of these paper types, see chapter 3. | | | | |

| Functional Specifications | | | | |
|---|---|---|---|---|
| **Print resolution by mode setting** | Draft<br>Normal<br>Best | 300 x 300 dpi.<br>600 x 600 dpi.<br>600 x 600 dpi. (Color prints)<br>Addressable 1200 x 600 dpi. (Grayscale prints in Best) | | |
| | **Roll (normal)** | **Sheet (normal)** | **Roll (extended)** | **Sheet (extended)** |
| **Margins** | Side Margins 5mm<br>Leading edge<br>Margin 10mm<br>Trailing Edge<br>Margin 5mm | Side Margins 5mm<br>Leading edge<br>Margin 10mm<br>Trailing Edge<br>Margin 15mm | Side Margins 15mm<br>Leading edge<br>Margin 10mm<br>Trailing Edge<br>Margin 5mm | Side Margins 15mm<br>Leading edge<br>Margin 10mm<br>Trailing Edge<br>Margin 15mm |
| **Programming languages supported** | CALS G4 (Type I)<br>HP-GL<br>HP-GL/2 (with Kanji Level 1 and 2 character sets)<br>HP-RTL (with color extensions)<br>PJL, PML<br>Adobe PostScript 3 (supports Asian languages)<br>VareWare | | | |
| **Accuracy** | 0.2% of the specified vector length at $23^{o}$C ($73^{o}$F), 50-60% Relative Humidity, on HP special polyester film. | | | |

| Physical Specifications | | | | |
|---|---|---|---|---|
| **Type** | **Weight** | **Length** | **Depth** | **Height** |
| **E size printer** | 59 kg without stand<br>81 kg with stand | 1566mm | 675mm | 1290mm |

| Memory Specifications | | |
|---|---|---|
| **Memory** | Up to 128 Mbyte DRAM (2 x 64 Mb DIMMs) | 2.0 Gb Hard Disk (As standard in the 1055CM) |

| Printer Power Specifications | |
|---|---|
| **Source** | 100-240 V ac ±10% autoranging |
| **Frequency** | 50-60 Hz |

| Printer Power Specifications | |
|---|---|
| **Current** | 3 amp maximum. |
| **Consumption** | 200 watts maximum. |
| **Energy Star rating (USA)** | Maximum power in idle state: 45 watts. |

| Ecological Specifications | |
|---|---|
| **Energy efficiency** | Compliant with Energy Star Program EPA (US). |
| **Manufacturing process** | Free of ozone-depleting chemicals (Montreal Protocol). |
| **Plastics** | Free of brominated flame retardants (PBB and PBDE). All housing parts made of the same material: ABS. Parts marked according to ISO 11469 standard. |
| **Metals** | Enclosures made of electro-galvanized steel sheet. |
| **Packaging** | Cardboard (non-chlorine-bleached) and foam are 100% recyclable. Inks used for printing do not contain heavy metals. |
| **User Documentation** | Majority can be recycled, not bleached with chlorine and printed with inks that do not contain heavy metals. For specification of this *User's Guide* see the back cover. |
| **Batteries** | Not used. |
| **Recyclablility** | Modular construction, connecting elements snap-type can be re-used, screws easy to find and disassembly done using universal tools. |

| Environmental Specifications | | |
|---|---|---|
| **Operating Range** | Printing: | 15°C to 35°C (59° F to 95° F) RH 20% to 80%. |
| | Optimal print quality: | 22°C to 26°C (72° F to 79° F) RH 30% to 60%. |
| | Acceptable print quality: | 15°C to 30°C (59° F to 86° F) RH 20% to 80%. |
| **Non Operating Ranges** | Printer: | -40°C to 70°C (-40° F to 158° F) |
| | Packed consumables and system: | -40°C to 60°C (-40° F to 140° F) |

**NOTE:** If the printer temperature falls below its minimum operating temperature it may stop to protect its ink systems. See Abnormal printer conditions 10-4

