

# INKJET411

## HP 60 Problem Resolution

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**No**...your cartridge is not empty since it was just refilled!

Many of the HP 60 & 60XL ink cartridge alert and error messages you may encounter using 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 error bypass and HP diagnostic test procedures have been provided to help you correct and/or diagnose the cause of failure.

### Refill Alert Notifications

#### 1. “Non-Genuine Cartridge” / “Used Print Cartridge”

This message is typically generated by the printer (those with LCD screens) 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 the **“non-genuine cartridge”** or **“Used xxx print cartridge installed”** message.



This is nothing to be alarmed over; simply press proceed/continue/accept/yes/OK to dismiss the prompt if available.

In many cases a **“Refilled or Depleted Cartridge Detected”** message may also be displayed on the Windows popup. Select Ok or Continue to bypass.



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**NOTE:** After a cartridge is refilled, the printer cannot track the ink level. 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 (i.e. watch for color loss during printing).

## 2. Common Error Messages/Display Conditions:

- Steady (non-serious) or blinking (serious) cartridge lights on the printer
- A message that says "Check black/color cartridge" on your monitor or on the printer display
- A similar message that says "Remove and check the black/color cartridge"
- A printer window or toolbox appears that shows a message that a "Cartridge is not seated properly"
- "Replace your black/color cartridge" message

### 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 60 Cartridges



#### Refilled HP 60 Cartridges



**NOTE 1:** If you have installed a refilled or remanufactured cartridge, or a cartridge that has been used in another printer, the ink level indicator might be inaccurate or unavailable.

**NOTE 2:** Ink level warnings and indicators provide estimates for planning purposes only. When you receive a low-ink warning message, consider having a replacement cartridge available to avoid possible printing delays.

## 1. Disabling Low Ink Warning Messages

On many Hewlett Packard printers, the "Low on Ink" warning message that appears on your PC has a check box that reads "Don't Show This Again" or "Dismiss this message". Simply check



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this box to eliminate these warning messages from re-appearing. Other HP printers may display a message on the computer screen or directly on the printer LCD display that reads as follows: "Original HP Ink in Tri-Color (or Black) cartridge has been depleted, press OK to continue." Often you can simply click the "OK" icon on your computer screen or press the "OK" button on the printer and the message will be eliminated. Some of the newer HP printer models have embedded blocks which require more advanced driver setting changes, refer to bypass procedures below:

## Bypass Procedure #1\*

- Remove all ink cartridges from the printer, both black and color, new or refilled.
- Turn the printer off by pressing the **Power** button (you may need to hold it for 5 seconds and release to power off). Let the printer stay off for 20 seconds.
- Turn the printer back on. Allow the printer to go through the usual start-up process and recognize there are no cartridges installed.
- Repeat Steps 2 and 3 until the printer has been turned on and off five times. This process resets and removes the last five ink cartridge IDs used from the printer's memory, allowing the printer to believe the refilled ink cartridge is new.
- Replace the ink cartridges and attempt to print.

\*This procedure only works on certain printer models

## Bypass Procedure #2\*

- Remove all paper from the paper tray.
- Press and hold the **Power** button.
- Simultaneously, briefly press the **Cancel** button and release.
- Release the **Power** button (NOTE: on some printer models both the Power and Cancel buttons need to be released simultaneously).
- Place alignment test page into scan bed and select Scan.
- Ink levels will now be temporarily reset.
- The ink level LED (light) may illuminate at this point; this will not impact ink level monitoring nor printer operations.
- The printer will attempt to print a diagnostic sheet....DO NOT LOAD paper. Wait for approximately 1 minute, the Resume light should be illuminated/blinking (with an 'E' error message displayed).
- Press **Cancel** to cancel the diagnostic print job – printing should now be permitted.
- Load paper and return to normal printer operations, if permitted.



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\*The ink level monitor reset procedure above applies the HP Deskjet F4280, F2480, F380, and Deskjet 6988 printer models which use the #60 cartridge. It may also work for similarly designed printer models, including printers which use #61 cartridges, but not for all. For printer models which do not have a Cancel button (i.e. D1660), press and hold the Power button while it is flashing, then release.

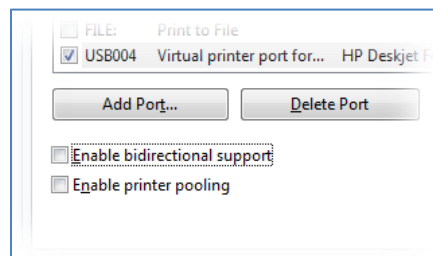
**Bypass Procedure #3\*** (*PC Win XP/2000 only*): Disabling the low ink messages on an HP Printer removes future warnings about ink levels before or after the print process. To eliminate low ink alerts on older HP software versions\* (i.e. Windows XP), you may disable the HP Status Monitor or ink level management settings. Access the HP printer settings either through the Windows Devices and Printers screen or the Notification Area. You may wish to manually check ink levels. When lighter or blotchy text appears on paper, then it's likely the ink levels are low.

