

Basic Universal manual for installation and operation. Continuous Ink Supply System (CISS): H650CN-x.xNC For inkjet printers and MFP HP, using cartridges: HP № 46/121/122/123/650/652/300/301

Box content:

- 1. 4 colors ink tank set with plugs -1pcs.
- 2. 4 channel silicone tube -
- 3. Tube holder "clip" 2 pcs.
- 4. Tube holder "U-shaped" 3 pcs.
- 5. T-shaped tube holder 1pcs.
- 6. Metal tube holder- 1 pcs.
- 7. Set of double-sided adhesive tape 1 set
- 8. Binder 1pcs.
- 9. Drill 1pcs.
- 10. L-shaped fitting union with a rubber seal 4 pcs.
- 11. The rubber plug (a small black plug) for cartridge 8 pcs.
- 12. The rubber plug (a big white plug) for cartridge 4 pcs.
- 13. Holder for cartridge pumping 1 pcs.
- 14. Rubber nozzle for cartridge holder 2 pcs.
- 15. Syringe with needle 4 pcs.
- 16. Manual of installation 1 pcs.
- 17. Warranty list- 1 pcs.
- 18. Gloves 1 pair

Optional ink: code-0.0 (without ink); 4.5-code (4 up to 50 ml.); Code-4.1 (4 100 ml). Recommended ink:

CW-HW350BK - water soluble ink (can not be mixed with CW-HP360BK)

Colored - CW-HW350C; CW-HW350M; CW -HW350Y



The exterior product design and box content may differ. Images and photos are presented in the manual to understand the general installation and operation process of the CISS. The manufacturer reserves the rights to change product specifications, design and bundling without prior notice.

1. Installation preparation.

Installation of CISS requires having definite technical skills and experience. We strongly recommend reading the entire manual before installation. If you have difficulties in CISS installation, you can refer to an authorized ColorWay service centers for further installation of CISS on paid basis.

We remind you that the fact of using non-original consumables, including refilling ink cartridges can be a reason for refusal in the printer (MFP) warranty service in original service centers. Make sure that your printer model is compatible with the system (the list of compatible models enlisted on the side label of the box).

Before system installation check correctness of warranty list filling, bundling and system integrity; make sure in the absence of mechanical damages, because system are accepted for replacement (in case of mechanical damages) only when not refilled. Within the entire period of CISS exploitation don't touch certain cartridges group with your hands, don't let ink and liquids get on it as it can cause cartridge fail.

1.1. Before CISS installation check out the printer operability, its compatibility with original cartridges, efficiency of paper feed mechanism and other mechanisms of printer.

1.2. Before system installation, check that ink cartridges have not been opened, or do not have any mechanical damage and evidence of lightly glued top cover. Depending on refilling methods cartridge hermiticity can be disrupted what will lead to system malfunction. If before refilling ink cartridges are subject to a different manufacturer than the ones you use for CISS, the old ink from the cartridge should be possible to remove. To do this, it's best to use a syringe with a needle for the extraction of old ink. Then you need to fill the ink cartridges (see para. 2.1 pp) and check their performance. In case of using different ink manufacturer earlier, make sure you have eliminated ill its remains. Use syringe and a needle. Then you need to fill the ink cartridges (see clause 2.1) and check their efficiency.

1.3. Print the nozzle check test or a test page to evaluate performance capability of the printer (see manual for printer, MFP). If the nozzle test showed a positive result, proceed to CISS installation. If the result is negative, follow recommendations for cleaning the print head of the printer software (see manual for printer, MFP). When printing no printing defects must occur (stripes, inkblots, gaps, lack of color, etc.). If cleaning does not give a positive result, refill (see paragraph 2.1.) or replace the defective cartridge with a new one if needed.

Caution: many printers and MFP HP don't have software components (only installed driver), for printer, MFP maintenance.

1.4. Align the tube; it should not have cracks or bends. Let CISS and inks to achieve the indoor temperature. If tube has strong bends, pour it over with hot water and let it dry.

1.5. All installation, filling and launch procedures are recommended to be carried out on preliminary spread paper or rubber sheet with using gloves in order to avoid getting inks on furniture and other surfaces.

2. Upgrade and preparation of original cartridges.

2.1. Switch on the printer. Open the lid covering the print cartridges. When the carriage leaves for cartridges replacement, switch off the printer, pulling out the power cord from socket. Remove cartridges from the printer.

