



Pad Printer

OPERATION INSTRUCTION

TP1 One color open ink system Pad printer



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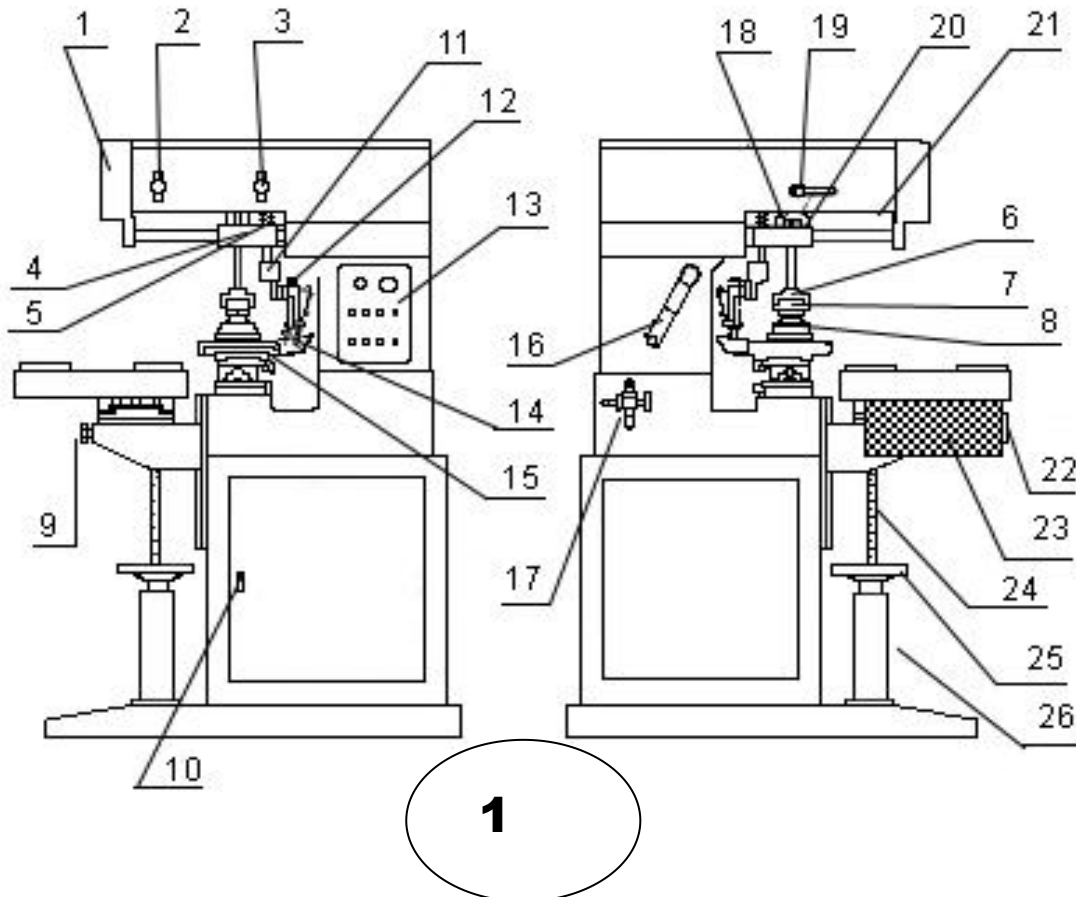
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Preface



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.

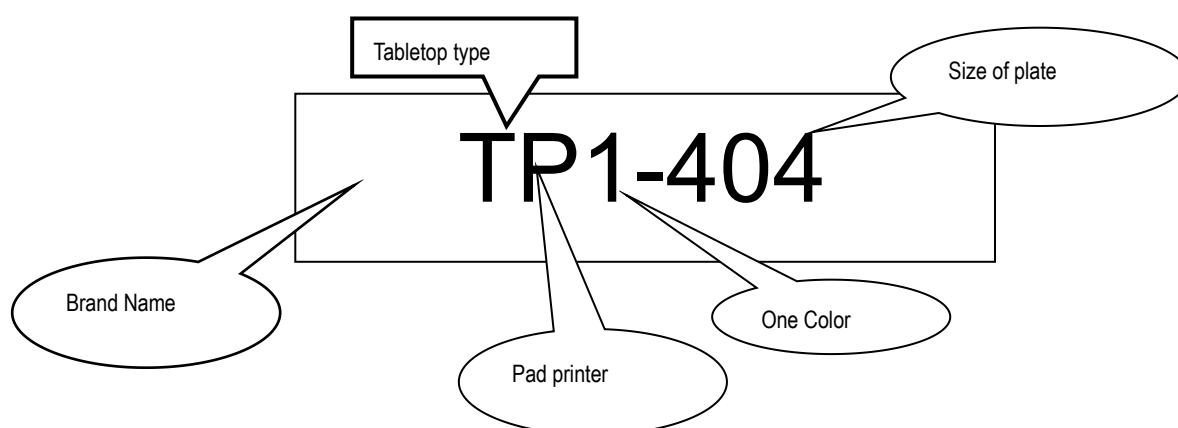
In order to protect the rights and interests of our customers, every printer has been checked and tested strictly before being dispatched from the factory, and we try our best to provide our customers with the perfect after sales service

