

Operation Manual

Thank you very much for purchasing FY series printer

FY-3276HA (2576HA / 2176HA)



- In order to use **FY** series printer correctly and safely and understand this product's capability, please read this manual carefully.
- This manual includes equipment structure, description, technical parameters, operation manual, safety information, application of software, etc.
- This manual is subject to change without notice.
- Contents herein contained are believed to be correct, however, please contact us if you find any error or something not clear enough.











10th Nov., 2009

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1.1 Important Safety Measures






Please read the following instructions before using the printer. Follow cautions and instructions which are labeled on the printer.

-  Do NOT block the opening on the top of the printer.
-  Do NOT insert any object into the printing platform. Prevent spilling liquid onto the printer.
-  ONLY 220V can be applied.
-  Connect all the power cord to a single socket extension. Avoid sharing the socket with the devices which will be on and off frequently.
-  Avoid using the socket with self-timer control and with the switch on the wall.
-  Keep a distance between any device which will release electro-magnetic field, such as wireless phone.
-  Do NOT use damaged power cord.
-  If using an extra power cord, keep in mind that the total ampere of this device does not exceed the assigned ampere of the power. Also, the total ampere of all the device which connect to single socket cannot exceed the assigned ampere.
-  Do NOT try to repair the printer.
-  When encounter the following circumstance, disconnect the power and contact your local distributor for support:
 - Power cord or plug is damaged;
 - Liquid is spilled onto the printer;
 - The printer falls down or the surface is broken;
 - Printer does not run normally.






1.2 Handling Printer Caution

-  Do NOT move the carriage when the power is on.
-  Always use the power switch to turn on or off the printer. Do NOT try to remove the data cable or the power cord when the machine is on.
-  Make sure the carriage is stabilized in the origin position during transport.
-  Do NOT touch printing platform during printing.

1.3 Handling Ink Tank Caution

-  Please store ink tanks at the place where children cannot reach. Do NOT let children touch the ink tank.
-  If ink is spilled into eyes, immediately wash with water and see your doctor.
-  Do NOT shake the ink tank, this may cause leakage.
-  Please often check the ink content in main ink tank, avoid unnecessary loss due to lack of ink.
-  Please often check the waste ink tank and replace it in time when it becomes full.

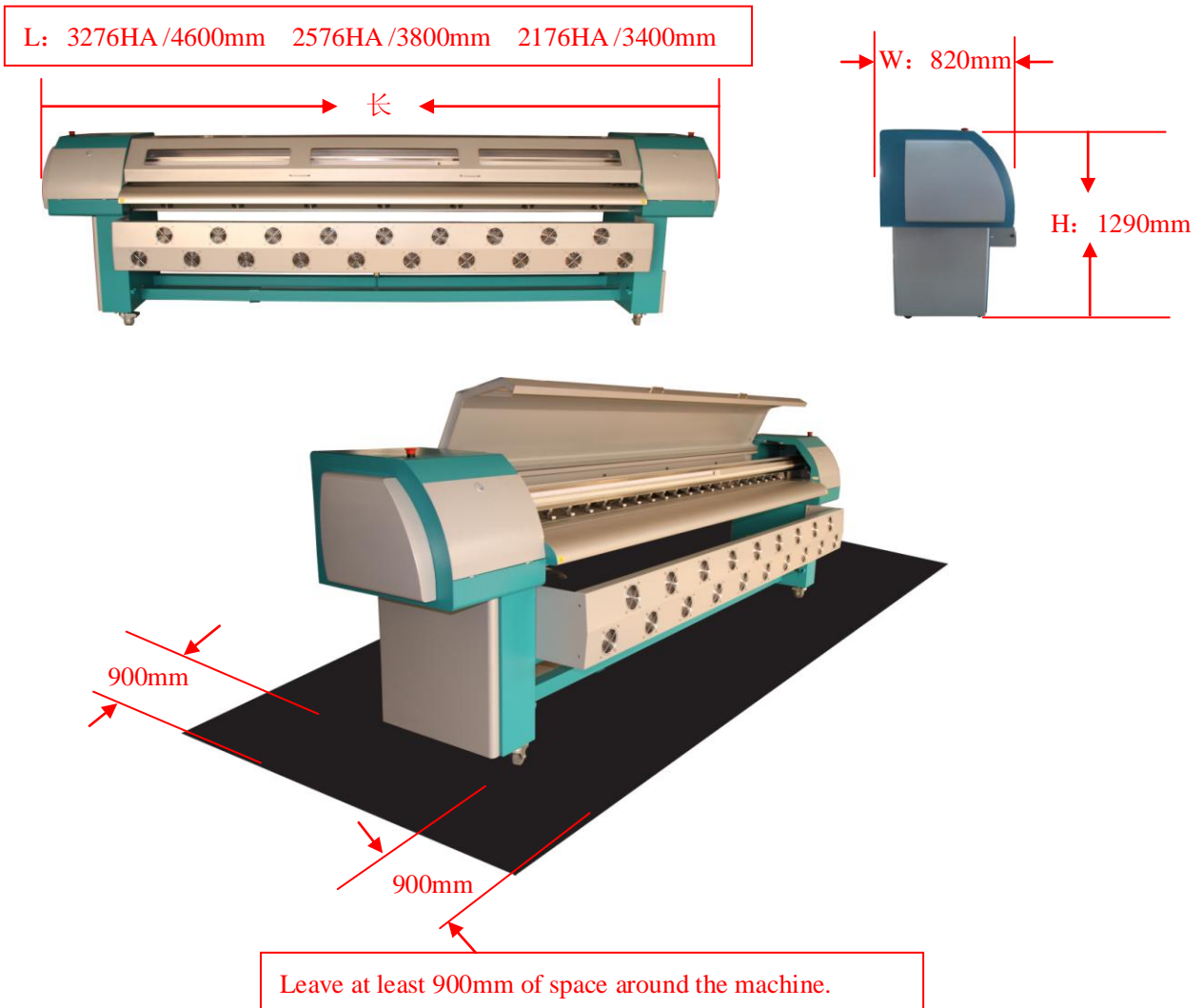
1.4 Printer Installation Site

-  Place the printer on a level floor otherwise it will not operate normally.
-  Avoid placing the printer in the area with huge change of temperature and humidity. Do NOT expose the printer to direct sunlight or heat.
-  Avoid placing the printer in any possible shaking or vibrating area.
-  Leave enough space around the printer to ensure normal ventilation.
-  Place the printer close to the power socket so that power cord can be removed and plugged easily.

2.1 Environment Requirement

Keep the room temperature between 20—30°C, and the humidity between 40—60%. Air conditioner and humidifier may require. Keep a distance from strong radiation field. The floor must be level.

Site Requirement:



2.2 Electrical requirement

The printer only supports AC 220V. A transformer is needed if the area is using AC110V.



The printer must be well grounded (the grounded voltage should be less than 0.3V, and the grounded resistance should be less than 3Ω).



UPS and voltage stabilizer is highly recommended.



Note: FY-3276HA Heater 1900W (9A) , Printer 660W (3A)。

FY-2576HA Heater 1750W (8A) , Printer 560W (2.5A)。

FY-2176HA Heater 1350W (6A) , Printer 560W (2.5A)。

Note: The total power consumption of the machine cannot be higher than the assigned power on the socket.

2.3 Computer requirement

1) Basic requirement:

- CPU: 2.0 GHz or higher
- Memory: 1Gb or higher
- Hard disk: 80 Gb (recommend 20Gb free space)
- Mother board: USB connection equipped
- Network card
- Operating system: Microsoft Windows (2000, XP)

2) Recommendatory requirement:

- CPU: 3.0 GHz or higher
- Memory: 2 Gb or higher
- Hard disk: 200 Gb or higher (NTFS format)
- Mother board: USB connection equipped
- Network card
- Operating system: Microsoft Windows (2000, XP)

NOTICE: Suggest user format your hard disk into 2 partitions (NTFS). The first partition is used for installing OS and other software, the second partition is used to save pictures and work files.

2.4 Procedures of Assembling

- 1) Move the packing box to the working site and avoid strong shaking.
- 2) Disassemble the wooden packing box from top to bottom. Check whether the parts are complete or not according to the packing list.
- 3) Lift the printer out by a forklift, and move it to the installation site.
- 4) Check if the printer is level.
- 5) Get rid of all the parts that stabilize the carriage holder, and install all the spare parts.
- 6) Move the carriage to the right of printer, then move back to the left manually. During this process, checks if there are abnormal resistance and carefully inspect the belt & the encoder sensor are situated in proper position.
- 7) Ground the printer. The grounded voltage shouldn't be more than 0.3V, and the grounded resistance should be less than 4Ω .
- 8) Connect the USB cable between printer and computer. Check if the wires and data cables are

plugged in properly.

- 9) Install the output and the rip software.
- 10) Turn on the printer, and keep your hand on the emergency button for turning off the printer if problem happens suddenly.
- 11) Send a file to print to test the condition of the printer.
- 12) Clean the whole ink supply system with special solvent. Then empty the ink sub-tanks, and repeat the step twice. At last, empty the remained solvent in the ink supply tubes through ink sub-tanks.
- 13) Fill the main tank up with ink. Then empty the ink sub-tanks, and repeat the step twice, in order to ensure there is no mixture of ink and solvent in the ink supply system.
- 14) Dip the aluminum tube connector into the solvent and clean them, in order to ensure no any sundries exist.
- 15) Turn off the printer. Take the black washer out from the white cap on the top of the damper, and then place the washer in the aluminous cap. (Figure 2-1) Stabilize the printhead with screws. Connect the tube, and tighten the aluminous cap at the ink incoming part on the top of the damper. Finally, connect the data cable.

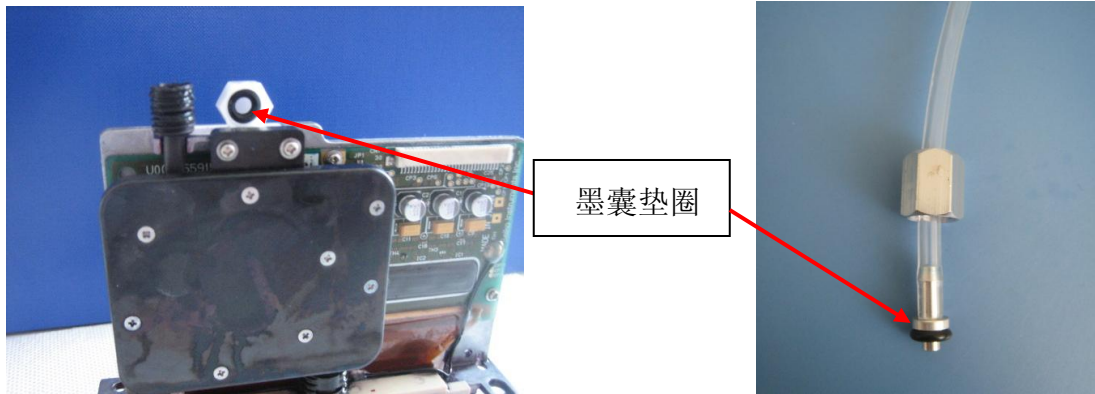
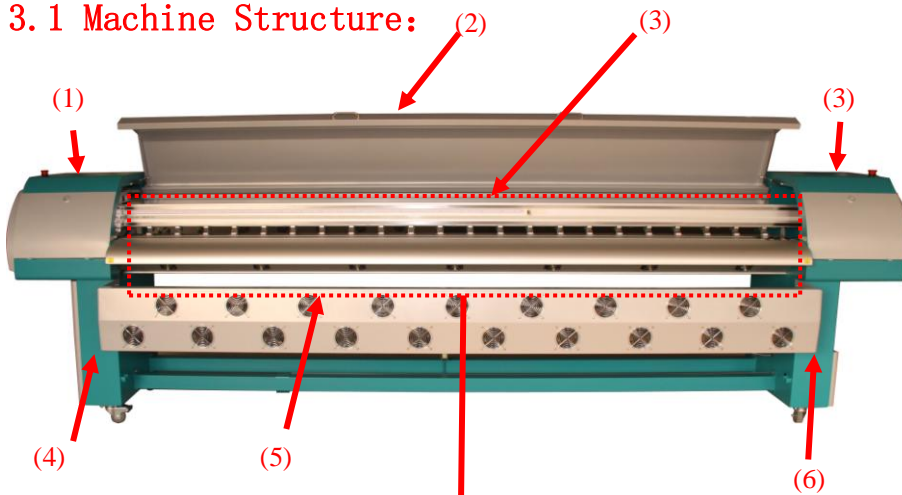


Figure 2-1

- ! **Attention A:** When assemble the aluminous cap, you should screw on the aluminous cap perpendicularly avoiding to damage the screw thread of the damper.
- ! **Attention B:** When assemble new printhead, it's unnecessary that you flush the printhead additionally with solvent. It's because there isn't protective fluid in printhead nozzles.

- 16) Fill the printhead with ink by using positive pressure, then wipe the ink droplet on the surface of printhead plate with sponge stick.
- 17) Print nozzle checking and observe the condition of printheads. It is recommended to keep a copy of the test for reference in the future.
- 18) Printhead alignment.
- 19) Start to Print.

