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1. Warning

Please read this instruction carefully before using the machine

- 1. This machine cannot be used by children or disabled people, please use it under supervision if necessary.
- 2. Please use original manufacturer accessories and ink according to instructions.
- 3. Make sure the power supply voltage matches the power cord and machine nameplate voltage.
- 4. It can only be used indoors. It is recommended to install an air conditioner in the room to obtain stable operating temperature and humidity.
- 5. Before using the machine, please remove the wooden box and foot cup fixings used for transportation and place the machine smoothly on a stable ground.
- 6. Do not use the machine in harsh environments such as flame, dust, moisture, etc.
- 7. Never use the machine in a damp and leaky house.
- 8. Do not place debris on the machine body, platform and around the machine.
- 9. Please keep the temperature in the workspace stable and do not use the machine in extremely hot temperatures above 30°C or cold temperatures below 15°C.
- 10. Do not use any damaged cables for power supply.
- 11. If the power supply cable is damaged, stop using the machine.
- 12. Turn off the machine power before cleaning or servicing.
- 13. Please use the machine in accordance with local laws and policies.
- 14. Before sending the job, please make sure that the nozzle does not touch anything and the printing height is appropriate.



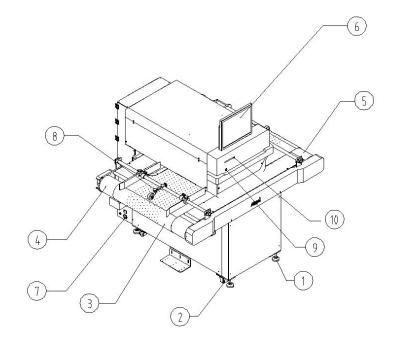
- 15. To move the machine, at least a forklift is required. Please do not move it together with other machine parts. Be careful to unplug the power plug when moving.
- 16. When adding ink, the ink tube, ink bottle, bottle cap top and other parts may come into contact with the ink, so please take protective measures.
- 17. The machine workbench must have a flat bottom and be load-bearing, without swinging during work.
- 18. Please ensure that the machine is properly grounded.
- 19. Please avoid using this machine during thunderstorms to avoid lightning strikes.
- 20. If your ink is not from Nocai, the machine warranty will no longer be valid.

2 Machine cognition--graph analysis

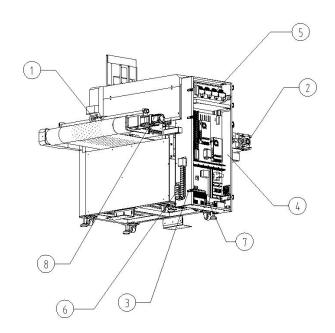
- ① Corner cup
- 2 Belt
- 3 Passive synchronization

wheel

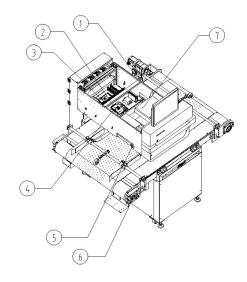
- 4 Active synchronizing wheel
- (5) Computer
- 6 Main power switch
- 7 Power switch
- 8 Temporarily useless
- 9 USB socket

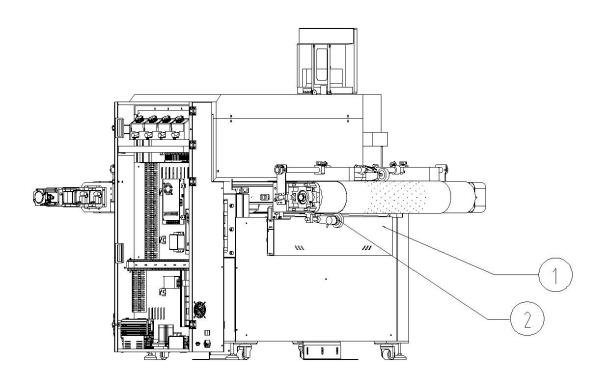


- 1 Returning device
- 2 Adjust the belt direction
- (3)Door switch
- 4 Optical eye regulator
- (5) Main cartridge
- 6 Suction control panel
- 7Z-axis motor
- 8 X-axis servo motor



- 1 Suction control knob
- 2 Nozzle plate
- 3 Motion control panel
- ${\color{red} \textbf{4}} \textbf{Switch}$
- ⑤Light eyes
- 6 Adjust the belt direction
- 7 Nozzle module



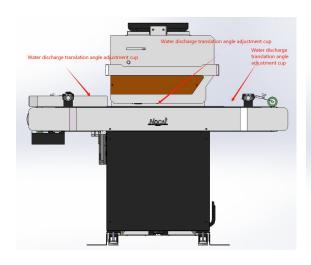


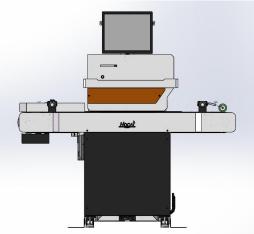
- ①Code plate
- 2 Automatic correction device

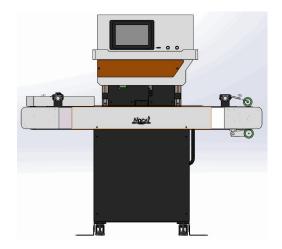


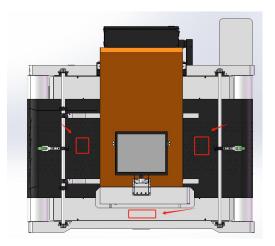
3. Software and hardware installation process for new machines

1. Machine level debugging. (illustration)









Note: All three sides of the machine need to be adjusted to a horizontal state.



2 . Machine software installation process

2.1 Computer requirements

1) System version: It must be win10 or above for a 64-bit system.

System display language: must support Chinese and English

CPU: It is recommended to choose i3 or above or equivalent specifications;

Memory: 16GB or more recommended;

Hard drive: 250GB or more is recommended.

2) The computer must be equipped with a Gigabit network card and a Gigabit network cable so that the software can be connected normally.

③Set the computer's IPv4 address to the specified location, and do not check IPv6.

The driver can be connected normally.

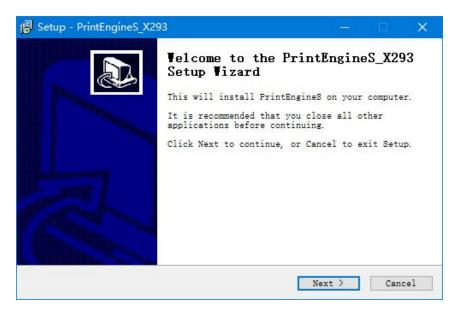
The operation is as follows: Find the icon in the lower right corner of the desktop, right-click, select [Open Network and Internet Settings] - click Change Adapter Options, double-click Local Area Connection (or Ethernet) - click Properties - uncheck Inter Protocol Version 6 (TCP/IP6) Select Inter Protocol version 4 (TCP/IPv4) and double-click to open, - check Use the following IP address (O). Enter the specified IP address: 192.168.110.9/255.255.255.0/192.168.110.1 Click OK to complete.