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



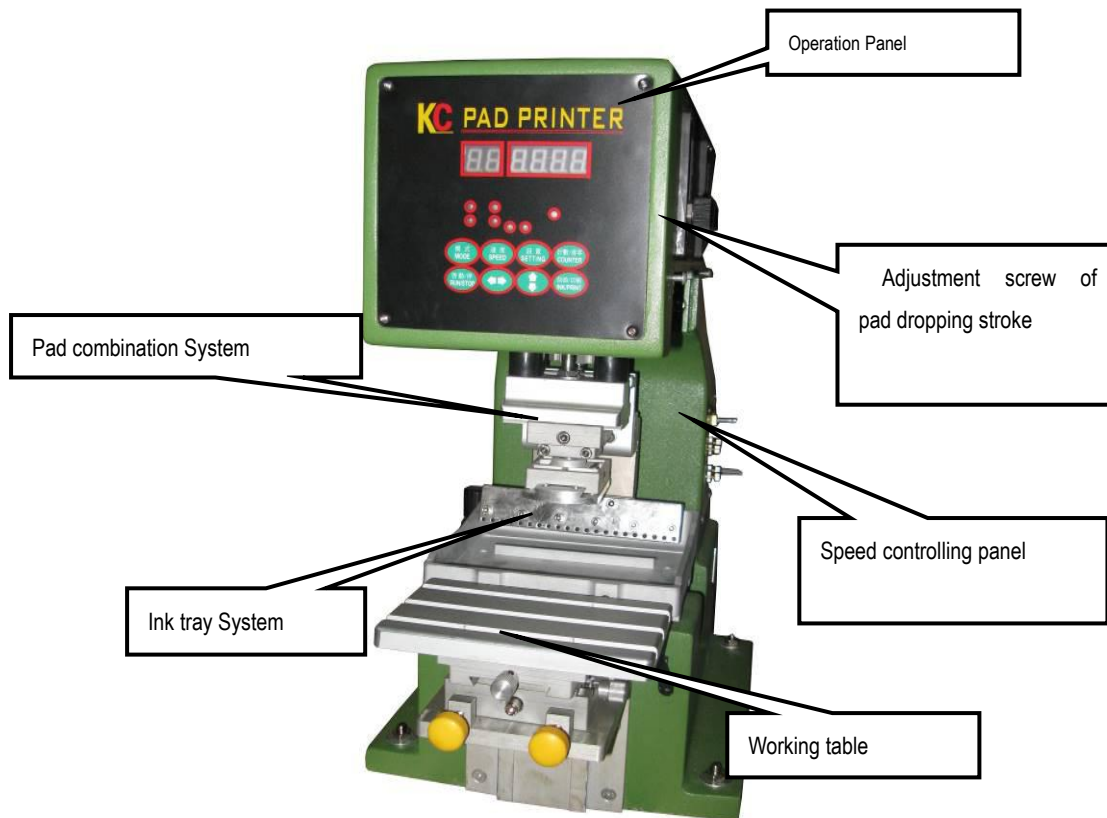
1. Name of parts:

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	Standard Plate size
TP1-404	Pneumatic 1-colour tabletop pad printer	100*100 mm
TP1-604	Pneumatic 1-colour tabletop pad printer	150*100 mm
TP1-804	Pneumatic 1-colour tabletop pad printer	200*100 mm



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 volatilize 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 footpads of machine, when adjusting, put the provided footpads 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. **Drawing 3**

2. Power supply.

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

3. Adjusting the pressure meter.

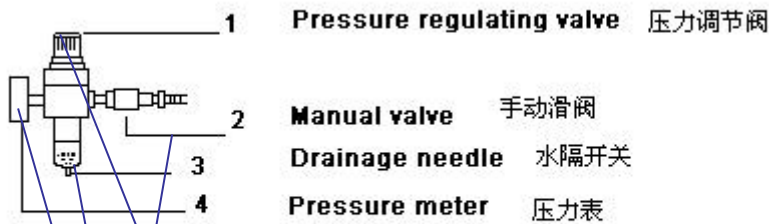
When the machine is working, the pressure of compressed air inbreathed usually should be adjusted to 5 BAR. of

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. **Drawing 2**

4. Testing each mechanical part:

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" (refer to drawing 5) to see whether the pad moves smoothly in front-back direction, and if there are some odd sounds.
- 3> Press the key "Table" (refer to drawing 5) to see if the pad moves normally in vertical direction, and if the height of pad needs to be adjusted.



- 4> Press the "setting" (refer to drawing 5) to see if the shuttle or conveyor moves normally, and then enter the automatic printing mode. To see if the slide speed of shuttle or 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)

