

# HP Indigo 7000 Digital Press

## User Guide



# HP Indigo 7000 Digital Press

## User guide



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danger to persons or equipment when the  
system is operated in accordance with the  
directions provided by HP in this and other  
publications. All high voltage power supplies  
and laser sources are located behind  
protective covers. Warning labels are  
attached to each protective cover. Do not  
remove covers.

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# 1 About this user guide

Welcome to the **HP Indigo 7000 Digital Press**. This preface provides an overview of the user guide contents and explains conventions used in this guide.

This preface contains the following sections:

- [Overview](#)
- [Conventions used in this guide](#)

# Overview

This user guide assumes that you are familiar with the basic Windows environment and that you have basic Windows skills, such as using a mouse and selecting menu items. If you do not, please see the Windows documentation that came with the computer.

This user guide also assumes that you have participated in the HP Indigo press operator course, and are familiar with the printing process.

The user guide contains the following information:

- **About this user guide:** Provides an overview of the user guide contents and explains conventions used in this guide.
- **Product overview:** Provides an overview and specifications of the **HP Indigo 7000 Digital Press**.
- **Safety:** Provides important safety information for using the **HP Indigo 7000 Digital Press**.
- **Operating the press:** Provides an overview of press operations basics.
- **Job handling:** Describes the job management and maintenance process on the press.
- **Color management:** Describes the color management and adjustment procedures.
- **Substrate handling system:** Describes loading, unloading, adjustment and maintenance of the substrate transport system.
- **Operator routines:** Provides an overview and practical tips for performing operator maintenance routines and mechanical system lubrication.
- **Ink system:** Describes replacement and maintenance of the HP ElectroInk system.
- **Binary ink developer (BID):** Provides BID maintenance and replacement procedures.
- **Blanket:** Describes replacement and maintenance of the blanket.
- **PIP:** Describes PIP replacement procedures.
- **Impression drum:** Describes the impression paper replacement procedure.
- **Imaging oil:** Describes maintenance and replacement procedures for the imaging oil system.
- **Utility cabinet:** Provides utility cabinet maintenance procedures.
- **Cleaning station:** Describes the cleaning station maintenance procedures.
- **Charge Roller:** Describes the charge roller maintenance procedures.
- **Pre-transfer erase (PTE):** Describes PTE maintenance procedures.
- **Exit roller:** Describes exit roller cleaning and maintenance procedures.
- **Pre-heater:** Describes pre-heater element cleaning and housing removal procedures.
- **Chiller Operation and Maintenance:** Provides inspection and maintenance procedures for the press chiller.
- **Glossary:** Provides definitions of terms used throughout the **HP Indigo 7000 Digital Press** documentation set.

- **Supplies and jigs:** Provides information on the press imaging, maintenance, and general supplies.
- **Service and support:** Provides customer care center service and support contact information.



## Conventions used in this guide

This guide uses the following documentation conventions:

- Elements in the graphical user interface (GUI) which you must select or click, are indicated in bold type, for example: On the **File** menu, click **New**.
- Other elements in the GUI, such as Window names, appear in italics. For example: After selecting the options in the *Print* window, click **OK**.
- References to other sections in the guide appear in quotes, for example: See the “Installation” on page 37.

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## 2 Product overview

This chapter contains the following sections:

- [HP Indigo press](#)
- [General press specifications](#)

# HP Indigo press

The **HP Indigo 7000 Digital Press** is a sheet-fed digital offset color press that incorporates the patented HP ElectroInk liquid ink technology and high-speed electronic imaging to produce fully-finished, high-quality color prints. The press features an intuitive and user-friendly interface, provides diagnostic screens that take the guess work out of printing.

## HP Indigo 7000 Digital Press

The press consists of five basic elements: the printing engine, ink cabinet, utility cabinet, feeder, and stacker.

**Figure 2-1** HP Indigo 7000 Digital Press

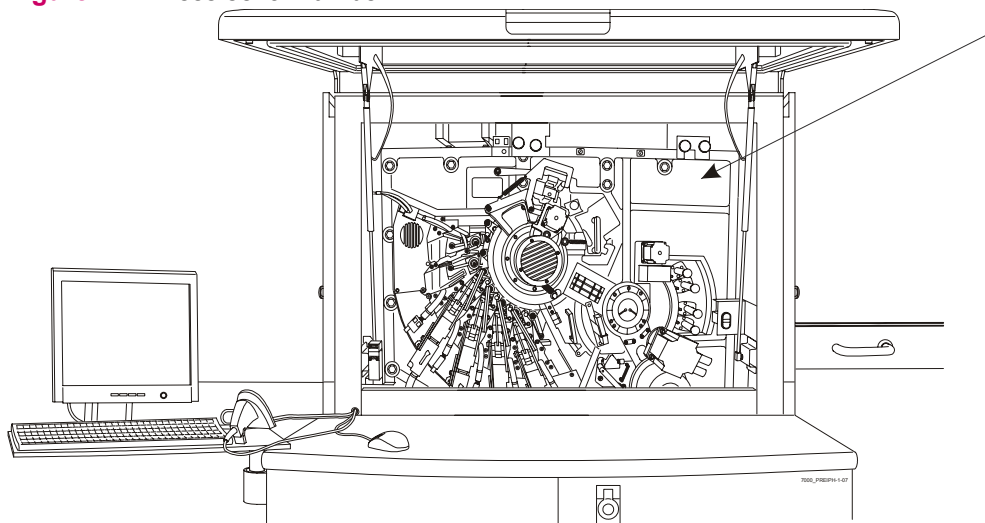


1	Printing engine
2	Utility cabinet
3	Stacker
4	Ink cabinet
5	Feeder

## Press serial number

The press serial number is on the front of the press behind the front door.

**Figure 2-2** Press serial number



# General press specifications

## Printing rate

Input job definition	Press productivity	
Job type <sup>1</sup>	A4 pages/hour	Separations/hour (impressions/hour)
A4 (1/0)	14,400	7,200
A4 (4/0)	7,200	14,400
A4 (1/1)	7,200	7,200
A4 (4/4)	3,600	14,400

<sup>1</sup> (number of color separations on side 1 / number of color separations on side 2)

## Color

Up to seven colors are supported:

- Option 1 - four process colors (CMYK - cyan, magenta, yellow, and black), plus 3 spot colors.
- Option 2 - HP IndiChrome process (six color process), plus 1 spot color.

---

# 3 Safety

This chapter contains the following sections:

- [Overview](#)
- [Warning signs and labels](#)
- [Safety devices](#)
- [Emergency power shutdown](#)
- [Door interlocks and warning indicators](#)
- [Attention lights](#)
- [Maintenance safety and emergency procedures](#)
- [Combustible and flammable liquids and fumes](#)


# Overview

The safety information and procedures described in this chapter apply to operators and other personnel working on or near the **HP Indigo 7000 Digital Press**. The safety procedures cover the press and the area immediately surrounding the press.

Use the following guidelines:

- The press must only be operated by personnel trained by HP or its authorized agents who are thoroughly familiar with all the safety and maintenance procedures of the press.
- Before you attempt to use the press, read and understand the safety procedures, including environmental protection procedures.

---

 **NOTE:** Call a customer care center for service and repair of the press. Do not attempt to service or repair the press.

---

**The HP Indigo 7000 Digital Press is NRTL approved and marked for use in the USA and Canada.**

### **Notice for the European Union:**

This product complies with the following EU directives:

- The Low Voltage Directive 2006/95/EC
- The Machinery Directives 2006/42/EC
- The EMC Directives 2004/108/EC

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) which are listed on the Declaration of Conformity issued by Hewlett-Packard for this product or product family.

**The Declaration of Conformity can be found at [www.hp.com/go/certificates](http://www.hp.com/go/certificates)**

# Warning signs and labels

## Warning labels on the press

The following symbols appear on warning labels on the **HP Indigo 7000 Digital Press**:



Laser Hazard

**DANGER.** Invisible laser radiation may be present when doors are open and interlocks are defeated. Avoid direct exposure to beam.

Laser Radiation

The lasers in the press emit radiation in the invisible range. The laser unit in the writing head is enclosed in a protective housing and permits exit of the beam only at the writing head window (aperture) to the PIP. Do not insert or allow any reflective objects to be inserted in the path of the writing head window. Do not attempt to clean the writing head window or look into the writing head window while the unit is operational.



Electrical Hazard

**HAZARDOUS VOLTAGE.** Will cause severe or fatal injury. Apply Lockout procedure.

**Electrical Hazards**

Before you start any maintenance procedure that involves an electrically powered subsystem, make sure the subsystem is disconnected. If you are not sure that the subsystem is turned off, turn off the main power switch. Always follow the lockout procedure.



Live Current Hazard Alert

**LIVE PARTS.** Will cause severe or fatal injury. Apply Lockout procedure.



Entanglement Hazard Alert

**WARNING.** Open gears and mechanical parts. Can trap hands, fingers, clothing, and cause serious injury. Stay well clear.



Pinch Hazard Alert

**WARNING.** Pinch points between rollers, wheels, and other parts can trap hands, fingers, clothing, and cause serious injury. Stay well clear.

Mechanical Hazards

The press has a number of rotating parts and gripping devices (drums, gears, grippers, and so on). Exercise special care when performing any maintenance work around these parts. All repairs must be performed only by authorized customer engineers.

Do not climb into the substrate input or substrate exit for any reason. Doing so could be dangerous.



Hot Surface Hazard

**WARNING.** Hot surface. Can cause burns. Do not touch.

Heat Hazards



---

The blanket and ITM drum become very hot during normal operation of the press, with temperatures up to 110°C (230°F). Do not touch the ITM drum or external heater with bare hands. Carelessness may cause burns. Wear thermal insulated gloves. Remove old blankets with needlenose pliers.

---

The following warnings also appear on the press:

---

CAUTION!	To reduce the risk of electric shock, the main disconnect should be locked in the off position before servicing.
DANGER.	Invisible laser radiation may be present when open and interlock defeated. Avoid direct exposure to beam.
WARNING:	Hazardous moving parts.
WARNING:	Hazardous Voltage. Can cause damage.
WARNING:	Hot surface. Can cause burns. Do not touch.
	Emergency Stop Button
HIGH LEAKAGE CURRENT: Earth connection essential before connecting supply	
MAIN EARTH CONNECTION LOCATED ON MAIN CHASSIS.	

---

## Warning signs

Post warning signs that clearly emphasize the dangers involved in operating and maintaining the press. The following warnings are recommended:

- This press is to be operated by properly trained and qualified operators only.
- Do not wear ties, other loose clothing, or loose jewelry when operating and maintaining the unit.
- Flammable vapors from heated imaging oil may be present!
- No smoking, open flame, or sources of ignition allowed!
- Make sure that the room is properly ventilated at all times. See the *HP Indigo 7000 Digital Press Site Preparation Guide*.
- Danger of pinching and crushing from moving press parts!
- Keep hands away from moving press parts.
- Access to **Main Power** switch must remain free at all times.
- Do not operate the press with doors open.
- Ink and imaging oil are irritating to eyes and skin. Use rubber gloves.
- ITM drum and blanket are hot.
- External heating lamps are hot.
- Read and understand the material safety data sheets (MSDS) for consumables used with the press.

## Placement of warning labels

Warning labels are placed in various locations on the press. Many of the warning labels on the press are behind doors or covers and on parts that may be accessible only to authorized service personnel.

# Safety devices

## Material safety data sheets (MSDS)

MSDS are supplied for consumables, including the different HP ElectroInks, imaging oil and the imaging agent, adhesion promoters, and adhesion promoter test fluids. Keep the MSDS readily available in the work area. Read and consult them for your personal protection. Keep the MSDS in a protective plastic cover.

## Fire extinguishing equipment

The **HP Indigo 7000 Digital Press** generates combustible fumes and is also internally heated, a danger of fire exists. Take the following precautions:

- Position fire extinguishers in visible locations within 7.6 m (25 ft) of the press and any flammable or combustible material storage areas.
- Require regular inspection of the fire extinguishers (at least annually) and have designated employees trained in their use. Employees should be retrained at least once a year.

## Eye wash stations

The **HP Indigo 7000 Digital Press** uses inks and imaging oil that may be irritating to skin and eyes. In extreme cases of exposure, these may cause blindness. Take the following precautions:

- Install eye wash stations within 7.6 m (25 ft) of areas where the ink and imaging oil are handled, dispensed, or stored.
- Provide eye wash liquid at eye wash stations (available from most safety supply companies) that complies with ANSI standard Z358. 1–1990.
- Use safety glasses with side-shields and rubber gloves when handling ink and imaging oil (nitrile disposable gloves are recommended).

## Noise levels

During printing, the operator is exposed to a maximum of 80 dBA of audio noise with all service doors and covers closed.

## Heat insulating tools

The blanket, ITM drum, and external heating lamps become very hot during normal operation of the press, with temperatures up to 165°C (355°F). Touching these parts could cause burns. Take the following precautions when you work near the ITM drum or when you are replacing the blanket:

- Wait until the drum cools to below 60°C (140°F) before performing maintenance procedures.
- Do not place hands on the moving blanket. Use a tool to grip the blanket metal bar.

## Electrical safety

The **HP Indigo 7000 Digital Press** must be properly grounded at all times. Before operating the unit, ensure that it is grounded in conformance with the electrical code standards for your country/region (see the *HP Indigo 7000 Digital Press Site Preparation Guide* for recommendations). If in doubt, check with a licensed electrician or with your customer care center.

---

⚠ **WARNING!** Do not operate the press if it is not properly grounded. Perform a weekly check of grounding cables.

---

If a cable has to be disconnected or reconnected during a maintenance procedure, you must electrically turn off and lockout the press. Turn off the press by using the main power switch.

# Emergency power shutdown

The following can turn off all or some electrical power to the press:

- **Emergency Stop buttons:** In an emergency, press one of the red **Emergency Stop** buttons to stop all mechanical movement in the main engine.

Red Emergency Stop buttons on a yellow background are located at both sides of the front door, and in other prominent locations on the press. When pressed, the button stops the press, and turns off electrical power to most system components.

- **To turn off power:** press the button down.
- **To restore power:** rotate the button clockwise to release.

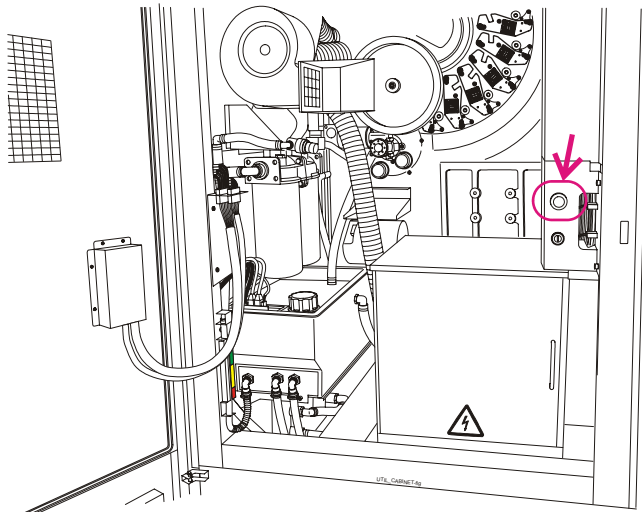
△ **CAUTION:** Some press components continue to receive power after an Emergency Stop button is pressed.

📄 **NOTE:** Pressing an **Emergency Stop** button during printing can cause damage to the PIP and blanket.

**Figure 3-1** Emergency Stop button on right and left sides of front door



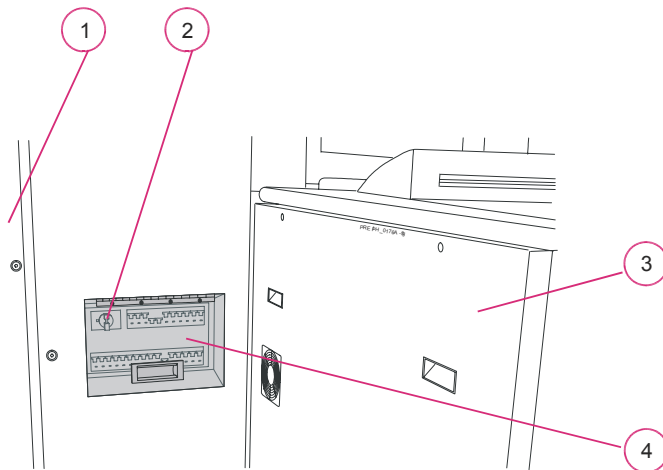
**Figure 3-2** Emergency Stop button behind rear utility cabinet door



**Main supply disconnect switch:** The main supply disconnect switch is permanently connected to the press via a conduit. A lockable disconnect device incorporated in the fixed wiring must be readily accessible. The device must be rated according to the specifications shown in the *HP Indigo 7000 Digital Press Site Preparation Guide*. This is an isolating device, which can be locked in the Off position to avoid an unexpected startup or release of electrical power during servicing or maintenance.

- **Main power switch:** The main power switch is located at the rear of the press. Access the main power switch through the opening near the rear door. Raise the switch cover. Rotate the main power switch to the left position to turn off all electrical power to the press engine.

**Figure 3-3** Main power switch



1	Rear utility cabinet door
2	Main power switch at exit side, behind stacker unit
3	Stacker unit
4	Switch cover

△ **CAUTION:** Always maintain free access to the main power switch, so that power can be immediately turned off in an emergency.

The main power switch does not disconnect power to the power distribution unit (PDU).

- **Power Enable switch:** The Power Enable switch is located on the upper left side of the press. The switch turns off power to the press engine subsystems, except for the computer and ink cabinet. To turn off power, put the **Power Enable** switch in the off position. To restore power, put the **Power Enable** switch in the on position.

**Figure 3-4** Power Enable switch



# Door interlocks and warning indicators

## Door interlocks

The **HP Indigo 7000 Digital Press** has interlocked doors and covers that stop the press and turn off electrical power to system devices when these doors and covers are opened.

⚠ **WARNING!** Access to, and use of bypass keys is restricted to specifically trained and authorized personnel. Do not disconnect or override any of these safety devices.

The following doors and covers are interlocked:

Stacker	Printing engine	Feeder
• Stacker top cover	• Upper feed door	• Feeder drawers
• Stacker front door	• Lower feed door	• Feeder upper feed door
	• Ink cabinet door (disables air compressor to ink cans only)	• Feeder to cover frame
	• Front door	• Feeder vertical access door
		• Bridge
	Cleaning ECN door	
	• External heater cover	
	• Rear utility cabinet door	

If any of the doors or covers are opened, the interlock is activated and prevents operation of most devices, such as the high-voltage power supply and the main motor. Opening a feeder door will not turn off power to all parts of the feeder.

When you open an interlocked door :

- The press status changes to Off.
- The schematic illustration indicates that the door is open,

All opened interlocked doors and covers are indicated by• an open lock icon in the user interface.



**Figure 3-5** Press schematic showing open interlock doors



# Attention lights

Attention lights are located on the input and exit sides of the printing engine.

**Figure 3-6** Attention lights



Attention lights consist of three colors that indicate the following when lit:

- Green light:
  - Always on in Ready state
  - Flashing in Printing and Getting Ready states
- Yellow light:
  - Always on for all errors and for warning LEDs
  - Warnings flagged:
    - An ink can is empty
    - Conductivity in one ink tank is high/low
    - Color adjustment is needed
    - Print cleaner is needed
    - Cooler drain is almost full
    - Stacker is 90% full
    - Only 10% of substrate is left in the feeder
- Red light:
  - Flashing when the bypass key is inserted, and a buzzer will sound before the press starts to rotate.

---

△ **CAUTION:** A flashing red light indicates that the bypass key is inserted, and a buzzer will sound before the press starts to rotate.

---

# Maintenance safety and emergency procedures

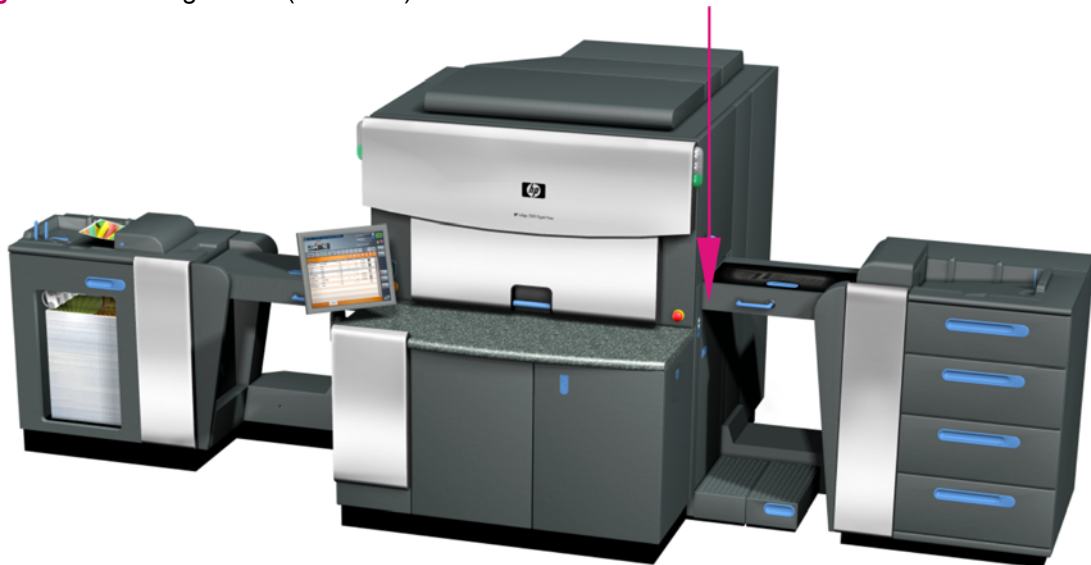
## Standby status

Put the press in Standby by pressing the Standby button on the touch screen when the system is not required to print, or is unattended. The press automatically goes into Standby after it has remained idle for more than 20 minutes.

## Inching button

Use the **Inching** button in maintenance procedures that require inching the drums. If any interlocked doors are open, the press returns to the off state. The **Inching** button is enabled when the upper feed sliding window is opened. During inching, the press is in Standby.

**Figure 3-7** Inching button (feed side)



## Inch-safe method

**⚠ WARNING!** Do not perform maintenance on rotating parts (such as drums) with a hand on a moving part while the press is on slow roll (for example, pressing the **Inching** button).

Health and safety regulations require that you use the inch-safe method for maintenance procedures where the PIP, ITM, and impression drums are required to rotate:

1. Press an **Emergency Stop** button to put the press into an inactive state with the power on.
2. Perform the necessary procedure (for example, cleaning).
3. Release the **Emergency Stop** button by rotating it. Press the **Inching** button to inch the press. Immediately press an **Emergency Stop** button to put the press into a safe state before continuing maintenance.
4. Continue inching the press, stopping the press (putting it into an inactive state), and servicing the press part until the job is complete.

## Press lockout procedure

Health and safety regulations require that you use the following lockout procedure before performing maintenance procedures that do not require drum rotation.

Lockout means either locking an energy-isolating device (for example, a fuse box) to prevent the activation of the press, or unplugging the press, with the plug under the exclusive control of the person performing the service or maintenance.

Use the following lockout procedure whenever there is any risk of unexpected press activation:

1. Disconnect the press from all sources of electrical power by using the **Main Power Supply Disconnect** switch (see [Figure 3-3 Main power switch on page 17](#)).
2. Lock the isolator switch in the off position to avoid an unexpected startup or release of electricity.
3. Turn off the external Uninterruptable Power Supply (UPS).
4. Allow 20 seconds for residual stored energy to dissipate after the press is turned off.
5. Before starting maintenance or servicing, use a power tester to ensure that points that are live when the press is in normal operation are no longer live.

## Combustible and flammable liquids and fumes

Because the imaging oil used by the HP Indigo press is combustible (USDOT Class 3A), use the following safety procedures:

- Operate the press in a well-ventilated room (see the *HP Indigo 7000 Digital Press Site Preparation Guide*). The press is equipped with ventilation fans. If they are not functioning, the unit enters an error state and the press becomes inoperable.
- Do not smoke or introduce an external source of ignition (such as pilot lights, open flames, stoves, heaters, or halogen lights). Avoid creating sparks (static, electrical, or mechanical) or introducing any spark-producing equipment within 7.6 m (25 ft) of the press.
- Clean spills immediately after they occur, and dispose of dampened cleaning materials promptly and properly in accordance with local regulations.

## Isopropyl alcohol (IPA)

IPA is a highly volatile and flammable liquid (USDOT Class 1B). Do not apply it to hot surfaces or allow its use near an open flame or sources of electrical sparks.

Use IPA for cleaning specified parts only. Clean with IPA only when the printing engine is off. When you use IPA, wait two to three minutes after application to allow the IPA to evaporate before proceeding. If you cannot tell if the IPA has evaporated, use your finger to feel for wetness.

## Handling and storing imaging oil, inks, and IPA

Take the following precautions when handling or storing imaging oil, inks, and IPA:

- Avoid fire hazards by storing imaging oil, inks, and IPA in fireproof cabinets or a special combustible liquids storage room.
- Allow only trained personnel to handle imaging oil, inks, and IPA.
- Keep containers tightly closed at all times. If a container appears damaged, transfer the contents to a dry, clean, and suitable container that can be tightly sealed.
- When handling imaging oil and inks, wear safety glasses with side shields, long-sleeve overalls, and protective gloves as indicated on MSDS.
- Keep MSDS in solvent-proof envelopes at the press.
- Carefully drain the air conditioner sump tank. Use a suitable receptacle and avoid splashing.
- Do not ingest imaging oil, inks, IPA, or any waste fluids.
- Refer to local combustible material handling regulations.

## Disposing of consumables and cleaning materials

Dispose of the consumables and cleaning materials that you use in accordance with applicable regulations. Consult with your local authorities to determine the correct manner in which to dispose of the following wastes:

- Process oily waste bottles
- Imaging oil and ink

- Empty HP ElectroInk containers
- Charge roller
- Blankets
- PIPs
- Cleaning wipes dampened with imaging oil
- Lint-free wipes or tissue paper contaminated with ink
- Contaminated chemical-resistant gloves
- Empty imaging oil containers
- Oil filters
- Ozone filters

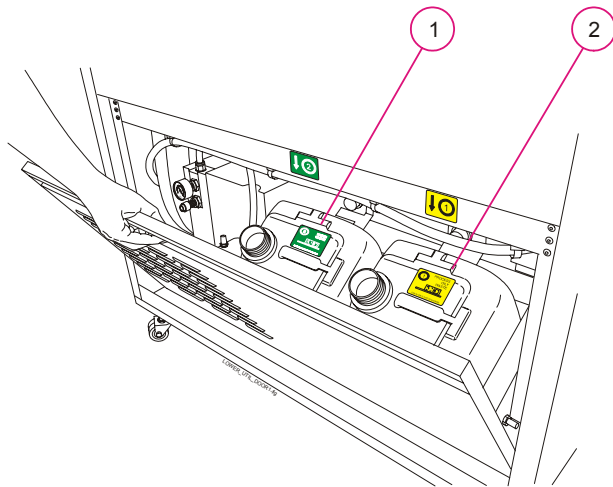
 **NOTE:** For disposal of items other than those listed above, contact your local customer care center.

## Waste bottles

Two bottles used to store waste are located in the lower service door at the rear of the press. These bottles are identified as follows:

- Waste bottle #1—Process oily waste
- Waste bottle #2—Water waste

**Figure 3-8** Waste bottles (in lower service door at press rear)



1	Water waste bottle
2	Process oily waste bottle

## Additional information

If you have any questions regarding safe operation of the **HP Indigo 7000 Digital Press**, do not continue operation without contacting a customer care center. Additional MSDS are available upon request from your customer care center.





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# 4 Operating the press

This chapter contains the following sections:

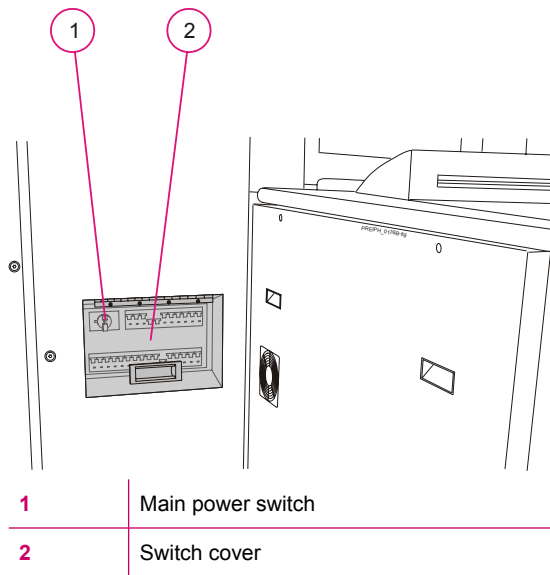
- [Turning the press on](#)
- [Using the press](#)
- [Using the control panel](#)
- [Turning the press off](#)

## Turning the press on

1. Make sure the HP Indigo press Production Manager is turned on and active prior to turning the press on.
2. On the press, raise the switch cover and turn on the Main Power switch at the rear of the press
3. Wait for the HP Indigo 7000 Digital Press software to appear on the screen (this can take several minutes),
4. Push the **Power Enable** switch on the exit side of the press.

The press is now in Standby state.

**Figure 4-1** main Power switch at press rear



**Figure 4-2** Power Enable switch



## Using the press

1. Make certain that all the subsystems are assembled on the press and that end of day routines were performed the previous day.
2. Put the press in Ready status. On the touchscreen, touch **Get Ready**. The press drums begin to roll and the various subsystems power up. When the preset conditions are met, the press status changes to Ready.
3. Load the substrate type for the first job to be printed (see [Loading substrate into the feeder on page 69](#)).
4. Load the job (see [Printing jobs on page 41](#))
5. Click **Print** or **Proof**.
6. Remove the printed sheets from the stacker. Check the output placement, color, etc. adjust if necessary (see [Editing job properties on page 43](#))
7. When the job has finished printing, the press goes to Standby status.
8. When you have finished work for the day, turn the press off.

# Using the control panel

The control panel is the main window from which you control the entire operation of the press.

## Using the software

The software is the main screen from which you control the entire operation of the press.

Touch the required button or icon displayed on the screen to select an option. Some components are read-only and are not sensitive to touch.

The main screen includes the following components which are always visible.

- The control panel
- Working area

## The control panel

The control panel includes the following components:



1	Small press schematic
2	Print job panel
3	Main toolbar
4	Printing controls

## Small press schematic

The small press schematic indicates the press status.

## Using the Press Schematic

On the **Main Menu**, select **Press Status**, and **Schematic**.

The large *Press Schematic* panel is displayed indicating the current status of various parts of the press.

In the *Press schematic* panel, touch the various press parts to open the relevant part panel.

**Figure 4-3** Press Schematic



## Print job panel

The print job panel shows properties for the current job:

- Job name
- Substrate name
- Thumbnail of current job — select to display a full preview of the job
- Number of sheets in the job
- Number of copies printed and number of copies to be printed
- Time left for the current job to finish printing
- The next job to be printed
- The status of the next job
- Thumbnail of next job — select to display a full preview of the job

Touching the current job area opens the **Copy/Sheet progress** details for the current job.





Touching the next job area opens the **Job Properties** window for the next job.

## Main toolbar

The main toolbar is used to access the main menu and frequently used processes. The selection appears in the working area.

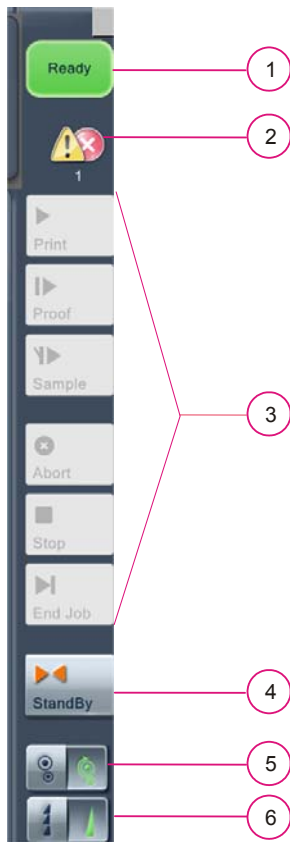


The main toolbar includes the following buttons:

- **Main Menu** — Enables access to all processes
-  — Displays the home window, and closes the current window.
- **Paused Processes** — Allows you to switch between multiple paused processes. When more than one application is paused, the number of paused processes is displayed in brackets. Touch the arrow to open the drop-down list, and select a paused process.
-  — Opens a menu with additional main toolbar buttons, including customized buttons. This button can be toggled to show or hide the menu.
-  — Changes to ToolTip mode. ToolTip mode displays the relevant tooltip when touching a control button, and will not perform the relevant operation. This button can be toggled.
-  — Opens the relevant help page for the current window in the working area.

## Print controls

The print controls are used to operate the press and to print jobs. The print controls also show the press state.



1	Press state indicator
2	Error and warning indicators
3	Print buttons
4	Press status selector
5	Pause selector (idle)
6	Mode buttons

### Press state indicator

Different press functions are possible only at defined press states.

The following press states exist:

- Print
- Getting Ready
- Ready
- Standby
- Off



## Error and warning indicators

The error and warning indicators display the number of unacknowledged messages. Touch the buttons to open the list of the latest messages.


## Print buttons

The print buttons control the operation of the press and jobs.

The following print buttons are available:

- **Print** — Prints a single job.  
When the press is in print state, this button changes to **Pause**. Touching this button, pauses the job currently printing.
- **Proof** — Prints a proof to the sample tray.
- **Sample** — Prints a sample copy to the sample tray. While printing many copies of a job you cannot print a proof, but you can print samples to check that print quality remains as good as the original proof. Sample copies are not included in the number of copies for a job.
- **End Job** — Ends the current job, and starts the next job.
- **Abort** — Terminates the current job and stops printing.
- **Get Ready / Standby** — Moves the press state from Standby to Ready; from Ready to Standby; or from Get Ready to Standby.

---

 **NOTE:** When working on a press with multiple stackers, all the print buttons are displayed with a buzzer icon, and the controls are disabled prior to printing. Touching any print button activates the buzzer alarm, indicating that the press is about to rotate at full speed. The print buttons are then enabled, and the buzzer alarm stops

---

## Mode buttons

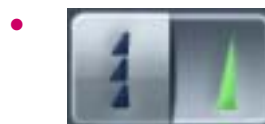
The mode buttons control the print mode and the press mode when job printing is completed.

The mode buttons include:



At the completion of all print jobs in the print queue:

- **Idle** — The press continues to rotate and moves to Pause state
- **Suspend** — The press stops rotating and moves to Ready state.



At the end of each print job in the print queue:

- **Continuous** — The press prints the next job automatically without stopping.
- **Step** — The press moves to Ready state, and only continues to next job when Print button is touched.

## Working area

The working area of the touchscreen displays the currently running process. The processes are color coded according to predefined groups to enable easy recognition. For examples green background indicates wizards.

## Navigating in the working area

The working area can include its own toolbar to enable navigation in the current process. Use the main menu or main toolbar to navigate to other processes.

## Virtual keyboards

A virtual keyboard appears when touching a button that requires text input. A virtual numeric keypad appears when touching a button that requires number input.

## Turning the press off

1. On the touch screen **Main Menu**, select **Options**, and **Shut Down Computer**. The *Shut Down Computer* window appears.
2. Select **Shut down the computer**. Wait for the computer to completely shut down, this can take a few minutes.
3. Turn off the **Main Power** switch at the rear of the press. The system is now shut down.