2.2 Install driver

Open the file package named NC-HIJ-A3 (A3 carton machine) on the computer, obtain it from after-sales service or download it from our official website www.happycolor.com.cn. Find and open the PrintEngineS_X293_221202-NOCAI.exe program, right-click to Run as an administrator, check Agree, Next, and click Install to complete, as follows:

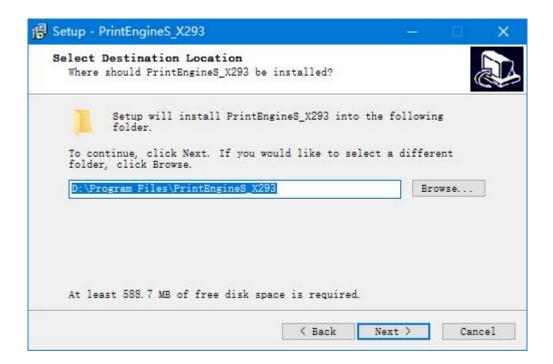
In this interface, you can choose to install Chinese and English displayed. Click "Confirm" and the pop-up window will appear as follows:





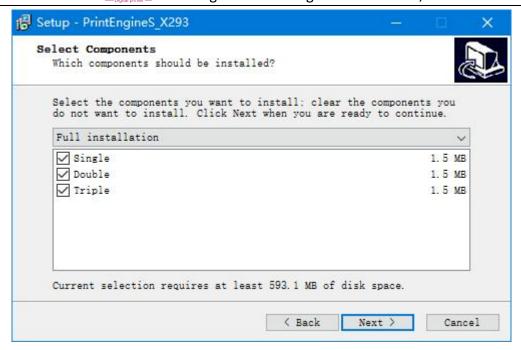
Click Next and

the pop-up window will appear as follows:

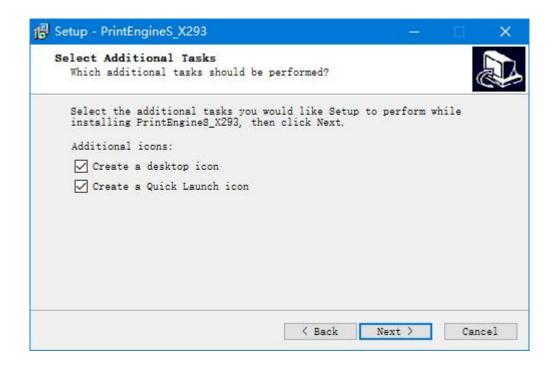


Click Next and the pop-up window will appear as follows:



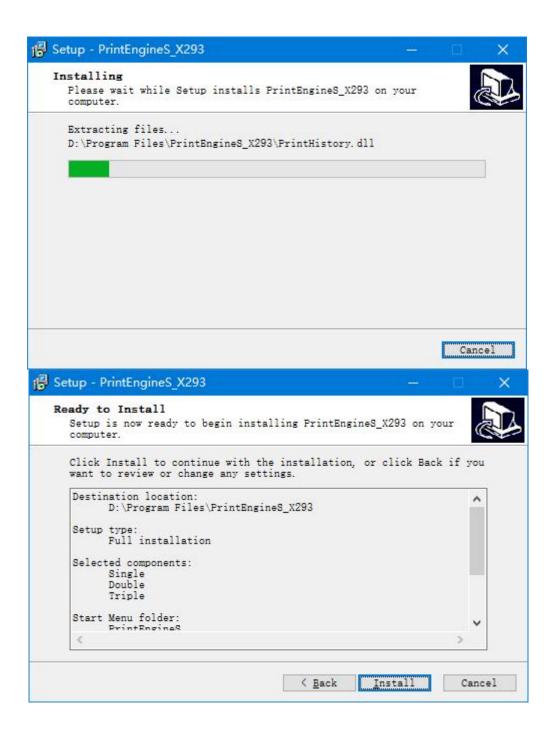


Click Next and the pop-up window will appear as follows:



Click Next and the pop-up window will appear as follows:





Click Next and the pop-up window will appear as follows:

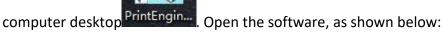
A pop-up window prompts that the setting is successful. Click to close. The pop-up

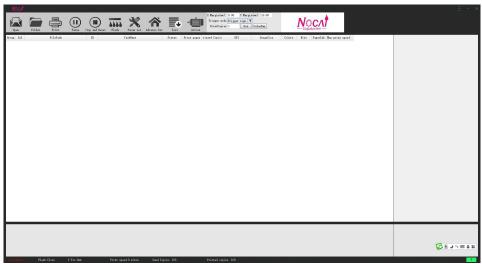


window is as follows:



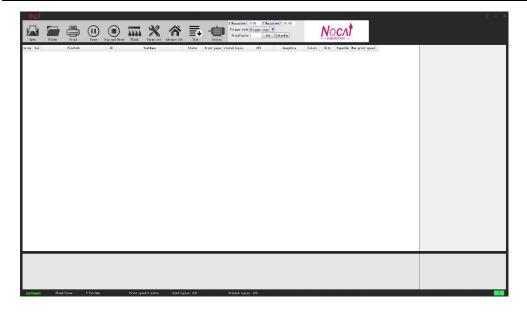
Click Finish and the software will be installed. A startup icon is generated on the





Observe the connection button in the lower left corner. When connection (successful) is displayed, it means that the driver is connected, as shown below:



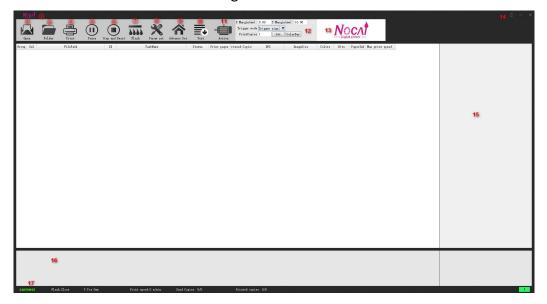




3 .Introduction to driver function settings

Let's introduce it in detail below, as shown in the figure below;

Main interface introduction and usage instructions



3.1 Open

Load files to be printed, support PRN/PRT/PDF/TIF/JPG.

3.2 Folders

Load all the RIP files in the folder, and all the files in the used folder will form a group (PRN/PRT format is supported, and the set mode is not supported when the accuracy and size of the files are different).

3.3 Start printing

The printing status indicator light changes with the software status: the task selected in the task queue is sent. After the task is sent, the printing status indicator



light on the board turns on, turns off when it is paused, turns on when printing continues, and turns off when all tasks are finished.