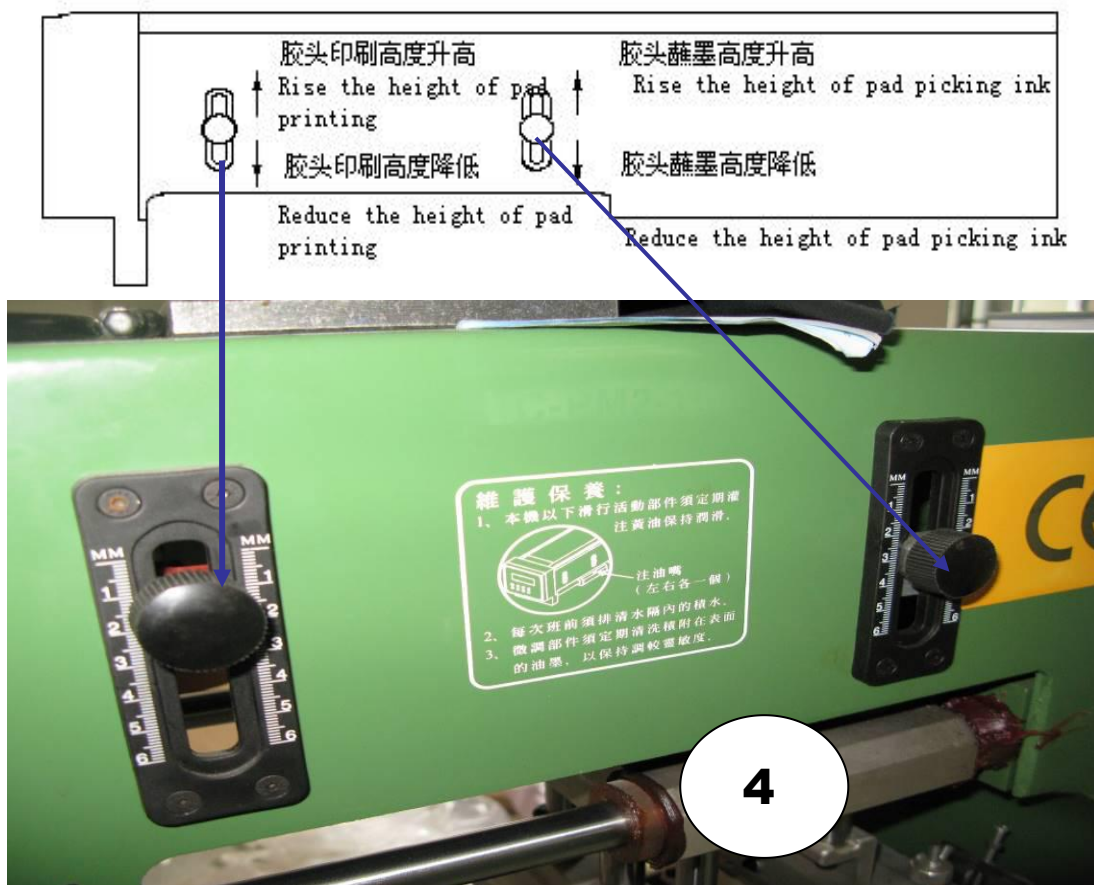
7. Fixing the work piece to the best position

1>adjustment of the 1-color pad printer (see drawing9)

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:

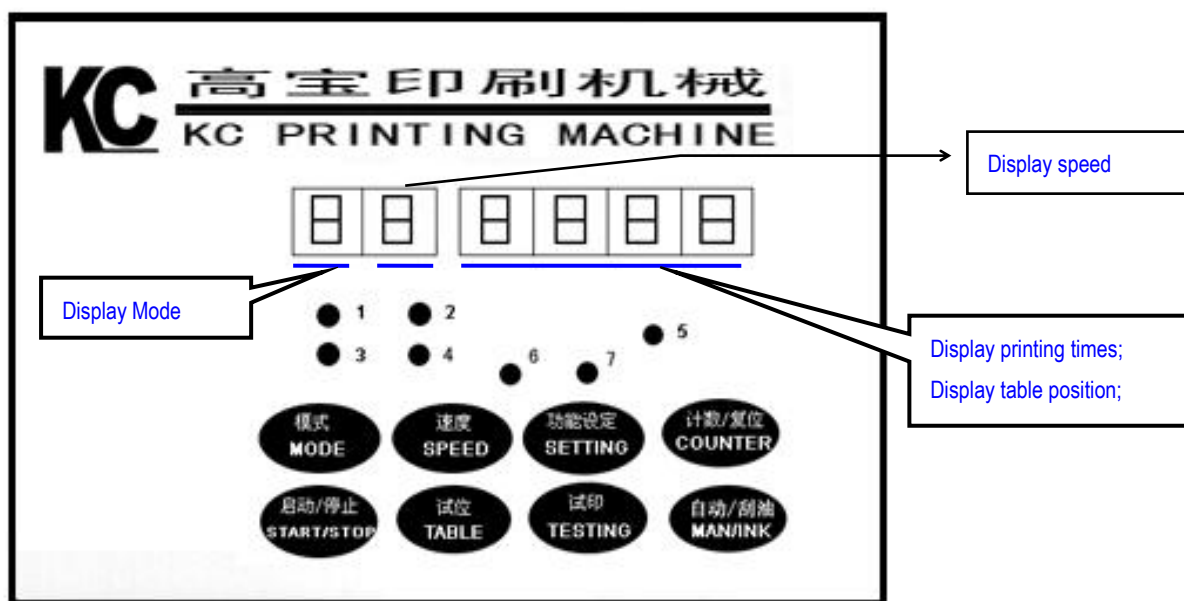


- A. if move the work piece forward or backward, first, loosen the setscrew(8), and then turn the inching knob(5) turn it anticlockwise, the work piece moves backward, turn it clockwise, the work piece moves forward until to the right position, and tighten the setscrew(8) at last.
- B. If move the work piece leftward or 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.

4. IC Panel



Commonly Functions of the keys: Drawing 5

1. **"Start/Stop"**: press this key at any time to start or stop the ongoing operation.
2. **"Auto/Ink"**: switching between the fully automatic printing mode and automatic ink-scraping mode. Press it once, the fully automatic ink-scraping mode (Indication light "5" lights up) changes to the automatic ink-scraping mode (Indication light "5" quenches), or vice versa, and needn't to stop the machine. With the indication light "5" lights up, this indicates the fully automatic printing mode. With indication light "5" quenches, which indicates the automatic ink-scraping mode. This key also has an intellectual function that while the machine has stopped, press this key until



the indicator of "Speed" gets dim, then stop pressing, and the pad will begin running downwards and upwards nonstop. You can press the key "Start/Stop" to quit this mode, and the indicator will return to its former brightness.