- Click the "Start" button and click the "Devices and Printers" option.
- Right-click your "HP C4680" printer and click the "Properties" option.
- Click the "Advanced" tab and click the "HP PrinterPreferences" button (i.e. Win XP). The HP Printer Settings screen appears on screen.
- Click the "Disable HP Ink Level Monitor" check box and click the "OK" button to apply the changes.

\* Available on Win XP and earlier operating systems only. While Win 7 and later does not appear to support ink level monitor disabling, it does not interfere with the use of refilled ink cartridges.

**Bypass Procedure #4\*** (*Majority of Operating Systems*): 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.

- 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.
- Click on the "Start" button on your computer. Select "Printers and Faxes." Right-click on your printer's icon and select "Properties."
- 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."



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\* **WARNING:** Disabling Bi-directional support may cause some non-printing functions to cease working (i.e. scanner/fax, etc).

## **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)**

### **1. HP 60 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 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\*

HP 60 ink cartridges which have been newly refilled and installed into the HP printer may produce the following 'shutdown' error messages:

**"Incompatible Print Cartridges"**

**"Print Cartridges Missing or Not Detected"**

**"Tri-Color / Black Cartridge Problem"**

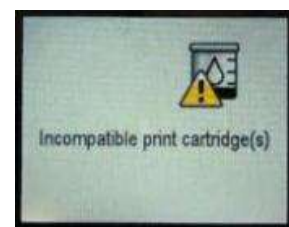
**"Installed Incorrectly"**

**"Print cartridge is not intended for use in this product"**

**"Print cartridges in wrong slot"**

**"Print cartridge problem"**

**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).



\*Installed: Rightmost, Tri-color Ink Cartridge

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## 2. “Now Printing Alignment Page” ....but nothing prints

To help bypass the error message:

- a. Open printer and remove both the color and black cartridges.
- b. Close the printer and wait for the prompt to install the tri-color cartridge.
- c. Open the printer and install the tri-color cartridge **ONLY**.
- d. Close the printer and wait for the prompt to install the black cartridge.
- e. Open the printer and install the black cartridge.
- f. Close the printer and it should then prompt you to insert paper to perform the cartridge alignment.
- g. If this does not correct the error, refer to **Printer Reset Procedures**.

\* This sometimes occurs due to poor electrical contact with cartridge, but more likely the cartridge has electrically failed and will probably need to be replaced.

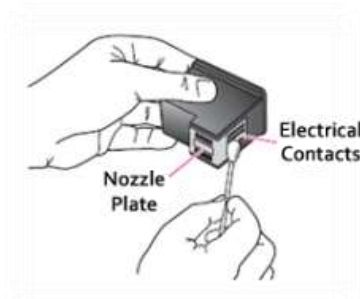
## 3. “Unrecognized Cartridge” or “Incompatible Ink Cartridge”

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:

- a. Turn the printer on; open the printer to access the print cartridges.
- b. Remove the suspect cartridge(s) from the station. Clean electrical contacts if dirty.
- c. Re-install the cartridges in their stations.
- d. Close the printer.
- e. Turn off the printer for a few seconds and then turn it back on.
- f. Print a test page following your printer’s instructions.
- g. If this does not work, please proceed to step



(2).

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\* If there is ink on the "wiring" of the cartridge (copper lines within "sticker portion") you may get these types of error messages – refer to complete cartridge cleaning procedures below.

**(2)** Clean the contacts on the printer and the ink cartridge (*refer to complete [HP Cartridge/Printer Cleaning Procedure](#) section down below*):

- a. Turn on the printer; open the printer to access the print cartridges.
- b. Remove the suspect cartridge(s) from the station.
- c. Using a clean, dry lint-free cloth wipe the contacts on the print cartridge from top to bottom. The contacts inside the printer may also need to be cleaned.
- d. After cleaning the print cartridge and printer contacts, re-install the print cartridges and close the printer.
- e. Print a test pattern to determine if the problem has been fixed; if not proceed to HP Tap Test procedures below.

## Printer Reset Procedures

If you suspect there is a cartridge-related problem only, then refer to 'HP Tap Test' procedures below. To reset the printer, several solutions are available for specific printer models. A general (standard) printer reset procedure is also provided for any printer model not included below.

### 1. General Printer Reset - for all Photosmart / Deskjet / Officejet printers:

- a. Turn the printer on; open the printer to access the print cartridges.
- b. Remove both ink cartridges from the station.
- c. Turn printer off for 30 seconds.
- d. Turn the printer on; re-install the cartridges in their stations.
- e. Close the printer; resume normal printer operations if possible.
- f. Remove (pull out) the power plug (at printer or receptacle); wait 1 minute and then re-install the power plug and power on the printer.
- g. Reinstall cartridges and close the access door.
  - a. Reset procedure for models with # key (i.e. Officejet series):
    - i. Unplug power cable while the printer is ON.
    - ii. Press and hold the '#' and '6' button (or alternatively the '9' key), and plug the cable back into the printer.
    - iii. Continue holding the buttons down for 20 seconds, and then release.
    - iv. Then turn the printer off and on. Check for print operations.



