



Four colors open-inktray Pad Printer with conveyor

OPERATION INSTRUCTION SP4-40616 SP4-40816



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LC Industrial company Limited 26-1

Website: [Http://www.lc-pm.com](http://www.lc-pm.com)

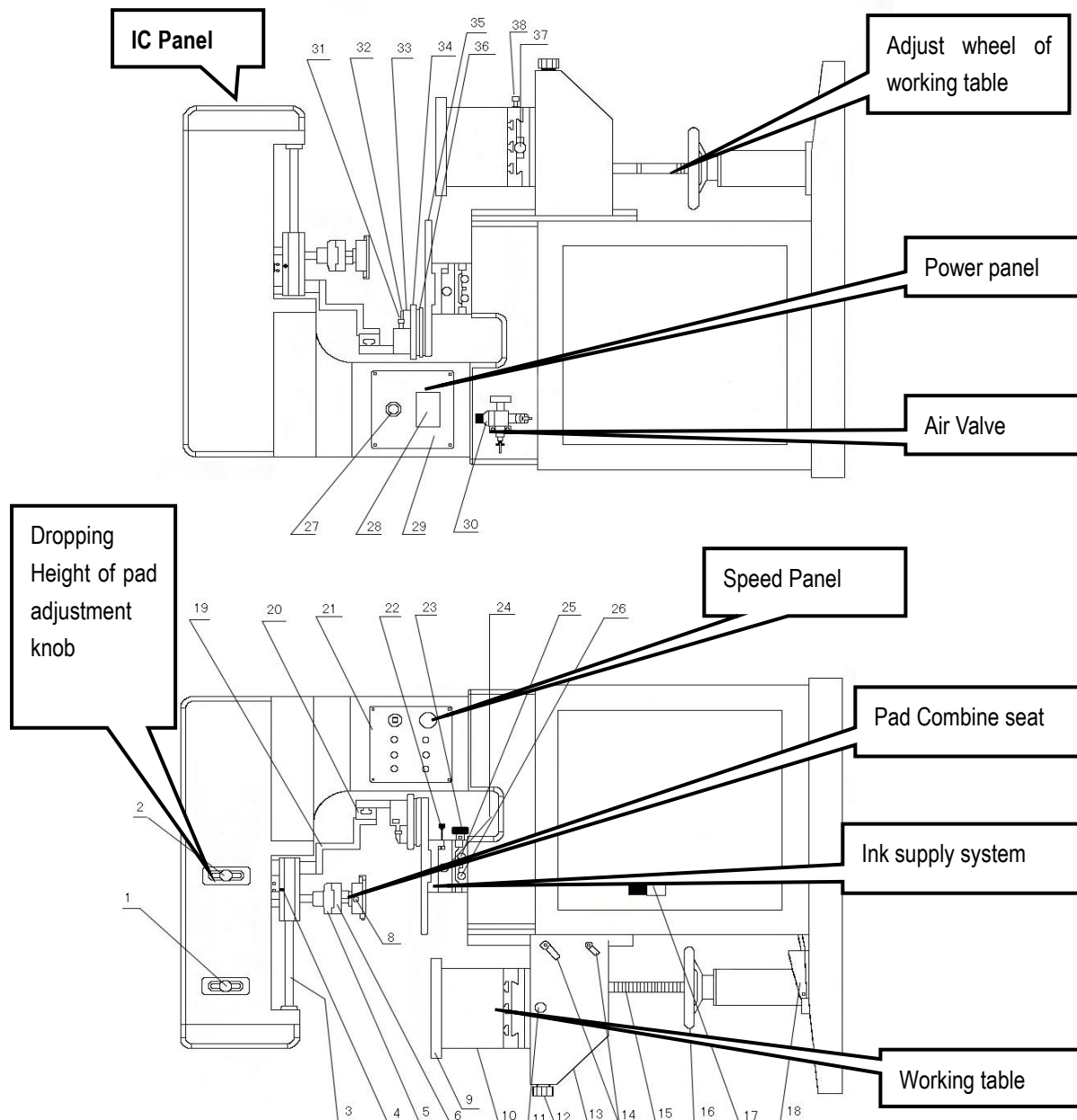
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Preface

LC industrial published a series of new type pad printing machines, which adopt the full automation control system, and has more stable and reliable operation. The automation program is much more flexible, which simplifies the operation procedure components of the machine are made of coin alloy, which is light and sturdy, and is in compatible with the Europe and Japan made pneumatic organs , also with the famous brand hardened shaft and bushing, to extend the service life of mechanical parts, also, with our exclusive---the super long slide stroke and machine-turning design, you can print large size substrate easily and adjust the machine conveniently.



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In order to protect the rights and interests of our customers, every printer has been checked and tested strictly before being dispatched from the factory, and we try our best to provide our customers with the perfect after sales service

Our goal is to provide our customers with first class products and services, which are of the first class technology and quality!

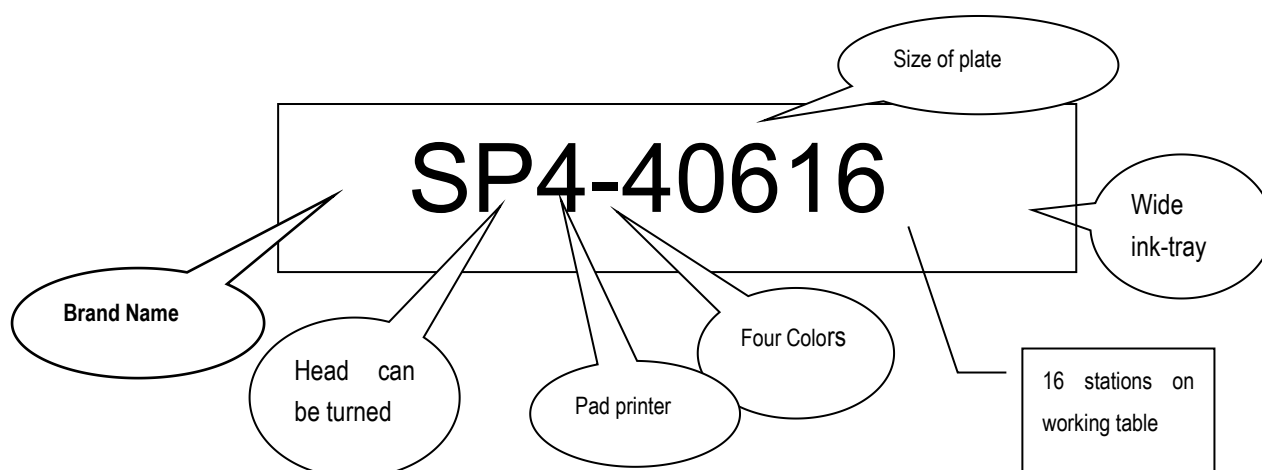
1. Name of parts:

1. IC panel 2...printing pressure adjusting knob. 3. ink dipping pressure adjusting knob.
4. lube nipple port 5. ink scraper resilience spring 6. interval board 7. transverse slide
8. pad fixture 9. worktable front-back direction adjusting knob 10. door to interior structure
11. ink scraper frame 12. ink scraper pressure adjusting knob 13. operation panel 14. ink roller
15. ink cup 16.machine-turning handle 17. moisture filter 18. switch for lifting the scraper
19. ink scraping stroke adjusting knob 20. touch part 21. switch for lowering the scraper
- 22 hot-blast temperature adjustment 23 hot-blast apparatus 24 lifting screw 25 lifting hand wheel
- 26 supporting bushing

2. Models and plate size of pad printers

Model	Description	Plate area
SP4-40616	Pneumatic 4-colour pad printer with conveyor (16worktables)	100*150 mm
SP4-40816	Pneumatic 4-colour pad printer with conveyor (16worktables)	100*200 mm
SP4-60618	Pneumatic 4-colour pad printer with conveyor (18worktables)	150*150 mm
SP4-60818	Pneumatic 4-colour pad printer with conveyor (18worktables)	150*200 mm

Remark:



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3. Installation, adjusting and usage

This printing machine is appropriate to be installed in a clean, slow airflow. Ash-free workshop, where the temperature should be kept at about 25°C (the printing ink is easy to volatile if the temperature is too high) to ensure the accuracy, the printer should not be rammed fiercely in the course of transport.

1. Leveling the machine.

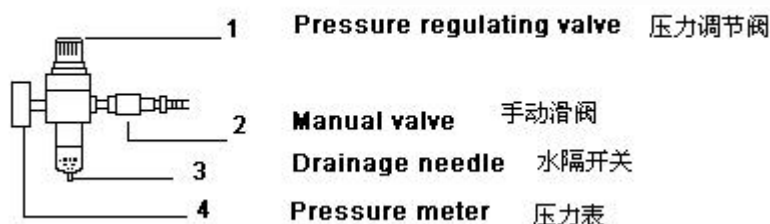
There are level adjusting screws distributed over the four foot-pads of machine, when adjusting, put the provided foot-pads on the ground first, which should be aimed at the screws. Turn the screw nut and then revolve the screws one by one in order to level the machine, finally, tighten the screw nut to prevent the screw from coming loose.

2. Power supply.

The machine applies both 220v and 240v electrical source, the consumption of compressed air is 0.43/CYCLE.



Please adjust the foot screw before using pad printer.



3. Adjusting the pressure meter.

When the machine is working, the pressure of compressed air in-breathed usually should be adjusted to 5 BAR. of

You find the index is on the high side, push the pressure regulating valve upwards, and then revolve it anticlockwise to the standard pressure, while on the contrary, revolve it reversely, after adjusting press the valve downwards in order to fix it within the confines of standard pressure.

4. Testing each mechanical part:



Connecting with compress air

Connecting with power supply

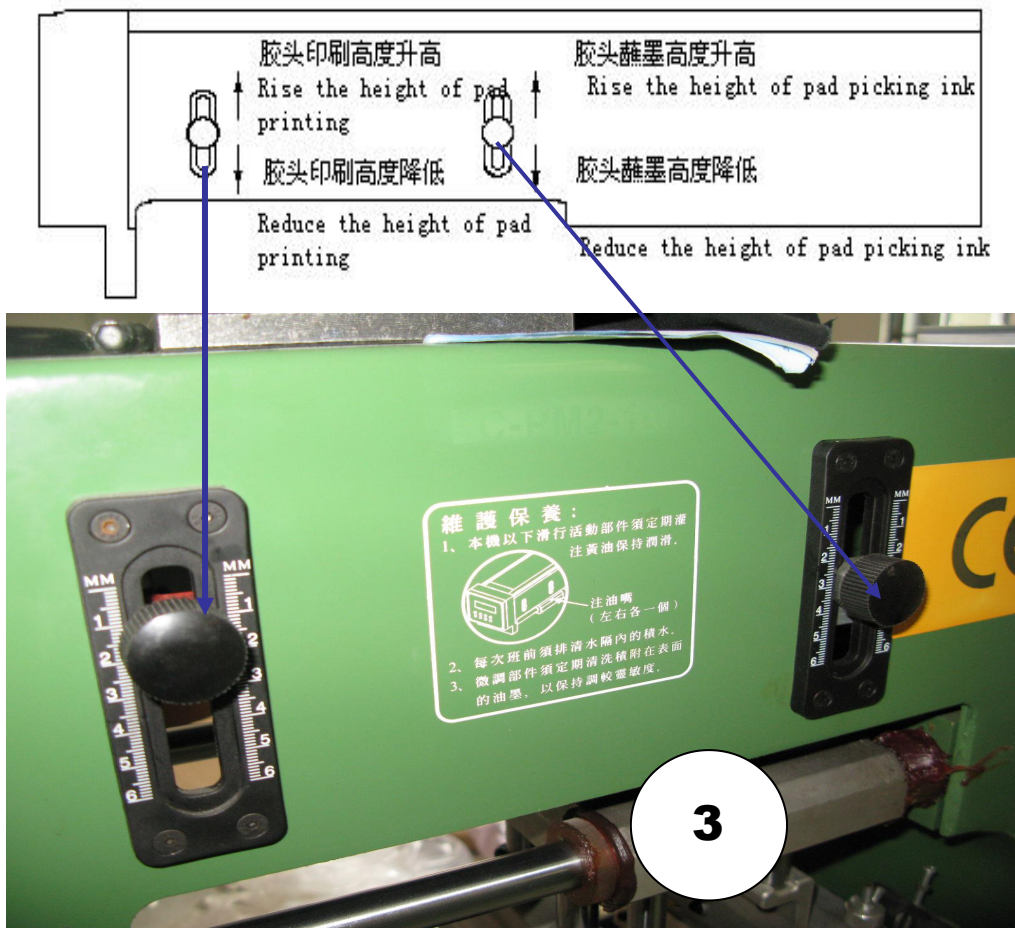


Whether each mechanical part is operating normally is important to the print quality and service life of the machine, so checking and testing all the components of the printer before printing is a matter of importance.