3. **"Test"**: in the state of stop, press it every time, the pad will run one stroke in vertical direction.
4. **"Table"**: in the state of stop, press it every time, the pad will run forward and backward once.
5. **"Setting"**: in the state of stop, press it every time, the last digit of the counter will display a half "0", then the machine enters the "Setting" mode, meanwhile, the shuttle or conveyor transports one work piece, and then press it one more time, the worktable will transport one more work piece; you can manipulate other keys to continue the setting. While the printing position and printing quality is satisfactory after setting, then press this key for more than 2 seconds and stop pressing it till the counter reset, then the worktable will return to its original position. After the machine entering the "Setting" mode, the counter stops counting and keeps its former number unchanged, and after quitting the "Setting" mode, the machine will begin running according to the mode and speed that have been set in advance.
6. **"Counter"**: No matter in which mode, press this key once, the brightness of the counter will reduce by 50%, which means pausing the counting, and press it again, the brightness will restore, which means begin counting. In the state of stop, press this key for about 2~3 seconds till the counter reset.
7. **"Mode"**: Switching from "0"~"9"~dull "1"~ dull "2", press this key every time, the indication digit will add one, the indication digits are as following:

"0": dipping ink once, printing once.

This mode is standard mode of One color pad printer, under this mode, The pad will pick up ink one time and print one time. Pad printer run under auto-one color pad printing state.

"1": dipping ink once, printing once, and the conveyor transports one work piece.

One color pad printer will not work under this mode, So, Please do not enter into the mode, If you enter into the mode, Please shut off the power beside the pad printer and turn on it again. Then set other mode.

"2": dipping ink once, printing once, and the conveyor transports two work pieces.

One color pad printer will not work under this mode, So, Please do not enter into the mode, If you enter into the mode, Please shut off the power beside the pad printer and turn on it again. Then set other mode.

"3": dipping ink once, printing twice, and the worktable of 2-colour pad printer shuttles.

Under this mode, One color pad printer will pick up ink one time and print two times, This mode will help you find overprint precision . If you think the speed of print the second time, Please adjust it:

Press the key: **SPEED** till the LED of Speed display become dark, Then press the key of **"SETTING"** to more big number. The bigger number, the more fast speed. Then start the machine.

"4": dipping ink once, printing 4 times, and the worktable of 4-colour pad printer shuttles.

Under this mode, One color pad printer will pick up ink one time and print four times, this mode will help you find overprint precision , If you think the speed between one time and time. Press the key: **SPEED** till the LED of Speed display become dark, Then press the key of **"SETTING"** to more big number. The bigger number, the more fast speed. Then start the machine.

"5": dipping ink twice, printing once, and the conveyor transports 1 work pieces.

One color pad printer will not work under this mode, So, Please do not enter into the mode, If you enter into the mode, Please shut off the power beside the pad printer and turn on it again. Then set other mode.

"6": dipping ink twice, printing once, and the conveyor transports 2 work pieces.

One color pad printer will not work under this mode, So, Please do not enter into the mode, If you enter into the mode,



Please shut off the power beside the pad printer and turn on it again. Then set other mode.

“7”: dipping ink twice, printing twice, and the worktable of 2-colour pad printer shuttles.

Under this mode, One color pad printer will pick up ink two time and print two times, this mode will help you get more thick ink film , If you think the speed between one time and time. Press the key: SPEED till the LED of Speed display become dark, Then press the key of “SETTING” to more big number. The bigger number, the more fast speed. Then start the machine.

“8”: dipping ink twice, printing 4 times, and the worktable of 4-colour pad printer shuttles.

Under this mode, One color pad printer will pick up ink two time and print four times, this mode will help you get more thick ink film , If you think the speed between one time and time. Press the key: SPEED till the LED of Speed display become dark, Then press the key of “SETTING” to more big number. The bigger number, the more fast speed. Then start the machine.

“9”: dipping ink once, printing once, the pad just stop there after printing.

This mode is Semi-auto mode of One color pad printer, under this mode, The pad will pick up ink one time and print one time. When you press the foot switch, the machine will print one time.

Dull “1”: dipping ink once, printing 3 times, and the worktable of 3-colour pad printer shuttles.

Under this mode, The pad will pick up ink one time and print three times.

Dull “2”: dipping ink twice, printing 3 times, and the worktable of 3-colour pad printer shuttles.

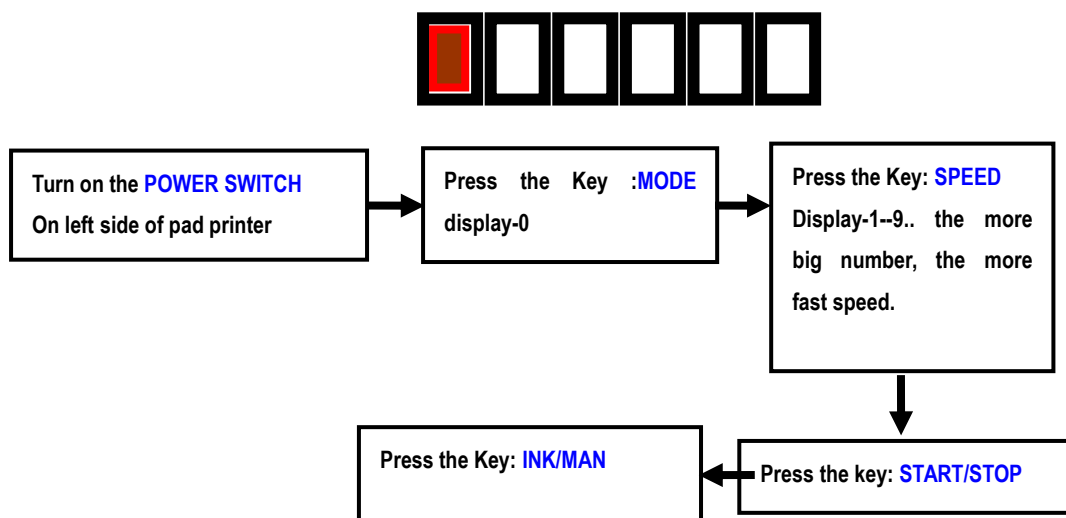
Under this mode, The pad will pick up ink two time and print three times.