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## 2. HP Photosmart C46xx/C4700 printer series (Printer Reset):

- Disconnect power plug from printer.
- While holding **Power** button, reconnect power plug to printer. Memory light will illuminate (if present). Release the **Power** button.
- Press **Power** button again. After the printer initializes, gently and alternately 'tap' the two left buttons (**OK** and **Return**) on the control panel until the 'Support' menu screen is visible (steps a. thru d. may need to be repeated several times for a successful access)
- Browse Support Menu until 'Resets Menu' is displayed. Press **OK**. Press **upper right** button until 'Semi-Full Reset' is displayed. Choose **OK** to reset the printer.



## 3. HP Photosmart C46xx/C4700/D110a printer series (Cartridge Error Bypass – ONE TIME!):

The following printer bypass (clear) procedure below may be used help clear the 'Print Cartridges Missing/Not Detected', 'Incompatible Print Cartridge(s)', etc., though it should ONLY be considered a temporary solution as the ink cartridge is likely suffering from marginal internal electrical performance. This procedure, which should be considered very temporary in nature, will typically result in allowing ONLY one (1) single print job to be printed. Therefore this procedure is primarily intended to validate that micro-electronic damage has occurred to the ink cartridge(s) but that the printer is still functional/operational otherwise.

**NOTE:** A cartridge error message must be presently displayed on LCD screen prior to gain access to service menu (i.e. Incompatible Print Cartridge(s), etc.).

- Alternatively and quickly, press the **Cancel (X)** and **OK** keys on touchscreen until **Support Menu** is displayed (i.e. press 3-4 times each).

**NOTE:** This can be difficult to perform.



- Select **OK**. The Support firmware menu should be displayed.



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- c. Select **Top Right Key** (button) once to display the Information Menu.
- d. Select **OK**.



- e. Press the **Top Right Key** (button) 15 times until '**checksum for relock data input**' is displayed.
- f. Select **OK**.
- g. After a few seconds the service menu will be automatically exited and you will be returned to the top level menu.



**NOTE:** The printer error register/counter has now been cleared and a single print job may be accepted (results will vary by printer model and error type).

- h. Attempt to send print job to printer.

**NOTE:** If the same printer error message reappears immediately following a single print job, or a new error message reappears (and power light is also blinking), then the ink cartridge is electrically damaged and will need to be replaced. Refer to the 'Tap 41' cartridge health diagnostic test procedures to diagnose cartridge's electrical health further – see below.



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- i. In many cases, the printed output will likely yield severely degraded print quality. This just confirms that the ink cartridge does have internal electrical damage and will need to be replaced with a new cartridge.

## 4. HP Photosmart e-AiO D110 (Printer Reset):

- a. At printers touchscreen display, press **Return**, **Cancel**, **Return**, **Return** to access the diagnostic menu.
- b. Choose either the Semi-reset or Full-reset, select OK.



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## HP Tap Tests (Built-In Diagnostic Tests)

To help determine if either of the ink cartridges has (1) electrically failed, (2) is potentially mating improperly and (3) all nozzles are firing properly, conduct an internal diagnostic 'Tap Test' (**NOTE:** tap test '41' or '10' diagnostic prints are available on all 60-ink series printer models).

### HP Deskjet F4200 series printers – Tap 41 Diagnostic Test Procedure:

1. Load Letter/A4-size paper into paper feed tray.
2. If any lights are blinking, first press Cancel to attempt to clear.
3. While holding the **Power** button, press **Cancel** button 4 times, then press the **Resume** button once. Release the **Power** button.
4. Within a minute the Tap 41' diagnostic test print should print or attempt to print.



HP Deskjet F42xx  
Control Panel

5. Inspect Tap 41 test print in 3 sections to determine health of ink cartridge.
  - a. Check for presence of a 'current' cartridge error message in top section
    - "Too Many Good Nozzles." / "Pen in chute...shorted control lines"
    - "Wrong pen Type" / "Unknown Pen Type"

**NOTE:** In many cases the ink cartridge may just need to be reseated (i.e. 3 of the 4 errors listed above). If black fails to print then perform a Tap 10 test (Power + Cancel + Resume)

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

Nozzle Count	HP 60 Color	HP 60 Black
Bxxxx Fxxxx:	0	0
Gxxx Bxx:	1248	336

- More than a 20% nozzle failure rate would be considered deficient to support adequate print operations (see Bxxxx / Fxxxx line).
- If more than 1248 (color) or 336 (black) nozzles are good, then cartridge is defective.

