HP Scitex FB500 Printer
HP Scitex FB700 Printer

User Guide

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1 Introduction

Operating requirements

Electrical

● Make sure the line voltage meets the requirements. See <u>Specifications on page 83</u> for details.

● Use the supplied power cord. Plug it directly into a grounded electrical outlet. Do not lengthen the power cord with an extension cord; the resulting drop in voltage could damage the printer.

● To maintain vacuum to the printheads during printer power-down or unexpected power outages, use the auxiliary 24 volt power supply (included in the accessory kit with universal power adapters). Connect the 24 VDC jack on the vacuum assembly to either of two options:

  ◦ UPS — customer-supplied uninterruptable power supply, output 100-240 VAC, 50/60 Hz, minimum of 15 watts of power, provides battery backup to the vacuum system in the event of a power failure.

  ◦ Wall outlet — 100-240 VAC, 50/60 Hz, provides temporary power to the vacuum system when it is necessary to power down the printer for service. See Appendix A, Technical Specifications, for details.

● Connect printer to its own electrical circuit. Do not connect the RIP, auxiliary power supply, or UPS into the same circuit as the printer.

Environmental

● Make sure the room is well ventilated, with a temperature and relative humidity within specifications. Optimal printing occurs within these ranges. See <u>Specifications on page 83</u> for details.

● The high power UV light emitted by the curing lamps reacts with oxygen and produces ozone. This formation tends to be greatest during lamp startup. The printer should be operated in a well-ventilated area to avoid minor effects such as headaches, fatigue, and dryness of the upper respiratory tract. Normal air movement will mix the ozone with fresh air, causing it to revert back to oxygen.

● Store media and ink in an area with similar temperature and humidity conditions as the printer.

● Locate the printer so that it can be connected to the RIP with the specified cable.

● Locate the printer on a flat, level floor.

● Locate the printer where its normal operating noise will not disturb quiet work areas.

● DO NOT install the printer near humidifiers, refrigerators, fans, water faucets, heaters or similar equipment.

● DO NOT install the printer in areas where the temperature changes abruptly, such as near air conditioners, in the path of direct sunlight, or near open doors or windows.

● DO NOT expose the printer to flames or dust.

RIP

The printer receives print jobs from a supported raster image processor (RIP). The RIP is installed and connected during the printer installation process.

Important operating notes

- UV CURE INK IS PERISHABLE. Unlike other inks used in wide format printing, UV cure ink has a limited shelf life. White ink has a six month shelf life from the date of manufacture. Plan to rotate your ink stock and use it promptly by the date printed on the ink box.

△ **CAUTION:** When the UV lamps are switched off, they undergo a controlled cool-down cycle. Sudden removal of power from hot lamps, such as disconnecting the power cord or from a power outage, can result in overheating and permanent damage. The lamps should be switched off only via the printer software.

- The media supply may be wound either printed-side-out or printed-side-in, but the takeup must be loaded printed-side-in.

- The default head height is set to 2.2 mm (0.085 in) above the media. (The space below the carriage will measure 1.778 mm (0.070 in) due to the printhead protection frame around the outside of the carriage.) The head height can be adjusted up or down at the control panel (**Printing page > Options**).

- The Media Wizard stores a set of operational parameters for predefined and user-defined media types. When you load a new media type, select an existing Media Wizard set, or create a custom set. Media Wizard parameter sets can be selected at any time from the control panel.

- Wear cotton gloves when loading media to prevent fingerprints that could show after printing. You can use a 90% solution of isopropyl alcohol (IPA) to clean fingerprints and reduce static electricity on synthetic media (allow to dry five minutes before printing).

- DO NOT reprint over any output that has not completely cured (for example, due to a UV lamp malfunction).

- DO NOT rest or store a media roll on end, or you could cause edge creases that could strike the printheads during printing. To avoid bowing, store sheet-fed media flat, not standing on end.

- DO NOT set heavy objects on the power cord or printer cable; do not bend the cables or force them into contorted positions.

- DO NOT place heavy objects anywhere on the printer.

- Since automatic head maintenance cannot occur when the printer is powered down, keep the printer powered on at all times if possible. The printer will enter a power-saving Sleep Mode if idle for a user-define period of time. If automatic head maintenance does not occur for an extended period, manual purging may be necessary to restore the printheads to working condition (see Startup and check jet health on page 91). If all power is lost to the printer, ink will drip from the printheads due to loss of printhead vacuum, collect on the bottom of the carriage, and drip into the printer or onto the media drive belt. Keep the printer connected to a UPS to prevent vacuum loss to the printheads (see Electrical on page 1).

- If the printer will be completely powered down for an extended period (such as over a long holiday period), all printheads should be emptied of ink (see Printhead Procedures under Maintenance menu on page 35) and the bottom of the carriage cleaned. To resume printing, the printheads must be refilled with ink, purged, and restored to working condition. See User cleaning on page 57 and Startup and check jet health on page 91 for instructions.

Safety warnings

- UV light — the ultraviolet (UV) curing lamps emit high power UV light. The printer must be operated with all safety shielding installed to protect the operator from eye and skin damage. When operated according to manufacturer's instructions, safety glasses or other protective clothing are not necessary.

- Mechanical hazards — Keep fingers away from carriage and media path. Do not exceed the maximum weight load of the input or output tables, as printed on the label.

- Ink — read and practice safety guidelines as outlined in the Material Safety Data Sheet (MSDS) for the ink, and post the document in the work area as required by prevailing law. Avoid any contact with skin and eyes. Provide adequate general and local exhaust ventilation. Avoid breathing vapors. Respirator protection may be required under exceptional circumstances when excessive air contamination exists. None of the component substances have established exposure standards per OSHA, NIOSH or ACGIH. Collect waste ink in container provided. Dispose of ink according to MSDS and local regulations. Keep the waste-ink spigot closed during printing.

- Special ventilation is not required to meet US OSHA requirements on occupational exposure to VOCs from the HP UV-curable inks used with the printer. Special ventilation equipment installation is at the discretion of the customer; no specific HP recommendation is intended. Customers should consult state and local requirements and regulations.

- Electrical — WITH THE POWER SWITCH IN THE OFF POSITION, POWER MAY STILL BE SUPPLIED TO THE PRINTER COMPONENTS. To completely cut power from the printer, you must unplug the power cord from the power outlet.

- Ozone — the high power UV light emitted by the curing lamps and ionizer bar reacts with oxygen and produces ozone. This formation tends to be greatest during lamp startup. The lamps include ozone filters to reduce ozone production. The printer should be operated in a well-ventilated area to avoid minor effects such as headaches, fatigue, and dryness of the upper respiratory tract. Normal air movement will mix the ozone with fresh air, causing it to revert back to oxygen.

- Hazardous waste — THE PRINTER ELECTRONICS ASSEMBLY CONTAINS A LITHIUM BATTERY DEVICE. THERE IS A DANGER OF EXPLOSION IF THE BATTERY IS INCORRECTLY REPLACED. The battery must be replaced only by authorized service providers, and must be replaced only with the same or equivalent type. Dispose of this lithium battery device in accordance with local, state (or province), and Federal (or country) solid waste requirements.

Quick tour

Figure 1-1 Input side

Figure 1-1 Input side
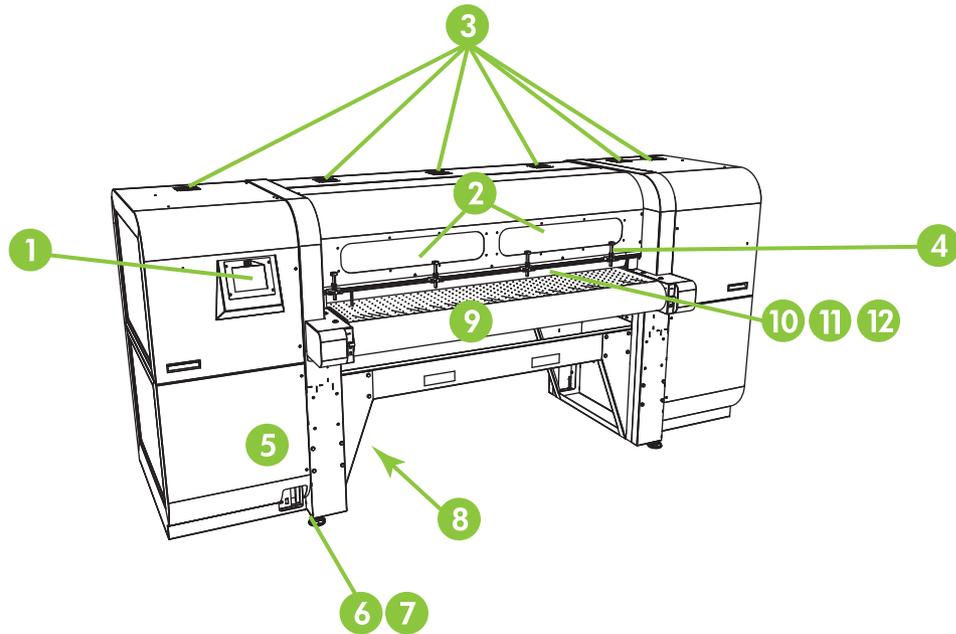
1. Touch-screen control panel

2. UV-filtered observation windows

3. Exhaust vents

4. Rigid media alignment pins

5. Electronics box (inside enclosure)

6. Data ports

7. Main power switch

8. Main power, takeup system power inlet ports, serial number and regulatory label (on lower enclosure)

9. Media drive belt

10. Media input roller (inside cover)

11. Media alignment bar (inside cover)

12. Media output roller (inside cover)

Figure 1-2 Ink supply compartment
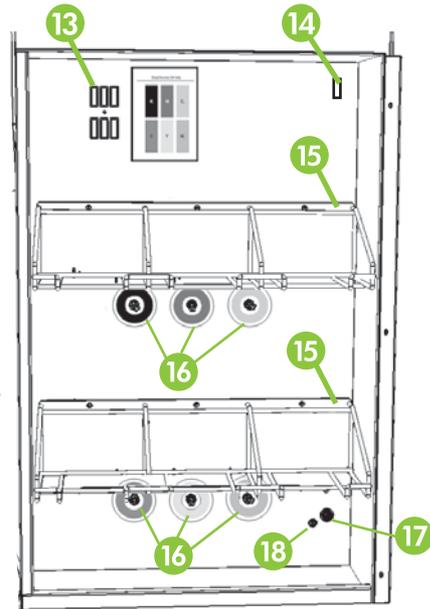
13. Profiler docking station

14. Ink homogenizer power outlet

15. Ink supply rack

16. Ink connections

17. Vacuum system auxiliary power inlet

18. Vacuum adjustment knob (factory adjustment, do not change)

Figure 1-3 Output side
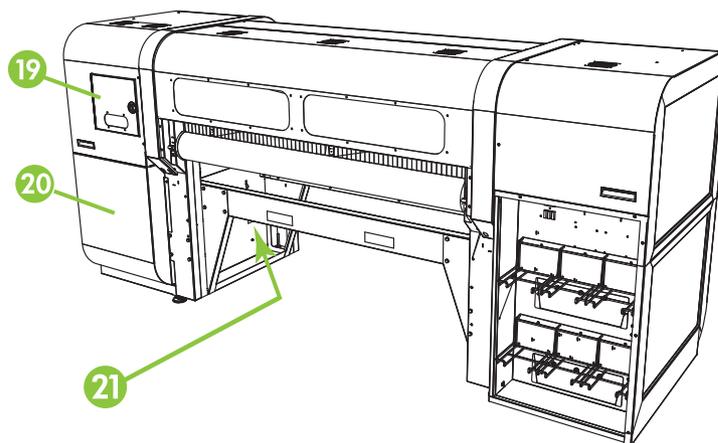
19. Service station and printhead carriage access door

20. Printhead maintenance vacuum (inside enclosure)

21. Waste ink spigot

Special features

Printheads

- Printheads — variable drop size, piezoelectric printheads.

Ink system

- Off-Head System (OHS) — bulk ink boxes with integrated filters. No-drip quick connectors simplify ink box replacement.

- Onboard vacuum system — provides vacuum to maintain negative printhead pressure.

- Patent-pending automated printhead service station — fully maintains the health of the printheads while idle or in service, without operator intervention.

- HP White Ink Homogenizer — part of the optional white ink upgrade accessory kit, keeps white pigments dispersed for optimal print quality. The white ink upgrade option and white ink cartridge are required to print with white ink. See Order accessories on page 55 and Order ink supplies on page 20 for ordering information.

Media handling

- Automatic head height — printer automatically sets the correct head height above the height of sheet-fed media.

- Automatic media width sensing — automatically detects the width and position of sheet-fed media, for precise image placement (for white or light-colored media that the printer can detect).

- Built-in static charge abatement — ionizer bars help dissipate static electric charge from synthetic media.

- Rigid media tables feature a flip-up top for space-saving storage.

- Optional extension tables can be added to the ends of the standard tables to handle longer sheets of media. See Order accessories on page 55 for ordering information.

- Optional roll-fed media supply and takeup system is available to handle roll-fed media. See Order accessories on page 55 for ordering information.

Calibration

The printer uses a high-resolution digital imaging sensor (camera) and embedded software to align the printheads, and detect and replace missing jets. Manual and automatic calibrations are available.

- AutoSet calibration — automatically aligns printheads bidirectionally for precise positioning of inkjet pixels, and runs AutoJet.

- AutoJet calibration— compensates for most lost or misfiring jets by locating them and using substitute jets without slowing printing speed.

Performance and ease-of-use

- Media Wizard — stores and recalls a set of operating parameters by media type and print mode, for optimal printing performance. Includes a set of predefined settings for standard media. You can also create and save custom settings for other media.

- Edge-to-edge printing — provides the look of "full bleed" prints without trimming.

- Stored jobs — stores print jobs on the printer's internal hard disk drive for subsequent reprinting without having to resend it from the RIP.

- Simplified control panel interface — touch-screen control panel with graphical interface presents frequently-used functions. A menu provides access to less-frequently used functions and troubleshooting help.

- User assistance — control panel features online help, interactive procedures, scheduled cleaning reminders, and diagnostics to assist the user, reducing training and troubleshooting time.

- HP Embedded Web Server — by entering the printer's IP address into the address bar of any web browser on your local area network, you can view printer status, change certain settings, upgrade the printer firmware, and download system log files.

Use the HP Embedded Web Server

When the printer is connected to your local area network (LAN), you can enter the printer's IP address into the address bar of your web browser to display printer status, set the internal date and time of the printer, download a log file, update the printer firmware, and transfer a custom Media Wizard definition.

Connect to the HP Embedded Web Server

To connect to the Embedded Web Server, open a web browser on any computer connected to the same network as the printer, and enter the printer's IP address into the browser (http://[ip-address]). The printer's IP address is displayed on the System screen of the printer's control panel. When the browser connects to the printer, the Embedded Web Server displays its home page.

Display the printer status

To display the printer status, including media type loaded and amount of ink remaining, select the printer status option from the Embedded Web Server menu.

Display the current control panel image

To display an image of the screen that is currently displayed on the control panel, select the option from the Embedded Web Server menu.

Set the date and time

To set the printer date and time, select this option from the Embedded Web Server menu. Enter the current date and time as specified on this screen, and click the Set Time button.

NOTE: To ensure the proper scheduling of automatic maintenance operations and times and dates in event logs, verify the correct local time on the printer, and adjust as needed for daylight savings time changes if observed at your location.

Download a printer events file

The printer maintains a continuous log of its operations and settings in plain text files, which it stores on its internal hard disk drive. These files are useful for troubleshooting. To access these files, select the Get Printer Events Files option from the Embedded Web Server menu. From the list of files, click the link to the file you want to view or save to your computer.

Update the printer software

HP occasionally issues new versions of the embedded software (printer firmware). After obtaining an update file, you can use the Embedded Web Server to install it onto the printer.

From the Embedded Web Server, select the Update Printer Software option from the menu. Follow the onscreen instructions to upload and install the software update.

Transfer a custom media definition

The Media Wizard enables you to define custom media definitions, in addition to the standard definitions that are supplied with the printer. You can use the Embedded Web Server to download a custom media definition from a printer to your computer, then upload it to a different printer.

When you select Retrieve Custom Media File from the web server, the web server displays a list of custom media definitions that exist on the printer. Select one of these definitions, and it is saved to your computer.

To send a custom media definition to a printer, enter its IP address into the web browser. When you choose Select Custom Media File to Install from the web server, the web server prompts you to browse to and enter the name of the file you want to send to the printer. When you click Send, the file is sent to the printer. After the printer receives the file, it should be visible on the printer's control panel in the list of media.

Display job accounting information

Select Job Accounting to display information for each print job, such as date and time printed, and amount of media and ink used.

Display printer usage data

Select Printer Usage to display the cumulative amounts of sheet-fed media, roll-fed media, and ink used for the life of the printer.

2 Configure and load media

Configure media

Before the printer will accept a print job, it must be configured for a specific media type. The currently-configured media type, if any, is displayed on the Home page of the control panel.

1. If the control panel displays the media type you intend to load, press **Load** and go to Load rigid media on page 12. Otherwise, continue to the next step.

2. In the Activity Tray on the control panel, press the **Media** icon. The Media screen appears.

    See Use the control panel on page 29 for a complete description of the control panel screens and options.

3. Press **Configure**.

    The **Select Media to Load** menu appears.

4. Press a media name, or **Create Media Type.**

    The list of media types ends with the option **Create Media Type** (page down to the end of the list by pressing the page down button).

    ● If you press a media name, a list of settings appears for you to review. See Media Wizard on page 9 for a description of the settings.

    ● If you press **Create Media Type,** the control panel prompts you to select a standard media type to use as a starting point for the new media type settings. After you select a standard media type, the control panel prompts you for a name for the new media type, then a list of settings appears for you to review and change if necessary.Media Wizard on page 9 for a description of the settings.

    ☆ **TIP:** Start by using one of the standard media types. If you are not using a standard media type, select the standard media type that most closely matches the media you are using. Then only if necessary, create a new media type using the standard type you selected as a starting point, and adjust it as needed.

5. Review and change (for previously-created custom media types only) the media settings as needed.

6. Press **Out** or **Proceed** once or twice until the printer displays the prompt "Load media now?"

7. Press **No** to save your configuration and cancel the load process, or press **Yes** and proceed to Load rigid media on page 12 or Load roll-fed media on page 15.

📝 **NOTE:** When you create a custom media type on the printer, in order to print on the new media type, you must also add the new media type using Media Manager for the Onyx RIP, or EasyMedia for the Caldera RIP. Refer to the documentation for your RIP for instructions.

Media Wizard

To view or delete settings for an existing media type, press **Media Wizard**. The Media Wizard also lets you create a media type without configuring it as the currently-loaded media.

For each media type, the Media Wizard stores the following settings (as indicated, some settings apply to either roll-fed or sheet-fed media only):

- **General Media Settings**

  - Vacuum Fan Level — adjusts the amount of vacuum at the media drive belt. Observe the media as the fan speed changes. If the media is lifting off the belt, increase the fan speed. If the media advance seems impeded by the vacuum, decrease the fan speed.

  - Feed Method — Rollfed (with optional supply and takeup system installed) or Cut Sheet.

  - Visible to Printer — if Yes, the media sensor and image sensor will be used. If No, the media sensor and image sensor will not be used (with clear films, for example).

  - Use Rollers — sets whether the Input and Output media rollers are used (yes) or not used (no) with the Flat Media setting (see Load rigid media on page 12). When set to Yes, the rollers will move up or down as needed to be just above the surface of the media. When set to No, the rollers will move to their highest point and remain there.

  - Weight — sets the media belt drive motor and media advance amount to handle Light (up to 22 kg (50 lb)) or Heavy (22-113 kg (50-250 lb)) media.

    △ **CAUTION:** The input and output tables are rated at a maximum load of 68.0 kg (150 lb). Do not exceed this maximum load.

- **Print Mode Specific Settings** — for custom media types, this screen enables you to adjust the settings for each print mode and color set combination. See Available print modes on page 21 for a detailed description of print modes and color sets.

  - Print Mode — select the print mode whose settings you want to change.

  - Color Set — select the color set whose settings you want to change.

  - Change Print Mode Specific Settings — press this button to change the UV Lamps settings and Printing Delay for the print mode and color set you selected. A higher lamp setting increases ink curing power, important at high speeds and for older lamps that are losing their intensity; a lower setting for newer lamps extends their life.

    Closing the shutter on the trailing lamp blocks the UV light from the lamp, which allows the drop of jetted ink to spread out more before it is cured, resulting in a glossier look to the print. The color profile used must take this into account for accurate color matching.

    A longer printing delay helps dissipate heat from heat-sensitive substrates, while a shorter delay speeds printing throughput.