8. **“Speed”**: From level 0~9, from slow to fast. (In the state of shuttling, press this key till the indication digit gets dim, and then stop pressing. While, press the key “Setting” at the same time, you can set the “internal delay level” from 0~9, which is about 6~0 seconds, in order to make the shuttle keep pace with the pad.)

Important notice.

We suggest you operate one color pad printer under the mode: 0 and 9.

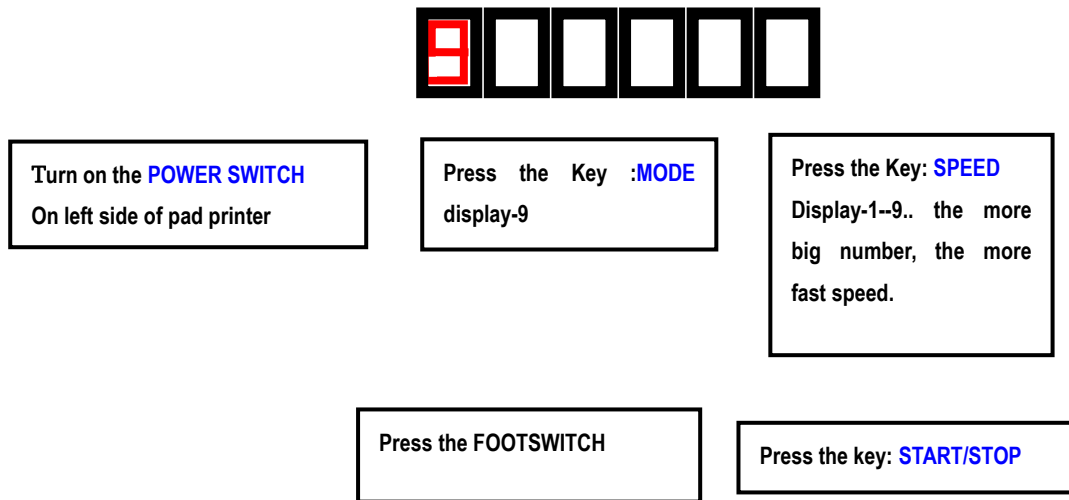
0- Full-automatically operation mode;





9- Semi-automatically operation Mode.

Semi-automatically operation mode drive with footswitch. Some operator perhaps are not proficient with machine. The machine will print when you press the foot switch installed under the machine.



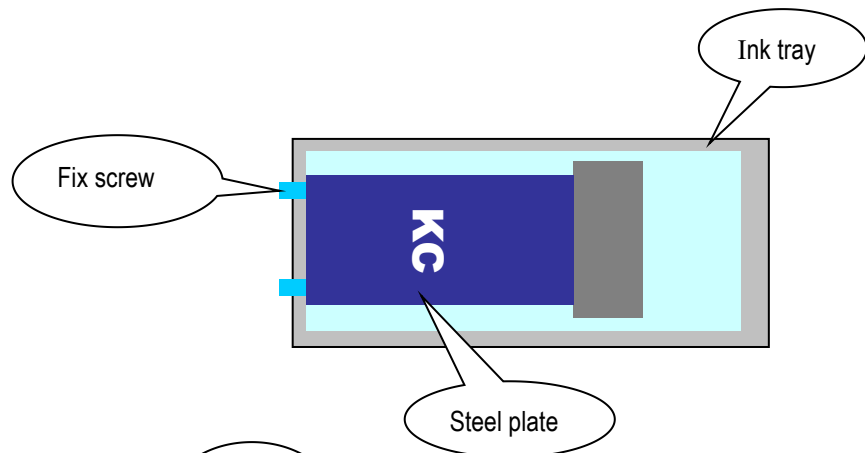
After checking all the processes above and there is nothing wrong, then you can begin printing.

5. Operation Process of machine

1) Connecting

power supply

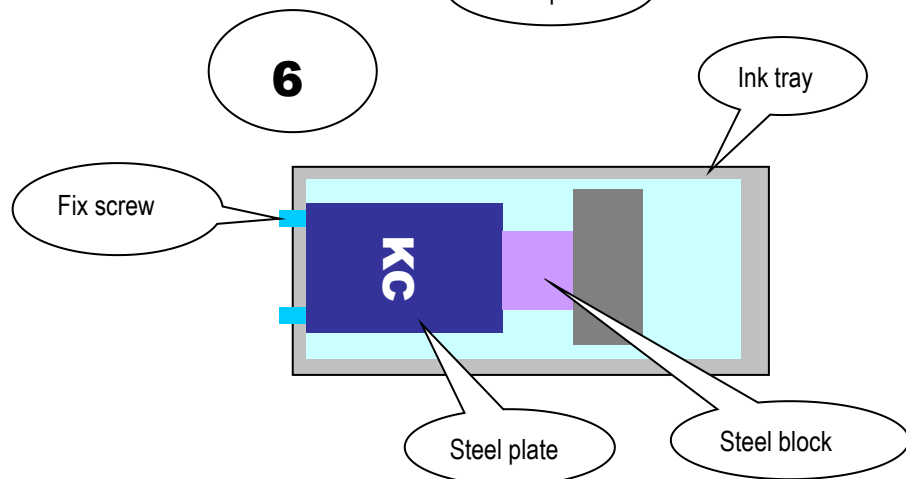
220V/50HZ to machine; Some countries use one phase 110V Voltage, we will change the power supply according to your requirements, please confirm it before you ordering our machine.