Task selection method: Ctrl/Shift/Delete shortcut keys is supported

- a) Click the left mouse button to select a single task;
- b) Hold down the Ctrl key and use the left mouse button to select any number of tasks;
- c) Use Ctrl+A to quickly select all tasks;
- d) Select one of the tasks with the left button of the mouse. You can drag the mouse to select multiple tasks without releasing the left button.
- e) Use the right mouse button to prompt for quick operation;
- f) Hold down the Shift key and click the left mouse button to quickly select multiple consecutively arranged tasks;
- g) Use the Delete key to quickly delete the selected task.

3.4 Pause

Manually click Pause during printing and the printing status output is Stop, which can be used to stop the conveyor belt. If the printing status output signal is not used, it will have no effect on printing.

When the board and software detect an abnormality during the printing process, the task will be automatically suspended. At this time, the machine will move but will not print. Solving the error according to the prompts, and click Continue to print unless there is a power error.



3.5 Stop printing

Cancel all printing tasks in progress, stop printing status, and control software is ready.

3.6 flash spray

Power on or power off flash spray. Click once to power on the flash spray, click again to power off the flash spray; the frequency and number of flash sprays are performed according to the "flash spray parameters" in "Advanced Parameter Settings". If the number of flash sprays is set to 0, the flash spray will be turned on and the flash spray will keep working.

3.7 Parameter configuration

Commonly used parameters will be specifically described in later chapters.

3.8 Advanced settings

External trigger protection distance: External trigger ignored (protection) distance (mm). Triggers within the protective distance range are considered invalid and the trigger signal will be ignored to prevent interference.

RIP Set: Linearize the curve, you can select the curve to make the actual printed picture color richer and brighter; With the ICC function the printed color is more vivid and distinct. Put the prepared curve into the AdjustCurve\TC file and you can click Select according to your needs, ink combination, dot type, output image accuracy, output image size, mirroring and other functions. Please refer to the RIP chapter for

specific usage methods.

3.9 Test chart

The use of test charts will be specifically described in later chapters.

3.10 Interface parameters

- a) Trigger mode:
- A. External trigger: An external sensor (photo eye) prints a picture when a valid signal is given.
- B. Automatic trigger: After the code wheel rotates, the ink will be printed in sequence.
- b) Number of copies to print:

Set the number of copies to print, it is divided into set/non-set mode. Set mode is the number of sets, and non-set mode is the number of copies for all tasks.

c)X white edge:

The offset distance of the image in the horizontal direction of the print head and the offset in the width direction of the image.

d)Y white edge:

Delay distance in paper feeding direction, offset in image length direction.

3.11 Show detailed parameters of the task

Number of copies to print: Displays the number of copies to be printed for this task.

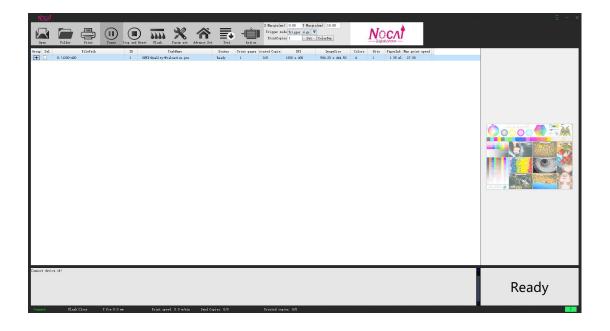
Status: Displaying the status of the task, be ready, sending, waiting to be sent,



and sending successfully.

Printed: Displaying the total number of copies for this task and the number of copies that have been printed.

3.12 Display a preview of the selected task



3.13 Display bar of sending message

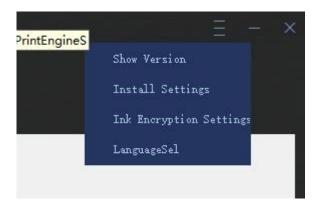
Communication status, sending status, version number reading and display

3.14 Connections, sports and system information bar

Software and board connection status, flash spray status, paper feeding position, paper feeding speed, number of tasks sent, number of printed tasks, and system information display.



3.15 Background icon "three"



Read the version number: The system software and hardware information will be displayed in the "Send Information Display Bar".

Installment payment settings: You can check the instructions for the installment payment tool.

Ink encryption setting: Please refer to the instructions for the ink encryption tool.

Voice selection: Switch between Chinese and English.

3.16 Status Display

Display the current status of the system.





3.17 sport control

Action Connect OK X								
Y_FOR mm	Z_UP	mm	Y_ON	REINIT				
Y_BACK mm	Z_DOWN	mm	Y_OFF	TO_PRINT				
Y_SPEED m/min	Z_POSI:9.99mm		Y_MOVE	TO_PROJECT				
Y_SPEED:15.00m/min	Z_SAVE		FAN_ON	LOOP_ON				
Y_POSI:0.00m	Z_SPEED	mm/s	FAN_OFF	LOOP_OFF				
W_POSI:0.00mm	Z_SPEED:6.00mm/s		CLEAN1	CLEAN2				
				Z_OFF				

Nozzle initialization: nozzle movement module initialization

The nozzle to the protection position: the nozzle to the setting protection position

Nozzle to printing position: The nozzle moves to the setting printing position Circulation pump on: The circulation pump starts to move according to the setting manual number of turns.

Circulation pump off: The circulation pump that is turned on by "circulation pump on", "circulation pump forward" or "circulation pump reverse" can be off.

Press ink on: After turning it on, it will automatically squeeze the nozzle ink cartridge to fill the ink into the buffer chamber below (the upper end of the circulation pump). The function is temporarily inactive.

Press ink off: turn off ink filling

Platform up: The millimeters set when print head moves upward

Platform down: The millimeters set when print head moves down

Save height: Save the printing height that currently set. Note: Confirm the



printing height before printing to prevent collision with the print head.

Platform speed: Set the current lifting speed of the nose

Transmission advancement: how many millimeters does the platform advance

Transmission retraction: how many millimeters does the platform retract

Transmission speed: How many meters per minute is the platform transmission speed set?

