

# MS NEW FULL-C INSTRUCTION MANUAL



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## >>WARNING<<

### Suggestions when using Oliser's Inkjet Filling Machines

1. **Oliser suggests using water when operating the machine for the first time**
2. **A pencil eraser can be used to clean the circuits on a cartridge**

#### Maintenance :

Insert all Exhaust Lines into your specific catch receptable

**Note :** Empty your catch buckets once they become 1/3 full. This will optimize the air flow in your equipment and allow the System to perform correctly.

**Note :** Use separate catch buckets for waste and reusable liquids.

Flush your equipment with warm distilled water daily.

Simply use an empty cartridge to draw the distilled water through your equipment in place of ink.

This will keep any sediment from clogging the interior of the equipment.

#### Cleaning of VAC generator :

Take out the VAC generators connectors, put the VAC generator warm distilled water or cleaning solutions around five minutes, then apply compressed air through connectors one by one 3-5 seconds. Reconnect the connectors to the VAC generator and test the vacumm level before install into the machine.

**Maintenance procedure must be done regularly every week. OLISER is NOT responsible for the problems which is caused by un-maintenance...**

# INSTALLATION



Pressure Regulator will be shipped you separately , so first you will install it in the place of it as shown above left side of the machine. Two screws are provided for the installation of pressure regulator , screw them together with the pressure regulator and fix it on the left side of the machine, connect the inlet tube to the pressure regulator and connect compressed air tube (6mm) to the pressure regulator as shown shown right.

## HP-15/45 FILLING



- Insert the cartridge to the filling station and secure the cartridge flipping up the red handle.
- Push Start/Stop button It will do 20 seconds vacuum then it will start filling around 20-30 seconds.
- Watch the syringe movement , when it is stopped , push the balance button for 3-5 seconds for pressurizing then remove the cartridge flipping down the red handle.
- And then test the cartridge.

## HP-15/45 EVACUATION



- Insert the cartridge to the evacuation .
- Flip down the 15/45 evacuation button to start the evacuation operation.

## HP-14/29 FILLING



- Insert the cartridge in to the filling station and secure the cartridge using the red handle.
- Flip down the Filling button to start filling the cartridge. Follow the filling of the cartridge, When you notice that the ink is reached to the top of the cartridge, Flip down the red handle, and wait 3-5 seconds for pressurizing. Then take out the cartridge from the filling station and flip up the filling button.
- Check the weight of the cartridge using an electronic scale, average weight must be around 58-60 g.
- If the weight is more than that, empty the excess ink from the cartridge using the evacuation station to bring the exact weight.
- If the weight is less than that, Insert the cartridge to the filling station and continue the filling operation.

## HP-14/29 EVACUATION & CLEANING



### Evacuation :

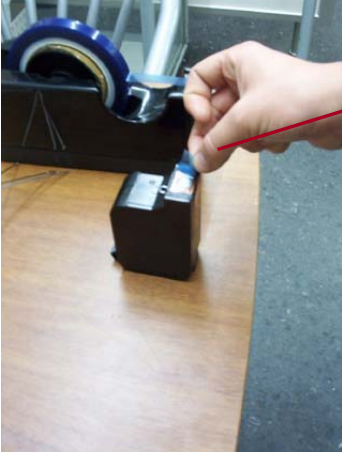
- Insert the cartridge in to the Evacuation station and push the evacuation start/stop button.

### Cleaning :

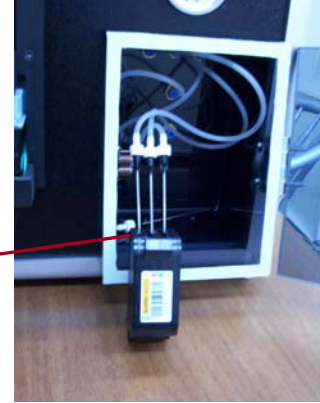
- Insert The Cartridge cleaning station, adjust the time period and push the cleaning button.

# FILLING IN VACUUM CHAMBER

## Color Cartridge



Seal the printhead of the cartridge using a blue tape.



Insert the needles into the cartridge.



Place the cartridge inside of the filling chamber.

Adjust the ink volume. Close the cover of the filling chamber firmly and push to the start/stop button, it will start vacuuming and when reached to the correct vacuum level , automatically filling will start and stop after filling completed.



Take out the cartridge from the Filling Chamber



Using the suction cup , do the priming operation , now cartridge is ready to print test.

**NOTE : All color cartridges will be filled following the same steps above.**

## Black Cartridge



Seal the printhead of the cartridge using a blue tape.

Insert the needle into the cartridge.