Work with the rigid media tables

Figure 2-1 Output (1) and input (2) tables
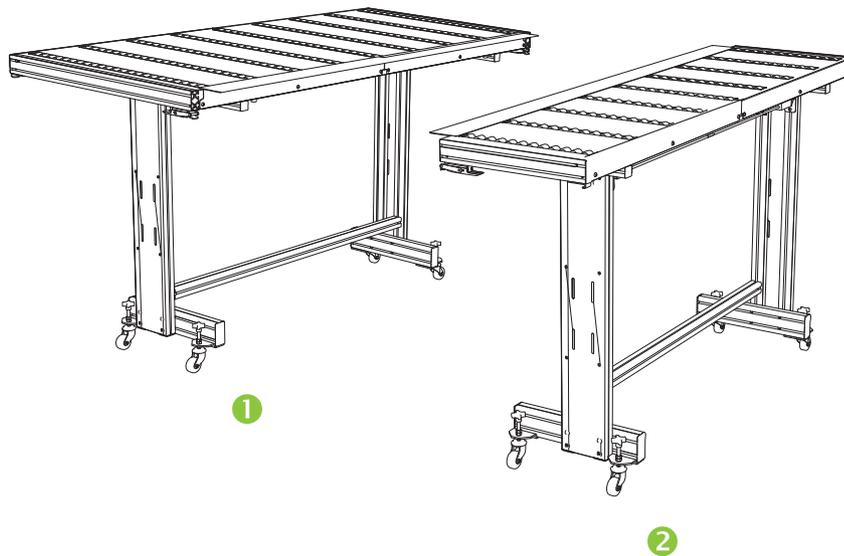
The printer includes a set of standard input and output tables for rigid media handling: one for the input side of the printer, and one for the output side. These tables are assembled, installed and leveled when the printer is installed. The tables are designed to be used only when the tabletop is in the horizontal position and latched to the printer. The latches, see (1) , are needed for safety, print quality, and to provide a ground path to discharge the electrostatic charge from synthetic media.

The tabletop can be pivoted to a near-vertical position to save space during storage. After detaching the tables from the printer, release the tabletop latches by pulling the release cable, see (2) , under the tabletop. To return the tabletop to its operating position, pivot the table top down and press down firmly to engage the latches.

Figure 2-2 Table latches and release cable
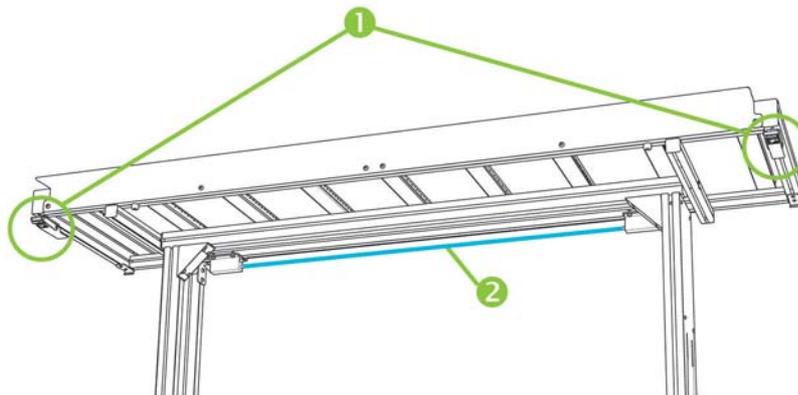
Optional extension tables are also available as an accessory, When properly assembled and attached to the ends of the standard tables, the extension tables enable safe and reliable handling of large media sheets. During use, the extension tables must be latched to the standard tables for

safety, print quality, and to provide a ground path to discharge the electrostatic charge from synthetic media. When not attached to the standard tables, the extension table tops are designed to pivot into the storage position under their own weight.

△ **CAUTION:** The standard and accessory extension tables are intended for use only when attached to the printer as described in these instructions. When not in use, the tables should be stored with the table tops folded in the storage position. Use caution when operating the table tops and moving the tables, to avoid personal injury or damage to property.

📝 **NOTE:** If the accessory tables were properly leveled when they were installed, they should not have to be leveled again. If sheet-fed media feed problems occur, make sure the accessory tables are securely latched to the standard tables, and verify that the tables are level. You can use the spirit ("bubble") levels that are built into the sides of the table tops, or use a separate level. In either case, check for level over the fixed support assembly first, then over the folding support, and adjust the table wheels up or down as necessary.

Load rigid media

📝 **NOTE:** See Table A-2 Media sizes on page 83 for a list of supported media sizes.

1. If the rigid media tables are not already installed, position the input and output tables at each end of the media drive belt, and engage the attachment latches to the printer. Make sure that the pivoting table tops are securely latched in the operating position.

    📝 **NOTE:** If you have the optional roll-fed media accessory installed, remove the foam press rollers. The foam press rollers are not used with rigid media.

2. At the end of the Configure Media process (see Configure media on page 9), press **Yes** on the control panel:

    OR

    from the Home page screen, press **Load Media**.

    Before you can load, you must configure the media as explained in Configure media on page 9.

3. On the control panel menu, press one of the following media rollers options, then press **Proceed**:

    ●   Flat Media — if the rollers were set to "Yes" in the media configuration (see Configure media on page 9), the rollers will move up or down as needed to be just above the surface of the media. If the rollers were set to "No", the rollers will remain at their highest point and will not be used. In either case, the full imageable length of the sheet is available for printing.

    ●   Warped Media, Hold Down — when a sheet is loaded, the leading edge is advanced so that it is underneath the output roller. Printing is allowed only until the trailing edge of the sheet has reached the input roller. The imageable area of the sheet is reduced by 65.4 cm (25.8 in) from both the leading and trailing edges.

    ●   Short Media — enables printing on sheets that are not long enough to reach the output roller and thickness sensor at the same time. The media length can be less than 33 cm (13 in) but at least 11 cm (4 in).

    📝 **NOTE:** The media rollers are lowered to just above the media with any force or pressure, other than their own weight. They are designed to hold down lighter weight media with at most a moderate amount of warping. They may have no effect on heavier, badly warped media. For best results, use the flattest available media.

4. On the control panel, enter the approximate or exact thickness of the media you are loading, then press **Proceed**.

5. Load the sheet of media onto the input table, sliding it forward against the media alignment bar (under the printhead carriage rail), then left along the media alignment bar until the media touches the leftmost alignment pin.

6. Press **Sheet Ready** on the control panel, or **Cancel** to cancel the media load process.

   ☆ **TIP:** Before you press Sheet Ready, you can press **Turn On Lamps** on the control panel to initiate their warm-up cycle while you complete the subsequent steps in the load process. This will enable printing to begin sooner than if you allow the lamps to be turned on automatically. You can also change the head height at this time.

7. Select the media length from the list, or enter a length manually, then press **Proceed.**

   The control panel asks for the number of sheets to feed.

8. Enter the number of sheets:

   - Single sheet

   - N-UP — for two or more sheets loaded at once across the width of the printer

   The printer measures the media, and the control panel displays a summary screen of the settings you specified.

9. Press **Proceed**, and press **Proceed** again to confirm that the media has loaded.

   The Media page appears.

10. Send a print job from the RIP or print a Stored Job from the printer.

    For multiple copy jobs ejected to the output side of the printer, the printer control panel will prompt for the next sheet a short time before the previous sheet is done printing. Load the subsequent sheet against the media alignment bar, and press Sheet Ready on the control panel. The printer prints on the next sheet and will use the same option settings on all of the copies in the print job.

Use the camera to locate the sheets

The on-carriage camera is used to locate the position of each sheet as part of the load process. To specify load options:

1. On the Printing page, press **Options**.

2. From the Options menu, press **Measure Media**.

   The Measure Media Frequency menu appears:

   - Measure only on first load — only the first row is measured, and those measurements are used for all subsequent rows. Use the alignment pins to locate the sheets in subsequent rows. This speeds throughput by eliminating the measurement step for each row.

   - Measure on all loads — each sheet in every row of sheets will be measured, and reported to the server. This aids in accurate placement of edge-to-edge images. In this mode, use of the alignment pins is unnecessary.

   - Don't measure media — does not measure the sheets, for fastest throughput. Use only if there are wide margins on all four sides, or for transparent media, which the printer cannot detect. Use the alignment pins to locate the sheets.

3. Press a Measure Media option.

When you select a Measure Media option, the **Measure Media Type** menu appears. This enables you to select a trade-off between image placement accuracy and throughput.

- Minimal — measures the media width once, locates leading edge near the user side on subsequent loads.

- Standard — measures the media width once, estimates skew by locating the leading edge near the user and service sides on subsequent loads.

- One Edge — on first load, measures both edges; on subsequent loads, measures the left edge only.

- Maximal — on every load, measures the media width at two points to estimate skew, finds the leading edge near the user side.

If the print job has wide margins, you can increase throughput with Minimal or One Edge. For edge-to-edge printing, increase accuracy by selecting Standard or Maximal.

4. Press a **Measure Media Type** option.

After you select a Measure Media Type option, a message appears to remind you to load the same number of sheets with every N-UP group, until they have all been printed. Press Proceed to dismiss this message and return to the printer options menu.

Quick Load

After printing is complete, you can reload a sheet of the same media type and dimensions without reconfiguring the media. Use Quick Load or Load:

NOTE: This option is available if you select **Measure only on first load** from the Measure Media Frequency menu (see).

1. Press **Load** on the Home Page screen.

   The control panel displays a menu with a Quick Load and Load option.

   - To load a sheet of media with the same media type with the same dimensions as the previous job, press **Quick Load**.

   - To load a sheet of media with the same media type with the same dimensions as the previous job, but different flatness, thickness, or number of N-UP sheets, press **Load**. The control panel allows you to respecify these options.

2. Place the media onto the media drive belt, and push it flush against the media alignment bar, then left along the media alignment bar until it touches the leftmost alignment pin.

   At this point, the control panel allows you to adjust the vacuum fans and head height off the media.

3. Press **Sheet Ready** on the control panel.

   The printer is ready to receive the next job from the RIP or Stored Jobs on the printer.

Multi-sheet N-UP

Multi-sheet N-UP allows you to print a multiple-copy job on multiple sheets across the belt, and multiple rows of sheets, until the job is complete. Use the built-in media alignment pins for quick positioning of the sheets across the printer's width. Align the left side of each sheet with one of the pins, with a small space from the right edge of the sheet to the next pin, to allow for variations in sheet dimensions. Alternatively, if you position the pins with zero clearance between the sheets and

each pin, before each print be sure to raise the pins over the thickness of the sheets; otherwise the sheets could become skewed.

NOTE: When printing multi-sheet N-UP on media that cannot be detected by the printer's media sensor (black, dark colored, reflective, or clear), the sheets in each row must be spaced equally.

To print multi-sheet N-UP, load multiple sheets on the printer, then send a print job from the RIP with a quantity greater than or equal to the number of sheets you loaded. The printer will prompt you to load more sheets until the number of copies you specified has been printed. You can also print Stored Jobs as multi-sheet N-UP (see Stored jobs on page 23 for details).

This type of printing works best with an image that has wide margins on all four edges, but edge-to-edge printing is also possible by carefully matching the dimensions of the image to the dimensions of the media sheets. Margins are defined for each print job by the RIP.

The image is positioned horizontally (left-right) as defined on the Printing screen, under the **Options** button.

"Incomplete" rows

You can print any number of copies in a multi-sheet N-UP job, even if the total number does not divide evenly into the number of sheets per row. Only the last row may have a different number of sheets.

For example: in a twenty-sheet job, you might be able to fit three sheets in each row, so you might print six rows of three sheets, plus one row of two sheets (6x3=18, 1x2=2, 18+2=20). If the last row is a partial row, load the sheets from the user end toward the service end.

Load roll-fed media

Figure 2-3 Roll-fed media path
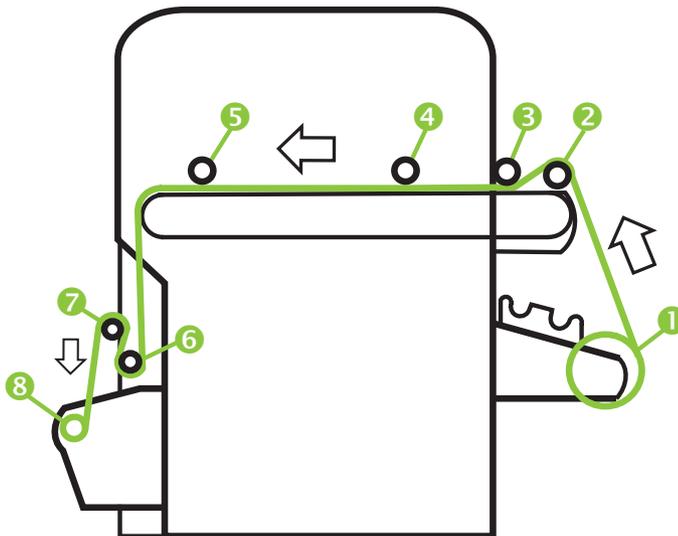
If the optional roll-fed media supply and takeup system is installed on the printer, you can print on roll-fed media.

NOTE: See Table A-2 Media sizes on page 83 for a list of supported media sizes.

1. If installed, detach the rigid media input and output tables from the printer, and set them aside.

2. Install the takeup spindle and empty cardboard core, see (8).

3. Load the media centered onto the supply spindle (1).

    NOTE: To prevent fingerprints from showing on printed output, wear gloves while handling the media.

4. Load the supply spindle onto the supply system bracket, with the media centered.

    You can print on either side of the media by loading the spindle so the media spools off the bottom of the roll or the top of the roll.

5. Configure the media as explained in Configure media on page 9. At the end of the Configure Media process, press **Proceed** on the control panel.

    OR

    If the media is already configured, from the Home page of the control panel, press **Load**.

    NOTE: Be sure to enter the correct media thickness. The printer can detect the thickness of sheet-fed media only if the media is loaded under the media thickness sensor, which is located at the user end of the carriage rail. For roll-fed media (if enabled), use the manufacturer's specification or use a caliper to measure the thickness.

    The control panel displays a graphic and prompts you to remove the foam press roller.

6. As prompted by the control panel, raise the foam press roller (3) to the upper position, then press **Proceed**.

7. Pull the media from the roll, pull it over the foam lift roller (2) (the foam press roller (3) should not be in position yet) and lay it on the belt up to the input media roller (4). Then press Proceed.

    TIP: The foam lift roller and foam press roller are intended for flexible roll medias such as scrim vinyls. Using the foam rollers may cause media feed errors with heavier, less flexible roll stock such as photobase papers. When printing on heavier stock, feed the media underneath both rollers to bypass them.

8. On the control panel, press the upper (forward) **Advance Media** arrow button to advance the media, with the vacuum fans on.

    You may need to hold the media down on the belt until the vacuum grabs it.

9. Advance the media until it hangs on exit side down to the takeup roller. Do not tape the media to the core at this time.

10. On the control panel, press **Turn Off Fans**.

11. Hold the upper (forward) **Advance Media** button down for about five seconds.

    This will help smooth out wrinkles and equalize the tension of the media across the belt.

    Since the fans are off, the media should not advance. If the media moves, hold onto the media with your right hand while pressing **Advance Media** with your left hand.

12. Place the foam press roller (3) into operating position. Then press Proceed.

13. On the control panel, press **Turn On Fans**.

14. Lower the input (4) and output media rollers (5) to their operating positions.

15. Check for wrinkles in the media across the full length and width of the belt.

If you see any wrinkles, turn off the fans and smooth out the wrinkles with your hand.

16. Align the cardboard takeup core to the media and tighten the stops to lock the core in place.

17. Lift the first dancer bar (6) (with the gears), and lock in the upper position.

18. Pull the media under the first dancer bar, over second dancer bar (7), and down to the printer side of takeup roller (8).

19. Looking down the length of the takeup roller from the user end, the roller rotates clockwise. Ensure that the media is wrapped as shown in (8).

20. Tape the end of the media to printer side of takeup roller, starting in the middle and working out to both ends.

    Be sure to maintain even tension across the width of the media.

21. Release the dancer bar locking lever.

22. Press **Proceed**.

23. On the Select Thickness Units screen, press the option that corresponds to the units you will use.

24. Enter the media length or press **Cancel** for an undefined length.

    The printer measures the media width.

25. On the Front Page screen, press **Proceed**.

    The Front Page screen appears on the control panel.

Use the camera to locate the media

For roll-fed media, you can choose between two levels of precision for finding the left (user end), and right (service end) edges of the media.

1. On the Printing page, press **Options**.

2. From the Options menu, press **Measure Media**.

    The Measure Media Frequency menu appears. This enables you to select a trade-off between image placement accuracy and throughput.

    ● When loading — locates the left and right edges only when loading a roll of media.

    ● Before each copy — locates the left and right edges of the media before each print. This enables the printer to compensate for any "drifting" of the media, and print the image at the correct location.

3. Press a **Measure Media Type** option.

    The Options menu reappears.

3 Load inks

NOTE: UV inks have a limited shelf life. The Warranty Ends date listed on the ink box label should be taken into account when ordering inks, rotating ink in inventory, and planning print jobs. Printing with an ink supply after this date may result in substandard image quality.

Load inks

The amount of ink in the ink supply box is tracked by the printer software and recorded on its corresponding profiler. The control panel displays a bar graph with the ink levels in each ink box. When the control panel shows that the ink is low, replace the ink box with a full ink box of the same color, and replace the profiler.

NOTE: You may want to wear gloves (latex or nitrile) and have a paper towel handy to catch the drops of ink that may fall from the ink tube connection during this procedure.

Figure 3-1 Ink boxes (both styles of connectors can be used with the printer)
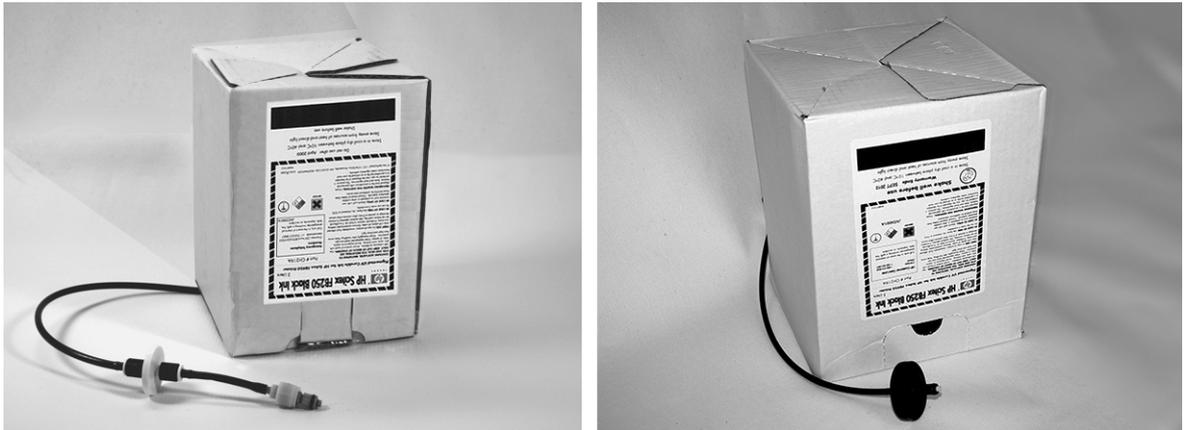
Unload an empty ink box

1. Remove the profiler.

2. Lift the box out of its holder and turn the box upside down so the ink tube is pointing up.

3. Grasp the metal connector where the ink tube enters the printer, and push it up to release the ink supply tube.

4. Remove and dispose of the ink box (refer to the Material Safety Data Sheet for proper disposal procedures).

Load a full ink box

1. Open the new ink box and locate the supply connector.

2. Locate and remove the profiler, and set aside until step 5.

3. Shake, invert and install the ink box into position in the holder, so the ink supply tube is at the bottom of the box.

NOTE: The pigments in the inks can settle to the bottom of the ink box during storage. To reduce inaccurate color in prints, invert and vigorously shake the ink box for at least one minute before installing it into the printer.

4. Insert the ink tube connector into the metal connector on the printer.

   The position for each ink color is shown on a label below each ink box and next to the profiler docking station. The white ink box has a split "Y" supply line that connects the box to two ink ports on the printer (Light Cyan/White and Light Magenta/White).

5. Install the profiler in the corresponding docking station slot.

NOTE: Printing with white ink requires you to install the optional White Ink Upgrade Kit and then perform a white ink conversion. See for ordering instructions.

Order ink supplies

You can order the following ink supplies for your printer.

Table 3-1 Ink cartridges

Cartridge	Part number
HP FB250 3L Cyan Scitex Ink Cartridge	CH216A
HP FB250 3L Magenta Scitex Ink Cartridge	CH217A
HP FB250 3L Yellow Scitex Ink Cartridge	CH218A
HP FB250 3L Black Scitex Ink Cartridge	CH219A
HP FB250 3L Light Cyan Scitex Ink Cartridge	CH220A
HP FB250 3L Light Magenta Scitex Ink Cartridge	CH221A
HP FB251 2L White Scitex Ink Cartridge	CQ123A

Table 3-2 Cleaning supplies

Printhead flush	Part number
HP UV Printhead Flush	CH122A

4 Printing jobs

Available print modes

You select a print mode for each print job at the external RIP. Refer to the RIP documentation for instructions. Stored jobs can be printed in the mode originally specified by the RIP, or in any other mode at the same resolution as it was sent from the RIP (see table for resolutions).

The printer can print in several different modes for the combination of image quality and speed that you require. The modes are named after their intended applications. The higher-quality modes are meant for closer viewing. The faster modes are meant for viewing from longer distances. Maximum speeds shown in the table are for jobs with six colors, four colors, or four colors plus white spot printing. White flood fills print at approximately 45% the other color modes.

> **NOTE:** Printing with white ink requires you to install the optional White Ink Upgrade Kit and then perform a white ink conversion. See Order accessories on page 55 for ordering instructions.