2.2. With a sharp knife, remove top labels carefully (Fig. 1). Under the labels you will see manufacturing holes for refilling cartridges, depending on cartridge model, number of holes can differ. Some internal tanks of the cartridge may have several manufacturing holes. (Fig. 2). The dot line shows an approximate location of inner tanks with foam for different colors.

2.3. If cartridges were used in the printer, or they are empty, should you fill them with ink before installing (paragraph 2.4.-2.7). If cartridges are new, see paragraph 2.8.

2.4. To differentiate colors insert a match into the filler hole before refilling, and see what color the match will be painted. Do not confuse the color; cartridges with the same number can have a different color sequence.

2.5. Collect ink into syringes and put the needle. Place the cartridge nozzle plate down on a napkin – in case of excessive filling, a napkin will absorb excess amount of ink and does not let it spread or mix on the printing nozzles of cartridge.

2.6. Insert the syringe with the needle of corresponding color in the hole with foam inside the cartridge for 1 cm. and with slow motions enter inks inside the cartridge, 1-2 ml. of color inks and 2-3 ml. of black ones. Do not mix colors (Fig. 2), do not overfill the cartridge or do not fill cartridge holes with no foam inside. If it is necessary, reduce the dose of filling, drawing excess ink back into the syringe. Repeat the procedure for each color. During refilling, do not rend the cartridge away from the tissue, otherwise the ink may mingle.

2.7. After refilling, wipe the cartridge nozzles and contacts with the tissue. The ink must not flow spontaneously from the print head. If it happens, insert the syringe needle into the filler hole and retract any excess ink back into the syringe. Press a clean tissue to cartridge printing nozzles; after proper filling the clear trace of all cartridge colors should remain on the tissue (Fig. 3).



2.8. Use the drill to make 4 working holes in areas of ventilation holes with foam through which ink will flow from donor tanks (Fig. 4, 5). The holes are marked with indicators. When drilling hold the cartridge in the hand to avoid nozzle plate damage.

2.9. Install the rubber seals in the bore. Sealers should be tightly inserted. If necessary, press the seal with a blunt object (such as a ballpoint pen). Seals must be free of damage and tears after installation. All other holes need to be blanked off with small rubber plugs. (Fig. 6). If extra holes were accidentally drilled, they must be blanked off with large rubber plugs.



3. Connecting tube to the cartridges

3.1. Location of color cartridges with the same number can vary. If the upper compartment of color cartridge has a yellow color, then tanks have the next color sequence: BK / C / Y / M (Fig. 7). If the upper compartment of color cartridge is magenta color, the color sequence of tanks is the following: BK / C / M / Y (Fig. 8). If necessary, change positions of tank plugs. Before connecting tube to the CISS cartridges track the correspondence of tank tube with cartridge color.

3.2. Attach the metal holder to the color cartridge using double-sided adhesive tape. Note that the right edge of the holder must be in the center of the cartridge (Figure 9,10), for model HP 3625 – the left edge of the holder must be located on one level (flush) with the left side of the cartridge. When using double-sided adhesive tape it is recommended to degrease the surface with alcohol-containing liquid. (Do not use solvents).

3.3. Insert the tube into the holder. (Fig. 11). Tube should not be loose or pressed down into the holder, double in the loop of the holder if necessary.

3.4. Remove colored rubber plugs from the ends of tube. Then connect the tube to the print cartridge, do not mix colors, avoiding the ink tube breakdown. Do not damage the rubber seals. (Fig. 12). Tube in a metal holder should be fixed at right angle.



4. General rules of three-chamber tanks filling

In the current CISS a new improved construction of the tanks is used. Each tank has three chambers (refilling, stabilization, hydro-donor (Pic. 23, 24), it is crucial to refill the tanks properly and monitor the level of inks in these chambers. Further CISS operation depends on these procedures.

4.1. Remove plate from the back side of the tank and open the top cosmetic cover of tank unit (Fig.15-16).

4.2. Open the large cap of the tank feed chamber, use a syringe with a needle to fill up into the feed chamber 65 ml of ink, close the cap (Fig. 17-21).

4.3. Open a small cap of stabilization chamber; use a syringe with a needle to fill up 20 ml. of inks (Fig. 22-23). Then close the hole (Fig. 24) and tilt the tank a bit over, so that the ink also filled the bottom part of chamber (Fig. 25).

4.4. Take a clean syringe with a needle and by the same fill up all the colors of the CISS tanks.

4.5. To avoid tank compartments air locking, it is necessary after filling to close all the plugs of tanks and tilt a tank slightly forward, left and right. (Fig. 26-28)

4.6. Open the small caps of hydro-donor chamber, during operation these holes must be opened, and all the others closed (Fig. 29). It is not allowed to fill inks into hydro-donor chamber.

