

INKJET411

HP 901 Problem Resolution

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No...your cartridge is not empty since it was just refilled. Many of the HP printer error messages you'll encounter using HP 901/901XL refilled ink cartridges can typically be overcome using the steps provided below, however in some cases, a marginally performing cartridge might be considered faulty by the printer. In this event, printer bypass and HP diagnostic 'Tap Test' procedures are also provided to help you temporarily print or diagnose the cause of failure.

Refill Alert Notifications

1. "Non-Genuine Cartridge" / "Used Print Cartridge"

This message is typically generated by the printer since it recognizes the used cartridge state (i.e. when original cartridge reaches an 'out of ink' condition this information is recorded). When the refilled cartridge is installed back into the printer, the printer recalls the cartridge was already used and displays:

- **Non-genuine cartridge**
- **Original HP ink in xxxxx cartridges has been depleted**
- **Used Tri-color or Black print cartridge installed**
- **Counterfeit or Used Cartridge Detected**



These types of messages/indications are completely normal and are nothing to be alarmed over; simply press proceed/continue/accept/yes or Ok to dismiss the prompt, if available. This should allow you to resume print operations following a cartridge alignment.



NOTE: After the HP 901 ink cartridges are refilled a variety of nuisance (annoyance) alert messages may be observed at the printer and/or host computer. The printer will continue to attempt to communicate low ink warning messages during the life of the refilled ink cartridge -- this is normal and nothing to be alarmed over. While the ink level cannot be tracked or reset in the HP Officejet J4500 thru J4600 and 4500

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series printers, the majority, if not all, of these warning messages and/or steady indicator lights, may simply be ignored and the printer should continue to printer normally. Ink level warnings and indicators provide estimates for planning purposes only.

Also, there is no need for concern if a '**Counterfeit Cartridge**' message is received; this is a nuisance (annoyance) message which can also be ignored.



Under certain circumstances, a "**Print Cartridge Error**" message can be ignored and printing may be allowed until the printer prohibits such operations from continuing – but normally this is not the case. If printing is not permitted then refer to 'Printer Rejects Cartridge' and 'Tap Test' diagnostic procedures to troubleshoot further.



NOTE 1: After a cartridge is refilled, the printer cannot track the ink level, nor can it be reset. Where applicable, ignore low/empty alert messages and any ink sensor warnings, by pressing 'Ok' or 'Continue'. In most cases, the only way to gauge current ink levels is by monitoring output print quality (watch for color loss during printing).

NOTE 2: If you are installing a black, photo, or gray photo print cartridge, slide it into the right slot.

2. Common Error Messages/Display Conditions:

- a. Steady lights (non-serious) or blinking lights (severe = no printing allowed) on the printer
- b. A similar message that says "Incompatible Cartridge" alert
- c. A printer window or toolbox appears that shows a message that a "Cartridge is Missing"
- d. "Replace your black/color cartridge" message
- e. "Cartridges Error" message

It is suggested to keep a set of replacement cartridges available at all times to avoid possible printing delays.

Ink Level Monitoring Problems (with possible error messages)

After a cartridge is refilled, the printer cannot track the ink level. Ignore any incorrect low/empty alert messages and any ink sensor warnings, by pressing 'Ok' or 'Continue'.

New HP 901 Cartridges



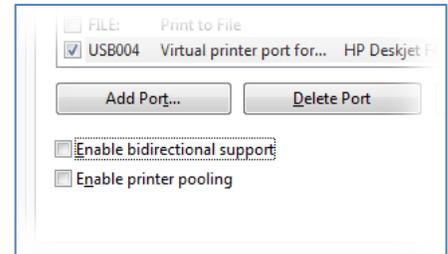
Refilled HP 901 Cartridges



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(2) Ink Warning Disable Procedure (PC & MAC): Some HP printers come with software that warn the customer when an ink cartridge is almost out of ink. The printer's software communicates with the ink cartridges in the printer to determine the amount of ink left. If the ink cartridges in the printer have been refilled or are not genuine HP ink cartridges, the printer's software will display a warning that the cartridge is almost out of ink. Disabling this warning involves a short and simple process.