Table 4-1 FB500 print modes and maximum print speeds

	Print mode	Maximum speed, CMYKcm, CMYK, CMYK+W	Maximum speed, white flood
1	Max DPI — Saturated: for printing on backlit media)	4.4 sqm/h	2.4 sqm/h
	Viewing distance: less than 1 m (3 ft)	47 (sqft/h)	26 sqft/h
2	Photo Plus: near offset quality	4.4 sqm/h	n/a
	Viewing distance: less than 1 m (3 ft)	47 (sqft/h)	
3	Photo: photo gloss	8.6 sqm/h	3.6 sqm/h
	Viewing distance: less than 1 m (3 ft)	93 (sqft/h)	39 sqft/h
4	Indoor Signage Plus: higher quality point-of-purchase (POP)	11.1 sqm/h	4.4 sqm/h
	Viewing distance: 1–2 m (3–6 ft)	120 (sqft/h)	48 sqft/h
5	Indoor Signage: standard point-of-purchase (POP)	16.4 sqm/h	7.0 sqm/h
	Viewing distance: 1–2 m (3–6 ft)	177 (sqft/h)	75 sqft/h
6	Outdoor Signage Plus: medium viewing distance signage	21.3 sqm/h	7.9 sqm/h
	Viewing distance: 2–3 m (6–10 ft)	229 (sqft/h)	85 sqft/h
7	Outdoor Signage: longer distance viewing signage (not available for white ink jobs)	29.6 sqm/h	n/a
	Viewing distance: 3–5 m (10–16 ft)	319 (sqft/h)	
8	Express: very long distance viewing (not available for white ink jobs)	37.0 sqm/h	n/a
	Viewing distance: greater than 5 m (16 ft)	398 (sqft/h)	

Table 4-2 FB700 print modes and maximum print speeds

	Print mode	Maximum speed, CMYKcm, CMYK, CMYK+W	Maximum speed, white flood
1	Max DPI — Saturated: for printing on backlit media)	5.0 sqm/h	2.7 sqm/h
	Viewing distance: less than 1 m (3 ft)	55 sqft/h	29 sqft/h
2	Photo Plus: near offset quality	5.0 sqm/h	n/a
	Viewing distance: less than 1 m (3 ft)	54 sqft/h	
3	Photo: photo gloss	9.9 sqm/h	4.1 sqm/h
	Viewing distance: less than 1 m (3 ft)	107 sqft/h	44 sqft/h
4	Indoor Signage Plus: higher quality point-of-purchase (POP)	12.8 sqm/h	5.1 sqm/h
	Viewing distance: 1–2 m (3–6 ft)	138 sqft/h	55 sqft/h
5	Indoor Signage: standard point-of-purchase (POP)	18.8 sqm/h	7.9 sqm/h
	Viewing distance: 1–2 m (3–6 ft)	202 sqft/h	85 sqft/h
6	Outdoor Signage Plus: medium viewing distance signage	24.3 sqm/h	9.0 sqm/h
	Viewing distance: 2–3 m (6–10 ft)	261 sqft/h	97 sqft/h
7	Outdoor Signage: longer distance viewing signage (not available for white ink jobs) Viewing distance: 3–5 m (10–16 ft)	34.0 sqm/h 366 sqft/h	n/a
8	Express: very long distance viewing (not available for white ink jobs) Viewing distance: greater than 5 m (16 ft)	42.2 sqm/h 455 sqft/h	n/a
9	Billboard: Billboards, far away (not available for white ink jobs)	80 sqm/h	n/a
	Viewing distance: far away	861 sqft/h	

The graph below shows the relative print speeds (horizontal axis) and image quality levels (vertical axis) of each mode.

Figure 4-1 Speed and image quality by print mode

Q

sqm/h (sqft/h)
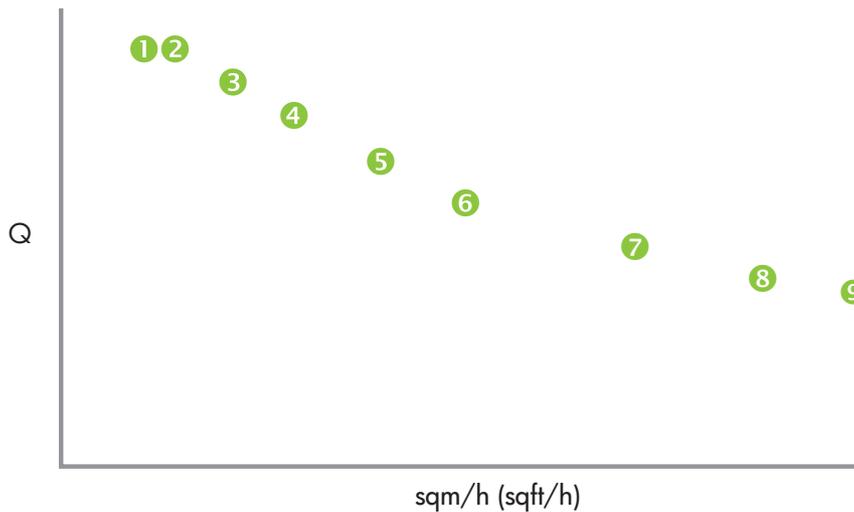
Stored jobs

When you send a print job to the printer, you can save the job automatically on the printer's hard disk drive, on a rotating first-in-first-out (FIFO) basis. You can "lock" a job to prevent it from being rotated out, but this reduces the amount of space available for subsequent jobs to be saved. You can also save a stored job without printing it until you print it from the control panel, or only print the job without saving it.

The printer can store up to twenty-four sheet-fed or roll-fed jobs. These jobs are retained on the printer's disk, even when the printer power is cycled on and off. When the number of stored jobs reaches the printer's storage capacity, subsequent print jobs will be printed but not stored.

If a job is too large to be saved, it is simply discarded from memory after printing. If a complete print job has been received from the RIP and you cancel the print, it will still appear in the Stored Jobs listing.

Stored Jobs can be viewed and managed from the control panel.

Thumbnail screen

To print or manage Stored Jobs, press **Jobs** on the Home or Printing page. On this page, you can view thumbnail images of the various jobs. Locked jobs (protected from automatic deletion) are identified by a padlock icon on the thumbnail image.

From the Stored Job thumbnails screen, you can perform these operations on the print job:

● Press **Max Sizes** to view the total image area that can be stored at each combination of resolution and color set.

● Press **History** to view a log of stored jobs activity.

- Press **Settings** to specify how jobs are stored and printed. This setting is saved even when the printer is restarted.

  - Print & Save — prints the job and saves it to disk.

  - Save Only — saves the job to disk without printing it. In this mode, the background color of the Stored Jobs section on the Home Page screen turns green.

  - Print Only — prints without saving the job to disk.

- Press **2–Sided** to set up a two-sided print job using Stored Jobs, The printer will prompt you to select a Stored Job for the front and back of the sheet. After printing, side one of the sheet will be ejected to the input side of the printer, and you will be prompted to flip over and reload the sheet for printing side two. After printing, the sheet will be ejected to the output side of the printer.

☀ **TIP:** When printing a two-sided print job from the Stored Jobs on the printer, and the Auto Eject feature is disabled (set to "Off" under **Printing page > Options > Eject Settings**), Auto Eject will be enabled or the printer will prompt you to change the Print Position setting before printing will proceed. This is because double-sided printing by definition uses the Auto Eject feature. If necessary, you can print the sides as two single-sided jobs, turning the media sheet over between sides.

Properties screen

To view the properties of a Stored Job, or to print a Stored Job, press the job's thumbnail image. From the Stored Job properties screen, you can perform these operations on the print job:

- To print the job, press **Load & Print**. The printer will prompt you for the number of copies to print. If you have multiple sheets loaded, each copy will print on a separate sheet, and the printer will prompt for additional sheets until the number of copies requested have been printed. You can print the job in any print mode that use the same resolution as the original job.

- To adjust the right, left, leading, or trailing margins, press **Margin Settings**. The leading and trailing margins are applied to sheet-fed and roll-fed print jobs.

- To change the print mode of a job, press **Print Mode.** You can only change the mode to one that uses the resolution at which the job was RIPed. To print the job at a different resolution, re-send the job from the RIP at the new resolution.

- To delete the job, press **Delete**.

- To lock or unlock the job, press the appropriate button. Locking a job prevents it from being deleted, but subtracts from the available memory for Stored Jobs.

☀ **TIP:** If you want to print on a media type that is different from the media specified in a Stored Job, or if you will re-linearize the printer, do not reprint the Stored Job. For the best color, re-send the job from the RIP instead.

When printing a job, the printer checks that the currently loaded media matches the media type that was loaded when the job was stored. If different, a warning is raised. You can choose to not print the job, or ignore the warning and print anyway.

Printing on a media type or in a print mode that is different from the original job may result in a color shift.

TIP: While a print job is being received by the printer and saved to its internal hard disk (a process called "spooling,") you can switch the UV lamps on or off as desired, rather than wait for the entire job to be spooled.

Position and eject options

The sheet-fed printing option **Position/Eject,** on the Printer Options menu, enables you to control how images are positioned and whether the automatic sheet eject feature is enabled. By selecting Auto Eject Off, you can save media by combining print jobs that are smaller than the sheet size onto the same sheet, instead of on separate sheets. In this mode, you can print the jobs one after the other, or "nest" them across the width of the media in rows. Position/Eject is available when the printer is configured for sheet-fed media.

● Position options — for print jobs with a width that is less than the width of the media, you can control where the image is positioned (flush left, flush right, centered, or nested).

● Eject options — for sheet fed jobs, you can control whether the media is ejected after each job to the output side, input side, or not automatically ejected (Auto Eject Off).

● Nested output — when you set Eject to **Auto Eject Off,** and Position to **Nested,** the print jobs are nested onto the media until all jobs are printed or there is no more room on the sheet.

Figure 4-2 Position options with Auto Eject Off
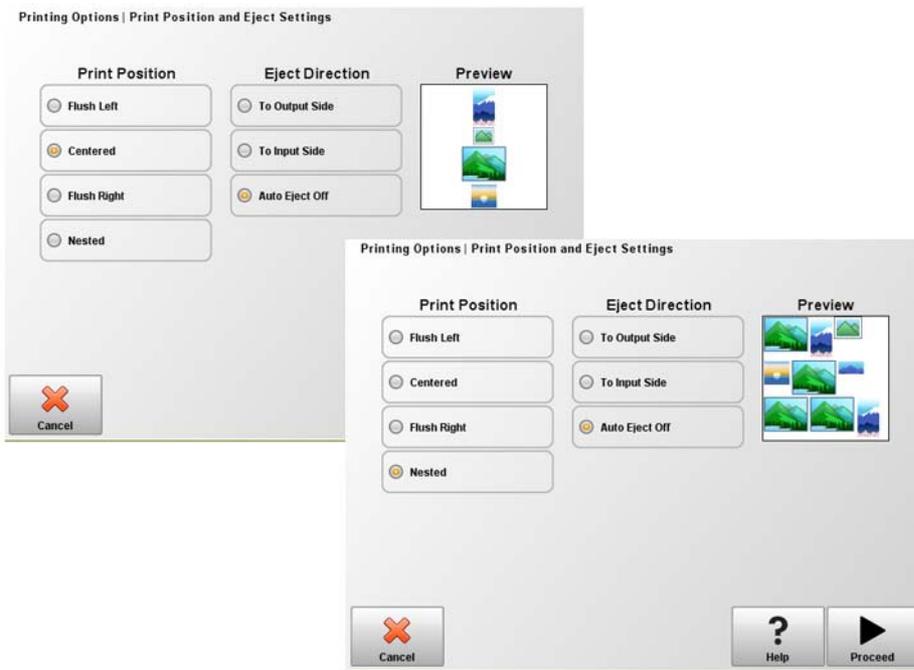
Printing tips

⚠ **CAUTION:** Synthetic media commonly used for inkjet printing can build up a static charge, especially in environments with low relative humidity. This charge can pose an electrostatic discharge (ESD) hazard to persons, the printer, and other equipment. It can be safely discharged by draping a grounded chain or tinsel over the top of the media, or by wiping the media with a solution of 90% isopropyl alcohol and allowing it to dry for five minutes before printing. A relative humidity of 40%-60% will greatly reduce problems with static electricity.

- Rigid cut-sheet media — use only flat, unwarped, undamaged sheets, with parallel opposite edges and 90° corners. For optimal image quality, use smooth-surfaced media. Images printed on porous media will lack fine detail.

- Curing continues for 24-48 hours — the UV ink will continue to cure for a day or two after printing. Maximum durability and adhesion is achieved when the ink is fully cured.

- If you print on the media drive belt, clean the ink off the belt as soon as possible. The longer that ink remains on the belt, the more difficult it is to remove. To remove ink from the belt, moisten the ink with isopropyl alcohol, let stand for a few minutes, and wipe with a paper towel. Carefully remove any flaked ink from the area.

- To avoid printing on the media drive belt when printing edge-to-edge (0 margin) jobs, you can affix dark-colored masking tape on the belt where the sides of the media will be. Remove or replace the tape periodically as ink accumulates on the tape.

- Do not attempt to adjust the vacuum level for the printheads. It has been factory adjusted for best performance.

- Lighter, smaller media rolls — for lighter, smaller rolls of media, you can use the rigid media tables and media rollers to feed the media like rigid media.

- Printing on reflective media will reflect UV light onto the printheads, which will cure the ink over time and clog the ink jets. To minimize this:

    ◦ Do not keep reflective media loaded on the printer when not in use.

    ◦ Perform a manual purge after printing on reflective media.

    ◦ Visually inspect the printheads via the service door for ink buildup or ink curing, If observed, clean the printheads (see).

- To load reflective media, the General Media Setting **"Visible to Printer"** should be set to **Visible.**

- The margins for print jobs sent from the Onyx RIP cannot be set from the RIP. The margins can be adjusted once the print job is stored on the printer, or white space can be added to the document before it is sent to the RIP.

- To reduce printing artifacts when printing on Corrugated Plastic (Coroplast) or Polystyrene (Sintra) sheets, try creating a custom media type with the lamps set to Low, Low. Note that this setting could reduce the gloss of the print.

5 Use white ink

Introduction

With the white ink option available from HP, you can replace the light magenta and light cyan inks with white ink, resulting in four colors of ink plus white ink. This enables you to print with white ink using various techniques.

Printing with white ink may require special preparation of the image to be printed or special setup in the RIP. Refer to the documentation provided with the application software and RIP for step-by-step procedures.

White ink option overview

White ink printing is available as an option that can be delivered with a new printer or as a field upgrade to an existing printer. If the option is delivered with a new printer, it is installed with the new printer. In the case of a field upgrade, the option is designed to be installed either by a service technician or by the customer operator.

The white ink option consists of two parts (see instructions that accompany the kit for detailed instructions):

- White ink option upgrade — a one-time process that upgrades the printer to a white-ink capable printer

- White ink conversion — replaces the existing light cyan and light magenta inks in the printer with white ink.

Refer to the White Ink Upgrade Kit Installation Instructions, HP part number CQ114–90006, included in the white ink upgrade accessory kit, for detailed instructions for the upgrade and conversion.

Types of white ink printing

Many different design effects can be achieved with white ink that would not be possible otherwise, especially when printing on dark, colored, metallic, or clear media. There are three basic design techniques for printing with white ink:

- Under-fill — a solid rectangle (or irregular shape) of printed white ink that is cured, then a color image is printed on top of it. When used on a non-white, transparent, or reflective surface, this can provide better color saturation or allow colors that are similar to the media color to be visible.

- Over-fill — a color image is printed and cured, a solid rectangle (or irregular shape) of white ink is printed on top of it. This is most often printed on clear media to create a sign that is viewed on a light box (for example, a shopping mall map, airport advertisement, or bus stop signage). When viewed from the opposite side of the media on which it was printed, the image must be reversed (mirrored) in the RIP or application software before printing.

- Spot color — any white shape (including text) that is cured with and in the same plane as the rest of the artwork, rather than in a separate plane or layer. In conventional (analog) offset or screen printing, this might be called a "knockout," because none of the colors are overprinted.

NOTE: When printing a CMYK or CMYKcm image without a white under-fill on non-white media, color saturation may be reduced, depending on the color of the media used.

White ink maintenance

- HP White Ink Homogenizer — white inks used in wide-format printing have pigments that have a tendency to settle over time. The printer's white ink option incorporates a vibrating homogenizer base that keeps the white ink pigments in suspension without operator intervention.

- Printhead — the automatic printhead servicing (purging and wiping) must be supplemented with manual printhead cleaning, to enable optimal print quality.

- Shelf life — the white ink has a maximum shelf life of six months from date of manufacture. Replace the white ink after the Warranty Ends date printed on the box.

6 Use the control panel

Overview

The touch-screen control panel shows you the printer's current status, and enables you to interact with the printer, respond to an error condition, and configure options.

The control panel is organized into pages of related functions. To switch between the pages, press the corresponding icon at the bottom of the screen (the Activity Tray, see).

The control panel provides various forms of online user assistance: online help, interactive procedures, scheduled cleaning reminders, and diagnostics.

Home page

Figure 6-1 Home page
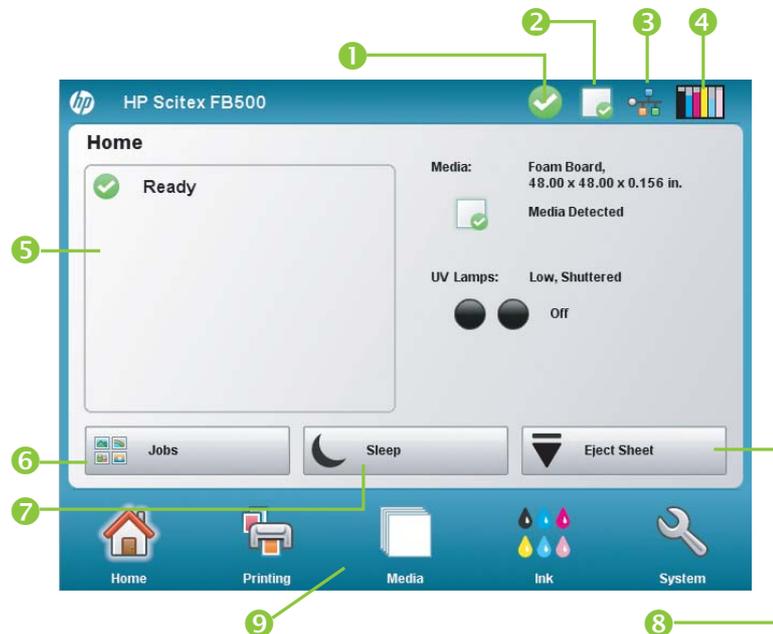
The Home page is displayed when the printer is first powered on. To switch to the Home page from another page of the software, press the Home icon in the Activity Tray.

1	Ready icon — displays when the printer is ready to print. One or more Warning informational messages may be present (see Attention messages on page 30), but printing can proceed.
2	Media detection status — indicates whether media is detected. The media sensor can only detect the presence of white or light-colored media. Clear or reflective media cannot be detected. In this case, you must enter the media width manually when prompted by the control panel.
3	Network status — indicates whether the printer is connected to the local area network.

| 4	Ink levels — shows the current ink level for each color.
5	Printer status — indicates whether the printer is ready to print, and lists any error messages. ● Media — name of the currently configured media. ● UV Lamps — when printing, lamp intensity levels are displayed. Icons show the lamp status: black=off, yellow=on, blinking=warming up.
6	Jobs — displays the Stored Jobs feature. See <u>Stored jobs on page 23</u> for details.
7	Sleep/Wake mode — Sleep unloads the media, powers down the UV lamps, ionizer bar, printheads, carriage, ink pumps, and media drive motors, but maintains vacuum to the printheads to prevent ink leakage. The fans over the service station also continue to run. Wake powers up the printer components. The printer goes into sleep mode automatically after a user-defined period of time, and "wakes" automatically when a print job is received or a printer operation is performed from the control panel. **NOTE:** If printhead vacuum is ever lost, the ink in the printheads will seep onto the service station. (Vacuum loss will not result in additional ink being drawn out of the ink supply boxes.) To prevent ink leakage during an unexpected power outage, use the vacuum system's 24 volt auxiliary power supply and connect it to an uninterruptable power supply (UPS). See Appendix A for specifications. It is not necessary to connect the entire printer to a UPS, only the vacuum system needs to be connected to avoid ink seepage.
8	Configure, Load, Eject buttons — depending on whether media is configured and loaded, the appropriate buttons are displayed.
9	Activity Tray — press any icon here to switch between control panel pages.
10	Attention icon — displays when the printer issues an Action message, which you must address before printing can continue.
11	View Attentions — press to view Warning or Action messages .

Attention messages

The printer issues an Attention message to inform you of a condition that needs your attention. There are three types of Attention messages:

● **Actions** — an error condition that stopped printing or will prevent printing from starting. You must correct the error before the printer will be ready to print. The Attention icon blinks between yellow and red when the message is new. After you read the message, the icon turns red.

● **Warnings** — a condition that, if left unaddressed, could result in substandard prints or a condition that will require an action before printing can continue. Any action on your part is optional. The Attention icon blinks between yellow and red when the message is new, After you read the message, the Attention icon turns into the Ready icon unless an Action message is present.

● **Errors** — detailed error information for technical support personnel. These messages do not halt printing and require no action from the user.

When the printer issues one of these messages, press **View Attentions** on the Home page to display a list of message titles, and select a title to display a detailed cause-and-recovery screen.

The messages are dismissed by correcting the condition, or by pressing the applicable button on the Detail screen.