4.7. During CISS operation monitor the presence of inks in feed chamber (Fig. 20); when feed chamber gets empty, inks will be spent from stabilization chamber; in that case you will need to refill tanks again.

4.8. To fill the tank, close the hole of hydro donor chamber, open the hole of the feed chamber and refill the required amount of ink. Do not open all the plugs at the same time















5. System pumping.

5.1. Insert the rubber pad-connector into cartridge holder. Make sure that there is through hole inside the pad. The pad with a long cut is used for pumping black cartridge; with smaller cut used for color one. These cartridges require insert holder using (fig. 30)

5.2. Insert the cartridge into the holder in turn, replacing the corresponding pad. Press cartridge with your fingers to the pad. Insert the syringe tip into rubber pad. Slowly pull syringe plunger to pump CISS (Fig.31); at the moment of pumping you will see how the ink will start to flow via tube right to the cartridge. Wait until tube is completely filled in and ink will steadily flow into syringe. Do not remove the syringe and do not release syringe plungers abruptly, wait until pressure in syringe stabilizes completely. Only then you can remove cartridge from the holder.



























5.3. Remove the cartridge from holder and clean the print head and the print cartridge contacts with the tissue. Press a clean tissue to cartridge nozzles, after proper pumping there should remain clear traces of all cartridge colors on the tissue (Fig. 3). If necessary, hold the tissue on cartridge nozzles to absorb the excess or mixed ink. 5.4. After pumping, back down on tube 5-6 cm from cans, fold tube and press with binder to avoid overflow (outflow) of ink during the installation of cartridges in the printer. (Fig. 32).

6. Tube installation

Due to the large number of printer models and MFPs released by HP, it is impossible to cover and describe CISS installation on all models in one manual. So we tried to describe basic examples of tube fixing and CISS installation by examples of some printer models and MFPs. Design and printer (MFP) structure may differ from those shown in the figures of this manual. Choose the optimal scheme of tube fixing, based on the internal linings of your printer.

Before you begin the process of tube fixing, you must clearly understand the principle of its movement during operation of the printer and clear the basic principles of fixation:

Rule 1: The lengths of the tube should be enough for the free movement of the print head from the extreme right to the extreme left position;

Rule 2: Tube can be bent and touch printer body upon print head moving, but at the same time the tube should not get stuck between movable and fixed parts of the printer!

Option 1: CISS Installation on printers and MFP HP DeskJet 1000/1050/2000/2020/2050/2515/2520/3000/3050/3510.

6.1.1. Insert cartridges into the printer (Fig. 34). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig.12). Note that tube pipes should NOT be pinched between cartridges and printer carriage. 6.1.2. Fix CISS tube with the U-shaped holder and double-sided adhesive tape. The U-shaped holder in printers must be glued inside of the lid closing compartment with cartridge slightly to the

left of the center of the printer (Fig. 35-36). In MFP the U-shaped holder is also glued slightly more to the left from MFI center, but outside the lid that covers the compartment with cartridges. The holder should be glued in such a way that when the lid is closed, it served as the back stop and does not let the lid open. That is, edge holder must be aligned with the back stops that fix the cover (Fig. 37-40).

6.1.3. Dislocate the carriage with a hand from the extreme left to the extreme right position and back. Upon carriage movement, the tube should not be bent and twisted. If necessary, tighten or loosen the tube (Fig. 41-42). Close the lid of cartridges compartment.

6.1.4. Fix the tube on the right side of the printer body (MFP) (Fig. 43)



Option 2: CISS installation on printer HP DeskJet D2500 series.

6.2.1. Insert the cartridge into the printer (Fig. 34). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should not be pinched between cartridges and printer carriage.

6.2.2. Fix the tube on top, using a T-shaped holder and double sided adhesive tape (Fig. 44).

6.2.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube. Close the lid of cartridges compartment.

6.2.4. Fix the tube on the right side of the printer body so that the tube does not interfere with paper delivery during printing. Close the lid of cartridges compartment.









Option 3: CISS installation on MFP HP DeskJet F2400 series / F4400 series.

6.3.1. Insert the cartridge into the printer (Fig. 34). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should not be pinched between cartridges and printer carriage.

6.3.2. Fix the tube on top under the scanner unit, use U-shaped holder (or holder "Clip") and double sided adhesive tape (Fig. 45-46).

6.3.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube. Close the lid of cartridges compartment.