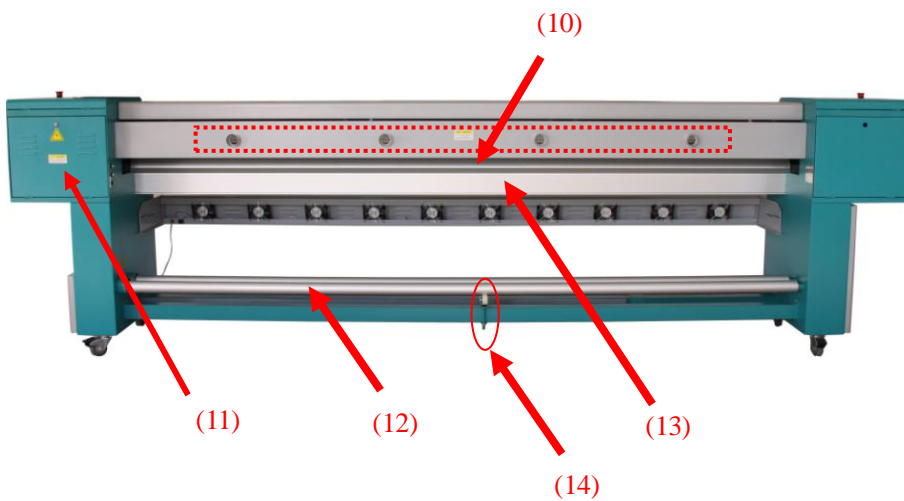
3.1 Machine Structure:



- (1) Left Machine Box
- (2) Cover
- (3) Right Machine Box
- (4) Waste Tank Position
- (5) Cooling Fan
- (6) Main Tank Position

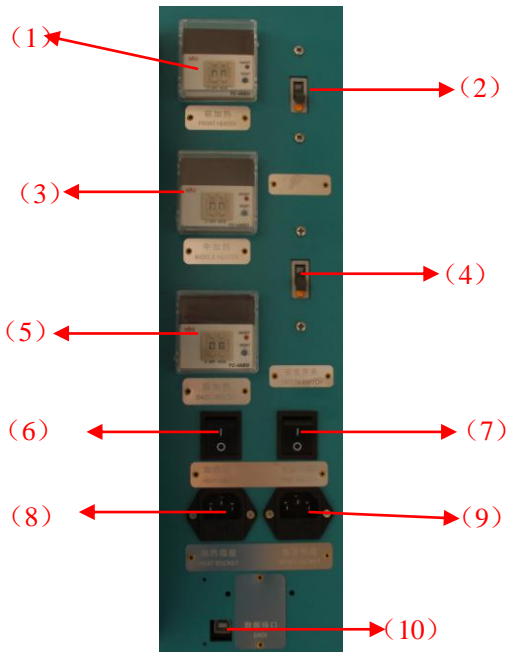


- (7) Single Pinch Roller
- (8) Girder
- (9) Alloy-aluminum Platen

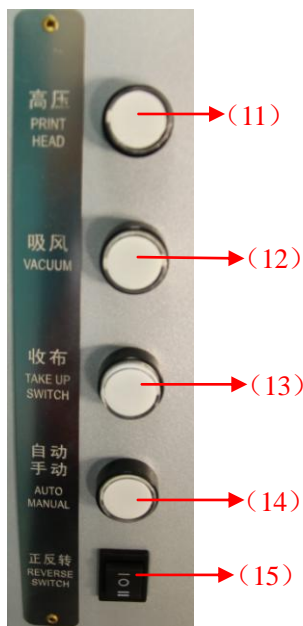


- (10) Exhaust Emission
- (11) Electronic Part
- (12) Media Support Bar
- (13) Girder
- (14) Media Support

3.2 Name and Function of the Controlling Parts

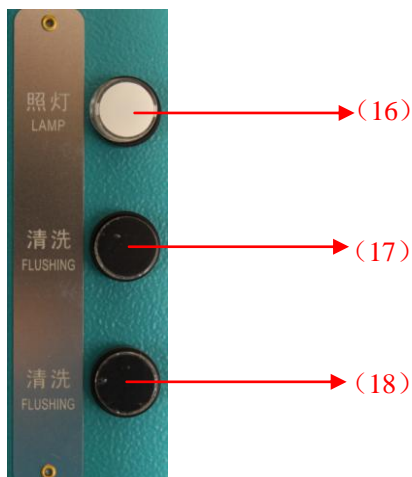
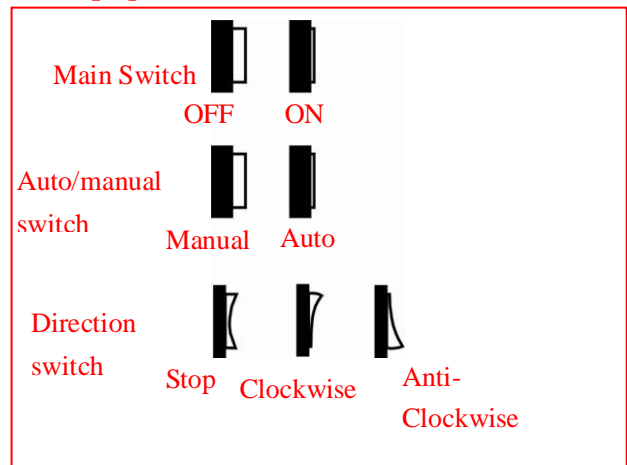


- (1) Drying heating temp. controller
- (2) Heater safety switch
- (3) Middle-heating temp. controller
- (4) Printer safety switch
- (5) Pre-heating temp. controller
- (6) Heater main switch
- (7) Printer main switch
- (8) Heater power socket
- (9) Printer power socket
- (10) USB cable connector



- (11) Printead voltage
- (12) Media suction
- (13) Take-up main switch
- (14) Take-up auto/manual switch
- (15) Direction switch

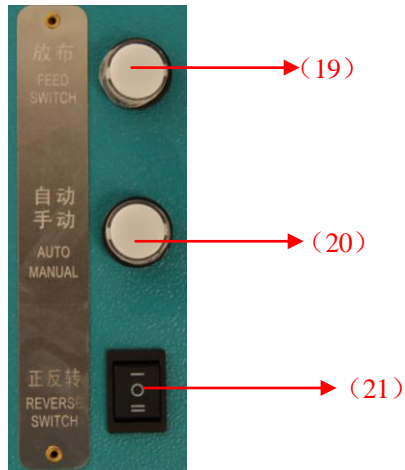
Take-up operation:



- (16) Purging light
- (17)、(18) Solvent cleaning

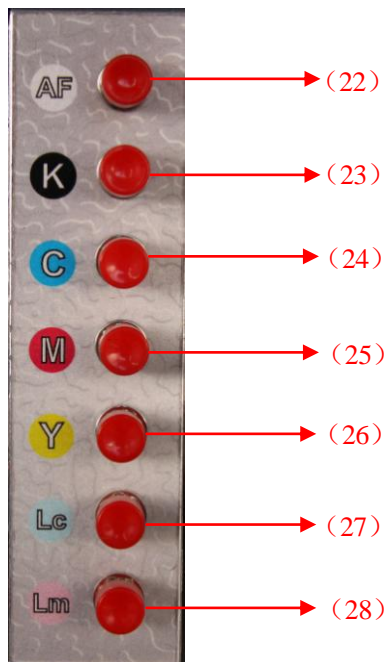
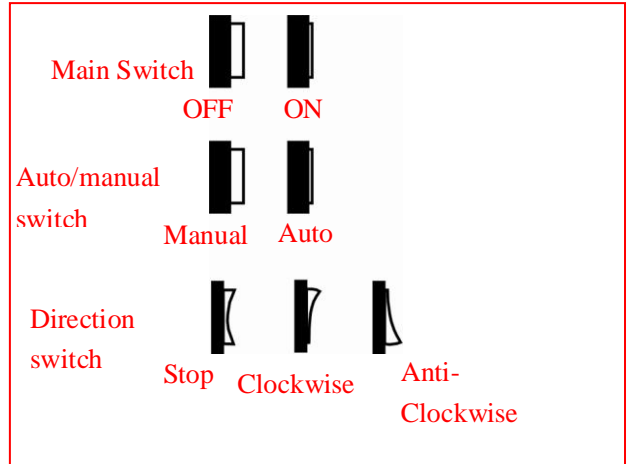
Note:

Connect the solvent tube to the ink tube, press two solvent cleaning button at the same time to start cleaning!

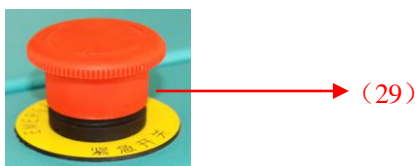


- (19) Feeding main switch
- (20) Feeding auto/manual switch
- (21) Direction switch

Feeding Operation:

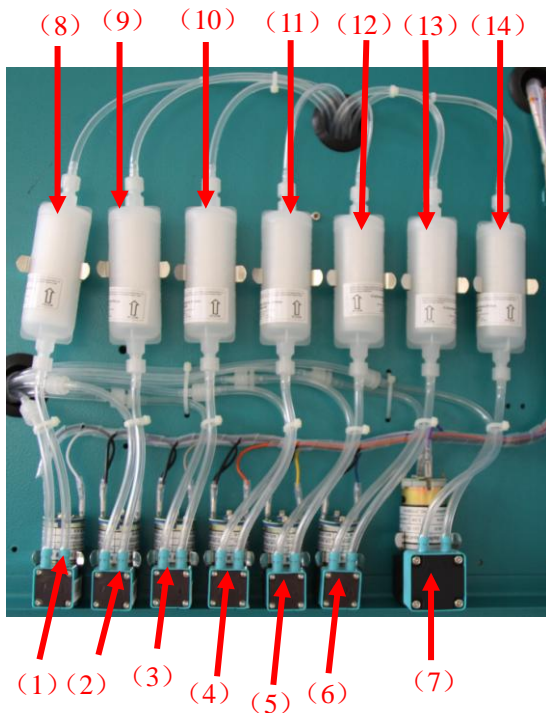


- (22) AF Positive pressure cleaning for all color
- (23) **K** Positive pressure cleaning
- (24) **C** Positive pressure cleaning
- (25) **M** Positive pressure cleaning
- (26) **Y** Positive pressure cleaning
- (27) **LC** Positive pressure cleaning
- (28) **LM** Positive pressure cleaning

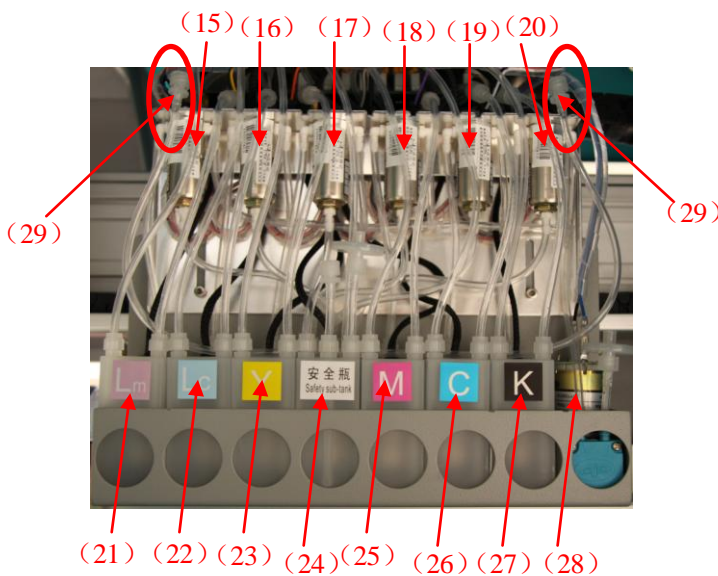


- (29) Emergency stop

3.3 Ink Supply System:



- (1) K pump
- (2) C pump
- (3) M pump
- (4) Y pump
- (5) Lc pump
- (6) Lm pump
- (7) Solvent pump
- (8) K filter
- (9) C filter
- (10) M filter
- (11) Y filter
- (12) Lc filter
- (13) Lm filter
- (14) Solvent filter



- (15) Lm Elec. mag. valve
- (16) Lc Elec. mag. valve
- (17) Y Elec. mag. valve
- (18) M Elec. mag. valve
- (19) C Elec. mag. valve
- (20) K Elec. mag. valve
- (21) Lm Subtank
- (22) Lc Subtank
- (23) Y Subtank
- (24) Safety subtank
- (25) M Subtank
- (26) C Subtank
- (27) K Subtank
- (28) Pos. pressure pump
- (29) Solvent tube

! Note: Connect the solvent tube to the ink tube before start solvent flushing!

! After finish solvent flushing, empty the solvent in the tube. Cap the solvent tube.

