

HP Designjet 10000s Printer series

Printer Maintenance Guide



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1 Introduction

This Printer Maintenance Guide describes the regular inspection and maintenance procedures to be performed by users. The maintenance procedures described in this maintenance guide are also available in your printer's User's Guide. Failure to perform daily maintenance procedures may result in damage to your printer printheads and will invalidate your warranty. For further user information about the HP Designjet 10000s Printer series, please refer to the User's Guide and warranty information that came with your printer.

Before starting the maintenance procedures, spend some time reading the safety precautions and notes which are contained in the User's Guide.



WARNING! Never switch off the printer without following the correct procedures. Even with the storage liquid installed, never leave the printer off for more than four weeks. Leaving your printer off for more than four weeks can cause permanent damage that cannot be repaired. In all other cases make sure you observe the appropriate maintenance guidelines.



CAUTION The printer has an internal clock which allows it to wash the printheads automatically, flushing some ink through the printhead, which keeps the printheads in good condition. This is done after the first 20 hours without printing and every three days. If the printer is switched off for a long period, this process does not happen. If the ink does not flow through the printheads from time to time, the ink will dry inside the nozzles, reaching a point where it is impossible to recover them and the printhead will fail. If the printer must be switched off for a long period of time, the customer must use either the optional HP Ink System Cleaning Kit or HP 790 Storage Kit to recover or protect the printheads.

Automatic maintenance and cleaning will **ONLY** be performed when the printer is switched on and powered up. If you switch it off on the front panel or with the power switch on the rear of the printer this maintenance will **NOT** be performed.

2 Regular maintenance guide

The printer requires regular inspection and maintenance. The table below lists all regular inspection and maintenance procedures. For details on each procedure, see the page reference.

Maintenance checklist

Category		Inspection/Maintenance
1	Daily inspection and maintenance	Wiper blade and sponge cleaning on page 4
		Capping unit cleaning on page 9
		IQ Print on page 22
2	Monthly inspection and maintenance	Normal printhead recovery on page 22
3	To leave the printer for an extended period in the power off state (more than two weeks but less then four weeks)	Ink system storage on page 12
4	When returning the printer from an extended period in the power off state (more than two weeks but less then four weeks)	Clean ink system on page 14
		Charge the ink system on page 15 after cleaning the ink system
5	When returning to the printer after being switched off for an extended period (less than two weeks)	Clean ink system on page 14
		Charge the ink system on page 15 after cleaning the ink system
6	To leave the printer in or return it from a power off state of more than four weeks	Contact HP Support.

Daily printhead maintenance



WARNING! Failure to perform daily maintenance procedures may result in damage to your printer printheads and will invalidate your warranty.



CAUTION If you need to leave the printer unattended for any reason, ensure that the **printer is on**, the **ink cartridges are full**, and the **waste ink bottle is empty**, so that automatic maintenance (performed after the first 20 hours without printing and every three days) can be completed successfully for the time you are not present. If needed, install new ink cartridges. The ink cartridges that you replace can be reused when you return to your printer, if they still contain ink.

Daily printhead maintenance will ensure optimal print quality and the life of your printheads. The ink in your HP Designjet 10000s Printer dries very quickly, so maintenance procedures ensure that the ink does not dry in the capping unit, the wiper blades, the ink tubes and printheads.

- Wiper blade cleaning
- Wiper sponge cleaning
- Cap cleaning



NOTE Perform the above every day before printing.
Always use the specified cleaning liquid and HP cleaning swabs.

Wiper blade and sponge cleaning



CAUTION Make sure that the wiper cleaning liquid does not drip on to other parts of the printer. If the wiper cleaning liquid drips on to the belt or any nearby sensors, this could cause serious damage to the printer.

Always use the safety gloves provided with the HP 790 Wiper Cleaning Kit when using the HP 790 Wiper Cleaning liquid.

When the **PRINTER READY** message appears on the front panel, press the **ONLINE** key to take the printer offline.

