

General Refilling Method and Procedure – Simplify Version

Cartridges with Print Head attached at the bottom, like Canon, HP and Lexmark Inkjet printer model. Example Canon PG 40, PG 50, PG 830, CL 41, CL 51, CL 831, HP 21, HP 22, HP 56, HP 57 & Lexmark 14/23/28/32/34/36/42/44 (Black); Lexmark 1/2/15/24/29/33/35/37/41/43 (Color) etc. This guideline is strictly for description, illustration, explanation and comparison purpose only.

User need to know the key factors before, during and after the refill procedures:

Preparation – Before Refilling

- 1) **Use moisture tissue to test cartridge by wiping the print head** – If ink detected on tissue means the cartridge should be in working condition. For Black it only one or 2 lines and Color should have 3 lines for each color, Cyan, Magenta and Yellow. If any of the line not found repeat the testing process. Upon confirmation the color unable to appear means that particular color hole is block and clog.
- 2) **For Block and Clog Cartridge** – Use Nippon-ink Cleaning solution to soak over the print head for about 1 to 2 hours depend on the clog situation. Every 15 minutes shake the cartridge in the soak condition. The purpose is to remove stubborn dirt around the cartridge.
- 3) **Nippon-ink Cleaning Solution is effective for clog with dirt** but unable to diffuse those hole been fused together due to material defects after wear and tear situation.
- 4) **Locate the correct Cartridge Hole** – Majority the holes are located below the Sticker label. Need to remove the Original Sticker label before access to the hole. If the hole is too small, use ring screw provided in the refill kit set to **enlarge it**.
- 5) **Need to seal the Print Head at the bottom of the Cartridge** – To prevent ink leakage when refilling due to **pressure from the ink been pumped**.

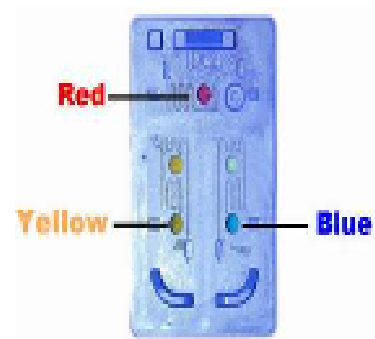
Note: Ensure refill area is properly cover by old newspaper (Use and throw).



Nippon-ink Cleaning Solution



Cartridge Hole Sample – Black & Color



During Refilling Process

- 1) **Remove by peeling off the Original Sticker Label to locate the Correct Color Hole** – For confirmation either use tooth pick or needle provided in the refill kit set

by inserting into the hole. The balance residue ink inside each color chamber can be identify, check, verify and confirm on the color before refilling it.

- 2) **Use Nippon-ink Refill Kit Set** – **The syringe are vacuum packed by factory.** User need to remove the rubber cap from the syringe tip and insert the needle provided in the kit set. Insert into the correct hole and ready to pump into the cartridge.
- 3) **Insert the Needle to the Correct Color Chamber** – Hold the syringe and press the back portion downward slowly. **Recommendation** – For Black pump about half (1/2) 10 ml to three quarter (3/4) 15 ml. For each color (Cyan, Magenta & Yellow) pump about one third (1/3) 6 ml to half (1/2) 10 ml. Depend on the size of the cartridge.
- 4) **Refill Completed** – Either paste over the hole with another sticker, tape or blue tag etc. Later remove the seal tape from the Print Head at the bottom of the cartridge by cleaning it before testing.
- 5) **Lift up the Cartridge for Testing** – Hold the cartridge for about 10 to 20 seconds. If the ink drip continuously it means the internal rubber seal on the Print Head is damage beyond use. **Do not install dripping cartridge into the printer. Please scrap the cartridge as it unusable. User needs to purchase new cartridge before refilling it through recycling and to reuse the cartridge.**



Remove Sticker Label



Enlarge the Hole



Pump in Slowly

After Refilling Process

- 1) **Cartridge Test Confirmation** – Upon completion User can install into the printer.
- 2) **User need to do Software Cleaning Process provided in the Printer Program** – **Use Deep Cleaning Process** as indicated in the Maintenance program. Thereafter do a nozzle check to test the printing condition.
- 3) **Nozzle Check Status** – If result is unsatisfactory repeat cleaning process and compare the nozzle check result. If after 3 cleaning process (maximum) the result is still unsatisfactory, **do not continue the cleaning process. Reason – The dirt had harden, it take some time for the harden dirt to be soften before purging.**
- 4) **Nozzle Clog Status** – Leave the cartridge inside the printer to soak the clog nozzle for at least one whole day before repeating the cleaning process. Thereafter compare the result on the nozzle check.
- 5) **Final Result and Confirmation** – After the process stated in item 3 & 4 been done yet result is unsatisfactory. It confirmed the cartridge is unusable, unable to salvage and beyond repair. User needs to replace new cartridge in order to refill again.