---

# 5 Job handling

This chapter contains the following sections:

- [Managing jobs](#)
- [Printing jobs](#)
- [Job maintenance](#)

## Managing jobs

Jobs are produced on the HP Indigo Production Manager, and sent to the press. On the press, Jobs are managed using the Print Queue window. From the Print Queue you can view the status and properties of all jobs, including:

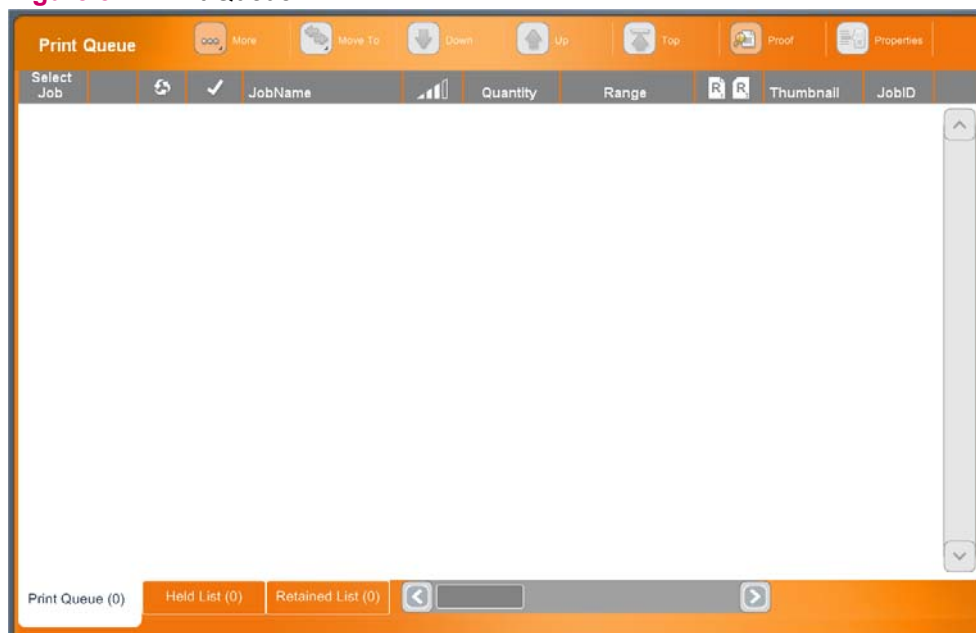
- The jobs currently printing
- The jobs requiring preparation
- Held jobs
- Retained jobs saved in the system for a limited period of time

You can also view the job properties for each individual job.

## Print Queue

The print queue is the default window in the touch screen working area. It shows the list of jobs to be printed. Each job also contains information about the job parameters. Additional information about a selected job can be seen by touching the **Properties** button.

**Figure 5-1** Print Queue



# Printing jobs

## To print jobs:

- Load jobs in the Print Queue. The position of a job in the list depends on urgency, substrate type, substrate thickness, number of colors in the job, or other job properties.
- Arrange the jobs in the list to facilitate the workflow. For example, all jobs that use the same substrate type or all jobs that use the same fifth and sixth color should be grouped and printed consecutively.

Jobs are loaded and managed using the HP Indigo Press Production Manager.

## Stage 1: Loading jobs

From the HP Indigo Production Manager, load jobs to the Loaded Jobs list. There are several ways to load jobs to the list. Refer to the HP Indigo Production Manager user guide for details.

- Make certain the job properties, number of copies, print range, and screen ruling are defined as required.
- Modify the properties if necessary. For more details, see [Editing job properties on page 43](#).

## Stage 2: Proofing

1. In the Print Queue, select the job to print.
2. Click **Proof**. The press prints one copy of your job.
3. Evaluate the printed job.
  - Check for image placement in relation to the leading edge and to the left margin (see [Figure 5-5 Image placement on the sheet on page 45](#)). Normally the image should be centered on the narrow axis and 10 mm [0.39 inches] from the leading edge.
    - For duplex jobs, check the front-to-back registration (see [Figure 5-6 Front-to-back registration on page 46](#)).
    - For multi-sheet jobs, make sure that the image placement is identical for all the job sheets
    - If necessary, move the job to the **Held List**, then open the *Job Properties* window, click the **Image Placement** tab and make corrections.
  - Check for color values. Compare with a previous print or a proof, if available. To modify color values, use the Color Match tab or the Color Control in the *Job Properties* window.
  - Check image integrity, full ink coverage, right sheet sequence, and same image placement for all jobs.
4. Print a second proof and evaluate it.

If there is a time delay between proof approval and the actual full run, print another proof immediately before printing the full run, to make certain it matches the approved proof.

## Stage 3: Printing the full run

1. Set the print mode on the control panel:
  - When it is set to **Continuous**, the job is unloaded at the end of the print run and the next job in the Print Queue starts the print process.
  - When it is set to **Step**, the next job in the Print Queue is moved to the top of the Print Queue and appears in the *Now printing* job field, but printing stops

**Figure 5-2** Print mode selector



2. Change the press status to Ready.
3. Make certain the required substrate type for the subsequent job is loaded on the press.
4. On the control panel, click **Print** to print the full-run

# Job maintenance

Job maintenance activities are performed in the *Job Properties* window.

## Job disposition and retrieval

Loaded jobs use large amounts of system space.

Do not keep unnecessary jobs on the system. The press will discard, save, save for a limited period of time, or archive jobs that have been printed.

- Define the disposition of a job after printing In the *Job Properties* window, **General** tab.  
In the **After Print Retain For** section, type or select the period of time you need to retain a print job.
- To retrieve a retained job in the *Job Manager* window, click **Job** and **Retain List**.  
Drag and drop the required job into either the Loaded Jobs list or the Print Queue.
- Archive a job from the *Job Manager* window by clicking **Job** and **Export**. Save the job to a memory storage device on the system, such as the DVD writer.
- Retrieve jobs from the *Job Manager* window by clicking **Job** and **Import**. Access the required directory or drive and select the job to be imported.

## Editing job properties

Edit job properties in the *Job Properties* window.

Open the *Job Properties* window from the *HP Press Production Manager—Press Job Manager*. Right-click a job in the *Loaded Jobs* panel, and select **Job Properties**.

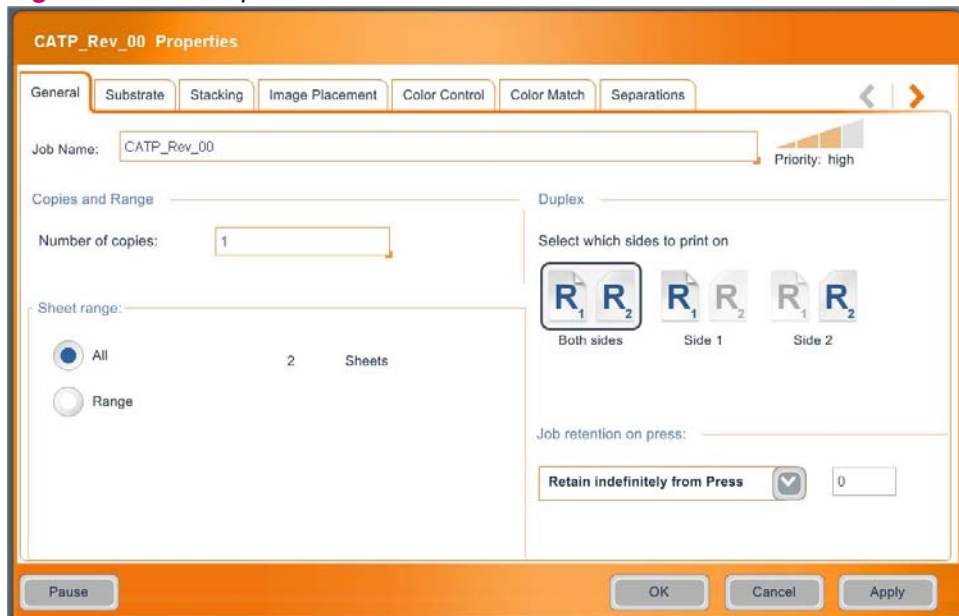
The *Job Properties* window contains the following tabs:

- **General**: Defines job related parameters such as number of copies, sheet range, duplexing, and job retention.
- **Substrate**: Used to define the substrate to be used for printing the selected job.
- **Stacking**: Used to change stacking destination and the duplex orientation.
- **Image Placement**: Used to change the position of images within the job.
- **Color Control**: Used to change a job's color look-up table (LUT) - see below.
- **Color Match**: Used to modify dot area and optical density of the separate colors.



- **Separations:** Used for defining separations, screening, and ink order.
- **Linework and Resolution:** Used to define resolution and linework settings such as adaptive halftoning, line smoothing, and line thinning.

**Figure 5-3** *Job Properties—General*



## Image placement

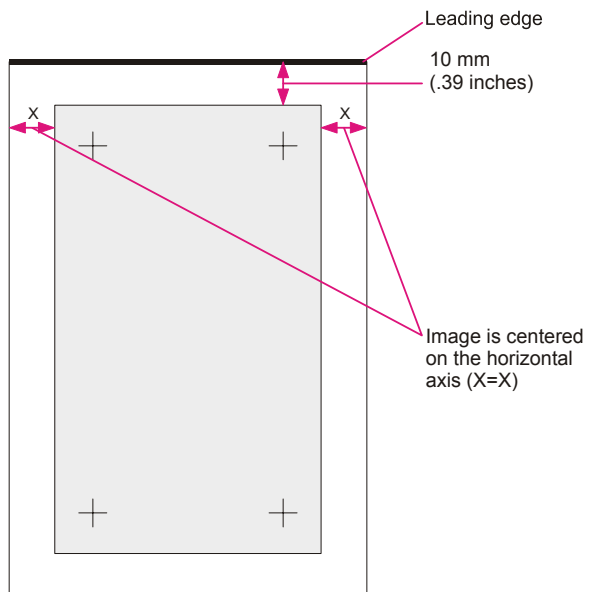
Corrections to image placement on the substrate for a specific job can be done from the **Job Properties** window, **Image Placement** tab.

- Correct the image placement in relation to the leading edge and the margins. Normally the image should be centered on the narrow axis, and 10 mm (0.39 inches) from the leading edge.
- For duplex jobs, you can correct the front to back registration.
- Adjust identical image placement for multi-sheet jobs.

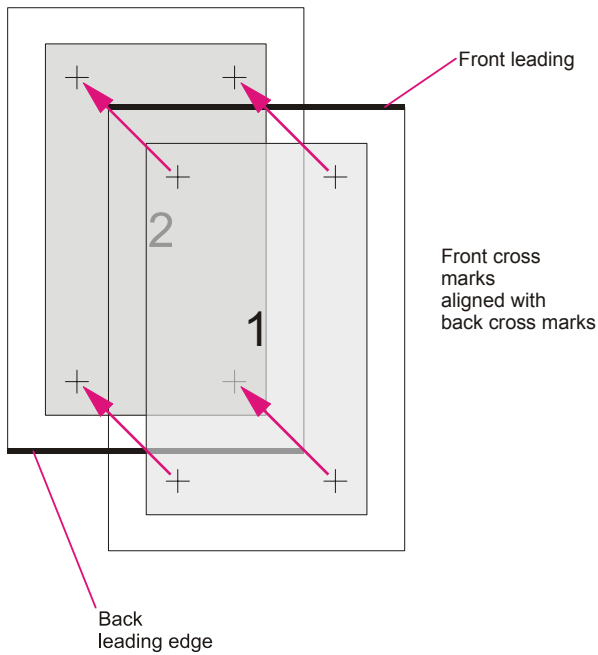
**Figure 5-4** Job properties — Image placement tab



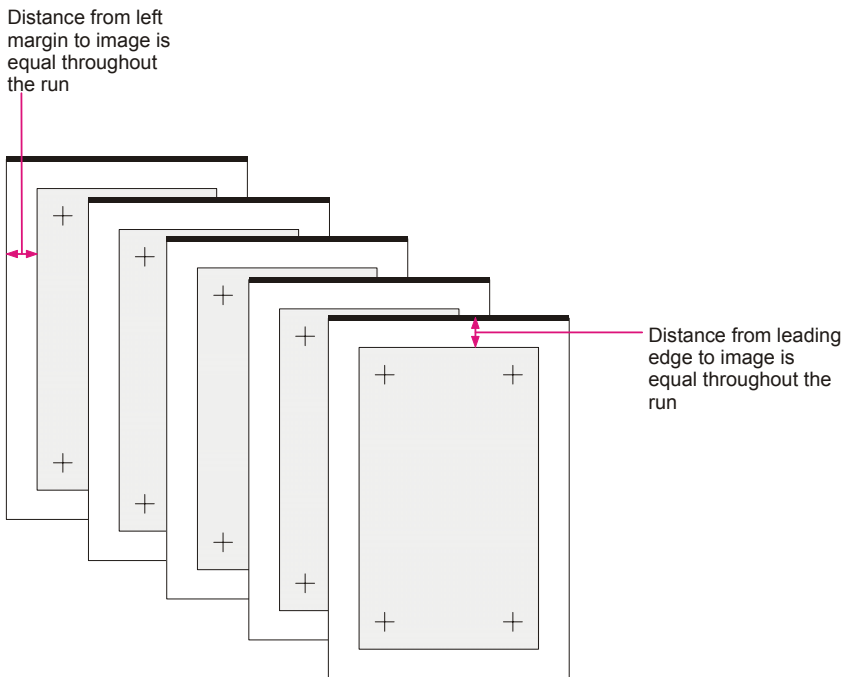
**Figure 5-5** Image placement on the sheet



**Figure 5-6** Front-to-back registration



**Figure 5-7** Cross-run registration

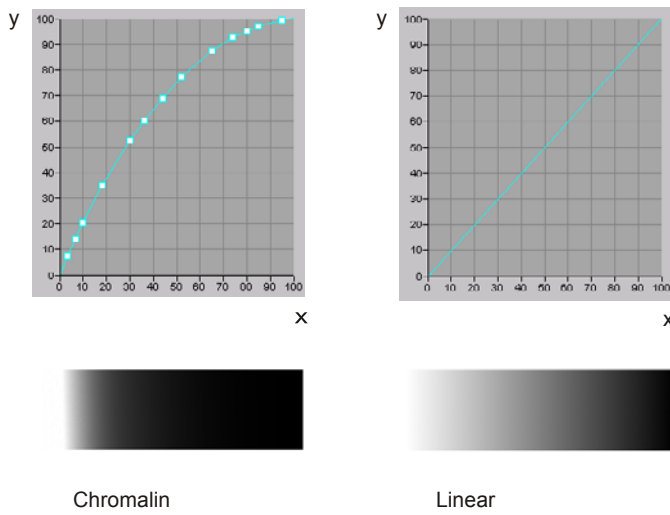


## Editing job look-up tables (LUTs)

Job LUTs are used to change the printed dot size in relation to the dot size as defined in the original graphics files. By editing LUTs, you can control the dot gain for every dot size individually.

HP Indigo supplies several tailored LUTs, ranging from Linear to Chromalin, with Chromalin applying the biggest dot gain. You can also create your own LUT or set a customized LUT as the default.

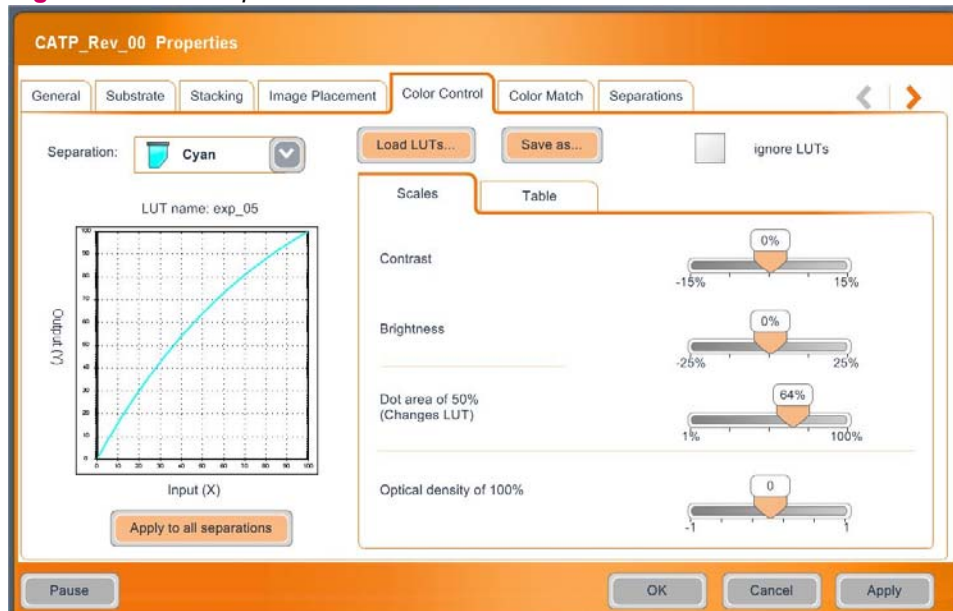
**Figure 5-8** Different LUTs



<b>x</b>	Dot size in graphic file
<b>y</b>	Printed dot size

To create your own LUT, select **Job Properties**, and then select the **Color Control** tab. Use the Table and Scales tab to modify the entire LUT, or change selected points.

**Figure 5-9** Job Properties—Color Control



**NOTE:** LUT changes only apply to the selected job.

You can save the LUT to the LUT Library for use with other jobs.

You can control the 50 percent dot area from the job LUT panel.

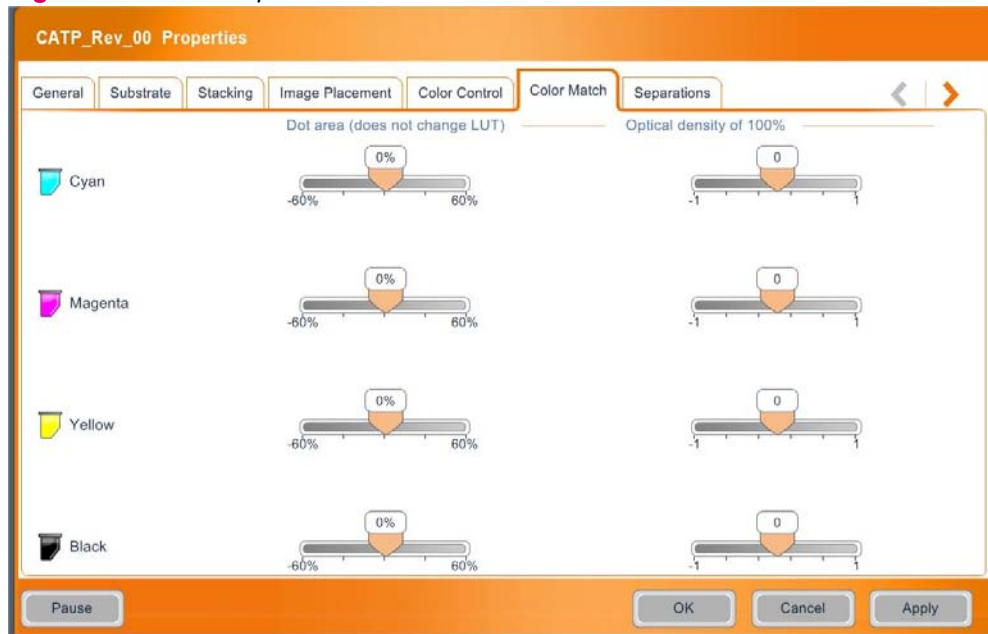
To improve accuracy, adjust colors from the **Color Control** tab ([Figure 5-9 Job Properties—Color Control on page 47](#)).

The solid, 100 percent optical density slider in the *Job properties - Color Control* window contains the same parameter adjustments as those in the *Job properties - Color Match* window.

Color matching is used when you need to change the color intensity. Color matching is a fast but less exact tool than LUT changes. With color matching, the entire gray scale shifts either up or down.

With color matching, you can define the new optical density value for the 100 percent dot area and for the 50 percent dot area for each ink individually. Move the job to the Held Job list before attempting to perform Color Match. These values are then saved as part of the job properties for future runs.

**Figure 5-10** *Job Properties—Color Match tab*



## Screening

Jobs can be printed with different screen rulings. The higher the screen ruling, the better the rendering of detail.

Higher screen rulings are more demanding, because they require a more finely tuned press calibration.

Job screen can be defined in the **Job Properties** window, **Separations** tab.

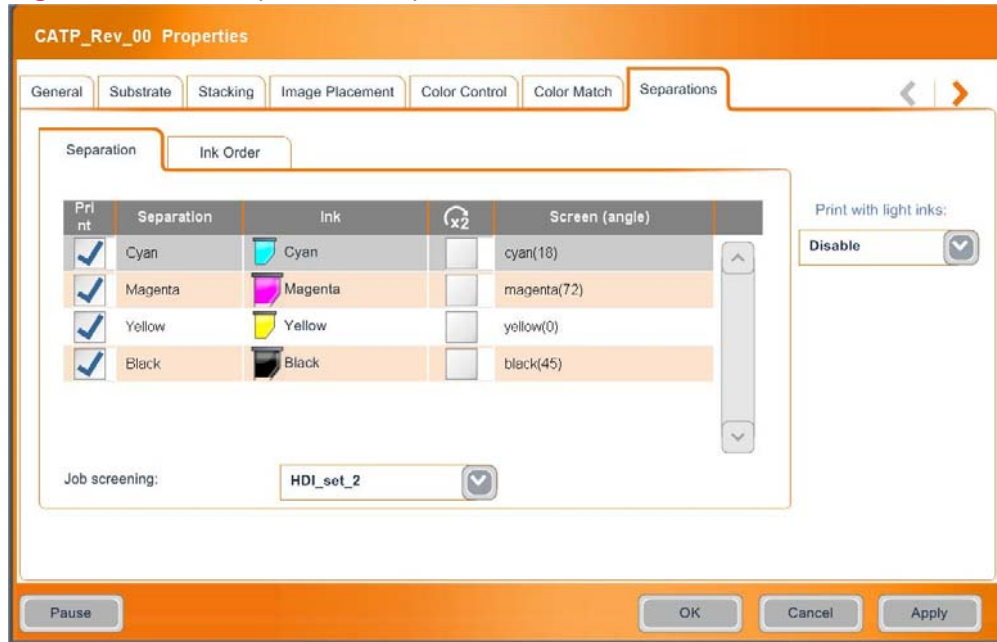
HP Indigo supplies the following screen rulings:

- Sequin — an average of 144 lines per inch (lpi), used for specific circumstances only
- HDI-175 — an average of 175 lpi — default screen used for most jobs
- HDI-180 — an average of 180 lpi

You can print a separation several times to enhance density.

HP Indigo supplies you with alternative color order to support transparency printing.

**Figure 5-11** Job Properties — Separations tab



## Inks “double-hit” printing

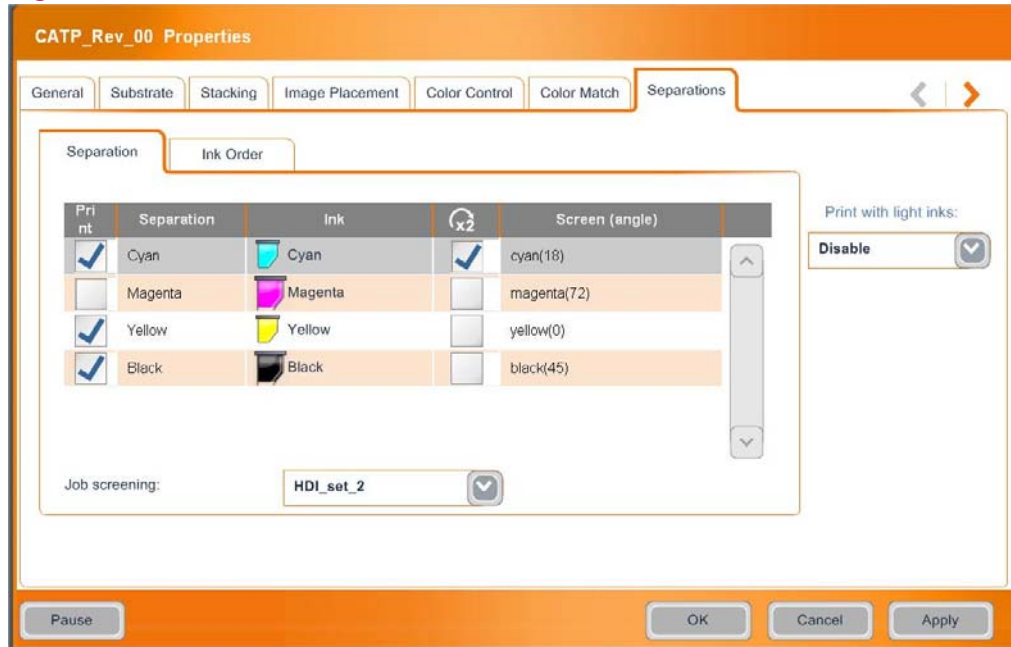
Some Ink Mixing System inks require double-hit printing in order to achieve the required color saturation, and this feature performs double-hit printing without screening artifacts (patterns).

The press will double-hit only the solid and high-saturation gray levels.

**To access the double-hit feature:**

Double-hit printing can be defined from the **Job Properties** window, **Separations** tab. Check the **X2** box for the required color.

**Figure 5-12** Double Hit check box

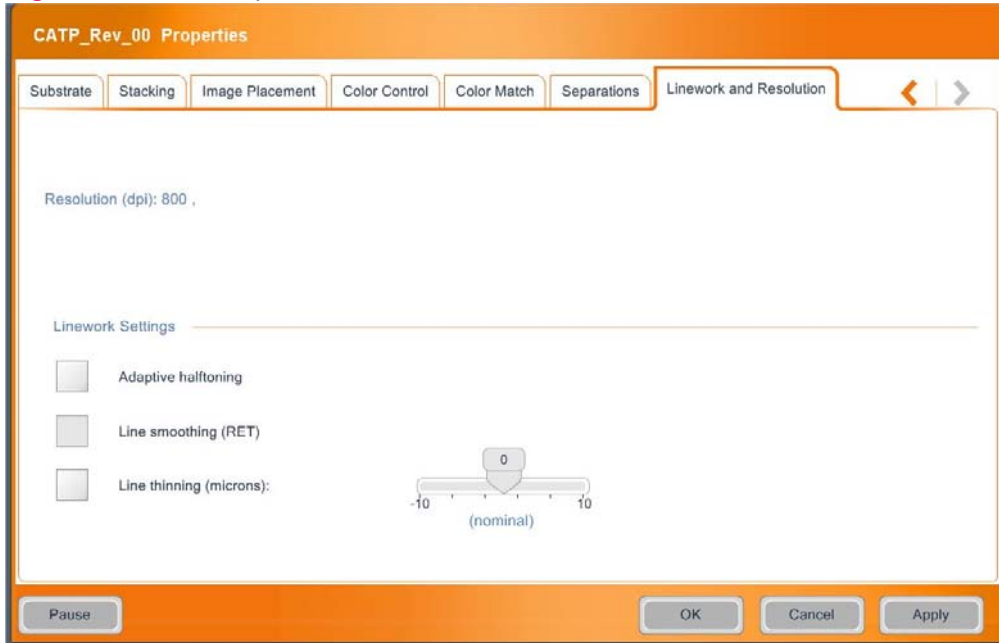


## Linework and resolution

Modify linework and resolution to print thinner lines and smoother fonts at a higher definition. Job linework and resolution can be defined in the Job Properties, Linework and Resolution tab.

- Check **Adaptive Halftoning** to smooth edges on gray-level areas
- Check **Line Smoothing** to smooth lines in 400 dpi and 600 dpi jobs
- Check **Line Thinning** and type a value in microns or use the slider to choose value

**Figure 5-13** Job Properties — Linework and resolution tab







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# 6 Color management

This chapter contains the following sections:

- [Calibrating the press colors](#)
- [Color Calibration procedures](#)
- [Defining substrate-related color parameters](#)
- [Selecting a workflow for full color calibration and substrate-related parameters](#)

## Calibrating the press colors

There are two ways of calibrating the press colors:

- **Short color calibration** - offers high speed and economy.
- **Full color calibration** - offers high accuracy and flexibility.

The short color calibration procedure is used to guarantee color repeatability between runs on the press.

- It allows you to set the density of the solid ink layer and the density of three grey levels..
- It fine tunes the compensation process for each PIP since PIP deterioration over time is a source of color inaccuracies.
- It is triggered automatically:
  - After a PIP replacement
  - Every 10,000 impressions per substrate type, unless bypassed by the operator.

Perform the short color adjustment procedure after replacing the blanket.

Perform the full color calibration when a particular screen, ink or substrate is changed.


The full color calibration calibrates 15 points on the dot gain curve.

The full color calibration is operated automatically every 20,000 impressions, or via a wizard.

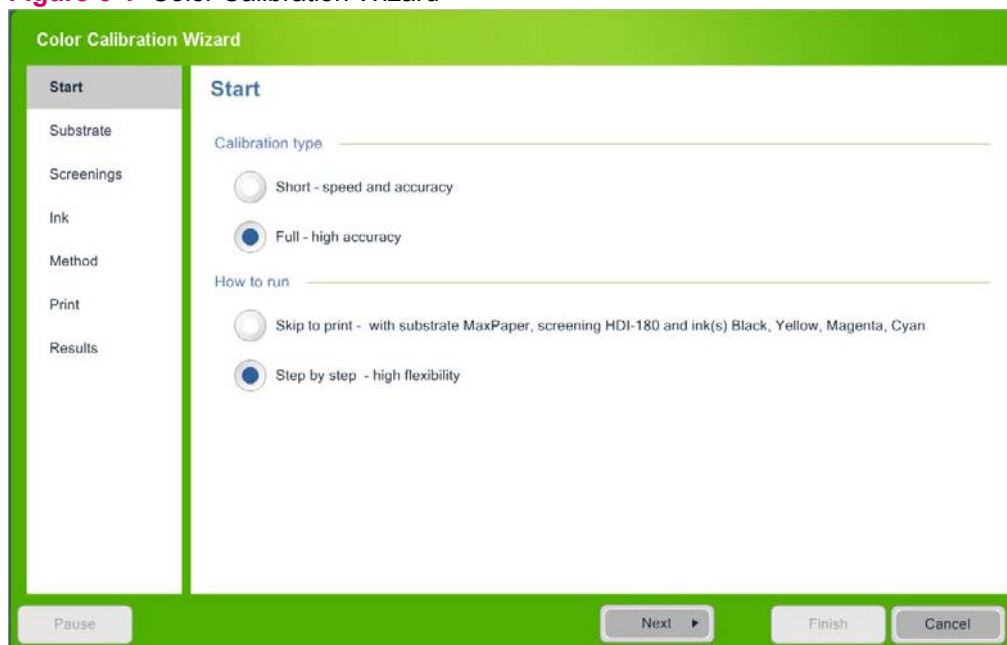
# Color Calibration procedures

To perform the short or full color calibration procedure:

1. On the press software menu, select **Print Quality**. The Print Quality panel opens.
2. Touch **Color Calibration**. The Color Calibration wizard opens.
3. Select the **Short** or **Full** color calibration type,
4. Select a method to run the calibration — **Skip to print** uses default substrate, screening and ink parameters to run the calibration. **Step by step** allows you to customize the calibration parameters.

 **NOTE:** When performing a Step by Step calibration, choose a the same substrate or a substrate from the same group as the calibration substrate.

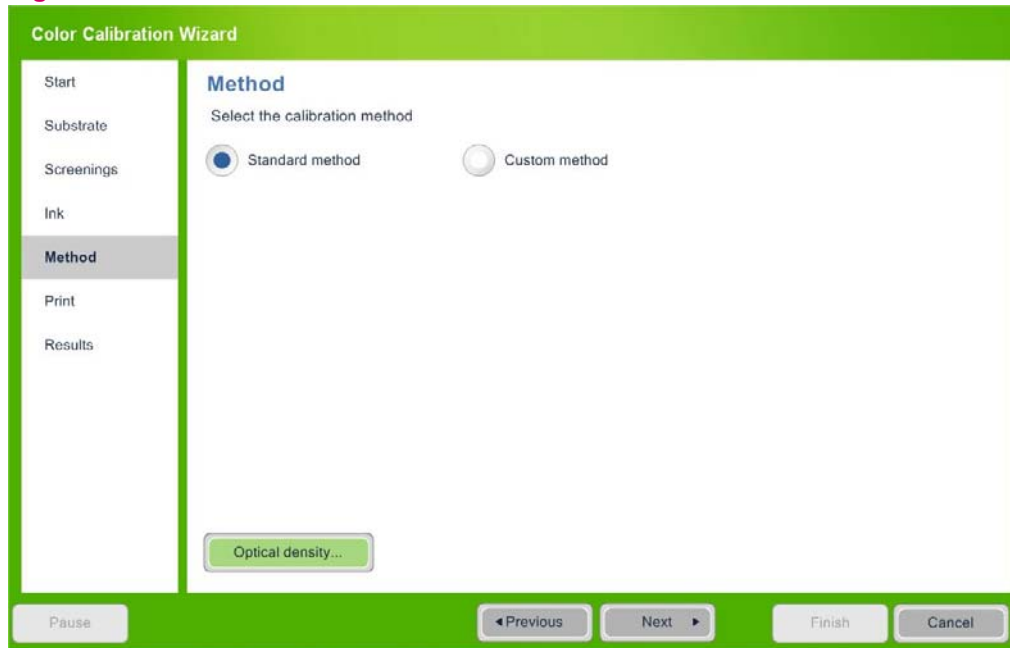
**Figure 6-1** Color Calibration Wizard



5. At the wizard Method step, select the **Standard** or **Custom** calibration method.
  - The **Standard** calibration method allows you to continue the calibration with no additional options.

- The **Custom** calibration method allows you to choose to include the Velectrode calibration and default parameters to overcome print quality issues, as well as modifying target optical density of 100% ink coverage values.

**Figure 6-2** Color Calibration method



6. Follow the wizard instructions to complete the calibration procedure.

# Defining substrate-related color parameters

Different substrates can produce different color results. The ability to perform machine LUT generation and color adjustment for each substrate increases the color accuracy for different substrates. Color calibrations can be performed on almost all substrates.

## Optical density of substrates

The optical density can vary between substrates even when using the same press parameters (such as laser power and developer voltage).


A densitometer gives a lower reading on matte substrates, compared to glossy substrates, although these substrates can appear identical to the human eye. Based on the densitometer reading, the press adjusts the printing to a lower density on matte substrates than on glossy substrates.

You can define the optical density for each substrate by selecting the correct substrate gloss level:

- **Matte (0 < gloss < 12)** — represents a group of uncoated and high-matte substrates
- **Semi-matte (12 < gloss < 25)** — represents a group of high-quality matte and silk substrates
- **Glossy (gloss > 25)** — represents all glossy substrates

The press calibrates the solid density according to the following table:

Substrate gloss level	Yellow	Magenta	Cyan	Black	Orange	Violet	Green
Matte (0 < Gloss < 12)	0.9	1.1	1.1	1.2	1.3	1.1	1.1
Semi-matte (12 < Gloss < 25)	1.0	1.3	1.3	1.5	1.65	1.3	1.3
Gloss (Gloss > 25)	1.1	1.45	1.45	1.75	1.9	1.45	1.45

 **NOTE:** The optical density calibration of HP Indigo Ink Mixing System (IMS) inks is specified in the HP Indigo Ink Mixing System file. Unlike other inks, the optical density of IMS inks does not change automatically when changing substrate type, so the optical density of IMS inks must be changed manually.

Defining a different substrate type (gloss level) automatically adjusts the optical densities.

1. Select **Main Menu**, **Substrate**, and **Substrate List** to open the *Substrate List*.
2. Select a substrate and touch **Properties**, then **Edit** to edit the substrate gloss level and color calibration parameters.