**NOTE:** At 3000m altitude the printer may have operational problems.

| Acoustic Specifications | |
|---|---|
| **Operating sound pressure** | 54 dB (From a one-meter bystander position) |
| **Idle sound pressure** | <30dB (A) (From a one-meter bystander position) |
| **Operating sound power** | 6.5 Bels (A) |
| **Idle sound power** | <4.3 Bels (A) |

| EMC (ElectroMagnetic Compatibility) Specifications | |
|---|---|
| **Canada** | Canadian Department of Communications, Radio Interference Regulations Class B[1] compliant. |
| **European Union** | 89/336/EEC EMC Directive compliant. Meets EN 55022 Class B[1] emission limits, prEN 55024-2 ESD, prEN55024-3 Radiated Immunity, prEN 55024-4 Fast Transients. |
| **Japan** | Registered VCCI Class B[1]. |
| **Korea** | RRL certified. |
| **South Africa** | SABS licensed. |
| **USA** | Federal Communications Commission. Class B[1] computing device. CFR 47 Part 15 |
| **Australia New Zealand** | Meets AS/NZS 3548 |
| **Taiwan** | BCIQ certified |

[1] Product exhibits Class A operation when connected to LAN cables using Print Server accessories

| Printer Safety Specifications | |
|---|---|
| Information Technology Equipment (ITE), Movable, Class I, Plugable Type A, Installation Category II, Pollution Degree 2, For indoor controlled office environments use. | |
| **Canada** | Canadian Standards Association "Certified" ITE, CSA C22.2 No.950 |
| **European Union** | 73/23/EEC Low Voltage Directive compliant. Meets EN 60950 |
| **Mexico** | DGN, NOM019-SCFI-1994 certified |

| Printer Safety Specifications | |
|---|---|
| **Norway** | NEMKO approved,<br>EN 60950, EMKO TSE(74)DK207/94 |
| **USA** | Underwriters' Laboratories<br>"Listed" ITE, UL 1950 |
| **China** | CCIB certified GB 4943-90 1st Ed. |
| **Czech Republic** | EZU, IEC950 certified. |
| **Singapore** | PSB, SS337 certified. |
| **Poland** | PCBC certified. |
| **Russia** | GOST certified. |