Figure 6-2 Home page with Attention message and View Attentions button
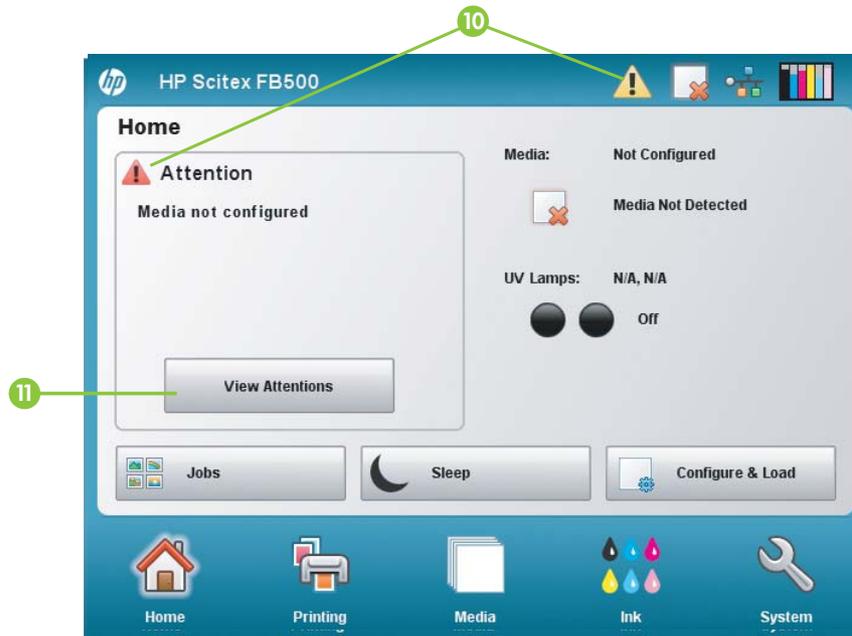
Printing page

Figure 6-3 Printing page

To switch to the Printing page, press the Printing icon in the Activity Tray at the bottom of the screen.

1	Status messages ● Stored Jobs status — current mode (print and save, print only, save only), number of stored jobs, number of locked jobs. See Stored jobs on page 23 for details. ● UV Lamps
2	Jobs — displays the Stored Jobs feature. See Stored jobs on page 23 for details.
3	Options — displays the Printer Options menu. See Printing Options menu on page 32 for details.
4	Calibrate — displays the Calibrate Printer menu. See Calibrate the printer on page 45 for details.
5	Turn On Lamps/Turn Off Lamps — enables you to manually switch the UV curing lamps on and off.

Printing Options menu

- Print Position and Eject Settings — this menu option controls two related functions that enable you to control how print jobs are positioned on sheet-fed media, and how to eject the sheets:

  ◦ Position — when the printed image does not span the entire width of the media, positions the printed image flush left (nearest the control panel or user side), flush right, centered, or nested on the media (if **Auto Eject Off** is selected).

  ◦ Eject — you can choose whether the media is ejected to the output or input side after each job prints, or disable automatic eject.

  See Position and eject options on page 25 for further details.

- Space Between Prints (roll-fed) — sets the blank space between print jobs, between 0–25 cm (0–10 in).

- Measure Media (sheet-fed) — for cut-sheet media, you can choose various levels of precision for finding the left (user end), right (service end), and front edges of the media. First, the printer prompts you to select a measurement frequency (trade-off between precision and speed):

  ◦ Measure only on first load — measure only once, after you configure the media; best for fast throughput when precise image placement is not required or when using the media alignment pins

  ◦ Measure on all loads — best for precise image placement, such as for N-UP and edge-to-edge printing

  ◦ Don't measure media — best for fast throughput when precise image placement is not required and there are very wide margins around the image

  After you select one of these options, the printer prompts you to select a measurement type:

  ◦ Minimal — measures the width of the media once and finds the front right edge; no skew detection

  ◦ Standard — measures the width of the media once, and finds the front edge in two places to estimate skew

  ◦ One Edge — (available with **Measure on all loads** is selected) measures the user- and service-end edges on the first sheet, user-end edge only on subsequent sheets, and the front right edge (no skew detection). For single-sheet jobs only, not available for multi-sheet N-UP. Works best on jobs with wider margins.

  ◦ Maximal — measures the width of the media in two places to estimate skew

Choose Minimal for fastest throughput, Maximal for greatest precision and skew detection when printing edge-to-edge.

- Measure media (roll-fed) — for roll-fed media, you can choose various levels of precision for finding the left (user end), and right (service end) edges of the media.

  - When loading — locates the left and right edges only when loading a roll of media.

  - Before each copy — locates the left and right edges of the media before each print. This enables the printer to compensate for any "drifting" of the media, and print the image at the correct location.

- Use Ionizer Bar — sets whether to use the ionizer bar to reduce the electrostatic charge on synthetic medias (the default setting is on or enabled). You may want to disable the ionizer in humid environments where electrostatic charge is not present on the media, or to reduce the wear on the ionizer's discharge electrodes. The ionizer bar is powered on only during media load, printing, and when the lamps are on.

- Use Thickness Sensor — sets whether to use the automatic media thickness sensor, or to prompt you to manually enter the thickness.

- Head Height off Media — automatically raises the rail to set the printhead clearance from the media, at the height you specify. A lower height reduces overspray, but increases the chances for a head strike on the media. Bidi calibration is automatically adjusted for changes in this value.

- Print White Space — provides the option of causing the printer to advance the media past unprinted space in the document file without the usual "printing" carriage motion. The printer will finish curing any printed areas before skipping this space. This option increases the printer's effective speed (throughput).

- Top Gutters — allows you to turn On or Off the gutter data at the top edge of the print, which shows the job name, ink, media, date and time printed, print mode, lamps setting, printer, embedded software version, plus write-in blanks for other data.

- Quality Check — when enabled, prevents printing from occurring if more than a certain number of missing or misfiring jets are not replaced by working jets. You can specify whether the printer asks you whether to stop printing with a Warning message, or if printing stops automatically without a Warning.

- Increase UV Lamp Power — when the printer is no longer fully curing the ink on prints, use this option to incrementally increase the lamp power. If the power needs to be increased again, create a custom media and set the UV Lamp Power to Medium or High, or replace the bulbs (the bulbs should be replaced in pairs). In this case, the printer will warn you that the print may not fully cure until the bulbs are replaced. (**Printing Page > Options > Increase UV Lamp Power**)

Media page

Figure 6-4 Media page
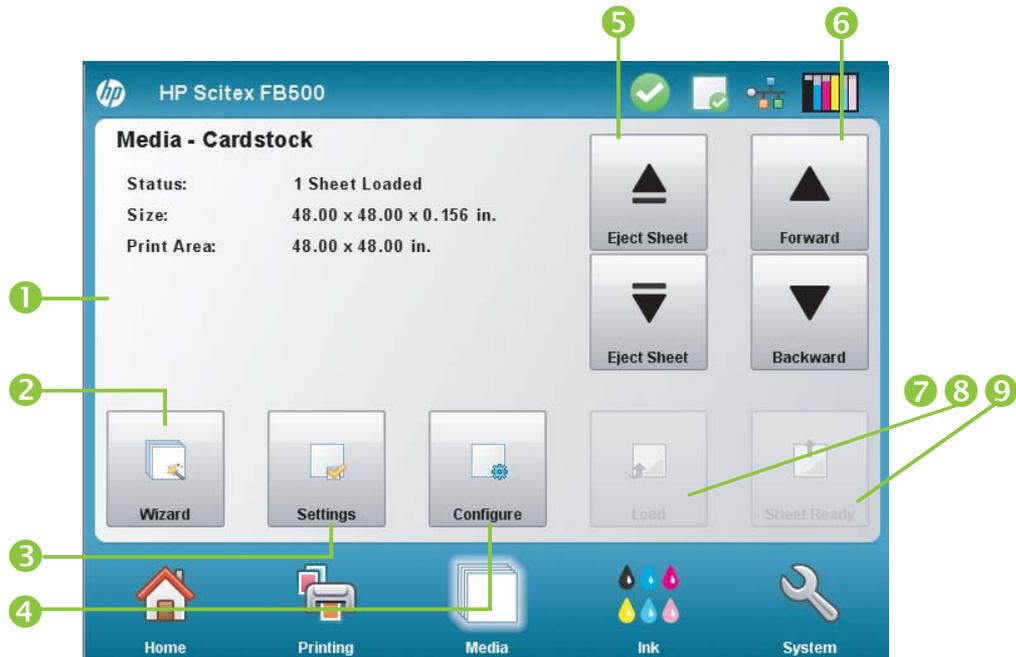
To switch to the Media page, press the Media icon in the Activity Tray at the bottom of the screen.

1	Media information — media name, size, print area, printable length
2	Media Wizard — displays the Media Wizard. See Configure media on page 9 for details.
3	Settings — enbles you to adjust media handing and printing settings.
4	Configure — configures the printer for a media type. See Configure media on page 9 for instructions.
5	Eject Sheet buttons (when sheet fed media is loaded) — ejects the media sheet to the input our output side of the printer.
6	Media advance buttons — press the ▲ button to advance the media forward. Press the ▼ button to reverse the media back.
7	Advance to cut — when roll fed media is loaded, advances the media toward the output side far enough so that it can be cut from the supply roll.
8	Load/Unolad — depending on whether media is configured and loaded, loads or unloaded the currently configured media.
9	Sheet Ready — when a sheet of the currently configured media is in the load position, press this button to continue the load process.

Media Settings menu

To display the Media Settings menu, press **Settings** on the Media page.

● General Media Settings — Media Name, Media Feed Method, Visible to Printer, Vacuum Control, Media Roller Use, Media Weight. For instructions, see Configure media on page 9.

● Print Speed Specific Settings — Printing Delay, Lamp Mode. For instructions, see Media Wizard on page 9.

Ink page

Figure 6-5 Ink page

To switch to the Ink page, press the Ink icon in the Activity Tray at the bottom of the screen.

1	Ink levels and status — displays the amount of ink remaining in a bar graph and numerical display, the capacity of the ink supply, and ink status.
2	Check Jet Health — fires all jets by printing a test pattern. This is a good way to inspect and prepare the jets for printing after they have been idle.
3	Purge — purges the printheads to help recover missing jets. You can purge all colors or any combination of colors, Standard or enhanced Performance purges, and print a prime bars pattern to see whether jets are recovered after each purge.
4	Maintenance — displays the Maintenance menu (see Maintenance menu on page 35).

Maintenance menu

● Check Jet Health — prints a test pattern that shows working and non-working jets.

● Perform An Air Purge — purges the printheads with air to clear ink clogs. You can select the printheads to purge, and whether to perform a Standard or Performance purge (the Performance purge is more effective but expels more ink).

- Access Printheads — moves the printhead carriage to the center of the rail for inspection.

- Print Recover Jets Pattern — prints a special pattern designed to recover missing inkjets. After printing this pattern, the prime bars are printed.

- Printhead Procedures

  ◦ Load Ink in All Heads — fills all printheads with ink. Typically used only when installing a new printer.

  ◦ Fill Heads with Ink — fills the printheads that you select with ink.

  ◦ Empty Heads (Fill With Air) — fills the printheads that you select with air.

- Ink Filter Counts — the printer's ink filters will eventually become clogged and need to be replaced. You can view the volume of ink that has passed through each filter by selecting this option. The service technician will reset these counts after replacing the ink filters.

- Purge Type — sets the purge type used when you press **Purge** on the Home Page screen: Standard or Performance. Performance is more effective, but uses more ink than Standard uses.

- Low Ink Warning — defines the amount of ink remaining at which the printer will display a "low ink" message on the control panel.

- Set Auto Purge & Wipe Interval — you can set the number of prints after which the printer will automatically perform a purge and wipe of the printheads. This is intended to keep the jets working during an extended period of unattended printing on roll-fed media (for example, overnight).

- Idle Spit While Printing (white ink only) — you can choose whether to have the white ink spit ink into the service station when printing non-white areas. The default is "off," since most white print jobs include flood fills with white throughout and will not need idle spitting.

- Upgrade Printer For White Ink Use — this option is displayed before the white ink upgrade option has been installed. It enables you to install the white ink upgrade. Refer to the instructions that are included in the white ink option accessory kit for details.

- Change Color Set — this option is displayed after the white ink upgrade option has been installed. It enables you to convert the printer from six-color printing to four-color plus white printing.

System page

Figure 6-6 System page

To switch to the System page, press the System icon in the Activity Tray at the bottom of the screen.

1	About screen
	• Printer model
	• Embedded software (firmware) version
	• IP address — enter this address in your RIP to send print jobs to the printer, and web browser to access the Embedded Web Server.
2	Tools — displays the Tools menu. See Tools menu on page 37 for details.
3	Settings menu — enables you to enable printer options and adjust various warning timers. See Settings menu on page 39 for details.
4	Language Selection — switches the control panel language. Language Selection on page 39 for details.
5	System Information — displays several pages of status information for diagnostic and support purposes.
6	License — displays the printer software license agreement.

Tools menu

These are less-frequently used functions such as **User Diagnostics** that enable the operator to diagnose a problem, **Service Printer** functions for use by authorized technicians, and the ability to **Print Menus** (the entire menu structure) for reference.

User Cleaning and Maintenance

For detailed instructions, see <u>User cleaning on page 57</u>.

- Maintenance Reminders — displays a list of scheduled maintenance tasks, the intervals in number of hours of printing for each task, and the elapsed printing time since the task was last performed.

User Diagnostics

User Diagnostics presents an interactive troubleshooting program to diagnose problems before calling technical support. It walks you through a series of tests and checks for certain printer functions. The printer asks you to make observations or run simple tests to help it diagnose problems and suggest corrective actions. It has the following sections:

- Carriage Motion
- Rail Motion
- Calibration
- Verify H2H Y Alignment
- Print Quality
- Service Station
- Vacuum Pressure
- Hard Drive
- LVDS
- Printhead Jet Statistics
- Warnings and Actions List — table of all actions and warnings with cause and recovery
- Error History — displays a list of errors that have occurred since the printer was last powered up.
- Log Error History — writes all of the error messages that have occurred on the printer since the printer was put into service to the printer's log file. The file can be downloaded from the printer via the printer's Embedded Web Server (enter the IP address shown on the System page into a web browser).
- Log System Info — writes general system events, including head motion failures and printhead purges, into the printer's a log file. The file can be downloaded from the printer via the printer's Embedded Web Server (enter the IP address shown on the System page into a web browser).

  Alternatively, the log can be printed and mailed or faxed (from the System page, press **Tools** and select **Service Printer > Print Info Pages** from the menu).

Service Printer

These functions are primarily for factory, service, and technical support use.

You can save troubleshooting data to a file for technical support personnel (**System page > Tools > Service Printer > Save Troubleshooting Data to File**). To access the file, open the HP Embedded Web Server, click **Get Printer Events Files,** then click InfoSettingsFile.txt. The file will open in the web browser. From there you can save the file for reference or transmission to technical support personnel.

Print Menus

This option prints all of the menu options in a hierarchical tree format for reference.

Settings menu

- Localization — sets English or Metric units of measure, Time and Date formats, Vacuum Pressure Units, and Language for data displayed by the control panel.

- Sleep Wait Time — sets the period of time to wait for a print job before going into Sleep mode.

- UV Lamps Idle Time — sets the amount of time the lamps will stay on after printing before they are automatically turned off by the printer. The idle time can be set from 1 to 15 minutes. Increase the idle time if you are printing several jobs and waiting for the lamps to warm up between prints. Decrease the idle time if printing single jobs.

- Attention Sorting — enables you to sort the attention message display by Severity or Chronologically.

- Auto Maintenance Time — defines the time of day at which automatic maintenance is performed.

    NOTE: Verify that the printer's internal clock is set to the correct local date and time, or automatic maintenance may occur at an unexpected time. See Set the date and time on page 7 for instructions.

- Expert/Novice Messages — Novice mode displays all prompts and instructions. Expert mode presents a streamlined subset of these messages for faster throughput. The default is Novice mode.

- Printer Name — displays a keypad to change the printer name displayed on the control panel.

- Network — enables you to choose whether to use DHCP or manually configure a static IP address. (**System page > Settings > Network**) A static IP address makes it easier to bookmark the printer's HP Embedded Web Server in a web browser, since the address will not change when the printer is restarted or its DHCP lease terminates. The printer's current IP address is shown on the control panel System page.

- Restore All Defaults — restores all Printer Configuration settings to their factory default values. Printhead calibration values are not reset by this option.

Language Selection

Pressing this button allows you to change the language in which the control panel is displayed. A Localization button also appears on the Language selection screen for access to Localization options (units of measure, date and time formats, etc.). These options are also available via the Localization menu (**System page > Settings > Localization**).

System Information

Pressing this button displays multiple pages of system information for troubleshooting and support.

License

Pressing this button displays the printer software license agreement.

Menu tree

This menu tree reflects version 1.05 of the embedded printer software. Refer to the Release Notes for more recent versions. Options marked with (*) are dynamically hidden depending on whether roll-fed printing is enabled.

Printing page

Calibrate Printer

- Auto Calibrations
  - ◦ AutoBidi Calibration
  - ◦ Auto Head X Calibration
  - ◦ AutoJet Calibration
  - ◦ Full AutoSet
  - ◦ AutoSet Summary
- Manual Calibrations
  - ◦ Media Feed Calibration
  - ◦ Manual Bidi Registration
  - ◦ Printhead X Calibration
  - ◦ Manual Jet Mapping
  - ◦ Jet Status Lines
  - ◦ Default Registration Data
- Unfixed Jets Report

Printing Options

- Print Position and Eject Settings
- Space After Internal Prints
- *Measure Media (sheet-fed)
- Use Ionizer Bar
- Use Thickness Sensor
- Head Height off Media
- Print White Space
- Top Gutters
- Quality Check
- Increase UV Lamp Power

Media page

Media Wizard

- Create Media Type
- Delete Media Type
- View Media Types
- Set Sort Method

Media Settings

- General Media Settings
- Print Mode Specific Settings

Ink page

Maintenance

- Check Jet Health
- Perform An Air Purge
- Access Carriage
- Print Recover Jets Pattern
- Printhead Procedures
  - Load Ink In All Heads
  - Fill Heads with Ink
  - Empty Heads (Fill with Air)
- Ink Filter Counts
- Purge Type
- Low Ink Warning
- Set Auto Purge & Wipe Interval
- Upgrade Printer for White Ink Use (if printer has not been upgraded for white ink)
- Change Color Set (if printer has been upgraded for white ink)

System page

Tools

- User Cleaning and Maintenance
  - Maintenance Reminders
  - Replace UV Lamp Bulb or Bulbs
  - Clean Rail Encoder Strip
  - Clean Ionizer Needles
  - Clean and Lube Rail Strips

- - Clean Print Head Orifice Plates

  - Clean/Lube Service Station Rails

  - Clean Service Station Wiper

  - Clean Carriage Wheels

  - Vacuum Bottom of Carriage

  - Clean Carriage Home Sensor

  - Replace UV Lamp Filters

  - Clean Electronics Box Filters

  - Replace Service Station Wiper

  - Drain Waste from Service Station

  - Clean Media Thickness Sensor Roller

- User Diagnostics

  - Carriage Motion

  - Rail Motion

  - Calibration

  - Verify H2H Y Alignment

  - Print Quality

  - Service Station

  - Vacuum Pressure

  - Hard Drive

  - LVDS

  - Printhead Jet Statistics

  - Warnings and Actions List

  - Error History

  - Log Error History

  - Log System Info

- Service Printer (for service provider use only)

- Print Menus

Printer Settings

- Localization

  - Units of Measure

  - Time Format

  - Date Format

  - Vacuum Pressure Units

- Sleep Wait Time

- UV Lamps Idle Time
- Attention Sorting
- Auto Maintenance Time
- Expert/Novice Messages
- Printer Name
- Network
- Restore All Defaults

7 Calibrate the printer

When to calibrate

When to run	Calibration	Function
When loading a new media (but not when loading a new roll or sheet of the same media)	Linearization (see RIP documentation for instructions).	Linearization of colors for accurate color matching.
Horizontal Banding	Media Feed	Calibrates the media advance.
Poor output quality (apparent misregistration of colors, banding)	Auto Calibrations	Calibrates the position of ink droplets in relationship to each other and corrects for individual jets not operating properly. You can also run the Manual Calibrations if necessary.
When printheads have been moved or replaced (by an authorized service provider)	Auto Bidirectional or Manual Bidirectional, and Head-to-Head	Head calibrations. Run Manual when calibrating transparent or other media that the onboard digital image sensor cannot calibrate.
If Auto Calibrations do not improve print quality, or if printing on transparent or other media that cannot be detected by the printer	Manual Calibrations	Aligns printheads, allows you to map out specific inkjets. Not normally needed except when printing on "invisible" media.

AutoJet

AutoJet detects individual inkjets that are misfiring or not firing at all. During subsequent printing, the printer compensates for these jets by using other jets in their place, ensuring maximum print quality without reducing print speed.

You can also identify and map missing jets manually from the Manual Calibrations menu (see Manual Jet Mapping on page 50). You may want to manually map weak or misdirected jets that AutoJet does not detect and substitute.

Jet replacement is not available in Express mode.

To run AutoJet:

● Select AutoJet Calibration from the Auto Calibrations menu (see Auto calibrations on page 46), or

☼ **TIP:** AutoJet does not work with transparent media, nor with many translucent media. In this case, run Manual Jet Mapping, or map jets on opaque media before loading transparent/translucent media for printing.