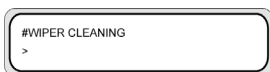
1. Press the **ONLINE** key.



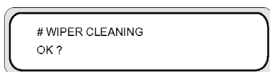
2. Press the **SHIFT** key to display the **PH.MAIN** menu.



3. Press the ▲ key to enter the **PH. MAIN** menu and scroll to the **WIPER CLEANING** option using the ▼ key.



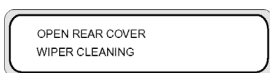
4. Press **OK** to select **WIPER CLEANING**.



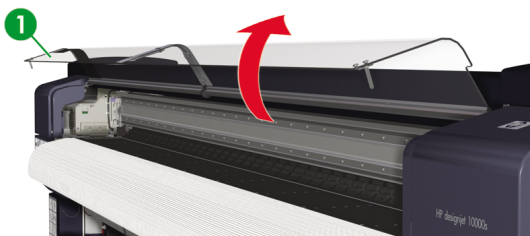
5. Press **OK** to confirm.

The wiper blade is moved to its cleaning position.

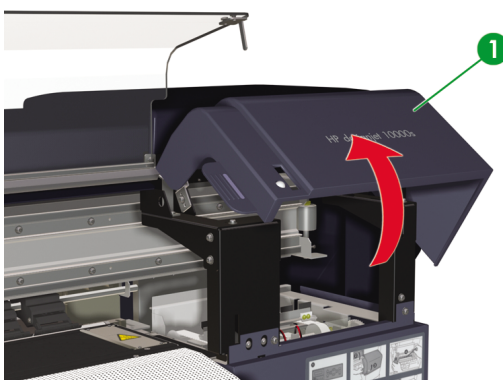
The front panel displays the following message:



6. Open the rear cover (1).



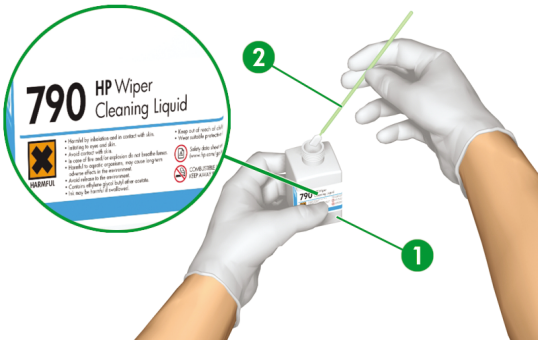
7. Open the wiper cover (1).



8. Dip a new HP cleaning swab (2) into the wiper cleaning liquid (1).



CAUTION Make sure that you use the wiper cleaning liquid and **not** the capping liquid to clean the wiper blades. The capping liquid is not strong enough to clean the wiper blades properly and could cause damage to the printheads.



WARNING! Avoid contact between ink and skin, eyes, and clothing.

Immediately wash skin with soapy water.

Remove clothing soaked with ink from contact with skin.

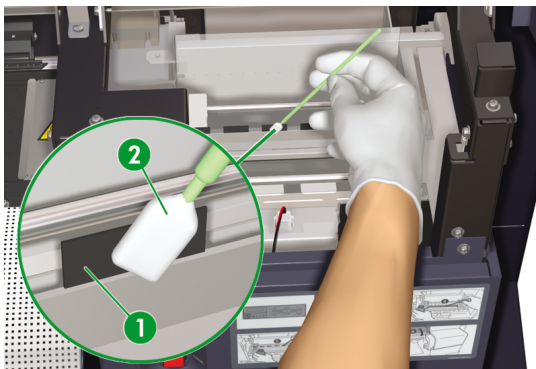
Use an approved eye wash station if ink is splashed into eyes and consult a doctor if necessary.

If an approved eye wash station is unavailable, flush eyes with cold water and consult a doctor if necessary.