- 1> Connect the machine to the electrical source, and turn on the power switch, see if the counter on the IC panel displays "000000", if it displays other numbers, then the machine can not be started, you should check the electric circuit.
- 2> Press the key "Table" to see whether the pad moves smoothly in front-back direction, and if there are some odd sounds.
- 3> Press the key "Table" to see if the pad moves normally in vertical direction, and if the height of pad needs to be adjusted.
- 4> Press the **"SEETING"** to see if the conveyor moves normally, and then enter the automatic printing mode. To see if the slide speed of conveyor is consistent with the lifting seed of pad, and if there are any odd sounds.

5. Adjusting the ink scraping stroke length (see drawing 4)

6. Adjusting the vertical stroke length of pad (see drawing 3)



7. Fixing the work piece to the best position

1>adjustment of the 4-color pad printer

Fix the holding fixture of the work piece to the "T" line of the worktable with the slide fixture(2),position change of the work piece can be realized through the following methods:

- A. if move the work piece forward or backward, first, loosen the setscrew(8),and then turn the inching knob(5) turn it anticlockwise, the word piece moves backward, turn it clockwise, the work piece moves forward until to the

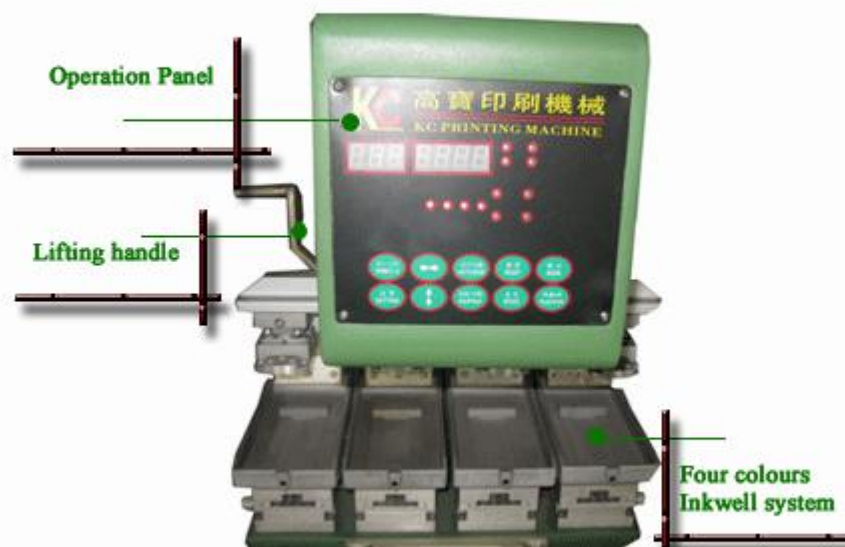


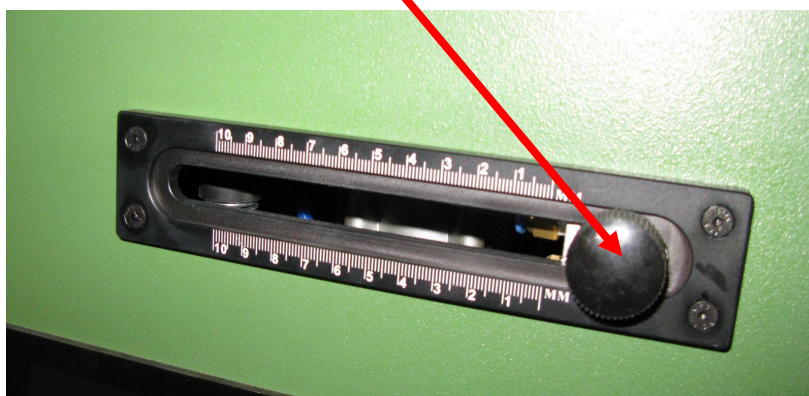
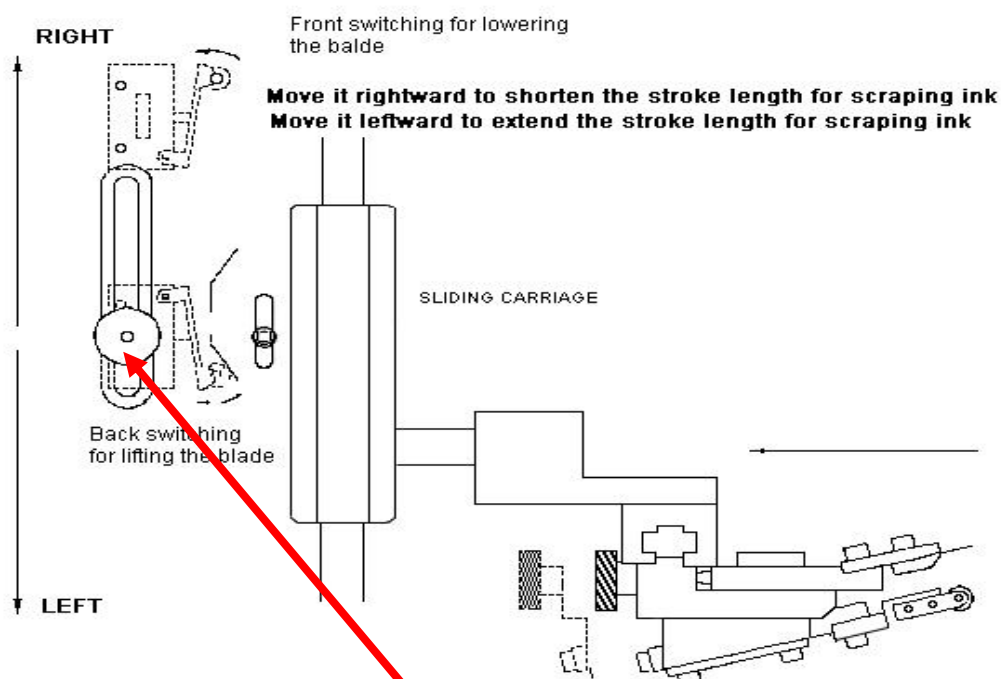
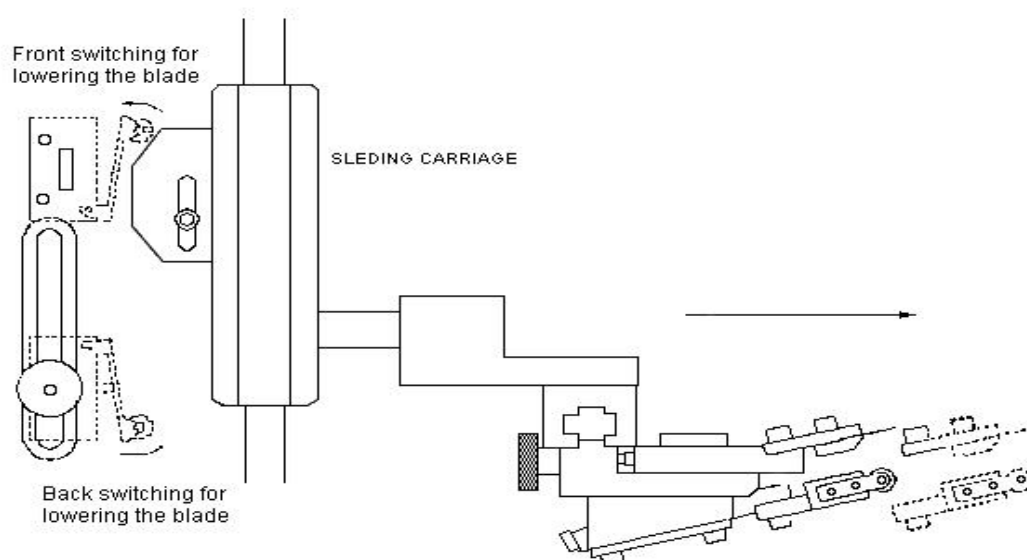
- right position, and tighten the setscrew(8) at last.
- B. If move the work piece leftward of right
 - C. toward, first, loosen the setscrew(4) and then turn the inching knob(1) turn it anticlockwise, the work-piece moves rightward, turn it clockwise, the work-piece moves leftward until to the right position, and tighten the setscrew(8) at last.
 - D. If change the angle of work-piece, loosen the two knobs (3) at first, and then based on your needs, adjust the work-piece to the appropriate angle; finally, tighten the two knobs (3) at the same time.

>Adjustment of the pad printer with conveyor (see drawing 11)

The conveyor usually has 16 stations or 18 stations., each worktable has the "T" lines and slide fixtures, for fixing the work-piece holding fixture adjusting the position of work-piece in front-back direction can be realized through following methods.

- A. if move the work-piece forward or backward, first, loosen the setscrew(6), and then turn the inching knob(3) turn it anticlockwise, the work-piece moves backward, turn it clockwise the work-piece moves forward until to the right position, and tighten the setscrew(6) at last.
- B. If move the work-piece leftward of rightward, first, loosen the setscrew(2), and then turn the inching knob(1) turn it anticlockwise, the work-piece moves rightward, turn it clockwise, the work-piece moves leftward, until to the right position, and tighten the setscrew(2) at last.