1. Press **Calibrate** from the Printing page, then press **Auto Calibrations > AutoJet Calibration** in the menu.

2. The printer prints the AutoJet test pattern.

3. The printer reads the AutoJet test pattern and maps any missing jets to available working jets.

The control panel shows the progress of this operation as the percentage completed.

4. The printer prints an AutoJet report.

📝 **NOTE:** The AutoJet calibration requires that the printheads are in correct alignment. If AutoJet maps out a large number of jets even though there are no obvious jetting problems, the printhead Y calibration (a factory calibration) may need to be performed again. In this case, contact HP or your authorized service provider.

Auto calibrations

The printer's piezo printheads are aligned by the installer. Head and bidirectional calibrations should be necessary only rarely (for example, when the heads have been moved within the carriage or replaced).

1. Press **Calibrate** from the Printing page, then press **Auto Calibrations** in the menu.

2. Select one of the Auto Calibrations.

● AutoBiDi (bidirectional) Calibration — ensures that every working jet fires at precisely the same location (regardless of the carriage direction of travel).

● Auto Head X (head-to-head) Calibration — ensures that the printheads are in alignment relative to each other.

● AutoJet Calibration — locates and substitutes missing jets for working jets (see AutoJet on page 45).

● Full AutoSet — runs all three calibrations in sequence. The printer prints a test pattern then reads it and makes the necessary adjustments or jet substitutions. After completing the calibrations, a report is printed that shows:

  ◦ Calibration results — a summary such as SUCCESSFUL CALIBRATION or an error message

  ◦ Header showing the date and time, software version, and printer type

  ◦ Calibration detail — the calibration data for each head. The AutoJet detail reports how many jets were mapped out by AutoJet, how many are permanently mapped out by the operator, and whether the head is usable (from a jetout standpoint) in the various print modes. The higher quality modes use jet replacement, so they can print successfully with a greater number of jets out than Billboard mode.

● AutoSet Summary — when enabled, a table of the results of the Full AutoSet calibration is printed after the AutoSet test patterns. When you enable the AutoSet Summary, you can show or hide the detailed calibration data.

Manual calibrations

When you run the calibrations from this menu, you evaluate the calibration test patterns visually and enter the calibration values via the control panel.

▲ Press **Calibrate** from the Printing page, then press Manual Calibrations in the menu.

The Manual Calibration menu consists of these options:

● Media Feed Calibration — calibrates the media advance accuracy for band-free printing. Visual and (for rigid media only) camera-assisted calibrations are available.

● Manual BiDi Registration — the manual version of AutoBiDi Calibration.

- Printhead X Calibration — the manual version of Auto Head X Calibration.

- Manual Jet Mapping — the manual version of AutoJet.

- Default Registration Data — sets all registration data to zero.

After calibration and jet mapping, perform a linearization or color calibration (as supported by the RIP). See .

📝 **NOTE:** The manual BiDi and X head calibrations are time-consuming and can be error-prone, but is necessary when calibrating transparent media or other media that the printer's digital image sensor cannot calibrate.

Media Feed Calibration

This calibration allows you to calibrate the accuracy of the media advance. Inaccurate media advance can result in blank spaces between print swaths (too much advance) or overlapping swaths (too little advance).

1. On the Manual Calibrations menu, press **Media Feed.**

2. Press the **Yes** button to proceed. The control panel displays the following options:

   990 mm (39 in) calibration — sheet fed only, uses the printer's onboard image sensor for precise adjustments. If the media feed needs larger adjustments, use the ruler-measured calibrations first. Use for maximum accuracy.

   510 mm (20 in) calibration — sheet fed only, uses the printer's onboard image sensor for precise adjustments. If the media feed needs larger adjustments, use the ruler-measured calibrations first. Use to conserve media.

   900 mm (34 in) calibration — prints a 900 mm (34 in) test pattern so you can verify its length with an accurate metal ruler. Cut the pattern from the media web, then measure and adjust the media advance as needed until the pattern is exactly 900 mm (34 in) long.

   250 mm (10 in) calibration — prints a 250 mm (10 in) test pattern so you can verify its length with an accurate metal ruler. This is not as precise as the 900 mm (34 in) calibration, but it uses less media. Measure and adjust the media advance as needed until the pattern is exactly 250 mm (10 in) long.

   The image-sensor based calibration (sheet-fed media only) prints a reference pattern, ejects the media, and prompts you to rotate and reload the media so the pattern can be measured. To account for the slight variability in the media feed mechanism, repeat these calibrations three to five times to obtain the best calibration. The software allows you to position the patterns anywhere on the sheet so you can print multiple iterations on the same sheet.

   Input MFN — enter the Media Feed Number that was displayed after a previous media feed calibration, to return to that setting without performing the calibration again.
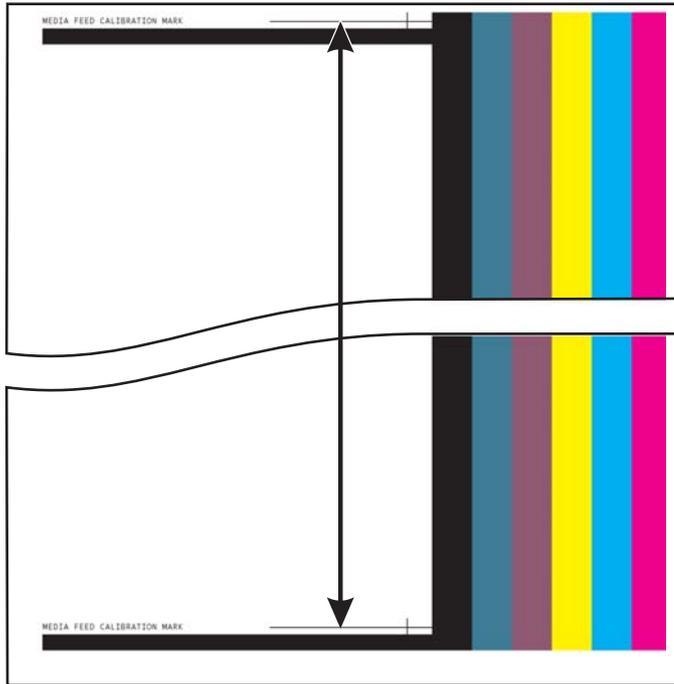
To avoid ruler issues, use the image-sensor based calibration.

Figure 7-1 Media feed calibration pattern

Manual BiDi Registration

Bidirectional registration is a method to align each of the printheads so that dot placement is accurate in both directions along the X axis (along the direction of printhead travel).

The bidirectional registration pattern consists of a series of vertical lines. Half the pixels in this pattern are printed in one direction, half of them in the other direction. When the pixels are accurately aligned, the pattern is clear. When the dots are not aligned, the pattern appears fuzzy and ill-defined.

NOTE: AutoBiDi Calibration is the automatic version of this calibration. Try AutoBiDi first before running this manual calibration (see).

1. Press **Calibrate** on the Printing page, then press **Manual Calibrations** in the menu.

2. Press **Manual Bidi Registration** to proceed.

   The control panel displays this prompt:

   Print a manual bidi registration page?

3. Press **Yes.**.

   The control panel displays controls that enable you to position the registration pattern on the media. This enables you to feed the same sheet of media into the printer multiple times without

overprinting previous patterns. For best quality when printing on rigid sheet-fed media, position the pattern approximately 20 cm (8 in) from the edge.

4. Use the control panel controls to position the pattern, then press **Proceed.**

   The printer prints the registration pattern, then prompts you to advance the media so you can inspect it.

5. Advance the media by pressing **Move Belt Forward,** then press **Proceed.**

   The control panel displays this prompt:

   Bidi registration Head 1: 0

6. Examine the BiDi Registration pattern for the current head, and determine which pattern is the closest to perfectly aligned.

   Use a printer's loupe (10X magnification or higher) to select the pattern, since the lines in the patterns may be difficult to see.

7. Press the ▲ or ▼ control panel keys repeatedly until the number next to the pattern that is closest to aligned perfectly is displayed.

   For example, if pattern +2.0 is the closest aligned, press **Proceed** to change the display to:

   Bidi registration Head 1: +2

   If a printhead is extremely out of alignment, there may be no pattern in alignment. Since the vertical bars are nominally five pixels apart, you can add +10 or -10 to a pattern number to shift the colored bars right or left by one black bar. Alternatively, you can perform the BiDi Registration repeatedly, which will move the head in smaller increments, until the head is aligned.

8. Press the ▲ button.

   The control panel message increments the head number by one.

9. Repeat steps 4 through 6 for each of the heads.

   When you have entered registration values for all heads, the control panel displays this message:

   Registration Successful

Printhead X Calibration

Precise positioning of each drop of ink is essential for optimal print quality. This is possible only if you register all printheads in the printhead assembly to each other in the X (along the length of the platen) direction.

This is a two-part process:

● Print a registration pattern.

● Enter the X registration data for each head.

📝 NOTE: This is the manual version of AutoH2H Calibration (see Auto calibrations on page 46).

1. Press **Calibrate** from the Printing page, then press **Manual Calibrations** in the menu.

2. Press **Printhead X Calibration** in the menu.

The control panel asks whether you want to print a manual head-to-head calibration page.

● If you need to print a new calibration pattern, press **Proceed**. The printer prints a calibration page.

When the calibration page has printed, the control panel displays this prompt:

Take readings from left side of pattern.

● If you have a calibration pattern from a recent print, you can use it to calibrate the heads. Press **Cancel** and go to the next step. (For best results, do not use a previously-printed pattern, print a new pattern.)

3. Press **Proceed.**.

The control panel displays this message:

X Direction Registration Head 2: +0

4. Examine the X direction pattern (in the left-hand group of patterns) for the current head, and determine which pattern of colored and black lines are the closest to perfectly aligned.

Use a printer's loupe or magnifying glass (10x magnification or higher) if the patterns are difficult to see.

5. Press the ▲ or ▼ control panel keys repeatedly until the number next to the pattern that is closest to aligned perfectly is displayed.

For example, if pattern -1 is the closest aligned, press the ▼ button to change the display to:

X Direction Registration Head 2: -1

If a printhead is extremely out of alignment, there may be no pattern in alignment. Since the black vertical bars are five pixels apart, you can add +5 or -5 to a pattern number to shift the colored bars up or down by one black bar. Alternatively, you can repeatedly perform the X calibration, which will move the head in smaller increments, until the head is aligned.

6. Press **Proceed.**

The control panel message increments the head number by one.

7. Repeat steps 4 through 6 for each of the heads.

When you have entered registration values for all of the patterns, the control panel displays this message:

Registration successful.

Manual Jet Mapping

Jets that are missing or misfiring are usually detected by the AutoJet calibration. Alternatively, you can map out jets manually using the Manual Jet Mapping function. You may want to manually map weak or misdirected jets that AutoJet does not substitute.

☼ **TIP:** AutoJet is the automatic version of this calibration (see <u>AutoJet on page 45</u>).

TIP: For best results, print the prime bars and purge the printheads as necessary to ensure the maximum number of working jets. See <u>Ink page on page 35</u> for instructions.

1. Press **Calibrate** from the Printing page, then press **Manual Calibrations** in the menu.

2. Press **Manual Jet Mapping** in the menu.

The control panel displays this message:

Print Jet Map?

If you have a calibration pattern from a recent print, you can use it to calibrate the heads. Press **Cancel** and go to the next step. Otherwise, press **Proceed.**.

The printer prints a jet map test pattern.

If a line segment is missing or broken, the jet number shown next to it is out. A code letter if present provides further information:

- R — no replacement
- S — user disqualified "soft" jetout
- H — user disqualified "hard" jetout
- D — disqualified (and replaced) by AutoJet

3. When the calibration pattern has printed, the control panel displays a menu with the following options:

- Report individual soft bad jets — enables you to report a "soft" bad jet, which can be automatically reenabled if AutoJet finds it working.
- Report individual hard bad jets — enables you to report a "hard" bad jet, which will not be checked or reenabled by AutoJet.
- Clear individual bad jets — enables you to clear (mark as good) a jet.
- View current bad jets — lists the bad jets on a given printhead.
- Clear all bad jets for a head — clears (marks as good) all jets on a selected head currently marked as unusable.
- Clear all bad jets — clears (marks as good) all jets currently marked as unusable.

A "soft" bad jet is a jet that you believe is temporarily out, based on past performance. A "hard" bad jet is a jet that you believe is permanently out.

Select an option and follow the corresponding procedure below.

Report Individual Bad Jets

When you select Report Individual Bad Jets, the control panel displays the following prompt:

Head 1: Press Proceed to report a bad jet.

1. Press ▲ and ▼ to select a head number, then press **Proceed** (▶).

   The control panel displays a numeric keyboard that you can use to enter the number of the bad jet.

2. Enter the jet number, then press **Enter**.

3. When you are finished entering jet numbers, press **Cancel**.

   The control panel displays the head selection message again.

4. Press ▲ and ▼ to select the next head number, then press **Proceed** (▶).

5. Repeat steps 2 through 4 for each head containing bad jets you want to report.

6. When you are finished reporting bad jets, press **Cancel**.

   The control panel displays the previous menu.

Clear Individual Bad Jets

When you select Clear Individual Bad Jets, the control panel displays the following prompt:

Head 1: Press **Proceed** (▶) to clear a bad jet.

1. Press ▲ and ▼ to select a head number, then press **Proceed** (▶).

    The control panel displays a numeric keyboard that you can use to enter the number of the bad jet.

2. Enter the jet number, then press **Enter**.

3. When you are finished entering jet numbers, press **Cancel**.

    The control panel displays the head selection message again.

4. Press ▲ and ▼ to select the next head number, then press **Proceed.**

5. Repeat steps 2 through 4 for each head containing bad jets you want to clear.

6. When you are finished clearing bad jets, press **Cancel**.

    The control panel displays the previous menu.

View Current Bad Jets

When you select View Current Bad Jets, the control panel displays the following prompt:

Head 1: Press Proceed to view bad jets.

1. Press ▲ and ▼ to select a head number, then press **Proceed** (▶).

    The control panel displays a message that lists the bad jets by number.

2. Press **Proceed** (▶) to return to the head selection screen.

3. Repeat steps 1 and 2 for each head you want to check for bad jets.

4. When you are finished viewing bad jets, press **Cancel**.

    The control panel displays the previous menu.

Clear All Bad Jets for a Head

When you select Clear All Bad Jets for a Head, the control panel displays the following prompt:

Head 1: Press Proceed to clear all bad jets.

1. Press ▲ and ▼ to select a head number, then press ▶ (Proceed).

    The control panel asks you to confirm your selection.

2. Press ▶.

    The control panel asks whether you want to clear the hard bad jets as well as the soft bad jets. A "soft" bad jet is a jet that you believe is temporarily out, based on past performance. A "hard" bad jet is a jet that you believe is permanently out.

3. Press ▶ to clear the hard and soft jets. Press X to clear the soft jets only.

    The control panel reports the number of jets that were cleared on the selected printhead.

4. Press ▶.

The head selection screen appears.

5. Repeat steps 1 through 4 for any other printhead, or press n to return to the menu.

Clear All Bad Jets

When you select Clear All Bad Jets, the control panel displays the following prompt:

Are you sure you want to clear ALL reported bad jets?

● Press **Cancel** to cancel this function, or

● Press **Proceed.** The control panel displays this message:

Do you want to clear the hard bad jets?

● Press **No** to clear the soft bad jets only, or

● Press **Yes** to clear both the hard and soft jets.

The control panel displays this message:

All reported bad jets have been cleared.

▲ Press **Proceed** (►).

When you have finished mapping jets, the following summary appears on the control panel:

x soft jets currently reported bad. x hard jets currently reported bad. x new soft bad jets reported. x new hard bad jets reported. x previous soft bad jets cleared. x previous hard bad jets cleared.

where x is the number of jets.

Default Registration Data

This option enables you to reset bidi registration, head-to-head registration, or jet mapping data, or any combination of them. After running this option, the deleted calibration values must be reestablished by running the calibrations.

Unfixed Jets Report

The Unfixed Jets Report displays a table showing, for each print mode, which colors are printing with non-working inkjets that are not being automatically replaced with working jets by AutoJet mapping ("unfixed" inkjets). For each combination of ink color and print mode, "No" means there are no unfixed jets, "Yes" means there are unfixed jets.

Linearization

As the density of an image varies from highlights to shadows, or from lighter tints to darker tints, the printer should accurately reproduce these areas in a predictable, or linear, fashion. The process of linearization (or color calibration) involves printing and reading color test patches, and calibrating the printer to ensure that the expected and printed densities will match. This in turn will ensure optimal color matching.

Color calibration is a feature of the RIP connected to the printer. Refer to the documentation that accompanies the RIP for further information.

8 Accessories

Order accessories

You can order the following accessories for your printer. For more information about the cleaning kit, see User cleaning on page 57.

Name	Product number
HP Scitex FB500 White Ink Upgrade Kit	CQ118A
HP FB251 2L White Scitex Ink Cartridge	CQ123A
HP Scitex FB500/950 Printer Cleaning Kit	CQ121A
HP Scitex FB500 Extension Tables	CQ117A
HP Scitex FB500 Roll-to-Roll Upgrade Kit	CQ116A
HP UV Replacement Bulb	CH231A

9 User cleaning

Schedule of tasks

The parts and supplies required for these procedures may be purchased as a kit (HP product number CQ121A). Consistent and proper use of this kit will contribute to optimal printer performance, extend lamp and printhead life, reduce the number of service calls, increase image quality, and reduce the potential for output artifacts.

Follow the cleaning schedule or clean as needed (depending on frequency of use and amount of dust and airflow around the printer). The printer displays maintenance reminders on the control panel according to this schedule or actual in-service time, as appropriate. You can display the service intervals and actual elapsed printing time for each task from the control panel menu (**System Page > Tools > User Cleaning and Maintenance > Maintenance Reminders**).

To perform these procedures, follow the instructions in this chapter or on the control panel under **System Page > Tools > User Cleaning and Maintenance.**

Table 9-1 Schedule of cleaning tasks

Task and Frequency	Required supplies
Replace UV lamp bulb (500–1000 hours) on page 59	2 of HP UV Replacement Bulb Kit.
Clean the rail encoder strip (bi-weekly) on page 66	One lint-free cleaning cloth
	Cleaning fluid
Clean ionizer needles (quarterly) on page 67	Ionizer cleaning brush
Clean and lubricate rail strips (bi-weekly) on page 68	Oiled cloth kit
	1-2 lint-free cleaning cloths
	Cleaning fluid
Clean the print head orifice plates (bi-weekly) on page 70	Three lint-free cleaning cloths
	One pair of gloves
	Cleaning fluid
Clean and lubricate the service station rails (monthly) on page 71	One grease pack
	One pair of gloves
	One cotton swab
	Cleaning fluid
Clean service station wiper (monthly) on page 72	One lint-free cleaning cloth
	One pair of gloves
	Cleaning fluid
Clean carriage wheels (monthly) on page 73	Two long-stick swabs
	Cleaning fluid
Vacuum bottom of carriage (monthly) on page 76	N/A

Table 9-1 Schedule of cleaning tasks (continued)

Task and Frequency	Required supplies
Clean the carriage home sensor (monthly) on page 76	Long stick swab
	Cleaning fluid
Replace the UV lamp filters (quarterly) on page 78	Lamp filter kit
Clean the electronics box filters (quarterly) on page 79	Vacuum cleaner
Replace the service station wiper (quarterly) on page 80	Wiper blade
Drain waste from service station (quarterly) on page 81	Waste ink container
Clean the media thickness sensor roller (quarterly) on page 81	One lint-free cleaning cloth
	Cleaning fluid

Substitute cleaning procedures for air quality regulatory compliance

The various Air Quality Management Districts in California may have rules that restrict the use of cleaning solvents containing Volatile Organic Compounds (VOCs). This document provides alternative cleaning procedures for printers located in the areas of California where the use of solvents containing VOCs is restricted. These revised procedures supersede any previous instructions, guidelines, or recommendations issued by HP regarding the cleaning or maintenance of the relevant printers in California. Maintenance procedures that do not involve the use of VOCs for cleaning are not affected.

Printers located in California should not be cleaned using SolaChrome-UV Printhead Flush, HP UV Printhead Flush (HP product number CH122A) or isopropyl alcohol (IPA) unless other VOC compliance measures are in place. This includes the use of any product samples which came with the printer when it was purchased. Dispose of any remaining Printhead Flush in accordance with applicable regulations.

The compliant alternative liquid for cleaning and maintaining this printer is: Methyl Acetate (CAS# 79-20-9), at least 98% pure, undiluted.

Follow these safety guidelines when handling parts and cleaning chemicals:

- When handling parts and cleaning liquids use appropriate personal protective equipment (PPE) as prescribed in the Material Safety Data Sheet (MSDS). This includes the use of safety goggles, chemical protective gloves, and other protective personal clothing. Additional useful information may also be provided on websites operated by the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health.

- Only those components originally designated for cleaning with Printhead Flush or IPA should be cleaned with the alternative cleaning liquid.

- Methyl Acetate is a flammable liquid; read and adhere to the instructions in the MSDS document for safe handling and storage. State and local agencies or fire departments may impose additional requirements.

- Follow all health, safety and environmental protection regulations when using any solvents to clean or maintain the printer. An agency that administers health and safety regulations within the State of California is the Department of Industrial Regulations, Division of Occupational Safety and Health (Cal-OSHA).

- Minimize the quantity of cleaning liquid used during maintenance to avoid spills, contamination, or harm to printer parts. Carefully moisten cleaning cloths or swabs with the cleaning liquid, and ensure that none of it drips onto the printer. Any excess or residual liquid should be removed by cleaning the area with a dry cloth. Failure to clean off any residual cleaning liquid could cause damage to the printer, or could adversely affect the printer's level of image quality.