# Printable Area

| Printing Area (= Paper Size Minus Margins) | | | | | | |
|---|---|---|---|---|---|---|
| | **Paper Size (and Orientation of Paper)** | | **Printing Area (Width x Height) by Orientation of Image** | | | |
| | | | **inches** | | **millimeters** | |
| | | | landscape | portrait | landscape | portrait |
| **ANSI paper** | A | (portrait) | 9.5 x 7.2 | 7.2 x 9.5 | 243 x 185 | 185 x 243 |
| | A | (landscape) | 9.8 x 7.0 | 7.0 x 9.8 | 249 x 180 | 180 x 249 |
| | B | (portrait) | 15.5 x 9.8 | 9.8 x 15.5 | 395 x 249 | 249 x 395 |
| | B | (landscape) | 15.7 x 9.5 | 9.5 x 15.7 | 401 x 243 | 243 x 401 |
| | C | (portrait) | 20.5 x 15.7 | 15.7 x 20.5 | 522 x 401 | 401 x 522 |
| | C | (landscape) | 20.8 x 15.5 | 15.5 x 20.8 | 529 x 396 | 396 x 529 |
| | D | (portrait) | 32.5 x 20.7 | 20.7 x 32.5 | 827 x 528 | 528 x 827 |
| | D | (landscape) | 32.8 x 20.5 | 20.5 x 32.8 | 834 x 523 | 523 x 834 |
| | E | (portrait) | 42.6 x 32.8 | 32.8 x 42.6 | 1082 x 834 | 834 x 1082 |
| **Architectural paper** | A | (portrait) | 10.5 x 7.8 | 7.8 x 10.5 | 268 x 119 | 199 x 268 |
| | A | (landscape) | 10.8 x 7.6 | 7.6 x 10.8 | 275 x 193 | 193 x 275 |
| | B | (portrait) | 16.5 x 10.8 | 10.8 x 16.5 | 421 x 275 | 275 x 421 |
| | B | (landscape) | 16.8 x 10.5 | 10.5 x 16.8 | 427 x 269 | 269 x 427 |
| | C | (portrait) | 22.6 x 16.8 | 16.8 x 22.6 | 574 x 427 | 427 x 574 |
| | C | (landscape) | 22.8 x 16.5 | 16.5 x 22.8 | 580 x 421 | 421 x 580 |
| | D | (portrait) | 34.5 x 22.8 | 22.8 x 34.5 | 878 x 580 | 580 x 878 |
| | D | (landscape) | 34.8 x 22.6 | 22.6 x 34.8 | 884 x 574 | 574 x 884 |
| | E1 | (portrait) | 40.5 x 28.8 | 28.8 x 40.5 | 1031 x 732 | 732 x 1031 |
| | E | (portrait) | 46.5 x 34.8 | 34.8 x 46.5 | 1183 x 884 | 884 x 1183 |
| **ISO paper** | A4 | (portrait) | 10.2 x 7.0 | 7.0 x 10.2 | 261 x 180 | 180 x 261 |
| | A4 | (landscape) | 10.1 x 6.8 | 6.8 x 10.1 | 257 x 174 | 174 x 257 |
| | A3 | (portrait) | 15.1 x 10.5 | 10.5 x 15.1 | 384 x 267 | 267 x 384 |
| | A3 | (landscape) | 14.9 x 10.2 | 10.2 x 14.9 | 380 x 261 | 261 x 380 |
| | A2 | (portrait) | 21.9 x 14.9 | 14.9 x 21.9 | 558 x 380 | 580 x 558 |
| | A2 | (landscape) | 22.2 x 15.1 | 15.1 x 22.2 | 564 x 384 | 384 x 564 |
| | A1 | (portrait) | 31.6 x 21.8 | 21.8 x 31.6 | 805 x 554 | 554 x 805 |
| | A1 | (landscape) | 31.5 x 20.6 | 20.6 x 31.5 | 801 x 524 | 524 x 801 |
| | A0 | (portrait) | 45.3 x 31.5 | 31.5 x 45.3 | 1153 x 801 | 801 x 1153 |
| **For margins, see page *5-9*. This table is calculated using normal margins.** | | | | | | |

# Interface Specifications

Below are the parallel interface specifications.

For specifications of the HP JetDirect Print Server (Network Interface), see the JetDirect Print Server documentation supplied with the Print Server Interface or consult your dealer.

| Parallel (IEEE-1284 compatible/Centronics) Interface | | | |
|---|---|---|---|
| The connector on the printer is 36-pin female.<br><br>Most existing parallel cables support IEEE-1284 compatible communication, but for use with this printer, the cable must meet the specification in this table. | **Pin** | **Wire/Signal Name** | **Source** |
| | 1 | Strobe | computer |
| | 2 … 9 | D0 … D7 (data lines) | both |
| | 10 | Ack | printer |
| | 11 | Busy | printer |
| | 12 | PError | printer |
| | 13 | Select (SelectOut) | printer |
| | 14 | AutoFd | computer |
| | 16 | GND | |
| | 19 … 30 | GND | |
| | 31 | Init | computer |
| | 32 | Fault | printer |
| | 36 | SelectIn | computer |

The following cable is recommended for optimum performance and electromagnetic compatibility:

| Recommended Cable for PCs and Unix Systems | | | |
|---|---|---|---|
| **Interface type (Computer)** | **HP part number** | **Cable length** | **Connector type at computer end of cable** |
| IEEE compatible/Centronics Interface (All) | C2951A | 3.0 m | 25-pin male |

**NOTE:** There is a small serial port at the rear of the printer, this is there for manufacturing purposes only and cannot be used to print.

# Regulatory Notices

## To Obtain a Material Safety Data Sheet (MSDS)

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/abouthp/envrnmnt/contents/envfacts/hpmsds.htm

## Sound

**Geräuschemission (Germany)**   LpA < 70 dB, am Arbeitsplatz, im Normalbetrieb, nach DIN 45635 T. 19.

## Electro-Magnetic Compatibility (EMC)

**FCC Statements (U.S.A.)**   The U.S. Federal Communications Commission (in 47 cfr 15.105) has specified that the following notices be brought to the attention of users of this product.