4.1 Characteristics

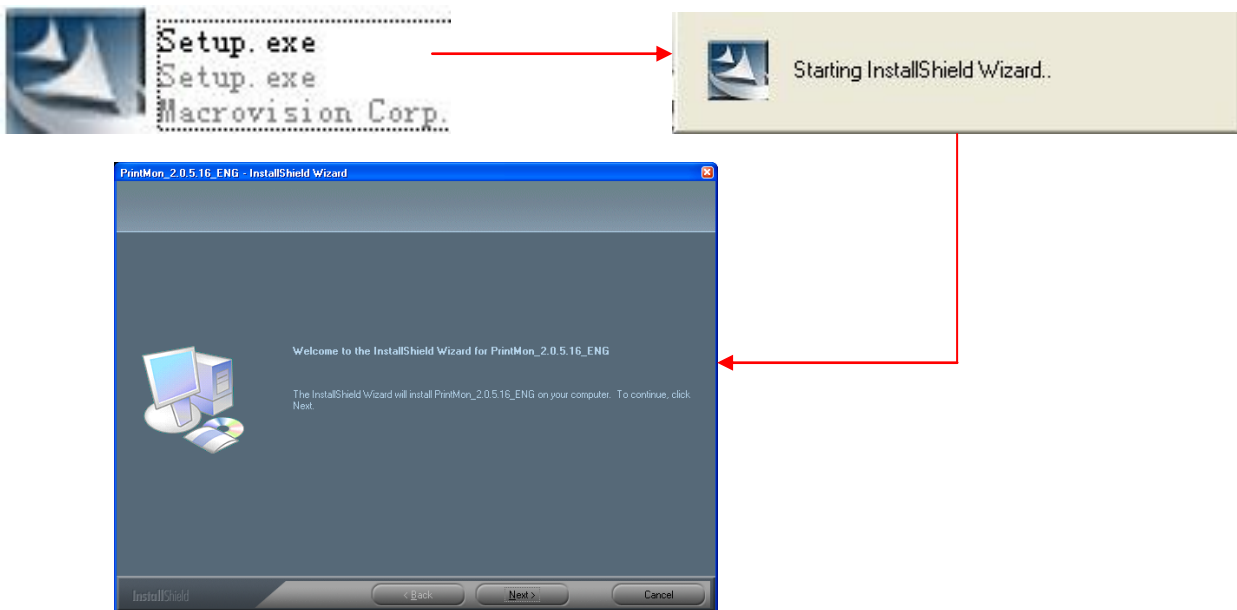
- SPT510_60pl x 6/4;
- Resolution: X direction 720\360\240 DPI;
- Colors: 6/4 colors ;
- Print mode: 2,3,4,6 Pass;
- Output mode: File or TCP/IP(Rip and Print at the same time);
- Output preview: Convert prn/prt file into a small bmp file for previewing;
- Print intelligently: Skip white area;
- Setting of multi-printing;
- Automatically flash jetting: Automatically clean printheads by flash jetting during printing;
- Home flash jet: Prevent nozzles of printheads block while not in printing state;
- Color bar: Prevent nozzles clogging, and observe nozzles status. Able to set the width of color bar and the distance from image;
- Able to align printheads, step difference ,and bi-direction difference;
- Able to print uni-direction or bi-direction and mirror ;
- Edge feather: Lighten pass line;
- Cleaning System: Setting of auto-cleaning with Solvent;
- Individual Positive Pressure Cleaning System: Clean with ink for each color, and avoid the waste of ink;

4.2 Software Installation

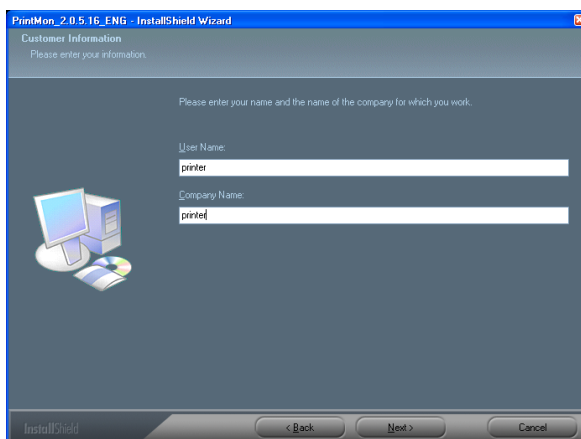
This software consist of printer driver, printing adjustment and picture printing functions. Running this software requires a certain hardware and software condition. Herein, you are going to be introduced the operating system environment required, software and hardware configuration and software installation

Please follow the following steps to install the software.

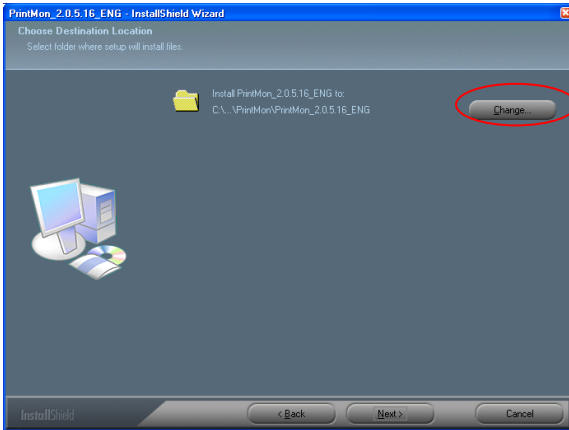
- 1) Double-click the "Setup.exe" file in the installation disk, start installing disk, start installing as shown below.
- 2)



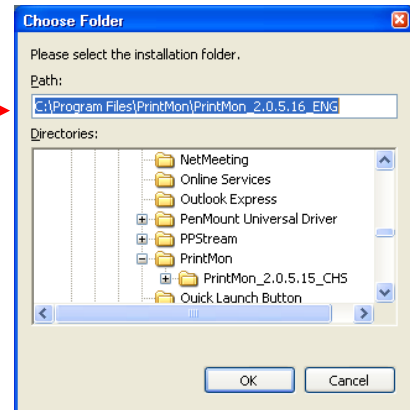
2) Then follow the above instruction, click "Next", the following interface will show up, you have to enter the user and company name as well.



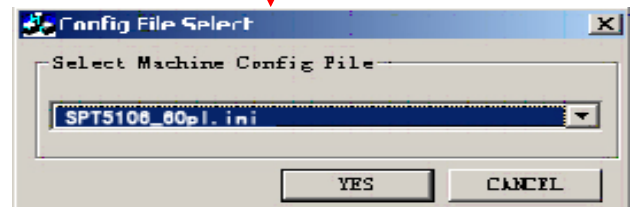
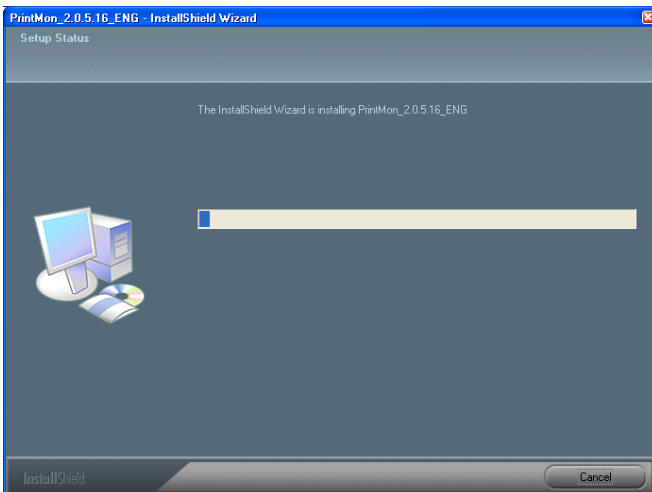
3) Click "Next", installation path is available to choose.



Choose the directory to install.




4) By clicking "Next", the installation progress will appear, then click "Confirm", "configuration file options" dialog box will appear as shown below. Then, choose the **SPT5106_60p1.ini** file which corresponding to the print head.

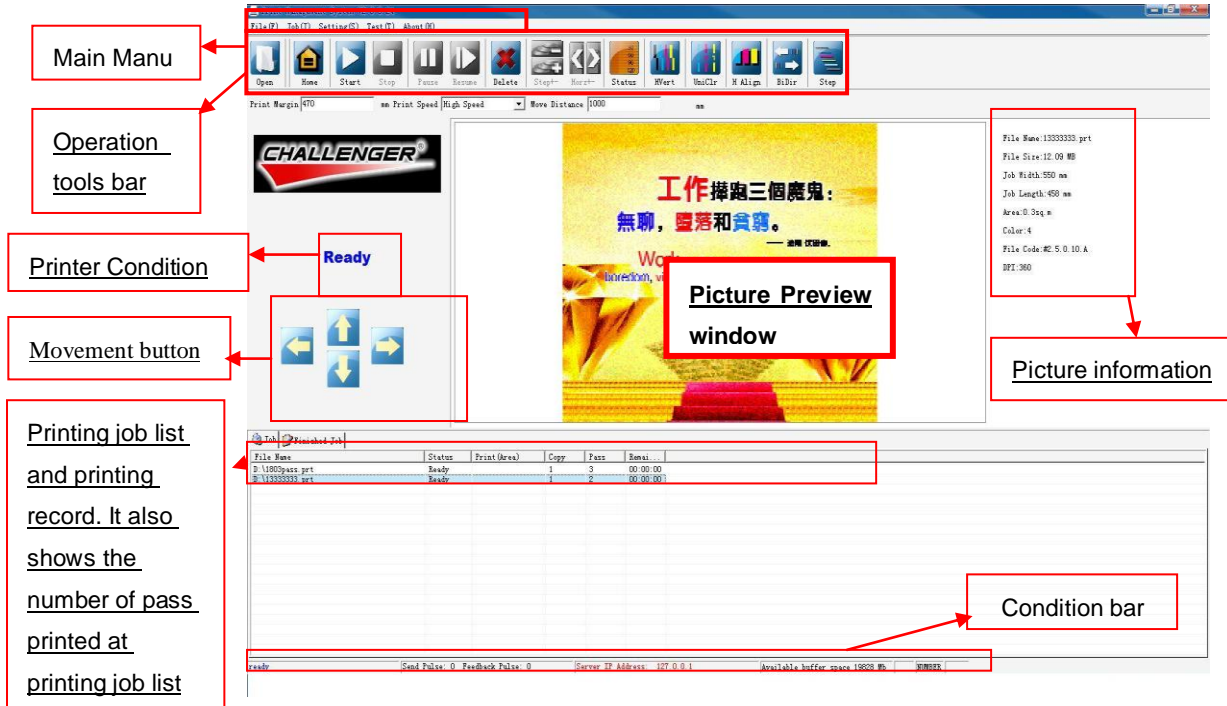


5) Click "Confirm" to finish installation.

4.4 Software Interface

1) Control panel introduction:

Find the following shortcut icon  , double-click the icon to open the software. Let us take a look at the main interface first.

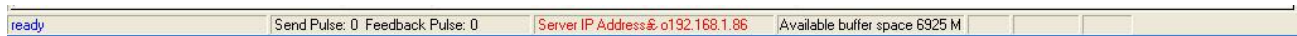


b) Main Menu



Through the operation toolbar, we can speed up the implementation of commands which are commonly used in the software. There are various kinds of adjustment buttons, their functions are the same as they are found in the corresponding menu.

c) Status Bar



From the left to the right , "Function Description", "Send Pulse", "Feedback Pulse", "Server IP Address", and "Available Buffer Space" respectively.

Function Description: Displays the current printer status


Send/Feedback pulses: Display the Send/Feedback pulses as the carriage move so that user can judge the problem according to the data.

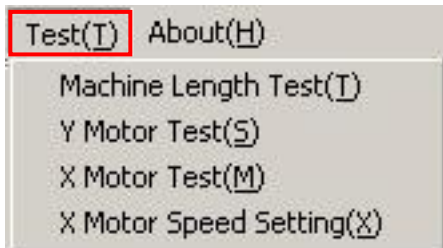
Server IP address: Display Local IP address, the IP address of the printer is 127.0.0.1 when online printing is taken place.

Available Buffer Space: Buffer zone is a temporary place for saving the file at times of net printing. When the buffer space is smaller than 500M, it turns RED to warn the user.

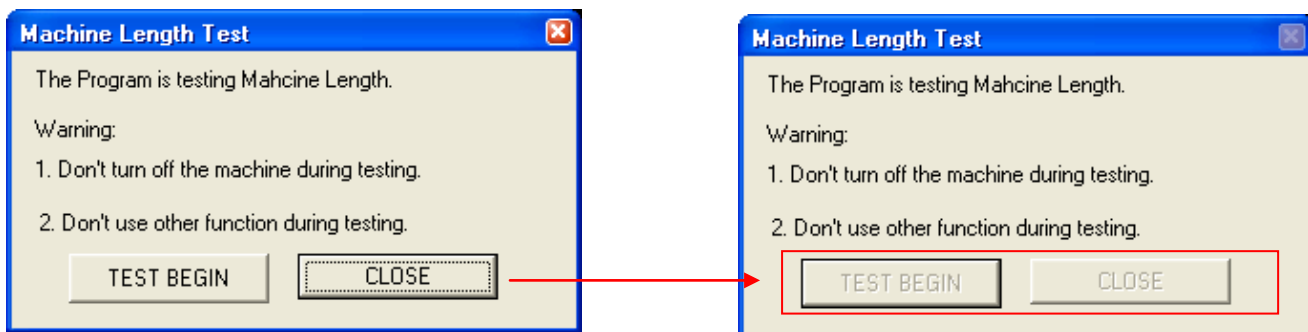
4.5 Software Initialization

1) Printer initialization (Brand new printer has to be initialize according to the following instruction)

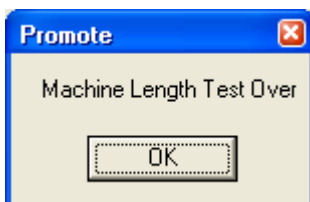
1.1 Double-click the icon  to open the software, then select the "Test" menu.