Fig. 46

Fig. 48

6.3.4. Fix the tube on the right side of the printer body so that the tube does not interfere with paper delivery during printing (Fig. 47).



Option 4: CISS installation on MFP HP DeskJet F4200 series.

6.4.1. MFP has an internal partition, dislocate the carriage to the left side and slide cartridges over the internal partition. Insert the cartridge into the printer (Fig. 34).). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should NOT be pinched between cartridges and printer carriage.

6.4.2. Fix the tube on top under the scanner unit, use U-shaped holder (or holder "Clip") and double sided adhesive tape (Fig. 48).

6.4.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube. Close the lid of cartridges compartment.

6.4.4. Fix the tube on the right side of the printer body so that the tube does not interfere with paper delivery during printing (Fig. 49).

Option 5:CISS installation on printers HP DeskJet D1600 series.

6.5.1. Insert the cartridge into the printer (Fig. 34). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should NOT be pinched between cartridges and printer carriage. 6.5.2. Fix the tube on top to the printer body using binders and then remove binder handgrips (Fig. 50-51).

6.5.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube. Close the lid of cartridges compartment.

6.5.4. Fix the tube on the right side of the printer body so that the tube does not interfere with paper delivery during printing (Fig. 52).



Option 6: CISS Installation on MFP HP DeskJet 3630/3830

6.6.1. Insert the cartridge into the printer (Fig. 53). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should NOT be pinched between cartridges and printer carriage.

6.6.2. With holder "Clip" and the double-sided adhesive tape, fix tube of CISS (Fig. 54).

6.6.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube. Close the lid of cartridges compartment (Fig. 41-42).

6.6.4 Using stationery knife, remove a partition on the MFP



















body (Fig. 55).

6.6.5. Close the lid of cartridges compartment. Fix the tube on the right side of the MFP body (Fig. 56). Close the MFP decorative cover (Fig. 57).

Option 7. CISS installation on MFP HP DeskJet 2130/2135.

6.7.1. Insert the cartridge into the printer (Fig. 53). When installing the cartridge into the carriage, pay special attention to tube output. It must be securely fixed in a metal holder perpendicular to the cartridge wall (Fig. 12). Note that tube pipes should NOT be pinched between cartridges and printer carriage.

6.7.2. With the U-shaped holder and double-sided adhesive tape, fix the CISS tube (Fig. 58, 59).

6.7.3. Dislocate the carriage with hand from the extreme left to the extreme right position and back. Upon carriage movement, tube should not be bent and twisted. If necessary, tighten or loosen tube (Fig. 41-42).

6.7.4. Close the lid of cartridges compartment. Fix the tube on the right side of the MFP body (Fig. 60).



Before starting the system, make sure you comply with all items of section 4. Tanks filling. Make sure tanks are located on the same plane with the printer and the air holes are open.

7.1. Remove the binder (Fig. 32), align the tube in place of pinch.

7.2. Turn on the printer (MFP). Wait until all operation of the printer (MFP) until it enters the standby mode.

7.3. Using the Printer (MFP) driver, conduct 2-3 nozzles cleanings, and then print the nozzles test and verify that all nozzles print normally (Clause 1.3 in manual). If a part of the nozzle does not print, leave the printer for a few hours, within this time air which could fall into the print head during installation will be released and the pressure inside the system will stabilize. If that does not work - re-run the pumping cartridge system and refer to the section 10 of this manual.

7.4. During the operation, the printer driver may display a message cartridges ran out - ignore these messages by selecting answers of printer dialog box to continue printing. Do not allow air into the tube; a large amount of air inside the cartridge can cause cartridge failure.

7.5. Cartridges, which are connected to the system, are single-use, but the continuous ink supply is provided due to CISS and that ensures cartridge nozzles cooling. This design allows extending cartridges durability by several times. Consistency of CISS operation is provided by printing frequency, when printing is very rare, the cartridges will fall out faster. If it happened - the printer can not recognize a certain cartridge, so that means cartridge went down and must be replaced.

7.6. If after several cleanings the print quality is poor, you must remove the cartridge and inspect it. Ink should not accumulate on the print nozzles. If necessary, wipe cartridge nozzles with a tissue. Afterwards press a clean tissue to cartridge nozzles, a clear imprint of cartridge colors must remain on the tissue (Fig.3).

8. General rules for CISS operation

8.1. External tanks of CISS must be properly refilled. In the small section must have been a minimum amount of ink (see 4. Tank ink filling).