**Product Identification Numbers:**

| Printer | DesignJet 1050C | DesignJet 1055CM |
|---------|-----------------|------------------|
| Model   | C6074A          | C6075A           |

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Shielded cables**

Use of a shielded data cables is required to comply with the Class B 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.** |

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

a) Reorient the receiving antenna

b) Increase the separation between the equipment and the receiver

c) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

d) Consult the dealer or an experienced radio/TV technician for help

The user may find useful the following booklet prepared by the FCC: "*How to Identify and Resolve Radio-TV Interference Problems*". This booklet is available from the US Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

**When connected to LAN cables using print server accessories…**

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 the user 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 B prescrites dans le réglement sur le brouillage radioélectrique édicté par le Ministére des Communications du Canada.

Connecté à un réseau par des accessoires de serveur, l'appareil 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 Ministère des Communications du Canada.

**DOC statement (Canada)**

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

When connected to LAN cables using print server accessories, 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.

**VCCI Class A and Class B (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）の基準に基づく第二種情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
　　取り扱い説明書に従って正しい取り扱いをして下さい。

注意
　　IEEE802.3 もしくは Ethernet に接続されている場合、この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づく第一種情報技術装置です。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。

**Korean EMI statement**

이 기기는 업무용으로 전자파장해검정을 받은 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며 만약 잘못 구입하였을 때에는 구입한 곳에서 비업무용으로 교환하시기 바랍니다

**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。

**Tele-communications General Approval (UK)**

**Telecommunications Statement**

The HP DesignJet 1050C and 1055CM printers, models C6074 and C6075, are approved under Approval Number NS/G/1234/5/100003 for indirect connection to public telecommunication systems within the United Kingdom.

**Address**

Hewlett-Packard Company
Manager of Corporate Product regulations
3000 Hanover Street
Palo Alto, CA 94304
415/857-1501

# Declaration of Conformity

<div style="border:1px solid">

**DECLARATION OF CONFORMITY**
according to ISO/IEC Guide 22 and EN 45014

| | | |
|---|---|---|
| **Manufacturer's Name:** | Hewlett-Packard Española S.A. | Hewlett-Packard Singapore (PTE) Ltd. |
| **Manufacturer's Address:** | Barcelona Division | Asia Hardcopy Manufacturing Operation |
| | Avenida Graells, 501 | 20 Gul Way |
| | 08190 Sant Cugat del Valles | Singapore 629196 |
| | Barcelona, Spain | |

**Declares that the product**

**Product Name:**　　　　　　　HP DesignJet 1050C and 1055CM Inkjet Printers
**Model Number(s):**　　　　　 HP C6074X, HP C6075X
**Product Accessory:**　　　　　All

**Conforms to the following Product Specification:**

**Safety:**　　　　　　　IEC 950 (1991)+A1,A2, A3, A4/ EN 60950 (1992)+A1,A2,A3,A4
　　　　　　　　　　　　CSA C22.2 No 950 (1995)
　　　　　　　　　　　　UL 1950 (1995)
　　　　　　　　　　　　NOM-019-SCFI-1994
　　　　　　　　　　　　EMKO-TSE (74) DK 207/94
　　　　　　　　　　　　GB 4943 (1995)
　　　　　　　　　　　　IEC 825-1 (1993)/EN 60825-1 (1994) Class 1 for LED

**EMC:**　　　　　　　CISPR 22:1993 / EN 55022 (1994): Class B [1][2]
　　　　　　　　　　　EN 50082-1 (1992)
　　　　　　　　　　　　IEC 801-2:1991/prEN 55024-2 (1992): 4KV CD, 8KV AD
　　　　　　　　　　　　IEC 801-3:1984/prEN 55024-3 (1991): 3V/m
　　　　　　　　　　　　IEC 801-4:1988/prEN 55024-4 (1993): 1KV Power Lines,
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　0.5KV Signal Lines
　　　　　　　　　　　IEC 1000-3-2:1995/EN 61000-3-2 (1995)
　　　　　　　　　　　IEC 1000-3-3:1994/EN 61000-3-3 (1995)
　　　　　　　　　　　FCC Part 15 - Class B/DOC-B/VCCI-B/RRL-A/BCIQ-A
　　　　　　　　　　　AS/NZS 3548[1]/GB9254:1988