1.2 Machine Total Length: Select "Test" ---> "Machine Length Test"

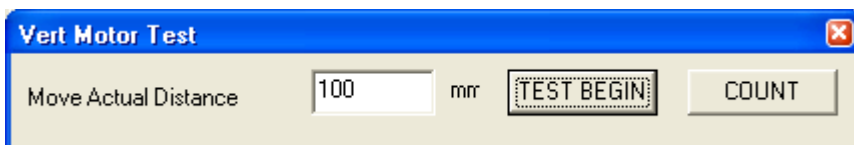


Click "Test Begin" to start measuring the machine length and calculating the X motor gear ratio. The carriage will move back and forth twice, and the following dialog will show up after finish testing.

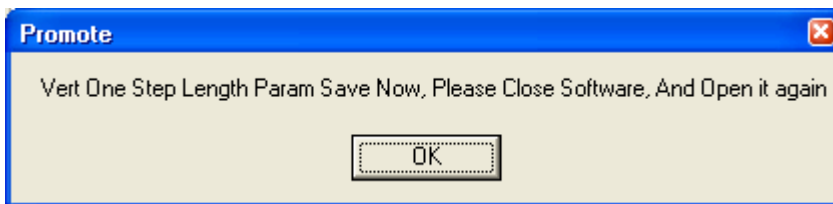
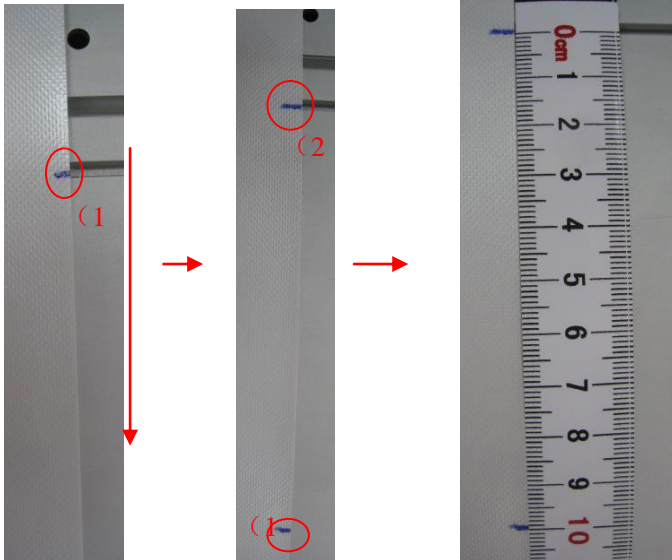


Then,click "OK" to finish testing.

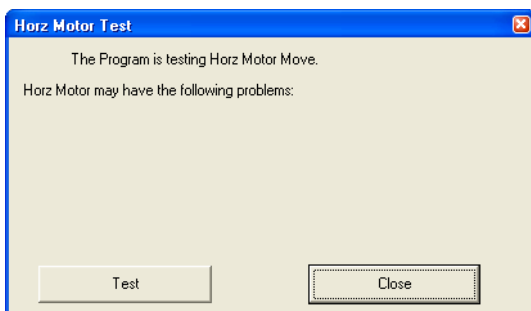
1.3 Y motor gear ratio setting: "Test" --> "Y motor Test"



First of all, we marked a sign (1) on a certain place of the printer platform, then click "Test Begin", the media will be fed a bit, then mark a sign (2) on the same position. Use a ruler to measure the distance between (1) and (2) as shown below. Enter the actual measurement results into "Move Actual Distance", then click "Count", the following dialog will show up.

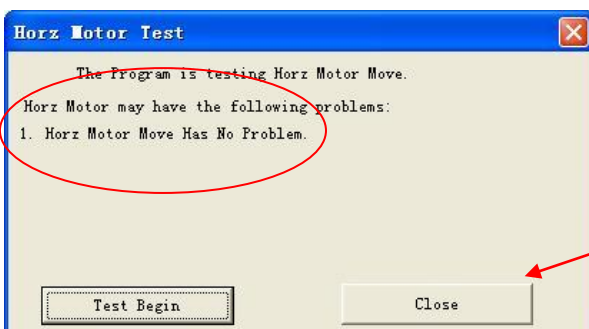


1.4 X Motor Test: Select "Test" --> "X Motor Test"



"Close" is not allowed during testing

This step is mainly testing the status of the motor movement, the carriage will move back and forth 20 times as you click on "Test", The test result will be provided in the following dialog box as it is finished.



Click "Close" to finish the test.

1.5 X Motor Speed Setting: Select "Test" --> "X Motor Speed Setting"

The image shows two software dialog boxes. The first is titled 'X Motor Speed Setting' and contains the following fields: 'DPI' set to 'Draft/Standard', 'Mode' set to 'High Speed', and 'Speed' set to '847 mm/s'. There are 'TEST', 'SAVE', and 'OK' buttons. The second dialog box is titled 'Print' and shows '846.6 / 6K' with an 'OK' button. Red arrows point from text boxes to specific elements in both dialog boxes.

There are 180,240,360、720 dpi modes .

"Normal speed" and "High speed" are available.

"Actual Speed" left

Click "Test", system will send 1 second pulse.

Carriage Speed/Printhead Frequency

Note: Speed reference

Draft/Standard mode: High Speed = 847mm/s
 Normal = 706mm/s

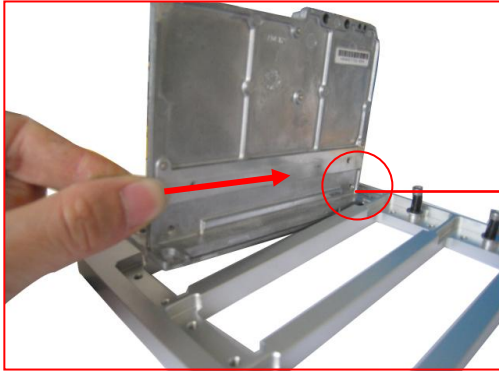
Quality/High Quality mode: High Speed = 635mm/s
 Normal = 529mm/s

Note: After entering the actual speed, have to click "Save" and then click "Test" so that the data could be saved.

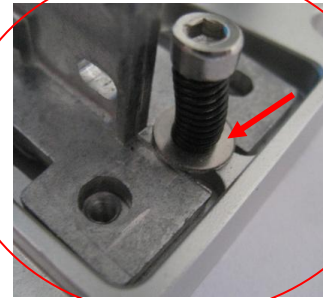
2) Alignment

2.1 Printhead installation

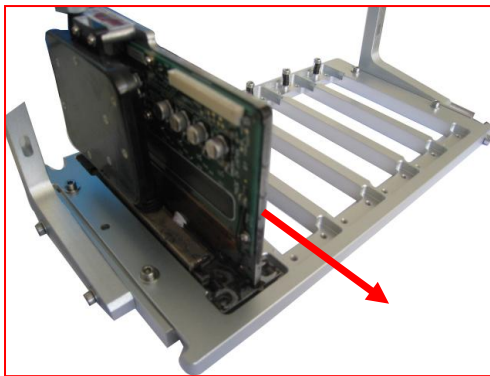
(1) Tilt the printhead in angle and then push the printhead all the way in. Prevent printhead from scratching.



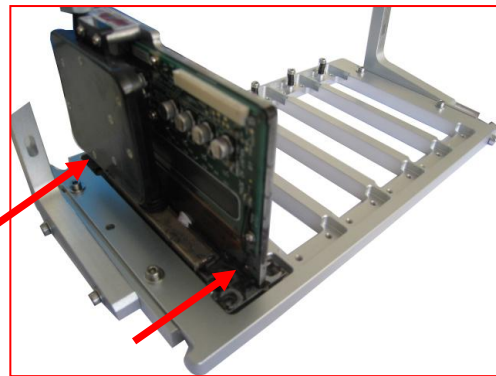
Printhead must install under the o-ring!



(2) Pull the printhead all the way to the front



(3) Push the printhead to the right side



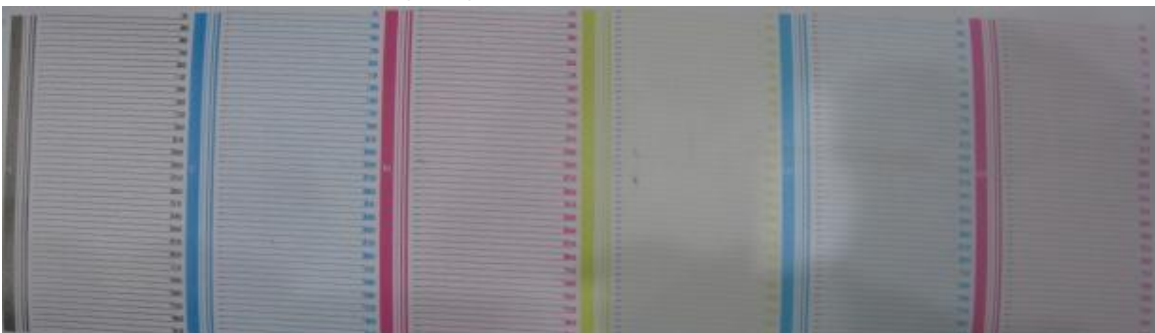
Note: Install every printhead like above steps !

2.2 Status: After install the printhead, print the nozzle status. Observe the printhead order and position, and the condition of the printhead.

“Status” shortcut on the main interface:



Click “Status” to print the following diagram:



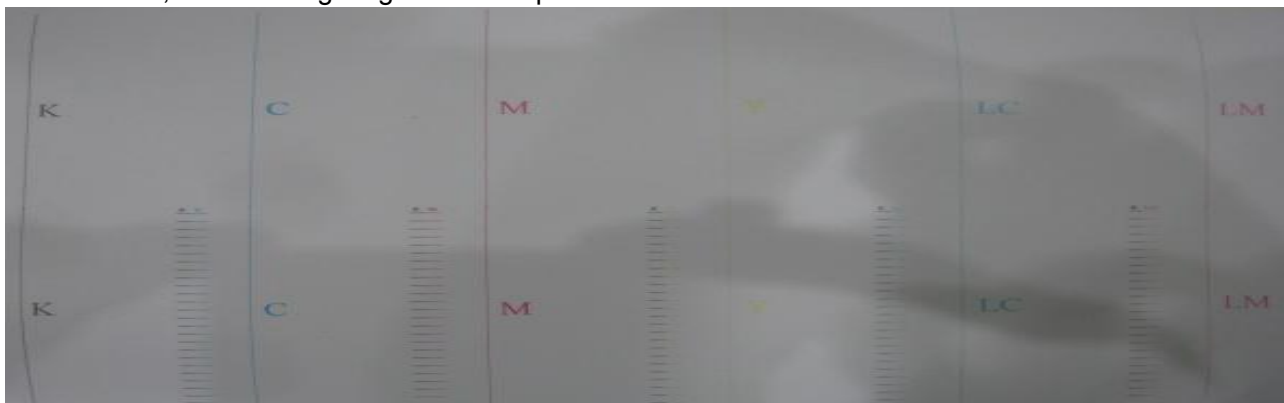
2.3 HVert: Printhead angle alignment. Observe the physical alignment of printheads.
 (This step is not aligned well which will affect the following adjustment)

Turn off the feather function when doing the alignment!

“Printhead Vertical”Shortcut on the main interface:



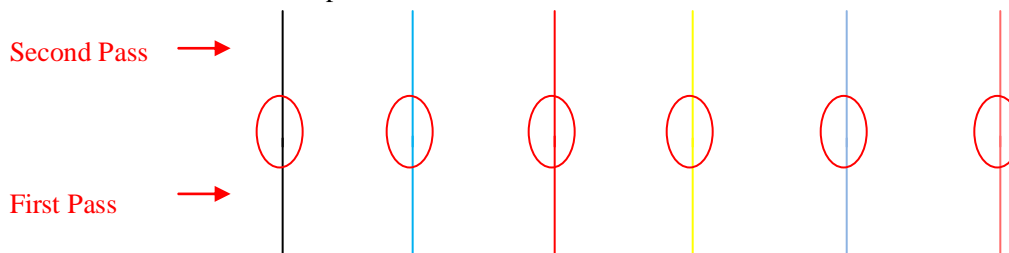
Click “HVert”, the following diagram will be printed:



Align printhead physically. (K for example):

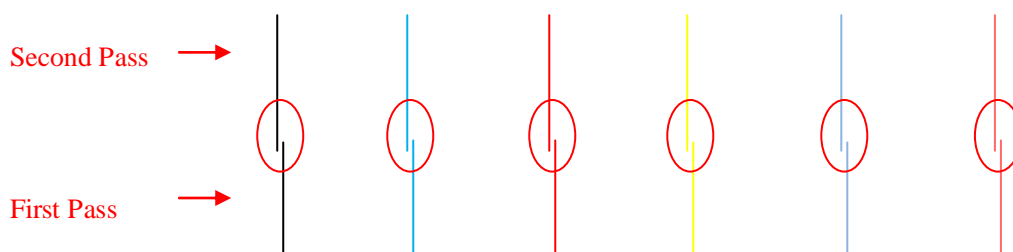
The first straight line is the reference, then check the second straight line. Both line should be connected, if not, the printhead holder need to be adjusted. Please check the following cases:

Case 1: Both line in same vertical position;



No need to adjust !