9. Use the HP cleaning swab (2) to clean the front and back parts of the wiper blades (1).

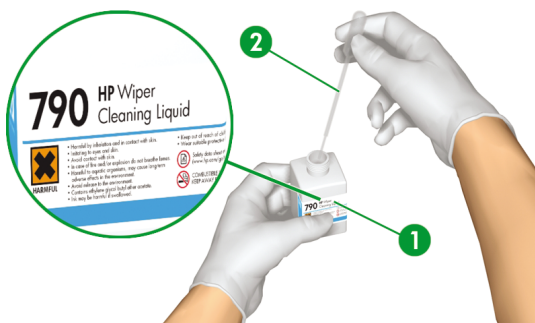


CAUTION Make sure that the wiper cleaning liquid does not drip on to other parts of the printer. If the wiper cleaning liquid drips on to the belt or any nearby sensors, this could cause serious damage to the printer.



NOTE Make sure that there is no dried ink stuck on the wiper blades. Also make sure that the wiper blades are not damaged. Clean the front and back of the blades with the HP cleaning swab moistened with the HP wiper cleaning liquid.

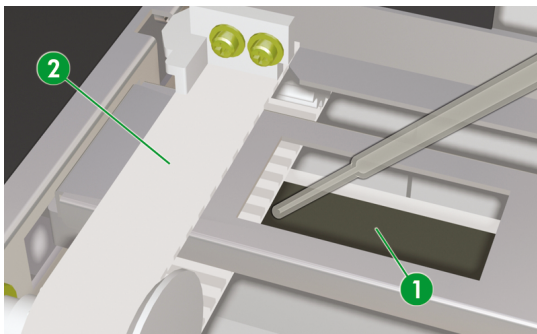
10. Apply a full dropper of the wiper cleaning liquid (1) on to the sponge using the dropper (2).



CAUTION Make sure that the wiper cleaning liquid does not drip on to other parts of the printer. If the wiper cleaning liquid drips on to the belt or any nearby sensors, this could cause serious damage to the printer.



11. Make sure you also moisten both ends of the sponge (1) under the belt (2) on each side.



Capping unit cleaning

This cleaning procedure will remove any dried ink and particles from the capping unit.



CAUTION Make sure that the cap cleaning liquid does not drip on to other parts of the printer. If the wiper cleaning liquid drips on to the belt or any nearby sensors, this could cause serious damage to the printer.

Always use the safety gloves provided with the HP 790 Cap Cleaning Kit when using the HP 790 Cap Cleaning liquid.

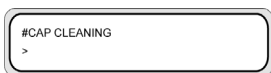
1. Press the **Online** key.



2. Press the **Shift** key to display the **PH. MAIN** menu.



3. Press the **▲** key to select the **PH. MAIN** menu.
4. Scroll to the **CAP CLEANING** option using the **▼** key and press **OK** to select.



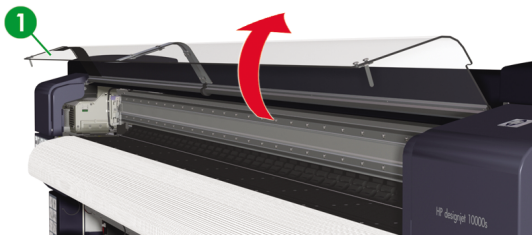
5. Press **OK** again to confirm your selection.

The carriage will automatically move to the wiping side of the printer so that the Capping Unit can easily be accessed. The front panel displays **CARRIAGE MOVING — PLEASE WAIT**.

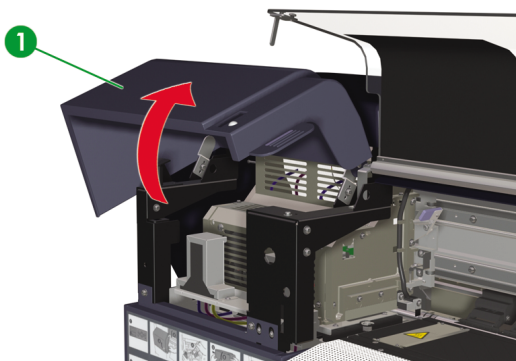


CAUTION Once the carriage is out of the capping unit, the cleaning procedure must be done as quickly as possible (within five minutes) to avoid permanent damage to the printheads. The printer will emit an acoustic warning (beep) while the carriage is out of the capping unit.