3. In the Substrate List, select a substrate and click **Assign** to assign it to a feeder drawer.

**Figure 6-3** *Substrate List — Properties window*

MaxPaper

Substrate Name: MaxPaper

Width: 320 mm Length: 470 mm

Weight: 135 gsm

Thickness: 0.1 mm

Type: GLOSSY

Transparent: No

Coating: COATED

Color calibration parameters

Inherit color calibration from:

Calibration Substrate - Used in Color Calibration process

Select the default screening for use in Color Calibration

Sequin	HDI_set_2	HDI-175	HDI-180	HDI-160
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Pause Restore Defaults OK Cancel

A substrate can inherit color calibration parameters from a different substrate defined in the system.

# Selecting a workflow for full color calibration and substrate-related parameters

The full color calibration process updates the job look-up table (LUT). These tables reflect the current press performance with regard to print quality. The LUT results may not be suitable for use if the LUT generation is performed in non-optimal, or unstable conditions. You should therefore verify print quality before performing the full color calibration. Verify the following for best results:

- The first transfer is adjusted properly.
- The substrate you are using is a well defined (type and thickness) calibration substrate, or is attached to one.
- No print quality defects exist—such as voids, streaks, or stains.

Because of potential variability in the results, you should avoid performing a full color calibration on a blanket having less than 3,000 impressions.

## Very high accuracy workflow

For a very high accuracy workflow, perform the following:

- Define all substrates as calibration substrates.
- In addition to the automatic calibrations, perform full color calibration several times a day (at least every 10,000 impressions), before every long run, before any color-critical job, before every important proof, and on all used screens.

## High accuracy workflow

For a high accuracy workflow, perform the following:

- Define two or three substrates as calibration substrates. Attach each of the other substrates to one of the calibration substrates.
- In addition to the automatic calibrations, perform full color calibration on a daily basis (at least every 20,000 impressions) and before every color-critical job on all screens and substrates used.

## Normal accuracy workflow

For a normal accuracy workflow, perform the following:

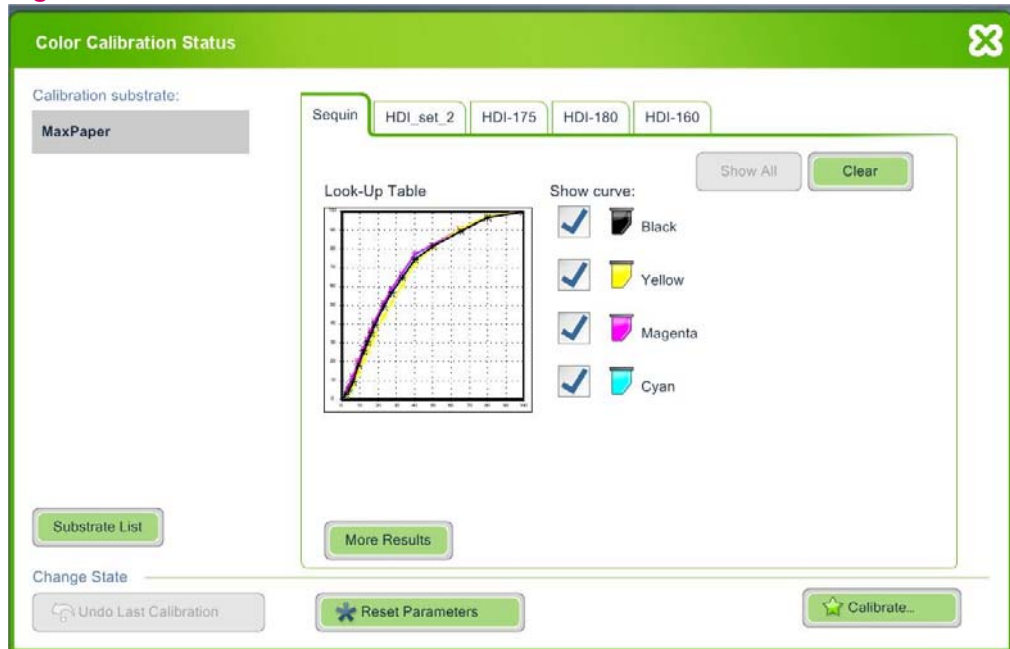
- Define one substrates as a calibration substrate. Attach all the other substrates to this calibration substrate.
- Let automatic calibration be performed.
- If automatic calibrations are bypassed, perform full color calibration on the calibration substrate and all used screens on a weekly basis



## Viewing last color calibration generation

- ▲ The **Color Calibration Status** button in the **Print Quality Panel** displays the last color calibration results.

**Figure 6-4** Color Calibration Results



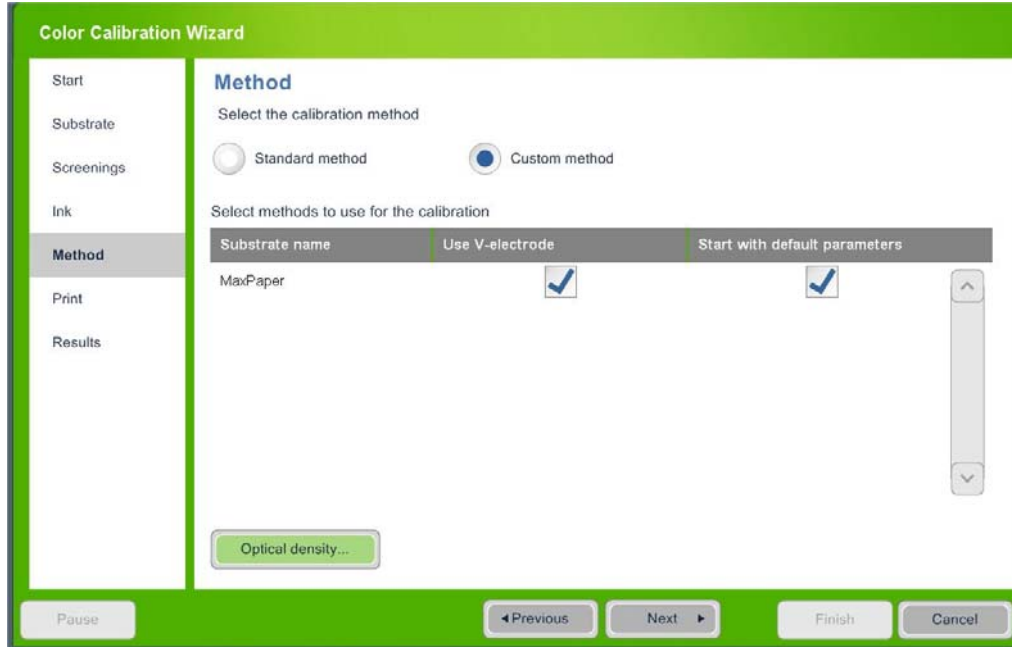
## Determining substrate type

Perform the following procedure to determine the substrate type (glossy, semi-matte or matte) and to define OD values for different substrates, including plastic and transparent substrates.

1. Load a well defined substrate in the press. A high gloss substrate should be used. However, if it is not available, use another substrate whose type is known (e.g. gloss, semi-matte, matte) and defined.
2. On the **Main** menu, select **Print Quality**. The Print Quality Panel opens.
3. Click **Color Calibration**. The *Color Calibration* wizard opens.

4. Select **Full** calibration type, and run it **Step by Step**.
  - In the **Substrate** step, select the required substrate (the most used substrate on the press).
  - In the **Method** step, select **Custom** method, Use **V-electrode**, and **Start with default parameters**.

**Figure 6-5** Color Calibration wizard — Method step



5. Run the wizard and make sure that all colors pass the color adjustment procedure. Click **Finish**.
6. Load the required substrate on the press. Any unknown substrate type should be attached to the calibration substrate in the substrate list.
7. Print 10 copies of the CATP job.
8. Measure the solid patches (J area) in the 9th and 10th copy of the CATP printout. Make sure to measure on a white background, and calculate the average values. Note these values.
9. Check the measured values for each ink and compare to the values specified in the following table (note that the specified gloss values are correct only for paper substrates):

Substrate gloss level	Yellow	Magenta	Cyan	Black	Orange	Violet	Green
Matte (0 < Gloss < 12)	0.9	1.1	1.1	1.2	1.3	1.1	1.1
Semi-matte (12 < Gloss < 25)	1.0	1.3	1.3	1.5	1.65	1.3	1.3
Gloss (Gloss > 25)	1.1	1.45	1.45	1.75	1.9	1.45	1.45

10. In the table, find the substrate type that most closely resembles the measured solid OD values.

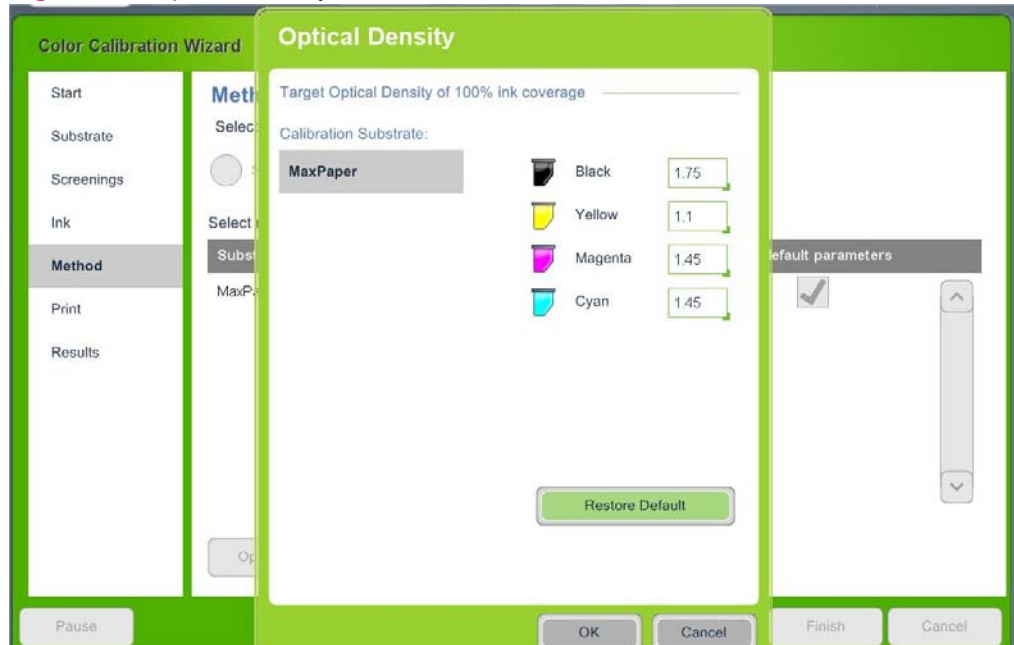
11. Click **Main Menu**, **Substrate**, and **Substrate List**. The *Substrate List* opens.
12. In the list, select the required substrate, then touch **Properties**, and **Edit**. The *Substrate Properties* window opens.
13. In the substrate Type field, select the type that matches the measured solid OD values (gloss, semi-matte, matte).

**Figure 6-6** *Substrate List — Properties window*

14. Re-run the Color Calibration Wizard
15. Select **Full** calibration type, and run it **Step by Step**.
  - In the **Method** step, select **Custom** method, Use **V-electrode**, and **Start with default parameters**.

- Click **Optical Density** to open the Optical Density window. Verify that the OD values match the values in the table according to the substrate type defined.

**Figure 6-7** Optical Density window



16. Follow the wizard instructions to complete the calibration procedure. Make sure that all colors pass the color adjustment procedure.

## Exceptions

If high color accuracy is needed, the exact solid OD values should be documented and changed whenever the substrate is installed in the press.

- Do this by clicking the **Setup** button in the *Short Color Calibration* wizard or the *Full Color Calibration* wizard.
- The regular definitions (gloss, semi-matt, matt) are usually sufficient for best color performance.

If the color adjustment fails when adjusting the 100% OD values, verify that the ink parameters are correct (density, conductivity, temperature).

- Where the ink parameters are correct, and the color adjustment fails when adjusting the 100% OD values, the problem is probably associated with the substrate type definition.
- If the developer voltage is too low, select a glossier substrate type, if it is too high, select a less glossy substrate type.



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# 7 Substrate handling system

This chapter contains the following sections:

- [Overview](#)
- [Substrate specifications](#)
- [Loading substrate into the feeder](#)
- [Monitoring status of substrates in drawers](#)
- [Defining substrate type](#)
- [Operating and unloading the stacker](#)
- [Defining stacker options](#)
- [Clearing substrate jams](#)
- [Maintaining the substrate transport system](#)

# Overview

This chapter describes substrate specifications, and management of each of the substrate transport subsystems.

---

 **NOTE:** Use only allowable substrates and substrate sizes as described below.

---

The basic processes in substrate handling are as follows:

- Load substrates into the feeder.
- Update the substrate definitions in the press software after you load a new substrate.
- Unload the substrate from the stacker.
- Control the substrate transport system through the press software.

# Substrate specifications

**Table 7-1 Allowable substrates — simplex and duplex**

Substrate type	Weight
Coated glossy or matte papers	80 to 350 g/m <sup>2</sup> (55 lb text to 130 lb cover)
Uncoated papers	65 to 300 g/m <sup>2</sup> (45 lb text to 110 lb cover)
Plastics (types qualified by HP Indigo)	—
Transparencies (types qualified by HP Indigo must include a non-transparent edge)	—

**Table 7-2 Substrate size**

Substrate parameter	Parameter range
Length (process direction), simplex	210 to 482 mm (8.26 to 19 inches)
Length (process direction), duplex	420 to 482 mm (16.53 to 19 inches)
Width, simplex and duplex	279.4 to 330 mm (11 to 13 inches)
Thickness	0.07 to 0.41 mm (0.0027 to 0.015 inch)
Sheet length (or width) tolerance, simplex	±1.0 mm (±0.039 inch)
Parallelism — leading to trailing edge	0.4 mm (0.016 inch) maximum
Diagonal differences	0.6 mm (0.024 inch) maximum

## Substrate storage

- Paper is an organic matter and highly sensitive to relative humidity changes.
- Allow your stock to adjust to the ambient conditions before using it.
- Do not unwrap the substrate stack until it has reached room temperature.
- Operate the press at a relative humidity range from 15 to 70 percent (non-condensing), and for ambient temperatures ranging from 15 to 30° C (59 to 86° F).

## Grain direction

- Use long-grain sheets for substrates lighter than 170 g/m<sup>2</sup> (115 lb text/63 lb cover).
- Use short or long grain sheets for substrates between 170 g/m<sup>2</sup> (115 lb text/63 lb cover) and 200 g/m<sup>2</sup> (74 lb cover).
- Use short grain sheets for substrate types heavier than 200 g/m<sup>2</sup> (74 lb cover).



## Sheet trimming

- Make sure that the sheets are trimmed correctly and are not stuck together before you load the substrate in the feed drawer.
- If necessary, trim the stack on two axes (top and left edges), and then fan the sheets before using them.
- Make sure the blade used to trim the sheets is sharp. Using a blunt blade will cause substrate jams.

## Sheet size

When using a new substrate stack, verify that the sheet size is identical to the size defined in the substrate list.

Make sure that the size of the sheets used in the drawer and the new sheets are identical.

# Loading substrate into the feeder

Load substrates into the feeder.

To see a video demonstration of this process, open the relevant window and press Help

## To load a substrate:

1. Open a drawer on the feeder and place a small amount of substrate in it.
  2. Position the substrate guides, taking care not to damage the edges of the substrate.
  3. Fan the substrate before placing it in the drawer.
  4. Add the rest of the required amount of substrate to the drawer, taking care not to exceed the maximum level mark.
  5. Close the drawer.
  6. Update the substrate definition for the substrate drawer. See [Defining substrate type on page 71](#).
- You can use two drawers with the same substrate type. The press is designed to automatically alternate between two drawers containing the same substrate in order to allow high press utilization.

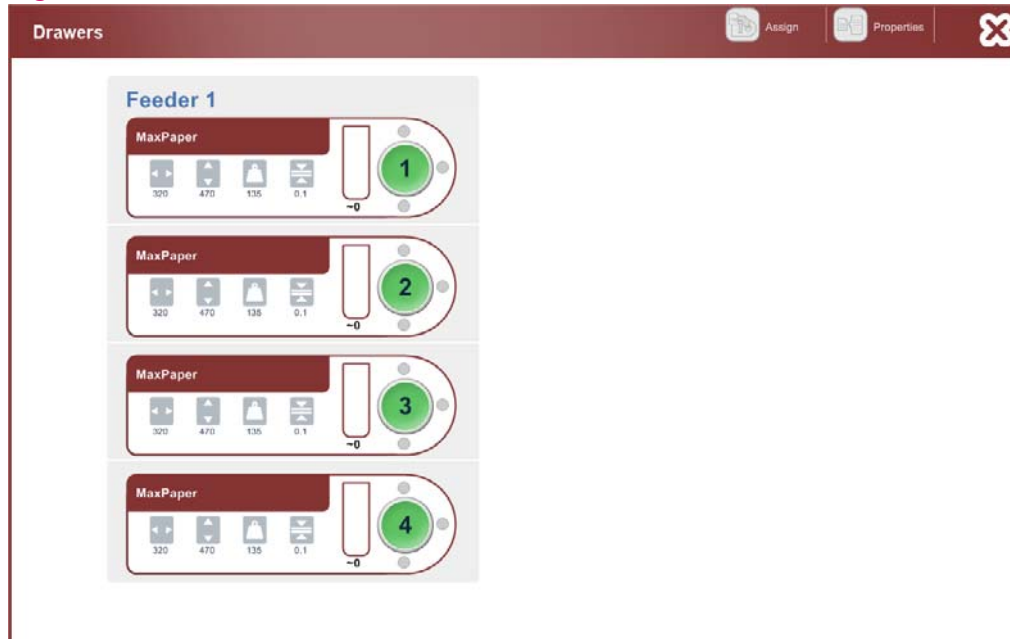
## Monitoring status of substrates in drawers

During printing you can monitor the status of the substrates loaded in the drawers.

- ▲ From the Main Menu, select **Substrate> Drawers**.

The *Drawers* window appears.

**Figure 7-1** Drawers window



Use the Drawers toolbar buttons to access the substrate management windows.

- 📄 **NOTE:** If the substrate loaded in the press and the substrate defined in the press software do not match, then the substrate name and its relevant mismatched properties are displayed in red. In addition, the measured properties are displayed in brackets.

# Defining substrate type




When loading a substrate, define the type of substrate on the press. The system uses this information to automatically adjust pressures and fine-tune colors.

To define a substrate:

1. On the main menu, click **Substrate** and **Substrate List**. The *Substrate List* window opens.

Figure 7-2 Substrate List window

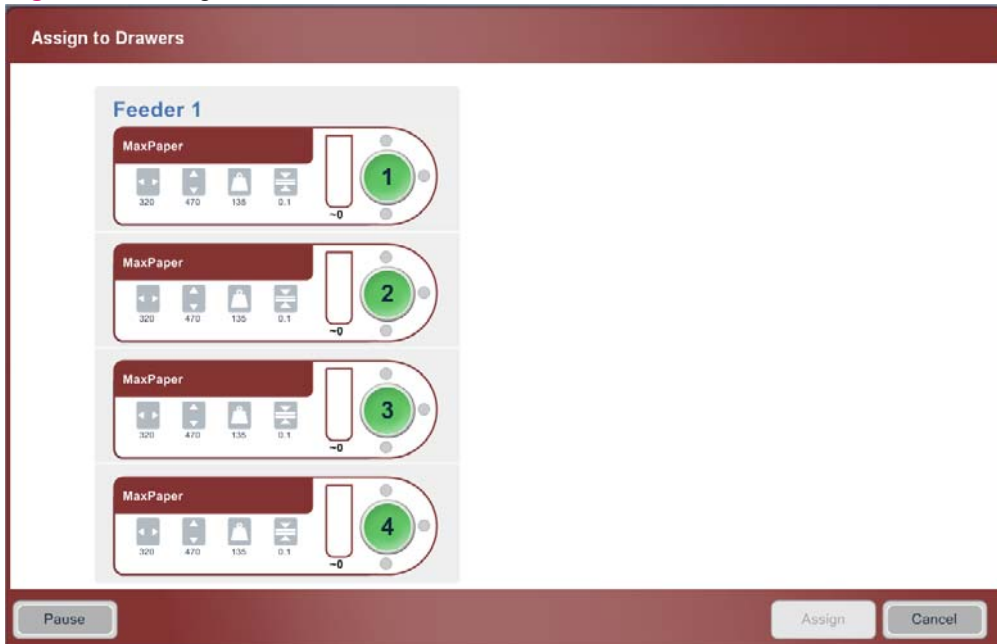


Substrate name						Coating
MaxPaper	✓	135	470	320	0.1	Coated
A4 (Landscape)		135	210	297	0.1	Coated
Letter (Landscape)		135	215.9	279.4	0.1	Coated
Tabloid		135	431.8	279.4	0.1	Coated
12X18		135	457.2	304.8	0.1	Coated
320X450		135	450	320	0.1	Coated
13X19		135	482.6	330.2	0.1	Coated
 HP Indigo 80# Gloss Text		118	457.2	304.8	0.097	Uncoated
 HP Indigo 80# Dull Text		118	457.2	304.8	0.1	Uncoated
 HP Indigo 100# Gloss Text		148	457.2	304.8	0.122	Coated
 HP Indigo 100# Dull Text		148	457.2	304.8	0.124	Uncoated
 HP Indigo 80# Gloss Cover		216	457.2	304.8	0.183	Coated
 HP Indigo 80# Dull Cover		216	457.2	304.8	0.193	Uncoated
 HP Indigo 100# Gloss Cover		271	457.2	304.8	0.234	Coated
 HP Indigo 100# Dull Cover		271	457.2	304.8	0.246	Uncoated

2. Select a substrate from the list.
3. Click **Assign**, the **Assign to Drawers** window opens.

4. Select a drawer and click **Assign**.

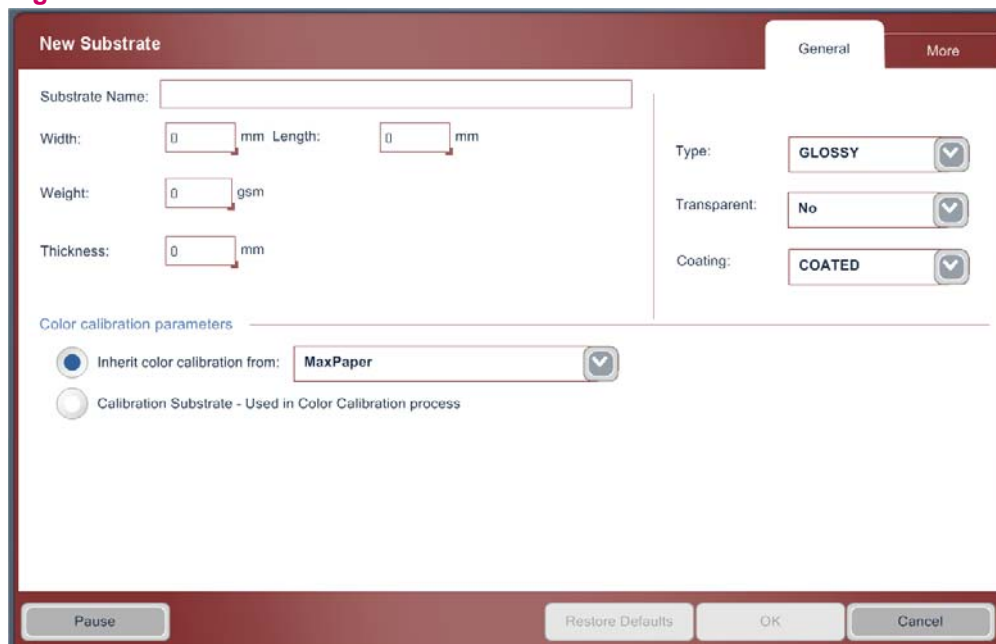
**Figure 7-3** Assign to Drawers window



**To add a substrate that is not listed:**

1. In the *Substrate* window, click the **List** button.
2. In *Substrate List*, click **Properties** and **New** and define the parameters in the *New Substrate* window .

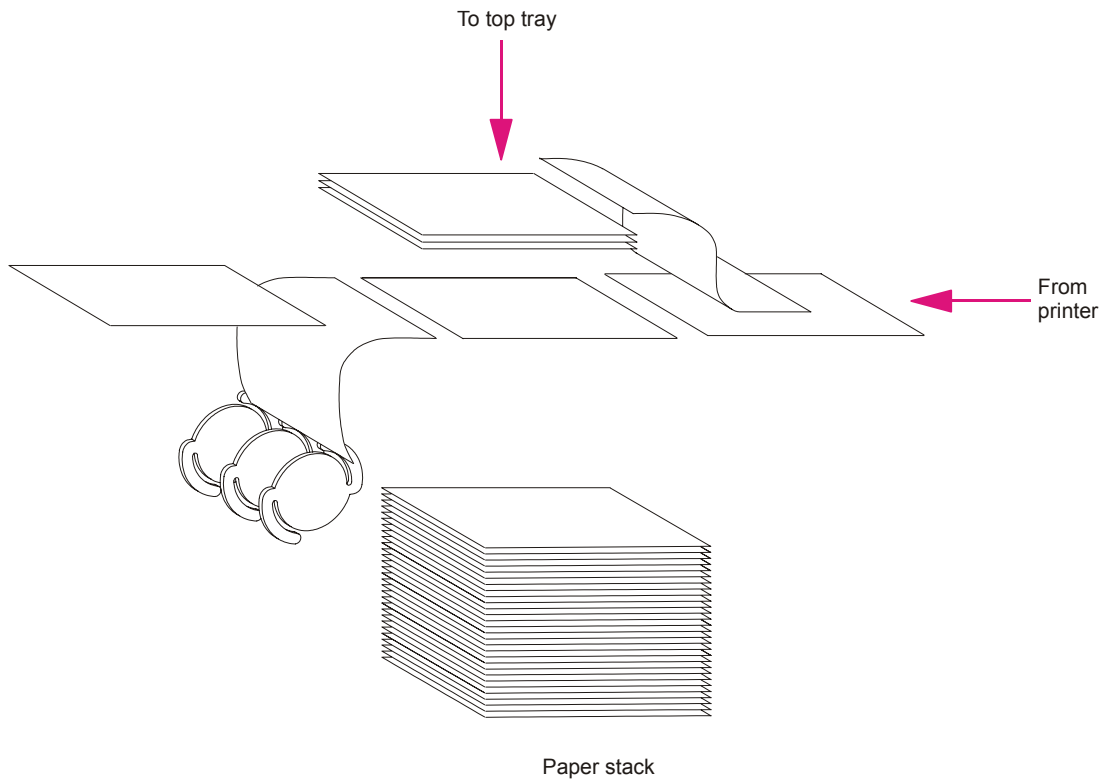
**Figure 7-4** New Substrate window



# Operating and unloading the stacker

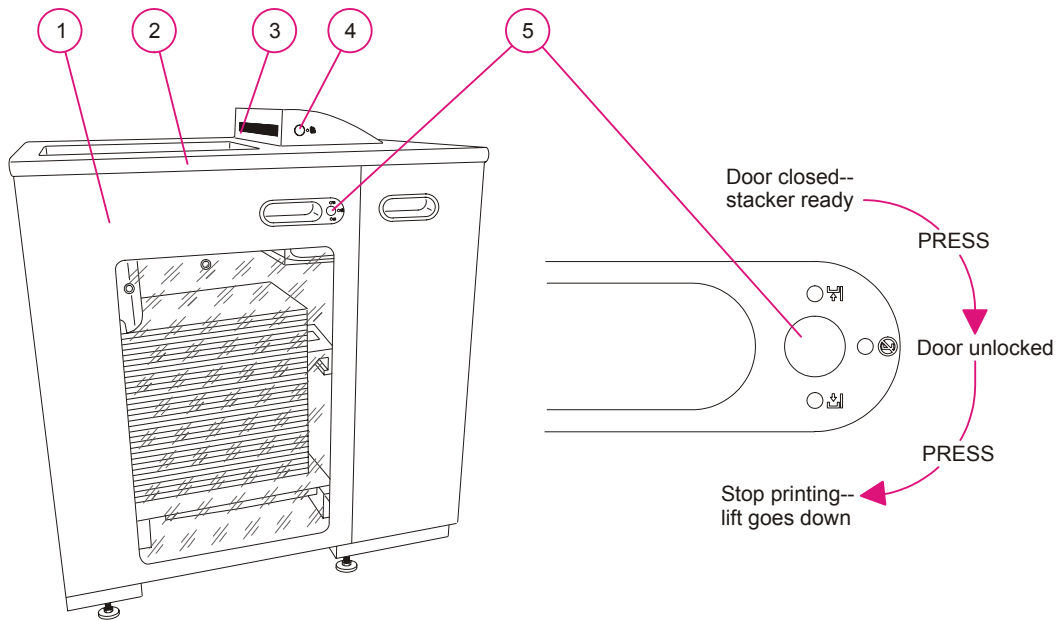
The three substrate paths in a stacker, are shown below.

**Figure 7-5** Substrate transport



Stacker controls are shown below.

**Figure 7-6** Stacker control buttons



1	Door
2	Top cover
3	Sample tray
4	Proof button (by pressing this button, you get a sample sheet from the printer to check printing quality).
5	Door button

**To open the stacker door:**

1. Make sure the top LED is on. This indicates that the stacker is ready (is in operational mode).
2. Press the button once. The middle LED turns on and this unlocks the door.
3. Press the button again. The bottom LED turns on and the elevator is lowered.
4. The LED blinks until the elevator is completely down.
5. Open the door to access to the substrate stack.

**Unloading a substrate stack**

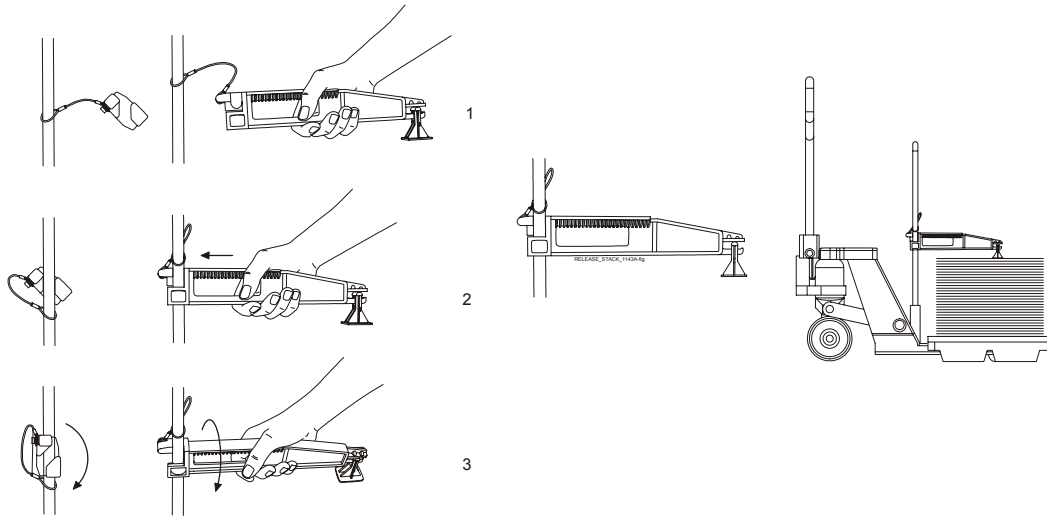
To see a video demonstration of this process, open the relevant window and press Help

**To unload a substrate stack from the stacker:**

1. Open the stacker door.
2. Place the pallet jack below the elevator base in the stacker.
3. Attach the hold-down device.

4. Lift and pull out the stack.
5. Put in the second stacker base and close the stacker door. The elevator will rise to the top of the stacker.

**Figure 7-7** Hold-down device





# Defining stacker options

## Adjusting stacker options

- ▲ From the **Main Menu**, click **Options**, and **Print Preferences** to open the *Print Preference* window.
  - In the *Job Options* tab check **Forced destination**, and click on the desired destination in the stacker schematic:
  - In the *Full Stacker* tab choose:
    - Maximum stacker capacity
    - Full stacker policy options when full
  - In the **Proof and Sample** tab select **Proof to stacker** to send proofs to the stacker instead of the proof tray.
  - In the *Special Jobs* tab choose the destination for the standard special jobs and for the color calibration special jobs.

**Figure 7-8** Print Preference — Job Options

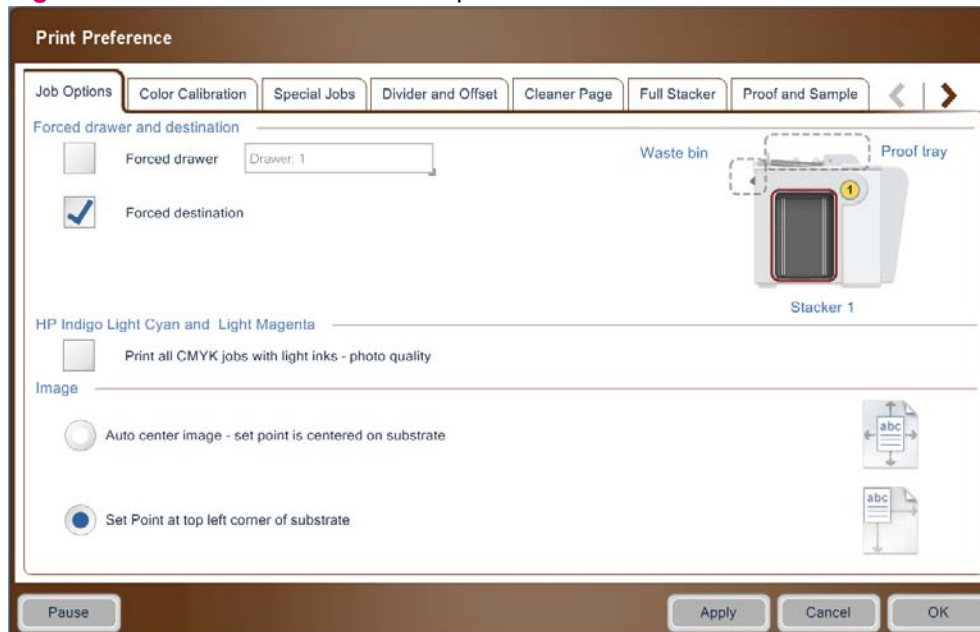
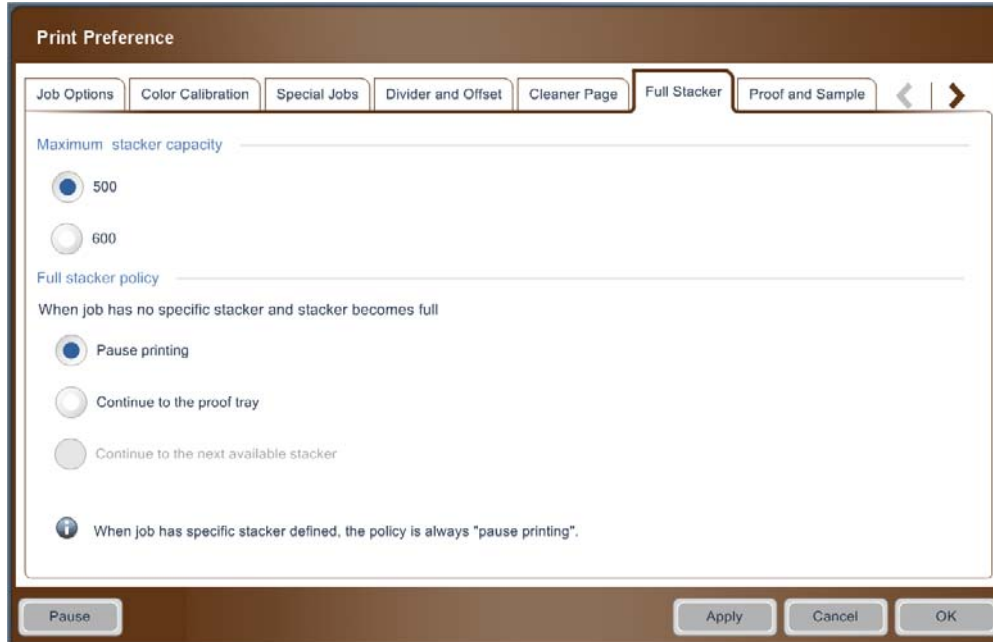


Figure 7-9 Print Preference — Full Stacker



## Clearing substrate jams

A system warning indicator appears on the control panel and a warning symbol appears indicating the location of a substrate jam when it occurs.