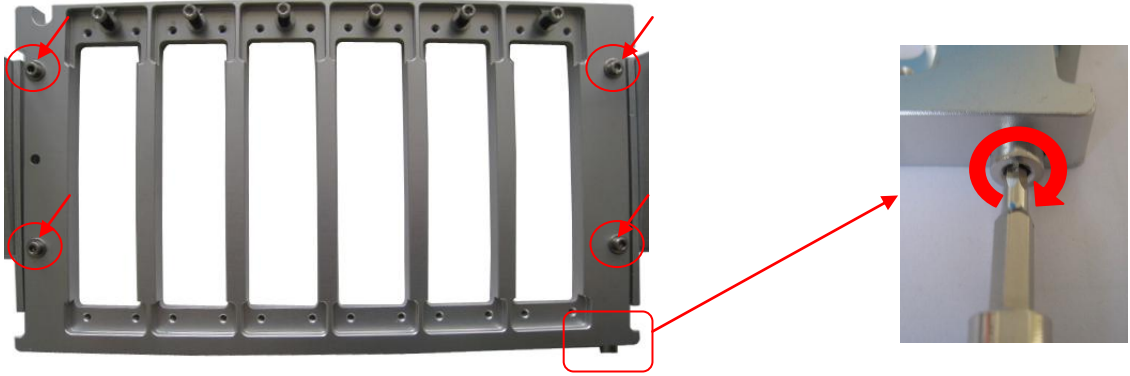
Case 2: Printheads offset to left side:



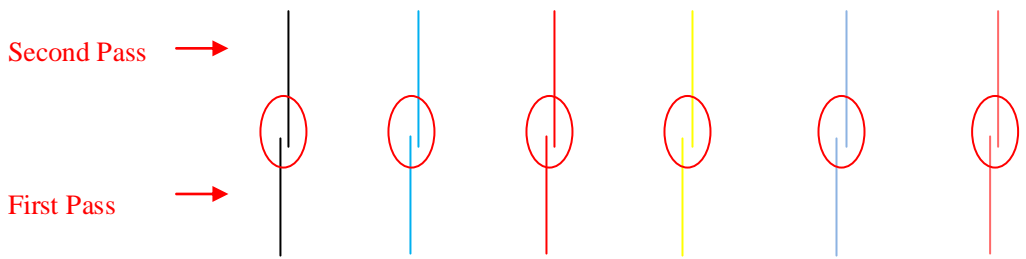
Adjust Procedure:

a) Loosen screws at the printhead holder

b) Turn the screw at **clockwise** direction.



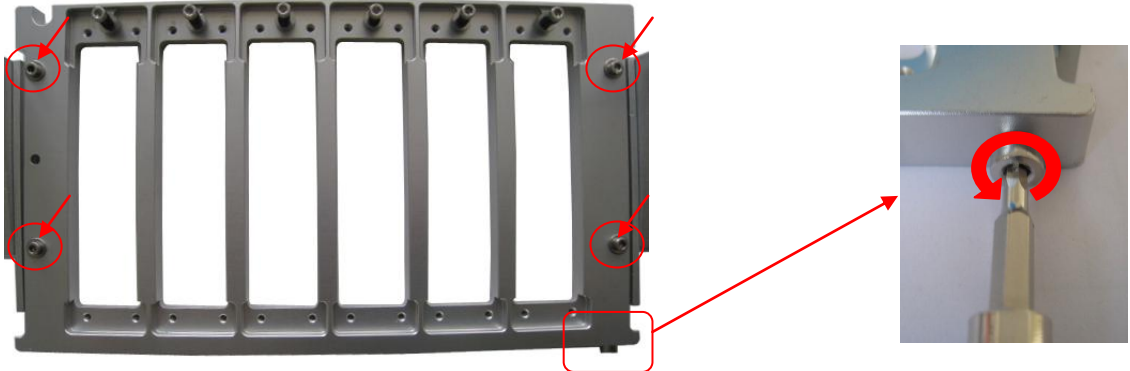
Case 3: Printheads offset to right side:



Adjust Procedure:

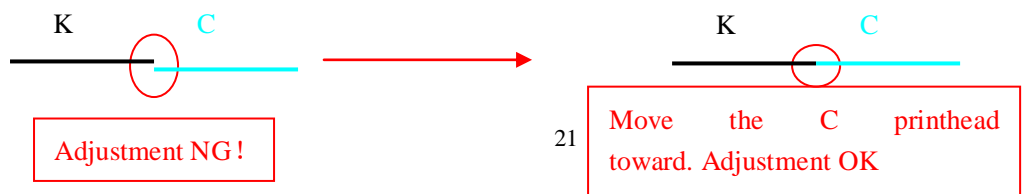
a) Loosen the screw at the printhead holder

b) Turn the screw at **anti-clockwise** direction.



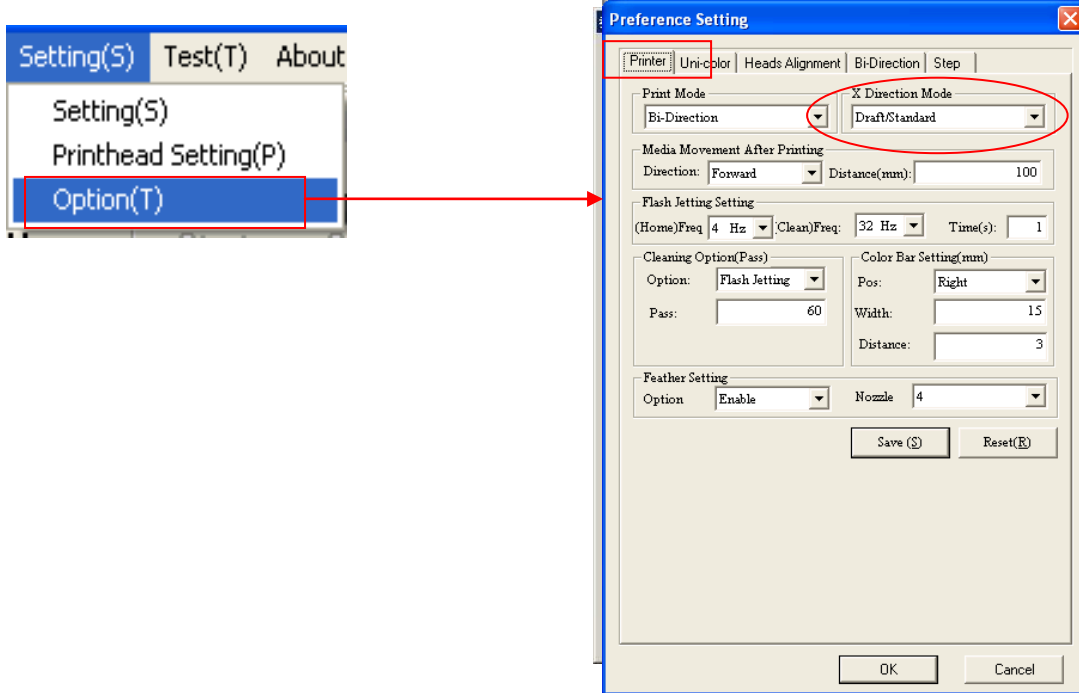
Note: Tighten the four screws at the printhead holder when finish adjustment and before print the Hvert test diagram. Keep adjust until the first pass and second pass face each other.

When the vertical adjustment is done, normally the horizontal alignment is well, if a printhead's horizontal alignment is not aligned, then have to do the adjustment. The following diagram shows how to adjust the horizontal position. let K be the reference, C as example:

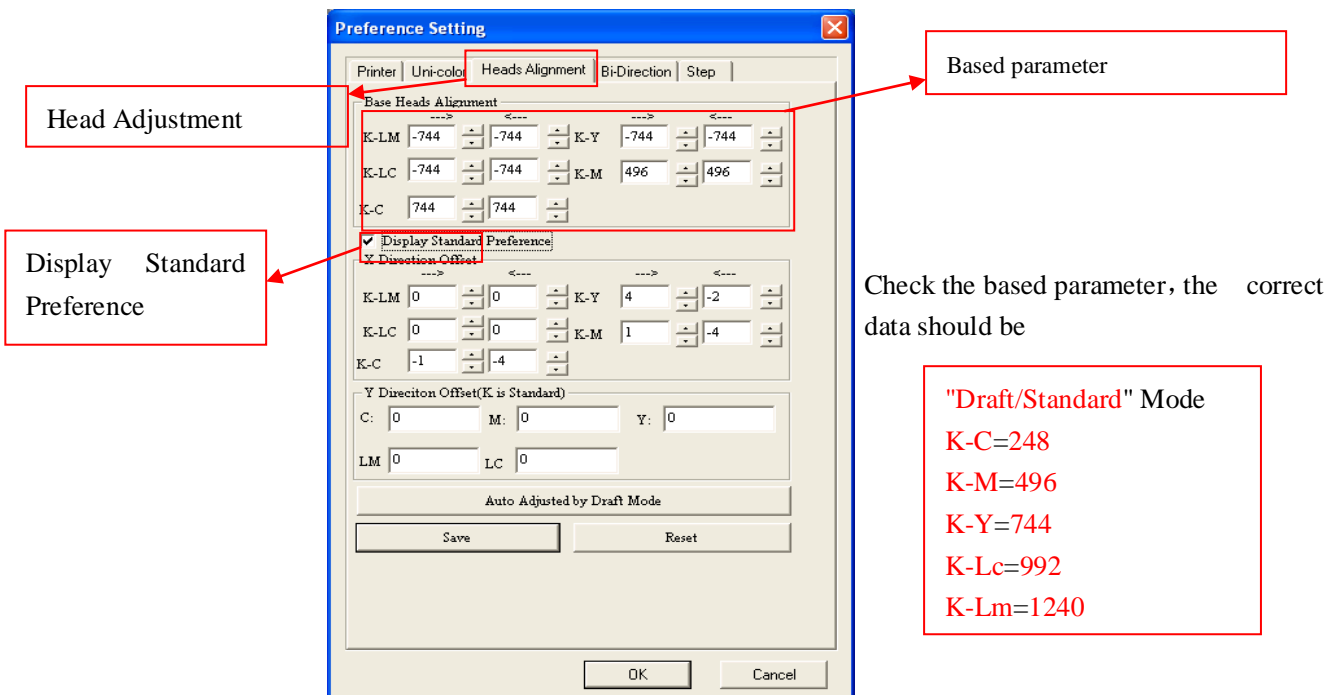


2. 4 H align(Head alignment): The purpose of H align adjustment is printing the different color in same position, in order to print a perfect print out.

First, Adjust "Draft/Standard" mode . Enter Setting->option, printer, choice " Draft/Standard" at X direction mode.



Click Save, then choice "Head Adjustment" and select "Display Standard Preference"



Click Save Param then click OK

Reset Param:

While confused with setup of more parameters, please click "Reset Parameters" to recover the last saved parameters.

"H Align" shortcut key is shown in the following:



The diagram of "H Align" is shown in the following:



"0" is the reference. At the "0" point, each color should overlapped on the black border. If not, look for the rectangle which is overlapped, and input the corresponding value into the "Head Adjustment". !