2) Connecting

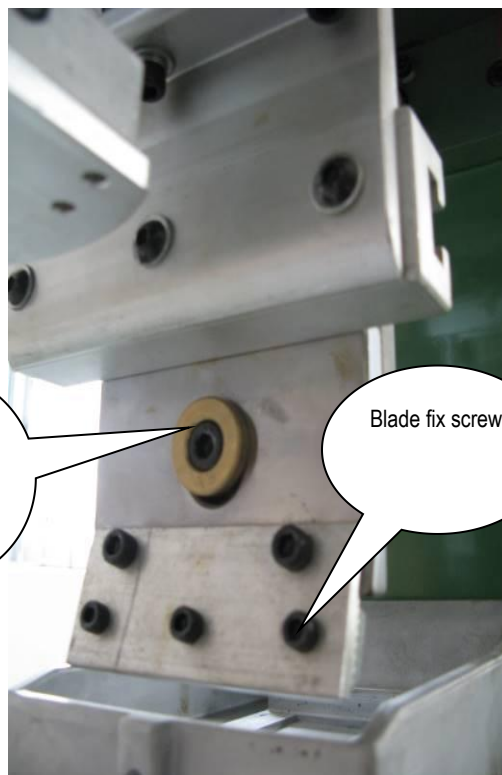
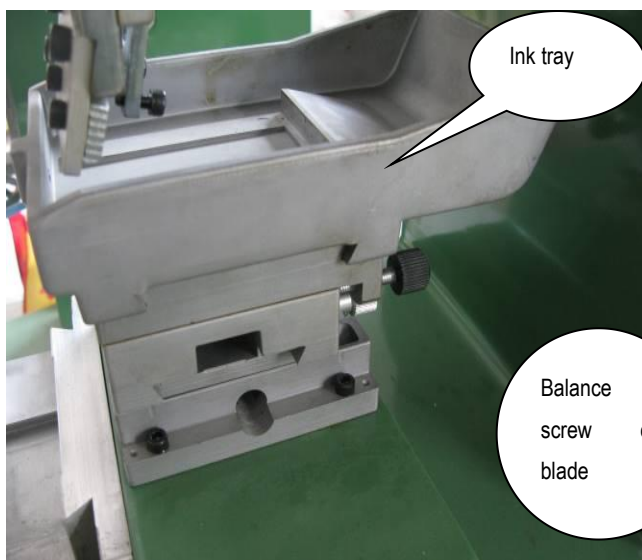
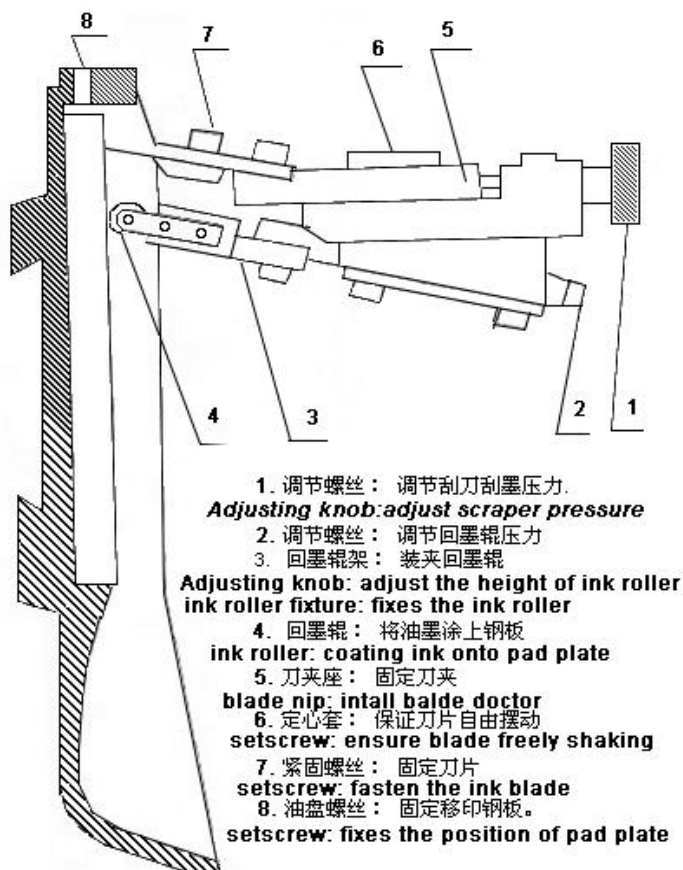
with compress air.