Substrate jams can occur:

- In the feeder
  - On the vertical path
  - At the feed head
  - At the bridge
- At the external heating housing
- At the perfector
- At the cleaning station
- Under the air knife
- At the exit blanket ventilation
- At the exit conveyor
- At the stacker bridge and stacker

**Figure 7-10** Substrate jam indicators on the press schematic (1 of 2)



**Figure 7-10** Substrate jam indicators on the press schematic (2 of 2)

## Removing substrate jam on the feeder

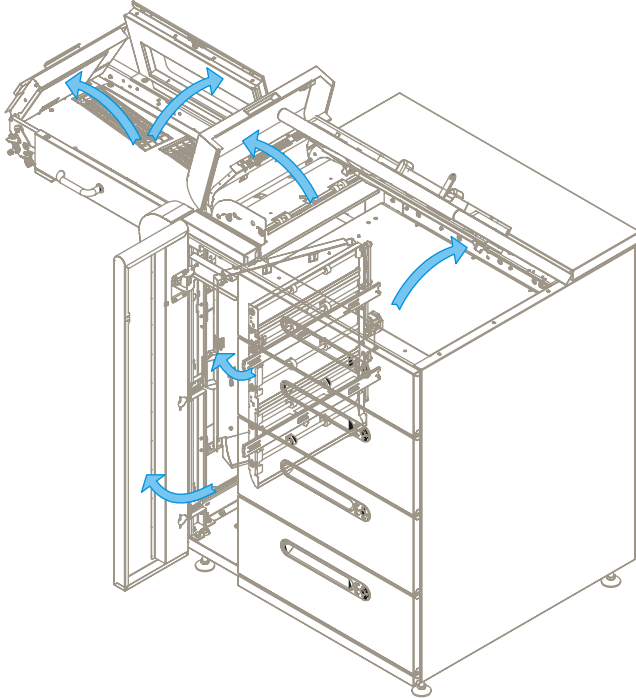
**⚠ WARNING!** Press an **Emergency Stop** button before you try to fix a substrate jam.

To see a video demonstration of this process, open the relevant window and press Help

**To clear a substrate jam from the feeder:**

1. Open the appropriate doors, and if necessary, release the latch on the module to access the interior.
2. Carefully remove the substrate. Slowly pull the edge of the sheet.

**Figure 7-11** Removing substrate jams from the feeder



## Removing a substrate jam at the external heating housing

**To clear a substrate jam at the external heating housing:**

1. Open the press feed door.
2. Open the external heating housing sliding door.
3. Remove any jammed substrate.
4. Close the external heating housing sliding door and the press feed door. .

## Removing substrate jam at the perfector

To see a video demonstration of this process, open the relevant window and press Help

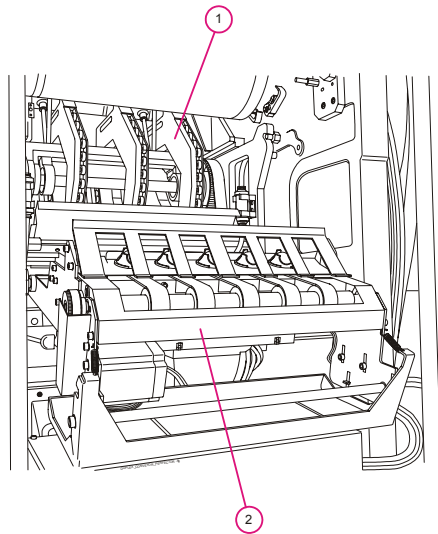
**⚠ WARNING!** Press an **Emergency Stop** button before you try to fix a substrate jam.

**To clear a substrate jam at the perfector:**

1. Open the press lower feed door and lower the duplex conveyor
2. Remove any jammed substrate in the duplex conveyor or perfector.

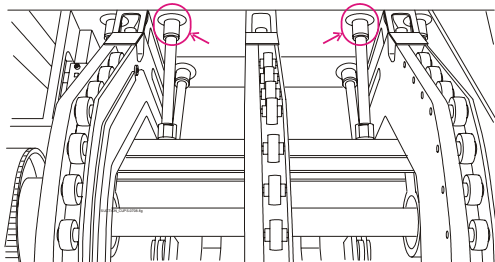
3. Clean and check the eight perfector suction cups, and replace if necessary. Cup holders may be rotated by hand for access.
4. Raise the duplex conveyor and close the press lower feed door.

**Figure 7-12** Duplex conveyor in down position



<b>1</b>	Perfector
<b>2</b>	Duplex conveyor in down position

**Figure 7-13** Perfector suction cups



## Removing substrate jam at the cleaning station

Perform this procedure when a sheet is jammed between the PIP drum and the cleaning station.

Indications that this has occurred are as follows:

- The sheet is not found in the exit conveyor, rotors, perfector, duplex unit, or on the blanket.
- The cleaning station drips imaging oil.
- The PIP is scratched.

**To remove a substrate jam at the cleaning station:**

1. Press an **Emergency Stop** button.
2. Remove the cleaning station blade and cleaning station.

3. Remove the substrate sheet that is jammed between the cleaning station and the PIP drum.
4. Reinstall the cleaning station, and cleaning station blade.
5. Close all doors and release the **Emergency Stop** button.

## Removing substrate shreds under the PTE, exit roller and exit blanket ventilation

Remove substrate shreds from the press when a sheet is torn during a substrate jam.

If you suspect that the whole sheet has not been removed after a substrate jam, check the space between the air knife and the PIP:

1. Press an **Emergency Stop** button and open the front door.
2. Remove the PTE unit.
3. Remove the exit roller and exit blanket ventilation unit.
4. Access the PIP and remove any loose substrate shreds.
5. Re-install the PTE unit, exit roller, and exit blanket ventilation unit.
6. Close all doors and release the **Emergency Stop** button.

## Removing substrate jam at the exit conveyor

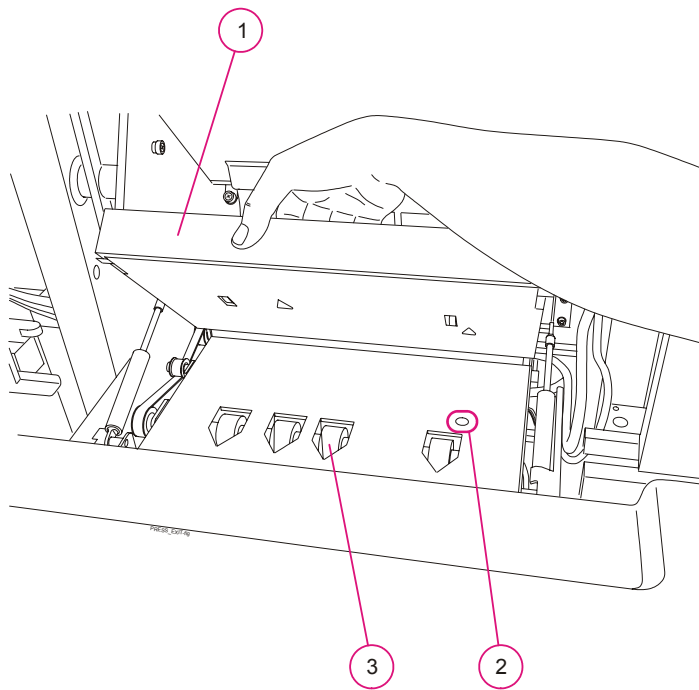
To see a video demonstration of this process, open the relevant window and press Help

**⚠ WARNING!** Press an **Emergency Stop** button before you try to fix a substrate jam.

**To clear a substrate jam at the exit conveyor:**

1. Open the press exit sliding window and lift up the exit cover.
2. Carefully remove jammed substrate.

**Figure 7-14** Exit cover



1	Exit cover
2	Exit sensor
3	Exit rollers

## Removing substrate jam at the stacker bridge or at a stacker

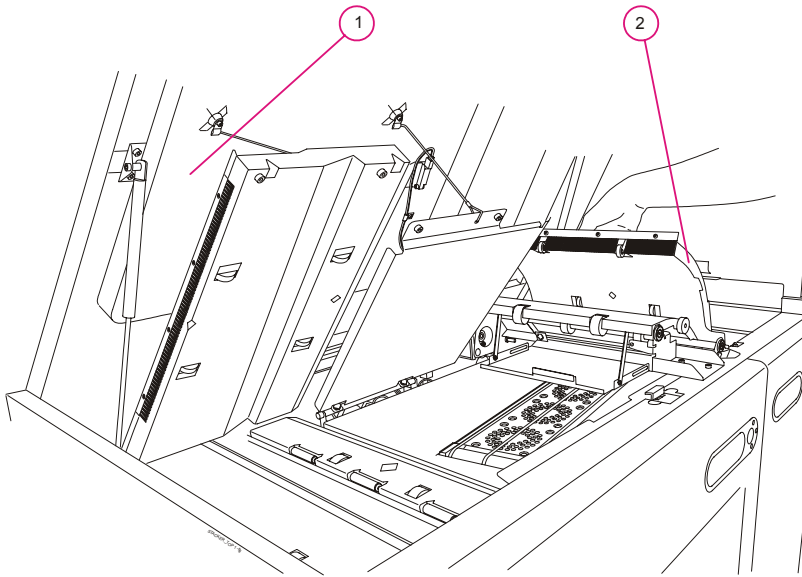
To see a video demonstration of this process, open the relevant window and press Help

**⚠ WARNING!** Press an **Emergency Stop** button before you try to fix a substrate jam.

### To clear a substrate jam at the stacker:

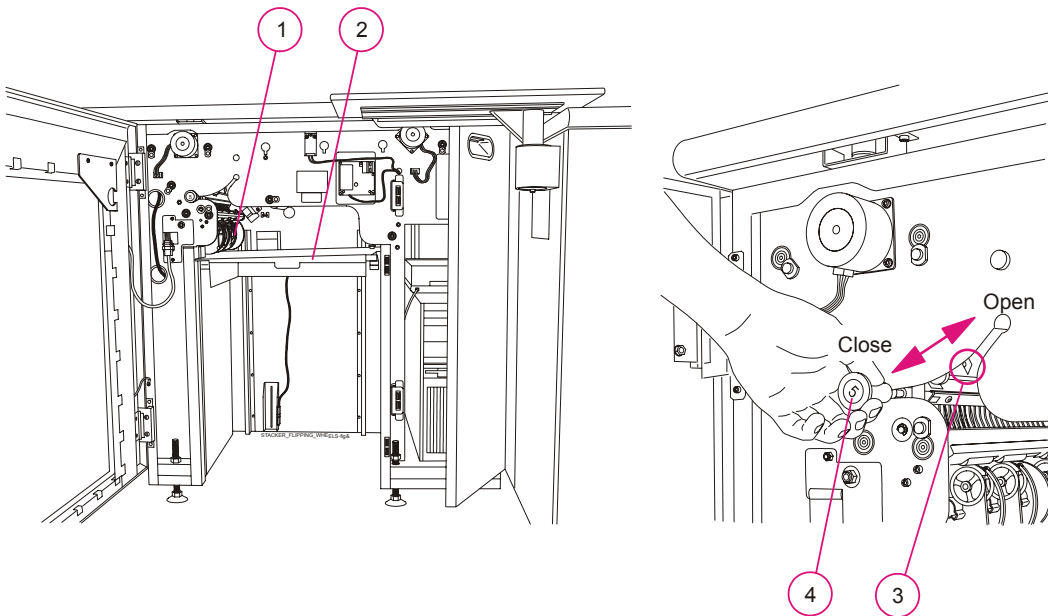
1. Lift up the stacker top cover and the stacker substrate cover,
2. Carefully remove jammed substrate.
3. Open the left front door of the stacker to check the flipping wheels for jams. Pull out, and move the knob to the open position to check for pieces of substrate.

**Figure 7-15** Stacker top



1	Stacker cover
2	Stacker substrate cover

**Figure 7-16** Stacker flipping wheels



1	Flipping wheels
2	Elevator tray
3	Stacker sensor (inside)
4	Knob



# Maintaining the substrate transport system

Clean the substrate path once a week as part of the weekly maintenance routine.

## Cleaning the substrate path

Clean the following parts of the substrate path once a week as part of the weekly maintenance routine:

- Input path
- Printing engine
- Exit path

## Cleaning the input path

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure. Use a lint-free wipe dampened with IPA only for cleaning.

---

To see a video demonstration of this process, open the relevant window and press Help

**To clean the input path:**

1. Go to **Standby** and press an **Emergency Stop** button.
2. Open each feeder drawer and unload the substrate.
3. Clean the bottom of the drawers, then reload the substrate.
4. Clean the vertical path. Thoroughly clean all sensors and rollers, then close the vertical module and its access door.
5. Open the feeder top cover and clean the top of the vertical module, including the rollers.
6. Release the feeder top cover latch, and close the top cover.
7. Open the bridge cover and open the flap in the bridge multi-pick area.
8. Clean the multi-pick area, including all rollers and sensors.
9. Close the flap.
10. Clean the bridge, including the belts, rollers, and sensors.
11. Close the bridge cover.

## Cleaning the printing engine substrate path

To see a video demonstration of this process, open the relevant window and press Help

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure. Use a lint-free wipe dampened with IPA only for cleaning, unless noted otherwise.

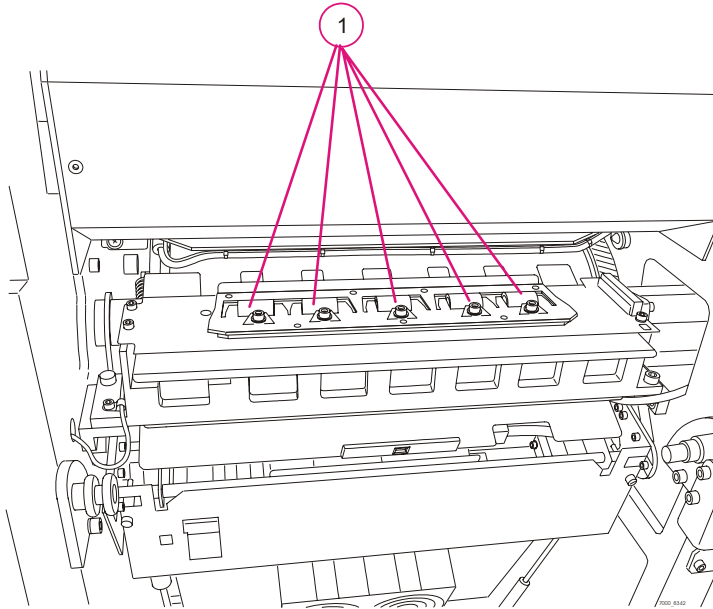
---

**To clean the printing engine substrate path:**

1. Go to **Standby** and press an **Emergency Stop** button.
2. Open the upper feed sliding window, raise the bridge, remove the external heater lamps and external heater cover.

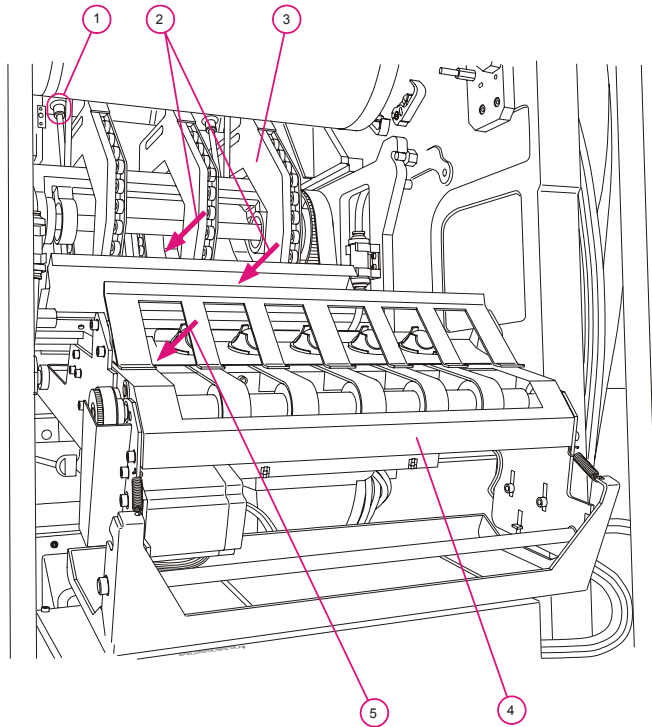
3. Clean the input feed rollers.
4. Clean the sensor using a cotton swab dampened with IPA.
5. Open the press lower feed door, and lower the duplex conveyor.
6. Clean the duplex conveyor, perfector home sensor, and other perfector sensors using a cotton swab dampened with IPA.
7. Clean the perfector and the perfector suction cups.
8. Using the end of a paper-clip, clean the hole in the center of the perfector suction cups.
9. Raise the duplex conveyor and close all doors.

**Figure 7-17** Input feed rollers



<b>1</b>	Input feed rollers
<b>2</b>	Sensor

**Figure 7-18** Duplex conveyor in down position



<b>1</b>	Perfector home sensor
<b>2</b>	Perfector sensors
<b>3</b>	Perfector
<b>4</b>	Duplex conveyor in down position
<b>5</b>	Duplex conveyor sensor (inside hole)

---

# 8 Operator routines

This chapter contains the following sections:

- [Maintenance routines](#)
- [Lubricating the mechanical system](#)

# Maintenance routines

For the press to run smoothly, maintenance routines must be performed periodically. You will be notified to perform maintenance routines based on press utilization.

### To access the routine list:

From the *Main Menu*, select **Maintenance**, then **Maintenance Routines**. The **Maintenance Routines** list opens.

- ⚠ **WARNING!** When you have to disconnect or reconnect a cable during a maintenance procedure, turn off the press main power supply. Lock and isolate the **Main Power** switch in the Off position to avoid inadvertent re-connection.
- ⚠ **CAUTION:** Procedures may require the use of safety gloves and glasses. Unless specified otherwise, put the press in **Standby**, and press an **Emergency Stop button**.

## Using the maintenance routine checklists

Each time the maintenance routine list opens, it provides you with a checklist to remind you of the tasks, which can be displayed from the software.

**Figure 8-1** Maintenance Routine list

#	Item	Impressions to Service
1	Lubrication	500000
2	External Heater	500000
3	Air knife/ PTE	1000000
4	ITM Drum	1000000
5	Charge Roller	500000
6	Charge Roller	2000000
7	Impression drum	500000
8	Paper Transport	500000
9	Paper Transport	500000
10	Ink/Fluids system	2000000
11	Ink/Fluids system	2000000
12	Ink/Fluids system	2000000
13	Ink/Fluids system	2000000

As you perform each procedure, check it off in the box in the left hand column.

To obtain detailed information about a specific routine, press the associated ? icon.

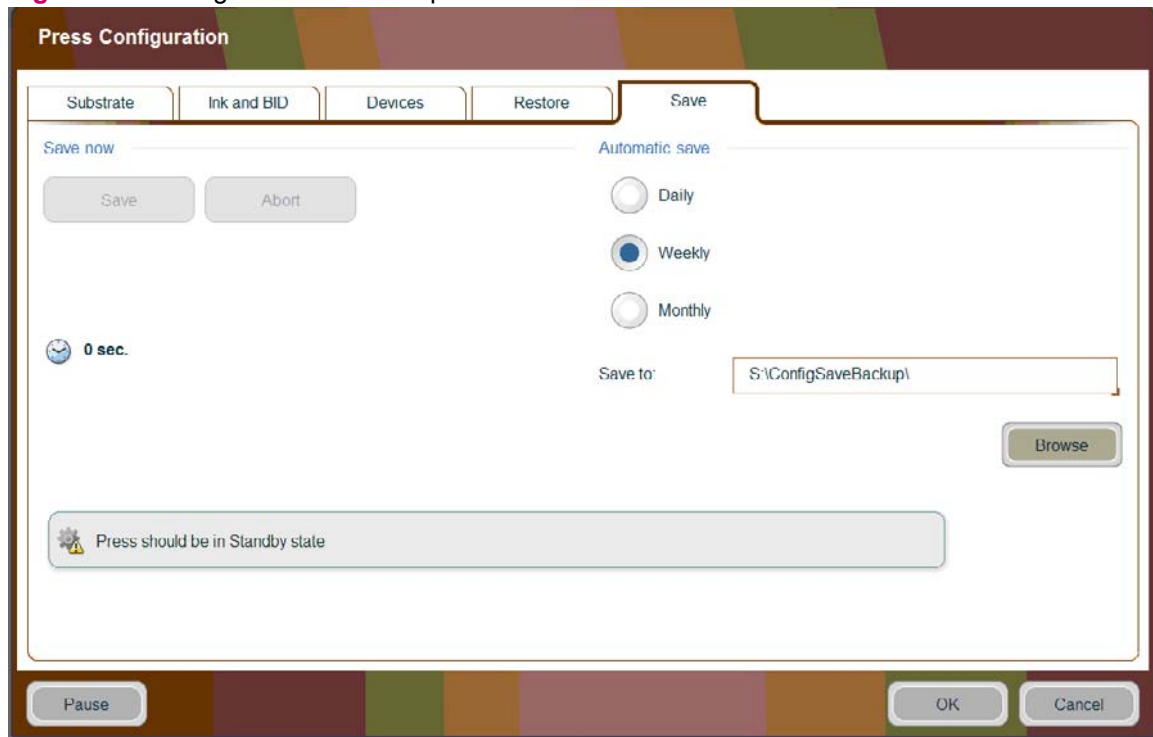
## Configuration file backup

The press configuration files must be backed up as part of the periodic routine.

### To backup the configuration files:

1. Select **Main Menu**, **Options**, and **Press Configuration**. The **Press Configuration** window opens.
2. In the **Save** tab, select **Weekly Automatic** save.
3. Click **Browse** and select a save location. You should save to an external drive to ensure safekeeping of the data.
4. To save the configuration now, click **Save**.

**Figure 8-2** Configuration file backup



## Practical tips for performing maintenance routines

### Protecting substrate

Before you perform any procedure, place absorbing paper on the substrate to protect it from moisture.

### IPA contamination

The press inks are highly sensitive to IPA contamination.

- When you use IPA for cleaning, always take special precautions not to contaminate the ink with even small amounts of IPA.
- IPA can radically change the conductivity and electrical parameters of the ink.
- If you suspect contamination, flush out the ink thoroughly and replace with new ink.
- Whenever you use IPA, wait two to three minutes before you proceed to allow the IPA to completely evaporate. If you cannot make a visual check, use your finger to feel for any dampness.

## Water contamination

- The inks used in the press are highly sensitive to water contamination. The press cooling system uses water.
- Take special precautions not to contaminate the ink with even small amounts of water.
- Water can radically change the conductivity and electrical parameters of the ink.
- If you suspect contamination, flush out the ink thoroughly and replace it with new ink.

## PIP protection

The PIP is extremely sensitive to light. Make sure that you dim the lights in the operating area. Take extra precautions when you open the input doors.

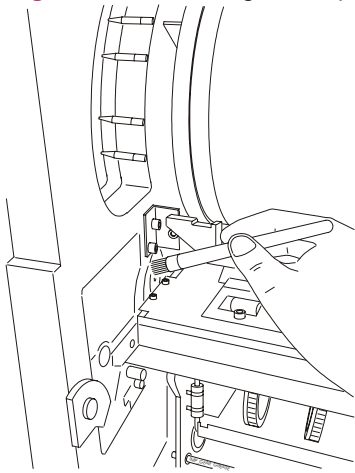
# Lubricating the mechanical system

The mechanical system is lubricated automatically. There is one lubrication point that must be lubricated manually weekly. Components that are lubricated at proper intervals last much longer, and therefore require less frequent replacement.

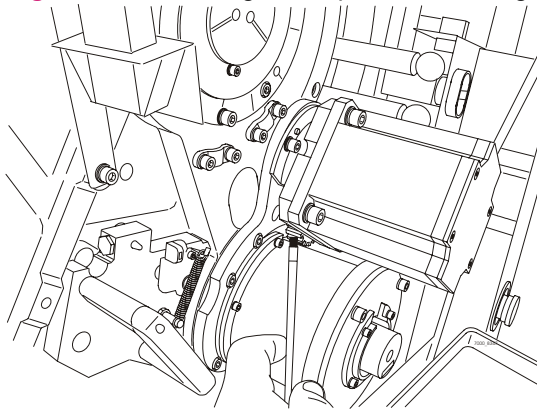
- △ **WARNING!** Before lubricating the press, shut down the system and lock the main power switch. If the press is not equipped with a lockable isolated switch, pull the plug off and tag it.
- △ **CAUTION:** Only properly trained personnel who are thoroughly familiar with all of the safety and maintenance procedures should lubricate the press. Wear safety glasses and gloves for this procedure.

To see a video demonstration of this process, open the relevant window and press Help  
Use BG-87 Molykote grease or equivalent for drum gear lubrication.

**Figure 8-3** Greasing the Impression drum gear



**Figure 8-4** Greasing the Impression drum gear from the press front



- 📝 **NOTE:** Do not over-apply grease on the impression drum gear. Wipe away any excess grease.

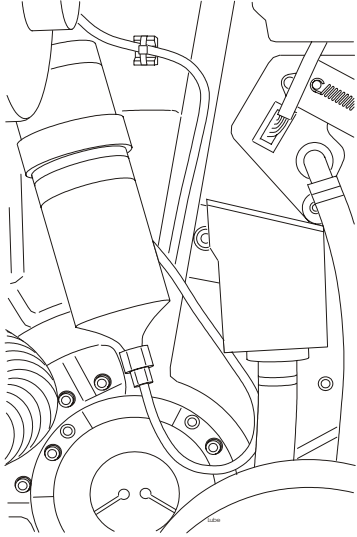
## Replacing the lubrication can

The lubrication can is located in the rear of the press. Replace it when it is empty.

- △ **WARNING!** Turn off the **Power Enable** switch before performing this procedure.



**Figure 8-5** Lubrication can at press rear



---

# 9 Ink system

This chapter contains the following sections:

- [Overview](#)
- [Replacing ink cans](#)
- [Rebuilding the ink in a tank](#)
- [Draining ink tanks](#)
- [Cleaning the ink pumps](#)

# Overview

HP ElectroInk, the ink used by the press, is mixed on the press from three components: imaging oil, imaging agent, and ink concentrate.

To ensure consistent printing quality and smooth press operation, the press monitors the following ink characteristics:


- Density (concentration of pigment particles in the ink)
- Conductivity (the adherence capacity of ink to the image areas and its repulsion from non-image areas)
- Temperature (determines adherence of ink capacity to the substrate)
- Ink levels

When the ink characteristics approach the specification limits, the press system displays a warning message. If you ignore the warning, and the ink characteristics slip outside the limits, the press changes to the Standby state.

Perform the following activities to ensure correct operation of the ink system.

- Replace ink cans :
  - When ink concentrate can is empty
  - To change the color in an ink tank
- Rebuild ink:
  - When changing color in an ink tank
  - If you suspect contamination
  - To correct print quality issues
- Drain ink tanks:
  - When changing color in an ink tank
  - Before long-term shutdown
  - In case of ink overflow
- Add imaging agent to adjust ink conductivity
- Clean the ink pumps according to the frequency shown in the maintenance routines.

---

 **NOTE:** The inks used in the press are highly sensitive to IPA contamination which can radically change the conductivity and electrical parameters of the ink.


When cleaning with IPA, always take special precautions not to contaminate the ink.

If you suspect contamination, thoroughly flush the ink from the system and replace it with fresh ink.


# Replacing ink cans

Replace an ink can when:

- An ink concentrate can is empty, as indicated by a message displayed by the software.
- When you want to change the color of ink in an ink tank.

 **NOTE:** Flush the ink tank before changing the ink color

Ink can replacement can be performed while the press is printing.

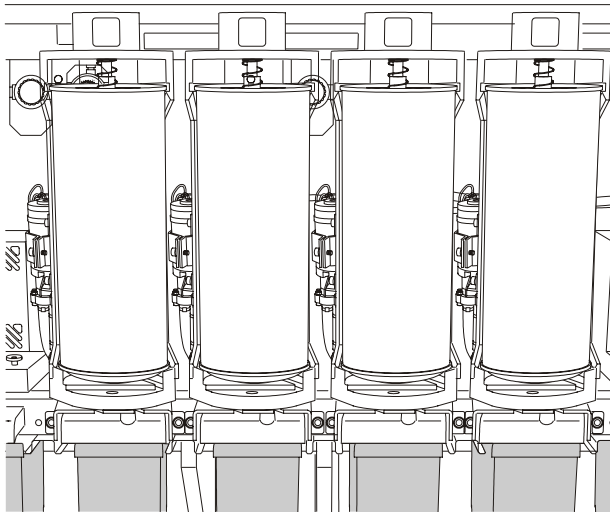
 **CAUTION:** Wear safety glasses and ink resistant gloves for this procedure.

To see a video demonstration of this process, open the relevant window and press Help

## To replace an ink can:

1. Open the ink cabinet door.
2. In the ink cabinet, pull the bottom end of the empty ink concentrate can out, and lift it up.

**Figure 9-1** Ink can replacement




3. Shake a new can of HP ElectroInk and remove the foil from the can.
4. Insert the new can in the holder with the nozzle down. Fit the nozzle in the O-ring in the base until the can clicks into place.
5. Your system updates automatically when you install a new can.

# Rebuilding the ink in a tank

Rebuild the ink in a tank when:

- You change color in an ink tank
- You suspect ink contamination
- To correct print quality issues

---

 **NOTE:** If the ink tank is not empty and clean, drain and clean it using this procedure.

 **CAUTION:** Wear safety glasses and ink resistant gloves for this procedure.

---

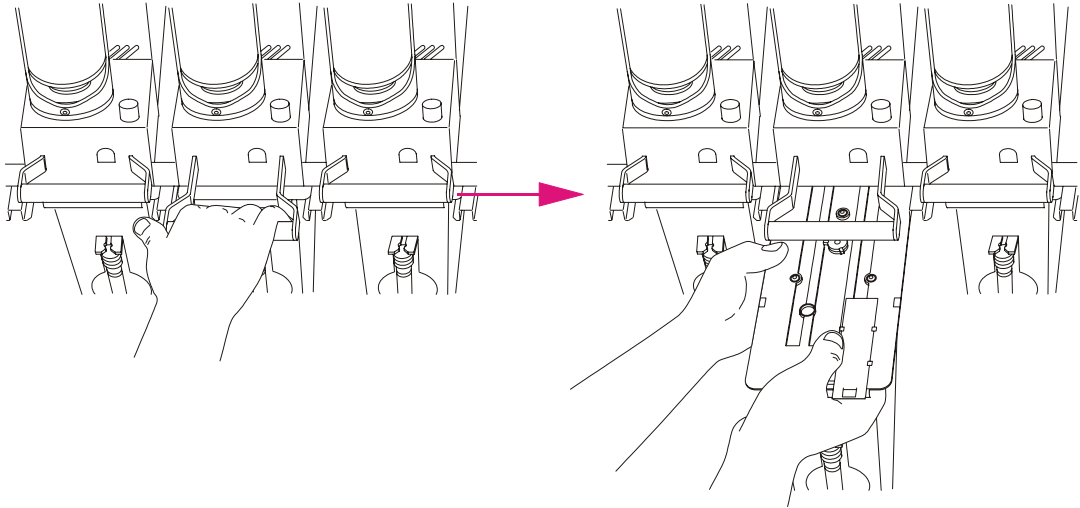
To see a video demonstration of this process, open the relevant window and press Help

## To build a new ink:

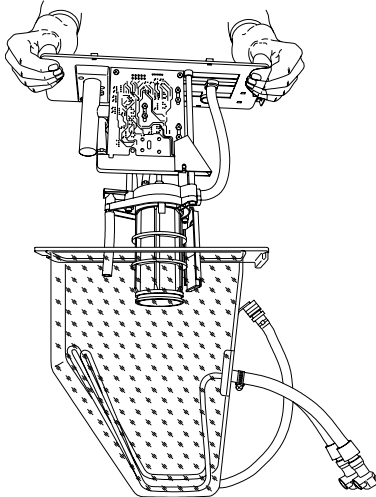
1. Place the press in **Standby** mode and press an **Emergency Stop** button.
2. Drain the ink from the tank (see [Draining ink tanks on page 98](#)).
3. Disconnect the two water connections.
4. Remove the ink tank from the ink cabinet.

5. Remove the ink pump from the ink tank (see [Figure 9-3 Ink pump removal on page 97](#) on page 115)

**Figure 9-2** Removing the ink tank



**Figure 9-3** Ink pump removal



6. Fill the tank with 3.8 liters (1 gallon) of imaging oil. Make sure 0.3 liters (0.08 gallons) of imaging oil remain in the fill container.
7. Reinsert the ink pump into the ink tank.
8. Reinstall the ink tank, and make sure the motor is attached (handle is pushed back completely). Reconnect the two water connections. and close the ink cabinet door.
9. Release the **Emergency Stop** button.
10. From the Main Menu, select **Ink and BID**.
11. In the **Ink and BID Panel**, select **Build Ink**.
12. Follow the wizard instructions.

# Draining ink tanks

Drain the ink tanks when changing color in an ink tank, before a long-term shutdown, or in case of ink overflow.

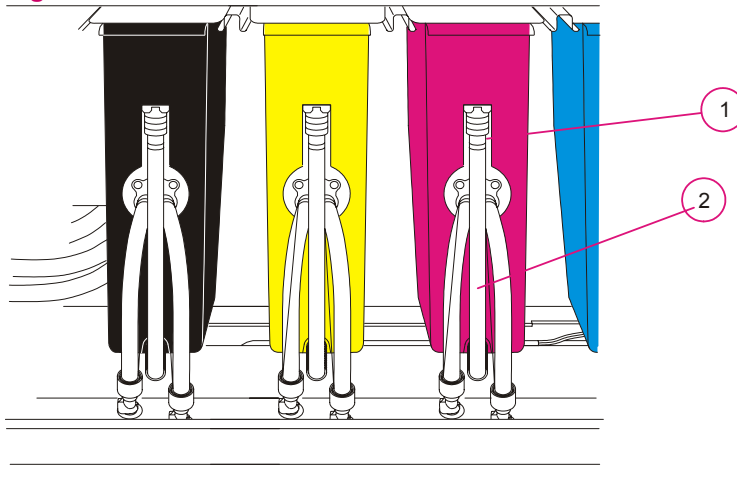
△ **CAUTION:** Wear safety glasses and ink resistant gloves for this procedure.

To see a video demonstration of this process, open the relevant window and press Help

## To drain the ink tanks:

1. Make sure that you have a used imaging oil container for drained ink for each tank you plan to drain — each tank contains 3.8 liters (1 gallon) of ink.
2. Place the press in **Standby** mode and press an **Emergency Stop** button.
3. Using the flexible drain hose for the ink tank, drain the contents into the waste container.

**Figure 9-4** Drain hose



1	Drain hose cap
2	Ink tank drain hose

4. When finished, place the hose back on the ink container, screw the cap in place, and close the BID hose connector.
5. Dispose of ink in accordance with your local waste disposal requirements. Drained ink that is not contaminated can be stored in sealed containers for later use.
6. When preparing for a long shutdown (more than four days), remove the ink tank. Wash the ink tank and ink pump in the BID Washer basin or cleaning station.

# Cleaning the ink pumps

Clean ink pumps when prompted or as shown in the maintenance routines.