If "0" is not overlapped, we should correct it at the software, enter "Setting\Option", shown as the below picture:

Setting(S) Test(T) About

- Setting(S)
- Printhead Setting(P)
- Option(T)

Choose "Head Adjustment"

Preference Setting

Printer Uni-color Heads Alignment Bi-Direction Step

Base Heads Alignment

K-LM	-744	-744	K-Y	-744	-744
K-LC	-744	-744	K-M	496	496
K-C	744	744			

Display Standard Preference

X Direction Offset

K-LM	0	0	K-Y	4	-2
K-LC	0	0	K-M	1	-4
K-C	-1	-4			

Y Direction Offset (K is Standard)

C:	0	M:	0	Y:	0
LM	0	LC	0		

Auto Adjusted by Draft Mode

Save Reset

OK Cancel

Printing Direction

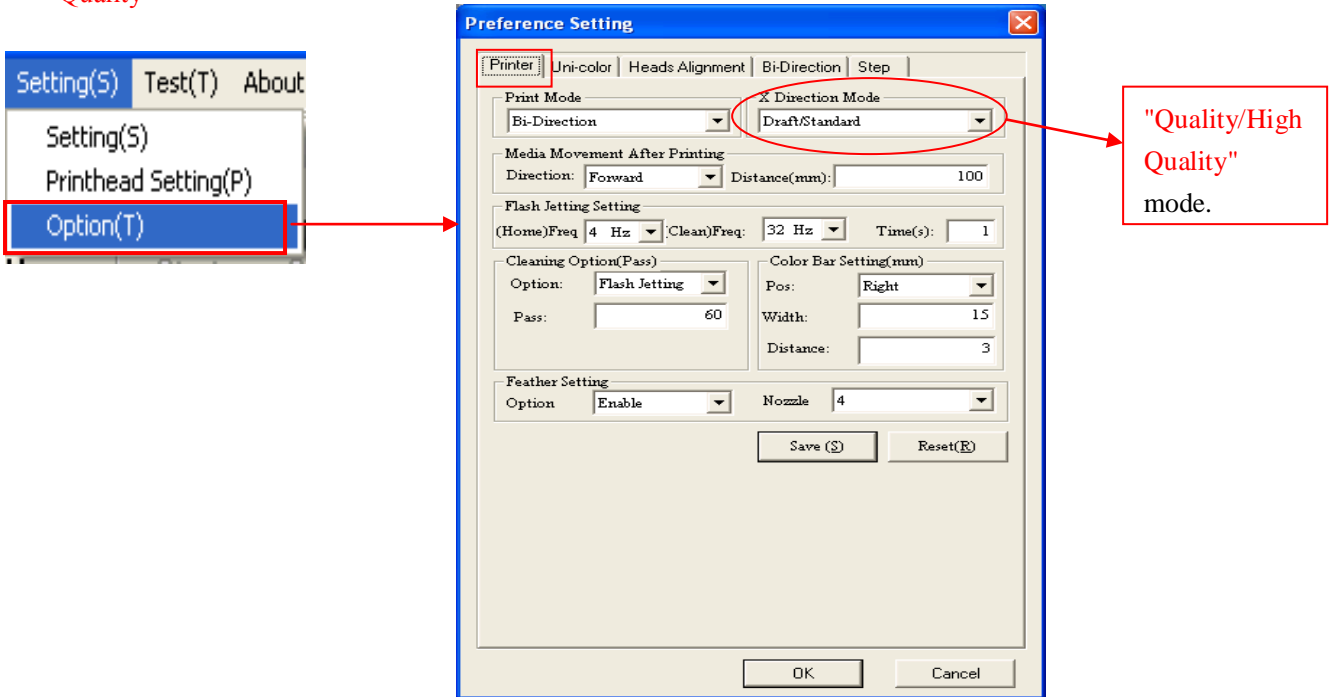
"X Direction Offset", check the value with adjusting picture, accumulate that value with original value.

Y Direction Offset (K is standard), check the value with adjusting picture, accumulate that value with original value.

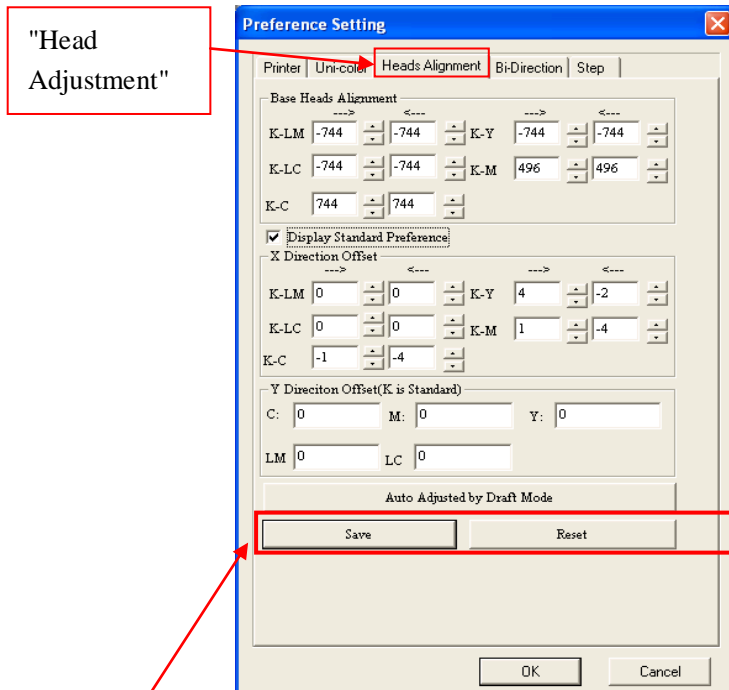
Please print the adjusting picture again after inputting and saving the parameters. Check if the color line are overlapped on "0" !

Please click the "Save Parameters" after input values. After Draft/Standard mode is aligned, click the auto adjust to get the parameter for Quality/High Quality mode.

First, Adjust "Quality/High Quality" mode. . Enter Setting->option, printer, choice " Quality/High Quality"



Click "Save", then choice "Head Adjustment"



Click "auto adjust" , then the based parameter of "Quality/High quality" will automatically exceed.

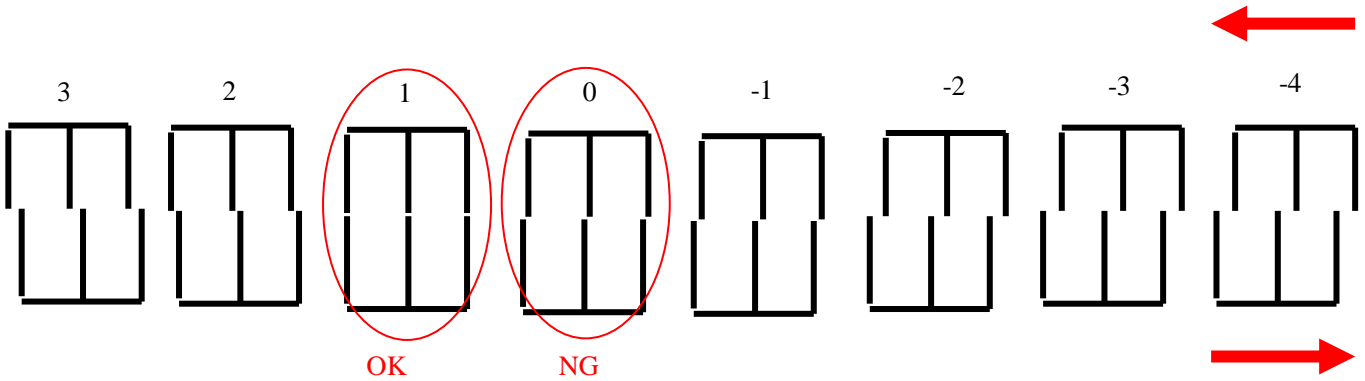
2.5 Bidir (Bi-direction adjustment)

"Bidir" shortcut is shown as the below picture:

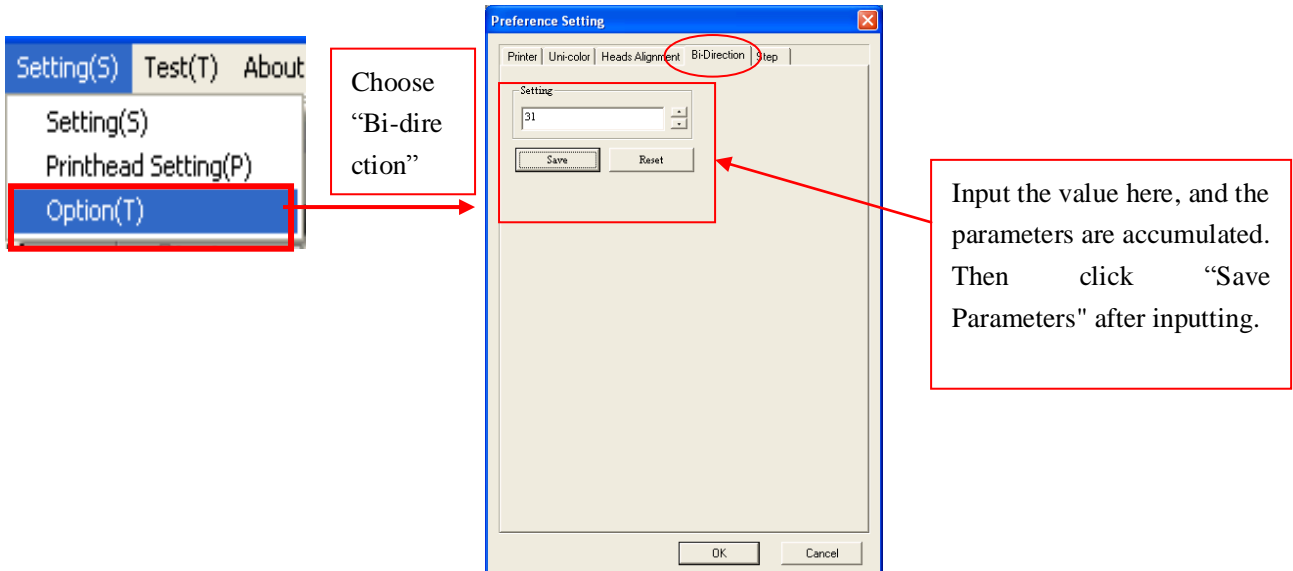


Bi-directional adjustment ensures the printout will not offset to left or right. While the printing speed change, bi-directional have to adjust.

Print the below adjusting picture by clicking the button of "Bi-direction"



At the point "0", lines should face each other. If the two lines at "0" does not align, find the value which is aligned, and input the corresponding value into "Setting\\Option" -> "Bi-direction", shown as the below picture:



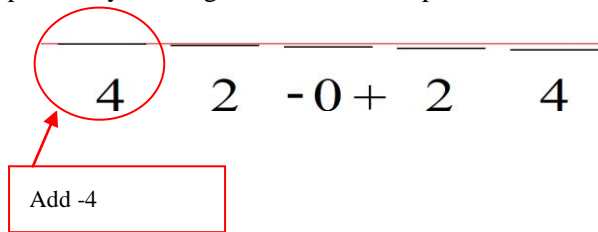
Repeat the above steps until the lines at "0" facing each other. !

2.6 Step Adjustment

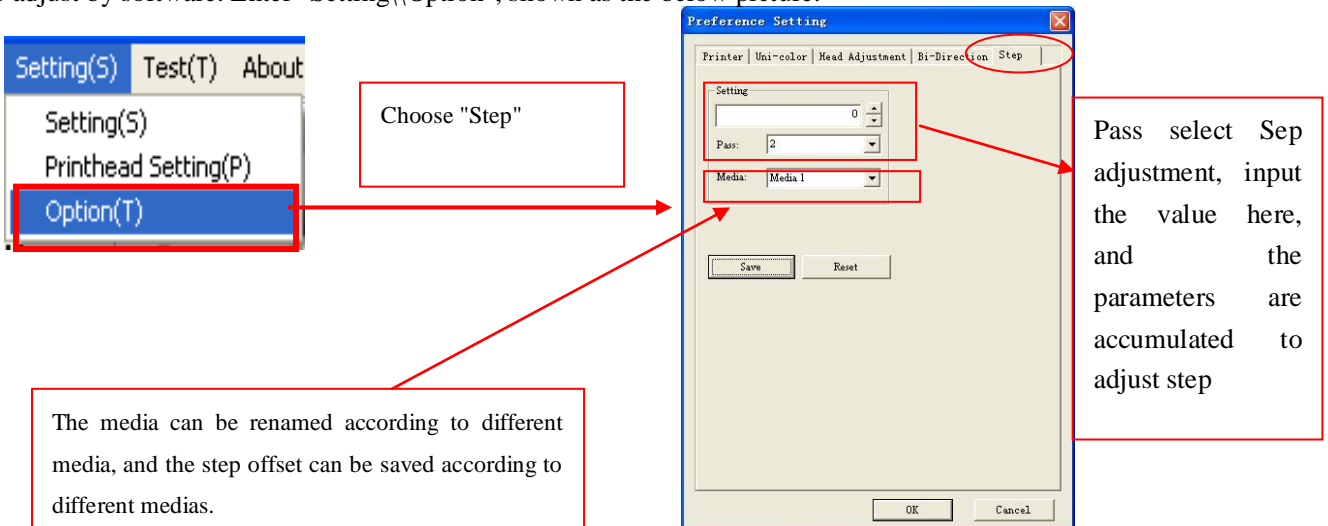
The location for button of "Step" on the menu of shortcut is shown as the below picture:



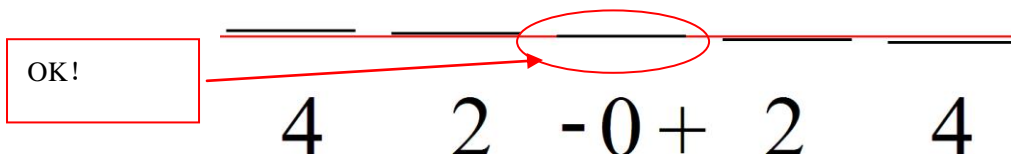
Print the below adjusting picture by clicking the button of "Step"



Make the two lines at "0" as the standard. If the two lines at "0" are not in complete superposition, we need to adjust by software. Enter "Setting\\Option", shown as the below picture:



Print the step adjusting picture again after inputting and saving the parameters.