Current speed: current platform movement speed

Current location: Current platform location

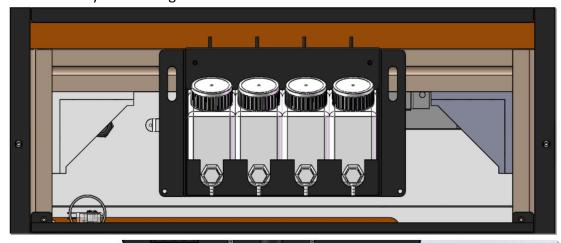
Paper extraction position: current cleaning paper position

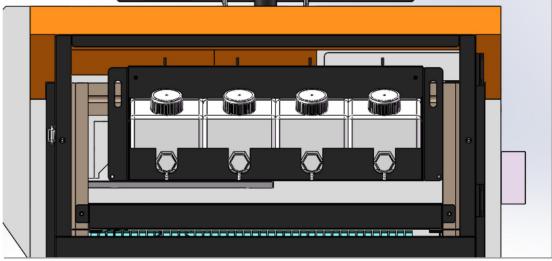


4. The first ink filling process of a new machine

1. Adding ink to the main ink tank (illustration)

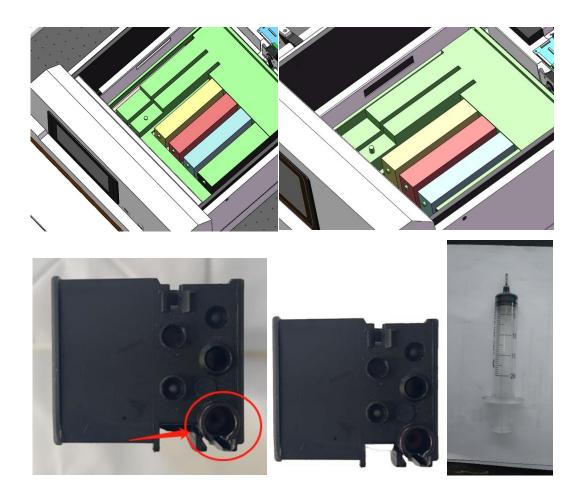
It is recommended that the main ink cartridge be filled up for the first time. When the secondary ink cartridge draws ink, the amount of ink in the primary ink cartridge will decrease. If the primary ink volume is insufficient, air will be drawn into the secondary ink cartridge.







2 Filling the secondary ink cartridge with ink (illustration)



Explanation: Add the corresponding ink (KCMY) according to the color of the ink cartridge.

The function of the small syringe is to extract the air from the secondary ink cartridge.

Precautions:

- 1. When the machine is not moved, the ink must be filled up every time.
- 2. When adding ink, be careful not to drip onto the machine circuit.
- 3. The machine cannot be powered on when filling the secondary ink cartridge.
- 4. Use the delivered syringe to repeatedly pump out the air in the ink cartridge.

During operation, the syringe and the ink cartridge are vertically evacuated.



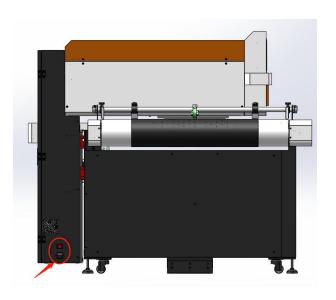
5. When inserting the secondary ink cartridge into the nozzle, pay attention to the position of the hole, and move slowly and not in a hurry.

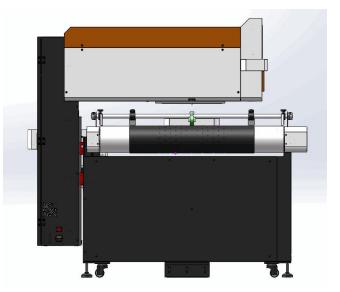
3 Precautions before powering on the machine:

- 1. Remove the yellow upper cover then can see the print head.
- 2. Insert the corresponding position according to the label and logo.
- 3. Plug in the print head cable. (Installation without powering on the printer)

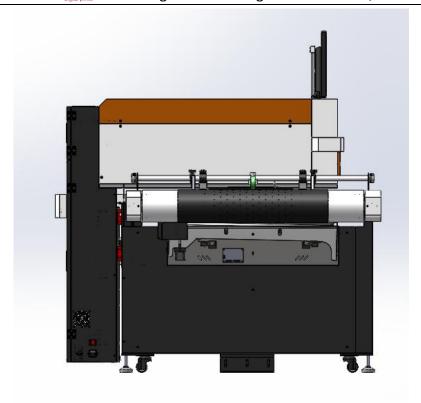
4 Machine startup process:

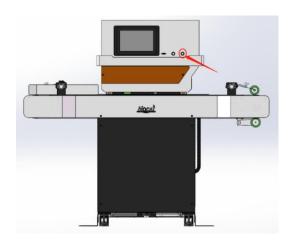
- 1. Plug in the power cable and turn on the main power switch and power switch. (illustration)
- 2. The machine will perform the boot process. (When the cart rises to find the origin, the print head will open the circulation pump once, and the cleaning cloth will find the origin)