6. Open the rear cover (1).



7. Open the cap cover (1).

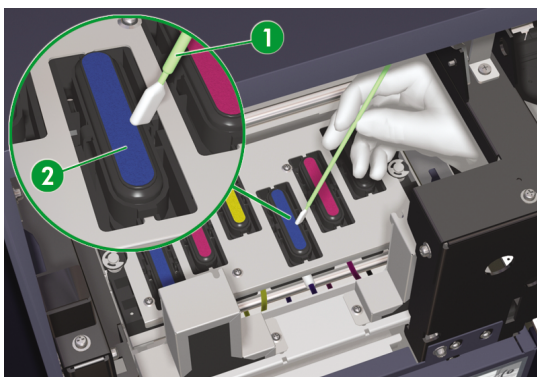


8. Dip a new HP cleaning swab (2) into the HP 790 cap cleaning liquid (1).



CAUTION Make sure that you use the HP 790 cap cleaning liquid and **not** the wiper cleaning liquid to clean the capping unit, otherwise you could cause damage to the printheads.

9. Clean the top outside edges and the upper surfaces of **all** six caps (2). Use one side of a swab (1) per color and then use a new swab for the next color.



10. Close the cap cover and rear cover. The printhead carriage will return to the capping unit position (home position) automatically.

Prepare for extended power down (two to four weeks)



WARNING! Never switch off the printer without following the correct procedures. Even with the storage liquid installed, never leave the printer off for more than four weeks. Leaving your printer off for more than four weeks can cause permanent damage that cannot be repaired. In all other cases make sure you observe the appropriate maintenance guidelines.



CAUTION The printer has an internal clock which allows it to wash the printheads automatically, flushing some ink through the printhead, which keeps the printheads in good condition. This is done after the first 20 hours without printing and every three days. If the printer is switched off for a long period, this process does not happen. If the ink does not flow through the printheads from time to time, the ink will dry inside the nozzles, reaching a point where it is impossible to recover them and the printhead will fail. If the printer must be switched off for a long period of time, the customer must use either the optional HP Ink System Cleaning Kit or the HP 790 Storage Kit to recover or protect the printheads.

Automatic maintenance and cleaning will **ONLY** be performed when the printer is switched on and powered up. If you switch it off on the front panel or with the power switch on the rear of the printer this maintenance will **NOT** be performed.

Have available an empty waste ink bottle and the HP 790 Ink System Storage Kit (part number CB297A). This kit includes:

- Six ink system purging cartridges
- Six ink system storage liquid cartridges

Ink system storage

This procedure allows you to empty the ink system of ink and fills it with storage liquid that will preserve the ink system if you do not intend to use the printer for a period of time (two to four weeks).



CAUTION Do not open or close the rear covers or change the position of levers while the ink system storage process is being performed, or the operation may have to be restarted from the beginning. This will result in waste of the storage liquid. If the ink system storage process has to be restarted, **new** storage liquid cartridges will be needed (i.e. a new HP 790 Ink System Storage Kit).

1. Press the **ONLINE** key.
2. Press the **SHIFT** key to display the **PH. MAIN** menu.



3. Press the **▲** key to select the **PH. MAIN** menu and press **OK**.
4. Press the **▲** or **▼** keys to select the **STORE INK SYS** option and press **OK**.
5. When the front panel displays the waste ink bottle warning message, check whether the waste ink bottle is present and make sure it is empty.



CAUTION This process will produce over 3 liters of waste liquid so the waste ink bottle must be empty.

6. Press the **OK** key once the waste ink bottle has been checked.
7. Follow the instructions on the printer front panel that will guide you through each step of the process.

When the front panel refers to **PURGING CAR**, install or remove an HP 790 Ink System Purging Cartridge that came with your HP 790 Ink System Storage Kit.