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. **Drawing 6**

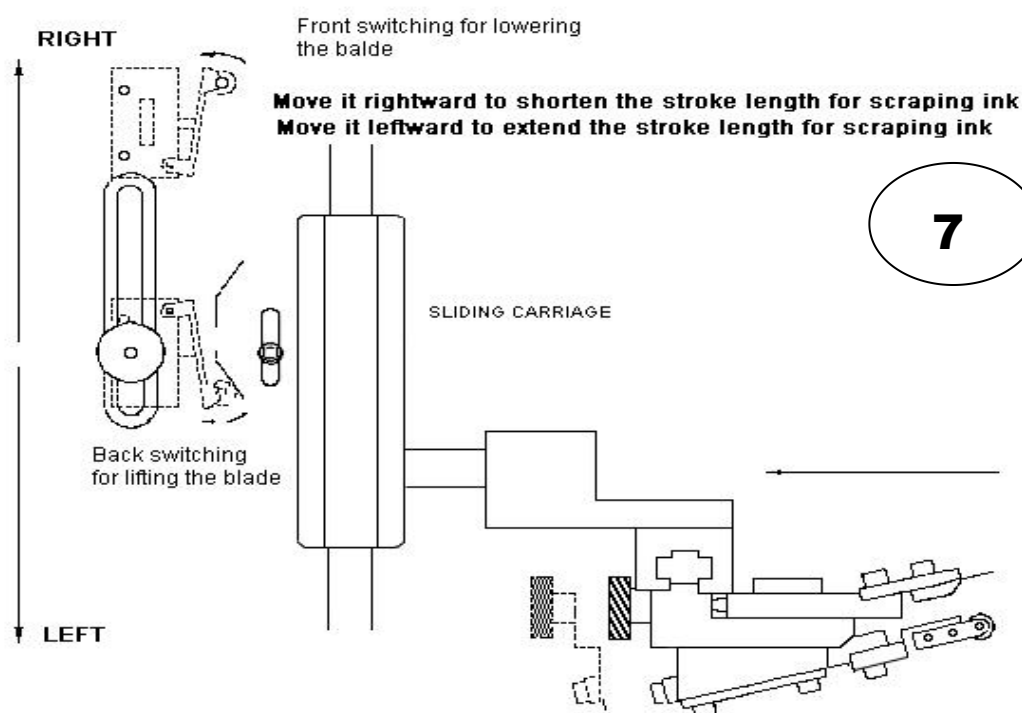
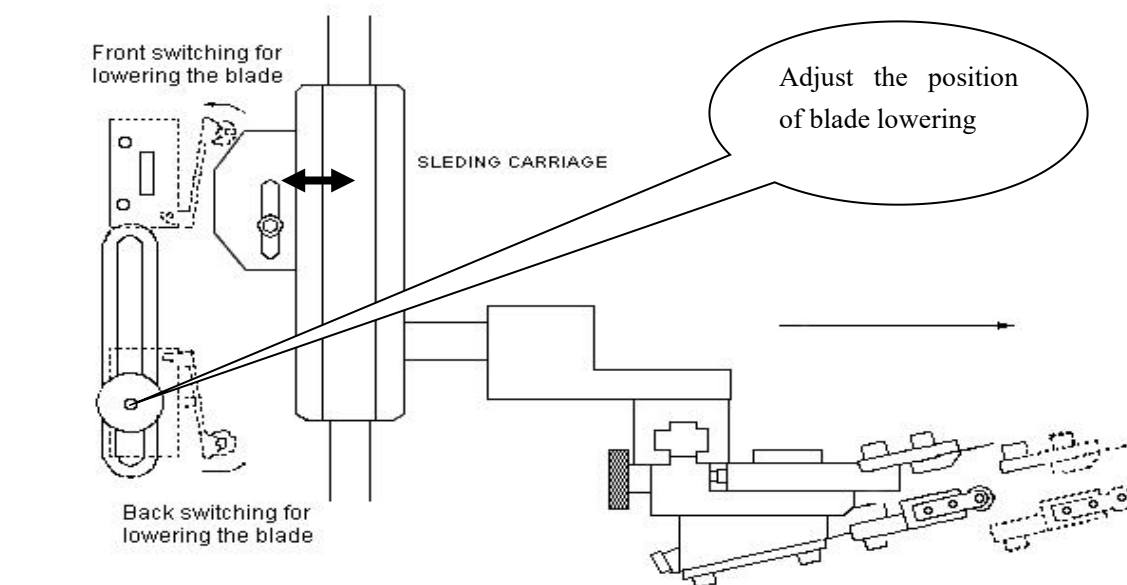
Loose the screw (8) at the front end of in-tray and put the pad plate into it, then fix the screw. Maybe you use more smaller size plate, Please add one pc steel block into in-tray

4) 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 can remove the ink when printing. Please make sure the blade parallel with plate, the fix the screw (7).

5) Install ink roller.

There are one set ink roller (4) in tool box, Please install it according to the drawing.