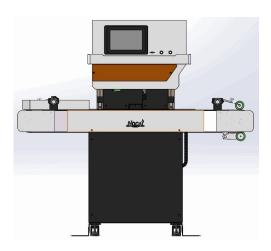




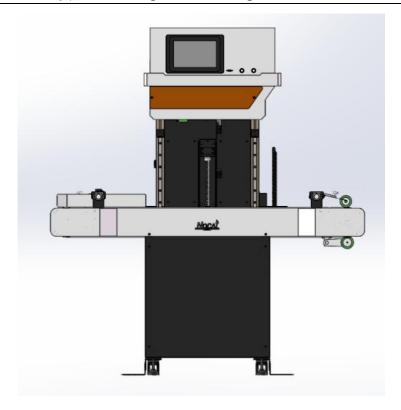










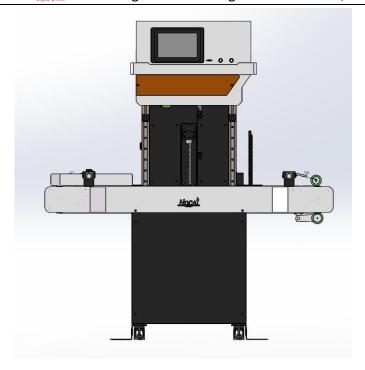


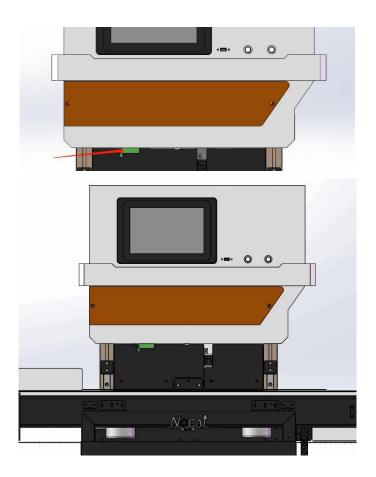


5. The process of filling the nozzle with ink for the first time:

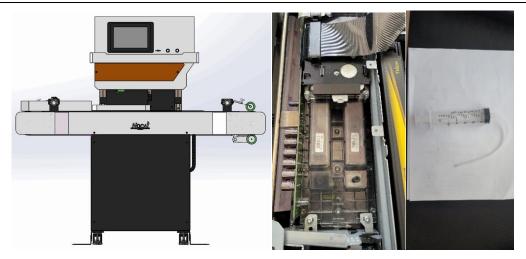
- 1. Turn on the machine and connect the driver normally (the driver shows that the connection is normal)
- 2. Click to lower the cart on the driver (input 350mm). At this time, the cart will drop to the setting position.
- 3. After reaching the designated position, clicks the nozzle to the printing position on the driver.
 - 4. Put the plate on to receive the ink from the nozzle module.
- 5 Place a plate under the nozzle (size is about 37cm*31cm*4cm), click on the motion control → turn on the circulation pump (stop for about 65 seconds) and repeat the operation 3 times to observe whether there is air in the ink tube of the nozzle module. If If there is, then control the circulation pump to turn on again.
- 6. Use the delivered large syringe to fill up the air and insert it into the designated position (illustration). Click on the circulation pump and at the same time slowly inject a syringe of air into the nozzle. At this time, observe that bubbles will appear in the nozzle. After repeated operations, they will appear. It is obvious that the ink flows out of the nozzle in a columnar shape. Generally, the nozzle is basically filled with ink after 3 to 5 operations.
- 7. Wipe the surface of the nozzle clean with a grain-free cloth and click Weak Clean. The nozzle will flash spray and scrape.











Precautions:

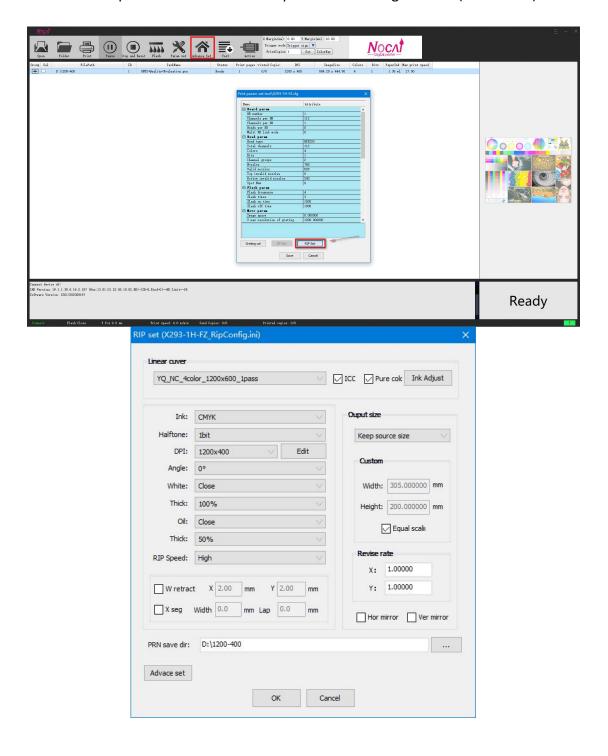
- 1. There are many precautions when filling the nozzle module with ink for the first time. It is recommended that customers watch the video steps carefully before operating.
- 2. When pumping air into the nozzle with a large syringe, we should be very slow. Using too much force may damage the nozzle.
 - 3. All cleaning requires placing material under the nozzle to catch the waste ink.
- 4. Pay attention to whether the ink output state of the nozzle is water column type.
- 5. Be especially careful when inserting the secondary ink cartridge, placing it in the slot before inserting it.



5. Machine RIP instructions

1.RIP setting parameters and location

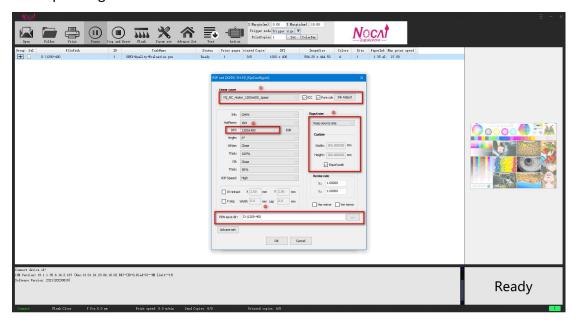
Click to open the driver-Advanced parameter settings-RIPSET (illustration)





2. Instructions for using RIP

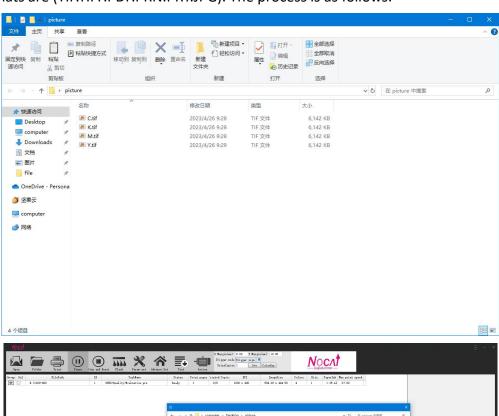
- ① Select the corresponding linearization curve, whether to turn on ICC, whether to turn on the solid color function, and whether ink volume adjustment is required.
- ②, precision selection, different materials require different resolutions to achieve printing.
 - 3, Angle selection, respectively 0 90 180 270
 - 4. Output size settings: protect original size and custom size respectively.
- (5), PRN saving directory: Select the specified location to save the corresponding PRN.

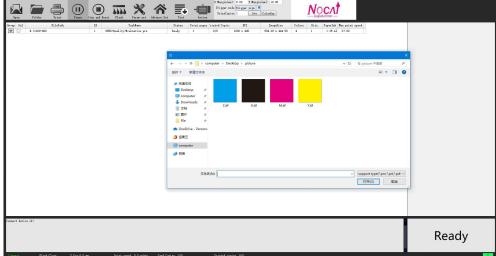




3 Instructions for importing pictures into RIP

When all parameters are set, the print image is imported. The supported formats are (TIF.TIFF.PDF.PRN.PRT.JPG). The process is as follows:











6. Calibration instructions for the machine

Machine calibration is divided into two parts, hardware calibration and software calibration.

1 Hardware calibration

Hardware calibration is performed for machine horizontal and vertical belts respectively.

Level: Whether the platform is parallel and whether the nozzle is parallel to the platform.

Vertical: Whether the nozzle is vertical to the platform.

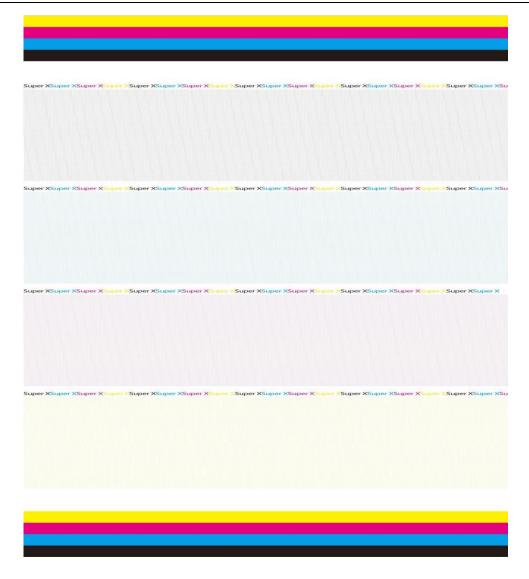
Belt: Machines using conveyor belts will deviate after running for a period of time. Just fine-tune the adjusting screw according to the direction of deviation.