When the front panel refers to **SL CARTRIDGE**, install or remove an HP 790 Ink System Storage Liquid Cartridge that came with your HP 790 Ink System Storage Kit.

8. Once the ink system storage process has been completed, the front panel will return to the **STORE INK SYS** menu.
9. You can now turn the printer off.

When you start to use your printer again you will first have to carry out the processes described in [Clean ink system on page 14](#) and [Charge the ink system on page 15](#).

When returning to the printer after being switched off for an extended period (less than two weeks)



CAUTION If you need to leave the printer unattended for any reason, ensure that the **printer is on**, the **ink cartridges are full**, and the **waste ink bottle is empty**, so that automatic maintenance (performed after the first 20 hours without printing and every three days) can be completed successfully for the time you are not present. If needed, install new ink cartridges. The ink cartridges that you replace can be reused when you return to your printer, if they still contain ink. If you need to leave the printer unattended for a longer period (up to four weeks) you should use the process described in [Prepare for extended power down \(two to four weeks\)](#) on page 12.

To clean the ink system you will need the HP 790 Ink System Cleaning Kit (part number CB296A). This kit includes:

- Six ink system purging cartridges
- Six cleaning liquid cartridges

Clean ink system

This option allows you to clean dry ink from the ink system with cleaning liquid after the printer is powered on after being stored for less than two weeks.



CAUTION Do not open or close the rear covers or change the position of levers while the Service Clean process is being performed, or the operation may have to be restarted from the beginning. This will result in waste of the cleaning liquid. If the Service Clean process has to be restarted, **new** cleaning liquid cartridges will be needed (i.e. a new Ink HP 790 Ink System Cleaning Kit).

1. Press the **Online** key.
2. Press the **Shift** key to display the **PH. MAIN** menu.



3. Press the **▲** key to select the **PH. MAIN** menu and press **OK**.
4. Press the **▲** or **▼** keys to select the **CLEAN INK SYS** option and press **OK**.
5. When the front panel displays the waste ink bottle warning message, check whether the waste ink bottle is present and make sure it is empty.
6. Press the **OK** key once the waste ink bottle has been checked.
7. Follow the instructions on the printer front panel that will guide you through each step of the process.

When the front panel refers to **PURGING CAR**, install or remove an HP 790 Ink System Purging Cartridge that came with your HP 790 Ink System Cleaning Kit.

When the front panel refers to **CL CARTRIDGE**, install or remove an HP 790 Ink System Cleaning Liquid Cartridge that came with your HP 790 Ink System Cleaning Kit.

8. The extraction process starts and you need to recheck whether the waste ink bottle is present and is **not** full. Press the **OK** key once the waste ink bottle has been checked.

Once the cleaning ink system process has been completed, the front panel will return to the **PH. MAIN** menu.

When you start to use your printer again you will first have to carry out the process described in [Charge the ink system on page 15](#).

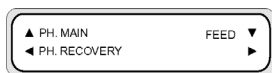
Charge the ink system

When the printer is left for a long time and you need to clean the ink system, then you will need to charge the ink system with ink. You will need ink cartridges with more than 350 cc of ink available.

If any of the ink cartridges contain less than 350 cc of ink, or if an ink system purging cartridge has been installed, a warning message is displayed on the front panel. Install a correct ink cartridge that contains more than 350 cc of ink in the indicated slot in order to continue.

To charge the ink system:

1. Press the **ONLINE** key.
2. Press the **SHIFT** key to display the **PH.MAIN** menu.



3. Press the **▲** key to select the **PH. MAIN** menu.
4. Select the **CHARGE INK SYS** option and press **OK**.
5. When the front panel displays the waste ink bottle warning message, check whether the waste ink bottle is present and is **not** full. Check the waste ink bottle and press the **OK** key.
6. The charge process starts. Check whether the waste ink bottle is present and is **not** full. Check the waste ink bottle and press the **OK** key.

When the ink charge process is complete, the front panel displays the Ink Charge option.