To see a video demonstration of this process, open the relevant window and press Help

Make sure to have the following items before performing this procedure:

- Wastebasket or tray lined with plastic liner to hold the ink pump unit
- Wash basin
- Fine cleaning brush
- Density sensor cleaning paper

---

△ **CAUTION:** Wear safety glasses and ink resistant (nitrile) gloves for this procedure.


---

**To clean the ink pump:**

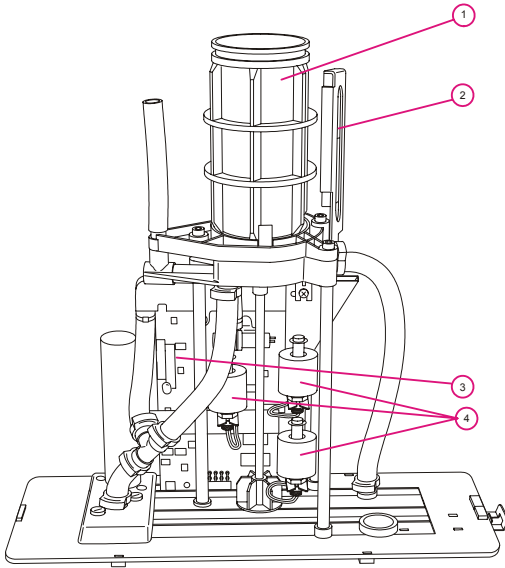
1. Go to **Standby**, and press an **Emergency Stop** button.
2. Disconnect the two water connections.
3. Remove the ink tank from the ink cabinet ([Figure 9-2 Removing the ink tank on page 97](#)).
4. Remove the ink pump from the ink tank (see [Figure 9-3 Ink pump removal on page 97](#) on page 115)



5. Place the ink pump in the wash basin or in a plastic-lined tray.

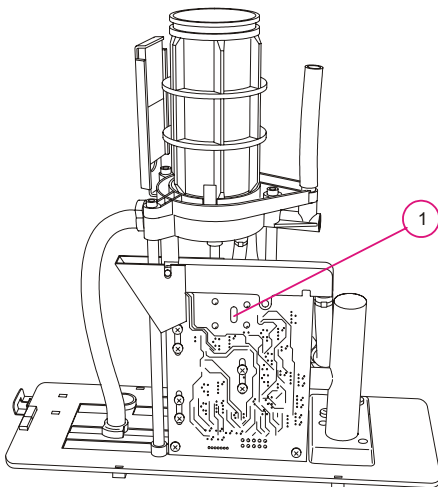
 **NOTE:** Do not remove the filter from the pump. The plastic holder can break.

**Figure 9-5** Ink pump



1	Filter
2	Magnets
3	TCU board
4	Level sensors

**Figure 9-6** Ink pump density sensor



1	Density sensor
---	----------------

6. Clean the filter, magnets, and other area of the pump using imaging oil:
  - Use a nylon brush to clean the inside of the ink outlet.
  - Use clean imaging oil to remove the ink waste.
  - Clean the density sensor slit with density sensor cleaning paper.
  - Clean the sensor with imaging oil and a nylon brush.
7. Reinstall the ink pump unit into the ink tank, and reinstall the ink tank into the press.
8. Connect the two water hoses.
9. Release the **Emergency Stop** button.



---

# 10 Binary ink developer (BID)

This chapter contains the following sections:

- [Overview](#)
- [Replacing the BID](#)
- [Adjusting the BID engage and disengage angle](#)

## Overview

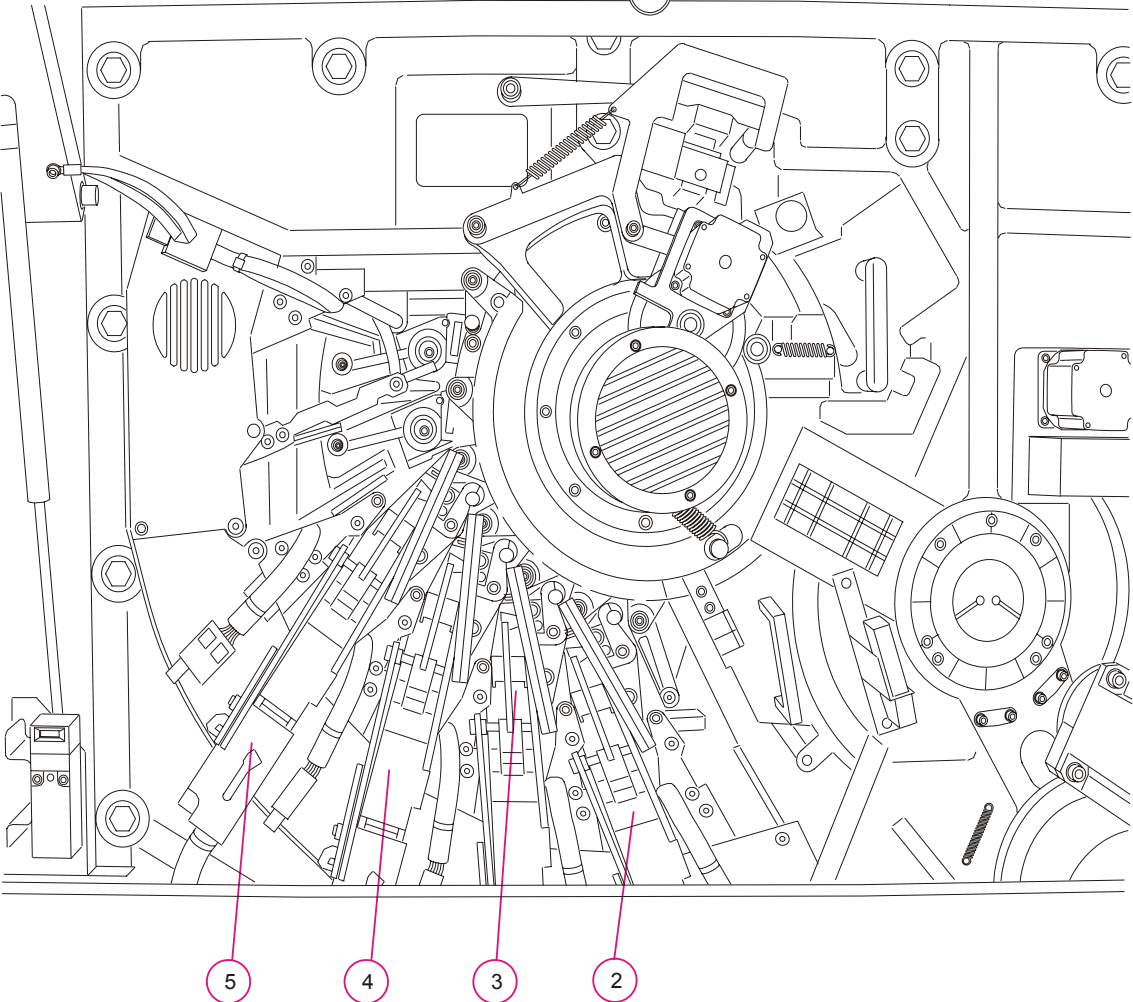
The press uses binary image development (BID) in the image generation process. The press builds ink inside the BID and transfers the ink to the image areas on the PIP. The excess ink flows back into the BID and out to the ink tank. Each BID participates in the generation of a different separation, although the units are identical.

- Replace the BID when:
  - Image quality deteriorates
  - Change of ink color is required
- You can reuse a BID if you changed an ink color and you are then changing back to the original ink color.
- Adjust the BID engage and disengage angles when:
  - A full printed image is not obtained on the leading edge or the trailing edge.
  - A single inkless patch appears in the 25 mm (1 inch) strip of the sheet's leading edge.

Use the BID troubleshooting guide to determine and correct the cause of print quality issues related to the BID.

The seven BID stations are numbered from 1 to 7, and their color associations are shown below.

**Figure 10-1** BID stations



<b>1</b>	Cyan
<b>2</b>	Magenta
<b>3</b>	Yellow
<b>4</b>	Black

## Replacing the BID

Replace the BID station when the following occurs:

- Image quality deteriorates
- Change of ink color is required

The following items are needed for this procedure:

- A new BID
- BID stand
- 3-mm Allen key
- Lint-free wipe
- Imaging oil

After you have replaced the BID, return the old BID to HP Indigo - see [Returning a BID on page 109](#).

## Removing a BID

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△ **CAUTION:** Wear safety glasses and gloves for this procedure.

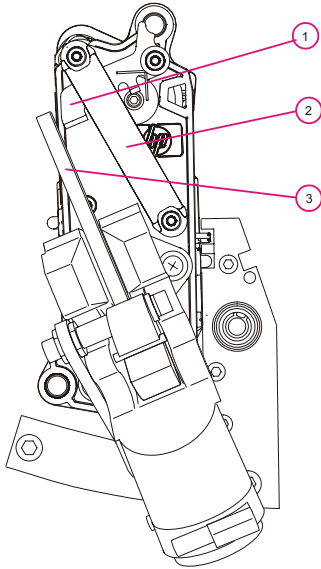
---

To see a video demonstration of this process, open the relevant window and press Help

**To remove a BID:**

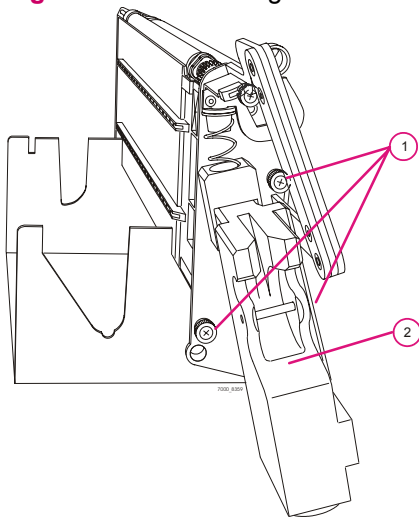
1. Go to **Standby**.
2. Open the Ink and BID panel, then select *Dry BID* to open the Dry BID wizard. Select the BID(s) to remove, and dry the BID(s).
3. Press an **Emergency Stop** button and open the printing engine front door.
4. Pull down the BID hose connector handle and push the BID latch down to release the BID. Pull out the BID unit using the BID handle.
5. Remove the BID fitting from the BID, and set it on the work table or a BID stand. Clean the BID fitting with a dry, lint-free wipe.

**Figure 10-2** Removing the BID



1	BID latch
2	BID handle
3	BID hose connector handle

**Figure 10-3** Removing the BID fitting



1	Screws fasten BID fitting to BID housing
2	BID fitting

## Installing a new BID

△ **CAUTION:** Wear safety gloves for this procedure.


To see a video demonstration of this process, open the relevant window and press Help



### To install a new BID:

1. Remove the new BID unit from its package and place it on a BID stand.
2. Remove the covering paper from the top of the BID.
  - Use only your fingers to remove the protective paper sheet!
  - Use a 3-mm Allen key to turn the roller and remove the protective paper ([Figure 10-4 Removing the developer protective cover on page 109](#)).
  - Keep rotating the developer until you have removed the protective cover completely.
3. Clean the developer roller using a lint-free wipe dampened with imaging oil. Keep rotating the developer until its surface is clean.
4. Attach the BID fitting to the BID unit using the three screws.
5. Insert the BID into the press.
  - Make sure that the BID rail and pins fit into the housing slots. There are three slots, for the rail, for the pin on the right side of the BID, and for the pin on the left side.
  - Be careful not to scratch the PIP drum with the BID pins
  - Make sure that the BID pushed all the way into position.
6. Pull up the BID hose connector handle to lock the fluid connections to the BID.
7. Close the front door and release the **Emergency Stop** button.
8. Open the *BID Units* window, and select the **Replace BID Unit** tab.
9. Select the relevant BID unit and click **Replace**. Enter the **relevant information** in the window.
10. Put the press in **Ready** mode.

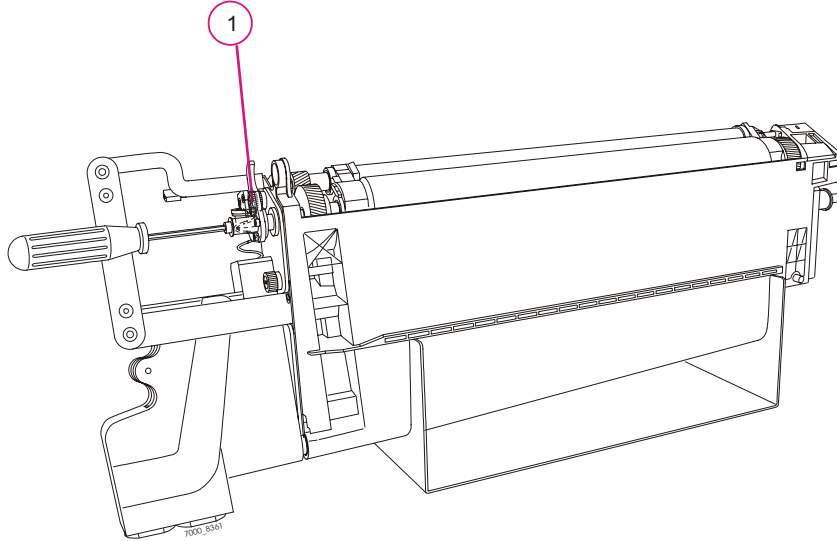
---

 **NOTE:** The newly installed BID will automatically rotate for three minutes after installation when the press is turned on. This process, called BID conditioning, prepares the BID for printing.

---

11. After replacing the BID:
  - Perform the Custom Color Adjustment wizard and include the Velectrode calibration procedure.
  - Return old BIDs and the BID Return form which came in the BID package to your customer care center.

**Figure 10-4** Removing the developer protective cover



- 1** Insert an Allen key here and turn clockwise
- 

## Returning a BID

Return a BID to HP Indigo when you have to remove it because of image quality deterioration.

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

### To return a BID:

1. Remove the BID (See [Removing a BID on page 106](#)).
2. Insert the BID in the plastic bag provided. Seal the bag.
3. Place the bag in the BID box.
4. Put in a printed sample of the problem in the box, if available.
5. Put the second styrofoam piece over the BID.
6. Put the completed BID Return Feedback Form into the BID box.
7. Close and seal the box.
8. Return the box to HP Indigo using the Return Materials Application (RMA) procedure.

## Adjusting the BID engage and disengage angle

During printing the BID pushes against the PIP and then disengages. The BID to PIP engagement time must be long enough to cover the maximum image length (465.6 mm, 18.3 inches).

Each BID unit should be adjusted individually because the angle between the BID and the PIP drum varies from one unit to another.

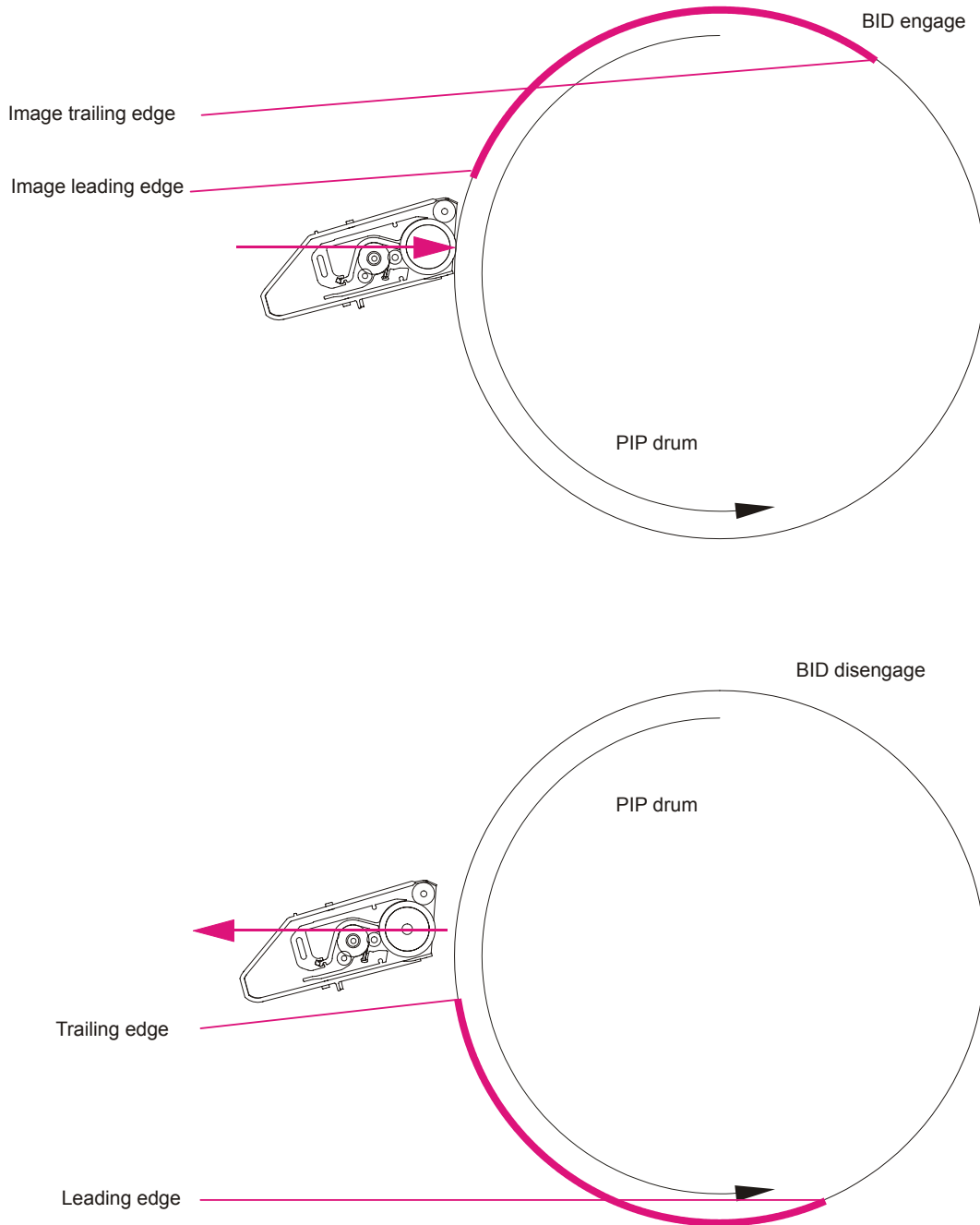
The BID engage angle must allow the image leading edge to be 10 mm (0.39 inch) from the sheet's leading edge.

The BID disengage angle should allow the image trailing edge to be 460 mm (18.1 inches) from the sheet's leading edge.

Perform a BID engage/disengage calibration when:

- A full printed image is not obtained on the leading edge or the trailing edge.
- A single inkless patch appears in the 25 mm (1 inch) strip of the sheet's leading edge.

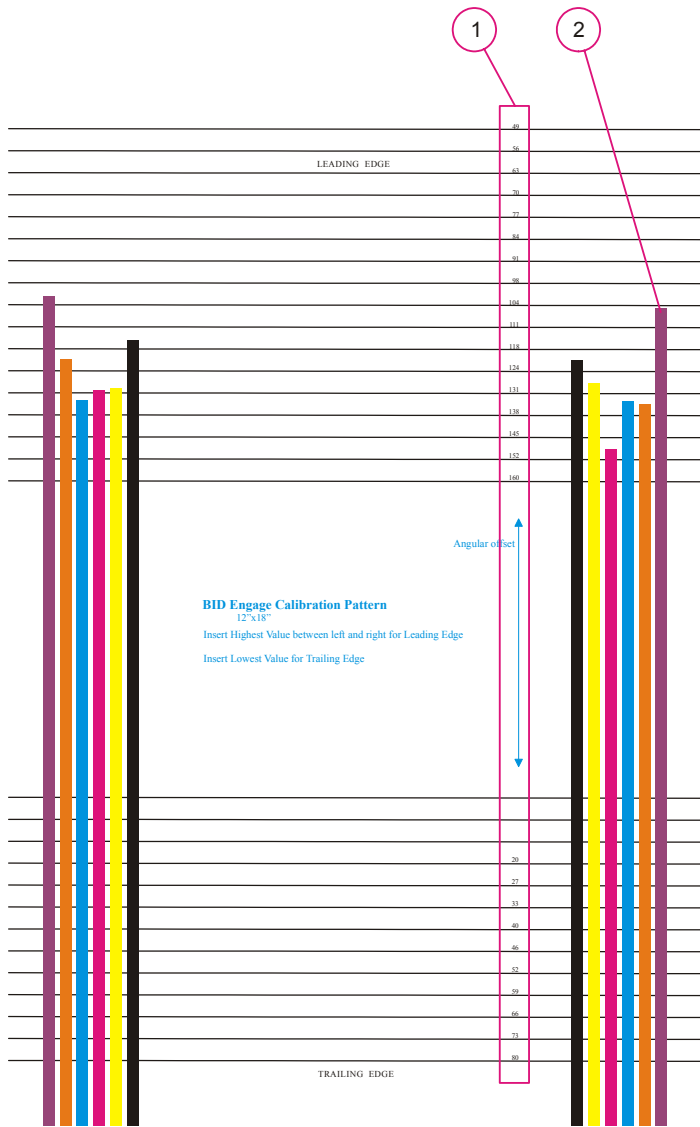
**Figure 10-5** BID—PIP engage/disengage



**To adjust the BID engage/disengage angle:**

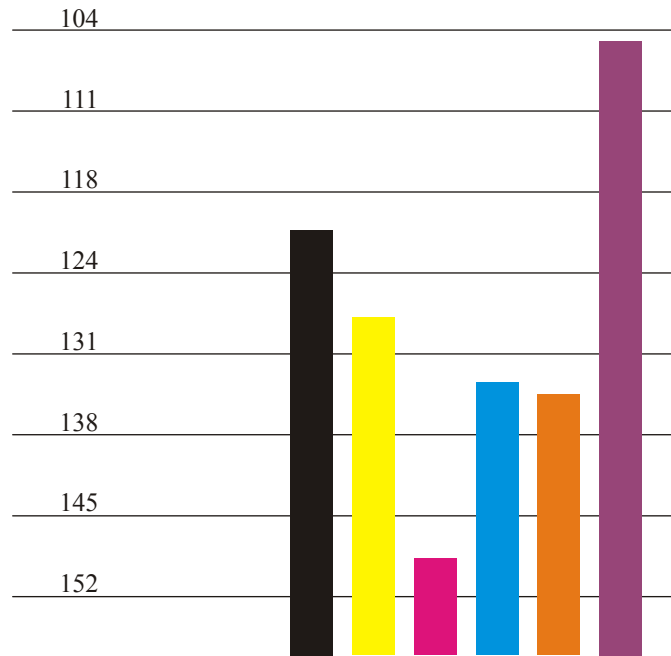
1. On the control panel Main Menu, select Ink and BID to open the Ink and BID panel. .
  - If the leading edge is uneven, select **Leading Edge Engage**.
  - If the trailing edge is uneven, select **Trailing Edge Engage**.
  - If both Leading and Trailing edge are uneven, select **Full BID Engage**.
2. Proceed according to the instructions in the wizard.
3. When two BID engage test jobs are printed. Evaluate the first copy.
4. In the *Analyze* window, enter the higher values for the color bars in the appropriate fields.
  - There are two bars for each color.
  - Enter the rear side and front side values in the appropriate fields.
5. Click **Print** and proceed according to the wizard instructions.
6. When the BID engage calibration verification job is printed, Evaluate the first copy. Color bars of the same length (465.6 mm, 18.3 inches) indicate correct engage calibration for all the BID units

**Figure 10-6** Analyzing the leading edge



1	Value field
2	Enter this value

**Figure 10-7** Leading edge values in detail



In the *Analyze* window, enter the higher value of the adjusted BID color bar.

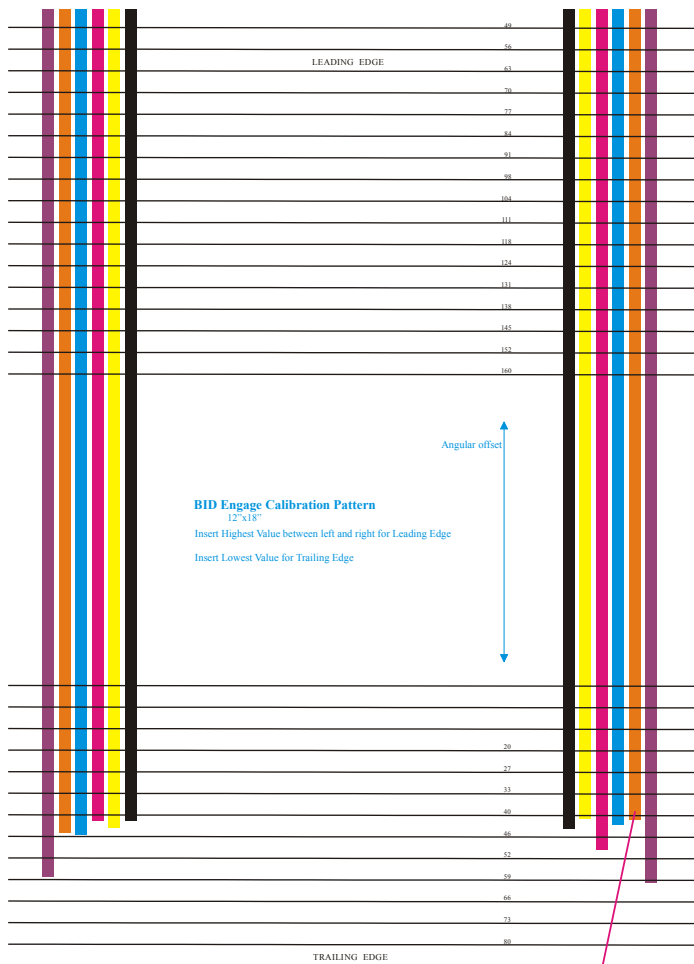
---

 **NOTE:** Different test jobs are printed for BID engagement at the leading edge and for BID disengagement at the trailing edge.

---

- When adjusting the trailing edge, enter the rear side and front side values in the appropriate field. .

**Figure 10-8** Analyzing the trailing edge

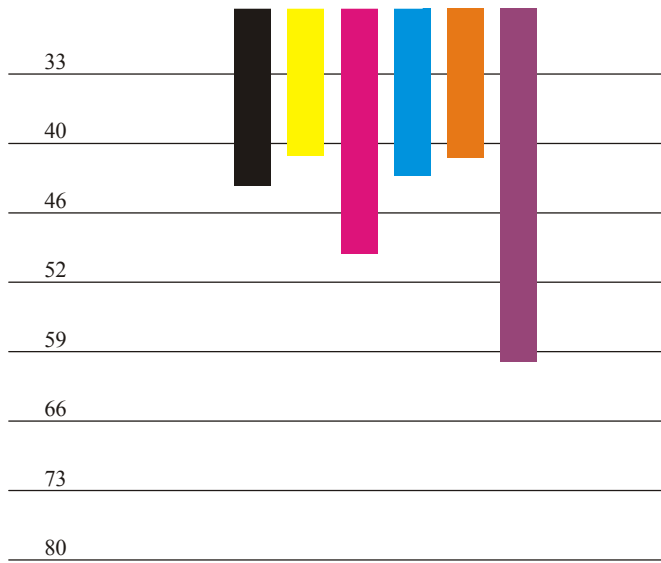


1

Enter this value

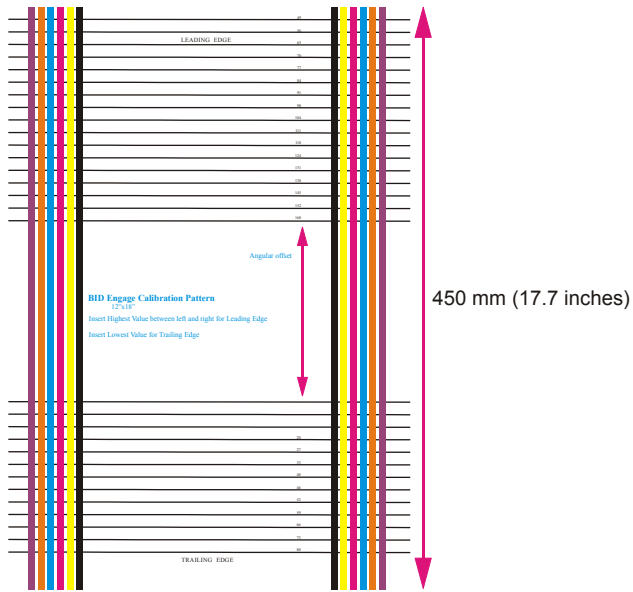


**Figure 10-9** Trailing edge values in detail



In the *Analyze* window, enter the higher value of the adjusted BID.

**Figure 10-10** BID engage calibration verification job



Color bars of the same length (469 mm) are an indication of a well-adjusted BID engage/disengage.

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# 11 Blanket

This chapter contains the following sections:

- [Overview](#)
- [Replacing the blanket](#)
- [Cleaning the blanket](#)
- [First transfer calibration](#)
- [Cleaning the ITM area](#)

## Overview

The press blanket transfers ink from the photo-conductive image plate (PIP) to the printed substrate.

At the end of each machine revolution, both the PIP and the blanket are completely clean and ready for the next separation.

Always clean off ink residue and remove all substrate shreds as soon as they are detected.

Replace the blanket when:

- It is damaged
- Parts of the image are missing on the printed output.

In some cases you may be able to clean or recover the blanket surface - See [Cleaning the blanket on page 122](#).

Clean the ITM area weekly or whenever you clean, recover, or replace a blanket - See [Cleaning the ITM area on page 128](#).


# Replacing the blanket

To replace the blanket:


- Remove the old blanket
- Install the new blanket
- Perform first transfer pressure calibration


To see a video demonstration of this process, open the relevant window and press Help

## Removing the old blanket

 **NOTE:** Check the condition of the impression paper whenever the blanket is replaced. Replace it if necessary.

Always use the inch-safe method when rotating drums.

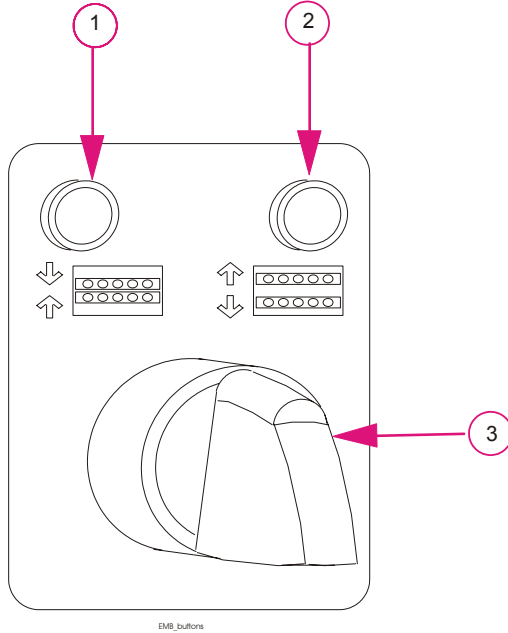
 **WARNING!** The ITM drum is very hot and can burn you if touched. Always allow the drums to cool before handling the blanket.

 **CAUTION:** Wear safety glasses and thermal gloves for this procedure.

1. Go to **Standby**.
2. On the press software, select **Main, PIP and Blanket**, then **Blanket Replacement**. The **Blanket Replacement Wizard** opens
3. Use the barcode reader to read the label on the new blanket wrapper. Enter the reason for blanket replacement and click **Next**.
4. In the touch screen, click the **Prepare** button, and wait until the temperature is 60 °C (140 °F) or less before proceeding; or click **Next** if you are using thermal safety gloves and do not want to wait for the drum to cool.
5. Access the blanket area, open the upper feed door, lift the feeder bridge, and open the external heating housing door.
6. Press the Inching button to advance the ITM drum until the green light on the EBM control turns on. The ITM drum stops turning at this point, even if you keep pushing the Inching button.


- Turn the EBM knob clockwise to open the EBM mechanism. The ITM drum locks in its home position. The EBM mechanism releases the blanket.

**Figure 11-1** EBM buttons




- |   |   |
|---|---|
| 1 | Green light — When lit — ITM in home position.  |
| 2 | Yellow light — When lit — ITM is locking  |
| 3 | Turn counter-clockwise to close the EBM mechanism<br>Turn clockwise to open the EBM mechanism |

- Remove the blanket leading edge clips from the ITM drum. If you are using thermal gloves, use an Allen key to pull the clips from the drum.
- Turn the EBM knob counter-clockwise to close the EBM mechanism
- Using the **Inching** button, rotate the ITM drum and peel the blanket from the drum. When the EBM mechanism comes into view and the green EBM light turns on, stop inching, and remove the trailing edge blanket clips from the ITM drum.

 **NOTE:** Do not pull at the blanket to release it from the drum. Remove the blanket at the same rate as the drum rotation

- Dispose of the used blanket in accordance to your local regulations.

 **WARNING!** Do not put hands on the drum while inching.

## Installing a new blanket

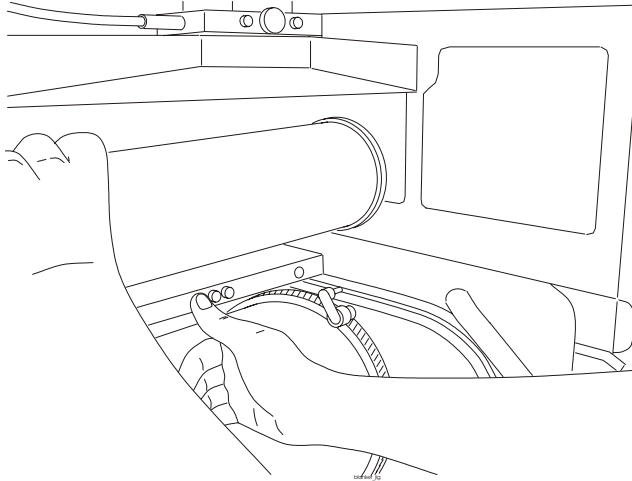
 **NOTE:** Install a new blanket only after you have removed the old blanket.

Make sure the ITM drum is clean and dry before installing a new blanket.

Always use the inch-safe method when rotating drums.

1. Use the Inching button to rotate the ITM drum until the green EBM light turns on.
2. Install the blanket roll with the new blanket into position in the press .
3. Hook the leading edge blanket metal clamp pins into the slots in the EBM mechanism on the ITM drum .

**Figure 11-2** Installing the blanket jig and insert the pins in ITM drum slots



4. Using the **Inching** button, slowly rotate the ITM drum so that the blanket wraps against the drum.
  - Keep the blanket stretched and parallel to the drum edges.
  - Ensure that no air bubbles become trapped under the blanket.
  - Advance the ITM drum to check that the blanket has not shifted sideways.
5. Continue pressing the Inching button until the green light on the EBM control turns on.
6. Turn the EBM knob clockwise to open the EBM mechanism
7. Hook the other end of the blanket to the EBM on the drum .
8. Turn the EBM knob counter-clockwise to close the EBM mechanism
9. Remove the blanket roll from the press.
10. Replace the impression paper if necessary.
11. Close the external heater housing door, lower the bridge, close the upper feed sliding window.

After replacing the blanket, Perform First Transfer calibration.

## Cleaning the blanket

- Only clean the blanket when necessary.
- Use the *Print Cleaner* .
- If the *Print Cleaner* wizard does not remove all residue, repeat the wizard procedure with another 30 copies.
- Manually clean the blanket if it remains dirty after running the *Print Cleaner* .
- Recover the blanket surface every time a substrate jam occurs.

## Using the Print Cleaner wizard

### To clean the blanket:

1. On the touchscreen, click **Main Menu**, **PIP and Blanket**, and **Print Cleaner**. The *Print Cleaner* opens.
2. Check **Paper jam handler** and follow the instructions in the wizard.

## Manually cleaning the blanket

To see a video demonstration of this process, open the relevant window and press Help

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

### To manually clean the blanket:

1. Fold the lint-free wipe four times.
2. Gently rub the blanket with the folded wipe, change the wipe's side when one side gets dirty.
3. If the blanket is still soiled, dampen the lint-free wipe in imaging oil and rub the blanket until the ink residue and other contamination are removed.