- a. Look for a message that reads "Don't Show This Again" on the "low ink" warning message. If such a message shows up, click on the box next to it to disable the warning.
- b. Click on the "Start" button on your computer. Select "Printers and Faxes." Right-click on your printer's icon and select "Properties."
- c. Click on the "Ports" tab in the properties window and click on the check mark in the box that says "Enable Bi-Directional Support." Make sure the box no longer has a check mark and click on "Apply" then "OK."



CAUTION: Disabling Bi-directional communications support will cause many of the non-printing functions to cease working (i.e. scanning/faxing, etc). This is not a suggested solution.

Macintosh Procedure (i.e. HP OfficeJet 6500 on a MacBook Pro OS 10.7.4)

1. Open HP Utility.
2. Select All Settings.
3. Select Message Center.
4. Near top right, select Settings.
5. Change your alert settings.

Printer Rejects Ink Cartridge with Error Message(s)

HP 901 Cartridge Errors

As the electronics in the ink cartridge and the printer communicate with each other, sometimes the printer will incorrectly identify an ink cartridge as empty or non-functional. These error messages can appear as PC screen messages, printer LCD display messages, or as blinking exclamation lights on the printer. Depending on your printer model and type of error condition, please adhere to the suggested printer reset procedure below as the button selections vary slightly between printer model series*.



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NOTE: In some cases the cartridge may have internal electrical damage and may need to be replaced – refer to the ‘Error Bypass’ and ‘Tap 41’ diagnostic tests down below for advanced cartridge diagnosis.

1. HP 901 ink cartridges can display the following severe cartridge error messages:

- **Incompatible Print Cartridges**
- **Print Cartridges Missing or Not Detected**
- **Cartridges Installed Incorrectly**
- **Print Cartridge Problem: Refer to device documentation to troubleshoot**
- **Cartridge in slot on left/right is not intended for use in this product**
- **Cartridge not intended for use in this printer**
- **Exclamation light blinking**

NOTE: These errors may also occur with the new HP cartridges under certain circumstances (i.e. defective cartridge and worn or damaged printer). The cartridge might need to be reinstalled, the electrical contacts could be dirty, the cartridges might need to be aligned, or there could be a failure of the cartridge or printer (i.e. cartridge contact area inside printer).

NOTE: Refer to Cartridge Error Bypass instructions and HP Tap Tests to diagnose cartridge issues further.

2. “Unrecognized Cartridge” (or other printer messages)

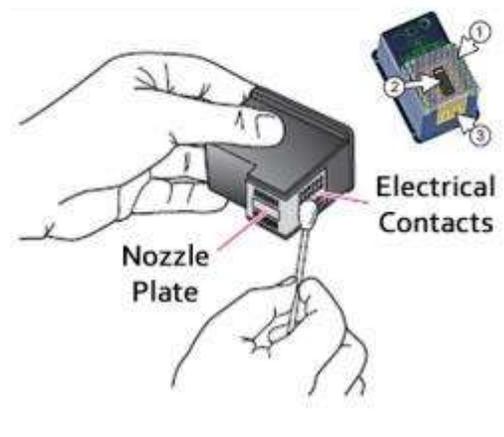
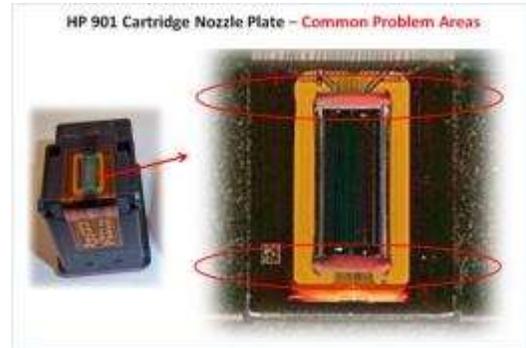
The contact between the ink cartridge and the printer must be clean for proper functioning. If any dirt, ink or paper dust is on the contacts, the printer may indicate that the ink cartridge is bad. To ensure a clean contact, follow the steps below:

(1) Remove and re-install the cartridge:

- Turn the printer on; open the printer to access the print cartridges.
- Remove the suspect cartridge(s) from the station. Clean electrical contacts if dirty.
- Re-install the cartridges in their stations.
- Close the printer.
- Turn off the printer for a few seconds and then turn it back on. Check to see if error clears.