Clean the exterior of the printer



CAUTION Wipe the printer clean with a soft cloth. A cloth moistened with a neutral detergent may be used. Do not allow liquid to enter the printer. This may create risk of fire and electrical shock and cause a malfunction. Do not clean the printer with benzene or paint thinner. This may damage the paint.

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

Clean the rear cover and media feed

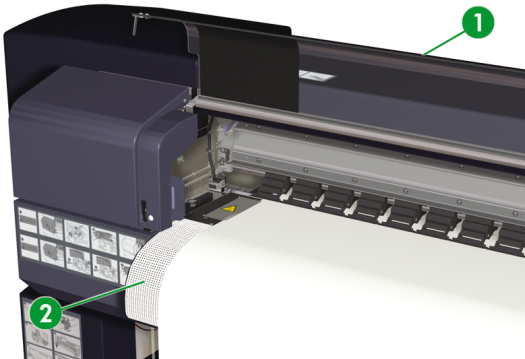


NOTE Do not attempt to remove dust from media by blowing it off. This may affect print quality.



CAUTION Wipe the printer clean with a soft cloth. A cloth moistened with a neutral detergent may be used. Do not allow liquid to enter the printer. This may create risk of fire and electrical shock and cause a malfunction. Do not clean the printer with benzene or paint thinner. This may damage the paint.

1. Unload all media from the printer.
2. Open the rear cover.
3. Using a damp cloth, clean the rear cover.
4. Using a damp cloth, absorb ink deposits on the media feed.
5. Remove dust using a vacuum cleaner.



1. Rear cover
2. Media feed

Clean the platen

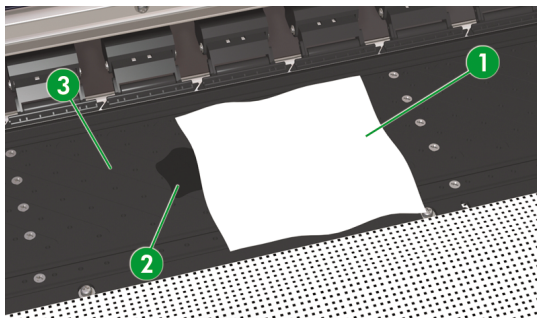
You should plan to clean your printer's platen on a regular basis, every few months or when needed. When glue adheres to the platen or there are ink marks on the platen, clean the platen according to the following procedures.



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

To clean the platen:

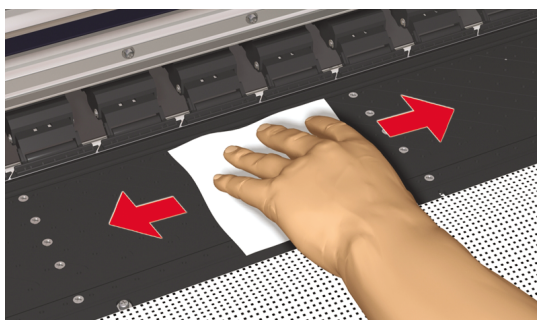
1. Unload all media from the printer.
2. Open the rear cover.
3. Using a soft cloth, absorb ink deposits.



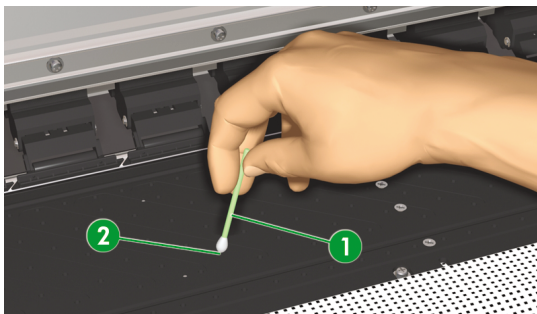
1. Soft cloth
2. Ink
3. Platen
4. Use a soft cloth slightly dampened with cleaning liquid to wipe off loosened ink deposits from the platen.



CAUTION Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly because you will leave too much moisture behind.