Continue until the wipe no longer picks up residue.

## Recovering the blanket surface

- Recover the blanket surface as soon as possible after a substrate jam event.
- Perform this procedure whenever a substrate jam occurs.
- Immediately check for substrate or ink residues on the blanket (PSTB).
- Residues can damage the blanket if not removed immediately, while the blanket is still hot.

To see a video demonstration of this process, open the relevant window and press Help


---

△ **WARNING!** The blanket is very hot and can cause injury if handled carelessly. Access the blanket area with care. Avoid inhaling imaging oil vapors.

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

1. Press an **Emergency Stop** button and access the blanket.
  2. Using a blanket scraper, scrape away the edge of the substrate from the blanket surface.
    - If any substrate remains on the blanket, remove it carefully while the blanket is still hot.
    - If necessary, dampen a folded lint-free wipe in clean imaging oil and apply it to the substrate fragments.
    - Remove the substrate from the blanket in one piece if possible.
  3. Rotate the drum using the inch-safe method, and remove any remaining substrate fragments.
-  **NOTE:** Do not apply the imaging oil dampened, lint-free wipe across the entire paper fragment, as this may cause the blanket to become sticky.
- 
4. Rotate the drums and inspect the impression paper.
    - Pay close attention to the leading edge of the impression paper.
    - Replace it if it is dirty, torn, or out of position.
  5. Lower the ITM hood, lower the bridge and close the upper feed sliding window.
  6. Click **Get Ready**.
  7. On the control panel Main Menu, select PIP and Blanket to open the PIP and Blanket panel. Then click **Print Cleaner** to open the *Print Cleaner* wizard. Follow the instructions in the wizard.
    - If the time allocated for handling a substrate jam has expired, a message informs you to clean the blanket manually before proceeding.
    - If required by the system, clean the blanket following the procedure described in [Recovering the blanket surface on page 122](#))
  8. Resume printing. Monitor the print quality of several prints after a substrate jam. Full blanket recovery happens only after several sheets have been printed.

## Using the automatic blanket cleaner page

The cleaner page is generated after a pre-set number of separations, for the following cases:

- At the end of a job
- When pausing the print
- When switching a job
- During a long, cold start at the start of the day.

A cleaner page can also be inserted in the middle of a job. This is useful for long jobs.

The blanket cleaner page does not print under the following conditions:

- The blanket cleaner option is disabled by the operator.
- A system fault prevents the page cleaner from functioning.

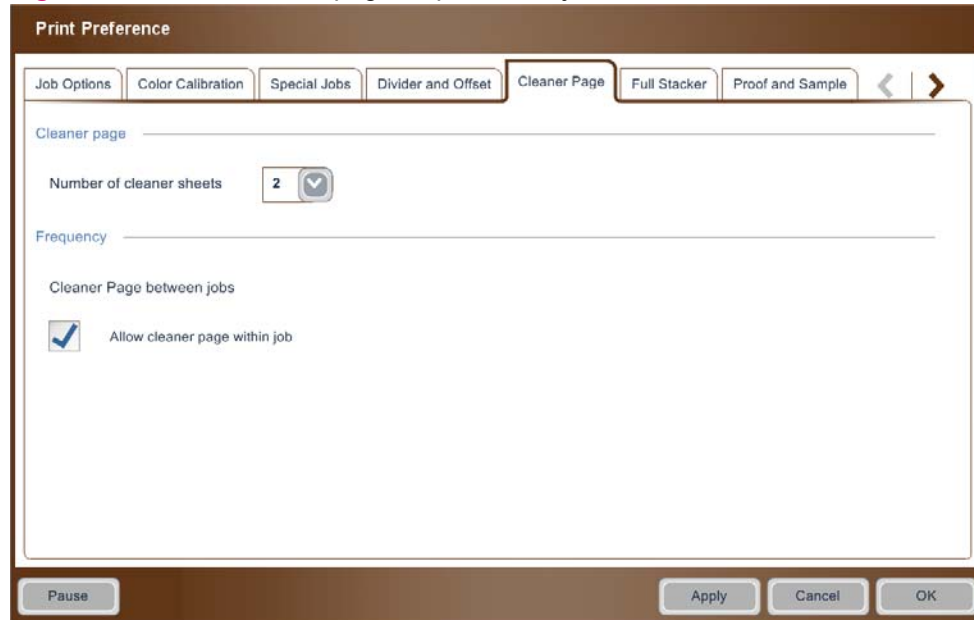


**To define the automatic blanket cleaner page:**

1. Click **Main Menu**, Options, and Print Preferences to open the *Print Preferences* window.
2. In the **Cleaner Page** tab, check **Allow cleaner page within job**.
3. Select the number of cleaner sheets, and click **Apply**.

The cleaner page is automatically printed every 1000 impressions.

**Figure 11-3** Allow cleaner page as part of the job



# First transfer calibration

Adjust the pressure between the PIP and ITM drums on the front and rear controls using the First Transfer calibration.

Use the First Transfer calibration:

- After you change the blanket.
- When the ink coverage is partial and blank patches in the shape of white clouds appear on either side of the printed image.
- When the highlight dots (small dots) do not transfer to the substrate.

Before performing the calibration, the press must be configured for either the manual or automatic mode.

Use a wizard to calibrate first transfer pressure:

## Calibrating the pressure

To see a video demonstration of this process, open the relevant window and press Help

- The First Transfer wizard uses a job which consists of nine sheets with two separations each. The PIP to ITM pressure increases from one sheet to the next.
- The job image consists of two columns with six triangles each. Each column is equivalent to a different side of the drum.

During the calibration procedure:

- Identify the sheet number with at least three triangles in a column.
- Triangle fragments count as a triangle.

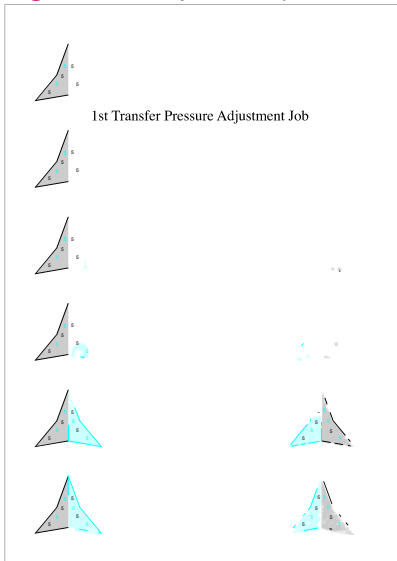
See the following illustrations for details. [Figure 11-4 Spread 4 \(incorrect front pressure\) on page 126](#) through [Figure 11-7 Spread 7 \(too much pressure\) on page 127](#) illustrate sheets number 4 to number 7 from nine sheets printed during a First Transfer Calibration procedure.

- Spread 5 is the first one to print 3 triangles in the left column.
  - Spread 6 is the first to print in the right column.
1. On the touch screen, click the **Main Menu**, **Blanket and PIP**, and **First Transfer**. The *First Transfer* wizard opens.
  2. Follow the instructions in the wizard:
    - Enter the sheet number (printed on the triangles) in the correct column.
    - In the First Transfer Calibration, enter the print number in the correct column. The print number appears in each triangle.
    - If you cannot identify three triangles in a column in any of the nine prints, click **9**, and then **Next** and **Finish**.
    - Restart this procedure at step 1.
    - If three triangles appear in all nine prints, click **1**, and then **Next** and **Finish**. Restart this procedure at step 1.

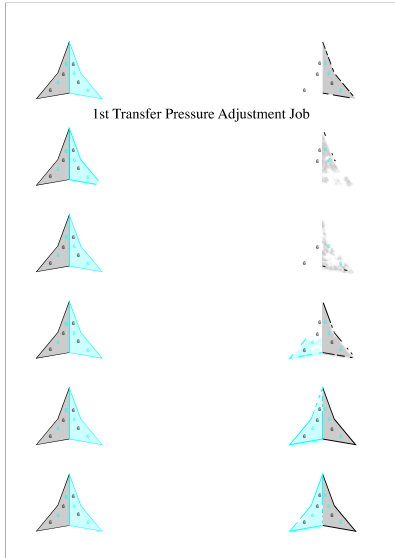
**Figure 11-4** Spread 4 (incorrect front pressure)



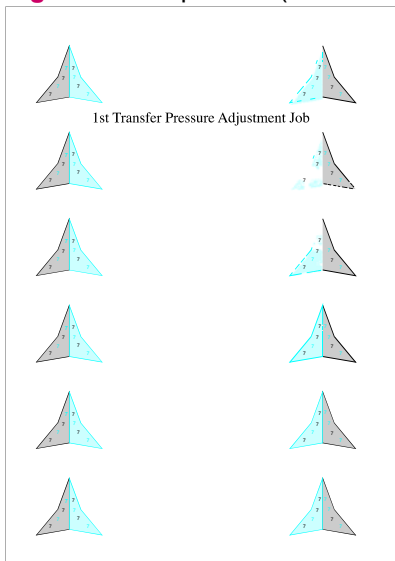
**Figure 11-5** Spread 5 (correct front pressure)



**Figure 11-6** Spread 6 (correct rear pressure)



**Figure 11-7** Spread 7 (too much pressure)



# Cleaning the ITM area

- Clean the ITM area weekly.

Use the following items for the procedure:

- Lint-free wipes
- IPA (isopropyl alcohol)

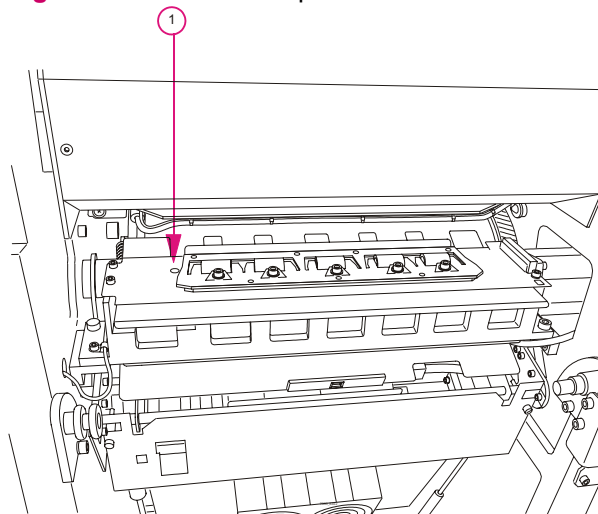
△ **CAUTION:** Wear safety glasses and gloves for this procedure.

**CAUTION:** Don't touch the blanket surface.

To see a video demonstration of this process, open the relevant window and press Help

1. Go to **Standby** and make sure that the ITM temperature is 60° C (140° F) or less before proceeding.
2. Access the ITM area.
3. Using lint-free wipes dampened with IPA, clean the front ITM drum shoulder next to the ITM thermal fuse.
  - Use a blunt, plastic knife to scrape off any dry ink.
  - Using the inch-safe method, rotate the drum and clean the complete drum circumference (see [Inch-safe method on page 23](#)).
4. Dry the blanket gently with a lint-free wipe and inspect the entire blanket surface to make sure it is clean.
5. Close the ITM hood, lower the bridge, and close the upper feed sliding window.

**Figure 11-8** ITM IR temperature sensor



- |   |                             |
|---|-----------------------------|
| 1 | Infrared temperature sensor |
| 2 | Clean below guard           |

---

# 12 PIP

This chapter contains the following sections:

- [Overview](#)
- [Replacing the PIP Foil](#)
- [Replacing the PIP underlayer](#)

## Overview

The photo-conductive image plate (PIP) is a foil that is made of photoconductive material. When exposed to light, this material becomes a conductor, and attracts the HP ElectroInk™. Images are written on the PIP by the laser, and are erased for every revolution of the PIP drum. To prolong the life of the PIP, handle it with care, and avoid exposing it to direct light.

Replace the PIP foil when:

- It is damaged
- It is aged

Replace the PIP underlayer when it is damaged.

Clean the PIP drum whenever you replace the PIP underlayer.

# Replacing the PIP Foil

Replace the PIP foil when it is damaged or aged.

To see a video demonstration of this process, open the relevant window and press Help

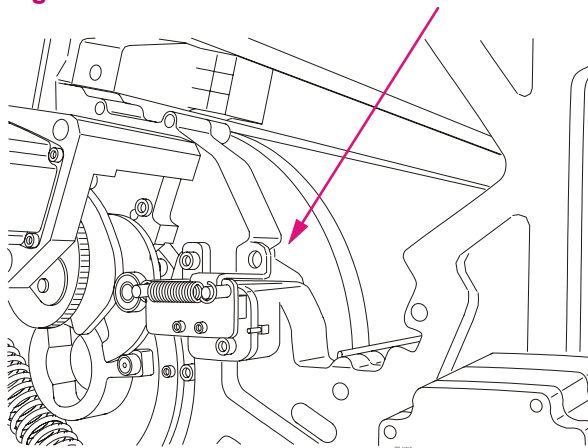
## Removing the old PIP foil

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

**To remove the PIP foil:**

1. On the touch screen, click the **Main Menu, Blanket and PIP**, and **Replace PIP**. The Replace PIP wizard opens.
2. Use the barcode reader to read the label on the new PIP foil wrapper. Enter the reason for PIP replacement and click **Next**.
3. In the touch screen, click the **Prepare** button, and wait until the temperature is 60 °C (140 °F) or less before proceeding.
4. Remove the cleaning station, cleaning station blade, and charge roller, and open the PIP latch.
5. Access the PIP area, open the upper feed door and lift the feeder bridge.
6. Press the **Inching** button to advance the press until the PIP trailing edge is in view.
7. Unlock the PIP latch and remove the PIP leading edge from the slot. Hold it away from the PIP drum. Using the inching button, turn the drum and lift off the PIP as the drum rotates.

**Figure 12-1** PIP latch location



8. Make sure that the PIP underlayer surface is clean and intact. If necessary, wipe it with a lint-free wipe moistened with imaging oil.

If the PIP underlayer needs replacement, skip to [Replacing the PIP underlayer on page 133](#).

## Installing a new PIP foil

Install a new PIP after you have removed the old one, and have ensured that the PIP underlayer is in good condition. This procedure assumes that you have opened the press doors, removed the cleaning station and have free access to the PIP area.



---

△ **CAUTION:** Perform this procedure under dim lighting conditions to protect the PIP. Wear safety glasses and gloves for this procedure.

Always protect the exposed PIP from direct light.


---

To see a video demonstration of this process, open the relevant window and press Help

**To install the new PIP:**

1. Remove the PIP from its wrapping. Wipe the cartridge clean with a lint-free wipe. Pull out the leading edge about 2.5 cm (1 inch), and remove the self-adhesive tab.
2. Using the squeezer bottle, apply imaging oil to all visible parts of the PIP underlayer.
3. Fix the PIP leading edge onto the drum as follows:
  - a. Insert the leading edge of the PIP completely into the slot.
  - b. Adjust the PIP inside the holder so that the two black mark-lines on the PIP are parallel with the holder lip.
  - c. Insert the PIP holder in its position between the press walls.
  - d. Make sure the lines are parallel and centered so that the trailing edge is also parallel and centered on the drum.
  - e. Lock the PIP latch while holding the PIP against the drum.
4. Press the **Inching** button to rotate the PIP drum, and apply the PIP to the drum. Remove the white PIP protective paper by gently pulling its tab, as you inch the PIP drum.
5. Continue applying imaging oil to dry sections of the drum, especially underneath the PIP trailing edge.
6. Place the PIP trailing edge over the leading edge. Verify contact by touching it with your hand.
7. Reinstall the cleaning station, and close the front printing engine door.
8. Lower the bridge and close the upper feed door.
9. In the PIP replacement wizard, enter the new PIP information.

---

 **NOTE:** A precise description of the PIP replacement cause helps the service personnel properly maintain the press.

---

## Replacing the PIP underlayer

Replace the PIP underlayer when it is damaged.

### To replace the PIP underlayer:

- Remove the old PIP underlayer
- Clean the PIP drum
- Install the new PIP underlayer.

Special tools and jigs:

- PIP underlayer installation jig
- PIP underlayer scraper

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

To see a video demonstration of this process, open the relevant window and press Help

## Removing the old PIP underlayer

1. Remove the following press components to access the PIP underlayer:
  - All BIDs
  - The charge roller
  - The cleaning station wiper blade and the cleaning station
  - The external heater lamps and the cover
  - The PIP foil
2. Use the inching buttons to rotate the drum and detach the edge of the PIP underlayer.
3. Pull the PIP underlayer as it separates from the PIP drum, and discard it.

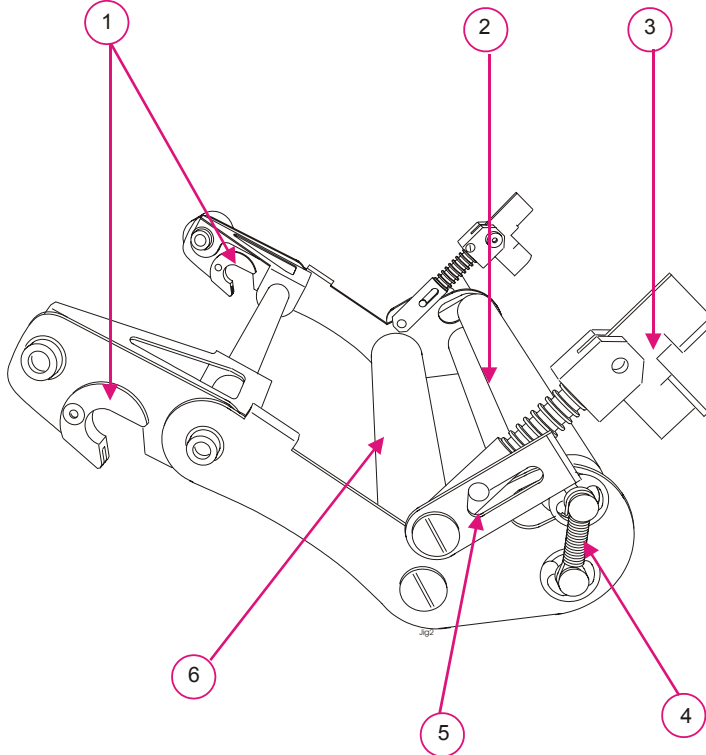
## Cleaning the PIP drum

1. Cover the PIP holder slit with masking tape.
2. Place a sheet of paper beneath the drum to catch the glue residue that falls when cleaning the PIP drum.
3. Use clean imaging oil to thoroughly wet the PIP drum.
4. While slowly rotating the drum clockwise using the inch-safe method, use a scraping tool to remove adhesive from the drum surface . When all the glue has been removed, wipe the drum with a lint-free cloth soaked in imaging oil.
5. Using a lint-free cloth soaked in IPA, thoroughly wipe and clean the PIP drum. Make sure that no particles of dirt remain on the PIP drum surface.
6. Remove the masking tape from the PIP holder slit and wipe the slit area with a lint-free wipe.
7. Insert a sheet of paper into the PIP holder slit to clean and dry the inside of the slit.

## Installing the new PIP underlayer

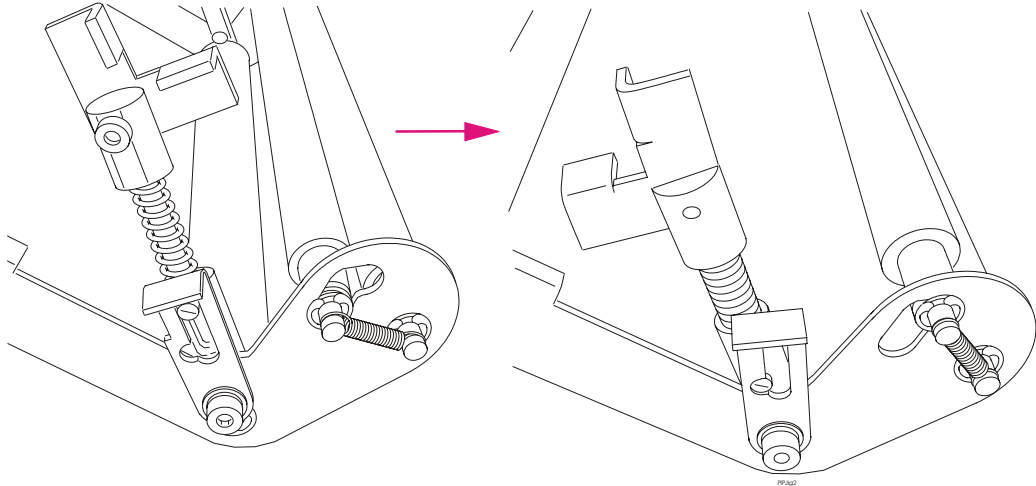
1. Make sure the press drums are disengaged before starting this part of the procedure.
2. Mount the PIP underlayer installation jig.
  - a. Push the spring catches on the PIP underlayer installation jig.
  - b. Insert the jig from the input side of the press. Make sure the spring catches stay facing upwards, and slip underneath the horizontal bar on the press.
  - c. Catch the hooks on each side of the first charge roller rail. Pull the jig back to make sure it is caught.
  - d. Push the jig towards the rear wall of the press to position it correctly.
  - e. Rest the jig inside roller on the PIP drum.
  - f. Release and catch the spring loaded arms to the horizontal bar on the chassis.

**Figure 12-2** PIP underlayer installation jig

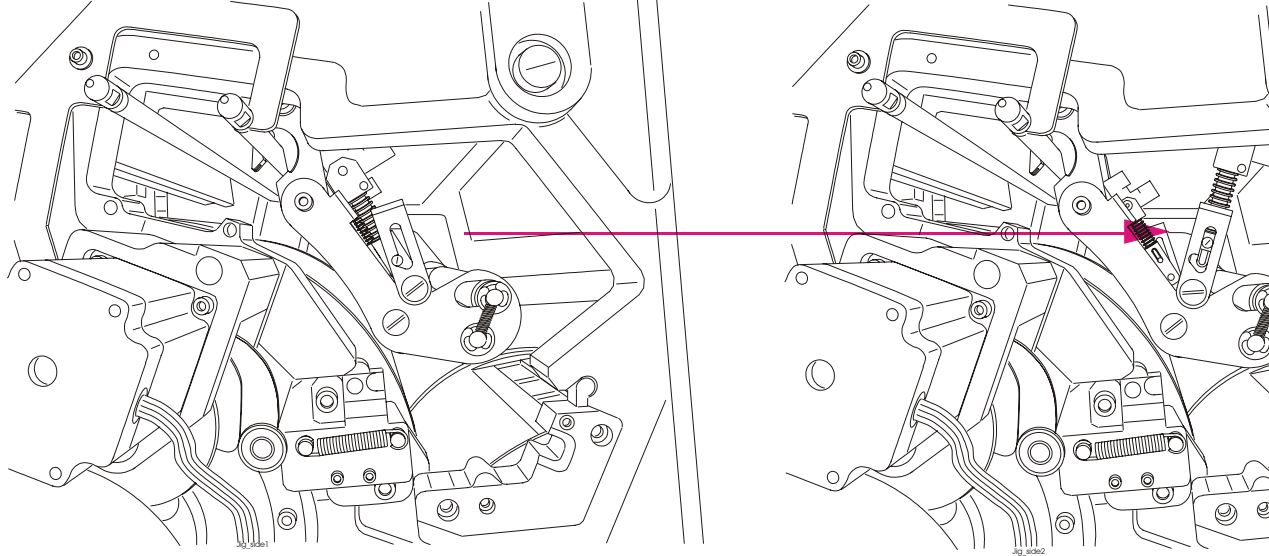


1	Hooks — hook onto charge roller rail
2	Nip rollers — keep the PIP underlayer taut and flat
3	Spring catch — hook onto the press walls
4	Nip roller spring
5	Spring catch hook — shown pressed. Release when in position
6	Inside roller — rests on the PIP drum

**Figure 12-3** Loading the spring catches on the jig



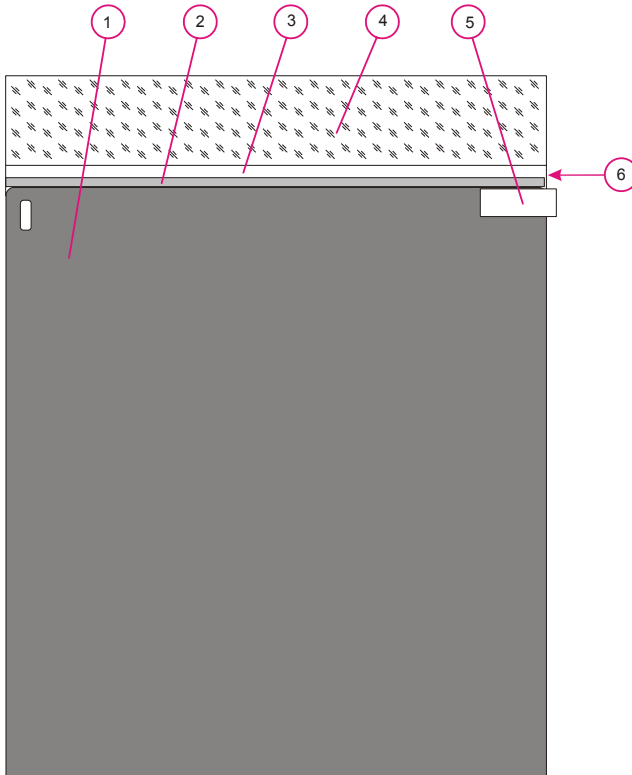
**Figure 12-4** Hooking the jig on the charge roller rails – note position of spring catches



3. Open the PIP holder handle and open the PIP jig mounting nip.

4. Fold the PIP underlayer between the white mounting slip and the metal strip.

**Figure 12-5** PIP underlayer — side facing user during installation

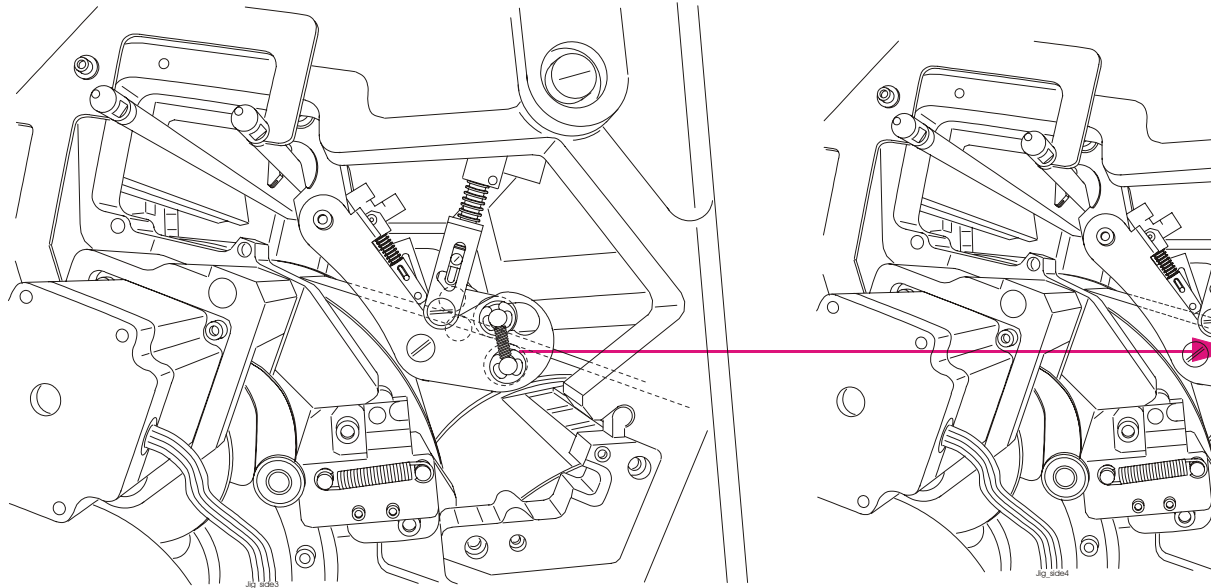



<b>1</b>	PIP underlayer, covered with polyester protective film
<b>2</b>	Metal strip
<b>3</b>	White mounting strip
<b>4</b>	Transparent mounting strip
<b>5</b>	Tab to remove polyester protective film
<b>6</b>	Fold here

5. Insert the new PIP underlayer through the jig nip rollers with the glossy side facing up.
  - a. Insert the underlayer between the two jig nip rollers, and above the inside roller.
  - b. Insert the mounting tab completely into the PIP holder slit, up to the metal spacing strip. Make sure that the mounting strip is inserted evenly across the width of the PIP drum. Verify that the PIP holder slit edge and the metal spacing strip edge contact evenly across the width of the PIP drum.
  - c. Close the PIP latch.

- d. Close the PIP jig nip rollers.

**Figure 12-6** PIP underlayer path through the jig — note closure of the PIP jig nip



 **NOTE:** Check that the edge of the PIP underlayer is parallel to the edge of the drum, and that it is centered between the PIP drum shoulders. If not, then unroll the underlayer and reposition it.

6. Unroll the PIP underlayer and start peeling the edge of the transparent protective layer from the PIP underlayer.
7. While maintaining tension on the underlayer, use the inching button to rotate the PIP drum clockwise until the underlayer is completely wrapped around the PIP drum and the transparent cover is completely peeled off.

The underlayer goes downward with the rotation, and the installation jig presses it firmly to the PIP drum surface.

8. Feel the surface of the underlayer to check for bumps or damage. Verify that the underlayer is not on the PIP drum shoulders.
9. Verify the position of the metal strip.
10. Open the PIP latch.
11. Carefully peel away the tape holding the PIP underlayer mounting strip, and remove the strip from the PIP holder slit.
12. Firmly press down the edges of the underlayer around the holder slit starting from the center, towards the edges.
13. Remove the jig. Release the spring hooks, the lift and remove the jig from the press.
14. After you have installed the new PIP underlayer:
  - Using a lint-free cloth, spread imaging oil evenly over the entire surface of the underlayer. The imaging oil helps to hold the PIP foil to the drum.
  - Install a new PIP foil.

- Reinstall the PTE lamp/air knife.
  - Reinstall the cleaning station blade and cleaning station.
  - Reinstall all BIDs.
  - Reinstall the external heater lamps and cover.
  - Reinstall the charge roller.
- 15.** Update your system as follows.
- a.** On the touchscreen, select **Main Menu**, **Problem Handling**, and **Replace Part**. The **Replace Part** window opens.
  - b.** Fill in the required information.

---

# 13 Impression drum

This chapter contains the following sections:

- [Overview](#)
- [Replacing the impression paper](#)
- [Cleaning the grippers](#)



## Overview

During the printing process, the impression drum presses the substrate against the ITM drum to transfer the image to the substrate and to carry the sheet toward the exit tray.

The impression paper protects the drum from ink. It is fastened to the impression drum holder at its leading edge and is free at its trailing edge. The impression paper cushions the printed substrate at the printing nip.

Perform the following Impression drum maintenance procedures:

- Replace impression paper - when it is dirty or has slipped out of position, or when you replace the blanket.
- Clean the grippers weekly, as part of the maintenance routine.

# Replacing the impression paper

Replace the impression paper when:

- The impression paper is dirty
- The gripper windows in the impression paper are dirty
- The impression paper has slipped out of position (by more than 2 mm (.08 inch))
- Whenever the blanket is replaced

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

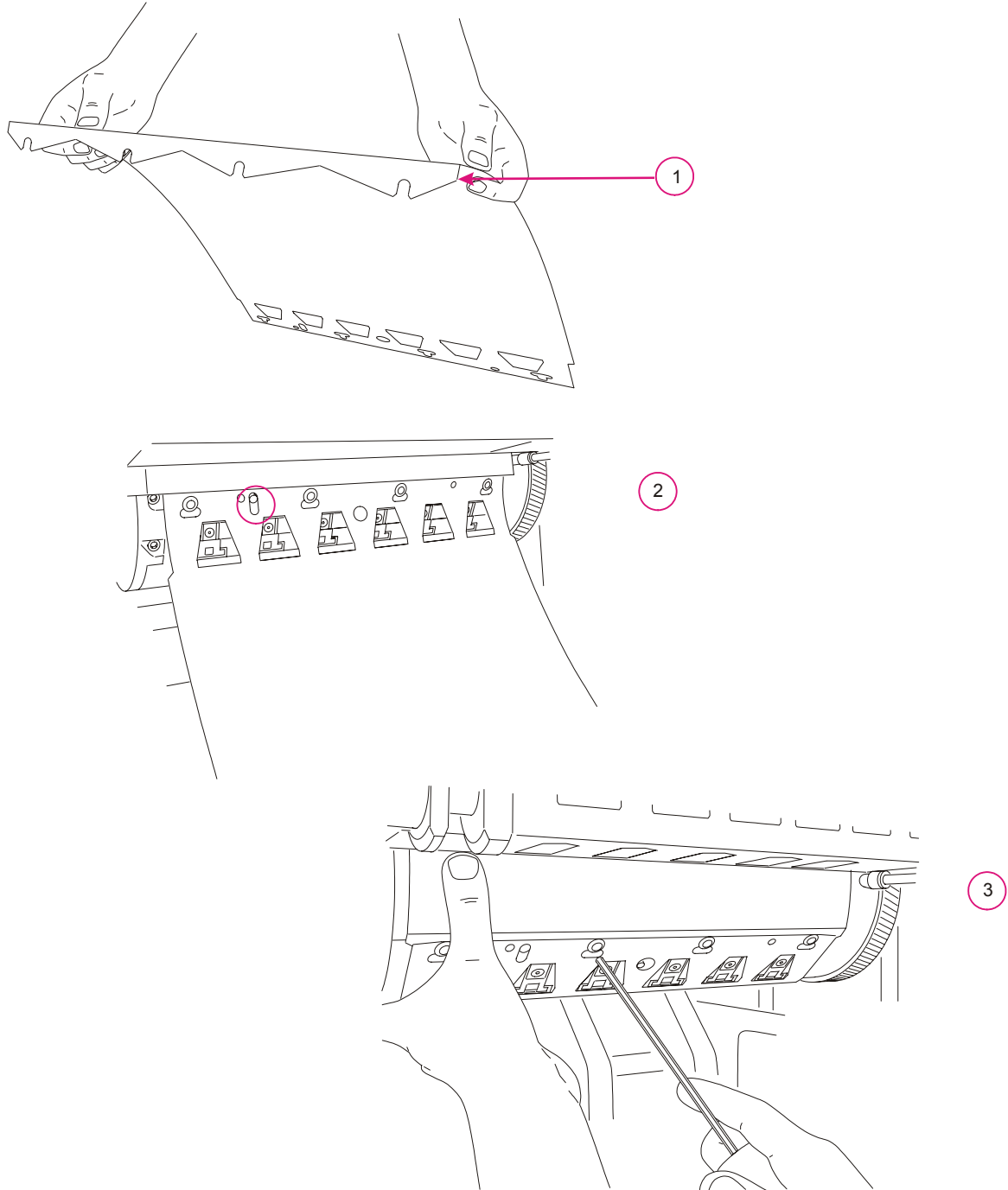
---

To see a video demonstration of this process, open the relevant window and press Help

**To replace the impression paper:**

1. Press an **Emergency Stop** button and access the impression drum:
  - a. Open the upper feed door.
  - b. Raise the bridge.
  - c. Open the lower feed door.
  - d. Lower the duplex conveyor by pressing on its upper metal panel.
  - e. Open the printing engine front door.
2. Using the inching button to rotate the impression drum until you can see the grippers.
3. Loosen the four low-head screws in the front of the impression paper holder, and pull out the old impression paper as you rotate the impression drum counterclockwise using the inching button.
4. Clean the impression drum using a lint-free wipe dampened with IPA.
5. Fold the new impression paper at the trailing edge.
6. Attach the new impression paper to the screws, making sure that the oval cutout indicator is on the left side. Pull the impression paper down until the screws are at the top of the impression paper cutouts.
7. Rotate the impression drum counterclockwise using the reverse inching button so that the impression paper wraps around it.
8. Insert the folded trailing edge of the impression paper under the leading edge, so that it fits snugly around the drum.
9. Tighten the four screws.
10. Raise and lock the duplex conveyor into place and close the press lower feed door.
11. Lower and lock the bridge, close all doors and release the **Emergency Stop** button.