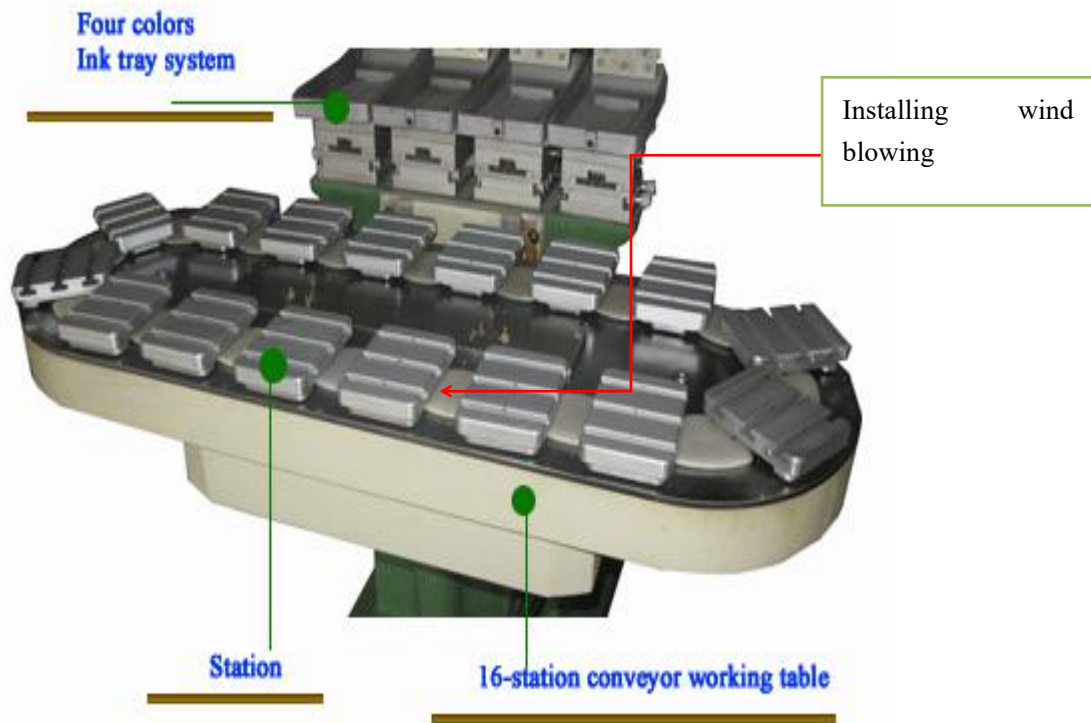






8. Installing Heat wind tube.

In order to make the ink fast drying, two Multi-color pad printer install heat wind device, after printing one color, the ink will be blow with heat wind. Heat wind tube is into tool box , Please install it when you using pad

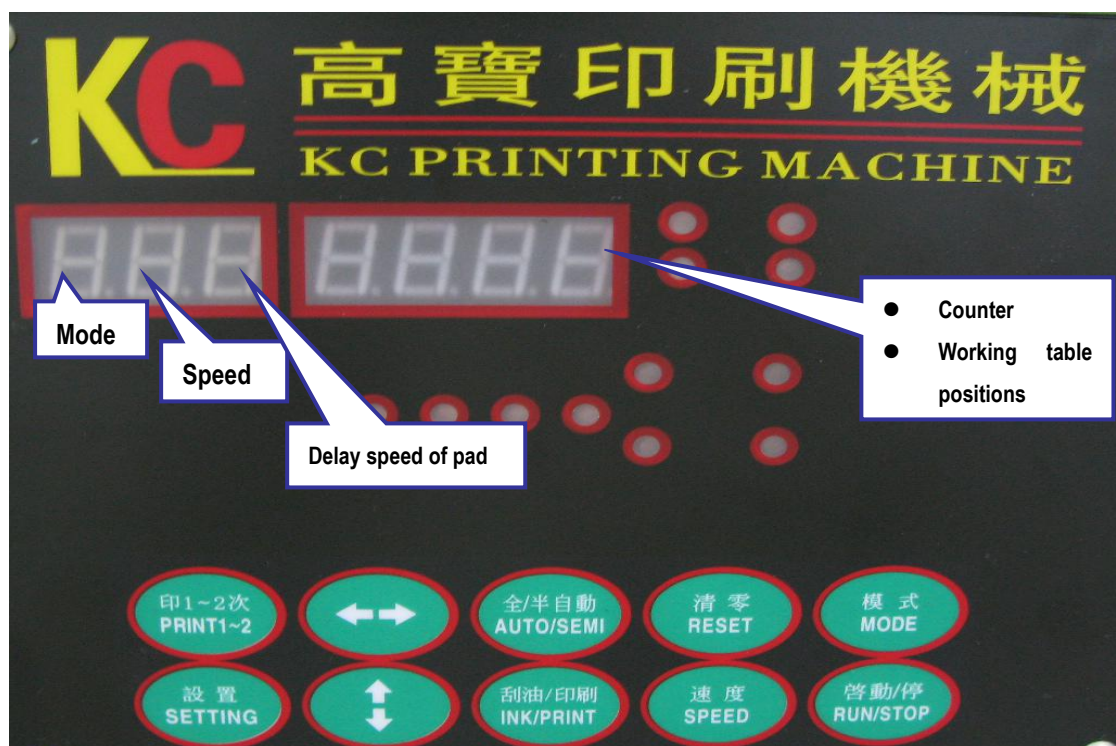
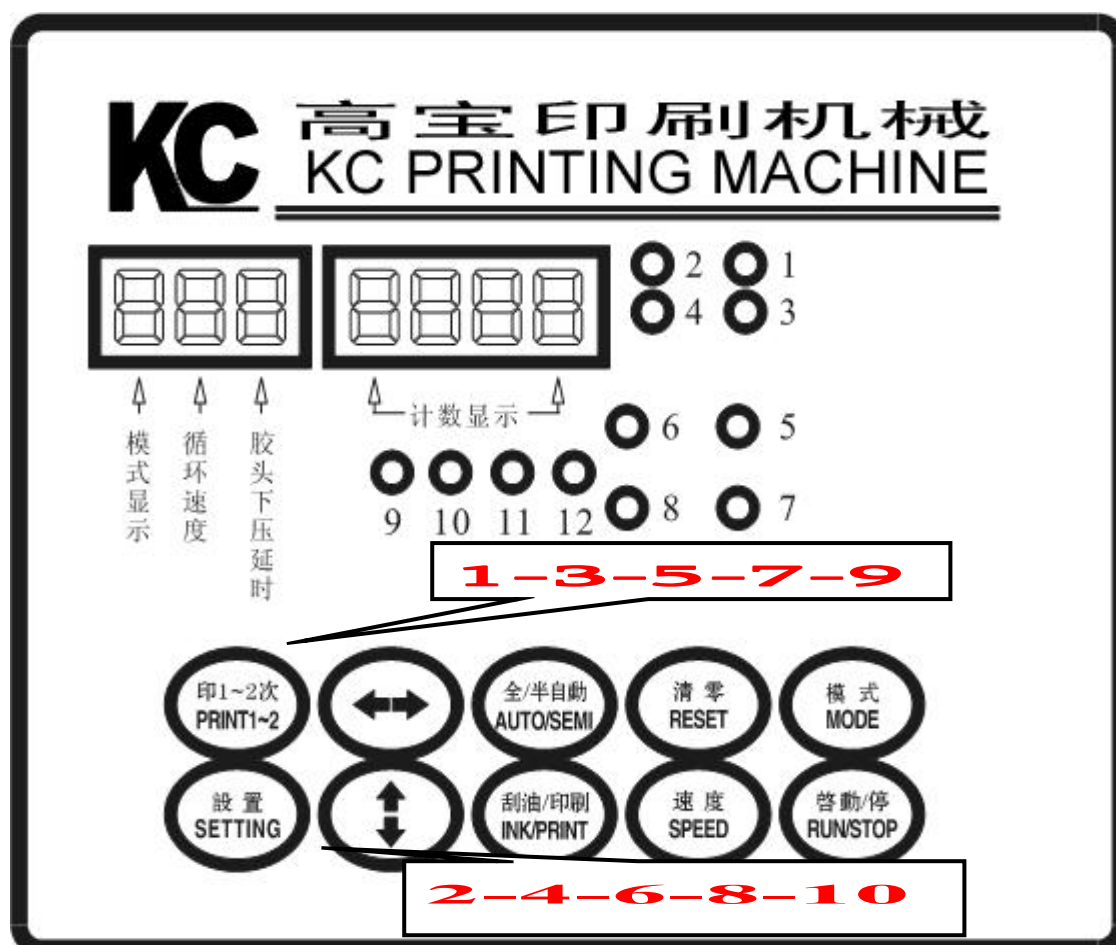


printer.





4. IC Panel





- Drawings and instructions of each key part

Functions of the keys:

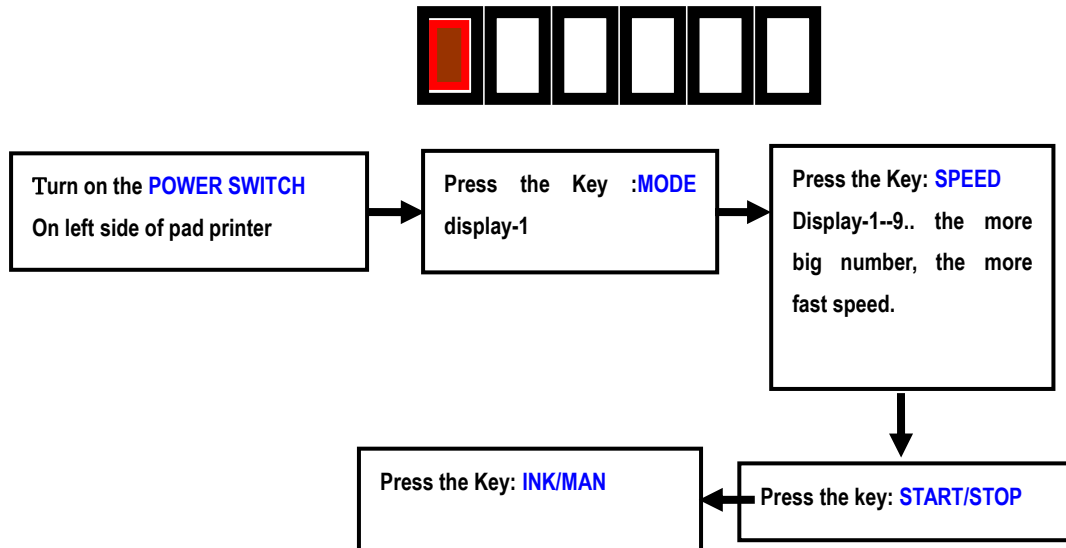
- a) **PRINT1~2**: when the machine is running, press this key, the machine will enter the mode of "Dipping ink twice and printing once"; if press it again, the machine will enter the mode of "Dipping ink once and printing once".
- b) **← →**: this key is also called "Table", when the machine stops running, press this key once, the sliding carriage of pad will slide forwards or backwards once.
- c) **AUTO/SEMI**: press this key, the indication light(11) <See Drawing5> will light up, which indicates that the machine has entered the "Semi-automatic running mode" you can operate this machine with foot-switch; when the indication light(11) quenches, which indicates that the machine has entered the "Fully automatic running mode".
- d) **RESET**: press this key to reset the counter.
- e) **MODE**: press this key to switch from mode "1" to mode "5"; press this key each time, the indication digit will add one. All the indication digits are as following:
 - i. 1>--Dipping ink once or twice, printing once, and the conveyor will not revolve.
 - ii. 2>--Dipping ink once or twice, printing once, and the conveyor will move ahead one work-piece.
 - iii. 3>--Dipping ink once or twice, printing twice, and the conveyor will move ahead one work-piece.
 - iv. 4>--Dipping ink once or twice, printing three times, and the conveyor will move ahead one work-piece.
 - v. 5>--Dipping ink once or twice, printing twice, and the conveyor will move ahead two work-pieces
- f) **SETTING**: when the machine stops, press this key every time, the shuttle will move to the next printing position, and the indication light(12) lights up, which indicates that the machine has entered the "Setting mode"; Then you can manipulate other keys to adjust all the 2 or 4 or 6 printing positions until the print quality is satisfactory.
- g) **↑↓**: this key is also called "Test", when the machine stops running, press this key once, the pad run one stroke in vertical direction. This key also has an intellectual function that when the machine stops running, if press this key for 20 seconds and then stop pressing, the pad will begin running downwards and upwards nonstop. You can press the key "RUN/STOP" to quit this mode.
- h) **INK/PRINT**: press this key to switch between the "fully automatic printing mode" and "automatic scraping ink mode"; if the indication light(10) lights up, which indicates the "automatic scraping ink mode", and if the indication light(10) quenches, which indicates the "fully automatic printing mode".
- i) **SPEED**: press this key to adjust the printing speed of the machine from level "0" to level "9", which is from slow to fast. (If press this key for more than 3 seconds, the indication digit of the "Delay before the down stroke of pad" <See drawing 5> will begin twinkling, then you can press this key to adjust the delay before the down stroke of pad, and the indication digit will display from level "0" to level "9", which is from slow to fast.
- j) **RUN/STOP**: press this key at any time to start or stop the ongoing operation of the machine.