5. If there are ink deposits in the vacuum holes (2) on the platen, clean them using commercially-available 3 mm mini-cotton swabs (1) and then wipe off loosened ink deposits with a mini-cotton swab slightly dampened with cleaning fluid.

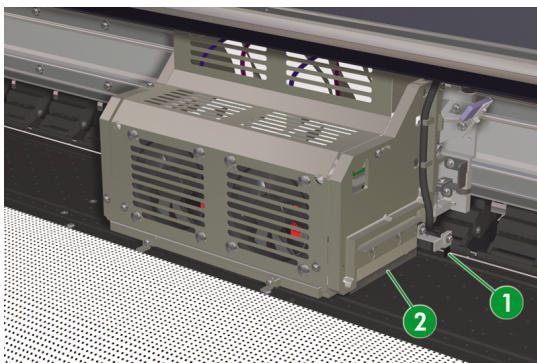


Carriage cleaning

You should plan to clean your printer's carriage shield and brush on a regular basis, every few months or when needed. When ink stained dust adheres to either it could then be transferred to the surface of the print job causing image quality problems.

To clean the platen:

1. Unload all media from the printer.
2. Open the rear cover.
3. Using a soft cloth, remove ink deposits from the carriage shield (2) and brush (1).



Replace the waste ink bottle



WARNING! The HP waste ink bottle has been specifically designed to contain waste ink from the printer. It is designed to work with the printer's waste ink quantity estimation system to alert the user when the bottle is full. It provides safe handling and disposal of waste ink when sealed with its attached cap.

Use only an HP waste ink bottle. The bottle must be installed according to instructions or waste ink may overflow.

An HP waste ink bottle must always be installed before turning the printer on. Automatic and manual service cycles produce waste ink that must be contained in an HP waste ink bottle.



CAUTION Do not remove the cap from its tether to the HP waste ink bottle. The cap is needed to seal the HP waste ink bottle properly for disposal.



WARNING! Always use both hands to remove and carry an HP waste ink bottle.

Keep the HP waste ink bottle upright. Do not place it on tables or shelves where it could fall.

Waste ink is combustible. Keep an HP waste ink bottle containing waste ink away from open flames, sparks, or other sources of ignition.

Never store waste ink in a glass container.

Never pour waste ink into a container filled with other chemicals.



CAUTION The level in the HP waste ink bottle must be checked by visual inspection to prevent overflow. If the waste ink level is above the indication line, the bottle must be replaced with an empty HP waste ink bottle.



NOTE Place a sheet of paper under the HP waste ink bottle on the floor when removing a bottle containing waste ink. This will help clean up any ink spills. If soaked with ink, treat the paper as a combustible material and dispose of properly.

HP recommends that you always keep a spare empty HP waste ink bottle available. Some maintenance procedures require installation of an empty HP waste ink bottle to prevent ink overflow.

The HP waste ink bottle contains organic solvents and must be disposed of in compliance with all local, state, and federal regulations. Always securely replace the cap on a full or partially-full the HP waste ink bottle after removing it from the printer to prevent ink spills.

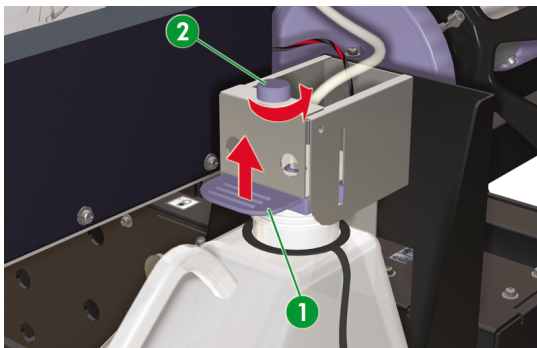
Ensure all operators are trained in the use of emergency equipment such as eye wash stations and fire extinguishers and know where they are located.

NOTE Do not replace the waste ink bottle during printing.