(2) Clean the contacts on the printer and the ink cartridge

- Refer to complete **HP Cartridge/Printer Cleaning Procedure** section below.



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(3) Re-set the printer (i.e. "Ink Delivery System Failure"...error message)

- a. At the Officejet J45xx/J4600/4500 printer's control panel, press the * and # keys simultaneously.
- b. Press **123**.
- c. Use arrow keys to find **Resets Menu** and press **Ok**.
- d. Use arrow keys to find '**Semi-Full Reset**'. Press **Ok** to activate.
- e. If problem persists, refer to 'Printer Error Bypass' procedures below or run the 'Tap 41' diagnostic test to help evaluate cartridge health.

3. Cartridge Error Bypass (Checksum Code Clear) Procedure:

The following HP 901 cartridge error bypass/checksum code clear procedure has been used by many officejet printer customers to temporarily bypass fatal cartridge alert messages, including 'Cartridges Error', 'Incompatible Print Cartridges', 'Refer to device documentation to troubleshoot' along with several other cartridge error messages which prohibit printing.



NOTE: While it is possible to temporarily bypass a fatal cartridge error message by clearing the checksum code, in most cases this will allow you to only print one more print job (per each checksum clearing action). Therefore this should not be considered a permanent solution as the ink cartridge is likely suffering from marginal internal electrical performance and will eventually need to be replaced.

First verify you have repeatedly reseated both ink cartridges to rule out connectivity issues.



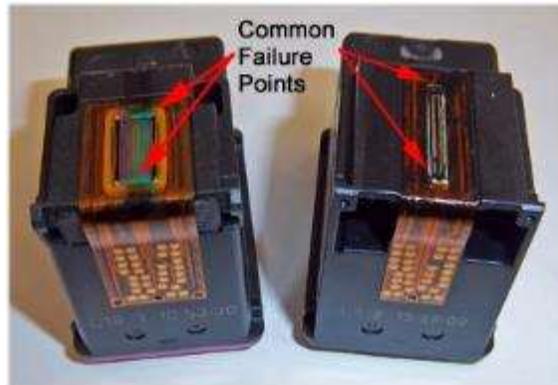
Cartridge Error Bypass Steps:

- a. At the Officejet J45xx/J4600/4500 printer's control panel, press the * and # keys simultaneously
- b. Press **123**
- c. Use arrow keys to find **Information Menu** and press **Ok**.
- d. Use arrow keys to find '**Checksum for relock data input**' and press **Ok**.
- e. A **5-digit** number should be displayed after few seconds.



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- f. Attempt to send a print job to printer [NOTE: with a marginally performing ink cartridge, this typically results in allowing 1 entire print job to be printed at a time].
- g. If this does not permit any print operations then the cartridge has severe internal electrical damage and will need to be replaced.



(2) 'Semi-Full' reset procedure:

- a. At the Officejet J45xx/J4600/4500 printer's control panel, press the * and # keys simultaneously
- b. Press **123**
- c. Use arrow keys to find **Resets Menu** and press **Ok**.
- d. Select **'Semi-Full'** and press **Ok**. This will reset the printer to the default factory condition.

NOTE: A semi-full reset will reset user settings to the factory defaults, Language and country settings on some models.

HP Tap Tests (Built-In Diagnostic Tests)

Following a severe cartridge error message which prevents print operations, to determine if either of the HP 901 black or color cartridges (and/or HP 901XL Black cartridge) has (1) electrically failed, (2) is potentially mating improperly and (3) all nozzles are firing properly, conduct an internal 'Tap 41' or 'Tap 10' diagnostic test on the printer.



NOTE: 'Tap 41' and 'Tap 10' diagnostic tests are available on all 901-ink series printer models.

1. HP Officejet J4500-J4600 & 4500 series printers* – Tap 41 Diagnostic Test Procedure:

- a. Load Letter/A4-size paper into paper feed tray.
- b. If any lights are blinking, first press Cancel to attempt to clear.