So we suggest you operate this machine under these mode.:

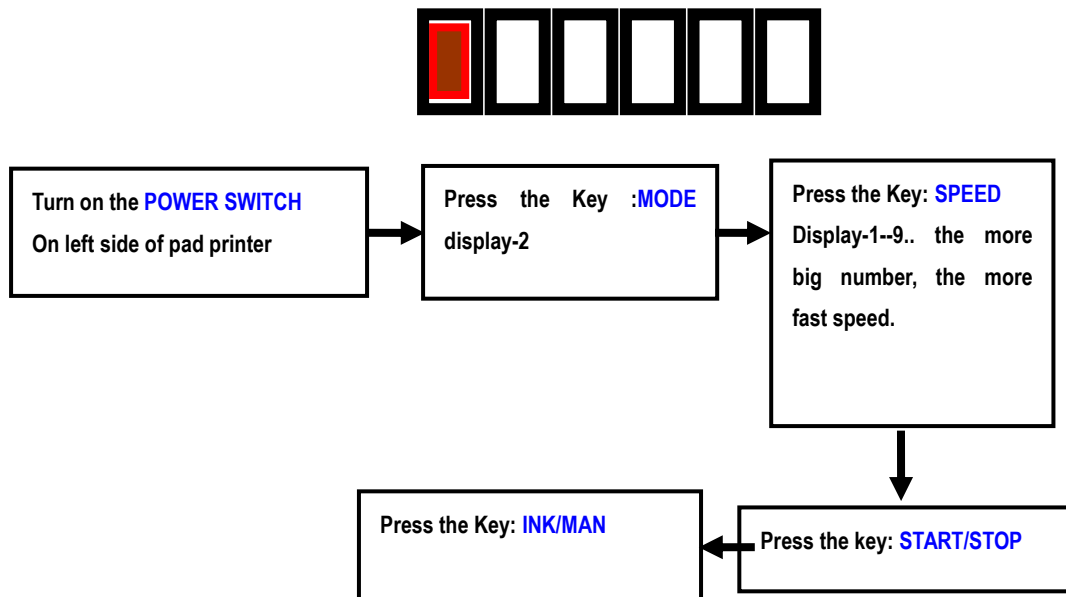
- 1- Print one colour with four colours pad printer with conveyor.

Press the "**MODE**" key. The indicator 1 display: **1**". Then press **start/stop** key, Press **MAN/INK** key, the machine will print one colour and working table keep stillness.



- 2-Pick up ink one time and Print four colours with four colours pad printer with conveyor.

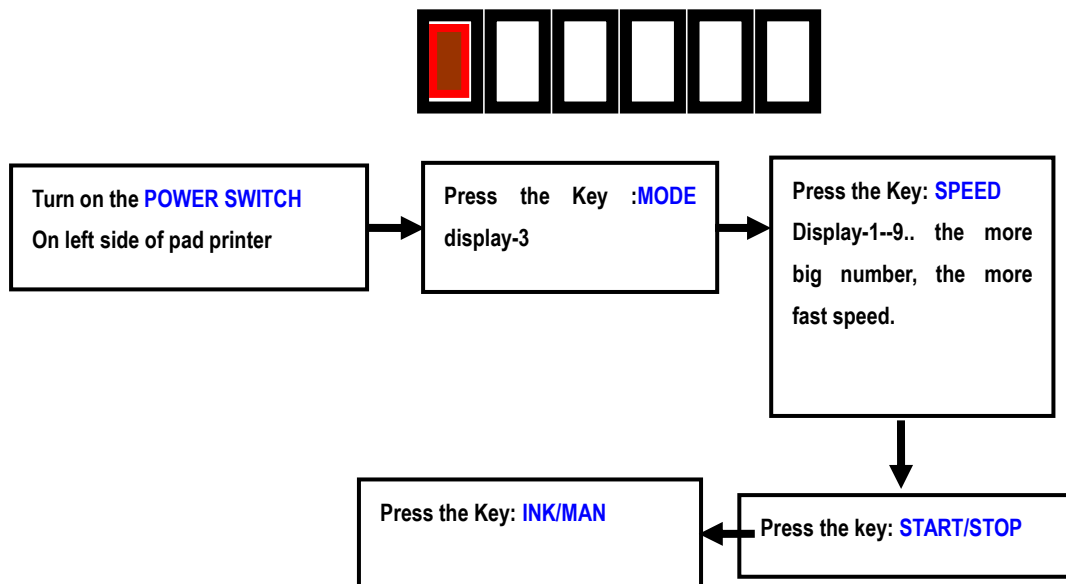
Press the "**MODE**" key. The indicator 1 display: **2**". Then press **start/stop** key, Press **MAN/INK** key, the machine will print one color and working table keep movement for one station..





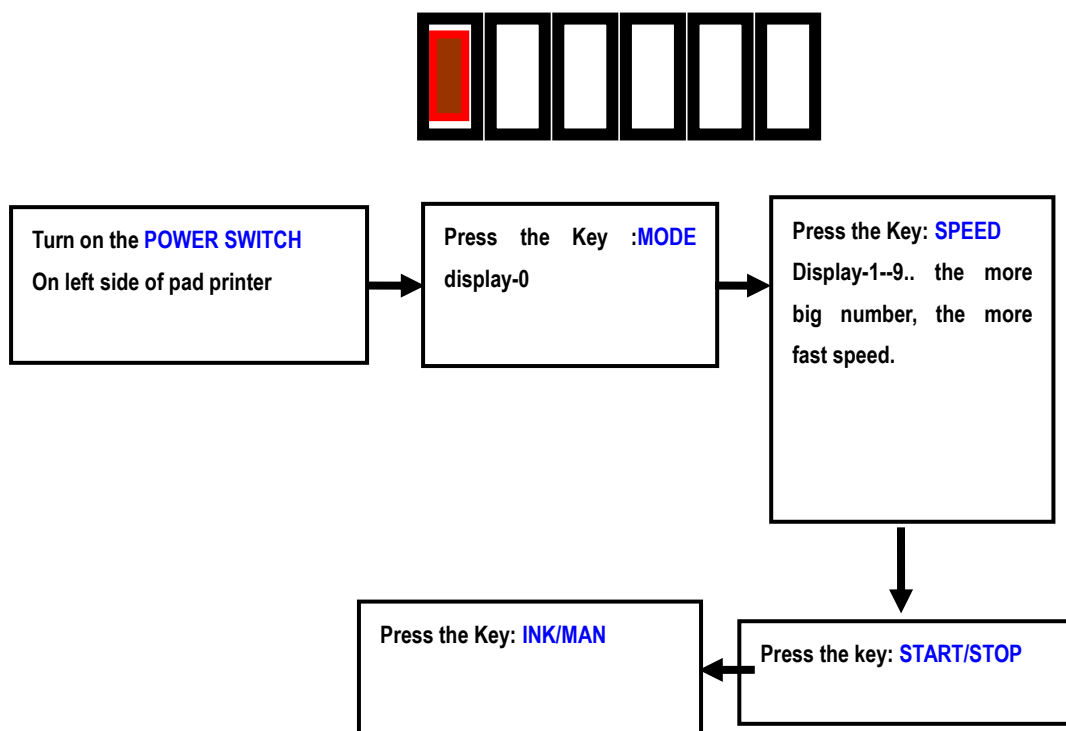
- 3-Pick up ink one time and Print two times with four colours pad printer with conveyor.

Press the “**MODE**” key. The indicator 1 display: **3**”. Then press **start/stop** key, Press **MAN/INK** key, the machine will pick up ink one time and print two times and working table keep movement for one station .



- 4- Pick up ink one time and print three times with four colours pad printer with conveyor.

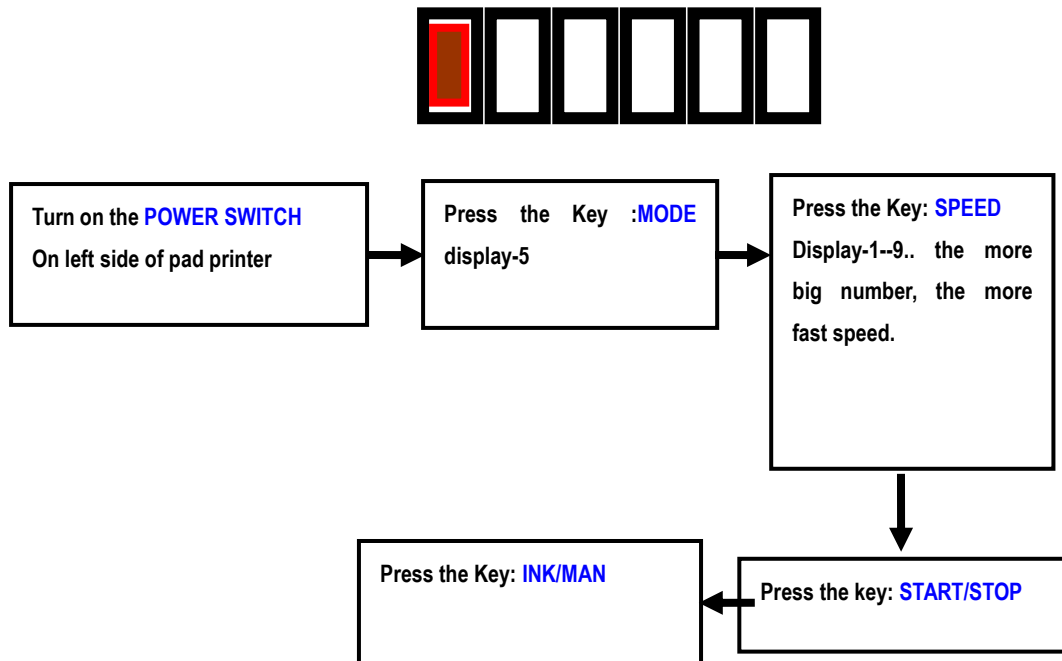
Press the “**MODE**” key. The indicator 1 display: **4**”. Then press **start/stop** key, Press **MAN/INK** key, the machine will pick up ink one time and print three times , working table keep movement for one station.





- 5-Pick up ink one time and Print two times with four colours pad printer with conveyor.