**Supplementary 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) Product exhibits class A operation when connected to LAN cables using print server accessories.
(2) The product was tested in a typical system with a Hewlett Packard Personal Computer and second peripheral. An Apple Macintosh was used for Local Talk.

| | |
|---|---|
| Sant Cugat del Valles (Barcelona), | Singapore, |
| September 30th 1998 | September 30th 1998 |
| Jordi Balderas, | Kum Yew Chan, |
| Quality Engineering Manager | Quality Manager |

European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ - TRE, Herrenberger Strasse 130, D-71034 Boeblingen, Germany (FAX: +49 7031 143143)

</div>

# Ordering Accessories

| Item | | HP Part Number |
|---|---|---|
| **Cables** | | See page *13-8* |
| **HP DesignJet 1050C and 1055CM Quick Reference Guide** | English<br>Korean<br>Taiwanese<br>German<br>French<br>Spanish<br>Italian<br>Japanese<br>Portuguese<br>Chinese | C6071-90241<br>C6071-90242<br>C6071-90243<br>C6071-90244<br>C6071-90245<br>C6071-90246<br>C6071-90247<br>C6071-90248<br>C6071-90249<br>C6071-90250 |
| **HP DesignJet 1050C and 1055CM User's Guide** | English<br>Korean<br>Taiwanese<br>German<br>French<br>Spanish<br>Italian<br>Japanese<br>Portuguese<br>Chinese<br>Czech<br>Greek<br>Hungarian<br>Polish<br>Russian<br>Thai<br>Turkish | C6071-90101<br>C6071-90102<br>C6071-90103<br>C6071-90104<br>C6071-90105<br>C6071-90106<br>C6071-90107<br>C6071-90108<br>C6071-90109<br>C6071-90110<br>C6071-90111<br>C6071-90112<br>C6071-90113<br>C6071-90114<br>C6071-90115<br>C6071-90116<br>C6071-90117 |
| **Software Application Notes** | English | C6074-90021 |
| **The HP-GL/2 and HP RTL Reference Guide** | English | 5961-3526 |
| **The Product Comparison Guide for HP-GL/2 and HP RTL Peripherals** | English | 5959-9734[c] |
| **PJL Technical Reference Manual** | English | 5021-0328 |
| **PostScript Upgrade Kit** | | C6076A |

| Item | | | HP Part Number |
|---|---|---|---|
| **Hard Disk** | | | C2985B |
| **Memory Modules** | All memory expansion modules are: | 16 MB | C6251A |
| | | 32 MB | C6252A |
| | 16, 32 or 64-MB DIMM 168pin x 64 EDO 50 nanoseconds, 3.3V | 64 MB | C6258A |
| **JetDirect EIO Network Cards** | 10Base-T | | J3110A |
| | 10 Base2, 10-T, LocalTalk | | J3111A |
| | Token Ring | | J3112A |
| | 10/100Base-TX | | J3113A |

To achieve the best performance from your printer, we recommend you only use genuine Hewlett-Packard accessories and supplies, whose reliability and performance have been thoroughly tested to give trouble-free performance. For example:

**a)** (1055CM) HP drivers are developed to support all the latest features and to optimize print quality and your printers performance.