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- c. The presence of X's (or O's) within the lower section (T01 thru T016) indicate damaged nozzles.

### Cartridge Errors

```

FU Revision:      KSM2SN0806BR
Serial Number:    CN89J2H34F05BY
Page Count:      156
Current Error:    None
Previous Error:   None
XXXXXXXX XXXXXX:  2          SXXXXXXXXX XXXXXX:  2
XXXXXXXX XXXX:    22.1
XXXXX IX XXXXXX: 16mx

```

### Nozzle Count

Nozzle Count	HP 60 Color	HP 60 Black
XXXX XXXXX:	0	0
XXXX XXX:	1248	336

**Nozzle Test (presence of X's indicate failed nozzles)**

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27	F28	F29	F30	F31	F32	F33	F34	F35	F36	F37	F38	F39	F40	F41	F42	F43	F44	F45	F46	F47	F48	F49	F50	F51	F52	F53	F54	F55	F56	F57	F58	F59	F60	F61	F62	F63	F64	F65	F66	F67	F68	F69	F70	F71	F72	F73	F74	F75	F76	F77	F78	F79	F80	F81	F82	F83	F84	F85	F86	F87	F88	F89	F90	F91	F92	F93	F94	F95	F96	F97	F98	F99	F100	F101	F102	F103	F104	F105	F106	F107	F108	F109	F110	F111	F112	F113	F114	F115	F116	F117	F118	F119	F120	F121	F122	F123	F124	F125	F126	F127	F128	F129	F130	F131	F132	F133	F134	F135	F136	F137	F138	F139	F140	F141	F142	F143	F144	F145	F146	F147	F148	F149	F150	F151	F152	F153	F154	F155	F156	F157	F158	F159	F160	F161	F162	F163	F164	F165	F166	F167	F168	F169	F170	F171	F172	F173	F174	F175	F176	F177	F178	F179	F180	F181	F182	F183	F184	F185	F186	F187	F188	F189	F190	F191	F192	F193	F194	F195	F196	F197	F198	F199	F200	F201	F202	F203	F204	F205	F206	F207	F208	F209	F210	F211	F212	F213	F214	F215	F216	F217	F218	F219	F220	F221	F222	F223	F224	F225	F226	F227	F228	F229	F230	F231	F232	F233	F234	F235	F236	F237	F238	F239	F240	F241	F242	F243	F244	F245	F246	F247	F248	F249	F250	F251	F252	F253	F254	F255	F256	F257	F258	F259	F260	F261	F262	F263	F264	F265	F266	F267	F268	F269	F270	F271	F272	F273	F274	F275	F276	F277	F278	F279	F280	F281	F282	F283	F284	F285	F286	F287	F288	F289	F290	F291	F292	F293	F294	F295	F296	F297	F298	F299	F300	F301	F302	F303	F304	F305	F306	F307	F308	F309	F310	F311	F312	F313	F314	F315	F316	F317	F318	F319	F320	F321	F322	F323	F324	F325	F326	F327	F328	F329	F330	F331	F332	F333	F334	F335	F336	F337	F338	F339	F340	F341	F342	F343	F344	F345	F346	F347	F348	F349	F350	F351	F352	F353	F354	F355	F356	F357	F358	F359	F360	F361	F362	F363	F364	F365	F366	F367	F368	F369	F370	F371	F372	F373	F374	F375	F376	F377	F378	F379	F380	F381	F382	F383	F384	F385	F386	F387	F388	F389	F390	F391	F392	F393	F394	F395	F396	F397	F398	F399	F400	F401	F402	F403	F404	F405	F406	F407	F408	F409	F410	F411	F412	F413	F414	F415	F416	F417	F418	F419	F420	F421	F422	F423	F424	F425	F426	F427	F428	F429	F430	F431	F432	F433	F434	F435	F436	F437	F438	F439	F440	F441	F442	F443	F444	F445	F446	F447	F448	F449	F450	F451	F452	F453	F454	F455	F456	F457	F458	F459	F460	F461	F462	F463	F464	F465	F466	F467	F468	F469	F470	F471	F472	F473	F474	F475	F476	F477	F478	F479	F480	F481	F482	F483	F484	F485	F486	F487	F488	F489	F490	F491	F492	F493	F494	F495	F496	F497	F498	F499	F500	F501	F502	F503	F504	F505	F506	F507	F508	F509	F510	F511	F512	F513	F514	F515	F516	F517	F518	F519	F520	F521	F522	F523	F524	F525	F526	F527	F528	F529	F530	F531	F532	F533	F534	F535	F536	F537	F538	F539	F540	F541	F542	F543	F544	F545	F546	F547	F548	F549	F550	F551	F552	F553	F554	F555	F556	F557	F558	F559	F560	F561	F562	F563	F564	F565	F566	F567	F568	F569	F570	F571	F572	F573	F574	F575	F576	F577	F578	F579	F580	F581	F582	F583	F584	F585	F586	F587	F588	F589	F590	F591	F592	F593	F594	F595	F596	F597	F598	F599	F600	F601	F602	F603	F604	F605	F606	F607	F608	F609	F610	F611	F612	F613	F614	F615	F616	F617	F618	F619	F620	F621	F622	F623	F624	F625	F626	F627	F628	F629	F630	F631	F632	F633	F634	F635	F636	F637	F638	F639	F640	F641	F642	F643	F644	F645	F646	F647	F648	F649	F650	F651	F652	F653	F654	F655	F656	F657	F658	F659	F660	F661	F662	F663	F664	F665	F666	F667	F668	F669	F670	F671	F672	F673	F674	F675	F676	F677	F678	F679	F680	F681	F682	F683	F684	F685	F686	F687	F688	F689	F690	F691	F692	F693	F694	F695	F696	F697	F698	F699	F700	F701	F702	F703	F704	F705	F706	F707	F708	F709	F710	F711	F712	F713	F714	F715	F716	F717	F718	F719	F720	F721	F722	F723	F724	F725	F726	F727	F728	F729	F730	F731	F732	F733	F734	F735	F736	F737	F738	F739	F740	F741	F742	F743	F744	F745	F746	F747	F748	F749	F750	F751	F752	F753	F754	F755	F756	F757	F758	F759	F760	F761	F762	F763	F764	F765	F766	F767	F768	F769	F770	F771	F772	F773	F774	F775	F776	F777	F778	F779	F780	F781	F782	F783	F784	F785	F786	F787	F788	F789	F790	F791	F792	F793	F794	F795	F796	F797	F798	F799	F800	F801	F802	F803	F804	F805	F806	F807	F808	F809	F810	F811	F812	F813	F814	F815	F816	F817	F818	F819	F820	F821	F822	F823	F824	F825	F826	F827	F828	F829	F830	F831	F832	F833	F834	F835	F836	F837	F838	F839	F840	F841	F842	F843	F844	F845	F846	F847	F848	F849	F850	F851	F852	F853	F854	F855	F856	F857	F858	F859	F860	F861	F862	F863	F864	F865	F866	F867	F868	F869	F870	F871	F872	F873	F874	F875	F876	F877	F878	F879	F880	F881	F882	F883	F884	F885	F886	F887	F888	F889	F890	F891	F892	F893	F894	F895	F896	F897	F898	F899	F900	F901	F902	F903	F904	F905	F906	F907	F908	F909	F910	F911	F912	F913	F914	F915	F916	F917	F918	F919	F920	F921	F922	F923	F924	F925	F926	F927	F928	F929	F930	F931	F932	F933	F934	F935	F936	F937	F938	F939	F940	F941	F942	F943	F944	F945	F946	F947	F948	F949	F950	F951	F952	F953	F954	F955	F956	F957	F958	F959	F960	F961	F962	F963	F964	F965	F966	F967	F968	F969	F970	F971	F972	F973	F974	F975	F976	F977	F978	F979	F980	F981	F982	F983	F984	F985	F986	F987	F988	F989	F990	F991	F992	F993	F994	F995	F996	F997	F998	F999	F1000
D1	0	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7																																																																																																																																																																																																																																																																																																																																																																																																																																																							