While printing after completing adjustment, there will be a warp for step according to different media. So the actual step should be adjusted during printing!

Recommend: While adjusting the step, turn off the feather function. If the printing result is not good, increase the feather value until the printing become perfect !

The adjustment of software has been completed!

4.6 Other Functions

1) 1. Network Printing Setup (enter "Setting\\Setting")

Setting(S) Test(T) About(H)

Setting(S) PrintHead Setting(P) PrintHead Position Set(R) Option(T)

NET Print Setting

TCP Port: 9100

Buffer Path: Files\PrintMon\PrintMon 2.0.5.15 CHS\

Available buffer space 21783 M

Print count: 1 Delete net file after p

Default Pass Number

360DPI: 1 720DPI: 2

1080DPI: 3 1440DPI: 4

Select ink density or print

Clear Buffer OK CANCEL

Annotations:

- Setting(S)
- Setup of Network Printing
- Setup of Buffer Path
- Default Pass Number of Net Printing.

Check the below dialog box for adjusting ink limit will be shown up if click the button of "Start",

Ink quantity Select

Total	K	C	M	Y	LC	LM
100	100	100	100	100	100	100

E:\艺都材料测试\FCI100VNA-3606F.prn

Job Width: 1051.983 mm Job Height: 296.992mm

Rip File Print Position(mm)

Begin X Pos: 0 Begin Y Pos: 0

End X Pos: 1051.98 End Y Pos: 296.992

Print Total File

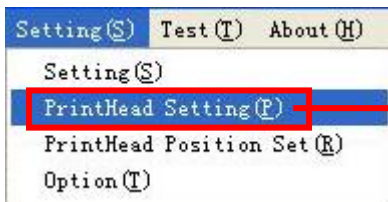
Inverse Print Enantiomorphous Print

Print Cancel Print

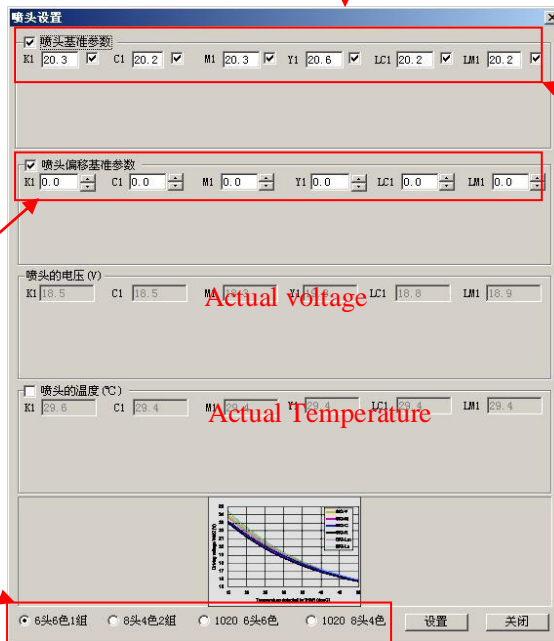
Annotations:

- The ink density can be reduced according to
- The printing area can be chosen by dragging the mouse.
- Select Inverse and Enantiomorphous Print

2. Printhead Voltage Setup (enter "Setting\\Printhead Setting")



Adjustment of Printhead Voltage Offset (lower the printhead voltage offset if the voltage is too high and cause printhead clogging)



Input Printhead Default Voltage

Actual voltage

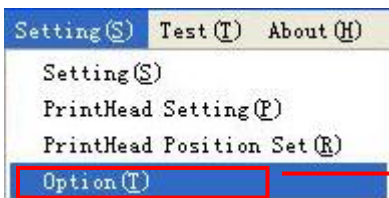
Actual Temperature

Select group of printhead depend on actual use.

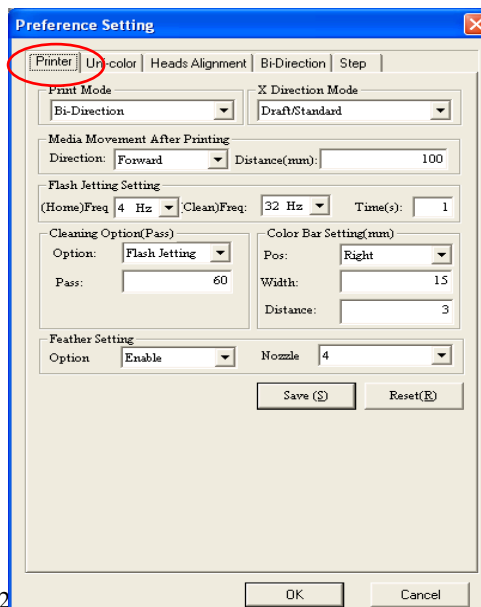
Attention: When install 4 SPT510-35pl printheads, make sure choose "6Head 6Color 1 Set", otherwise it cannot print properly.

The changed parameters will take effect after clicking the "Setup".

3) Printer Setup (enter "Setting\\Option")



Choose "Printer"



Printer setup details:

3.1 Printing Mode

There are two options for uni-direction and bi-direction.

3.2 X Direction Mode

This is an option which is used for adjusting printheads alignment. It is recommended that the printheads alignment is adjusted under 180DDPI after installing printheads. For printing pictures of other resolutions, first choose the corresponding resolution under "X Direction Mode", then click "Auto Adjust by 180DPI" and "Save Parameters" under "Uni-color" and "Head Adjustment". The software will automatically create the corresponding adjusting parameters for printing. During actual printing, the adjusting parameters probably need to be adjusted tinily again.

Remark: The option is only available for adjusting printhead alignment. For printing pictures, it is unnecessary to choose the corresponding resolution due to the software can automatically get the corresponding adjusting parameters for printing.

3.3 Media Movement after Printing

This is an option which is used for setting the movement direction and distance(mm) of media after completing print.

3.4 Flash Jetting Setting

There are three options, 1) (Home) Frequency(Hz): The setup for flash jetting frequency at home with noprinting **(The changed flash jetting frequency will be activated after doing the operation of "Save Parameters" and "Home")**. 2) (Clean) Frequency(Hz): The setup for flash jetting frequency at home during printing. 3) Num of Time(s): The setup of flash jetting time (unit: second).

3.5 Cleaning Option

There are Two options, 1) No Cleaning and 2)Flash Jetting Cleaning. The "Flash Jetting Frequency" in 3.4 will be activated after choosing the "Flash Jetting Cleaning". The "Pass" can be set between 0-255Pass.

3.6 Color Bar Setting

Active color bar while printing in order to protect printhead's printing performance, to avoid unwanted

result(such as clogging) cause by temperature, humidity and color of the printout. Color bar setting include

3 parts, which are print color car while printing, position of color bar, width of color bar and distance from

printout; "Pos" have 4 option, which are "no color bar", "in the left", "in the right" and "both side of the

picture", "Width" and "Distance" is not available when choose no color bar; "Width" is setup for the width of the whole color bar, software will allocated the width of 4 and 6 color's color bar automatically; "Distance" is setup for distance between the color bar and the printout. All width and distance unit is mm.

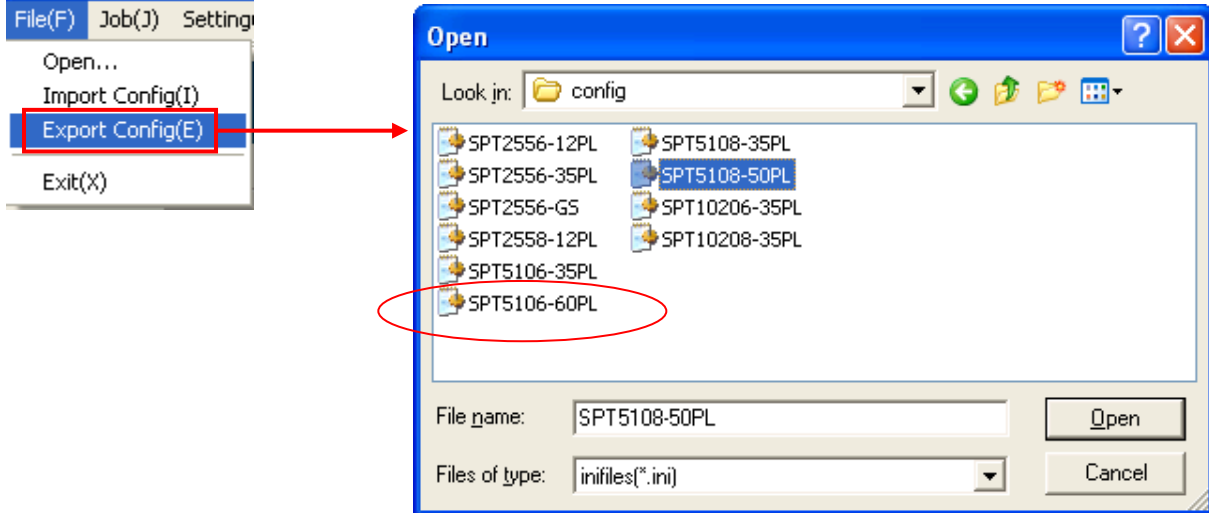
3.7 Feather

Feather setting, enable or disable feather while printing. Customers select how many points of feather according to the need, to blur the pass line.

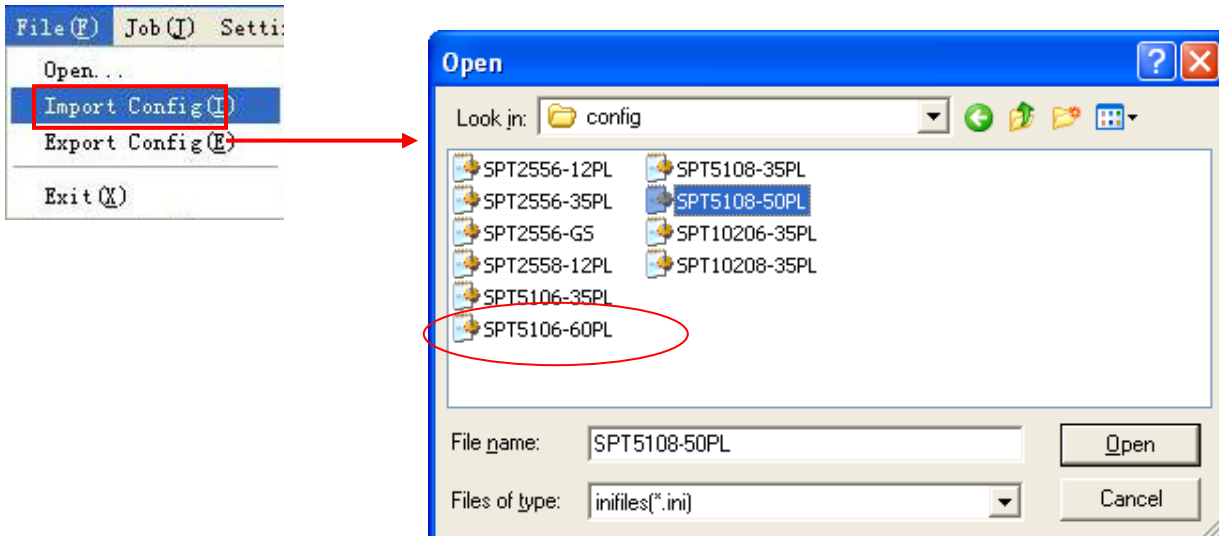
4) Import Config/Export Config

After setting all of parameters, use import/export function to backup and reuse the config file in order to avoid lose the data.:

Enter "File\\Export Config", choose "Export Config" to export software parameters to ini file:



We can directly import the configuration file saved before after reinstalling the software or parameters losing. Avoid setting the parameters again (enter "File\\Import Config").



5.1 Normal Cleaning

5.1.1 Positive Pressure Cleaning

Press the cleaning button, and then use sponge stick or soft fabric to wipe the surface of the printhead.

Warning: Using the material other than sponge stick or soft fabric to wipe the printhead may risk damaging nozzles.

5.2 Cleaning procedures for nozzle clogging

5.2.1 Cleaning procedure:

- Disconnect the tube connector at the tube of the subtank and printhead. Wait until the ink almost drains away, and then connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop until the solvent becomes clear nearly.
- Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Leave it for 12 hours.
- Take the fresh wrap off. Disconnect the tube cover and wait until the solvent is almost removed. Connect the tube to the subtank, and fill the printhead with ink.

5.3 Carriage Bearing and Steel Rail Maintenance

Carriage slides on four steel rail and eight bearings, make sure steel plates and bearing are clean and lubricity.