- Disposal of waste must be in accordance with applicable regulations.

Replace UV lamp bulb (500–1000 hours)

The UV ink curing lamp bulbs will gradually emit light of diminishing intensity with use. To compensate, increase the power setting to the lamps. (From the control panel Media Page, press **Wizard,** then press **Print Mode Specific Settings.**) The UV lamp bulbs are warranted for 500 hours, but by operating them at low power initially, and increasing the power only when necessary to ensure a full curing of the ink, a service life of 1000 hours is possible.

Replace both bulbs at the same time, so that both bulbs emit light of equal intensity. Order quantity 2 of HP product number CH231A, HP UV Replacement Bulb Kit. The replacement procedure consists of these parts:

1. Removing the lamp housings from the carriage

2. Removing the old lamp bulbs

3. Installing the new lamp bulbs

4. Re-installing the lamp housings

Remove the lamp housings

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Replace UV Lamp Bulb or Bulbs.**

   The control panel asks whether you want to proceed with changing the bulbs.

2. Press **Yes.**

   The printer positions the rail and carriage for replacing the bulbs, then displays the prompt, "Select Lamp to Change."

3. In most cases, select **Both Lamps** to replace both lamps (recommended). Otherwise, select the lamp to change.

4. Press **Proceed**.

   This resets the lamp service hours counter to zero hours. Next, the control panel prompts you to power down the printer.

5. Turn off the power switch to the printer. Do not disconnect the main power cable from the printer: this ensures that the proper vacuum is maintained to the printheads, which prevents ink from leaking out.

6. Wait five minutes to allow any existing current to drain from the capacitors.

7. Open the top cover to access the printhead carriage.

8. Disconnect the auxiliary cable from the top of the user-end lamp.

Figure 9-1 Disconnect the user-end auxiliary cable

Remove the user-end lamp housing

1. Remove the lamp power cable from the side of the lamp housing by turning the coupling counterclockwise.

Figure 9-2 Remove the user-end power cable
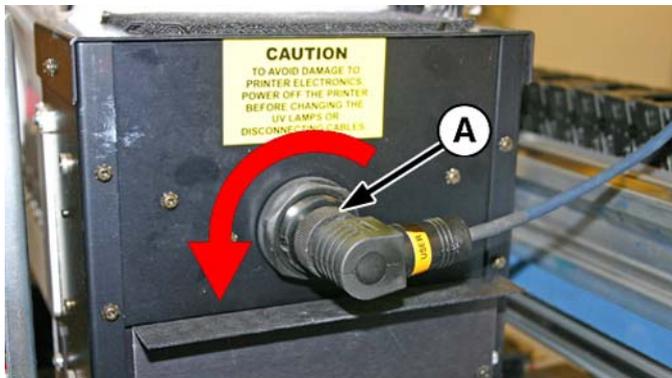
2. Remove the four sliver screws (A and B in the following figure) that secure the lamp housing to the lower lamp assembly.

Figure 9-3 User end screws
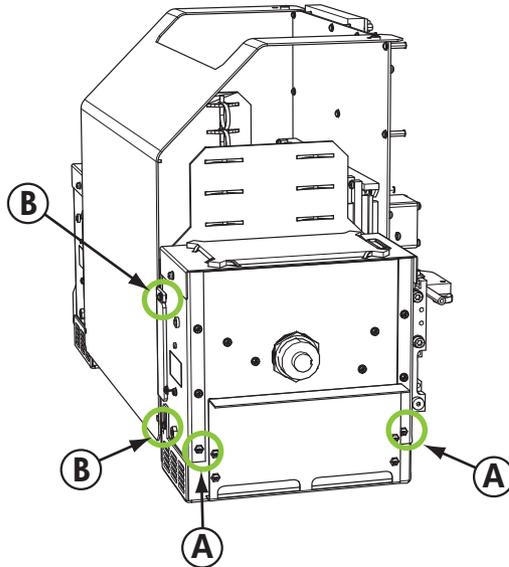
3. LIft up to remove the lamp housing from the printer.

Remove the service-end lamp housing

1. Disconnect the auxiliary cable from the top of the service-end lamp. See for location.

2. Remove the lamp power cable from the side of the lamp housing by turning the coupling counterclockwise. See for location.

3. Remove the four silver screws that secure the lamp housing to the lower lamp assembly, A and B as shown in the following figure. You can access one of the screws through the access hole in the ionizer bracket, as shown in the following figure.

Figure 9-4 Service end screws
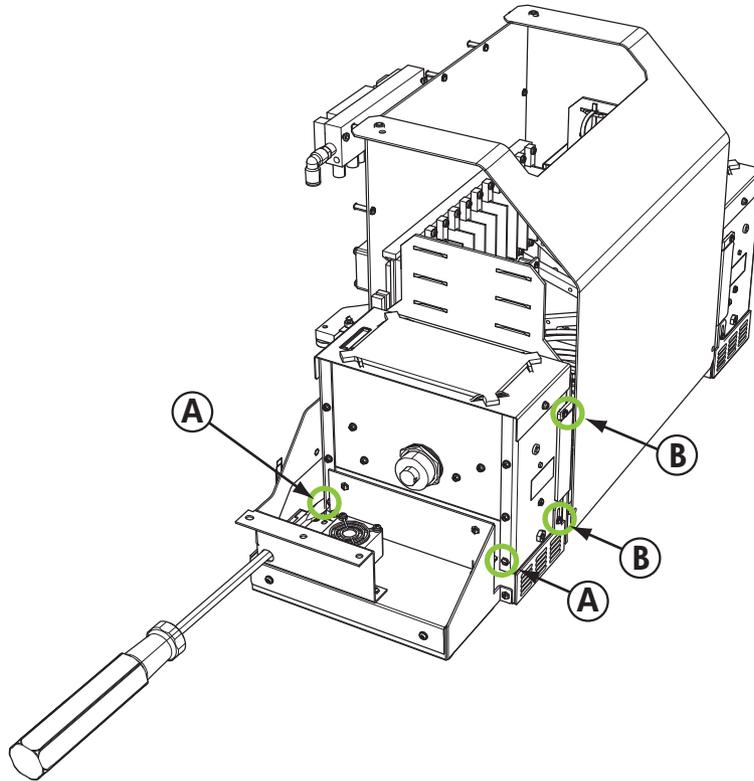
4. Lift up to remove the lamp housing from the printer.

Remove the old UV lamp bulb

📝 **NOTE:** Wear cotton gloves to protect the reflector and replacement bulb from fingerprints which would reduce bulb life and reflector efficiency.

1. Pull the spring-loaded clamp (A) from the side of the lamp reflector (B) as shown below.

   Figure 9-5 Spring-loaded clamp
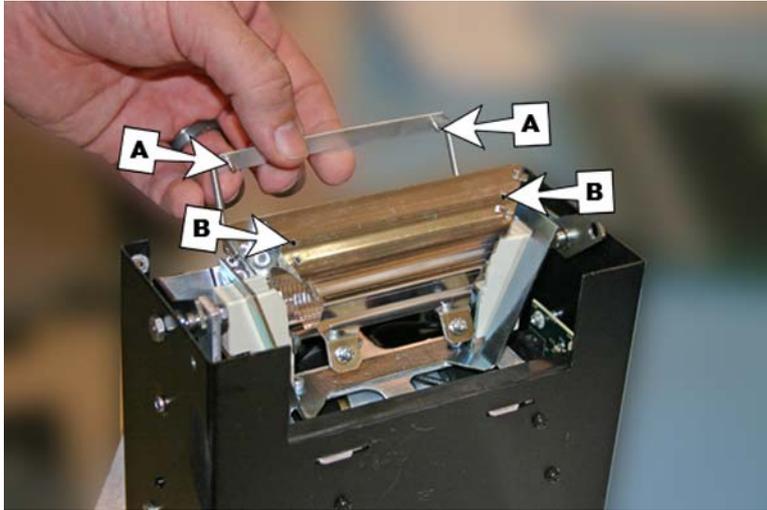
2. Loosen the two screws that hold the two reflectors together until the outside reflector can be removed.

   Figure 9-6 Reflector screws
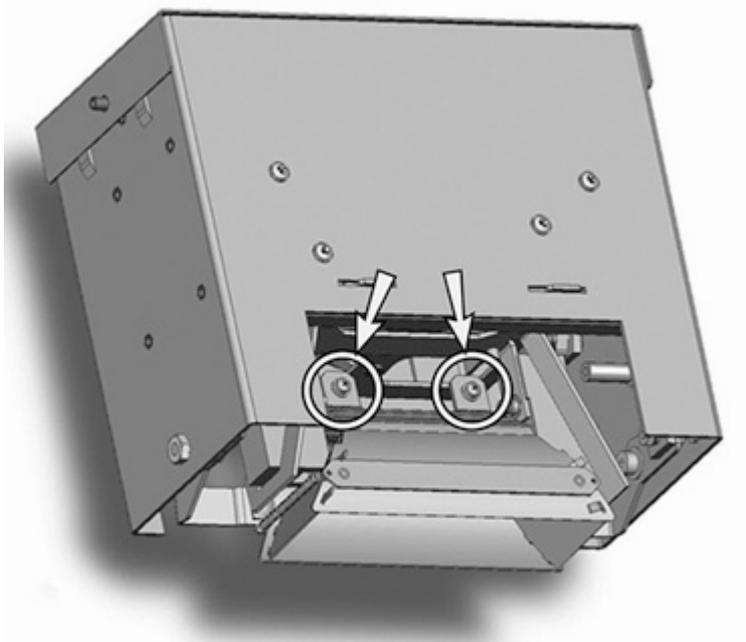
3. The reflector screws are captive screws and are not meant to be fully removed. If you do fully remove the screws, take care that the screws do not drop into the lamp housing.

   📝 **NOTE:** Do not bend any of the tabs on the reflectors.

4. Push the lamp bulb to one side slightly (against the spring), and lift it from the lamp housing.

Figure 9-7 Removing the bulb
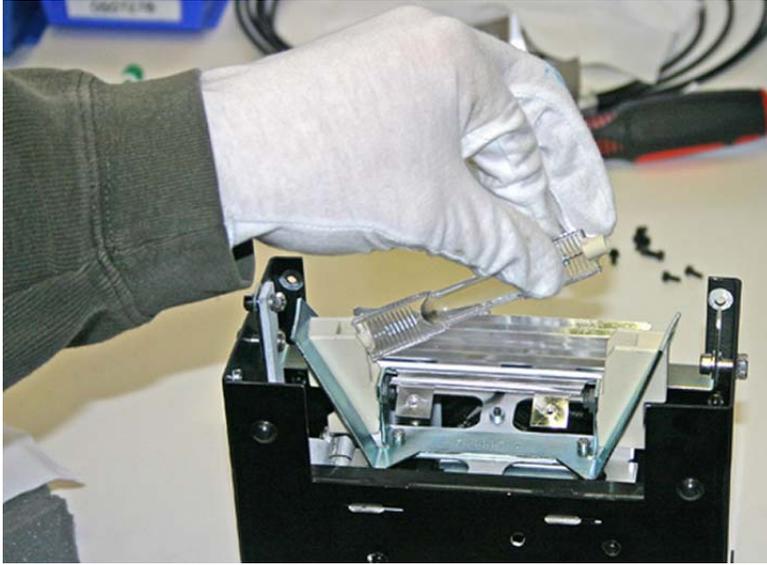
Material disposal: mercury lamps

This HP product contains the following materials that might require special handling at end-of-life: Mercury is present in the UV lamps. Disposal of mercury can be regulated because of environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance (EIA) (http://www.eiae.org).

Install the new UV lamp bulbs

1. Insert the replacement bulb into the lamp housing, pressing it to the left, and then down into place.

Figure 9-8 Installing the bulb
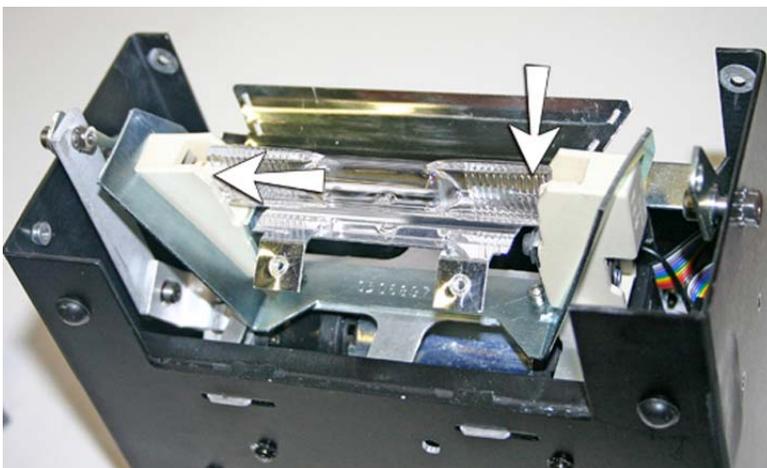
2. Tighten the two screws that hold the reflectors together (see Figure 9-6 Reflector screws on page 63 for screw locations).

3. Install the spring-loaded clamp's dowels (A and B below) into the reflector.

Figure 9-9 Installing the dowels into the reflector
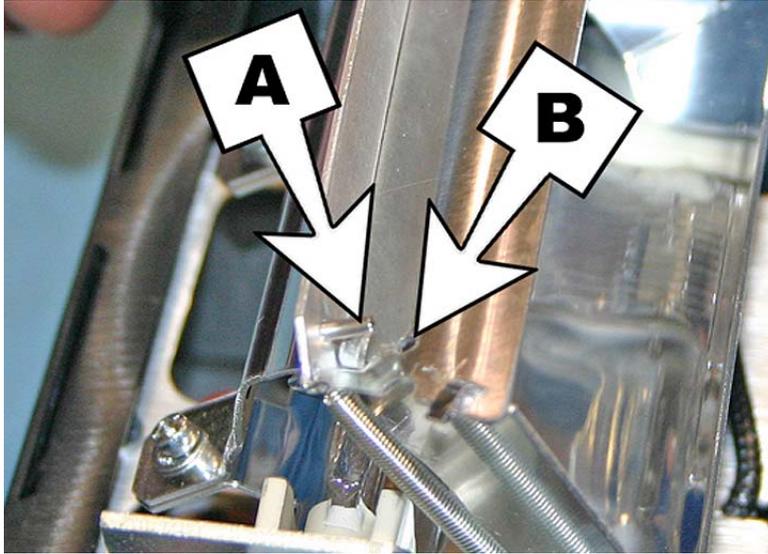
4. Repeat this procedure for the other lamp.

Re-install the lamp housings

Re-install the user-end lamp housing

1. Secure the lamp housing to the lamp assembly using the original two lower silver screws on the user end of the carriage (see screws A in for locations).

   ● If you have difficultly fitting the lamp housing back onto the lamp base, loosen the four screws indicated below.

   ● If the lamp housing is still difficult to install, squeeze the side of the lamp base to bend the side in about 0.8 mm (0.031 in).

Figure 9-10 Loosening screws to ease installation
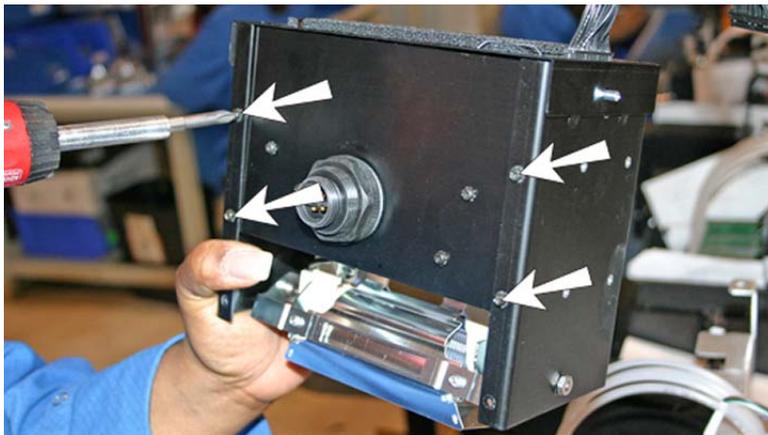
Figure 9-11 Squeeze the sides of the lamp base

Once the lamp housing is installed into the lamp base, tighten the four screws that you loosened in the previous step.

2.   Install the two screws that secure the lamp housing to the carriage cover (see screws B in Figure 9-3 User end screws on page 61 for locations).

3.   Connect the auxiliary cable to the top of the lamp. See Figure 9-1 Disconnect the user-end auxiliary cable on page 60 for location.

4.   Connect the lamp power cable to the side of the lamp. See Figure 9-2 Remove the user-end power cable on page 60 for location.

Re-install the service-end lamp housing

1.   Secure the lamp housing to the lamp assembly using the original two silver screws on the service end of the carriage (see screws A in Figure 9-4 Service end screws on page 62 for locations).

     If you have difficulty fitting the lamp housing back onto the lamp base, see "Installing the User-End Carriage Lamp"

2.   Install the two output-side screws (see screws B in Figure 9-4 Service end screws on page 62 for locations).

3.   Connect the auxiliary cable to the top of the lamp. See Figure 9-1 Disconnect the user-end auxiliary cable on page 60 for location.

4.   Connect the lamp power cable to the side of the lamp. See Figure 9-2 Remove the user-end power cable on page 60 for location.

5.   Power up the printer.

Clean the rail encoder strip (bi-weekly)

Ink dust and debris can accumulate on the encoder strip and block accurate reading of the encoder marks by the carriage encoder reader.

NOTE: Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Rail Encoder Strip.**

2. Press **Proceed** to continue.

   The printer raises the rail and lowering the output roller into position for this operation.

3. Using a lint-free cloth moistened with IPA (Isopropyl alcohol), wipe the top of the encoder strip, cleaning the entire length of strip.

   Use common rubbing alcohol, which is 70% isopropyl alcohol and 30% water.

   Figure 9-12 Cleaning the encoder strip
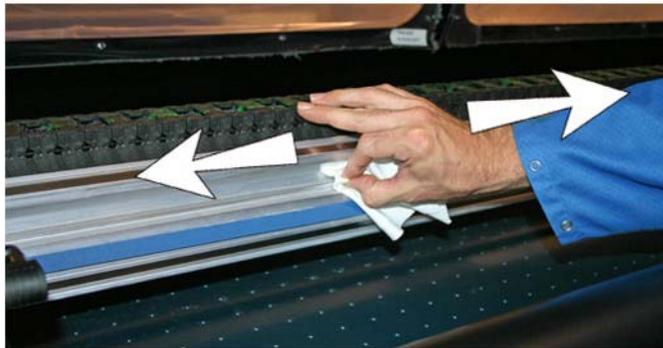
4. After cleaning most of the encoder strip, move the carriage to clean the section of the encoder strip that was behind the carriage. This enables you to clean the entire encoder strip from end to end.

5. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean ionizer needles (quarterly)

Ink dust and debris can collect on the ionizer needles which degrades its ability to eliminate static. Cleaning the ionizer needles keeps the ionizer bar in optimal performance.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Ionizer Needles.**

2. Press **Proceed** to continue.

   The printer moves the rail for easier access to the ionizer bar.

3. If installed, move the output table (and accessory table, if installed) away from the printer.

4. Open the output door.

5. Using the brush supplied with the printer (shown n the photo below), clean the ionizer needles (A in the photo below) located beneath the ionizer bar.

   The ionizer bar is located between the input roller and the alignment bar on the input side of the printer.
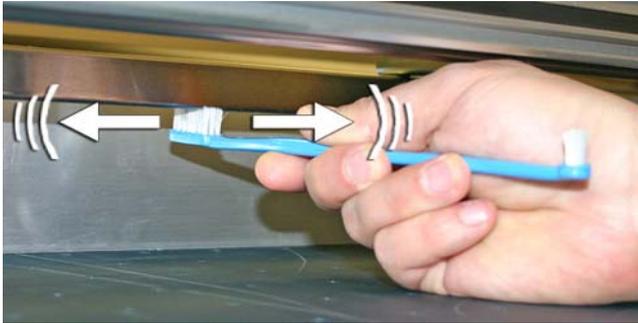
   The needles (A in the photo below) run the length of the ionizer bar.
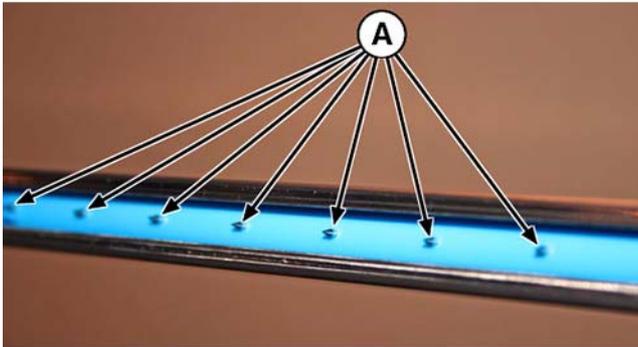
6. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

   The printer repositions the rail and carriage to their home positions.

Clean and lubricate rail strips (bi-weekly)

Ink dust and debris can accumulate on the carriage-wheel strips. These particles become obstacles and friction for the carriage wheels, which can appear as repeating output anomalies on the printed media.

📝 **NOTE:** Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean and Lube Rail Strips.**

2. Process **Proceed** to continue.

   The printer raises the rail and output roller for easier access to the rail.