## Tap 41 Test Print

**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 is either installed incorrectly or is suffering from internal electrical damage and will need to be replaced. Remove and firmly reseal ink cartridge(s). Repeat Tap 41 diagnostic test.

6. **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.
  - a. If normal printing is not possible, then either one (or both) of the ink cartridges are electrically defective and will need to be replaced.
  - b. Replace with a new cartridge and rerun tap 41 test ...the '**Previous Error**' message should be displayed at top of the diagnostic print

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

Current Error:	None
Previous Error:	Pen in right chute is wrong pen type for chute or printer, or is unknown pen type.

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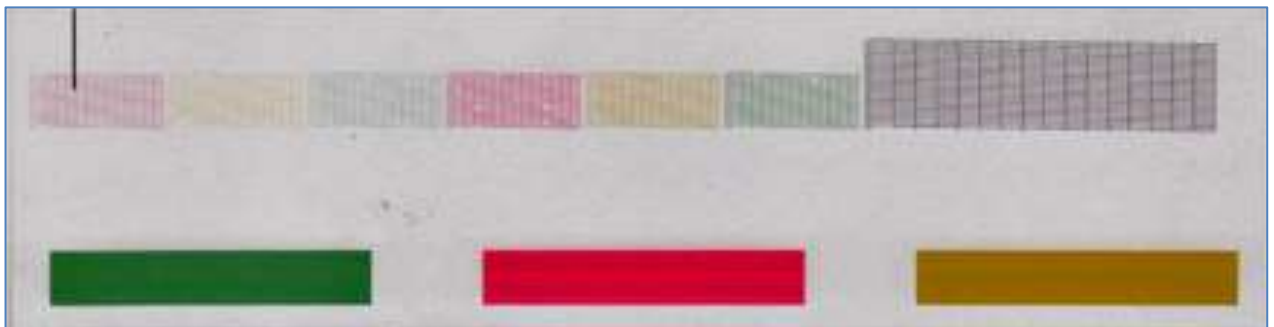
**Example #2-** portion of cartridge nozzles are electrically bad – ink cartridge will likely need to be replaced (i.e. printer suffers “Refer to Printer Documentation” or “Cartridge(s) Error”):