(Currently, the shipped machines are equipped with automatic deviation correction devices. If deviation occurs, please consult after-sales to provide technical support)

2 Calibration of software

Nozzle status diagram, two YMCK four color ribbons at the front and back + KCMY four color status diagrams, each printed line corresponds to a nozzle hole in the nozzle.





Vertical view of nozzle

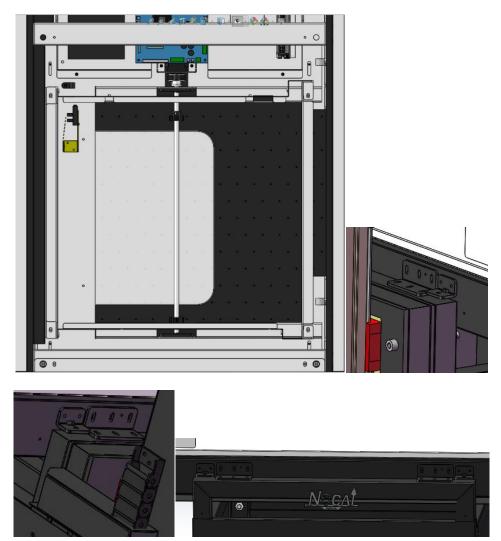


Nozzle vertical:

There are four black lines on the left and right sides of the nozzle. If the nozzle is not vertically placed on the left and right, the four-color black line will leak out of the



MCY on the left and right. Just adjust it so that it does not leak out on the left and right.

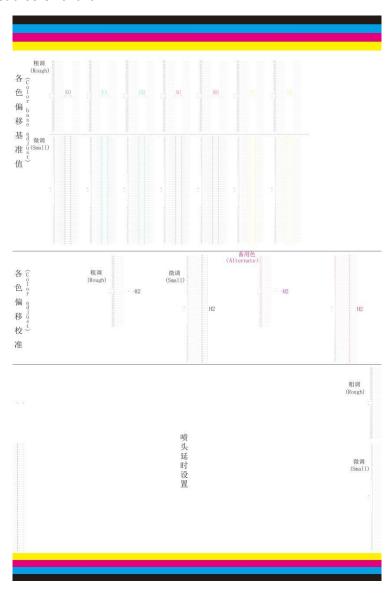


Print head horizontal alignment:

Taking K1 as the baseline, if the front and rear of the nozzle are not level, the distance from each channel to the material will be inconsistent, so the lines drawn by K0, C1, C0, M1, M0, Y1, and Y0 cannot coincide with the baseline. Just adjust to coincide. (Since the color registration of each channel has been adjusted previously and is aligned with K1, the observation here is meaningless and does not need to be processed.)

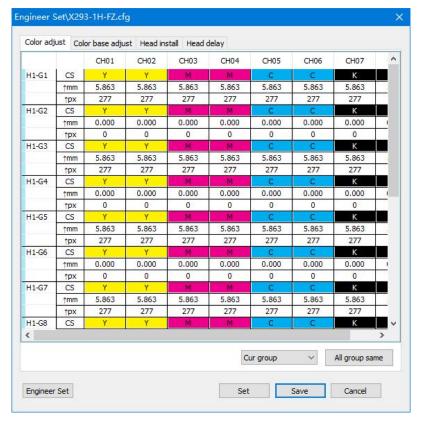


Print head color chart

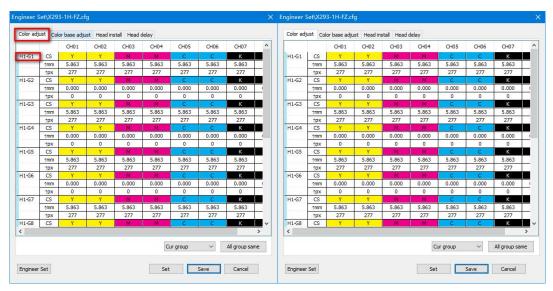




Offset reference value for each color



Refer to the coarse adjustment and fine adjustment values inside the "Each color offset reference value" of the calibration chart, corresponding to fill in the PX of K0, C1, C0, M1, M0, Y1, Y0 (K1 is the reference). The internal values of each small nozzle are consistent. After adjusting a small nozzle, click "Same for all groups".



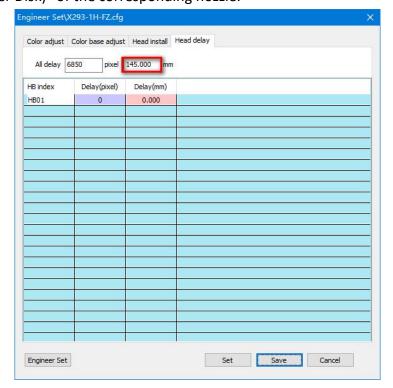
Color offset calibration

Refer to the corresponding coarse adjustment and fine adjustment values in the "Color Offset Calibration" of the calibration chart to adjust, and fill in the values in the PX of the corresponding nozzle. Set the odd-numbered headers uniformly.



Print head delay setting

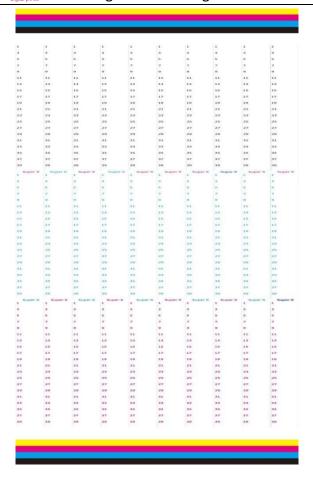
Refer to the corresponding coarse adjustment and fine adjustment values in the "Nozzle Delay Settings" of the calibration chart to adjust, and fill in the values in the "Delay (Coder Disk)" of the corresponding nozzle.



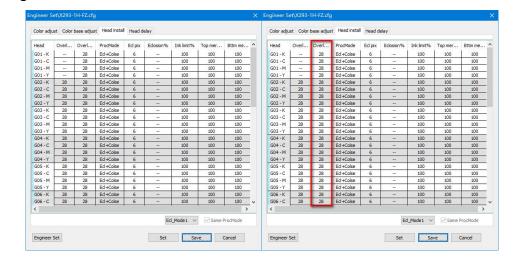
Nozzle overlay diagram

Four YMCK color ribbons + three color observation lines of KCM. The three lines are consistent to provide backup observation lines in case a needle of a certain color of a nozzle breaks. The principle of this diagram is that the last nozzle hole of the previous group is used as the baseline, and the step lines of the subsequent group are sequentially drawn starting from the first hole. The position where the step line and the baseline overlap is the number of overlapping holes.