3. Using a lint-free cloth and isopropyl alcohol, clean the top carriage-wheel strip from end to end on the rail (moving the carriage to clean the full length of the rail).

4. Lubricate the top carriage-wheel strip from end to end on the rail (moving the carriage to clean the full length of the rail).

   The included oiled rags can be reused until there is no clear surface remaining on the rag (rags should be replaced quarterly). Clean these surfaces weekly or more frequently, depending on the amount of debris in the environment.

   △ **CAUTION:** Do not add additional oil to the lubrication cloths. The cloths are created to distribute a very thin film of oil. If too much oil is deposited, oil pockets can cause friction with the carriage wheels, which will produce output anomalies.

   Figure 9-13 Top carriage-wheel strip

5. Lubricate behind the top area of the rail where the carriage wheels contact.

   Figure 9-14 Back of top carriage-wheel strip

6. Using a lint-free cloth and Printhead Flush, clean the lower carriage-wheel strip from end to end on the rail (moving the carriage to clean the full length of the rail).

7. Lubricate the lower carriage-wheel strip from end to end on the rail (moving the carriage to clean the full length of the rail).

📝 **NOTE:** Even if the oiled cloth appears clean, it should be discarded quarterly so that the oil does not become sticky.

Figure 9-15 Lower carriage-wheel strip
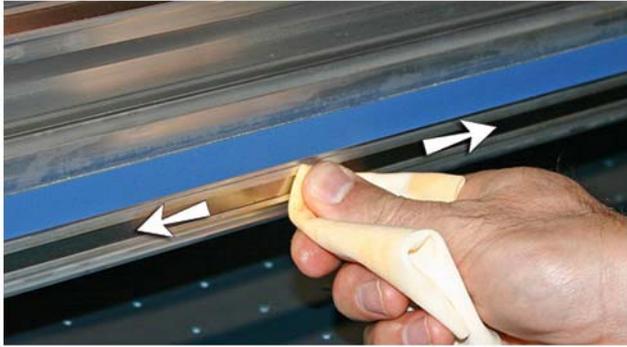
8. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean the print head orifice plates (bi-weekly)

📝 **NOTE:** Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Print Head Orifice Plates.**

2. Process **Proceed** to continue.

3. Open the service door to access the carriage over the service station.

△ **CAUTION:** Wear protective gloves, such as latex, to protect your hands from being stained with ink.

CAUTION: Wear safety glasses to protect your eyes from ink and head flush that may splash into your eyes.

Figure 9-16 Reaching the printheads through the access door

4. Fully saturate a lint-free cloth with printhead flush solution.

5. For each printhead, press a clean portion of the cloth with two fingers, each on one printhead, and draw the cloth across the printhead toward you (see A in the following figure).

📝 **NOTE:** To avoid pushing debris into the printhead orifice, make sure each wipe is done with a clean area of the cloth. The cloth should be fully saturated with head flush.

Figure 9-17 Wiping printheads
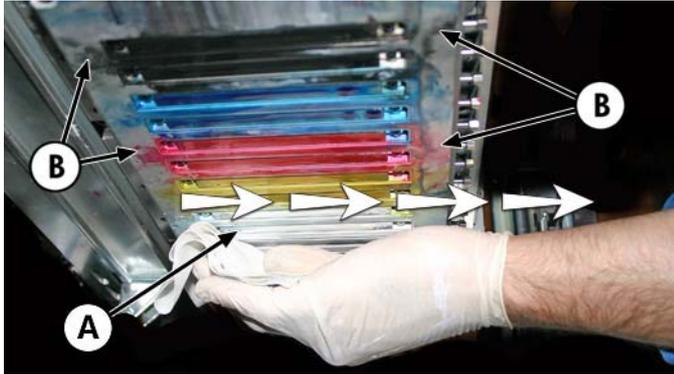
6. Using a lint-free cloth saturated with head flush, clean the bottom of the pen plate (see B in the previous figure).

7. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

8. From the control panel, select **Ink page > Purge.**

9. When the purge completes, select **Ink page > Check Jet Health** from the control panel.

10. Examine the prime bars for missing jets. If a printhead has missing jet, repeat steps 5 through 10.

Clean and lubricate the service station rails (monthly)

Cleaning and lubricating the wiper rails keeps the wiper motion moving smoothly for best cleaning performance.

📝 **NOTE:** Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean/Lube Service Station Rails.**

2. Press **Proceed** to continue.

3. Open the service door on the output side of the printer.

4. Using a cloth moistened with head flush, wipe ink and debris from the top of the service station.

   Figure 9-18 Cleaning the top of the service station

5. Using a lint-free cloth, clean both of the wiper rails on both sides of the wiper carriage.

   Clean the exposed rails on all sides, moving the wiper carriage to clean the full length of the rails.
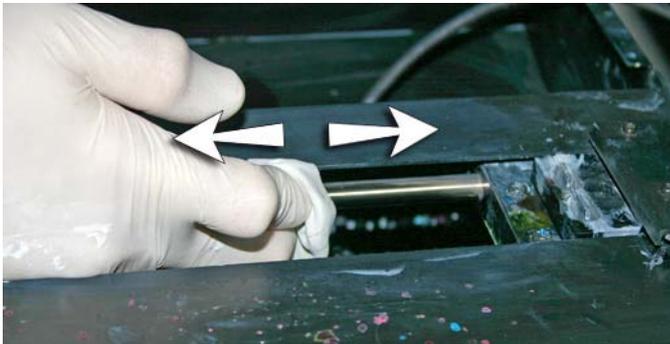
6. As prompted by the control panel, close the access door, and press Proceed. Then wait for the wiper carriage to move.

7. Open the access door.

8. Apply a dab of grease (supplied) onto a cotton swab.

9. Apply the grease to both rails (A and B in photo below), making sure to grease the entire surface of the rail (top, bottom and sides).

10. As prompted by the control panel, close the access door, and press **Proceed**.

    When you press Proceed, the printer resets the maintenance counter and moves the wiper carriage back and forth on the rails to spread the lubricant evenly.

Clean service station wiper (monthly)

Clumps of ink can accumulate around the wiper blades. If not cleaned off, the wipers can press the clumps of ink into the printhead orifices, which can clog the printhead jets.

NOTE: Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean service station wiper.**

2. Press **Proceed** to continue.

3. Wear cloves, such as latex, to protect your hands from ink.

4. Using a lint-free cloth saturated with head flush (do not use IPA) wipe both sides of the rubber wiper.
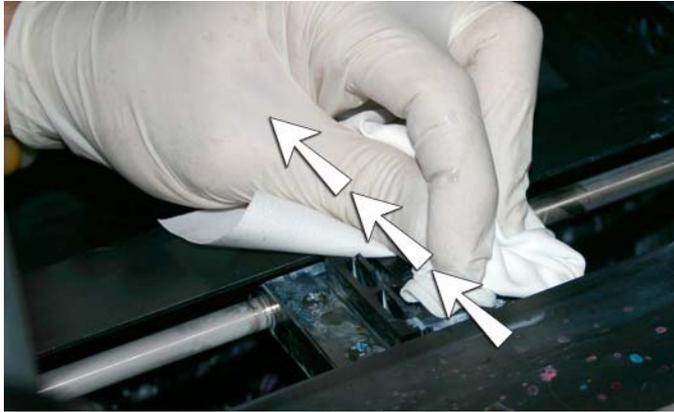
5. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean carriage wheels (monthly)

Ink dust and debris can accumulate on the carriage wheels. These particles become obstacles and friction for the carriage wheels, which can appear as repeating output anomalies on the printed media.

NOTE: Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

There are five carriage wheels to clean (A, B, C, D, and E in the figure below).

Figure 9-19 Location of carriage wheels
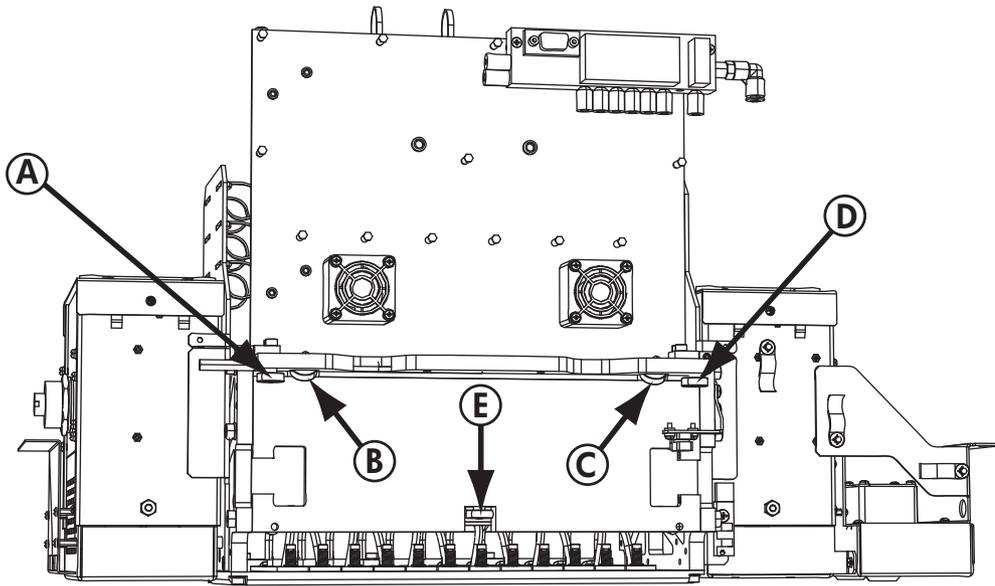
1. Raise the rail by selecting the following from the printer's control panel: **System page > Tools > User Cleaning and Maintenance > Clean Carriage Wheels**.

2. Press **Proceed** to continue.

   The rail and the output roller will raise to the maximum height. You can move the carriage to any position on the rail that is convenient for cleaning.

3. Clean the top service-end wheel by placing an IPA (Isopropyl alcohol) moistened cotton swab against the side of the wheel (A in photo below) and moving the carriage back and forth about 10 cm (4 in).

Figure 9-20 Location of carriage wheels
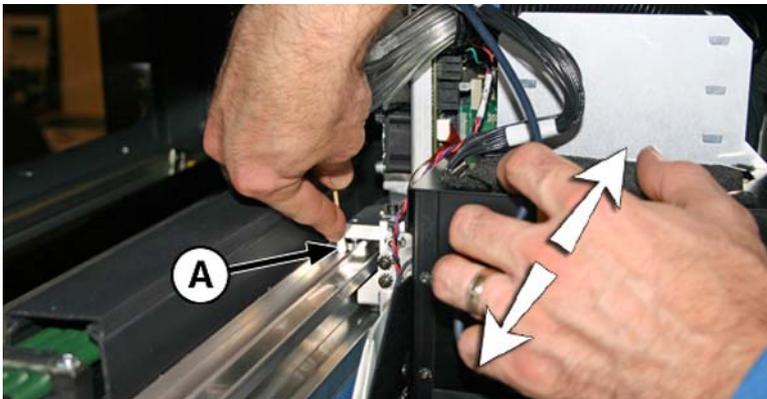
4. Clean the top user-end carriage wheel with an IPA moistened cotton swab.

5. Clean the top slanted wheels by inserting an IPA moistened cotton swab into the opening above the wheels (A) and moving the carriage back and forth.
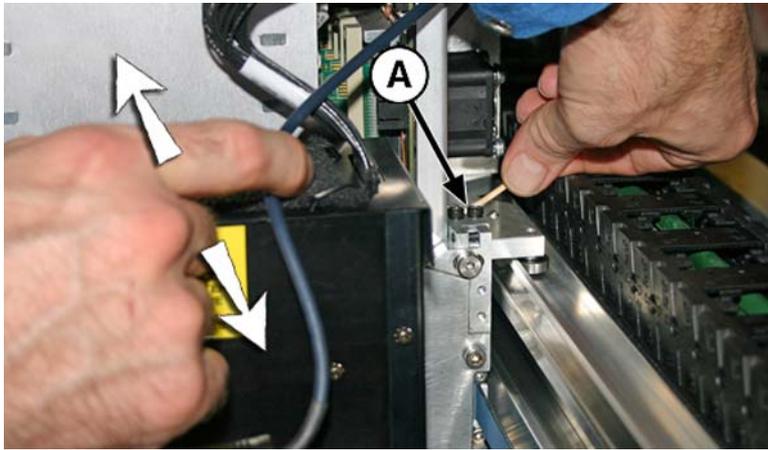
6. Clean the lower carriage wheel by placing an IPA moistened cotton swab next to the wheel and moving the carriage back and forth.

   Manually move the carriage over the service station. Access the lower wheel through the service door.

   Figure 9-21 Lower carriage wheels

7. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Vacuum bottom of carriage (monthly)

Clumps of ink and debris can accumulate around the printheads, where the service station's printhead wiper does not reach. This routine uses the printer's internal printhead vacuum cleaner to clean as much of this surface area as possible. This reduces the possibility of ink debris moving from the edge of the printhead orifice area onto the printhead, which can clog jets.

1. From the printer's menu, select **System page > Tools > User Cleaning and Maintenance**), select **Vacuum Bottom of Carriage**.

2. Press **Proceed** to continue.

3. Press **Proceed** to reset the maintenance counter and begin the procedure.

4. When the procedure completes, clean the wipers as shown in the section Clean service station wiper (monthly) on page 72.

5. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean the carriage home sensor (monthly)

The home sensor is located on the user-end of the carriage between the lamp assembly and the carriage side plate (on the input-side of the carriage). Ink dust and debris can accumulate in the thin slits of the optical sensor and cause errors.

NOTE: Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Carriage Home Sensor**.

2. Press **Proceed** to continue.

   The printer raises the printhead carriage rail and lowers the output roller.

3. Open the output-side door.

   Opening the output-side door will disable the carriage servo, allowing the carriage to be moved manually.

4. Pull the carriage out from the end of the rail to access the home sensor more easily.

5. Locate the home sensor (A in photo below).
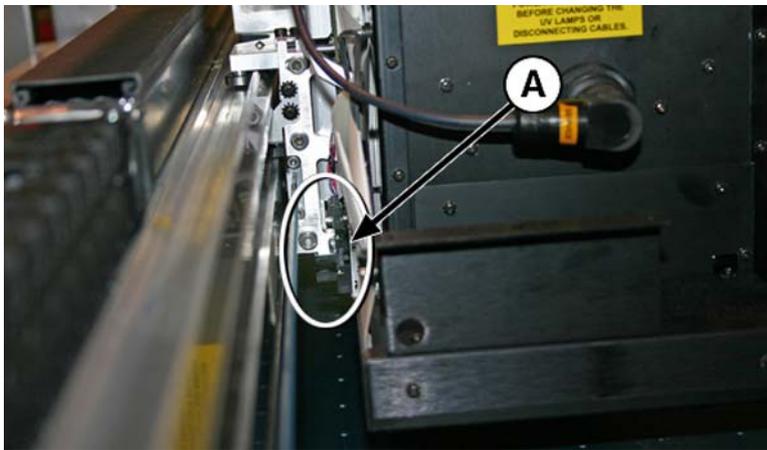
6. Locate the upper and lower slits of the optical sensor.
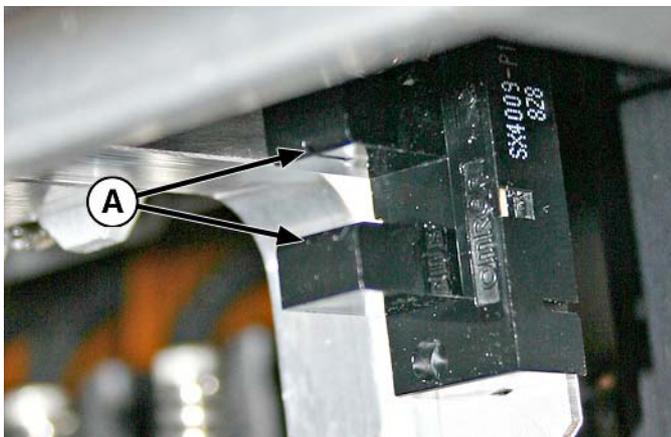
7. Using a long cotton swab that is saturated in isopropyl alcohol, clean the top and bottom slit by inserting the swab into the opening from the input-side of the sensor (versus inserting from the user-end of the sensor).

△ **CAUTION:** Insert the swab from the input side to keep from pushing debris into the slits. Insert the swab moving from the input-side toward the output-side direction. Do not wipe across the slits, as this will force debris down into the openings.

Figure 9-22 Cleaning the home sensor
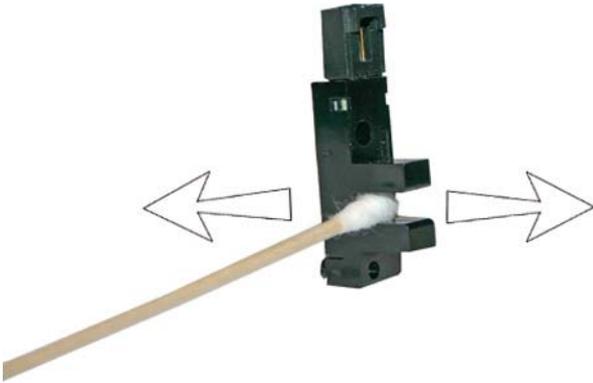
8. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Replace the UV lamp filters (quarterly)

Lamp filters keep ink dust and other debris from entering the air-cooled lamp area. If the filters become clogged, the lamps may overheat, reducing the life of the bulbs. Overheating causes printing to stop, which can ruin a print job.

1. From the printer's menu, select **System page > Tools > User Cleaning and Maintenance**), select **Replace UV Lamp Filters**.

2. Press **Proceed** to continue.

   The printer centers the printhead carriage.

3. Remove the original air filters for both carriage lamps (B in photo below).
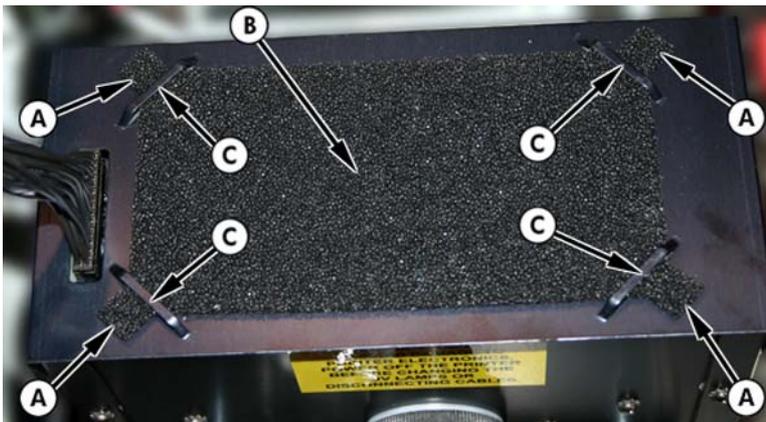
4. Install the new air filters by insert the corner tabs (A in photo in previous step) under the corner slots (C in photo in previous step) on top of the lamps.

5. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean the electronics box filters (quarterly)

Electronics box fan filters keep dust and other debris from entering the air-cooled area of the electronics box. If the filter becomes clogged, the electronics may overheat, causing performance errors. There are two air intake fans to clean. One is located near the power switch on the user-end of the printer (input side). The other is located in the middle area under the printer chassis where the power cord attaches on the user-end.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Electronics Box Filters**.

2. Press **Proceed** to continue.

3. Vacuum the dust and debris from the front of the fan on the input-side of the electronics box (located behind the user-end enclosure in the area indicated by (A) in the figure below.

    If the chassis wheels are still attached to the printer, rotate the wheel out of the way as shown below.

    Figure 9-23 Cleaning the electronics box fan filter on the input side
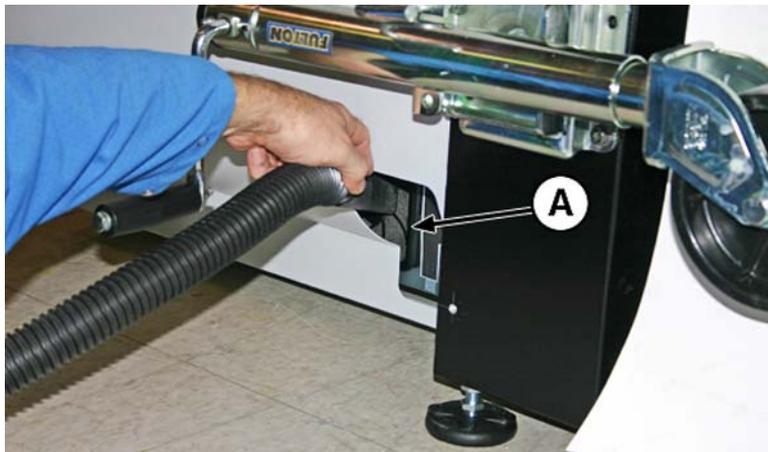
4. Vacuum the filter (A in photo below.) located under the printer's chassis near the power cord attachment point, and remove dust from the surrounding area.