Current Error:	Pen in right chute has 1 or more open or shorted control lines.
Previous Error:	Pen in right chute has 1 or more open or shorted control lines.

- c. 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 X’s / O’s), or more than 20% failed nozzles are shown bad, signifies there is a damaged ink cartridge. In addition, if greater than 1248 (color) or 336 (black) nozzles are good, then cartridge is also electrically damaged.

Should be 336 good black nozzles (252 = 75%)		
Bxxxx Fxxxxx:	0	0
Gxxxx Rxx:	1248	252
Damaged #60 Black Cartridge		

- d. As an option, activate the ‘Tap 10’ test print (i.e. POWER + CANCEL) to see which nozzles are misfiring in each color, as represented as horizontal lines in the nozzle test patterns



(i.e. in the example above 5-6 nozzles are misfiring in the Magenta cartridge - at center):

**NOTE:** the black ink cartridge will need to be ‘somewhat’ functional as the Tap 41 test print is normally printed in black. For printers which support automatic ink backup mode printing, the Tap 41 test print may be printed in either black or composite black (i.e. CMY), depending on the health of either cartridge. Rerun the Tap 41 test pattern using a new ink cartridges to validate a suspected defective cartridge.

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## HP Deskjet F2400/F4400/F4500 series printers – *Tap 41 Diagnostic Test Procedure:*

1. Load Letter/A4-size paper into paper feed tray.
2. If any control panel lights are blinking, first press Cancel to attempt to clear.
3. While holding the **Power** button, press **Cancel** button 4 times, then press the **Color Copy** button once. Release the **Power** button. Within a minute, the 'Tap 41' diagnostic test print should print.
4. Inspect Tap 41 diagnostic test print in 3 sections to determine health of ink cartridge(s). See above for pass/fail criteria. Reseat and/or replace ink cartridges accordingly.

HP Deskjet F24xx  
Control Panel



HP Deskjet F44xx/F45xx  
Control Panel



## HP Photosmart C4600/C4700 series printers – *Tap 41 Diagnostic Test Procedure:*

**TECHNICAL NOTE:** If the printer's error message prohibits you from accessing the diagnostics menu (i.e. "Print Cartridge Error" or "Cartridge(s) Problem"), you will need to replace the suspect cartridge with a new/good cartridge to proceed with the following diagnostic testing. Install the new/good cartridge, then access the diagnostics menu using the steps down below. Just prior to activating the Tap 41 test print, swap the good cartridge out with the suspected faulty cartridge. Select Ok, the diagnostic test pattern should print out.



1. Load Letter/A4-size paper into paper feed tray.
2. Disconnect power plug from printer.
3. While holding **Power** button, reconnect power plug to printer. Memory light may temporarily illuminate for a few seconds – this is normal. Release the **Power** button.



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4. Press **Power** button again to power on printer.
5. After the printer initializes, gently and alternately 'tap' the two left buttons (**OK** and **Return**) on the control panel for a few seconds until the Support menu screen is visible



6. At 'Support' menu, select the upper right button until the 'Reports Menu' is visible.



7. At the Reports Menu, Press **OK**, then press **upper right** button until 'print mech button tap' menu is displayed. Press **OK**, the 'code = 0' menu should be displayed.



8. Using the **right side** buttons, press until 'code=41' is displayed.

9. Press **OK**. Within a minute the Tap 41 diagnostic test print should begin to print.



10. Inspect Tap 41 test print in 3 sections to determine health of ink cartridge(s). See above for pass/fail criteria. Reseat and/or replace ink cartridges accordingly.