8.2. External tanks should be located on the same level with the printer, in any case, they cannot be risen above the level of cartridges (print head), as Ink will independently (under the influence of excess pressure) flow into the printer and the print head and electronic circuits. Air filters (their membranes) must be clean and dry, if the filter has been watered with ink or other liquid, it will cease to pass the air and the system will not operate (color starts to disappear). In this case it is better to remove the filter and use the system without it.

8.3. CISS tube must be properly fixed and do not interfere with the movement of the print head of the printer.

8.4. Print not less than 1 time per week, in order to prevent print head drying.

8.5. Use only high-quality ink, don't mix the ink of different types and brands. This can damage the cartridge.

8.6. During printing do not turn the ink tanks.

8.7. Use the CISS in a clean room with an air temperature at 15-35 ° C.

8.8. Do not disassemble the capacity of CISS. For maximum print quality, use the paper brand by Colorway, which can be purchased at retail or from our distributors.

8.9. In exceptional situations of the buildings of some printers can pour waste ink. To avoid such situations, it is strongly recommended that you install the "Ink outflow." For more information please contact the official representative in your city.

8.10. During long-term storage, please do not tilt or turn the CISS, remove the air filters and close with plugs small sections of CISS external tanks to prevent leakage of ink.

8.11. Avoid direct sunlight to the printer with installed CISS.

8.12. Keep the ink out of reach of children; do not drink the ink; prevent contact with eyes.

9. Transportation of printer with CISS.

9.1. Close with plugs small section of CISS external tanks, to prevent leakage of ink.

9.2. Fold and press with the help of clothespin the tube coming from the CISS tanks inside the printer.

9.3. Transport the printer with CISS installed in a horizontal position, do not turn the printer. Otherwise, ink may get on the printer electronics and disable it. Try to keep the capacity on the same level with the printer during transportation. For convenience, you can stick the tank to the printer with tape.

10. Questions and Answers.

1. Air bubbles in the tube / disappears when printing a certain color: If the clearing has not led to positive results and problems when printing nozzle test appear each time in different places, or when printing nozzle the same color does not print while cleaning the nozzles one or more colors are not available in the cartridge.

Solution approach: the system has been poorly or improperly pumped, resulting in presence of much air in cartridges or damper chambers, do a cartridge re-pumping of the desired color (see number 5 of this manual). Solution approach: holes in cartridges are over drilled or rubber seal is damaged. Replace the seal, glue with silicone joint places of cartridge with pipes. Solution approach: L-shaped fitting rests upon inside the cartridge in its foam.

Pull connector from the cartridge and trim it up to 2 mm. Solution approach: external tanks are below the printer level. Locate tanks on the same plane with the printer. Solution approach: print a nozzle test, determine which color does not print, check the tube along the entire length in place of bend. In case of detecting pinched place, unclench tube to give inks access to the print head. After the elimination of excesses, do several cleanings of print head. Solution: The main cause of this problem is drying of the print head nozzles connected with continuous downtime of the printer or the use of low-quality ink. Use the driver for regular nozzle cleaning, do 2-3 cleanings, and print 5-10 color pages - if improvement does not occur, repeat these steps again after 2-3 hours. Solution approach: the cartridge has insurmountable flaws and needs replacement.

2. Wrong colors transfer / color inversion: In case of photos colors being unnatural, color printing in the form of negative image.

Solution approach: Open the graphics editor, paint some colored squares, and start printing; if colors are printed incorrectly (for example, instead of yellow, you get blue or green), then the tube of the CISS is connected incorrectly. You need to replace the cartridge and connect the tube properly.

3. Printer does not recognize the cartridge. If printer can not recognize a certain cartridge.

Solution approach: poor contact of the cartridge chip with carriage contacts: make sure that the cartridge is correctly inserted and firmly snapped. Clean the cartridge contacts with a dry tissue. Solution approach: press with a clothespin the tube that goes from external tanks, remove the pipes from the cartridges. If the printer does not recognize the cartridge: the cartridge is faulty and must be replaced.

4. Blots on the printouts, there is permanent air in the pipes. In the case: when printing ink blots are generated randomly on the sheet. Solution approach: tanks are not on the same level with the printer, there is too much ink in small tanks (See section 4of this manual). Place the tanks on the same level with the printer, check up the accuracy of filling.

5. Carriage positioning error.

In case, if the computer displays the message "General error, please remove foreign object from the printer or "your printer service is required."

Solution approach: printer carriage can not move when printing and the printer produces a rattle. Perhaps tube of CISS is too long or too short; please adjust the optimal length of the tube. If something has got into the body of the printer, please check the printer's body for the presence of foreign objects.