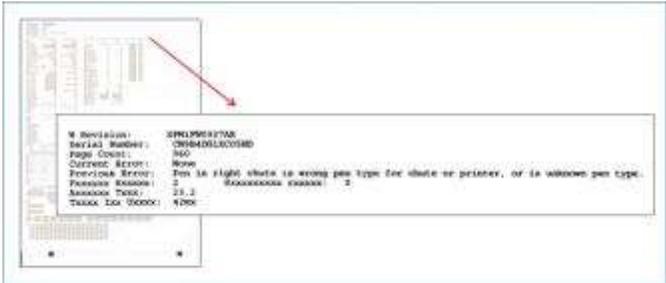
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NOTE: If the upper section displays the error message “**Pen in left (right) chute has 1 or more open or shorted control lines**” then the cartridge could be installed incorrectly or suffers from an internal electrical nozzle failure. Remove and firmly reseal cartridge(s) to eliminate connectivity issues. Repeat the Tap 41 Test.

j. Inspect the Tap 41 diagnostic test print in 3 sections to determine electrical health of both ink cartridges.

1) Check for presence of a ‘current’ cartridge error message in top section

“Too Many Good Nozzles.” / “Pen in chute -open, shorted control lines” / “Wrong pen Type” / “Unknown Pen Type” / “Bad TSR”



NOTE: In some

cases the ink cartridge may just need to be reseated (i.e. for some of errors listed above). Perform the Tap 10 test to determine which color is out (if Tap 41 prints in some color other than composite black) using the same general procedure above; enter “Code = 10” to activate – refer below.

2) Check cartridges functional nozzle count (ideally a good **Color cartridge** nozzle count is = **1248** nozzles, while **Black** = **336** nozzles).

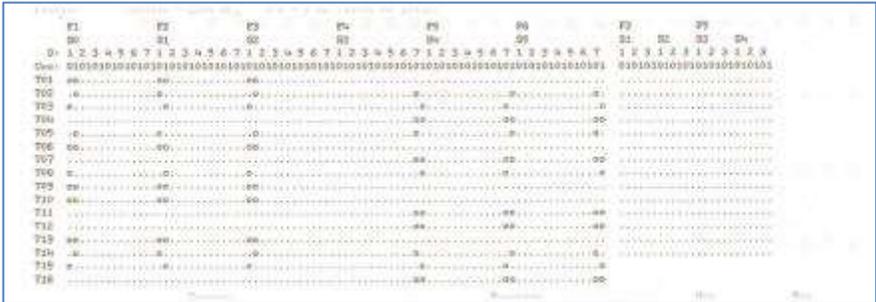
A loss of more than 20% of the nozzles would be considered deficient to support adequate print operations, *however in some cases a loss of only 4-6 nozzles can cause a cartridge to become electrically unusable (for example if only 252 black nozzles, of a normal 336 nozzles, are shown in the diagnostic test, this would indicate a 25% nozzle failure rate in the 901 or 901XL black ink cartridge).*

Nozzle Count	HP 901 Color	HP 901 Black
XXXXX XXXXXX1	0	0
XXXXX XXX1	1248	336

On the other hand, if greater than 1248 color or 336 black nozzles are good, then the cartridge is also considered electrically damaged and will likely need to be replaced.

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3) The presence of ?'s (question marks) within the lower section (T01 thru T16 lines) indicate damaged nozzles.

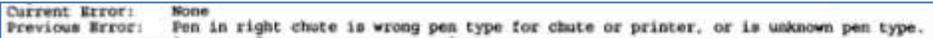


k. **Pass/Fail Criteria.** If the Tap 41 test print successfully prints (or attempts to print but page is blank) then the printer is operational and functional.

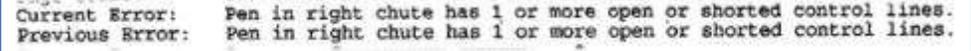
- 1) If normal printing is not possible, then either one (or both) of the ink cartridges are electrically defective and will need to be replaced.
- 2) As an option, you may perform the **Checksum Code Clear** procedure as a temporary solution which may allow some limited print operations (i.e. typically allows one job to be printed at a time, though print quality may be severely degraded or completely prohibited depending on cartridges electrical health). Refer to previous section.