**Figure 13-1** Installing impression paper



<b>1</b>	Fold the trailing edge of the impression paper
<b>2</b>	Install the impression paper into position — note the position of the oval cutout indicator
<b>3</b>	Insert the trailing edge under the leading edge of the impression paper, and tighten the four screws.

# Cleaning the grippers

Clean the impression drum grippers as part of the maintenance routine.

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

To see a video demonstration of this process, open the relevant window and press Help

## To clean the grippers:

1. Go to **Standby**.
2. Turn off the **Power Enable** switch.
3. Open the press front door, the lower feed door and the upper feed door window.
4. Raise the bridge and lower the duplex conveyor.
5. Inch the press until you can see the impression drum grippers.
6. Clean the gripper surfaces using a lint-free wipe dampened with IPA.
7. Raise and lock the duplex conveyor into place.
8. Close the press lower feed door, lower and lock the bridge and close all doors.
9. Turn on the **Power Enable** switch and release the **Emergency Stop** button.



---

# 14 Imaging oil

This chapter contains the following sections:

- [Overview](#)
- [Refilling the imaging oil tank](#)
- [Adding recycling agent](#)
- [Replacing the imaging oil filters](#)
- [Cleaning the imaging oil cleanness sensor](#)


## Overview

The imaging oil system supplies clean imaging oil to the ink tanks and to the cleaning station. The imaging oil reservoir is located at the rear side of the press.


The imaging oil filter assembly has an optical sensor that checks imaging oil purity.

- Refill the imaging oil tank when a message appears indicating that the oil level is too low.
- Replace the imaging oil filters when the system displays a message informing you to do so. This occurs when they become too dirty to filter the imaging oil.
- Clean the optical sensor periodically to keep it in good working order.

## Refilling the imaging oil tank

 **NOTE:** Do not fill the tank while the press is printing, or is in **Ready**. Add imaging oil only in **Standby**.

Do not add more than four liters (1.06 gallons) of imaging oil at a time to avoid overflow.

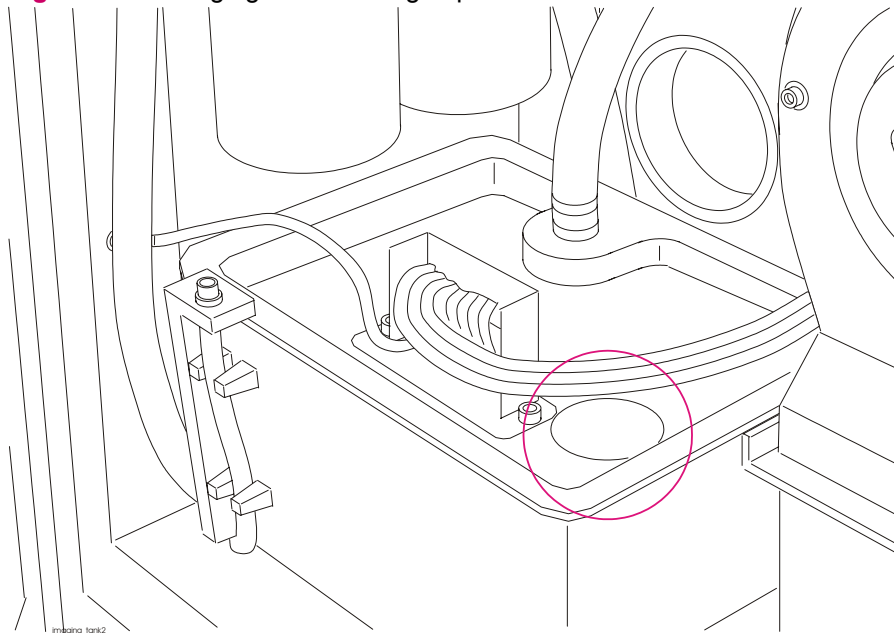
 **CAUTION:** Wear safety glasses and gloves for this procedure.

To see a video demonstration of this process, open the relevant window and press **Help**

**To refill the imaging oil tank:**

- Pour up to four liters of fresh imaging oil into the oil tank at the rear of the press.

**Figure 14-1** Imaging oil tank filling cap





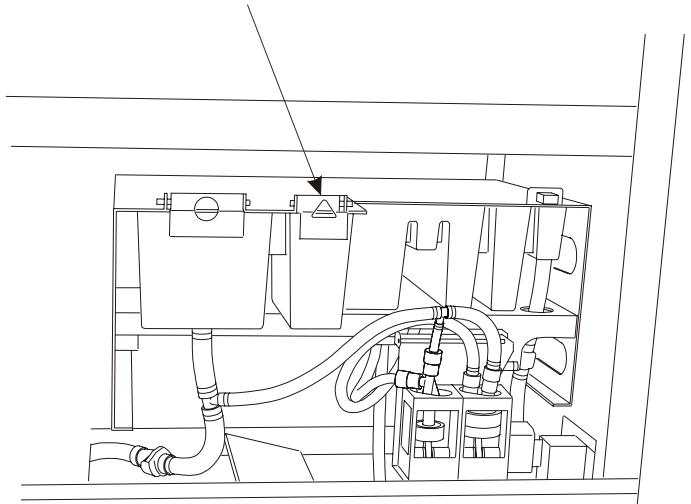
## Adding recycling agent

Add a 1 liter container full of recycling agent to the recycling agent container when a message appears indicating that you should add recycling agent.

**To add recycling agent:**

- Pour one liter of recycling agent into the recycling agent container behind the middle door of the rear utility cabinet of the press.

**Figure 14-2** Recycling agent container



## Replacing the imaging oil filters

Replace the imaging oil filters when the system displays a message informing you to do so.

- The press contains two imaging oil filters connected in a row.
- The press can continue printing for several hours after you receive the message.
- Wait for the next break before replacing the filters.

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

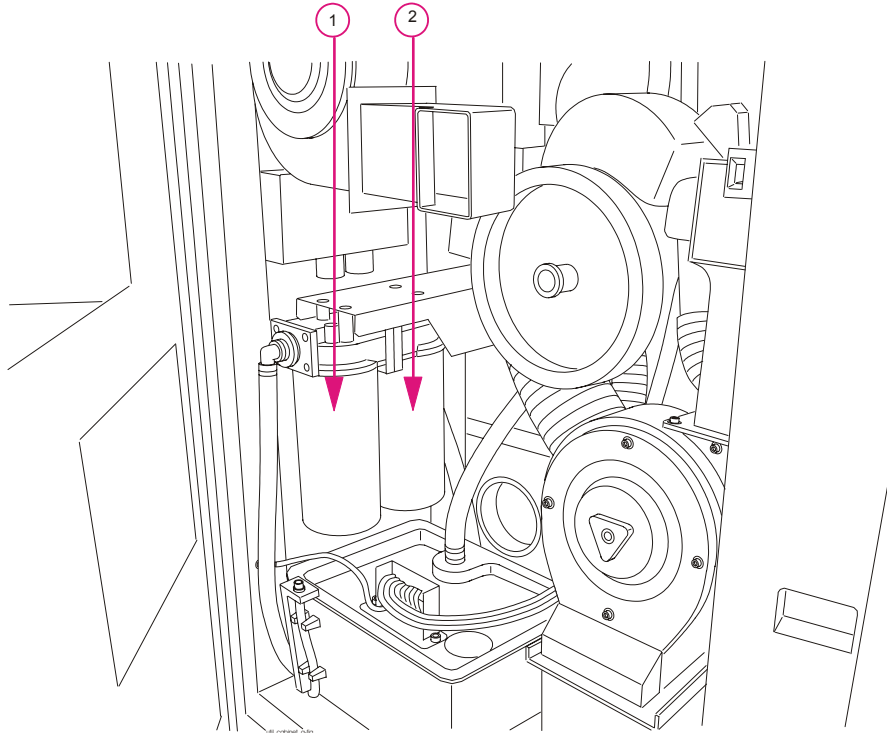
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To see a video demonstration of this process, open the relevant window and press Help

### To replace the imaging oil filter:

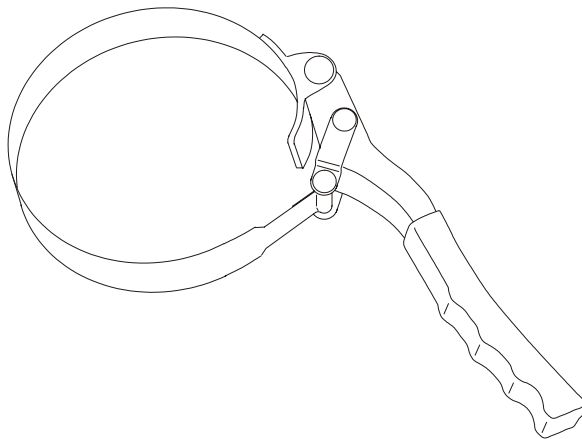
1. Press an **Emergency Stop** button and open the rear utility cabinet door.
2. There are two imaging oil filters. Use the filter extractor to remove the outer filter first, and then remove the inner filter.
3. Drain the filters in compliance with your local waste disposal regulations.
4. Mount the inner filter first, and then the outer one.
  - Make sure the rubber gasket is in place.
  - Lubricate the gasket lightly with imaging oil to make the next filter removal easier.
  - Tighten the filters by hand only.
5. Close the rear utility cabinet door and release the **Emergency Stop** button.
6. Change the press status to **Ready**, then click **Print**. After a few seconds of printing, click **Stop**. The press system prompts you to add imaging oil. Add imaging oil immediately. Do not wait for the end of the day.

**Figure 14-3** Remove filters



- |          |   |
|----------|---|
| <b>1</b> | Outer filter — remove first, mount second |
| <b>2</b> | Inner filter — remove second, mount first |

**Figure 14-4** Filter extractor



## Cleaning the imaging oil cleanness sensor

The imaging oil sensor should be cleaned monthly, as part of the monthly maintenance routine. This will ensure a precise imaging oil cleanness reading.

The imaging oil cleanness sensor is located on the Imaging Oil Control (IOC) board inside the imaging oil tank, and is accessed by removing the IOC board.

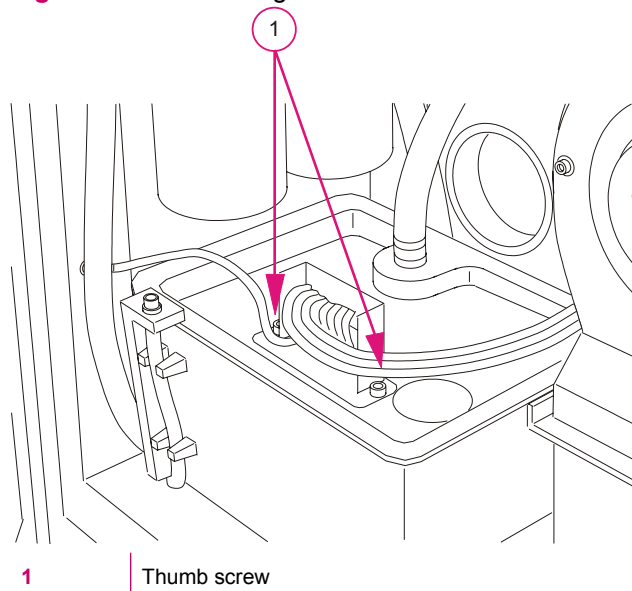
△ **CAUTION:** Wear safety glasses and gloves for this procedure.

To see a video demonstration of this process, open the relevant window and press Help

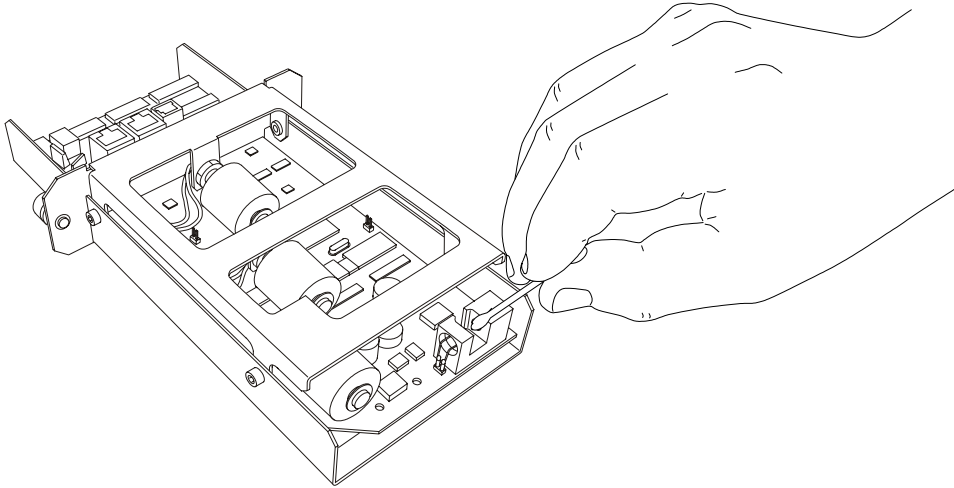
### To clean the imaging oil cleanness sensor:

1. Shutdown the system and turn off the **Main Power** switch
2. Open the rear utility cabinet door
3. Remove the IOC board by unscrewing the thumbscrew.
4. Clean both faces of the sensor using a dry cotton swab ([Figure 14-6 Cleaning the cleanness sensor on page 153](#)).
5. Reinstall the IOC board. Make sure that its mounting bracket is level with the top of the imaging oil tank cover.
6. Close the utility cabinet door and turn on the press.

**Figure 14-5** Removing the IOC board



**Figure 14-6** Cleaning the cleanness sensor





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# 15 Utility cabinet

This chapter contains the following sections:

- [Overview](#)
- [Draining water and process oily waste](#)
- [Draining the oil-water separator](#)



## Overview

The press operates in humid and warm environment. Humid air is condensed in the utility cabinet, producing waste water. Process oily wastes are also produced. A warning message appears when the waste bottles are full.

Drain the waste bottles whenever a message appears saying to do so.

# Draining water and process oily waste

To see a video demonstration of this process, open the relevant window and press Help

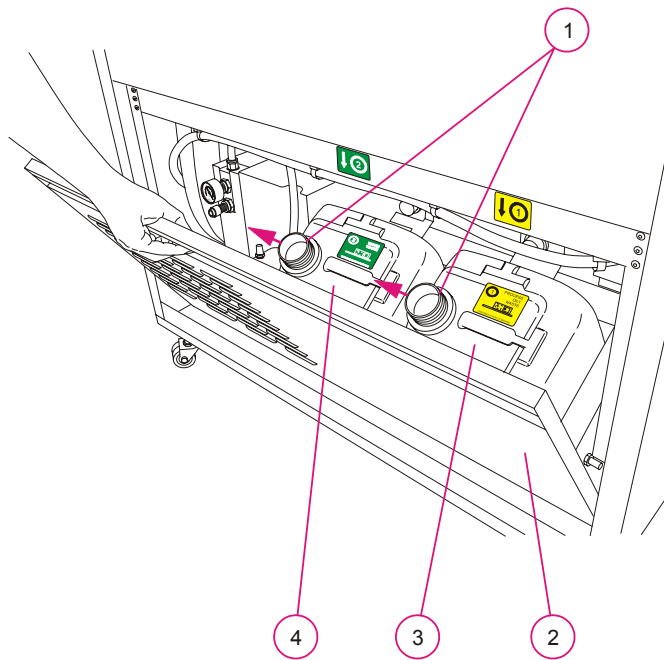
△ **CAUTION:** Wear safety gloves and glasses for this procedure.

📝 **NOTE:** After the lower service door has been opened, you only have five minutes to drain the fluids when the press is running, or else waste materials may drain into the lower service door area.

## To drain the cooler waste:

1. Open the lower service door at the rear of the press.
2. Remove the waste bottles from the press. Drain the water waste and process oily waste in separate external disposal tanks.
  - Dispose of process oily waste according to local regulations.
  - Do not mix up the containers.
  - Process oily waste must be properly discarded, and must not be dumped down a drain. See [Disposing of consumables and cleaning materials on page 25](#).
3. Return the waste bottles to their proper positions:
  - The water waste bottle on the left,
  - The process oily waste bottle on the right,
  - The bottle openings must facing the left, as viewed from the back of the press.
  - Make sure bottle labels match the labels on the cabinet.
  - Do not put caps on the bottles; they receive waste fluids directly from the press when the lower service door is closed.
4. Close the lower service door.

**Figure 15-1** Lower service door at press rear



<b>1</b>	Bottle openings must face the left
<b>2</b>	Lower service door
<b>3</b>	Process oily waste bottle (1)
<b>4</b>	Water waste bottle (2)

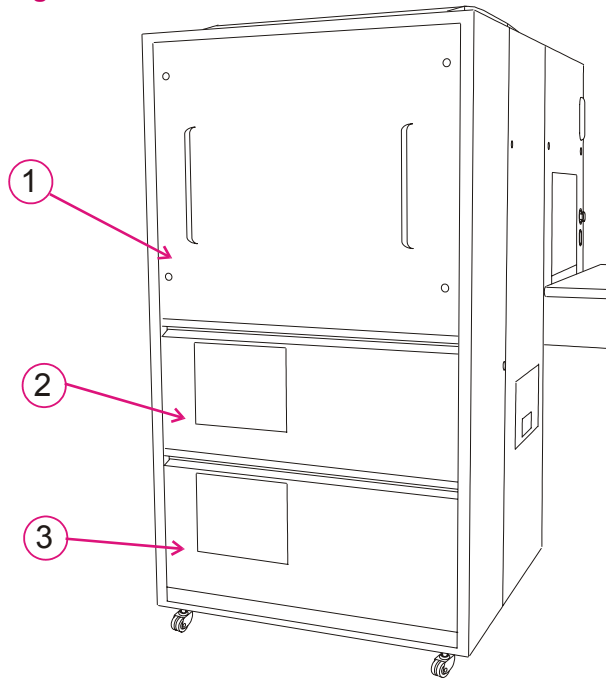
# Draining the oil-water separator

Drain water from the oil—water separator once a week.

## To drain the air compressor:

1. Press an **Emergency Stop** button and open the upper service door at the rear of the press.
2. Open the top service cover.

**Figure 15-2** Service doors

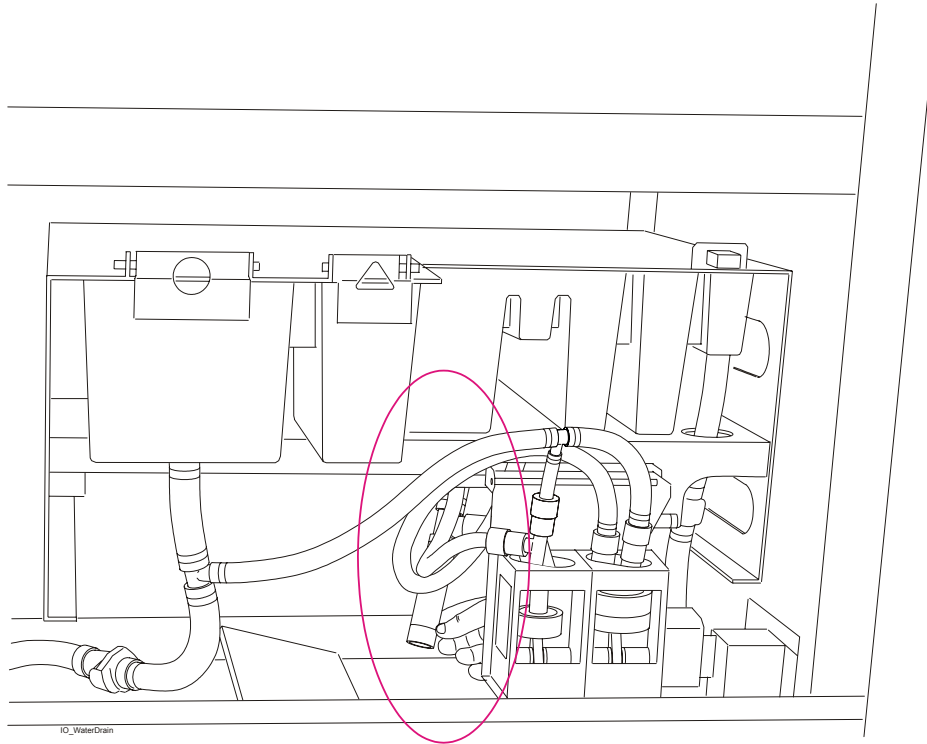


1	Top service door
2	Upper service door
3	Lower service door

3. Open the upper service door.
4. Open the oil-water separator cleaning tube and let it drain into the catch tray.
5. On the top service panel drain tray, pour 200 ml of water. Let the water drain through the system.

6. Close the oil-water separator cleaning tube.
7. Reinstall the top panel, close all the doors and release the **Emergency Stop** button.

**Figure 15-3** Oil-water separator cleaning tube cap



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# 16 Cleaning station

This chapter contains the following sections:

- [Overview](#)
- [Cleaning the cleaning station blade](#)
- [Rotating and replacing the cleaning station blade](#)
- [Replacing the sponge roller](#)

## Overview

The press cleaning station is located behind the front door, next to the PIP drum. The cleaning station cools the PIP and cleans it after the first transfer. It does this by wetting the PIP with imaging oil and removing the ink debris with a flexible blade.

- Clean the cleaning station blade at the end of each day.
- Rotate or replace the cleaning station blade when scratches appear on the print from top to bottom.  
Scratches appear light in light areas, and dark in high gray areas.
- Replace the cleaning station blade when it is damaged
- Replace the cleaning station sponge roller

# Cleaning the cleaning station blade

Clean the cleaning station blade at the end of each day.

To see a video demonstration of this process, open the relevant window and press Help

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

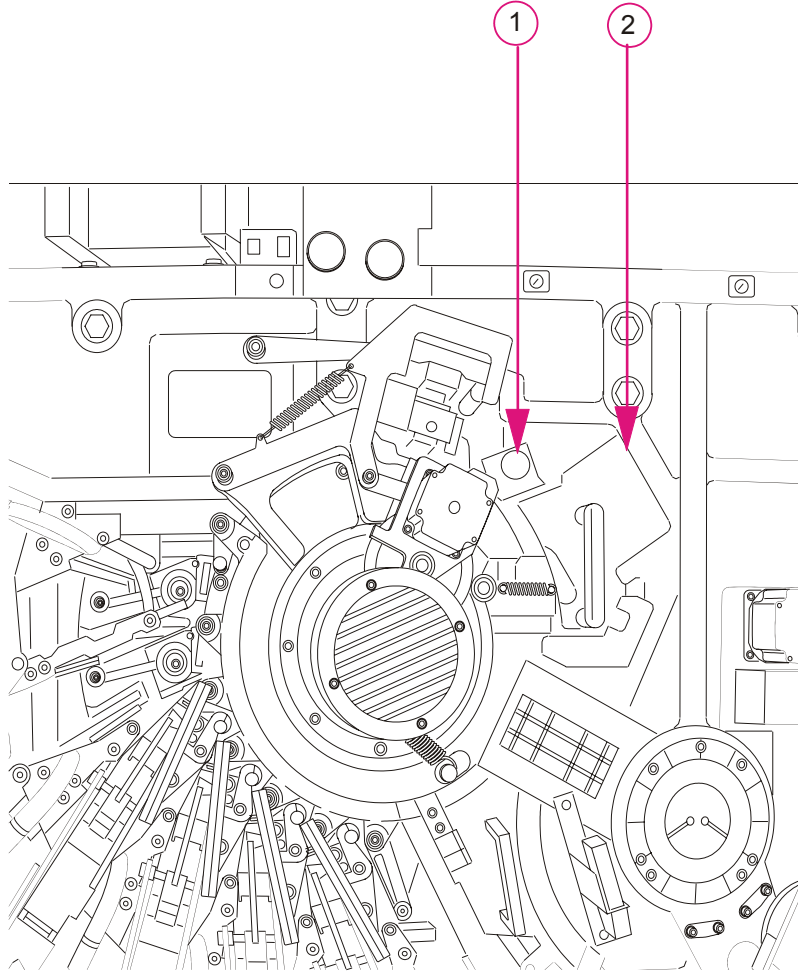
---

**To clean the cleaning station blade:**

1. Go to **Standby and** press an **Emergency Stop** button.
2. Open the front door and remove the cleaning station blade holder ([Figure 16-1 Remove the cleaning station blade holder \(behind the front door\) on page 164](#)).
3. Clean the wiper blade with a lint-free wipe dampened with imaging oil.
4. Reinstall the cleaning station blade holder.
5. Close all doors and release the **Emergency Stop** button.



**Figure 16-1** Remove the cleaning station blade holder (behind the front door)



1	Cleaning station blade holder
2	Cleaning station

- If you have seen scratches on the print, then the blade may be damaged and you should rotate it.

## Rotating and replacing the cleaning station blade

Rotate or replace the cleaning station blade when scratches appear on the print from top to bottom.

Scratches appear light in light areas, and dark in high gray areas.

---

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

---

To see a video demonstration of this process, open the relevant window and press Help

**To rotate or replace the cleaning station blade:**

1. Go to **Standby** and press an **Emergency Stop** button.
2. Open the front door and remove the cleaning station blade holder.
3. Check the number appearing on the blade.
  - Each blade has four numbered edges.
  - Install the edges in order.
  - If edge #4 was in use, replace the wiper blade.
4. Pull the blade out by holding the cleaning station blade holder and pressing the metal bars.
5. Clean the blade with a lint-free wipe dampened with imaging oil, and then with a dry, lint-free wipe. Make sure to also clean the blade slot.
6. Install the blade with the correct side into the holder.

Make sure to insert the new blade starting at edge #1.
7. Wet the new blade with imaging oil.
8. Reinstall the cleaning station blade holder, close the front door, and release the **Emergency Stop** button.

## Removing the cleaning station

Remove the cleaning station to access other parts of the printing engine for maintenance.

---


△ **CAUTION:** Wear safety gloves for this procedure.

---

**To remove the cleaning station**

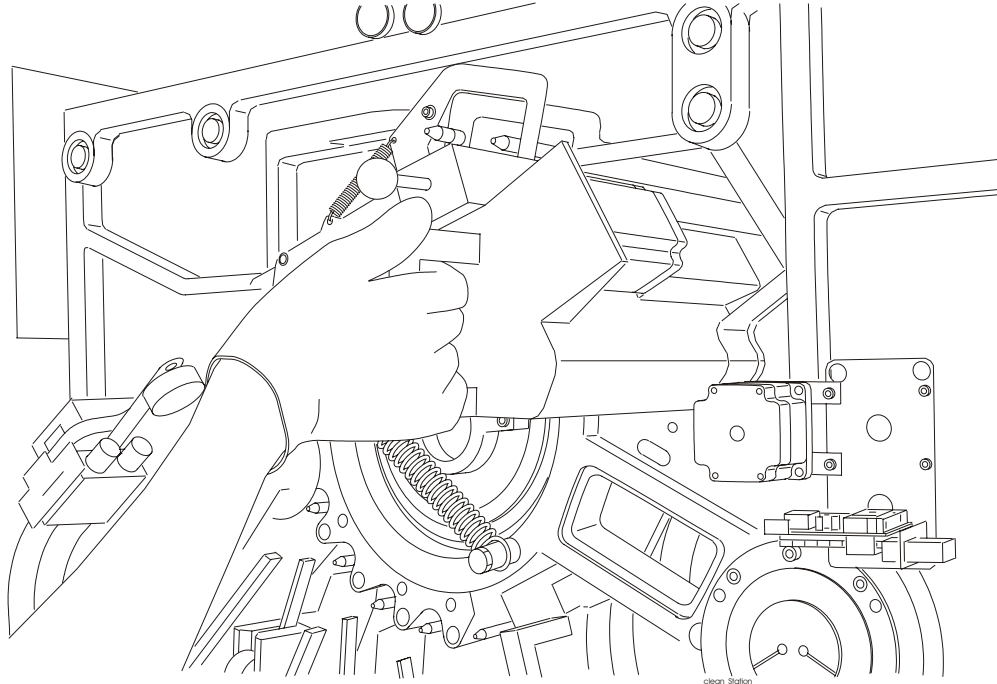
1. Press an **Emergency Stop** button.
2. Open the front door.
3. Lift the cleaning station lock latch and pull the cleaning station out of the press.

---

 **NOTE:** When removing the cleaning station, make sure that retained imaging oil will not spill. Remove it by holding it straight. After removing it, drain it into a waste bottle.

---

**Figure 16-2** Removing the cleaning station



## Installing the cleaning station

△ **CAUTION:** Wear safety gloves for this procedure.

Press an **Emergency Stop** button before starting this procedure.

**To install the cleaning station:**

1. Insert the cleaning station into position.
2. Lock the cleaning station latch.
3. Clean the cleaning station blade and reinstall the cleaning station blade holder.
4. Close the front door and release the **Emergency Stop** button.

# Replacing the sponge roller

△ **CAUTION:** Wear safety glasses and gloves for this procedure.

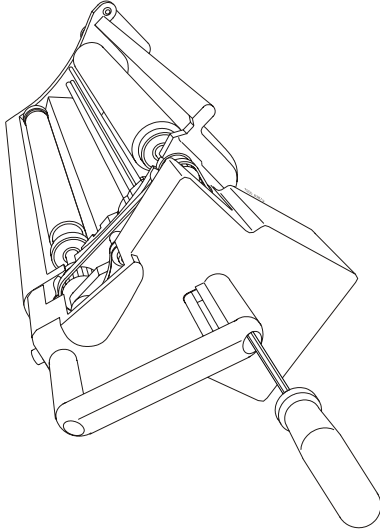
---

To see a video demonstration of this process, open the relevant window and press Help

**To replace the sponge roller:**

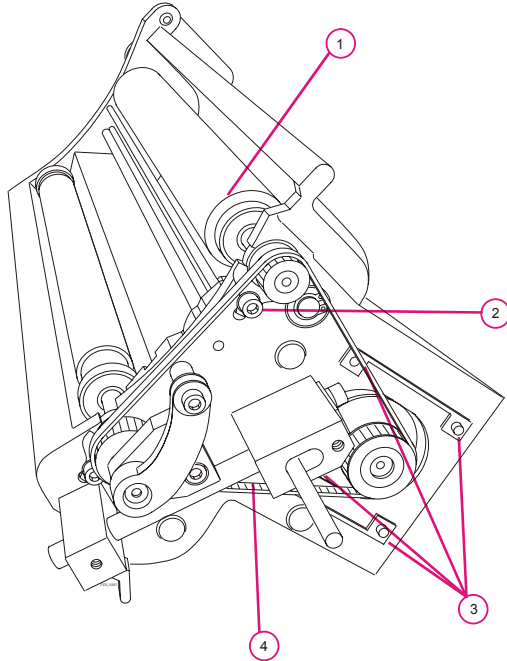
1. Remove the cleaning station from the press.
2. Remove the cleaning station housing cover by removing the screws that attach the cover.

**Figure 16-3** Removing the cleaning station housing cover



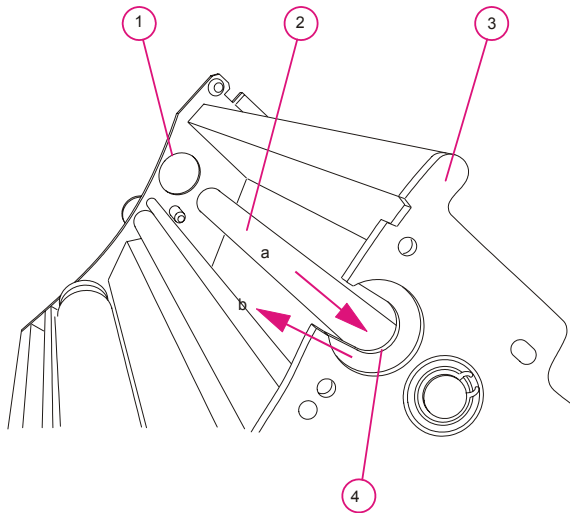
3. Loosen, but do not remove the four motor screws.
4. Remove the timing belt.
5. Remove the front locking plate.
6. Remove the old sponge roller.
7. Install the new sponge roller.
8. Reinstall the front locking plate and the timing belt.
9. Tighten the motor screws.
10. Reinstall the housing cover.
11. Reinstall the cleaning station.

**Figure 16-4** Sponge roller assembly



1	Sponge roller
2	Front locking plate
3	Motor screws
4	Timing belt

**Figure 16-5** Installing the sponge roller

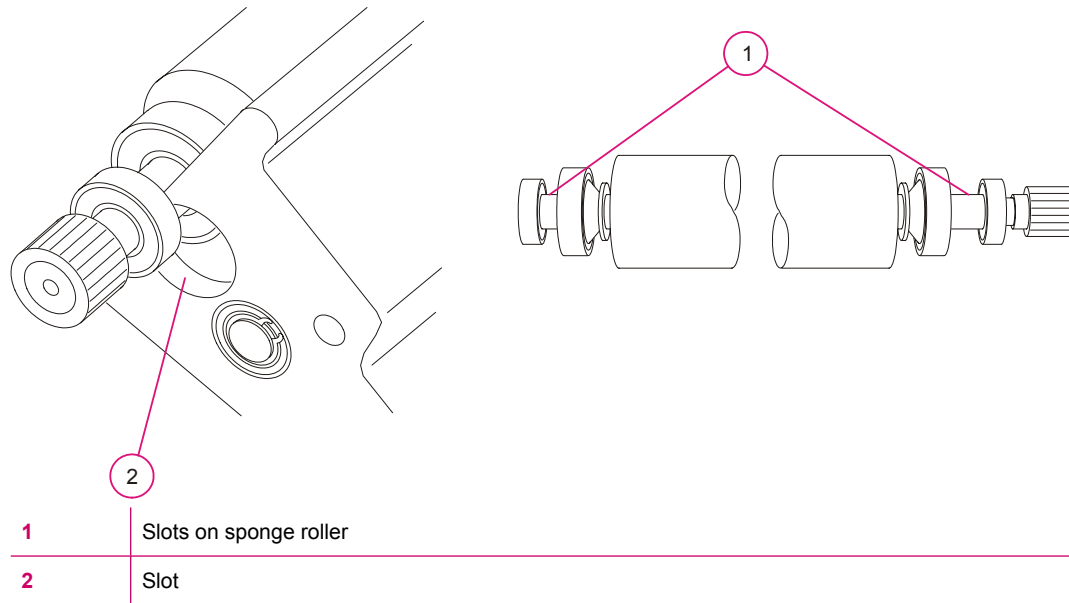


1	Rear end cap
2	Sponge roller housing
3	Housing assembly
4	Front end cap

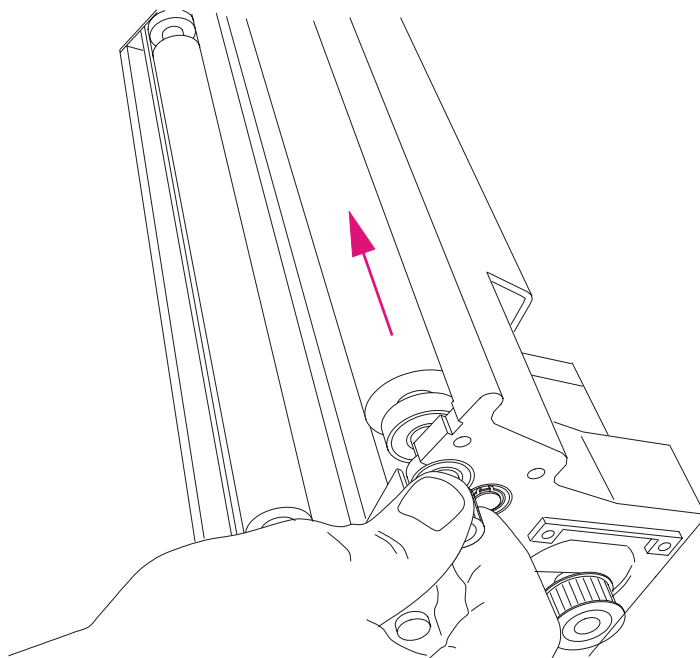
**To begin installing the sponge roller:**

1. Push in sponge roller housing (a).
2. Pull out front end cap (b).

**Figure 16-6** Fitting sponge roller into front end cap

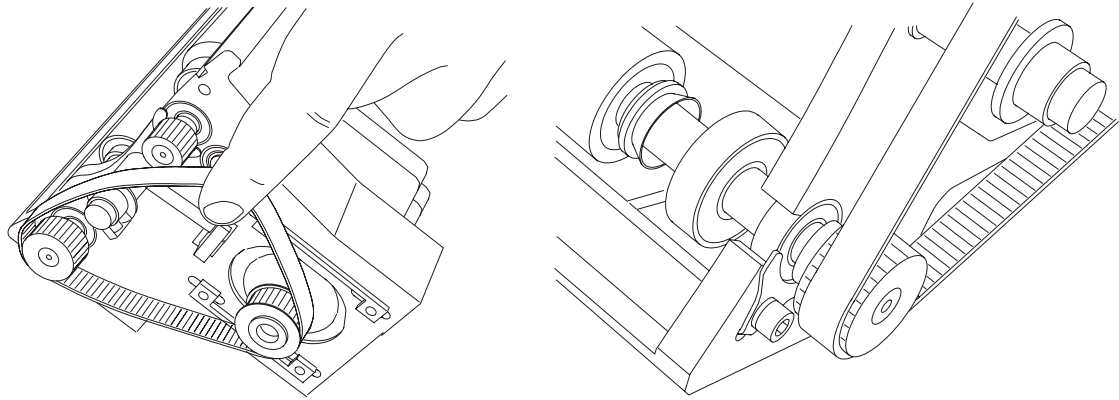


**Figure 16-7** Pushing sponge roller into rear end cap




Push roller as indicated to fit it into the rear end cap.