Note: Print Head on cartridge is patented, factory unable to produce new cartridge due to legal implication on the patent and copyright infringement.

Those cartridges in the open market are remanufacture, recondition and/or recycle. It equivalent to **Nippon-ink Refill Kit Set** supplied under DIY in **lower operational cost**. With 3 simple step – **REMOVE, INSERT & PUMP**.



Black Dye Ink



Black Pigment Ink



Color Dye Ink

General Feedback and Comments

- 1) **User must default Printer Program** – Reset and default the program after refilled. Thereafter **printer program unable to monitor the ink levels** in the cartridge. **The ink level must be check and confirm physically by the User.**
- 2) **Other Refill packed in Big Bottle Container (about 100 ml)** – Price attractive with cost saving and can refill about 5 times. If the ink consumption is use within a short period of time it economical. **Once the bottle open there are chemical reaction within.** While User tend to **keep for long period, did not air tight and did not store at correct room temperature environment** result in **color been faded and spoil beyond use.** Whatever **balance amount throw away is a waste.** Thus there is **no cost saving – FALSE ALARM. Item unused and not open will not be affected.**
- 3) **Refilling process is Dirty and Messy** – Majority refill ink is packed in bottle that needs to suck by syringe before been refilled into the cartridge. Such method causes air traps inside the ink, upon refilling the air balloon out from the same hole. Result in spillage and/or ink leakage all over the area.
- 4) **Suspect and Fear the ink Color is Sub-Standard and /or not up to User Expectation** – The printing result are affected by the following key factors:
 - a) **Picture Resolution** – Low Resolution produce poor gains quality (blur) and it become worst when been enlarged.
 - b) **Type of Paper and it Grade** – Using Normal, Glossy and Inkjet paper can produce different result under the same condition with same picture, same resolution, same printer and same ink cartridge. While the paper thickness, paper texture, color (white, super white or yellowish), paper quality and type of paper material use can also affected the final printing result.

- c) **Inkjet Printer Brand and Model** – Different brand and model had different specification, technology, setting, function and feature to edit and contrast. Even with the number of color cartridges in each printer can vary. Example 4 color, 6 color and/or 10 colors printer can affect the printing result. Another incident the setting at Text and Photo can produce different result.
- d) **Type of Ink Solution** – Either it Pigment and/or Dye based ink or the type of ink formula can affect the printing result.
- e) **Final Combination and User Handling Process** – Sometime it might need a longer period to dry naturally others might use hair dryer to heat it or put under direct sunlight. Thus the heat and/or UV light might affect the printing result.

From the above key factors stated it unfair to put the blame on the ink cartridge supplier unless the comparison is apple to apple and not apple to orange. Although both belong to the fruit family but they are always different.



Inkjet Paper



Glossy Paper



Self-Adhesive Paper

5) Nippon-ink can overcome the problems stated above.

- a) **Nippon-ink Refill** – Syringe vacuum packed in 20 ml by factory for single or twice application directly. Compare to locally packed in mass bottle container.
- b) **Nippon-ink Refill method is Easy and Simplify** – With 3 simple step – **REMOVE** the rubber cap; **INSERT** the needle and **PUMP** in slowly.
- c) **Nippon-ink supply Ink Solution with Pigment and/or Dye based** – User can choose the type of application and cost to print to suit it needs and wants.
- d) **Nippon-ink Paper Media** – With Inkjet, Glossy and Self-Adhesive paper.
- e) **Product Availability and Accessibility** – Distributed around neighborhood estate, shopping mall, school, institution and interchange (Bus & MRT).
- f) **Nippon-ink Technical & After Sales Service** – Provide product information on the web and exhibition through telephone, fax, email and face to face response.

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