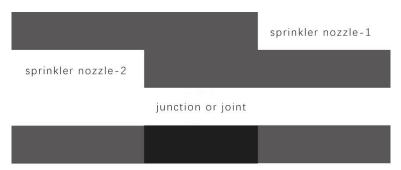


Fill in the number of overlaps in the "Nozzle Installation Parameter Configuration".



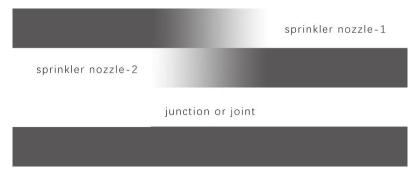
The closing hole method can be used, and the feathering method can also be used.

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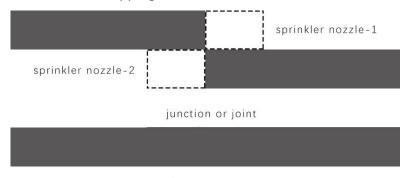
Color enhancement is not applied at the joint.

Feathering: Feather overlapping holes to make them evenly connected.



Feathering treatment at the junction.

Close holes: close overlapping holes



Feathering treatment at the joint or connection.



7. The actual operation process of machine proofing

Taking printing paper as an example, the printing operation process is introduced.

1. Place the printing material and confirm the printing height

Put a suitable size paper cloth under the nozzle, and use the paper pressing piece to press the two sides of the paper to make it fit tightly with the platform. And click to drive the machine head down and the nozzle to the printing position.

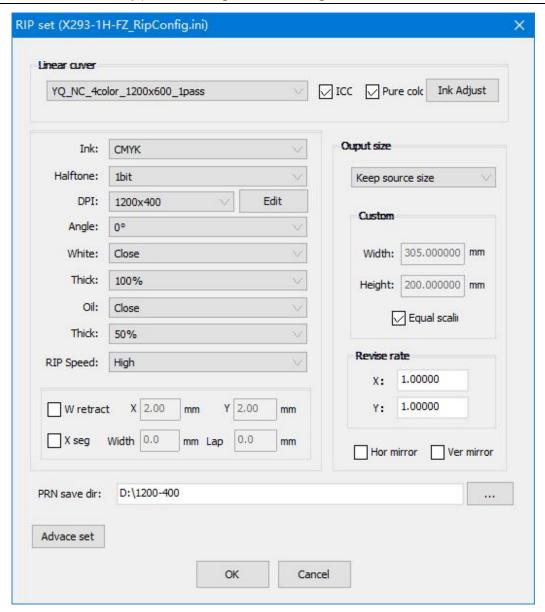
Adjust the printing height of the nozzle by lifting the machine head and make sure the height difference between the nozzle and the paper surface is between 2-3mm. Click to save the platform height.

2. Select the appropriate ICC profile and resolution according to the material.

Open the driver software, click on the advanced parameter settings, such as the icon

above Advance Set , select the function in the RIP SET, select the corresponding ICC profile and resolution according to the characteristics of the material, pay attention to the curve and resolution requirements, click OK to save, the following pictures are introduced:

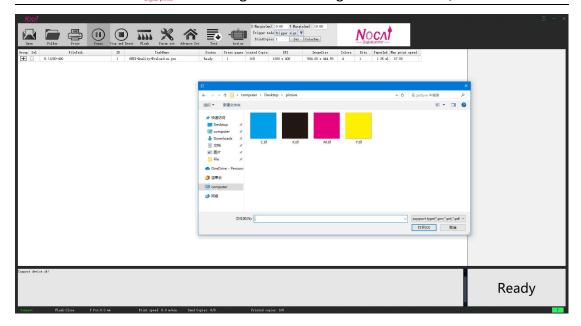




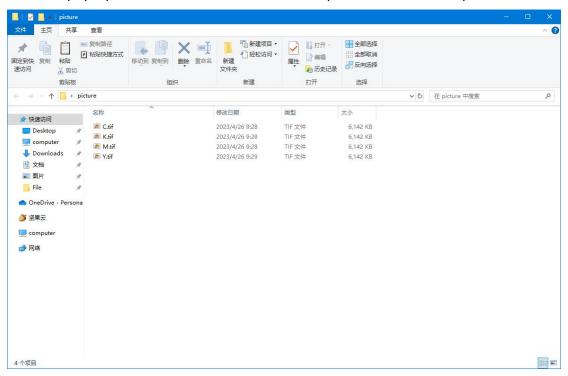
3. Import pictures

re, click the [Open] button in the upper left corner of the software, find the stored picture, select it and click to open it.





The pop-up window is as follows. Select the picture and click to open it.



Click on the picture to open the pop-up window as follows:





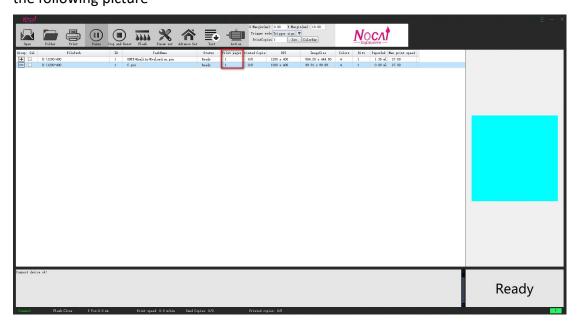
4. Confirm the printing conditions

Image offset selects different placement positions and Y-axis offsets.



Set the number of copies to print

Set different number of copies according to printing requirements, as shown in the following picture

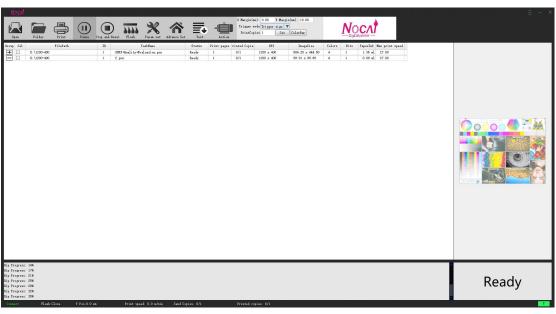






5. Send to print

Click the driver start printing icon Print to execute printing. After clicking print, a window will pop up to the print list, and you can perform edge printing.