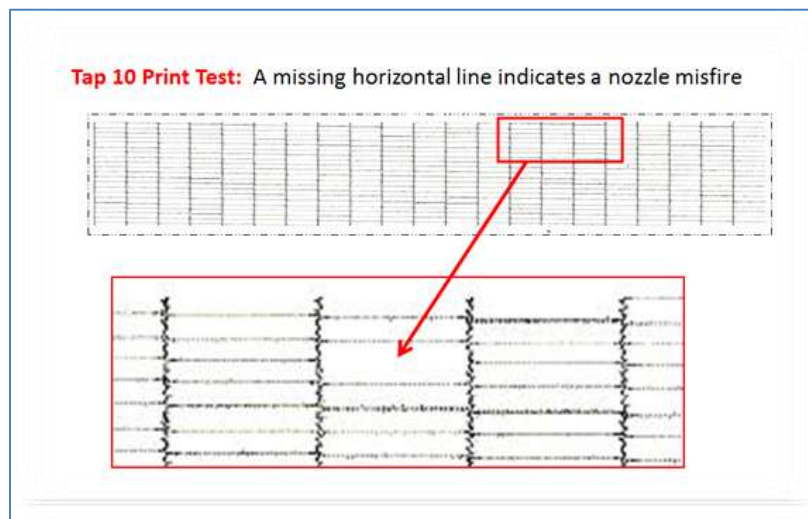
# INKJET411

## HP Deskjet D2500/D2600 series printers – *Tap 10 Diagnostic Test Procedure:*

1. Load Letter/A4-size paper into paper feed tray.
2. If any control panel lights are blinking, first press Cancel in an attempt to clear.
3. While holding the **Power** button, press the **Cancel** button once. Within a minute, the Tap 10 diagnostic pattern should print (or attempt to print). A series of stair-step patterns and color and black density bars should be printed along with miscellaneous printer information settings.
4. 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,



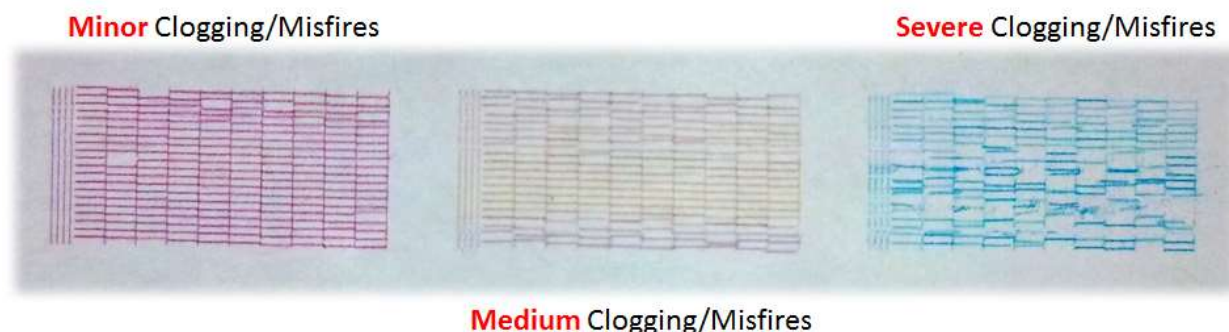
HP Deskjet  
D25xx Control  
Panel



best, etc.).

- a) 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 <http://www.inkjet411.com> web site.
- b) 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).

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- c) 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 100 nozzles are out in a color), then the cartridge, or cartridges, may be electrically damaged or severely clogged. Cartridge replacement will likely be required.
- d) Install new ink cartridge or cartridges and repeat tap 10 diagnostic print test until the problem has been resolved.

\*Procedures may vary between printer models.

**HP printers which use HP 60/60XL ink cartridges:** HP Deskjet D1660, D1663, D2500, D2530, D2545, D2560, D2563, D2566, D2568, D2645, D2660, D2663, D2668, D2680, D5560, F2400, F2420, F2423, F2430, F2440, F2480, F2483, F2488, F2492, F2493, F4200, F4210, F4213, F4224, F4230, F4235, F4240, F4250, F4272, F4273, F4274, F4275, F4280, F4283, F4288, F4292, F4293, F4400, F4435, F4440, F4450, F4470, F4472, F4473, F4480, F4492, F4500, F4580.

HP Photosmart C4600, C4610, C4635, C4640, C4650, C4670, C4673, C4680, C4683, C4685, C4688, C4690, C4700, C4740, C4750, C4780, C4783, C4785, C4788, C4793, C4795, C4798, C4799, HP Photosmart e-All-in-One Printer - D110a.

## Print Quality Issues

### 1. HP Cartridge & Printer Cables - Cleaning Procedure

If intermittent cartridge error messages persist or poor print quality issues occur, ensure the cartridge's electrical contacts are completely clean of all ink and paper fiber residues. Follow the procedure below if you observe 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

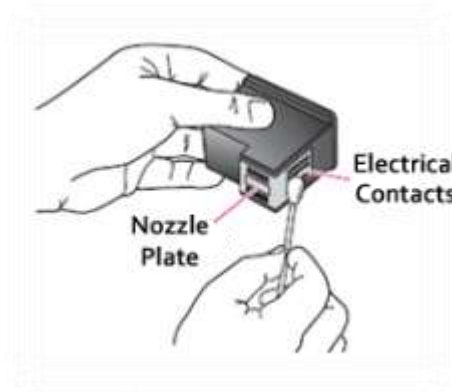
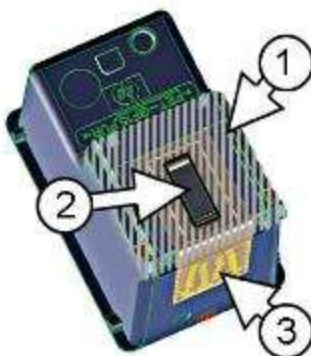
# INKJET411

not stick to the cartridges (i.e. coffee filters). Paper towel to rest the cartridge(s) on during cleaning.