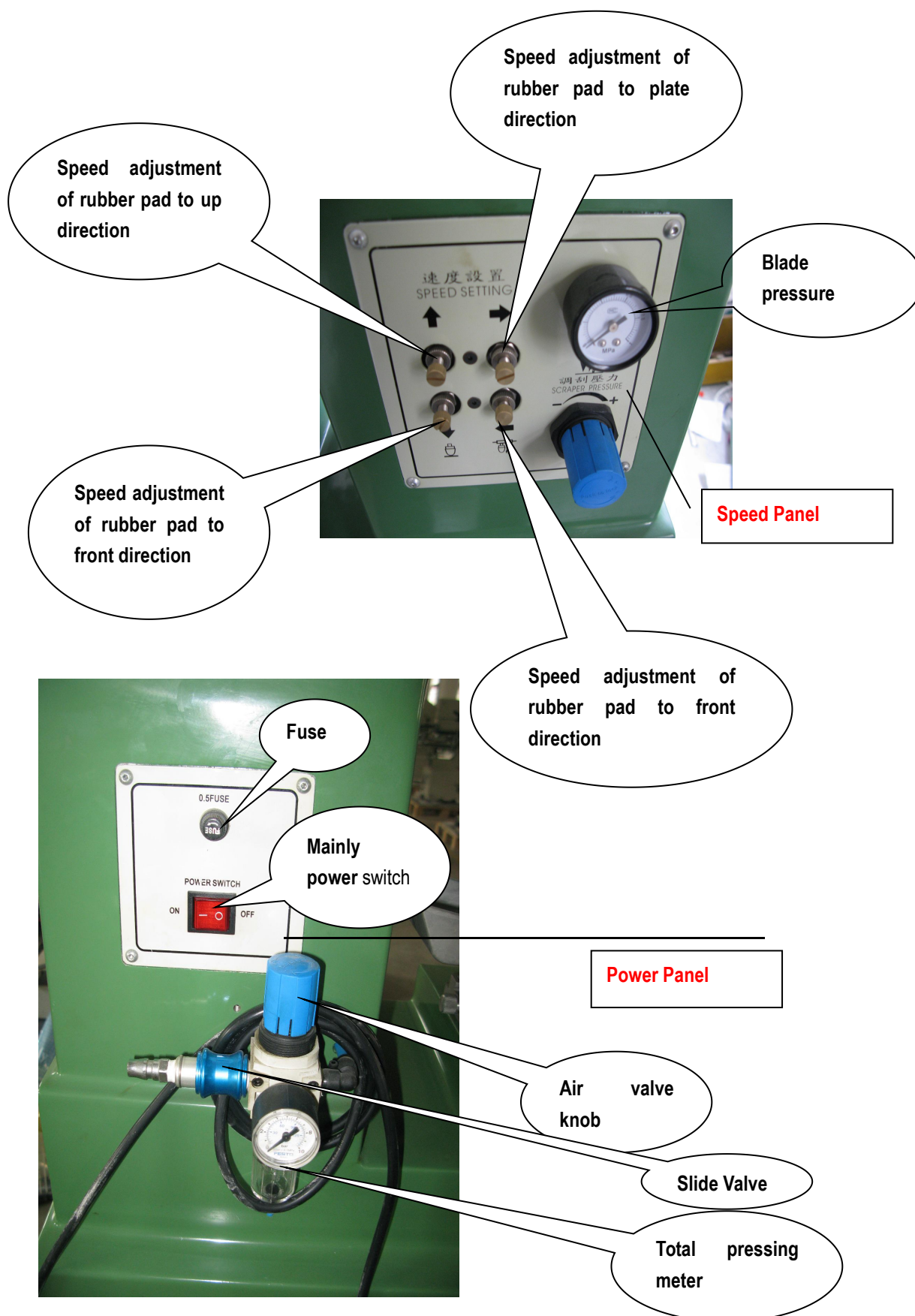
Press the “**MODE**” key. The indicator 1 display: **5**”. Then press **start/stop** key, Press **MAN/INK** key, the machine will pick up ink one time and print



two times , working table keep movement for one station.

- When you want to change another mode, please first press the key of : **RUN/STOP**.
- When you want to operate this machine with foot switch, please press the key of **RUN/STOP**. Then press the key of **SEMI/AUTO**. There is one foot-switch inside of tool box, Please install it onto the pad printer.
- When you find the speed of pad dropping is too slow, Please Press the key of **RUN/STOP** , Then press the **SPEED** Till the third LED digital shining , Please press this key till the number become bigger.
- When you want to get more thicker ink film, Please Press the key of **RUN/STOP**, Then Press the key of **PRINT1-2**.
- If you left in seconds, please do not stop the machine, Please press the key of **INK/AUTO**, make the machine enter Ink Mode. This method will avoid ink drying.

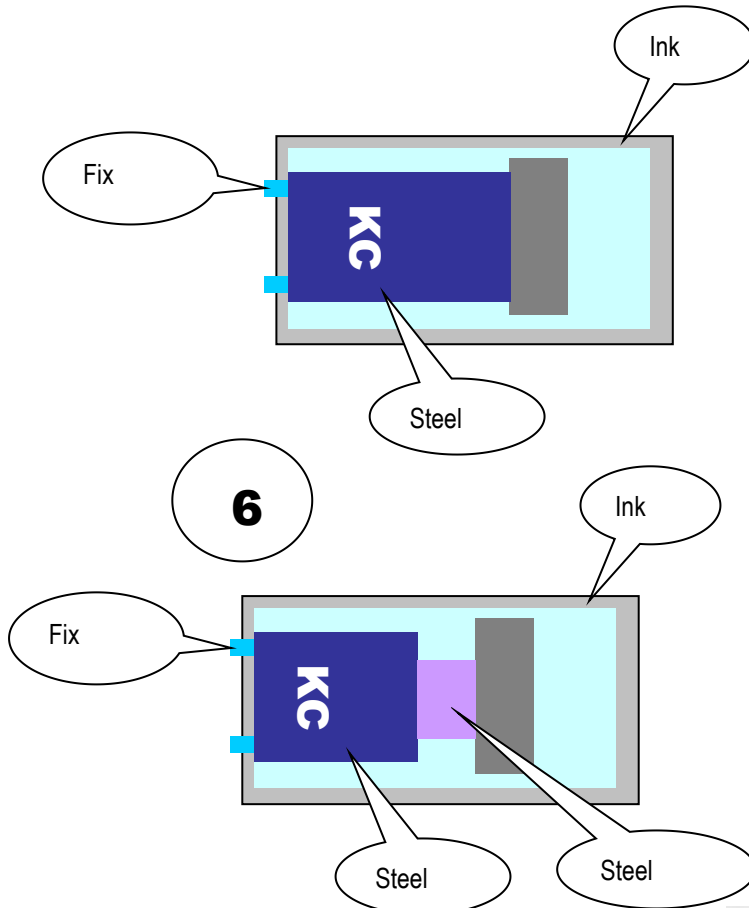
5 . Operation Process of machine





1) Connecting power supply

of 220V/50HZ to machine; Some countries use one phase 110V Voltage, we will change the power supply according to your requirements, please confirm it before you ordering our machine.



and install in the inkwell. There are four Al plates in the tool box. Please see the drawing 6 to know how to use the aluminum plate.

inkwell pad printer use 10mm Thickness steel plate, if you want to use polymer plate, we will make magnetism plate for you.

5) Install ink roller.

There are one set ink roller (4) in tool box, Please install it according to the drawing. SP4-40616 and SP4-40816 use 100mm ink roller, SP4-60618W and SP4-60818W use 150mm ink roller.

6) Install blade doctor .

We send two pcs steel blades with machine freely, the length is 300mm, cut it according to the width of steel plate, make sure the blade cover the words on plate so that it

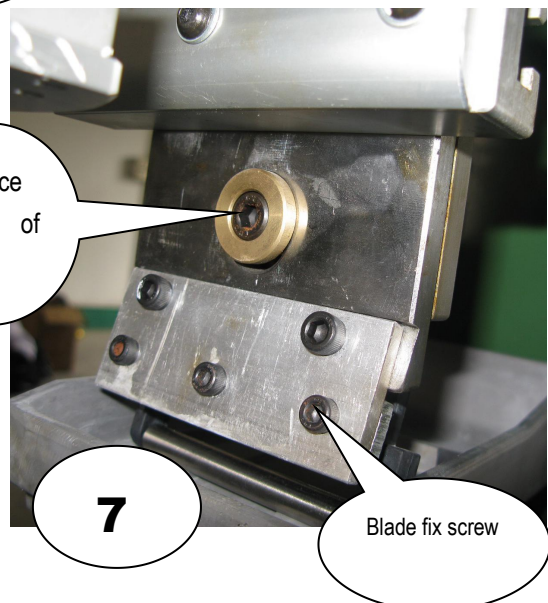
2) Connecting with compress air.

So one compressor must be installed in your printing room. Please ordering one set compressor before you ordering our machine. Of course, we will help you to order if you make demands to our sales representative.

3) Installing pad plate.

Any printing document must be etched onto pad plate. Our inkwell pad printer use 10mm thickness steel plate. At the first order, if you provide printing document to our sales representative by email, we will make one pc free, we will give you a technology support on how to make steel plate by yourself, we will provide completely plate-making solution for you.

We suggest you use standard size steel plate, when you use more shorter size steel plate on pad printer, Please take a steel block





can remove the ink when printing. Please make sure the blade parallel with plate, then fix the screw.



(7). Adding ink and thinner.

Different base materials substrate need different ink types Marabou ink is famous ink brand in the world, KC printing Machine provide LOGO, ALPHA ink for you if you want to use more cheaper ink and thinner. We will give you some advice on how to



choose ink, please inquire to our sales representative. Any ink needs testing before printing. First add ink to the ink tray with ink adjustment blade, then pour some thinner according to the percent of 1:5. Start the machine at the key of 4 (on operation panel) to make the blade and ink roller to coat ink, if the blade can not remove ink coated on the plate, please adjust the pressure knob on speed panel beside of pad printer to increase the pressure of blade a bit till the blade removes the ink completely.

It is important to make the blade removing the ink on the surface of steel plate completely.



8) Installed rubber pad.