8. Machine maintenance methods and precautions

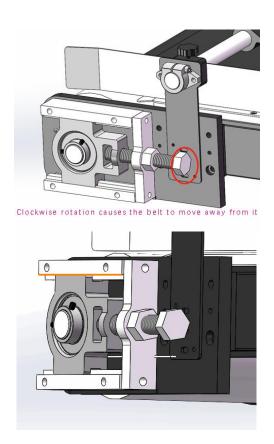
1. Maintenance method of Print heads

- ①There is a board chip inside the print head, which is directly inserted into the print head cables. Pay attention to the contact part between the head cable and the print head. Be sure to prevent ink dripping. Once it is found that there is water in the head cable part and the print head, please remove it immediately. Turn off the machine for a while, disassemble it and blow dry it before trying it again to test whether it is burned. Remember not to bring water into the machine to use it, otherwise the print head and print head board will be burned.
- (2) Since the head cable is closely integrated with the head socket during use, it is generally not easy to unplug and plug in. Therefore, over time, contact oxidation, damage, misalignment or other contact merging may occur, so before unplugging and plugging the head cable Always pay attention to carefully observe whether these problems occur, and eliminate or replace the head cable, otherwise the print head or print board will be burned.
- 3 Be sure to do maintenance work when the machine is not in use, and insist on turning on the machine once a day and printing test strips. If the test strip breaks ink, it must be automatically cleaned to ensure that the test strip is normal. You can print a small picture. If you are on holiday for more than 3 days When left unattended, soak the print head surface with 60°C warm water.
- 4 It is best to keep the height of the print head from the printing material at 2-3mm. Check the printing height in time to avoid scratching and damaging the print head.



2. Belt maintenance and debugging methods (illustration)

If the belt accidentally gets wet with ink, wipe it immediately with a paper towel and some alcohol, or wipe it clean with 60° C warm water. When it is found that the belt is deviating, adjust the direction of the adjusting screw according to the direction of the deviation to make the belt move in a reasonable direction. (Currently, the shipped machines are equipped with automatic deviation correction devices. If deviation occurs, please consult after-sales to provide technical support)



3. Z-axis guide rail maintenance

The machine guide rail includes a trolley guide rail. The contact between the



guide rail and the slider is based on lubricating oil. Please add lubricating oil to the guide rail for maintenance within a certain period of time to avoid rust and jerkiness caused by lack of oil on the guide rail. If you find black oil stains on the guide rail, It needs to be wiped clean with alcohol before adding lubricant.

4. Shell sheet metal maintenance

Keep the casing clean. If there is any ink dripping, please scrub it to avoid ink corrosion on the outer paint surface of the sheet metal.

9. Common troubleshooting methods

1 Nozzle test breakage problem

Examples of common ink breakage problems are as shown below:

1.1 All test strips are out

Description: Normal status. This status indicates that the machine's nozzle is in good condition.





1.2 The test strip is partially broken.

Note: The partial ink breakage of the test strip is due to the smoothness of the ink to the nozzle. You can choose to perform weak cleaning. If weak cleaning cannot solve the problem, you can use strong cleaning. Normally, the effect will not be affected.

1.3 The test strip has severe ink breakage in part of the test strip

Solution:

- 1. Check whether there is ink on the ink-absorbing pad.
- 2. Check whether there is ink accumulation on the surface of the nozzle.
- 3. Use cleaning fluid to wipe the surface of the nozzle.
- 4. Wash twice with weak cleaning method

Problem overview: The above problems are usually caused by ink accumulation on the suction pad, or ink accumulation on the surface of the nozzle.

1.4 The test strips are almost completely out of ink.

Solution:

- 1. Check whether there is ink on the ink-absorbing pad,
- 2. Manually clean, use a syringe to flush the nozzle, and check whether the nozzle is clogged.

Problem overview: The above-mentioned multi-color ink breakage problem occurs. Generally, if the nozzle is clogged or air has entered, please contact the after-sales department for help.

1.5 Test strip lacks color block

Solution:

- 1. Check whether the surface of the nozzle is damaged.
- 2. Check the ink accumulation on the surface of the nozzle.
- 3. Check whether the ink pad has accumulated ink.

In the above problem, if one color is missing alone, the general situation is that air has entered the nozzle or is blocked.

1.6 None of the test strips come out

Solution:



- Unplug and plug in the head cable and check whether the contacts of the head cable are oxidized or damaged. If so, please replace the head cord and plug it in before testing.
- 2. Check whether there are ink stains on the head cable connection interface of the nozzle. If so, please clean it and retest or replace the nozzle.
 - 3. Replace the print head board.

Summary of the problem: The above problems are usually caused by ink entering the nozzle socket or misoperation after the customer replaces the print head, resulting in a short circuit of the nozzle, burning the nozzle board or nozzle, because the nozzle will damage the nozzle board, but the nozzle board will not damage the nozzle. It is recommended to give priority to replacing the nozzle and replacing the nozzle line with a new one.

1.7 Color mixing: large area color mixing

Solution:

- 1. Please clean it first, then print test strips or four-color ink pictures to see if the color mixing improves. If not, please check whether there is ink residue on the surface of the nozzle. Generally, printing more pictures can solve the problem.
 - 2. Replace the print head.

Problem overview: If the above problem occurs, check whether there is any ink residue on the surface of the nozzle first.



1.8 Ink spray from the test strip

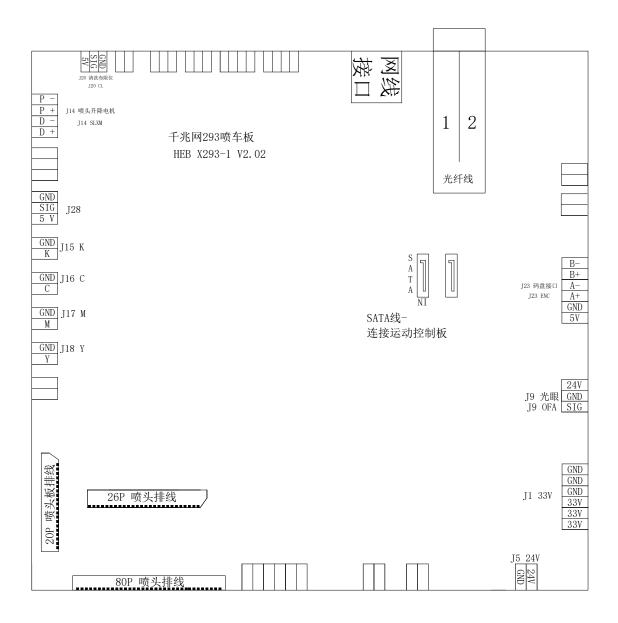
Solution:

- Check whether the height of the nozzle and the printing medium are within
 2-3mm.
 - 2. The printing environment temperature is within the range of 15 $^{\circ}$ C ~30 $^{\circ}$ C.
 - 3. Whether the cleaning cloth can scrape ink normally.

Summary of the problem: If the above problems occur, if there are no special changes in the surrounding environment, it is usually caused by the ink settling due to the machine being left aside for a long time.



2 Board circuit introduction (illustration)





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