3) Replace with a new cartridge and rerun tap 41 test ...the **'Previous Error'** message should be displayed at top of the diagnostic print

a. **Example #1** – ink cartridge was unseated (i.e. error has now been cleared):



b. **Example #2**- portion of cartridge nozzles are electrically bad – ink cartridge will likely need to be replaced (i.e. printer suffers “Refer to device documentation to troubleshoot” or “Cartridge(s) Error”):



4) Typically with the error message (“Too Many Good Nozzles...”, etc.), a significant number of blown cartridge nozzles displayed in the T01 thru T16 fields (indicated as ?'s), or more than 20% of nozzles are missing, signifies there is a damaged ink cartridge. Equally, if greater than 1248 (color) or 336 (black) nozzles are good, then the cartridge is electrically damaged.

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NOTE: Only the Tri-color ink cartridge (901 Color) is used to print the Tap 41 diagnostic test print so it must be partially functional. The Black cartridge (901 or 901XL) is NOT used for printing, though information about the Black ink cartridge's electrical performance will be shown in the printout. Print the Tap 10 diagnostic test pattern to check all 4 colors.

2. HP Officejet J4500-J4600 & 4500 series printers* – Tap 10 Diagnostic Test Procedure:

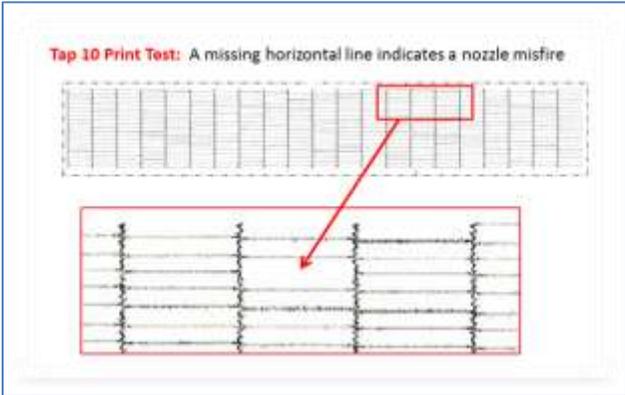
To help determine which cartridge nozzles and/or colors are misfiring perform the Tap 10 diagnostic print test.

- a. Load Letter/A4-size paper into paper feed tray.
- b. If any lights are blinking, first press Cancel to attempt to clear.
- c. Press and hold the **Cancel** (X) and **Ok** buttons at same time and release.
- d. The Tap 10 diagnostic test print should initiate.
- e. The 'Tap 10' diagnostic pattern should print, or attempt to print, indicating the printer is generally functional. A series of stair-step patterns and color and black density bars should be printed along with miscellaneous printer information settings.



Tap 10 Test Print

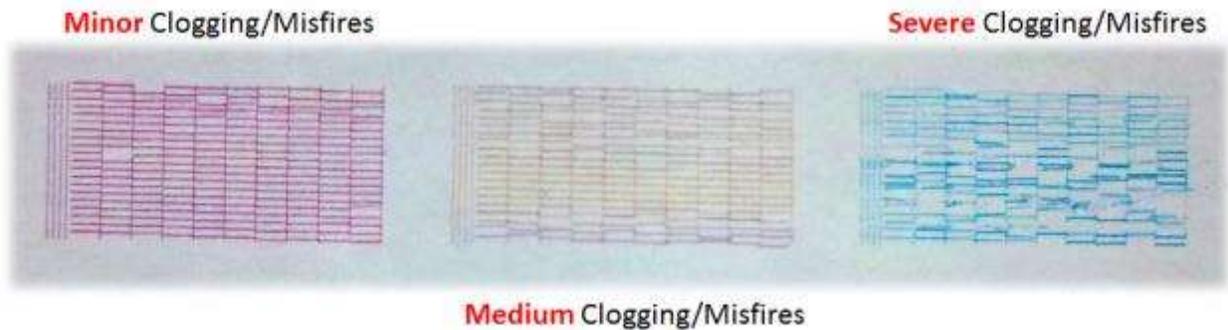
- f. Inspect each stair-step pattern. A missing horizontal line indicates a misfire or clogged ink nozzle. Typically, a loss of greater than 20% of total nozzles, for each color, can lead to degraded print quality performance depending on the print mode (i.e. draft, normal,



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best, etc.).