**b)** HP memory expansion modules are thoroughly tested to give you maximum performance.

**c)** HP No.80 supplies and paper supplies are developed for optimal print quality.

| Item | HP Part Number |
|---|---|
| **Drivers** | |
| Latest versions of the following were shipped with the 1055CM:<br><br>HP DesignJet PostScript Driver for Power Macintosh and Macintosh[a]<br><br>HP DesignJet PostScript Driver for Microsoft Windows[a]<br>HP-GL/2 Windows Driver<br>HP DesignJet HP-GL/2 and HP RTL AutoCAD driver.<br><br>**NOTE:** For details of the latest version available, please visit the Hewlett Packard web site at: http://www.hp.com/go/designjet or consult your HP dealer or sales representative. | |
| **Paper Supplies** | |
| This item is updated regularly. Please visit the Hewlett Packard web site at: http://www.hp.com/go/designjet or consult your HP dealer or sales representative. | |

| | Color | 175ml | 350ml |
|---|---|---|---|
| **Ink Cartridges** | Black<br>Cyan<br>Yellow<br>Magenta | N/A<br>C4872A<br>C4873A<br>C4874A | C4871A<br>C4846A<br>C4848A<br>C4847A |
| **Value Pack (Printhead, Printhead Cleaner, 350ml Ink Cartridge** | Black<br>Cyan<br>Yellow<br>Magenta | N/A<br>N/A<br>N/A<br>N/A | C4890A<br>C4891A<br>C4893A<br>C4892A |

| Item | Color | | |
|---|---|---|---|
| **Printheads and Printhead Cleaners** | | Black<br>Cyan<br>Yellow<br>Magenta | C4820A<br>C4821A<br>C4822A<br>C4823A |
| **Spindle E Assembly** | | | C6078A |

## HP-GL/2 and HP RTL Programming Information

*The HP-GL/2 and HP RTL Reference Guide* provides complete explanations and examples of the HP-GL/2 and HP RTL graphic and interfacing instructions. If you are writing an HP-GL/2 or RTL driver for your printer, you will find this guide an invaluable source of general instruction information. It is published by Addison-Wesley Publishing Company and you can order it through most book stores (ISBN 0-201-31014-7).

For specific parameter information, refer to *The Product Comparison Guide for HP Languages on HP Plotters and Large Format Printers.* which you can order through your HP Sales office part number 5959-9734.

## How to Order Supplies and Accessories

You can order supplies and accessories in any of the following ways:

**a)** Call your local authorized HP dealer.

**b)** Contact your local HP Sales and Support office.

**c)** Refer to the *Hewlett-Packard Support / Services* booklet that was supplied with your printer.

# www.hp.com/go/designjet



*Direct access to HP and the information you want, when you need it. Register now!*

**HP DesignJet Online** is a free, web-based "user club" exclusive to HP DesignJet users. Having registered, the user has unrestricted access to a range of useful services, the emphasis being on "useful", as this is definitely *not* a sales-oriented site.

Communication from HP to users includes:

- a quarterly newsletter focussing on usage tips, technical briefings and examples of HP DesignJet applications around the world;
- full information on worldwide HP Customer Care contacts;
- an on-line *HP DesignJet Diagnosis* troubleshooting tool;
- a calendar of HP DesignJet-related events and programs;
- on-line access to training videos and selected user documents;
- and immediate information on new products.

Communication from the users to HP includes:

- feedback on HP DesignJet features;
- automatic contact with HP Customer Care from the troubleshooting tool, for HP to follow up;
- and the chance to ask technical questions on large-format printing to industry experts.

And finally, communication from user to user includes the chance to win prizes by submitting HP DesignJet success stories, as well as a user-to-user discussion forum where users can share best practices and ask for advice from their fellow professionals.

**HP DesignJet Online** is available in English, German, French, Italian, Spanish and Portuguese.

# Glossary

**ac**

Alternating current.

**addressable**

The printers internal software changes the placing of the ink on the paper to obtain greater accuracy

**ANSI size**

An American standard paper size; e.g. D, E.

**application**

The software you use to create your drawings.

**Centronics**

A standard for the parallel interface between computer and device.

**clipping**

Losing part of a drawing at the edges.

**CMYK**

Cyan, magenta, yellow and black. The colors of the printer's four inks, and also a standard color model.

**coated paper**

Paper coated on one side for inkjet printing.

**default**

A value or condition that is assumed if no other value or condition is specified.

**device**

An external item connected to the computer: printer, tape drive, etc. Your HP DesignJet is a device.

**Diazo**

A photography technique which involves the use of a diazo coating on the paper.

**dpi**

Dots per inch, a measure of print resolution.

**driver**

The software that controls the communication between a computer and a device.