    Figure 9-24 Cleaning dust from the electronics box fan filter
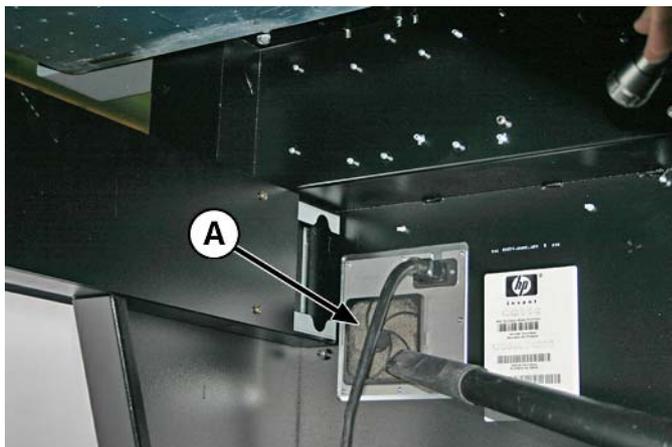
5. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Replace the service station wiper (quarterly)

The wiper blade deteriorates with use. Replacing the wiper blade periodically restores the wiping to optimal performance and wiper height.

NOTE: Replace the wiper according to the schedule in . The wiper replacement schedule is calculated to be frequent enough to avoid the need for wiper-height calibrations between replacements. If the wipers are not making adequate contact with the printheads, contact your service provider to calibrate the wiper height.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Replace Service Station Wiper**.

2. Press **Proceed** to continue.

3. Open the service door to access the service station.

4. Move the printhead carriage away from the service station.

5. Remove the screw (A in the figure below) that secures the wiper clamp to the wiper assembly.
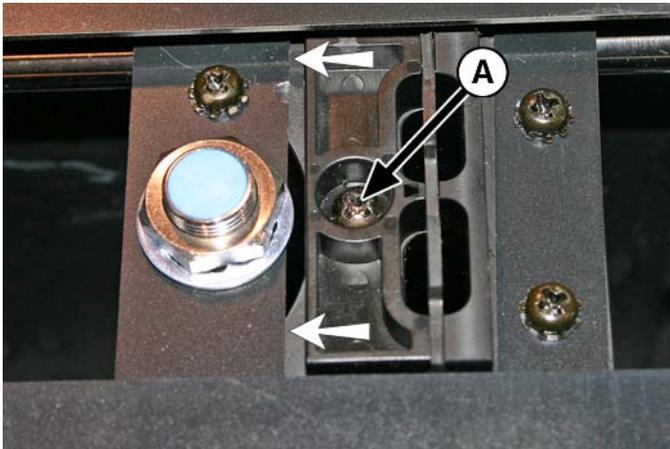
6. Separate the two wiper clamp halves and remove the original wiper blade.

7. Install the replacement wiper blade in the orientation shown below.

Figure 9-25 Wiper clamp screw

8. Secure the wiper blade clamp to the wiper assembly using the original screw.

9. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Drain waste from service station (quarterly)

Waste ink accumulates in the service station until drained. Dispose of the collected ink according to local regulations.

1. Place the waste ink container (included with the printer) beneath the waste ink spigot, under the media drive belt at the service end of the printer.

2. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Drain Waste from Service Station**.

3. Press **Proceed** to continue.

4. Turn the spigot (A in the photo below) to the open position

5. After the waste ink has drained, turn the spigot to the closed position

△ **CAUTION:** The drain spigot must remain closed during printing and service station use. An open spigot affects the vacuum level in the service station and will degrade service station performance if left open.

6. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

Clean the media thickness sensor roller (quarterly)

The media thickness sensor is located on the carriage rail, on the user end. Debris on the media thickness sensor roller can result in inaccurate measurements. Clean the roller to keep the sensor operating correctly.

📝 **NOTE:** Users of printers in California must disregard all references to the Printhead Flush or IPA in the instructions or when displayed on the control panel. Instead, the alternative cleaning liquid specified at the beginning of this section must be used.

1. From the control panel (**System page > Tools > User Cleaning and Maintenance**), select **Clean Media Thickness Sensor Roller**.

2. Press **Proceed** to continue.

3. Using a lint-free cloth that is saturated with IPA (isopropyl alcohol), clean the media thickness sensor roller by manually turning the roller with your finger while applying the cloth to the roller surface.

4. To reset the maintenance counter for this task and complete the procedure, press **Proceed**.

A Specifications

Functional specifications

Table A-1 HP Scitex UV pigment ink supplies

Printheads	2 heads per color: Cyan, Magenta, Yellow, Black, Light Cyan, Light Magenta. White ink option replaces Light Cyan and Light Magenta with White.
Ink cartridges	Cartridges containing 3 liters of ink: Cyan (CH216A), Magenta (CH217A), Yellow (CH218A), Black (CH219A), Light Cyan (CH220A), Light Magenta (CH221A).
	Cartridges containing 2 liters of ink: White (CQ123A)

Table A-2 Media sizes

	Minimum	Maximum (FB500)	Maximum (FB700)
Media thickness	0.127 mm (0.005 in)	64 mm (2.5 in)	64 mm (2.5 in)
Sheet size with standard input and output tables	Width: 15 cm (6 in)	Length: 1.2 m (48 in)	1.2 m (48 in)
		Width: 1.6 m (64 in)	2.5 m (98 in)
Sheet size with standard tables and optional accessory extension tables	Length: 10 cm (4 in)	Length: 3 m (120 in)	Length: 3 m (120 in)
	Width: 15 cm (6 in)	Width: 1.6 m (64 in)	2.5 m (98 in)
Maximum sheet-fed media weight	N/A	68 kg (150 lb)	68 kg (150 lb)
Sheet flatness	Perfectly flat	+/- 0.5 mm (0.02 in)	+/- 0.5 mm (0.02 in)
Roll width	15 cm (6 in)	164 cm (64.5 in)	250 cm (98.4 cm)
Roll diameter	N/A	23 cm on 7.6 cm core (9 in diameter on 3 in core)	23 cm on 7.6 cm core (9 in diameter on 3 in core)
Roll weight	N/A	82 kg (180 lb)	82 kg (180 lb)

Table A-3 Functional specifications

Print resolutions	RIP supports print modes that include resolutions of 1200x600, 600x600 and 600x300
Minimum Margins	Set by the RIP, can be set to 0 (edge-to-edge) on rigid and roll-fed media
Technology	UV curable inkjet
UV energy source	Dual shuttered UV lamps
Ink drop	Variable size

Table A-3 Functional specifications (continued)

Printheads	12
Cleaning solution	HP UV Printhead Flush, 1-liter bottle
	Within California: Methyl Acetate (CAS# 79-20-9).

Physical

Table A-4 Dimensions and weights

	FB500	FB700
Printer dimensions (assembled)	Height: 153 cm (60 in)	Height: 153 cm (60 in)
	Width: 325 cm (128 in)	Width: 412 cm (162 in)
	Depth: 141 cm (56 in)	Depth: 141 cm (56 in)
	Depth with optional roll-to-roll accessory installed: 161 cm (63.4 in)	Depth with optional roll-to-roll accessory installed: 161 cm (63.4 in)
Input table dimensions	Height: 102 cm (40 in)	Height: 102 cm (40 in)
	Width: 175 cm (69 in)	Width: 262 cm (103 in)
	Depth: 52 cm (21 in)	Depth: 52 cm (21 in)
	Height (folded): 113 cm (44 in)	Height (folded): 117 cm (46 in)
	Depth (folded): 39 cm (17 in)	Depth (folded): 39 cm (17 in)
Output table dimensions	Height: 102 cm (40 in)	Height: 102 cm (40 in)
	Width: 175 cm (69 in)	Width: 262 cm (103 in)
	Depth: 89 cm (35 in)	Depth: 81 cm (32 in)
	Height (folded): 132 cm (52 in)	Height (folded): 135 cm (53 in)
	Depth (folded): 39 cm (17 in)	Depth (folded): 39 cm (17 in)
Extension tables dimensions (each table)	Height: 102 cm (40 in)	Height: 102 cm (40 in)
	Width: 175 cm (69 in)	Width: 262 cm (103 in)
	Depth: 165 (65 in)	Depth: 89 cm (35 in)
	Height (folded): 180 (71 in)	Height (folded): 135 cm (53 in)
	Depth (folded): 57 cm (23 in)	Depth: (folded): 57 cm (23 in)
Weights (assembled)	Printer: 720 kg (1586 lb)	Printer: 814 kg (1905 lb)
	Input table: 32 kg (70 lb)	
	Output table: 38 kg (83 lb)	
	Extension tables (each): 59 kg (130 lb)	

Power

Table A-5 Printer power specifications

Input voltage	200-240 VAC, single phase

Table A-5 Printer power specifications (continued)

Input frequency	50/60 Hz
Maximum load current	12 A
Required electrical circuit (North America/ Japan)	200–240 VAC, 20 Amps, 60 Hz, single phase, with NEMA L6-20R locking wall receptacle NEMA L6-20R Receptacle
Required electrical circuit (Europe)	230 VAC, 16 Amps, 50 Hz, single phase, with CEE 7/4 or CEE 7/7 wall receptacle CEE 7/4 CEE 7/7
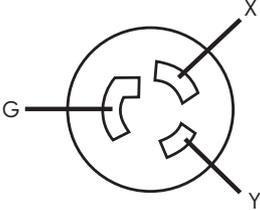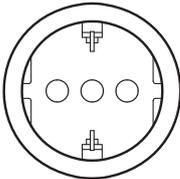
Table A-5 Printer power specifications (continued)

Required power cord	The printer can use any of the following 4.5 m (14.8 ft) power cords: ● USA: HP part number 8120–6903 ● Europe: HP part number 8120–6899 ● Cord without connector to electric outlet (for use with customer-supplied connector): HP part number 8120–6895
Optional auxiliary power for ink system vacuum	When configured as shipped, if the power cord to the printer is removed, power to the ink system vacuum is removed. If the printer standby power switch is switched off, but the power cord is not removed, power to the vacuum is preserved. The ink system vacuum maintains the negative pressure required for printing operation and prevents ink dripping from the printheads when the printer is idle. You can preserve power to the ink system vacuum during power outages by connecting the supplied power cord (length: 137 cm (4.5 ft)) from the auxiliary power connection (below the ink box racks) to one of the following: ● Wall outlet — 100-240 VAC, 50/60 Hz, provides temporary power to the vacuum system when it is necessary to remove power from the printer for service. ● UPS — customer-supplied uninterruptable power supply, output 100-240 VAC, 50/60 Hz, minimum of 15 watts of power, provides battery backup to the vacuum system in the event of a power failure. UPS is connected to the electric wall outlet.

Environmental

Table A-6 Printer environmental specifications

Operating conditions	Temperature: 20–30° C (68–85° F) Relative Humidity: 20–80%, non-condensing (40–60% recommended to avoid static electricity on synthetic media that occurs below 40%, and buckling on paper-based media over 60%.) Maximum operating altitude: 3000 m (10,000 ft)
Storage conditions	Temperature: -34–49° C (-30–120° F) Relative Humidity: 10–80%, non-condensing

B Troubleshooting

This appendix explains how to prevent and diagnose printing problems and provides information about getting help from Hewlett-Packard.

For other software-specific troubleshooting procedures, refer to your application software documentation or the other documentation listed on page iv of this manual.

● Troubleshooting checklist

● Warranty claims

● CallMe@hp

● HP Customer Care

Troubleshooting checklist

Before you troubleshoot your printer, make sure that it is properly installed as described in Introduction on page 1.

Follow the steps in this checklist to isolate and resolve printing problems.

1. Does the printer's power come ON?

   YES: Go to question 2. NO: Check the following:

   ● The power cable may not be plugged into an electrical outlet.

   ● If the printer is plugged into a surge protector, the surge protector may not be connected to power, or it may be switched off.

   ● The circuit into which the printer is connected may be switched off at the circuit breaker.

2. Did the start-up sequence of the control panel end by displaying the Home Page screen similar to the one shown in Home page on page 29?

   YES: Go to question 3. NO: Check the following:

   ● There may be a hardware problem with the printer's internal components. Follow the diagnostic routine on the control panel to determine the problem. Write down any error codes and call technical services as directed by the control panel.

3. Can you send a file from the RIP to the printer?

   YES: Go to question 4. NO: Check the following:

   ● The network cables may not be securely connected to the RIP computer, printer, and network switch or wall outlet. Check the cable connections and try again.

4. Can you send (print or download) a document from a client computer to the server?

   YES: Go to question 5. NO: Check the following:

   ● The connection from the client to the local area network may not be configured correctly. See your system administrator for assistance.

   ● The Ethernet cable between your computer or network and the RIP computer may not be securely connected at both ends.

- Your computer may not be working properly. Run an application that you know works correctly and print to be sure.

- The computer's port may not be working properly. Print to another output device that you know works correctly (and is not connected to the RIP) to check this.

5. Is the print quality good?

YES: Then the problem is not covered in this checklist. Contact Technical Services. NO: Check the following:

- Banding or general poor image quality — the printheads may need to be calibrated (see Calibrate the printer on page 45). One or more inkjets may be clogged or not firing (see Ink page on page 35). The media advance may need to be recalibrated (see Media Feed Calibration on page 47).

- Inaccurate color or under- or over-saturated output — the wrong color profile may be selected at the RIP. Refer to the documentation that accompanies the RIP.

- Inaccurate color or lack of detail — one or more inkjets may be clogged or not firing (see Ink page on page 35).

  Since automatic head maintenance cannot occur when the printer is powered down, keep the printer powered on at all times if possible. If automatic head maintenance does not occur for an extended period, manual purging may be necessary to restore the printheads to working condition.

- Noisy carriage motion or repeating print artifacts — Noisy carriage motion can be eliminated by cleaning (see Clean and lubricate rail strips (bi-weekly) on page 68 or Clean carriage wheels (monthly) on page 73). If the carriage wheels develop flat spots due to non-use, use the Carriage Motion Troubleshooter to restore their shape (from the System page of the control panel, see **Tools > User Diagnostics> Carriage Motion**).

- Media buckling or media feed problems — the wrong media could be selected in the Media Wizard (see Configure media on page 9). The media may not have been loaded squarely (see Configure and load media on page 9).

- Head strike — if the printhead is striking the media, check how the media is tracking from the supply spindle. The sides of the media should be parallel to the sides of the printer, with no wrinkling or buckling. If necessary, reload the media. See Load rigid media on page 12 for instructions. Also check the Media Wizard to see whether the correct media is selected (see Configure media on page 9).

Warranty claims

The printer is covered by a manufacturer's limited warranty, which includes the printheads.

For more information about warranty claims, contact HP (see next page for contact information).

CallMe@hp

CallMe@hp is a suite of tools that enables communication between you and your HP support organization. CallMe@hp uses a web-based interface to provide live chat (similar to instant messaging), file exchange, and even remote control of your computer to allow the Support Agent immediate and first-hand understanding of your printer.

If you receive your printer support directly from HP, CallMe@hp may be employed at any time at the request of your HP support representative. If you receive your printer support through a dealer, reseller, or other third-party, CallMe@hp may be employed when circumstances require direct

communication between your third-party support and HP, but again only at the request of an HP support representative.

Refer to the documentation CD-ROM disc that comes with the printer for more information:

- CallMe@hp Network Security Guide, which discusses the technology used in CallMe@hp as it relates to network security concerns

- Getting Started with CalMe@hp, which provides an explanation and examples of how the features of CallMe@hp work.

HP Customer Care

In case of any question or problem, you should approach your local HP Authorized Representative for consultancy and support. However, if required, you can contact HP directly by using the following methods.

📝 **NOTE:** For up-to-date contact information, please visit http://www.hp.com/go/graphicarts.

North America

Tel: 800 925 0563

Fax: 952 943 3695

E-mail: cs.custsup@hp.com

Europe, Middle East, and Africa

Tel: +32 2 7283444

Fax: +31 207157536

E-mail: LF.MV.Support@hp.com

Asia and Pacific

Tel: +852 8103 2666

Tel: 00 801 85 5945 (Taiwan only, toll-free)

Fax: +852 2187 2218

E-mail: hsap.carecenter@hp.com

Latin America

Please dial Option 2/Option 6 from the selection menu.

Argentina: 5411 470 816 00

Brasil: 52 55 5258-9922

Chile: 562 436-2610 / 800 360 999

Colombia: 571 602 9191 / 01 8000 51 4746 8368

Costa Rica: 0 800 011 0524

Dominican Republic: 1 800 711 2884

Guatemala: 1 800 999 5105

Honduras: 800 0 123 / 1 800 711 2884

Mexico: 52 55 5258-9922

Nicaragua: 1 800 0164 / 800 711 2884

Panama: 001 800 711 2884

Peru: 511 411 2443 / 0 800 10111

El Salvador: 800 6160

Venezuela: 58 212 278 8666 / 0 800 474 68368

CC LAR Nextel: (5255) 1088 0884; ID 52*20115*51

CC LAR e-Mail: carecenter.ipglf.lar@hp.com

CC LAR Fax: +52 55 5258 6377

C   Image quality tips

Startup and check jet health

This section shows you how to configure your printer for best quality printing.

Start with the printer in good working order

These techniques will be much less likely to work if you are not using a printer that is in good working order:

- The printer was properly installed by an HP-authorized service technician, in a facility and environment that meets HP specifications as published in the Site Preparation Guide.

- The printer has the latest version of the embedded software (firmware) installed.

- The printer hardware is working, and has been properly maintained as outlined during operator training.

- The printheads are calibrated (bidirectional, head-to-head, head height, printhead X calibration); see Calibrate the printer on page 45 for instructions.

- The media feed is calibrated with the media on which you will be printing. See Media Feed Calibration on page 47 for instructions.

- There is sufficient ink installed and available for resupply. The Warranty Ends date marked on the ink packaging has not passed.

- The number of service hours for the leading and trailing lamps are within 20% of each other. If one lamp has significantly more hours than the other lamp, the appearance of prints may change unexpectedly, To correct this, the lamps can be exchanged with each other or replaced.

- The external RIP is installed and communicating with the printer, and the operator is familiar with its use.

- Avoid touching the media during printing.

Load media correctly

Follow these guidelines when loading media:

- Use only media that is clean, flat, and undamaged.

- Keep the printer's environment within the specifications published in the Site Preparation Guide. In particular, an environment with a relative humidity below 40% can result in high levels of static electricity, while a relative humidity above 60% can cause some medias to absorb moisture and develop an uneven (non-flat) shape or curl. Both conditions can cause printing problems.

- In low-humidity environments, use static charge abatement measures when handling synthetic media (vinyl banner, plastic boards), such as grounded copper tinsel, isopropyl wipes, or anitstatic spray.

- Select the Media Wizard settings that match the media you will use. The Media Wizard entry you select may not be named with the exact media name, but one that has similar characteristics allowing use of the same Media Wizard settings (including vacuum fans, lamp intensity and swath delay). If possible, select a default Media Wizard set that has been tested and validated;

these are indicated by an asterisk (*). All other Media Wizard entries are user-generated and can be modified when needed.

- Configure and load media as described in Configure media on page 9.

- Wipe down synthetic media with isopropyl alcohol (IPA) before printing to reduce static charge, and remove fingerprints and dust, which could become visible in the print.

Check jet health

At the beginning of the day's printing, verify that all of the inkjets are either firing or have been substituted by another working jet.

1. Load media, then press **Check Jet Health** on the control panel's Ink page.

2. Run a Purge & Wipe.

   From the control panel's Ink page, press **Purge**.

3. Print the **Check Jet Health** pattern again.

4. Compare the print with the previous day's (or most recent good) Prime Bars print.

   - If today's Check Jet Health print is comparable to the previous day's print, you may want to verify jet replacement by pressing **Check Jet Health** from the Ink page. If all jets are working or replaced, you are ready to select printer settings.

   - If today's Check Jet Health print shows noticeably more broken or missing lines than the previous day's print, run the AutoJet calibration (from the Printing page, press **Calibrate,** then select **Auto Calibrations > AutoJet Calibration** from the menu). Then run a Check Jet Health pattern once or twice until the missing lines have printed or are replaced.

     If the Check Jet Health pattern does not improve after performing these steps two or three times, or if a large number of adjacent jets cannot be recovered, one of the following may be necessary:

     ◦ Inkjets may need to be manually mapped out (Printing page > Calibrate > Manual Calibrations > Manual Jet Mapping)

     ◦ Printheads may be damaged

     ◦ Service station may need to be calibrated

     ◦ Contact your service representative for further assistance.

RIP settings

For detailed operating instructions, refer to the RIP user guide.

Choose a resolution

The print resolution is determined by the print mode (see Table 4-1 FB500 print modes and maximum print speeds on page 21). There is no resolution setting on the printer.

- For most images, use a 600x600 dpi print mode.

- If a grainy image is acceptable (when viewed from a longer distance or as a draft, for example) and faster print speeds are desired, use a 600x300 dpi print mode.

- For more saturated colors or printing on clear or backlit media, use the Max DPI-Saturated mode.

Choose a color profile

● Select the profile that matches the media name, or most closely matches the material, you are using.

● For accurate color matching, perform a color calibration (linearization) at least once for each media.

Color matching

The accuracy of color reproduction by the printer is the result of the interaction of numerous factors, listed below. Correction of errors in color reproduction may involve adjustments in more than one of these factors.

● Installation and initial calibrations (performed by an authorized service technician)

   ◦ Head height

   ◦ Printheads Y calibration

   ◦ BiDi calibration

   ◦ Printhead X calibration

● Ongoing maintenance (performed by the operator) — clogged or misfiring jets caused by lack of regular cleaning

● Ink — settling of pigments, ink that is past its Warranty Ends date, bad batch

● Color sets and print modes — printing with different color sets (six or four colors plus white), and different print modes

● RIP issues — linearization, color profiling, different methods for using light cyan and light magenta, settings such as Grey Color Removal (GCR)

● Profile matching — match the color profile used by the RIP to create the RIP file with the print mode (see Available print modes on page 21) used to print the image.

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