**Figure 16-8** Timing belt



Make sure the timing belt is centered on each pulley.

 **NOTE:** When putting the timing belt on the pulleys, turn the pulleys until the belt lies in the middle of the pulley. Make sure the motor screws are tightened.

---

# 17 Charge Roller Assembly

This chapter contains the following sections:

- [Overview](#)
- [Charge roller maintenance procedures](#)



## Overview

The charge roller assembly charges the PIP. The charge roller is mounted on the engine and engages to the PIP drum during printing.

- Clean the charge roller as part of the maintenance routines.
- Replace the charge roller when it is worn or damaged.

# Charge roller maintenance procedures

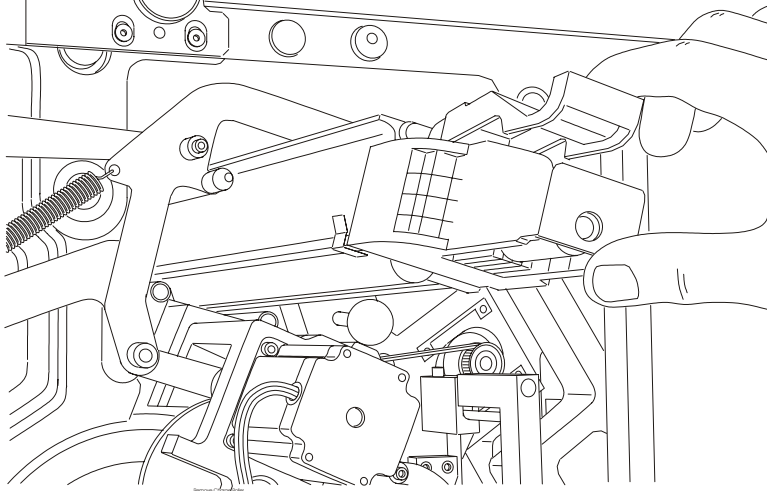
## Removing and replacing the charge roller

Remove the charge roller from the press to perform maintenance procedures.

**To remove the charge roller:**

1. Press an **Emergency Stop** button and open the front door
2. Press the charge roller latch, and pull the charge roller unit out.

**Figure 17-1** Removing the charge roller from the press



**To replace the charge roller unit:**

Push the charge roller in until it clicks into place.

## Replacing the charge roller

Replace the roller when it is worn or damaged.

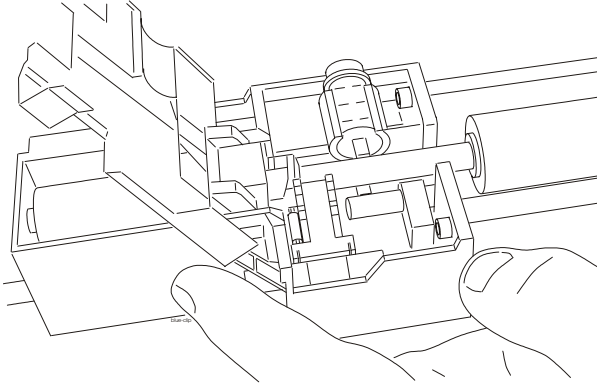
To see a video demonstration of this process, open the relevant window and press Help

**To replace the rubber roller:**

1. Remove the charge roller unit from the press by pressing the charge roller latch, and pulling the unit out. Place the unit on the worktable.

2. Unlatch the roller from the charge roller latches. Unlatch the metal latch, then open the blue clip.

**Figure 17-2** Charge roller latches



3. Remove the roller.
4. Install the new roller. Latch it into position.
5. If necessary, clean the roller using a lint-free wipe and imaging oil.
6. Reinstall the charge roller into the press.

## Replacing the carbon brushes

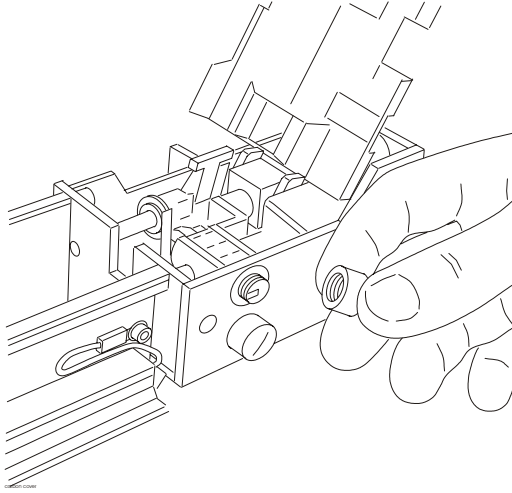
Replace the carbon brushes when they wear out. .

### To replace the carbon brushes:

1. Remove the charge roller unit by pressing the charge roller latch, and pulling the unit out. Place the unit on the worktable
2. Remove the rubber roller. See above. .
3. Remove the carbon brush caps.
4. Push the carbon brushes out of the charge roller unit.
5. Install the new carbon brushes.
6. Install the carbon brush caps.

7. Reinstall the rubber roller.
8. Reinstall the charge roller in the press, and lock it in place. The unit is locked when you hear a click.

**Figure 17-3** Removing the carbon brush covers



## Cleaning the charge roller

Clean the charge roller as part of your maintenance routine.

To see a video demonstration of this process, open the relevant window and press **Help**

---

△ **CAUTION:** Wear safety gloves for this procedure, and use only IPA to clean charge roller.

---

### To clean the charge roller:

1. Place the press in **Standby** and press an **Emergency Stop** button.
2. Remove the charge roller from the press.
3. Clean the charge roller using a lint-free wipe dampened with imaging oil.
4. Clean the balancing roller and the rest of the assembly using IPA.
5. Reinstall the charge roller in the press, and lock it in place. The unit is locked when you hear a click.



---

# 18 Pre-transfer erase (PTE)

This chapter contains the following sections:

- [Overview](#)
- [Cleaning the PTE](#)

## Overview

The PTE lamp discharges the PIP to allow it to record a new image for the next separation. The PTE lamp consists of an array of LEDs mounted on top of the air knife, below the PIP drum.

The PTE lamp is covered by a plastic cover to protect it from ink drips and substrate dust.

Ink drops on the PTE cover hinder full PIP discharge. This results in light or dark strips running in the process direction.

- Clean the PTE cover weekly, or whenever it is dirty.

# Cleaning the PTE

- Clean the PTE cover weekly, or whenever it is dirty.
- To determine if the cover is dirty, examine the strips with a magnifying glass.

If the cover is dirty, you will notice that the screen dots seem splattered. The screen dots should be round.

---

△ **CAUTION:** Wear safety gloves and glasses for this procedure.

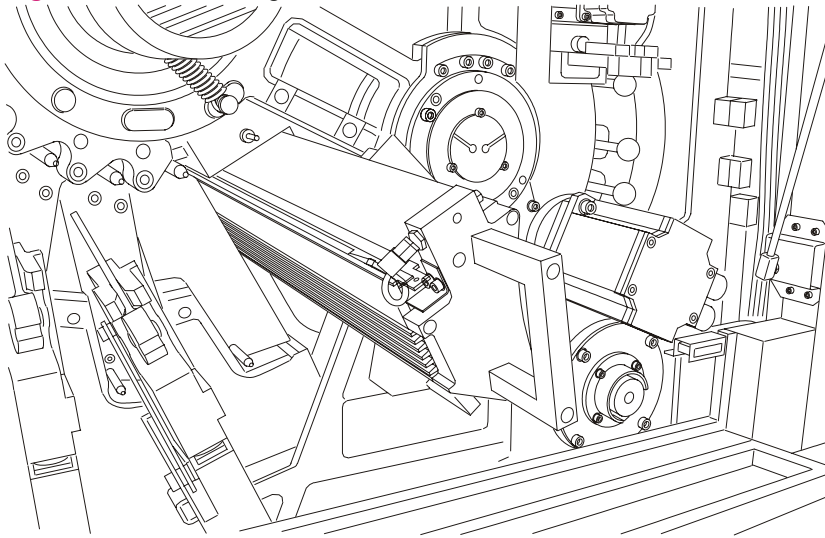
---

To see a video demonstration of this process, open the relevant window and press Help

To clean the PTE :

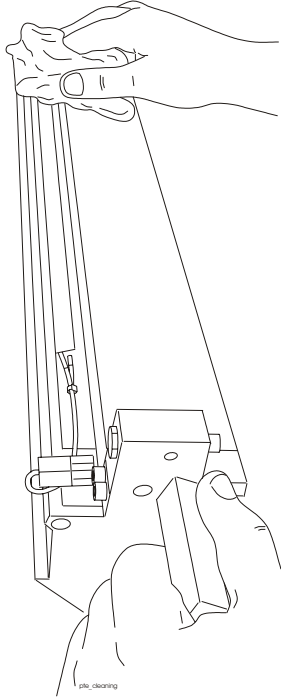
1. Press an **Emergency Stop** button and open the front door.
2. Remove the PTE from the press.
3. Clean the protective cover using a lint-free wipe dampened with imaging oil.
4. Make sure that no paper debris or dust have accumulated in the air knife.
5. Reinstall the PTE into the press.
6. Close the front door and release the **Emergency Stop** button.

**Figure 18-1** Removing the PTE

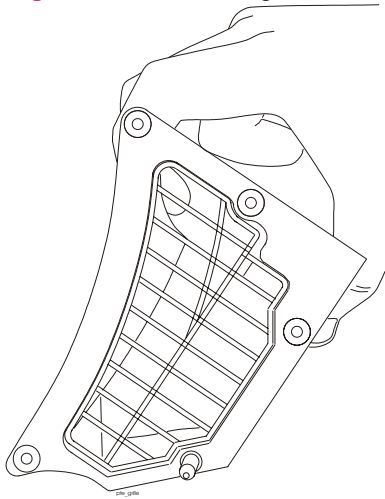




**Figure 18-2** Cleaning the PTE cover



**Figure 18-3** Checking the air knife



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# 19 Exit Roller

This chapter contains the following sections:

- [Overview](#)
- [Cleaning the exit roller](#)

## Overview

Ink drops on the PTE cover hinder full PIP discharge. This results in light or dark strips running in the process direction.

- Clean the exit roller weekly, or whenever it is dirty.

# Cleaning the exit roller

- Clean the exit roller weekly, or whenever it is dirty.

△ **CAUTION:** Wear safety gloves and glasses for this procedure.

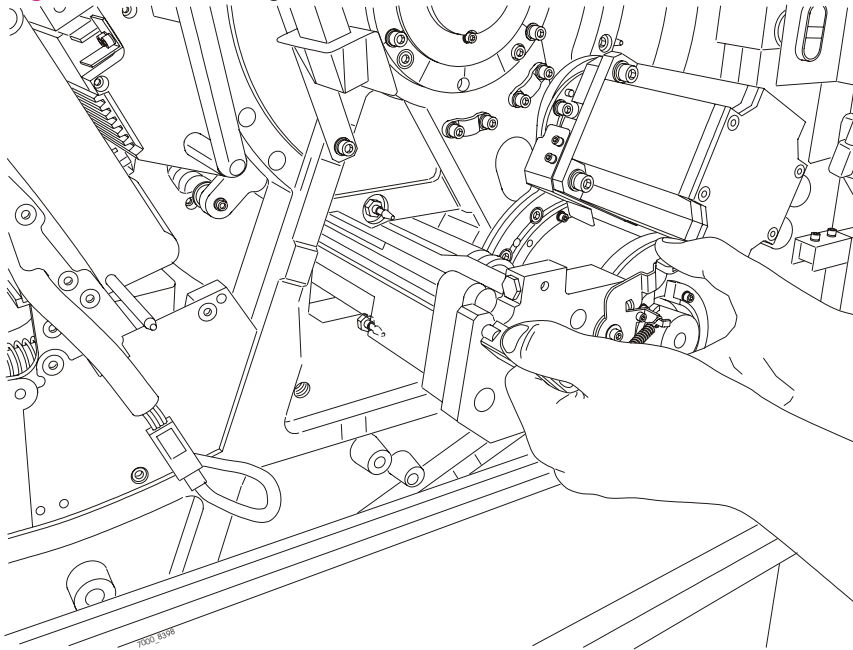
---

To see a video demonstration of this process, open the relevant window and press Help

**To clean the exit roller:**

1. Press an **Emergency Stop** button and open the front door.
2. Remove the exit roller from the press.
3. Clean the exit roller using a lint-free wipe dampened with imaging oil.
4. Reinstall the exit roller into the press.
5. Close the front door and release the **Emergency Stop** button.

**Figure 19-1** Removing the exit roller





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# 20 Pre-heater

This chapter contains the following sections:

- [Overview](#)
- [Removing the pre-heater housing](#)

## Overview

The pre-heater unit uses four pre-heater lamps to heat the IMP drum. The lamp covers can become dirty, affecting the effectiveness of the pre-heater lamps.

Clean the pre-heater lamps as part of your maintenance routine.

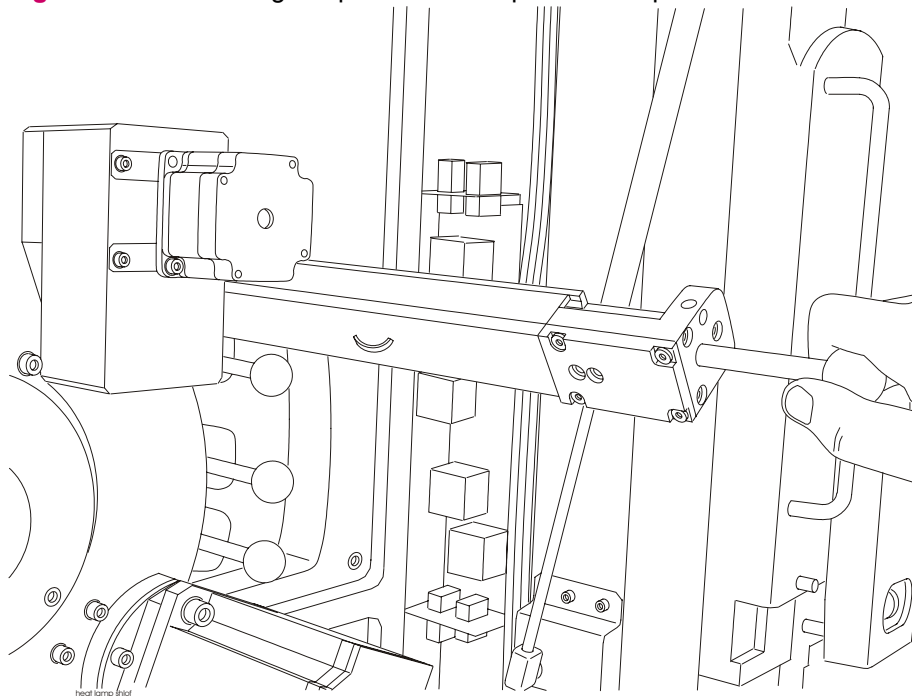
To see a video demonstration of this process, open the relevant window and press Help

△ **CAUTION:** Wear safety gloves and glasses for this procedure.

### To clean the pre-heater lamps:

1. Press an **Emergency Stop** button and open the front door.
2. Remove the pre-heater lamps from the press.
3. Clean each of the pre-heater lamp covers using a lint-free wipe dampened with IPA.
4. Reinstall the pre-heater lamps.
5. Close the front door and release the **Emergency Stop** button.

**Figure 20-1** Removing the pre-heater lamps from the press



## Removing the pre-heater housing

To see a video demonstration of this process, open the relevant window and press Help

Remove the pre-heater housing to access the press drums.

1. Remove the pre-heater lamps.
2. Open the upper feed door and lift the feeder bridge.
3. Lift the locking mechanism.
4. Pull the external heating housing from the handles.

Reinstall the pre-heater housing after you have finished working on the press drums. .

1. Slide the external heating housing into position until you hear the click, and the locking mechanism goes down.
2. Lower the bridge and close the upper feed door.
3. Install the external heater lamps.





---

# 21 Chiller Operation and Maintenance

This chapter contains the following sections:

- [Overview](#)
- [Warnings](#)
- [Operating conditions](#)
- [Control panel](#)
- [Maintenance](#)

## Overview

The press uses a water chiller to regulate ink and press temperature. The chilled water runs continuously through the press and ink tanks to keep these parts at their nominal predefined temperatures.

The cold water comes in from the water chiller. The water chiller connects to the press with a hose.

Monitor water chillers that are not connected permanently to a water source for water replenishing. You may need to replace the water and water filter, according to maintenance instructions.

## Chiller type


Your HP Indigo press is equipped with the following chiller:

- Donaldson Ultrafilter Ultracool mini (0240 HP Indigo), 50/60 Hz

Manufacturers can modify chiller models or model names. Contact the chiller manufacturer for details.

Contact your local customer care center for specific inspection and maintenance procedures for the chiller.

---

 **NOTE:** For Orion chillers used in Japan, refer to the Orion chiller user guide, or contact your local customer care center.

**NOTE:** An operation manual is supplied with each Donaldson chiller. Refer to that manual for detailed procedures.

---

## Warnings

The basic maintenance should be carried out by properly trained personnel, and if necessary, under the supervision of a person qualified for this job.

- 
- △ **WARNING!** The chiller units must always operate with the panels closed to enable the inlet of fresh air only through the condenser.
-

## Operating conditions

The control thermostat in the chiller will control it in order to maintain the preset cold water temperature.

Water temperature at the inlet:

Nominal:	11° C (53° F)
Maximum:	30° C (86° F)

Cold water temperature at the outlet:

Nominal:	6° C (43° F)
Minimum:	5° C (40° F) <sup>1</sup>
Maximum:	15° C (60° F)

<sup>1</sup> To reach this temperature, it is necessary to add a 10% ethylene glycol to the water, and to contact your customer care center to adjust the chiller.

Temperature of the ambient air:

Nominal:	25° C (77° F)
Minimum:	-15° C (5° F) <sup>(2)</sup>
Maximum:	50° C (122° F)

<sup>2</sup> For ambient temperatures below 5°C (40° F), it is necessary to add ethylene glycol or propylene glycol to the cooling water. Refer to the operation manual supplied with your chiller to determine the correct concentrations.

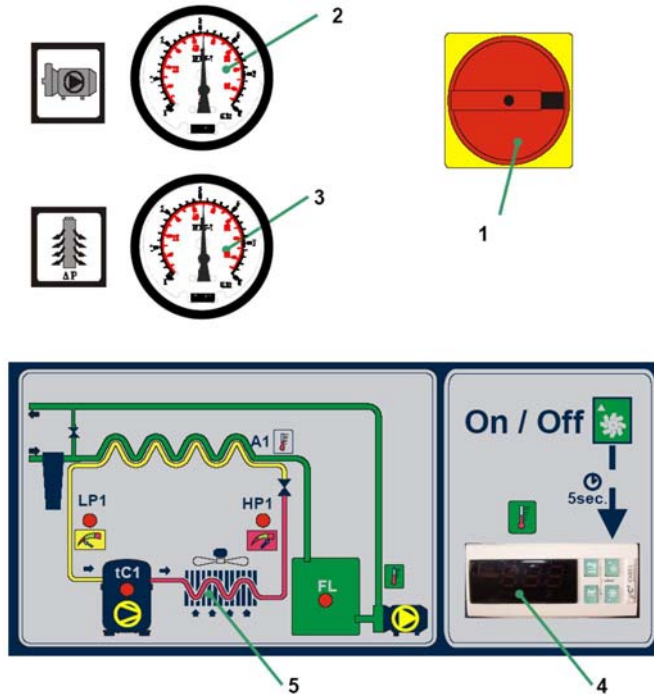
**△ CAUTION:** Do not use automotive antifreeze. Use lab grade ethylene glycol, or refrigerator fluid only! Do not use an ethylene glycol concentration above 30 percent—this would damage the water pump.

# Control panel

## Components of the control panel

The control panel consists of the following elements:

**Figure 21-1** Chiller control panel

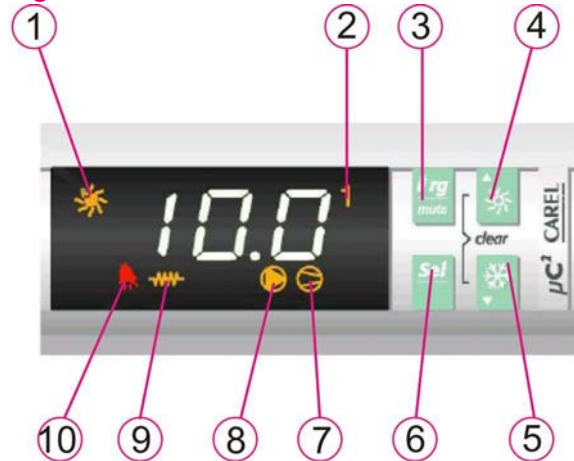


- 1. Main power switch:** Connects and disconnects the chiller unit from the power supply.
- 2. Water pressure gauge:** Indicates the pressure supplied by the pump.
- 3. Water filter pressure gauge:** Indicates the pressure drop of the water filter and the evaporator
- 4. Control thermostat:** Indicates the cold water temperature at the outlet of the ultracool unit, and enables it to be regulated.
- 5. Flow diagram:** Helps identify the alarms and signals that appear in the thermostat display.

## Control thermostat

During normal operating conditions, the display of the control thermostat shows the cold water temperature measured by the probe. In the 50 Hz version, the display shows the temperature in degrees Celsius, and in the 60 Hz version, it shows it in degrees Fahrenheit.

**Figure 21-2** Chiller control thermostat



1	On/Off indicator — indicates when the chiller is turned on	6	Sel
2	Compressor timer indicator	7	Fridge compressor On indicator — blinks while compressor delays start, steady once compressor starts
3	Prg	8	Water pump On indicator
4	Up	9	Glycol warning — lit when antifreeze is needed
5	Down	10	Alarm indicator

**If an alarm sounds:** Press the PRG button to silence the alarm. The alarm code will stay until the cause of the alarm disappears.

**Alarm indications** — when the alarm indicator is lit, the display shows the alarm code:

- FL — Low water level alarm or pump overload
- A1 — Antifreeze alarm
- tC1 — Compressor overload alarm
- LP1 — Low refrigerant pressure
- HP1 — High refrigerant pressure
- Ht — High water temperature
- E1, E2, E4 — Sensor disconnected, short-circuited, or faulty
- EPr — EEPROM error during operation

- EPb — EEPROM error at start-up
- ELS — Low supply voltage
- EHS — High supply voltage



# Maintenance

## Weekly

1. Verify that the water temperature indicated on the control thermostat ([Figure 21-2 Chiller control thermostat on page 194](#)) is approximately at the set point.
2. Verify the water level in the tank.
3. Verify the state of the water filter. If the pressure drop exceeds 1 bar (10 psi), change the filter element.

## Monthly

1. With the unit disconnected (the main power switch is off), clean the condenser with a blast of compressed air, from the inside toward the outside.
2. Clean the housing, internally and externally, eliminating the dust present, especially on the water pump rack.

## Yearly

Change the water inlet filter element, and refill the water circuit .

---

# A Supplies and jigs

This appendix contains the following sections:

- [Imaging supplies](#)
- [User maintenance supplies](#)
- [User tools and jigs](#)
- [General supplies](#)

# Imaging supplies

Description	Part number
HP photo imaging plate (6 units)	Q4402A
HP photo imaging plate (1 unit)	Q4404A
HP image transfer blanket kit (8 units)	Q4621A
HP ElectroInk MK-4.x—Black (4 cans)	Q4056C
HP ElectroInk MK-4.x—Cyan (4 cans)	Q4057C
HP ElectroInk MK-4.x—Magenta (4 cans)	Q4058C
HP ElectroInk MK-4.x—Yellow (4 cans)	Q4059C
HP ElectroInk-MK-3.2—Orange (4 cans)	Q4091A
HP ElectroInk MK-3.2—Violet (4 cans)	Q4093A
HP ElectroInk MK-3.2—Green (4 cans)	Q4092A
HP ElectroInk MK-3.2—Rhodamine Red (4 cans)	Q4086A
HP ElectroInk MK-3.2—Bright Yellow (4 cans)	Q4087A
HP ElectroInk MK-3.2—Reflex Blue (4 cans)	Q4088A
HP ElectroInk MK-3.2—Transparent — for Ink Mixing System only (4 cans)	Q4089A
HP ElectroInk MK-4.x— Black — for Ink Mixing System only (10 cans)	Q4085A
HP ElectroInk MK-4.x— Cyan — for Ink Mixing System only (10 cans)	Q4084A
HP ElectroInk MK-4.x— Magenta — for Ink Mixing System only (10 cans)	Q4083A
HP ElectroInk MK-4.x— Yellow — for Ink Mixing System only (10 cans)	Q4082A
HP imaging oil MK-4.x (4 bottles, 4 liter each)	Q4313A
HP imaging agent (1 liter)	Q4314A
HP Imaging oil recycling agent (4 bottles, 1 liter each)	Q4315A
BID 59 unit	CA345–12560
Kit calibration Y (2 units)	Q4067A
Kit calibration M (2 units)	Q4069A
Kit calibration C (2 units)	Q4071A
Kit calibration K (2 units)	Q4073A

## User maintenance supplies

Description	Part number
Imaging oil filter (10 microns, diameter 5.1 inches, length 10.7 inches)	0100-2395
Imaging oil filter (10 microns, diameter 5.1 inches, length 10.7 inches)	
Cleaning station wiper (length 2 mm [0.08 inch]) (18 units)	Q5202A
PIP underlayer (1 unit)	Q4403A
Carbon filter (1 unit)	MFL-0013-01
Spin on filter for (for ink replacement filter)	MFL-1901-01
Charge roller (3 units)	Q5203A
Impression paper (30 units)	Q4620A
Bias contact — ITM (1 unit)	CA397-00200
Bias contact — Charge roller (1 unit)	CA344-01251
Kit suction fingers 24 u (1 kit)	CA340-70010

## User tools and jigs

Description	Part number
PIP underlayer installation jig	CA045-15640
PIP underlayer scraper	MTZ-0285-01
Blanket scraper	MPT-4829-01
Filter extractor	MTZ-0260-01
Ink stopper	MJX-0996-51
BID stand	CA340-61030
Imaging oil clean sensor brush	MPX-9542-01
Density sensor cleaner	MJX-0221-51


# General supplies

## Accessories

Description	Part number	Supplier
IPA (1 liter)	MCH-0027-01	Available at any pharmacy
Disposable gloves, nitrile	MTS-0006-01	Available at any pharmacy
Gloves, heat resistant	MTS-0003-01	
Synthetic cleaning wipes, lint-free	MTS-0009-03	Global Logistic 21902-985, Texwipe TX1009 Alpha wipe or equivalent
Cotton swabs	MTS-0007-01	Available at any pharmacy
Cleaner, liquid organic (for removing ink stains from cloth)	MCH-0115-51	Global Logistic LC02-1017 or equivalent

## Substrate treatment

Description	Part number
Topaz, 10%	MPS-2056-42
Topaz, 17%	MPS-2088-41
Sapphire indicator	MCH-1121-41
Sapphire solution, 5%	Q4303A

 **NOTE:** For lubricants, contact your local HP supplier.

**NOTE:** For supplies required for the HP IndiChrome ink mixing system, refer to the HP IndiChrome ink mixing system user guide.

**NOTE:** Orders for supplies may be handled through the HP Indigo portal:

<http://www.hp.com/go/indigo>



## B Service and support

To obtain service, please contact the customer care center (CCC) within your country/region:

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<b>Europe</b>	
Germany:	+49 (0) 6995307080
France:	+33 (0) 149932498
UK:	+44 (0) 2072950038
Italy:	+39 0 238591081
Belgium:	+32 (0) 26264803
Netherlands	+31 (0) 43 3565900
Luxembourg:	+352 (0) 2730 2067
Ireland:	+353 (0) 1 605 8409

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**Distribution Channels (DC):** +31 (0) 20 6545543

**North America:** 1-800-204-6344

**Israel:** +972 8 938 1818

### **North America**

Hewlett-Packard Company

Indigo Division

165 Dascomb Road

Andover, MA 01810-5897

USA

### **International**

Hewlett-Packard Company

Indigo Division

Limburglaan 5

6221 SH Maastricht

The Netherlands

### **Israel**

Hewlett-Packard Company

Indigo Division

Kiryat Weizmann

P.O. Box 150

Rehovot 76101, Israel





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# Glossary

**attention lights** Attention lights are located on the input and exit sides of the printing engine. The green light is on in Ready state, and flashing in Printing and Getting Ready states. The yellow light is on for all errors and for warning LEDs. The red light flashes when the bypass key is inserted, and a buzzer sounds before the press starts to rotate.

**Binary Ink Developer (BID)** The press builds ink inside the BID, and transfers the ink to the image areas on the PIP. Each BID participates in the generation of a different separation, although the units are identical.

**blanket** A fabric coated with natural or synthetic rubber, which is clamped around the blanket cylinder, and which transfers the ink from the press plate to the substrate.

**bridge (alignment bridge)** A unit for transporting and aligning substrate from the feeder to the printing engine.

**chiller** The press uses a water chiller to regulate ink and press temperature.

**cleaning station** A wetting sponge/wiper unit that cleans the PIP between printing cycles.

**CMYK** The four process colors normally used in printing: cyan, magenta, yellow, and black.

**color adjustment** A procedure used to ensure color repeatability between runs on the press.

**copy** One printed unit of a publication.

**densitometer** A device that measures the density and dot size of ink to make certain they are consistent throughout the run. If they are not consistent, it adjusts the press to compensate for deviation.

**density (ink)** The amount of ink solids suspended in the imaging oil.

**density (optical)** A measure of the relative difference between a white area and a toned or black area. Can be applied both to black and white and color. Or, the ability of a material to absorb light. It is inversely proportional to the amount of light reflected or transmitted through the sample.

**Dot Area (DA)** The dot size. Defined as a percentage of total coverage.

**duplex conveyor** The conveyor that receives substrate from the perfecter and transfers it to the grippers in duplex printing mode.

**exit conveyor** The conveyor that transports substrate from the perfecter to the stacker.

**feeder** A feed unit that attaches to the printing engine and supplies substrate to it at the proper rate.

**grippers (on impression drum)** The grippers hold the substrate sheet firmly during the printing process.

**ILD** Inline densitometer. The ILD is installed inside the press, and provides continuous measurements of the optical density on printed substrate. *See Densitometer*

**image** The computerized representation of a picture or graphic.

**imaging oil** The liquid carrier of the ink pigment.

**impression drum** Impression cylinder, the cylinder of a printing press which brings the substrate into contact with the printing plate or blanket cylinder.

**ITM (the intermediate transfer media) drum** The drum around which the blanket is wrapped. It transfers the image from the PIP to the substrate.

**job** The entire publication to be printed.

**laser beam** Acronym for Light Amplification by Stimulated Emission by Radiation. The laser is an intense light beam with a very narrow band width that can produce images by electronic impulses.

**look-up-table (LUT)** A set of values in tabular form for input or output relationships. Such tables are most often associated with color calibration issues and determining how a color system translates from one color space to another.

**non-image** A non-inked area of the printed sheet.

**perfector** The part that receives substrate from the impression drum and transfers it to the duplex conveyor and grippers in duplex printing mode, or to the exit conveyor when printing is complete.

**photo imaging plate (PIP)** The plastic/foil photosensitive image layer that wraps around the PIP drum. Scorotrons electrically charge the PIP, and lasers then discharge it at points corresponding to an image.

**PIP drum** The drum around which the PIP foil is wrapped.

**PostScript** A Page Description Language (PDL) created by Adobe® Systems for describing graphic information.

**Pre-Transfer Erase (PTE)** The PTE lamp discharges the PIP to enable the recording of a new image (that is the next separation).

**print cleaner** An HP Indigo press function that cleans the blanket without manual intervention.

**process** The printing from a series of four or more separations in order to produce intermediate colors, shades, and tones.

**proof tray** Used to pull a print sample as a proof.

**raster image processor (RIP)** The processor that converts mathematical and digital information into a series of dots.

**register** In printing and image assembly, the exact fitting of two or more images, ensuring exact alignment with each other.

**sample tray** Used to pull a print sample as a proof.

**scorotron unit** An HP Indigo press subsystem that charges the PIP prior to exposure to laser beams.

**screen** The breaking down of an image into variable-sized dots that facilitate the reproduction of shades in monochrome printing.

**screen ruling** The number of lines per inch of a screen. Screen rulings are available from 144 lines per inch to 250 lines per inch.

**separation** In color printing, the outcome of the breakdown of color images to CMYK. Each separation represents a single color.

**sheet** A single physical sheet of substrate, complete with one or more pages printed on one side (simplex), or both sides (duplex).

**simplex** One-sided printing.

**spread** One side of the printing sheet.

**stacker** A stacking unit that attaches to the substrate exit side of the printing engine. The stacker collects substrate from the printing engine, and stacks it in either the offset or straight mode.

**tray** One of three units contained in the feeder which hold substrate sheets.

**user interface** The man-machine interface, usually consisting of a keyboard, monitor, and mouse.

**utility cabinet** Houses serviceable components of the press.

**writing head** An HP Indigo press subsystem composed of laser diodes that defines the image on the PIP.



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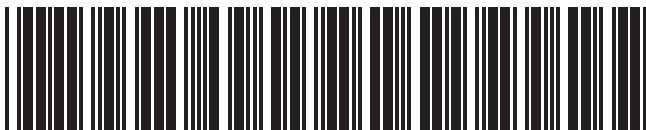
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