- 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, it is suggested to NOT touch either the nozzle plate or the copper-colored contacts, especially with your bare hands and/or without the proper cleaning materials. 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.



- 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.

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**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.

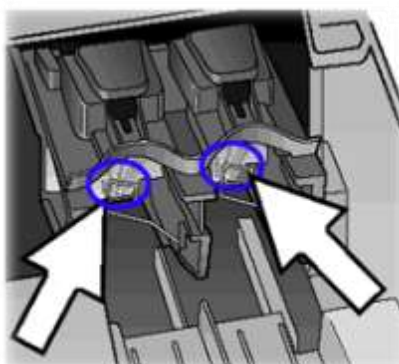


**NOTE 2:** Do not leave the print cartridges outside the printer for longer than 30 minutes. If a cartridge is left outside of the printer for too long, the ink will dry out and the cartridge will become unusable.

- 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.

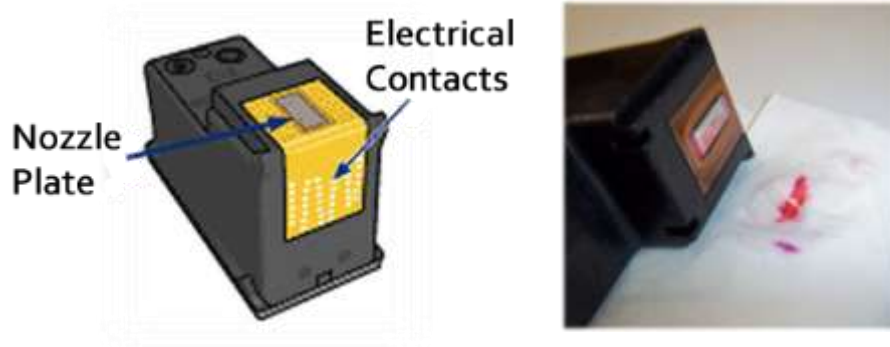


- 2) Immerse cartridge base (lower ¼ inch) in very hot, near boiling, distilled or de-ionized water for 2-4 minutes –  
**CAUTION!** A few table spoons of Isopropyl rubbing alcohol may be added to water to help break down the dried ink within the nozzle plate. Do not leave cartridge in water more than 20 minutes.



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- 3) 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”).



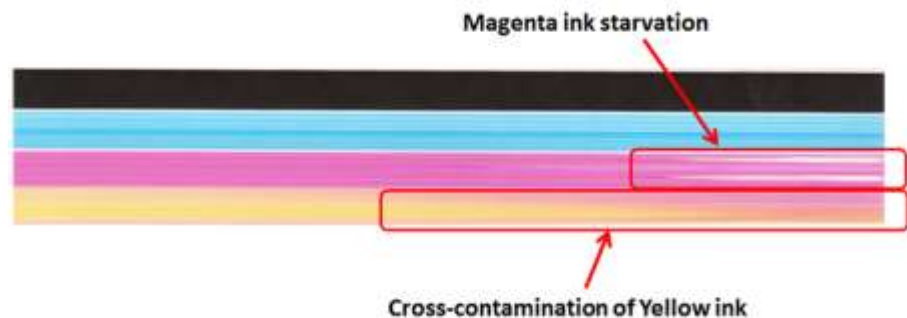
- 4) Reinstall cartridge into the printer and retest. If the cartridge fails to print then obtain a new ink cartridge.

**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 flow down to the nozzle plate. If this is the case then the cartridge will need to be replaced.

## 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”).

**Tap 10 test print**  
(partial)





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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:

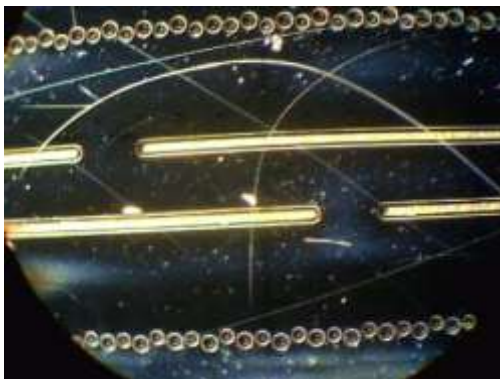
- a. Remove both ink cartridges from the carriage.
- b. Dampen a lint free cotton swab with distilled water. Gently clean both service station caps (parking pads) until thoroughly clean of ink residue / debris build-up.
- c. Inspect to ensure no fibers remain on station caps, if present.



\* 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.

**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)*