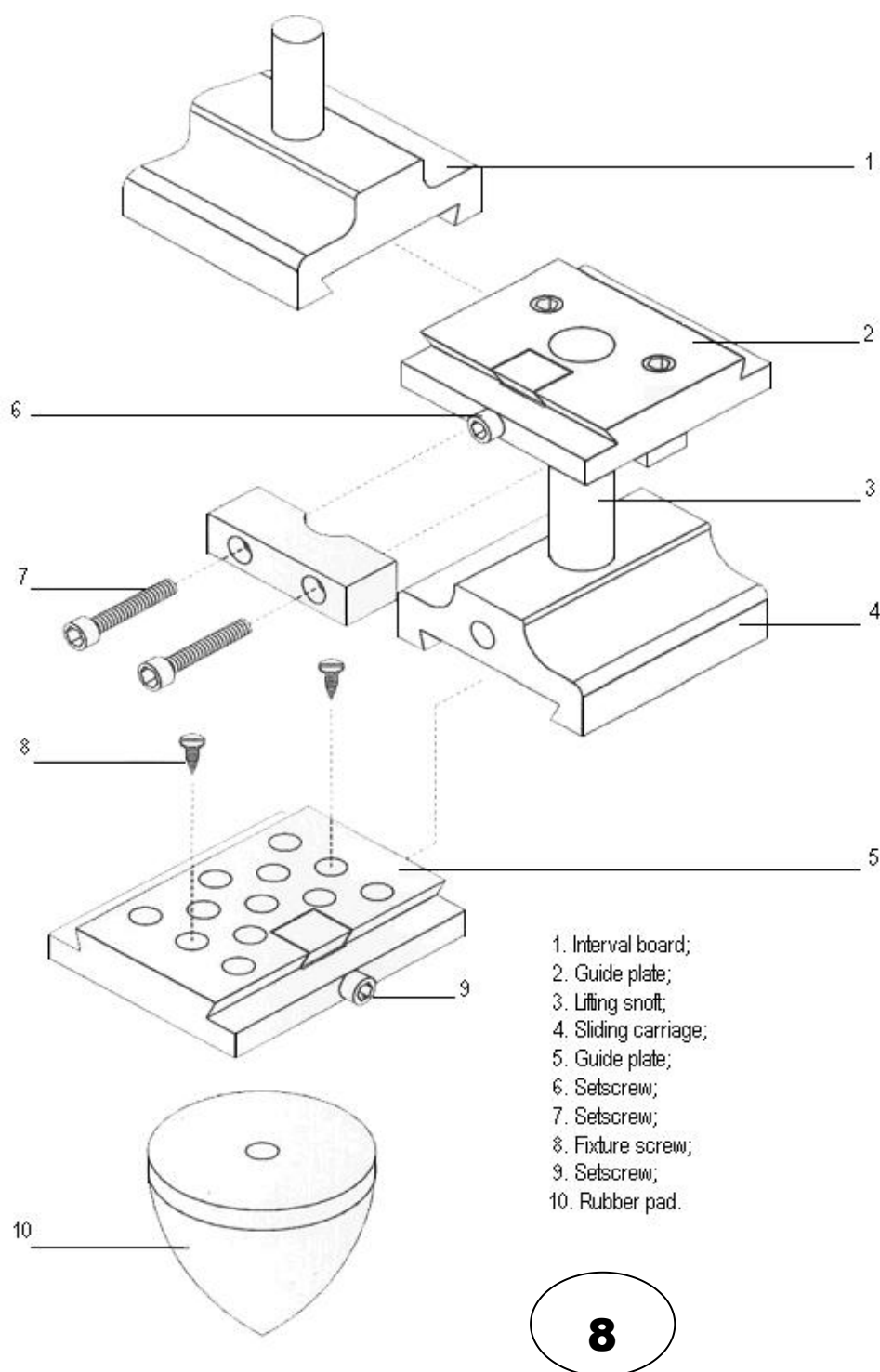
Please choose rubber pad according to the design size on the plate. Make sure the bottom size of rubber pad can cover completely the design on the pad plate. First loose the screw 9, (8-drawing), take down the guide plate (50), use one screwdriver to fix the rubber pad. Then install the guide plate into the sliding carriage (4). Please move the position of rubber pad to contact with printing design, fix all screws and keep the rubber pad not movement.

9) Install fixture.

It is very important to make fixture according to your objects to be printed. Some fixtures made by unsaturated polyester putty, other precision fixture need to make with lathe machine and milling machine. At the first order, we will suggest you sending some products you printed, we will make one only a little money.

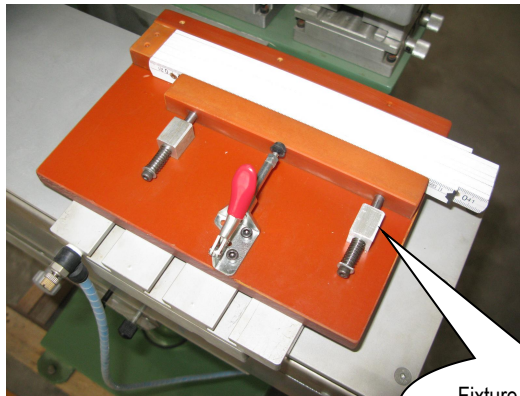
When you use four colors pad printer to print four colors, you need 16 fixtures. There are 16 stations on the working table, please install them one by one.

There are T model trench on the working table. It used to fix the fixture when printing. Before printing, please put the fixture onto the working table, adjust the position of rubber pad so that the rubber pad can print the words to a correct position, then fix the screw. Precision position adjustment need to use the micro-adjustment screw of working table.



10) Adjustment of the working table. Drawing 10.

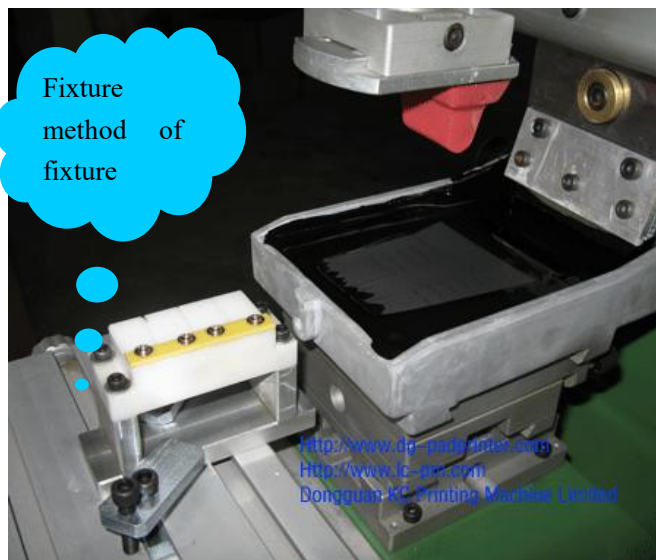
- Working table can be adjusted as up-down direction. Then turn the handle wheel (6);
 - Working table can be adjusted as left-right direction. First loose the screw (4), then adjust the screw(1);
 - Working table can be adjusted as front-back direction, First loose the screw(8), Then adjust the screw(5);
- Working table can be adjusted as angle direction by turning the screw (3).



Fixture for ruler



Fixture for disc



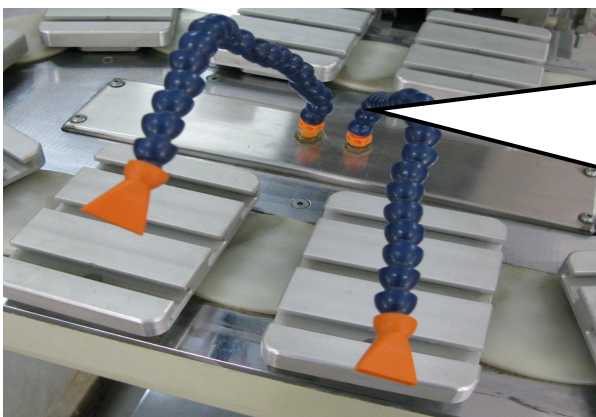
Fixture
method of
fixture

Printing
testing
drawing

9

11) Test printing.

Some operator like cover PP plastics tape onto the products when testing printing



Please install wind tubes on working table. In the process of multi-color pad printing, air will quicken the ink drying speed.

because the printed drawing will be removed easily with Tina solvent or other solvent. After you adjust the position, printing quality , you begin to work.

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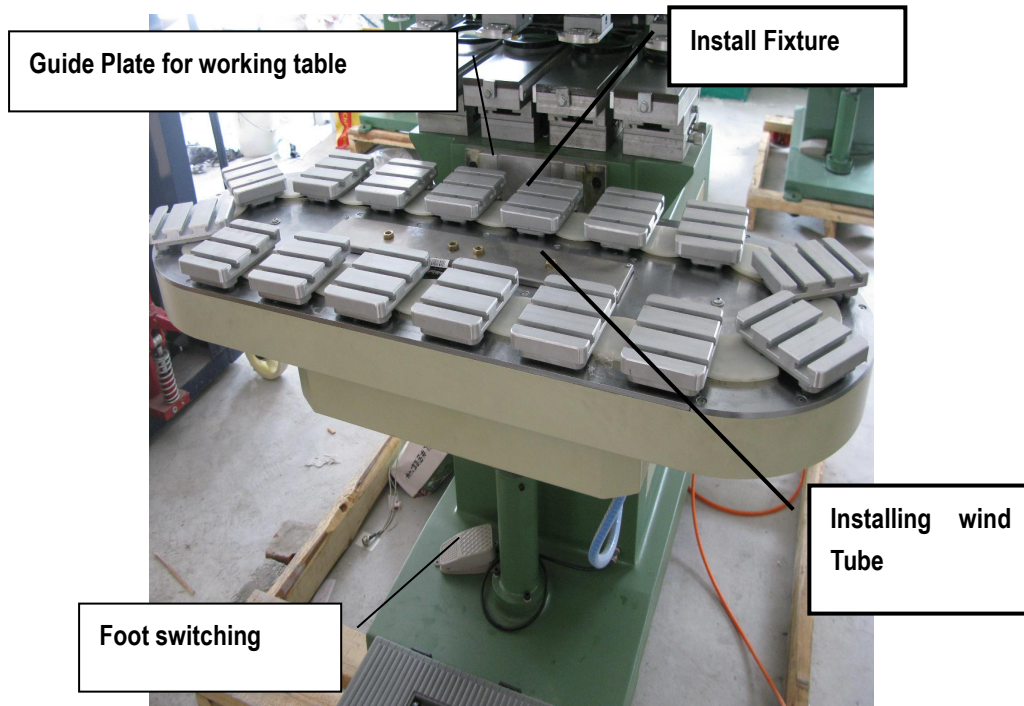
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1. Adjust the left-right direction of working table
调整工作台左右位置
2. Fixation Screw of fixture
夹具固定螺丝



3. Adjust the angle of working table 工作台角度调节螺丝
4. Fixation screw of left-right direction 工作台左右固定螺丝

- 5 Adjust the back-front position of working table 工作台前后调节螺丝
6. Fixation screw of front-back direction 工作台前后方向固定螺丝

7. working table Guide Plate of up-down 工作台上下导向板
8. Adjustment handle wheel of working table 工作台上下调节手轮

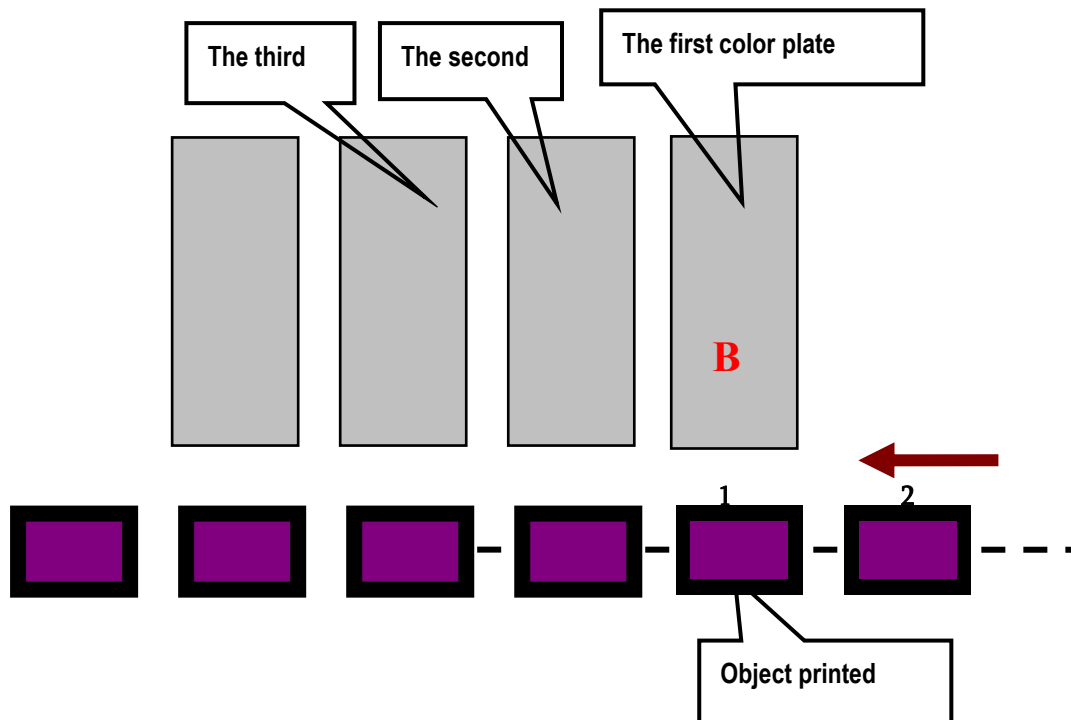
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How to adjust working table