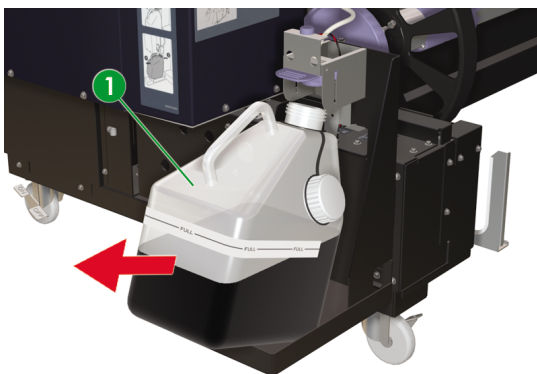
The waste ink bottle must be checked on a daily basis to make sure that it is not full.

If full, it should be emptied as follows:

1. Loosen the screw (2) and lift up the lever (1) to release the waste ink bottle.

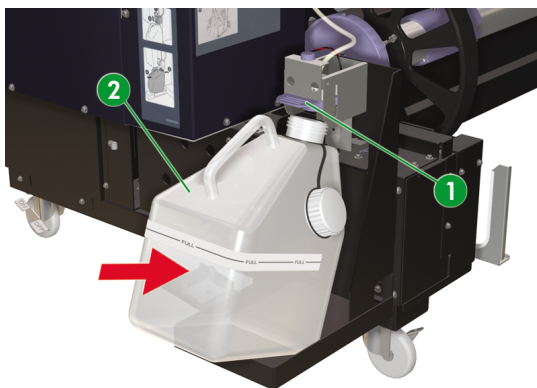


2. Carefully pull out the waste ink bottle (1), taking care not to spill ink on the printer or on the floor.

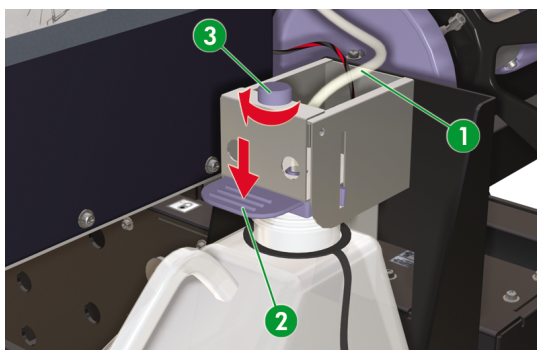


3. Seal the waste ink bottle with its cap and dispose of the filled bottle properly according to all local, state, and federal regulations.

4. Lift the lever (1) and install the empty waste ink bottle (2) .



5. Lower the lever (2) and insert the ink tube (1) into the bottle, and tighten the screw (3). Make sure the waste ink bottle is securely in position.



6. The front panel will request you to reset the waste ink counter.

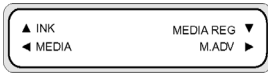
#BOTTLE EMPTY
*NO

7. Select **YES** and press the **OK** key to reset the waste ink counter.

#BOTTLE EMPTY
*YES

Normal printhead recovery

1. Press the **Online** key.



2. Press the **Shift** key to display the **PH. RECOVERY** menu.



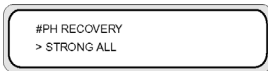
3. Press the **◀** key to enter the **PH. RECOVERY** menu.



4. Press the **▲** or **▼** keys to select **NORMAL ALL**.



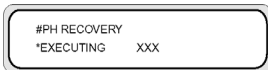
NOTE If **NORMAL ALL** is not sufficient to clean the nozzles, then try a **STRONG** option for the set of printheads that are affected. Perform the IQ Print first to determine which set of printheads are affected.



5. Press the **OK** key.



6. Make sure that the waste ink bottle is not full, and then press the **OK** key again.



NOTE The printhead recovery process may take several minutes.

7. When cleaning is completed, press the **Online** key.

IQ Print

Use the IQ print to check that all printhead nozzles are working correctly. Perform the IQ print every day before using your printer.



NOTE Use the IQ print to check that all printhead nozzles are working correctly after cap cleaning. If there are any defects in the IQ print, you can try to perform a Normal Printhead Recovery to clean the printheads.