- g. For minor nozzle failures (i.e. less than 20 missing lines) it is suggested to run the printer clean utility or print a test print from the www.inkjet411.com web site.
- h. For nozzle losses greater than 20 it is suggested to thoroughly clean the ink cartridge and carriage flex cable contacts (refer to Cleaning Procedures below).



- i. If, after following thorough cartridge and printer cable cleaning, printer error messages persist and/or significant nozzle loss is visible in the Tap 10 diagnostic print (i.e. more than 20% nozzles are out in a single color or black), then the cartridge, or cartridges, may be electrically damaged and/or severely clogged. Perform cartridge cleaning; cartridge replacement may be required for severe misfires or printing failures.
- j. Install new ink cartridge(s) and repeat tap 10 diagnostic print test until the problem has been resolved. Run Tap 41 test to validate cartridge's electrical health.

Print Quality Issues

1. HP Cartridge / Printer Cleaning Procedure

If intermittent cartridge error messages persist or you have poor print quality ensure the cartridge's electrical contacts are completely clean of all ink and paper fiber residues. Follow the procedure below if you have streaks or smudges in your printed output and you have already performed all three cleaning levels in the Clean Print Cartridges utility.

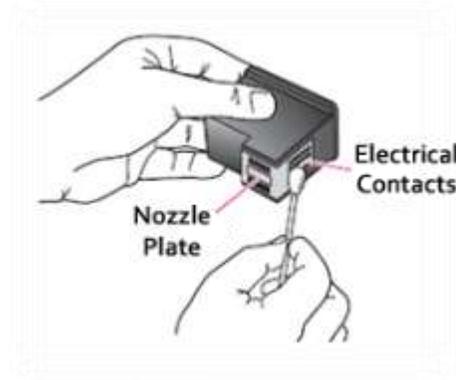
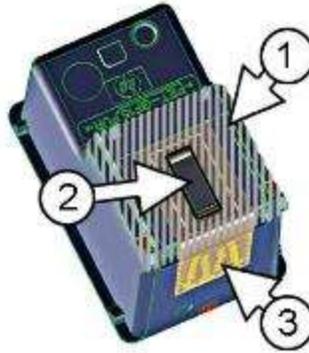
- a. Obtain cleaning supplies:
Clean distilled, filtered, or bottled water. Tap water may contain contaminants which could damage the cartridge. Clean cotton swabs or any soft, lint-free material that will not stick to the cartridges (i.e. coffee filters). Paper towel to rest the cartridge(s) on during cleaning.

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- b. Remove the cartridge and place it on a piece of paper with the nozzle plate facing up. If you see any debris or ink buildup, clean the cartridge as follows:
- c. Lightly moisten the lint-free cleaning material with clean water. Use the swab to wipe clean the faces and edges around the nozzle plate. The area to be cleaned is cross-hatched in the picture. Replace the cleaning material if it gets dirty.

Cleaning the cartridge:

- (1) – Clean in the cross-hatched area (pictured above).
- (2) – Only clean the nozzle plate (#2) if saturated/covered with ink; gently blot nozzle plate area to remove residue buildup.
- (3) – Only clean the copper-colored contacts (#3) if dirty (pictured below).



CAUTION: Unless dirty, do not touch either the nozzle plate or the copper-colored contacts. Touching these parts can cause clogs, ink failure, and bad electrical connections.

- d. Examine both cartridges. Even if the streaks are only visible in one color (streaks in black ink are commonly caused by fibers and debris stuck to the bottom of the tri-color print cartridge). Thoroughly clean the cartridge if you see any debris or buildup.



NOTE: A pencil eraser may also be used to clean the cartridges rear electrical contacts.

- e. Allow cartridge to sit for five minutes and/or use a new swab to dry the cleaned areas before you reinsert the cartridges into the printer.

NOTE 1: Do not touch the electrical contacts/surfaces with your bare fingers as there are oils in your skin which can interfere with proper cartridge connectivity and subsequent printer operations.

NOTE 2: Do not leave the print cartridges outside the printer for longer than 30 minutes. If a cartridge is left outside of the printer for too long, the ink will dry out and the cartridge will become unusable.