**front panel**

The control panel on the right of the printer.

**front-panel menus**

The structure of options in the front-panel display.

**graphics language**

A programming language telling a print device how to output graphic data.

**greyscale**

Shades of grey to represent colors.

**high-gloss photo**

A glossy, opaque photographic paper.

**HP-GL/2**

One of Hewlett-Packard's standard graphics languages for plotters and printers. Produces vector data.

**I/O Input/output**

The transmission of data between a computer and a device.

**ink cartridge**

The part of the HP No.80 supplies which contains all the ink used in the printer. They are installed into the printer on the left side.

**inked area**

The smallest rectangle that contains all the content of the drawing, while maintaining its relative dimensions.

**ISO size**

An international standard paper size; e.g. A1, A2, etc.

**JIS size**

A Japanese standard paper size.

**LAN**

Local area network.

**long-axis printing**

Printing a page when the length is longer than a standard page size.

**margin**

The space around the page added by the printer to separate one page from another and to avoid printing right to the edge of the paper.

**MIO Modular input/output**

Refers to the printer's network interface.

**nesting**

Placing two or more pages side-by-side on roll paper to avoid waste.

**nozzles**

Located underneath the printhead. The nozzles direct the ink onto the page.

**palette**

A set of logical pens defined by color and width.

**PJL**

Printer Job Language. A programming language that controls jobs going to a printer.

**PML**

Printer Management Language.

**parallel interface**

A type of interface between computer and device. Generally faster than a serial interface.

**PANTONE**

The PANTONE MATCHING SYSTEM® is an international standard for color communication in the graphics art industry.

**pen**

Even though the printer has no physical pens, the lines it draws match the attributes of a pen.

**platen**

The exterior part of the printer on which the paper rests before going into the printer.

**printhead**

The printhead is installed into the carriage assembly. It is the part which prints the ink onto the paper.

**printhead cleaner**

Part of the HP No.80 supplies which ensures the printhead is ready for printing at all times, it makes sure the printheads do not dry out when they are not in use. There is one printhead cleaner for each printhead.

**printing area**

Page size minus margins.

**PostScript**

A standard page-markup language, commonly used by graphics and desktop publishing software applications.

**queueing**

Placing each print received by the device into memory for processing with other prints.

**raster**

A method for defining an image, in terms of dots rather than lines. Raster data typically needs more memory than vector data.

**reseating**

The action of removing the printhead from the printhead carriage and then inserting it again.

**RGB**

Red, green and blue. A standard color model.

**RIP**

Raster Image Processor.

**RTL (Raster Transfer Language)**

One of Hewlett-Packard's standard graphics languages for plotters and printers. Produces raster data.

**ROM DIMM**

A physical module containing read-only data, that can be installed in the back of the printer to provide upgrades.

**spindle**

The rod which holds the roll of paper.

**paper-axis**

The vertical axis, as you look at the printer from the front in which the paper feed moves.

**scan-axis**

The horizontal axis, as you look at the printer from the front in which the print carriage moves.

**service station**

The part of the printer which services the printheads. It keeps the printheads clean and stops them from drying out.

**short menu**

The setting in the front panel which allows you to not display parts of the menu structure which you do not want to see.

**throughput**

The quantity of information processed by the software.

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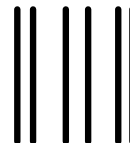| *Please circle the appropriate score* | *Poor* | | | | *Excellent* |
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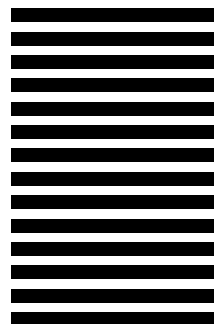Any other comments conerning the documentation accompanying this product:

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Hewlett-Packard Company
Barcelona Division
*Attn: Learning Products Dept.*
Avda. Graells, 501
08190 Sant Cugat del Vallès
**Spain**

# Hewlett-Packard Limited Warranty Statement

**HP Product**
**Duration of Limited Warranty**

Software:90 Days

Ink Cartridges: 90 Days

Printheads: 90 Days

Printer and Related HP Hardware: 1 Year

## A. Extent of Limited Warranty

**1.** Hewlett-Packard (HP) warrants to the end-user customer that the HP products specified above will be free from defects in materials and workmanship for the duration specified above, which duration begins on the date of purchase by the customer. Customer is responsible for maintaining proof of date of purchase.