I. Wipe a thin layer of grease on steel plates to maintain cleanliness and grease everyday before and after usage.

II. Make sure the carriage bearing are clean.

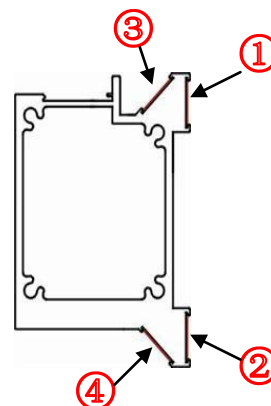
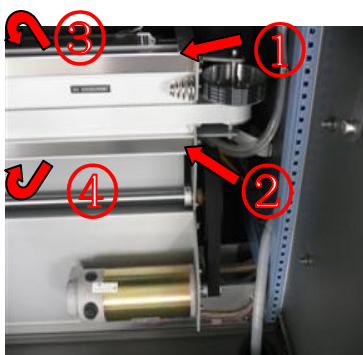
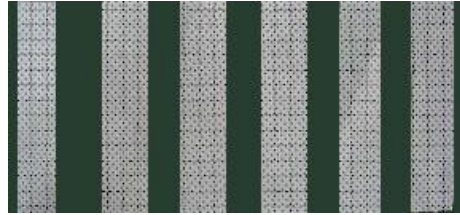


Figure5-1

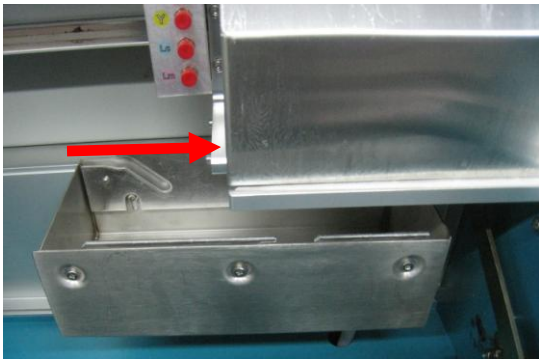
5.4 Daily maintenance:

- 1) Please print the "Nozzles Checking" to make sure all the nozzles are firing fine before switching off the printer. Then switch off the printer.
- 2) Prepare solvent, PE film, and 8 pcs of nonwoven fabric (7cm x 2cm) (Figure 5-2):

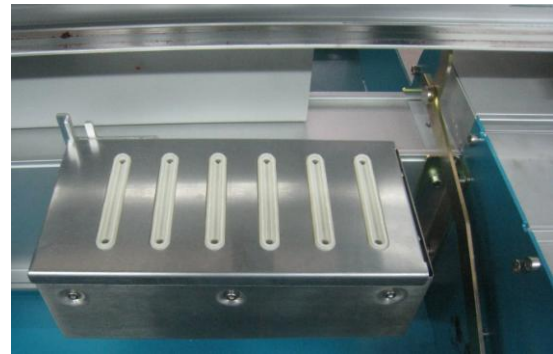


5-2

- 3) Move the carriage away from home (5-3), Place waste tank cap at the properly position (5-4);



5-3

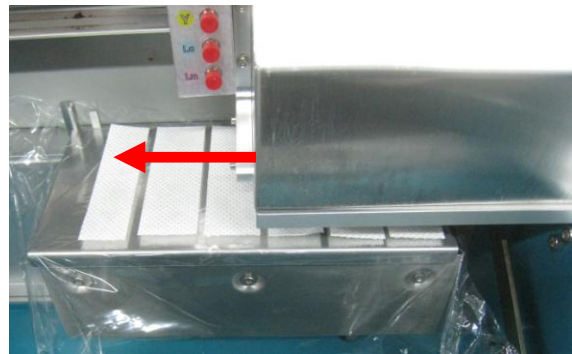


5-4

- 4) Place a 60 cm PE film on the cap, and then place the non-woven fabric which is moistened by solvent on top of the PE film (5-5), move the carriage back to home. (5-6);

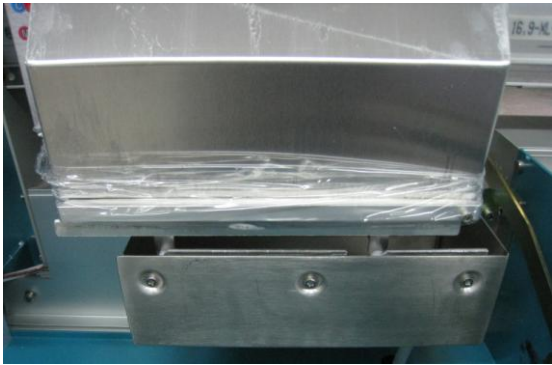


5-5



5-6

- 5) Move the carriage to the left side, fix the PE film. Finish the daily maintenance.(5-7)



5-7

! Please move the capping cover away before turning on the printer.

5.5 Short term shut down (3~7 days)

- 1) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the ink finishes dropping, and then, connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop until the solvent becomes clear nearly.
- 2) Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Then, push the carriage all the way to the left to seal printheads by the cap.

5.6 Long term shut down (More than a week)

- 1) Clean the whole ink supply system by solvent.
- 2) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the solvent finishes dropping almost. Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Then, push the carriage all the way to the left to seal printheads by the cap.

! Attention: For keeping the ink supply system clean, please replace the filter every 4 months.

5.7 Cleaning procedures for nozzle clogging

- 1) Disconnect the tube connector for the tube from the Subtank to the printhead. Wait until the ink finishes dropping almost, and then, connect the tube to the solvent tube. Press both of the flush buttons to clean the printhead with solvent. Stop when the solvent becomes clear.
- 2) Use tube cover to seal the ink incoming tube for the printhead. Use fresh wrap to cover the nozzle surface. Leave it for 12 hours.
- 3) Take the fresh wrap off. Disconnect the tube cover and wait until the solvent is removed almost. Connect the tube to the subtank, and fill the printhead with ink.

When printhead needed to be taken out for maintenance, there are long-term and short-term maintenance. Short-term is within one month, and long term is within two months. After two months, printhead need to be installed to the printer and check the nozzle firing again. Maintain the printhead again after checking. Please refer to the following procedure for **used printhead short term and long term storage maintenance**.

The storage condition is shown in the following:

- a) Room temp: 5 - 40 °C
- b) Humidity: 10- 85%
- c) Prevent direct sunlight

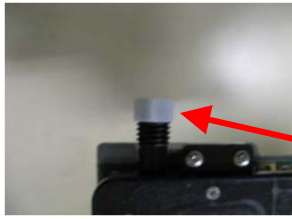
5.8 Used printhead short term storage maintenance

Clean the printhead with solvent, and leave some solvent in the printhead. Remove the printhead together with the tube. Place the non-woven fabric, which is already submerged into solvent, onto the nozzle plate. Wrap the printhead by cling film. Install the printhead onto the original base.

5.9 Long term used printhead storage maintenance (SPT510-35pl)

- 5.9.1 Clean the printhead by solvent.
- 5.9.2 Empty the solvent in the printhead.
- 5.9.3 Wipe the solvent surrounding the printhead by non-woven fabric. Do not scratch the nozzle plate.

Step 1



Cap

Tighten the cap. Make sure the washer is in place.

Step 2



Cling Film

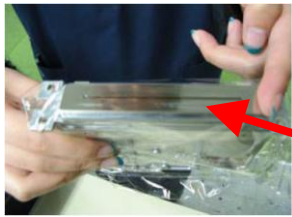
Cut the cling film into a piece about 30cm x 30cm. Do not make the film wrinkle.

Step 3



Wrap the surface of the nozzle by the cling film.

Step 4



Make sure there are no bubbles and wrinkles.

Gently remove the air between the film and the surface of nozzles.

Step 5



Seal the printhead on both sides.

Step 6



Wrap the printhead from the edge of the film. Pull the film tightly to seal the printhead as much as possible

Step 7



Wrap the film on the top of the printhead.

Step 8



Stand

Install the printhead stand.

Step 9



Step 10



Put the printhead into the original plastic box.

Step 11



Put the plastic box into the paper box

Caution:

(1) Remove the remaining solvent in the printhead totally.

(2) Tighten the cap properly:

If the washer is in the proper position, the cap can be tightened easily.

Do not force to tighten the cap when the position of the washer is not proper.

(3) Wrap the printhead carefully.

After turning on the printer, the 12V, 24V, and 35V LED on the connecting board are lit on. And also, the D4 LED on the main board is lit on. D1 and D2 LED are lit on when connecting the printer to the computer by USB cable.

After system initialization, the carriage will move back to the home position slowly. The carriage will stop after detect the home magnet. The system is ready to print. At the same time, printhead start flash jetting. Open the printmon software, the carriage will move back to home position again.

- 1) After turning on the printer, carriage move back to home normally. The interface of printmon becomes grey:**
 - a) Check whether the driver is installed properly. "EPOWER USB DEVICES" should be shown in the device manager.
 - b) Check whether the USB cable is defective, or connected improperly.
 - c) Check whether the main board is defective
- 2) Carriage is not moving after turning on the printer:**
 - a) Check whether the 12V LED on the connecting board and D4 LED on the main board are lit on. If those LED are not lit on, check the 12V input.
 - b) Check whether the home sensor is defective, or connected improperly.
 - c) Check whether the 40P connector on the connecting board and the main board is plugged in properly, or defective.
 - d) Check whether the signal cable of the x motor driver is plugged in properly, or defective.
 - e) Check the connection between the x motor and the encoder
- 3) Carriage is moving to opposite direction after turning on the printer:**
 - a) Check whether the signal cable of the x motor driver is plugged in properly, or defective.
 - b) Check the connection between the x motor and the encoder
- 4) Ink pump keep working:**
 - a) Check whether the floating sensor in the subtank is working properly.
 - b) Check whether the connection of the 18P flat cable between the connecting board and the printhead board.
 - c) Check whether the corresponding LED for this specific color pump is on. If the LED is on, please change the connecting board.
- 5) Pump is not working, and the alarm is ON:**
 - a) Check whether the 24V power supply is normal.
 - b) Check whether the pump is working properly.
 - c) Check whether the connection of the 18P flat cable between the connecting board and the printhead board.
 - d) Check whether the floating sensor in the subtank is working properly.
 - e) Check whether the corresponding LED for this specific color pump is on. If the LED is on, please change the connecting board.
- 6) Flash jetting is normal when turning on. After printing for awhile, does not flash jetting, but printing normally:**
 - a) Check whether the encoder is clean, or scratched, or not installed properly.
 - b) The config file is lost. Recalculate the machine length.

- 7) **The interface of the software becomes grey. The movement cannot be controlled. Extra solid color is printed :**
- Check whether the USB cable is loosened or defective. **(Recommended to use the cable with better anti-interruption)**
- 8) **Positioning error during printing:**
- Check whether the 12V is normal
 - Check whether the X motor belt and the gear is loosened or damaged.
 - Check the X motor
 - Check whether the encoder is dirty or scratched.
 - Check whether the encoder sensor is dirty or defective
 - Check the connection of the 18P and 16P flat cable between the connecting board and the printhead board. **(Keep a distance from strong magnetic field. Prevent using instable input power. Equip a UPS and stabilizer)**
- 9) **Interruption during printing:**
- Check whether 12v is normal.
 - Check the connection of the 14P flat cable between the connecting board and the printhead board.
 - Check the connection of the cable from DB15 on the connecting board to the servo driver.
 - Check whether the USB cable is normal.
 - Check whether the grounding is well.
- 10) **Reset to home is normal. Carriage is moving, but not printing:**
- Check the connection of the wire for the encoder.
 - Check the connection of the cable from DB15 on the connecting board to the X servo driver.
- 11) **Interruption when printing the printhead status. Ink jetting on the printing platform when calculating the machine length:**
- Check whether the encoder sensor is connected properly.
 - Check the connection of the 18P flat cable.

Specification					
Model	FY-3276HA/2576HA/2176HA/				
Printhead	SPT510-50PL				
Number of printhead	6 or 4 Heads				
Max. printing width	3200mm				
Max. media width	3300mm				
Output Quantity	Printing Mode		Output(m ² /h)		
			3276HA	2576HA	2176HA
	Draft	2pass	71	65	60
	Standard	3pass	47	43	40
	Quality	3pass	34	31	29
	High Quality	4pass	25	23	21
Ink	Type	Solvent or Eco-solvent			
	Color	(C,M,Y,K)			
	Volume	1 liter or 5 liters main tank			
	Ink supply system	Ink level sensor. Auto-pumping			
Media	Width	3300mm			
	Type	PVC banner, vinyl, film, polyester, etc			
Feeding System	Equipped (Max Weight 80kg)				
Ph. Cleaning System	Individual color purging				
Heating System	Equipped				
Clamp	Equipped				
Data Transfer	USB2.0				
Printhead height	Adjustable distance from 2mm~6mm.				
RIP	Maintop , UltraPrint , PhotoPrint ,				
Input Voltage	AC 220V/230V , 50Hz/60Hz				
Printer Dimension/Weight	3276HA	L4600xW820xH1290mm /389Kg			
	2576HA	L3800xW820xH1290mm /310Kg			
	2176HA	L3400xW820xH1290mm /288Kg			
Printer Package Dimension/Weight	3276HA	L4630xW1050xH920mm /589Kg			
	2576HA	L3930xW1050xH920mm /466Kg			
	2176HA	L3530xW1050xH920mm /476Kg			

The above data is obtained when printing speed is set to high, value may vary in different computer

~ END ~