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- f. Gently blot the cartridge Nozzle Plate with a damp lint-free towel/wipe – a small amount of ink should be dispensed, and be visible, on the towel (all 3 colors should be present for a Tri-color cartridge).



- g. If no ink is dispersed from nozzle plate (i.e. visible on towel) or ink cartridge completely fails to print on paper after installed in printer, then more drastic cartridge and printer cleaning steps will likely need to be performed to resume printer operations.

- 1) Clean printer carriage flexible cable contacts using isopropyl alcohol (99%) on damp cloth (or cotton swab). Ensure no fibers remain on contact surfaces.



- 2) Immerse cartridge base (lower ¼ inch) in **very hot**, near boiling, distilled or de-ionized water for 2-4 minutes (**CAUTION!**).

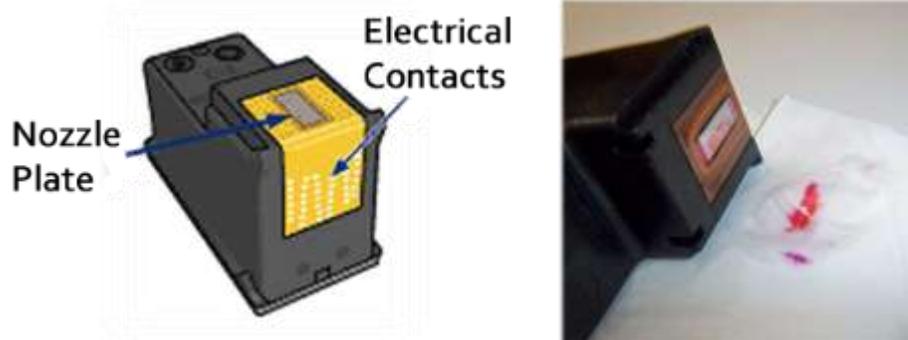
CAUTION



- 3) A few table spoons of Isopropyl rubbing alcohol may be added to water to help break down the dried ink within the nozzle plate. Do not leave cartridge in water more than 20 minutes.

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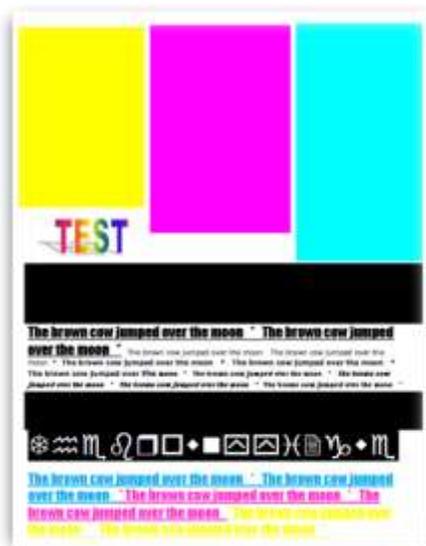
- 4) Completely dry the ink cartridge with a lint-free towel. Ensure the electrical contacts are thoroughly clean and dry. Blot cartridge nozzle plate to check for ink flow (i.e. commonly referred to “wetted” or “flowing”).



- 5) Reinstall cartridge into the printer and retest. If the cartridge fails to print then obtain a new ink cartridge.

NOTE: If the printer/cartridge is rarely used, or old, there is the possibility the internal foam has hardened (dried) to a point where the ink will not absorb properly into the foam and flow down to the nozzle plate (often cartridges may experience severe ink pooling or leaking at the bottom when this occurs). If this is the case then the cartridge will need to be replaced.

- h. Print a test print from either the printer’s control panel (i.e. Self-Test Report) or from the Inkjet411.com website (see Test Prints tab) to verify all colors are firing properly.