**2.** 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.

**3.** HP's limited warranty covers only those defects which arise as a result of normal use of the product, and do 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.

**4.** For HP printer products, the use of a non-HP ink cartridge or a refilled ink cartridge does not affect either the warranty to the customer or any HP support contract with the customer. 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.

**5.** If HP receives, during the applicable warranty period, notice of a defect in any software, media, or ink cartridge product which is covered by HP's warranty, HP shall replace the defective product. If HP receives, during the applicable warranty period, notice of a defect in any hardware product which is covered by HP's warranty, HP shall either repair or replace the defective product, at HP's option.

**6.** If HP is unable to repair or replace, as applicable, a defective product which is covered by HP's warranty, HP shall, within a reasonable time after being notified of the defect, refund the purchase price for the product.

**7.** HP shall have no obligation to repair, replace, or refund until the customer returns the defective product to HP.

**8.** Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.

**9.** HP products may contain remanufactured parts or components equivalent to new in performance or may have been subject to incidental use.

**10.** HP's limited warranty is valid in any country where the covered HP product is distributed by HP except for the Middle-East, Africa, Argentina, Brazil, Mexico, Venezuela, and France's "Departments D'Outre-Mer"; for those excepted areas, the warranty is valid only in the country of purchase. Contracts for additional warranty services, such as on-site service, may be available for any authorized HP service facility where the listed HP product is distributed by HP or an authorized importer.

## B. Limitations of Warranty

**1.** TO THE EXTENT ALLOWED BY LOCAL LAW, NEITHER HP NOR ITS THIRD PARTY SUPPLIERS MAKE ANY OTHER WARRANTY OR CONDITION OF ANY KIND, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE HP PRODUCTS, AND SPECIFICALLY DISCLAIM THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

## C. Limitations of Liability

**1.** TO THE EXTENT ALLOWED BY LOCAL LAW, EXCEPT FOR THE OBLIGATIONS SPECIFICALLY SET FORTH IN THIS WARRANTY STATEMENT, IN NO EVENT SHALL HP OR ITS THIRD PARTY SUPPLIERS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## D. Local Law

**1.** To the extent allowed by local law, the remedies provided in this Warranty Statement are the customer's sole and exclusive remedies.

**2.** This Warranty Statement gives the customer specific legal rights. The customer 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.

**3.** 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. Under such local law, certain disclaimers and limitations of this Warranty Statement may not apply to the customer. For example, some states in the United States, as well as some governments outside the United States (including provinces in Canada), may:
   a. Preclude the disclaimers and limitations in this Warranty Statement from limiting the statutory rights of a consumer (e.g. the United Kingdom).
   b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations; or
   c. Grant the customer additional warranty rights, specify the duration of implied warranties which the manufacturer cannot disclaim, or not allow limitations on the duration of implied warranties.

**4.** FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND, THE TERMS IN THIS WARRANTY STATEMENT, 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 HP PRODUCTS TO SUCH CUSTOMERS.
Revision: May 15th, 1998

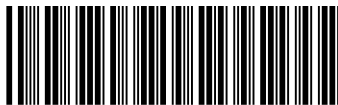## About this edition

Edition dates are as follows:

First edition, July 1998

New editions are complete revisions of the manual. Change sheets, which may be issued between editions, contain additional information. The dates on the title page change only when a new edition is published. Minor corrections that do not affect the function of the product may be made at reprint without a change to the print date.

Many product updates and fixes do not require manual changes and, conversely, manual corrections may be done without accompanying product changes. Therefore, do not expect a one to one correspondence between product updates and manual revisions.

**For support details, see the section "Getting Help" in chapter 11.**

Hewlett-Packard Limited Warranty Statement

**HEWLETT PACKARD**

Expanding Possibilities

C6075-90101

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