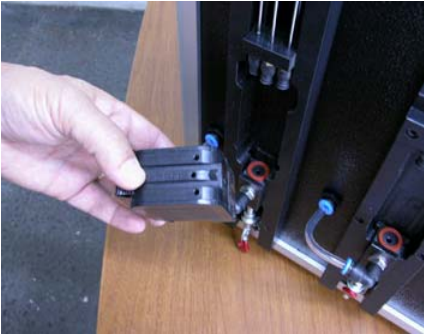
Adjust the ink volume. Close the cover of the filling chamber firmly and push to the start/stop button, it will start vacuuming and when reached to the correct vacuum level , automatically filling will start and stop after filling completed.



Take out the cartridge from the Filling Chamber, using the suction cup , do the priming operation , now cartridge is ready to print test.

**NOTE : All Black cartridges will be filled following the same steps above.**

# HP 23,25,41,78 Filling Process



Be sure that fill hole plugs are removed!



Place the cartridge to the station



Lift the handle up and secure the cartridge, be sure that cartridge is tight.



Push the Start button after being sure to adjust the right **Ink Volume** (page 3) of each color.



Test the cartridge by pushing on a clean tissue paper

## 1) ADDRESSING 29, 14, 26 TYPE CARTRIDGES

### a) Buying an empty and seeing whether it is suitable for recycling

- test contacts and only recycle cartridges with 1 or 2 jets mis-firing (Does your tester do this?), our MS-56E tester perfectly offers this solution: <http://www.oliser-tr.com/equipment/mstester56.htm>
- Look with 20x or 30x eyeglass (*do you have one?*) to see if any scratches on the GOLD nozzle plate as going across any of the 49 ~ 51 jet holes (*these quantity of jet-holes vary from cartridge to cartridge, based on their OEM design*) if so, the cartridge will misfire and cause a streak, as it will, because the jet-hole is impaired or made imperfect by the scratch which mis-forms the perfectly round shape into another shape.
- Slightly steam the head to clear path for the next test (you may use our MS-Steam / MS-Vapour: <http://www.oliser-tr.com/equipment/steam.htm>)
- You can also mildly steam the mazehole hole to clear possibilities of blockages as a safety net
- Have NO water or fluid in the cleaning / filling / evacuation stations on the machine (ECO) and inflate and deflate the cartridge up to 10 times in the filling side. This may be performed by placing the said cartridge into the 29 type filling cradle and by lifting and depressing the red lever. This will test the integrity of the bag (bladder) and the pneumatic integrity of the vessel; weeding out cartridge that have a) blown valves on cartridge top b) or those that have cracks, that are usually present between the transparent base and colour lid (*this defect is normally not visible or noticeable with the naked eye*)

If at this stage all of the above are seen to be in order, then "voila", your cartridge will fill, test and sell as a grade "A" cartridge

### b) Cleaning and filling the cartridge

- Steam nozzle
- Steam mazehole
- Have hot water (100% pure, i.e. de-ionized water that is free of any other chemicals, you may attain this with our MS-H2O purifier: <http://www.oliser-tr.com/supplies/h2opurifier.htm>) @ 50 ~ 60 degrees Celsius in a bottle. We recommend that you purchase a thermometer or alternatively buy an oven thermometer, they are cheap - to regulate your water temperature. NB: if the water temperature exceeds 60~70 degrees Celsius, you may melt the internal bladder and render the cartridges worthless.
- Introduce pure water into the vessel using the cleaning station
- We recommend that you half to two-thirds fill the cartridge. If you totally fill the cartridge, there will be no room left over for the next step;
- Shake the cartridge about to create a washing machine effect; effectively the hot water (pure water) will breakdown hard pigment powder residue left in the cartridge into a dissolved format, much like sugar in tea, so as to allow it to freely pass through the tiny jets as a pure liquid in the evacuation process
- Then evacuate the dirty water in the cartridge using the evacuation station
- If the cartridge does not look like the queen of England could eat off the inside, it is NOT ready to fill !!!
- You may need to repeat the process of cleaning UP TO 7 times in order to get it clean. This is normally excessive and normally applies to multi-filled cartridges where a great deal of sediment build-up has gathered.
- Failure to clean the cartridge 100% will result in pigment powder blocking the inside channel (plenum) into the jet area and will impede ink-flow and the possibility of a good and continuous print
- When all of the above have been observed and are in order, and the bag's integrity has been monitored throughout the cleaning process (*as bags do blow during cleaning periodically*), you can go to filling.....remember that when we speak of monitoring the bag, we mean during the cleaning process the valve on the top of lid can blow, much like a car or bicycle tyre tube valve would. Also slight cracks between the lid and transparent body of cartridge might appear (*not that you can see them*)
- The next step is to click the spotlessly clean empty cartridge into the filling cradle
- Start the fill
- When the ink reaches the rectangular patterned area (on base of bladder spring device) of the metal frame, flick down the red lever. This will effectively balance the cartridge by shutting off withdrawals from the lid valve, and by sucking out air that will cause airlocks (via the head)
- Although normal fill weight for 29 type cartridges is around 63 grams, we only test at approximately 60g or less - and normally ship out at 58~59.5 grams
- If you overfill the cartridge, you can draw excess ink out of the cartridge by simply evacuating ink in the evacuating station. Remember short split second bursts will normally draw off around 1ml per time, so be careful not to drain too much out.
- Then go to test print. It is imperative to spend this time test printing.
- Test print must be 2 pages (minimum) using normal quality print mode. (*You can use the test shown below*)