Test Print_CMYK.pdf (test file)



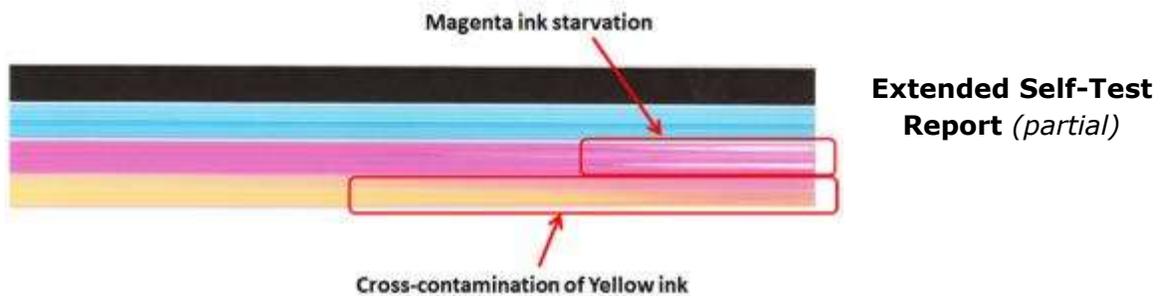
4-Color Test Print_CMYK.pdf (test file)

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2. Service Station Caps - Cleaning Procedure

If printed output appears to be smeared with multiple colors* then the service station or parking pad is likely dirty (i.e. full of residual ink buildup) and will need to be cleaned. In the example below the yellow ink is contaminated with magenta ink (“cross contamination”).

NOTE: The Extended Self-Test Report may be run on most C4200 thru C5200 printer models by pressing and holding **Cancel** button, then selecting **Black Copy** button (or similar procedure). Many of the HP 74-75 ink series printer models include a ‘Self-Test Report’ under the Tools menu; a quick print of the 4-color bars can aid in identifying which color is degraded or completely out.



NOTE: Ensure that paper thickness/paper weight does not exceed manufacturers suggested printer specifications...the majority of consumer inkjet printers can only handle up to 24 lb plain paper thickness or up to 260 gsm photo paper weight.**

General service station cleaning procedure:

The maintenance station is located at far-left side of printer.

- With power on, open cartridge access door, cartridges will move away from service station (parking pad) area.
- Dampen a lint free cotton swab with distilled water. Gently clean both service station caps (cartridge parking pads) until thoroughly clean of ink residue / debris build-up.
- Inspect to ensure no fibers remain on station caps, if present.

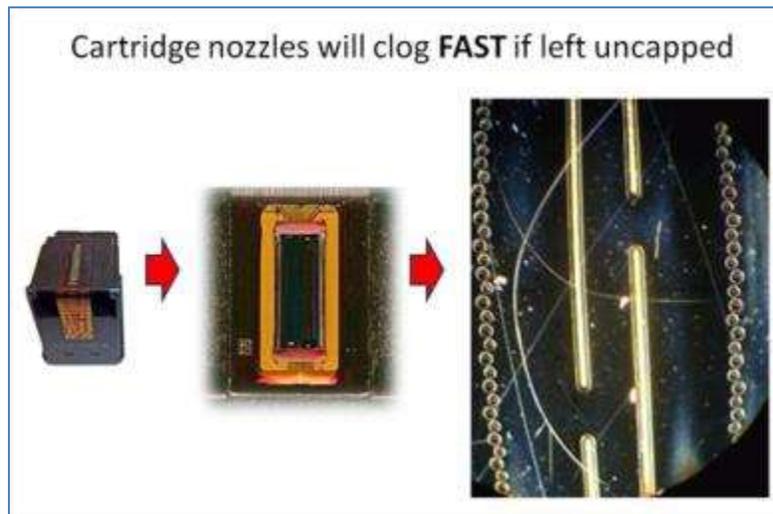


* Storing ink cartridges upside down may also cause cross contamination or smearing of printed output.

** Repeated ‘head strikes’ with the paper surface can cause cartridge failure and/or print head leaking.

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NOTE: Random droplets of ink on your paper are normally caused by contaminants on the printhead nozzle plate area such as a fiber, hair, built up dust, dried ink. The smallest fiber on the printhead can act as a wick and collect ink from the head until it is oversaturated and therefore drip. In many cases both the service station cap and both ink cartridges will need to be cleaned to correct this issue.



HP Printhead Nozzle Plate

(under 10X magnification)

REFILLED CARTRIDGE TIPS: Always store cartridges in the protective storage caps, NEVER place tape onto the ink cartridge nozzle plate and always use refilled cartridges within 90 days.