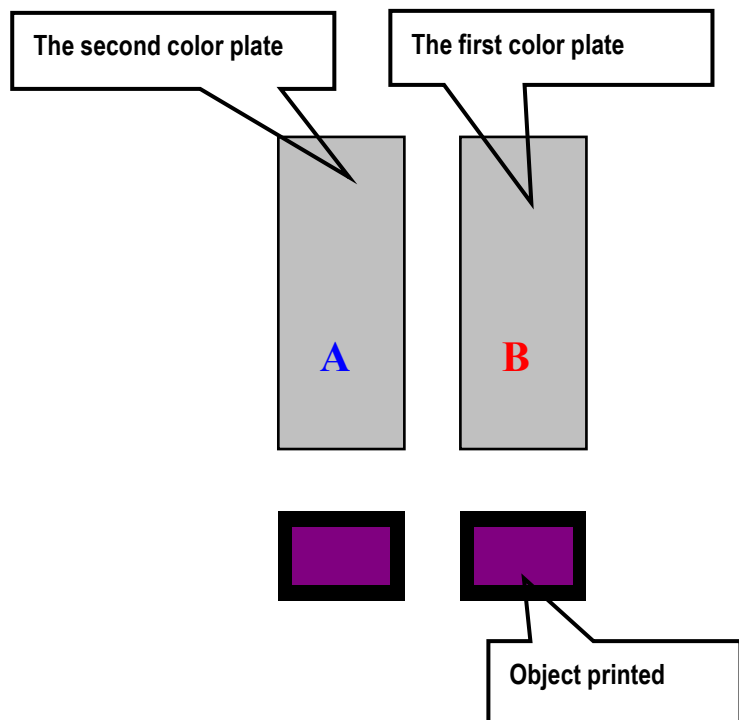
12) Overprint adjustment

SP4-40616 and SP4-40816 Four colors pad printer have 16 stations on working table, you must adjust the position one by one. Please follow the below process.

First install steel plate and one fixture with product, adjust the plate direction so that the design on plate can print correct position. When the product move to four plate one by one you must guarantee overprint is ok. Then fix all plates.

1# First adjust the first color:

- Please arrange the printing Sequence.
- Please install the first plate ;
- Install fixture on working table and put product on the fixture.
- According to the customer requirements or samples provided by customer, , print B to correct position on product. Fix the fixture after adjusting.
- Start the machine and make the station of working table move a step, adjust the fixture to print same position of product, fix the fixture after adjusting. Till 16 pcs station all printed on correct





position.

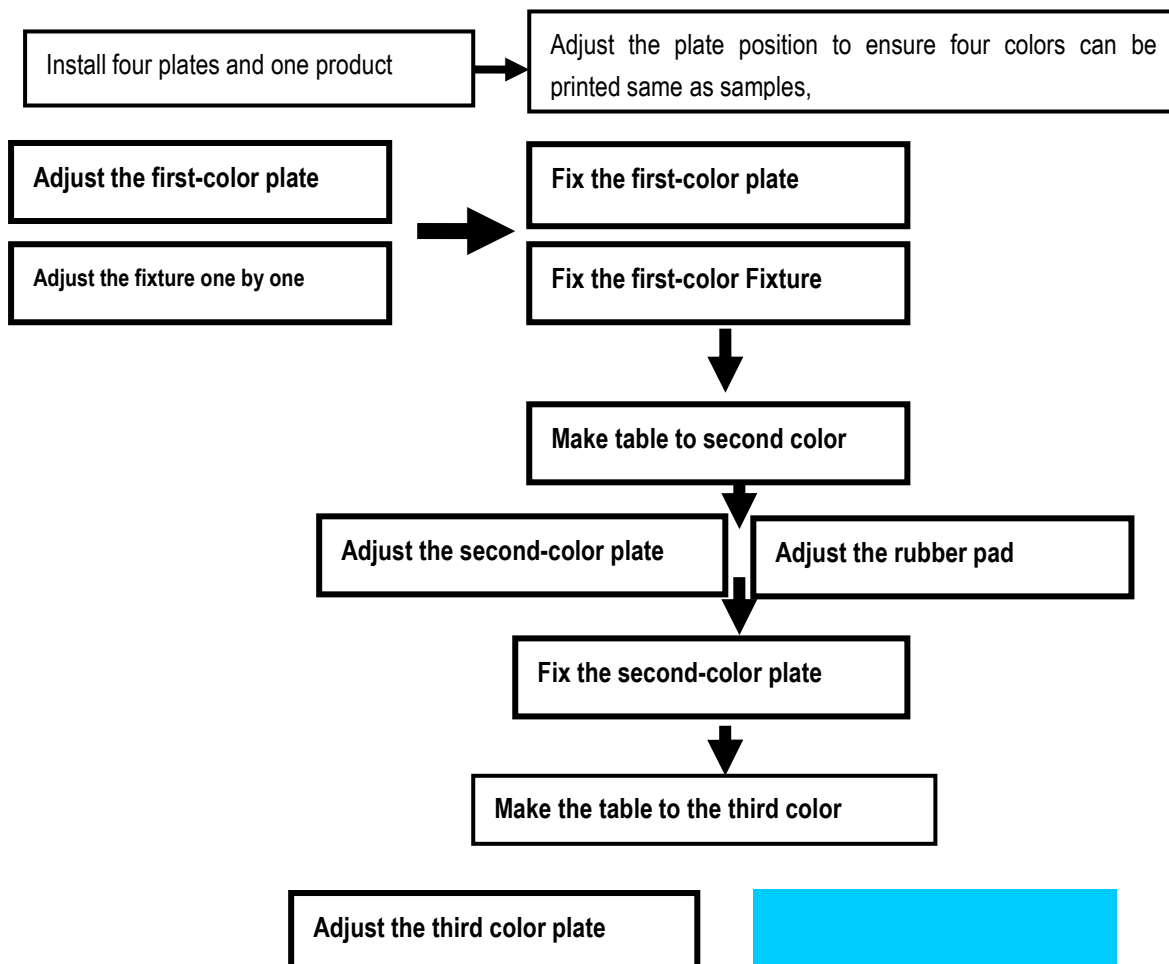
2# adjust the second color:

- Install the second color plate
- Adjust the position of pad plate to make the second color print on correct position, Do not adjust the fixture; fix the screw of plate after adjusting.
- When adjust the first color, base on first plate; when adjust the second color, base on fixture and product.

Adjust the third color and the fourth color till all colors print onto correct position.

In order to avoid wasting too much products, before printing ,please cover PP tape on product, if you find the design on PP tape is completely and clear, removing the PP tape, begin to print.

There is one more simple method to adjust. First install one fixture with product, then install four plates and inks, please adjust the position of plate ensure all colors can print on correct position of products, then install 16 products on the working table, adjust the position of products one by one till all fixtures can be printed on correct position, then fix them.

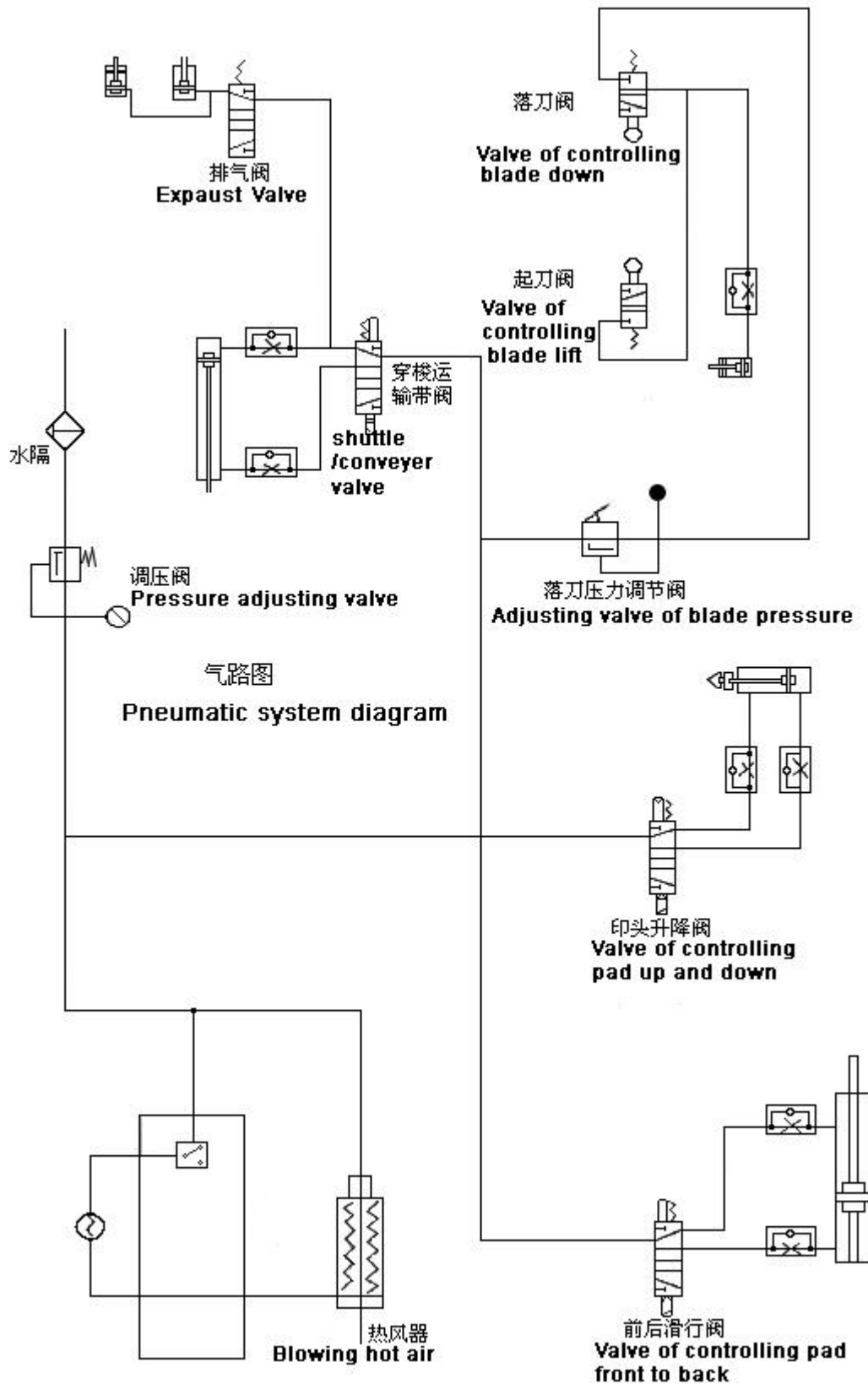


So please remember:

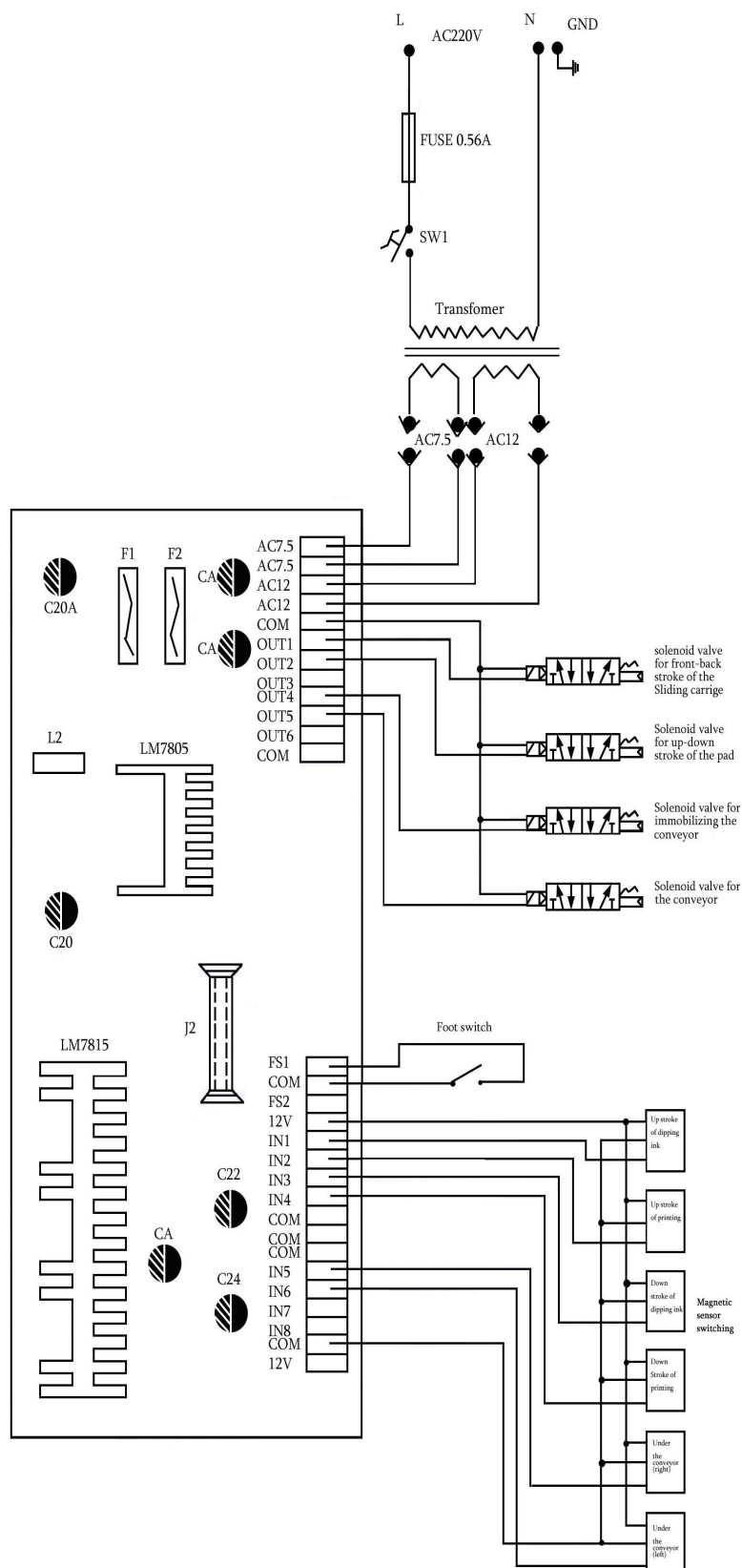
First adjust the position of four plate, when you find all plates can overprint on one product, fix all plates. Then install next product and adjust its position through four colors plate one by one. Overprint is ok, fix it, then install the third product, adjust it. When you 16 products all finish adjusting , you will begin to print.



6. Pneumatic-controlling drawing



7. Circuit Drawing.





GND

IN6

8. Maintenance

- 1> Keep the cleanness of the surface of machine. Please clean the machine with Alcohol or some solvent to clean the machine body. Installing pad printer in a dustless room will prolong the usage life
- 2> Wipe the slide parts and infuse lubricant to them weekly.
- 3> Drain the contaminate water accumulated in the filter frequently in order to prevent the water from flowing into the inner pneumatic system. Compressor air source will influence Pneumatic parts including solenoid valve, Cylinder Jar. It is very important to keep air clean and drying.
- 4> After the printing work, remember to clean the pad, plate and ink roller.

9. Precautions

1. The size of the plate should be compatible with size ink scraper clamp and ink roller

2. Pay attention to the choice of pad:

The hardness of pad includes the "soft", "medium" and "hard", if prints precision design, you should choose the hard pad, while prints on accident surface, use the soft pad, furthermore,

the volume and shape of pad should be similar with size of the design and surface shape of the work-piece. Please avoid the center of rubber pad to print the center of design.

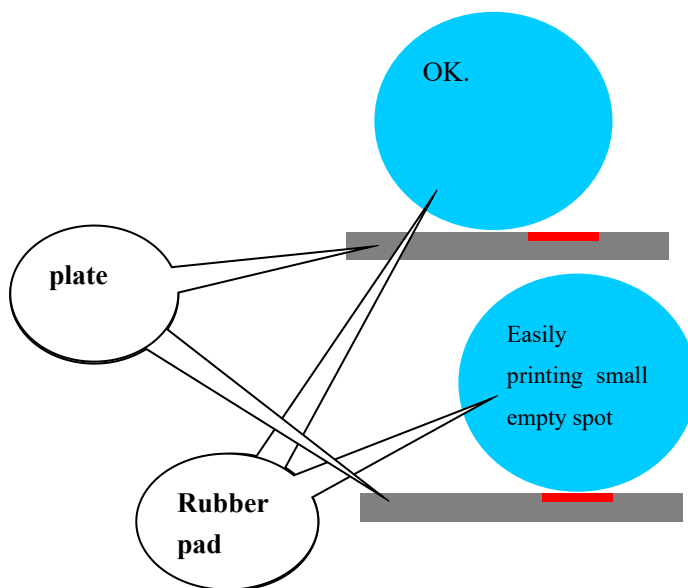
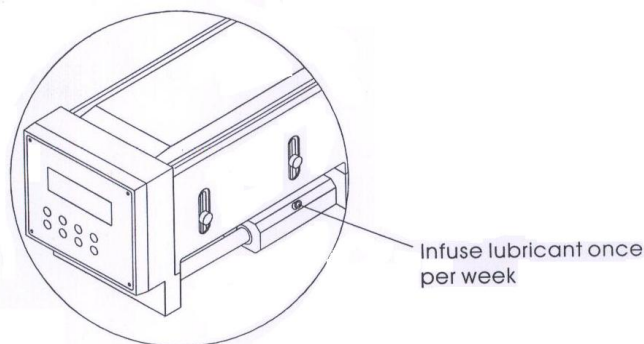
3. Usage of the ink:

According to different kinds of work-pieces, such as plastic, glass or metal, etc, you should choose different inks, and the ink should be stirred before pouring into the ink cup.

4. When operation of the machine is paused, you should let the ink, scraping system go on working in order to prevent the ink from air-drying.

5. During printing, you should infuse thinner into the ink cup according to different air-dry speed of the inks in order to keep the proper viscosity of the ink after infusing the thinner, stir the ink immediately. If the pad is stained, clean it with the cleanser.

6. Make the holding fixture for the work piece in advance based on its shape.



10. Other Instructions

a) Speed Panel of pad printer

When you only adjust the speed of rubber pad combine parts, please adjust the screw of speed panel drawing

b) Power supply panel

After you connect with power supply, you must open the switch of mainly power panel to start the machine. If you

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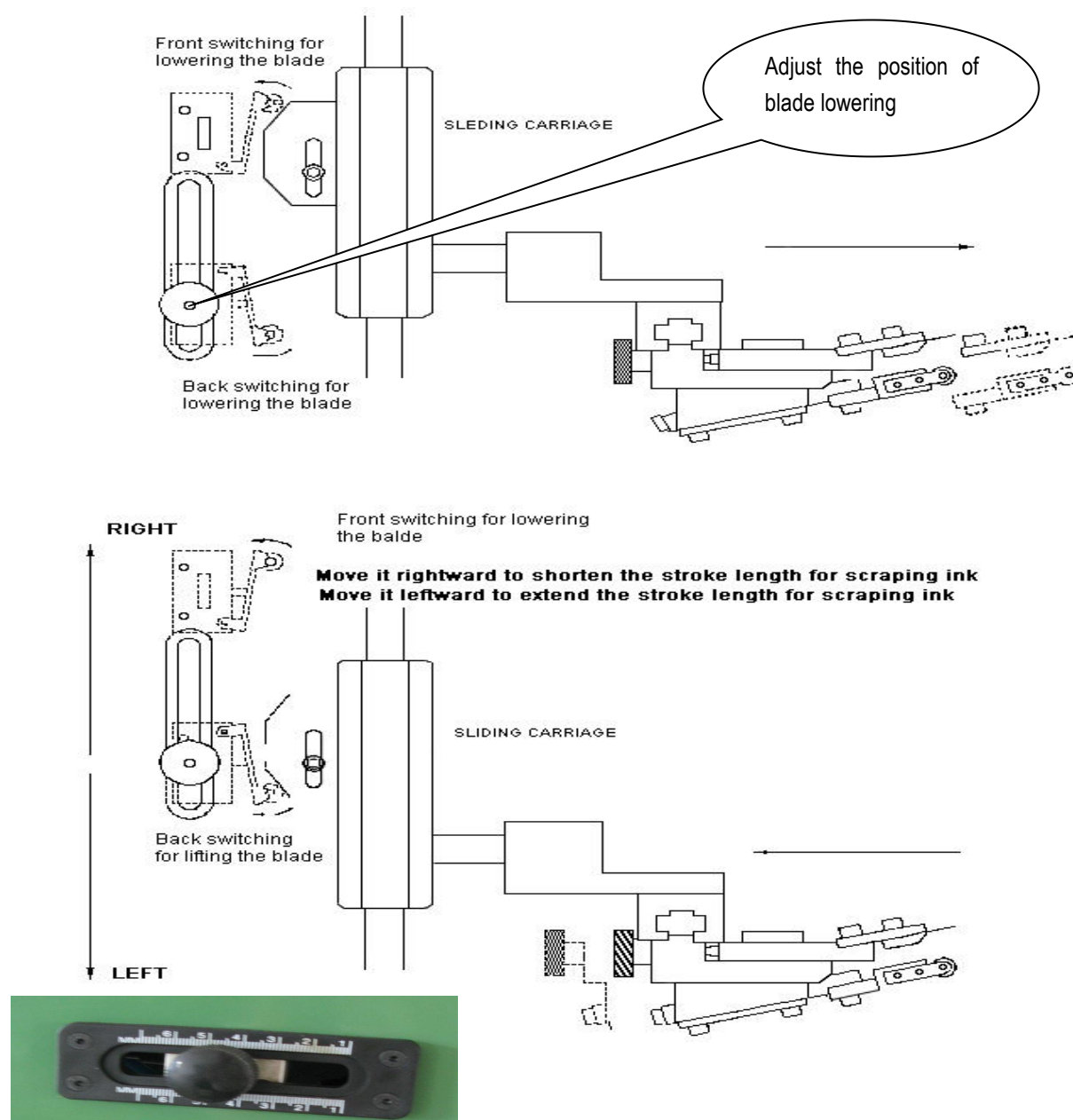
Online contact Skype: yingsuhuakelven QQ: 726986799

Email: sales@lcpadprinter.cn



open the switch and find no display on IC panel, Please check the fuse.

You must push the slide valve of air combine part to connect air tube. Please remember open the air knob, or the compress air can not entering into pad printer. Please adjust the Knob till the pressing meter display 5-7 bar.



There is one Limited switch installed on the screw, When move it to different position, it will touch the Block installed on Blade combination part, Limited switching control the blade up or down. The position decide the position of blade Lowing and lifting.

The best position is lifting up after removing all ink covering on design