### c) Sealing

- Do not use water in the process (on the head)
- Make sure that your blue tape also covers the mazehole
- Pack & seal

## 2) ADDRESSING 45 & 15D CARTRIDGES

The process is far simpler and we will use one section for all concerned points: -

- The cartridges are identical, with the exception of slight electronic differences
- Therefore the vessel and all other aspects for a recycler are identical
- First we get our cartridge and nozzle test with a high-grade tester so as to deduce what the firing / working count is from the possible 300 jets on these models. You may use our MS-ECD which besides converting 45 to 15 cartridges, it also tests 15, 45, 23, 25 & 41 cartridges: <http://www.oliser-tr.com/equipment/ecd.htm>. By-in-large though, a tester is not needed and at over US\$2,000 for the converter it is not something everyone can afford.
- You can also use a printer with a happy (smiling) and unhappy face. Make sure that the cartridge contacts are clean (*clean with mentholated spirits*) and ensure cartridge goes to happy position on black cartridge face, after you re-open the printer lid
- If it does, this tends to imply that 270+ of the 300 jets are working. On the 45/15 cartridges, they tend to work satisfactorily with UP TO 10% misfiring jets
- **NB: The best way around a tester, and in fact a dual-method that is best employed as an additional test is to get an older model HP printer, such as HP710, 720, 820 etc. and use the utility software in the HP TOOLBOX to fire the jets on cartridge services facility. If the cartridge has NO ink in it, you can part fill or hand-suck to prime ink to the head for the short test. This will display the grid pattern letting you know the nozzle condition.**
- Steam nozzles. NOT for too long, or you will melt the holes closed!!! 2 ~ 5 seconds at varying distances is recommended (*but immensely important*). If you DO NOT steam first - you will be trying to force ink into the cartridge during the fill through clogged passages a) causing irreparable damage to those jets, and b) slowing down fill times
- Evacuate ink in the cartridge until cartridge weighs 64 ~ 66grams. It is important that aftermarket ink does not mix with OEM ink, bearing in mind that HP has patents on their ink formulae and the different chemical properties may clash.
- Some clients do flush cartridges internally with pure water and thereafter evacuate it. We believe that this is not normally required if virgins or even 3-filled cartridges are being processed.
- Ensure that the filling ink line (tube) from cradle to ink bottle is primed, i.e. no air in it. You may achieve this by always saving old and faulty cartridges and start the fill allowing ink to go into the old cartridge first. This is only necessary when changing ink bottles.
- Immediately after the cartridge has been in evacuation station, insert to fill station. Why? - you might ask....because in the evacuation station, the silver bag has been squeezed together flat and no air is present, therefore when you fill, we will reduce the chance of air in the bag
- Obviously next: fill
- BUT DO NOT BALANCE – if you can help it (*this mainly pertains to recyclers who are producing stock, or those who have good turnaround times to clients in that they were not rushed*)

After the fill, wipe the residual ink off the 45/15 nozzles, and let cartridge stand in upright position (nozzles facing up)

- Bang / knock the cartridge on the counter. This will encourage air bubbles which are create through turbulent filling (*through 300 jets*) to rise in an anti-gravity fashion upwards
- Normally allow them to sit for hours or overnight in this position, but if it is a refill, then you cannot do this (*or maybe you can...why? because direct swap-outs on 45a's is very feasible. If cartridges test okay (electronically etc.) and in a bid to pleasing the client and because the empties are in abundance and NOT prone or susceptible to problems*)
- After this you can balance (equalize)
- Normally a 1 second suck will imply that 1ml is being drawn out with the air
- We recommend performing a 2 ~ 3 second function, but weight NOT time depicts / dictates this. ....because you should pre-weigh and post-weigh during the balance period. Remember cartridges will weigh differently because of the starting weight variables
- After balancing, the cartridge will weigh between 103 ~ 107g
- Then test print
- Normally because of "cabin" pressure variables, it is recommended to up to run 2 solid pages. Without a doubt to begin with, this a) causes all 300 (*or whatever jets are working*) to fire.....and it will show you signs of what the problems can / could be (bearing in mind, if you have run the jet-test to begin with, you will be quite certain that all jets are firing, and you should NOW run the jet (utility test) one again, including cleaning cycles, offered by HP software
- The cartridge then can go to full 2 ~ 4 page test (ideas for these are attached)
- You will pack and seal as normal. Do not use water drops on the head. Make sure that when you nozzle seal with tape that you do 1 sec steam to ensure that no "scabs" (hard ink) have formed in the pores during sitting and waiting time (*while cartridges are waiting for packing*)

# Tube replacement of motors