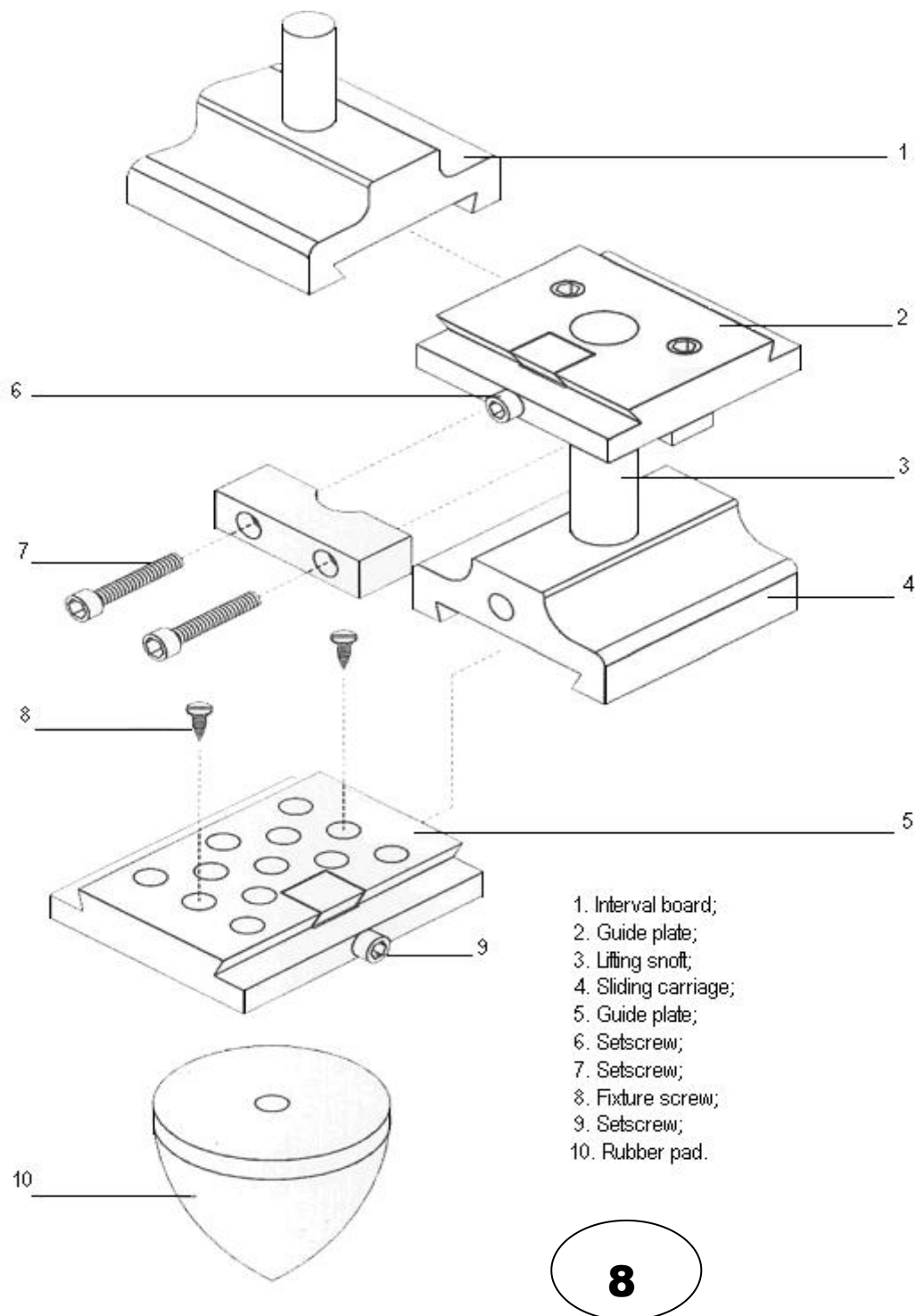
6) Adding ink and thinner.

Different base materials substrate need different ink types, Marabou ink is famous ink brand in the world, LC 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 enquire to our sales representative. Any ink need testing before printing. First adding ink to the in-tray with ink adjustment blade, then pour some thinner according to the percent of 1:5, Start the machine at the key of to make the blade and ink roller to coat ink, if the blade can not remove ink coated on the plate, Please adjust the screw (1) or adjust the pressure button on the side of pad printer to increase the pressure of blade a bit till the blade remove the ink completely.



7) 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 one 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.

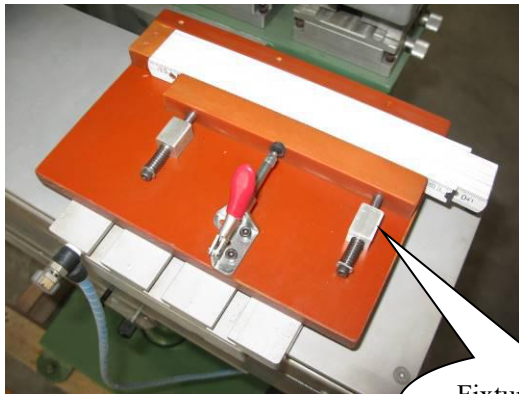


7) Install fixture.

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.



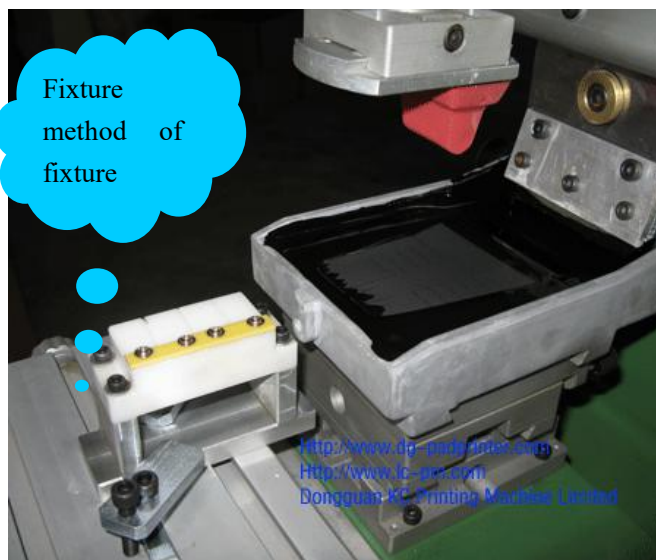
There are T model trench on the working table. It used to fix the fixture when printing. Before printing ,please put the fixture



Fixture for ruler



Fixture for disk



Printing testing drawing

9

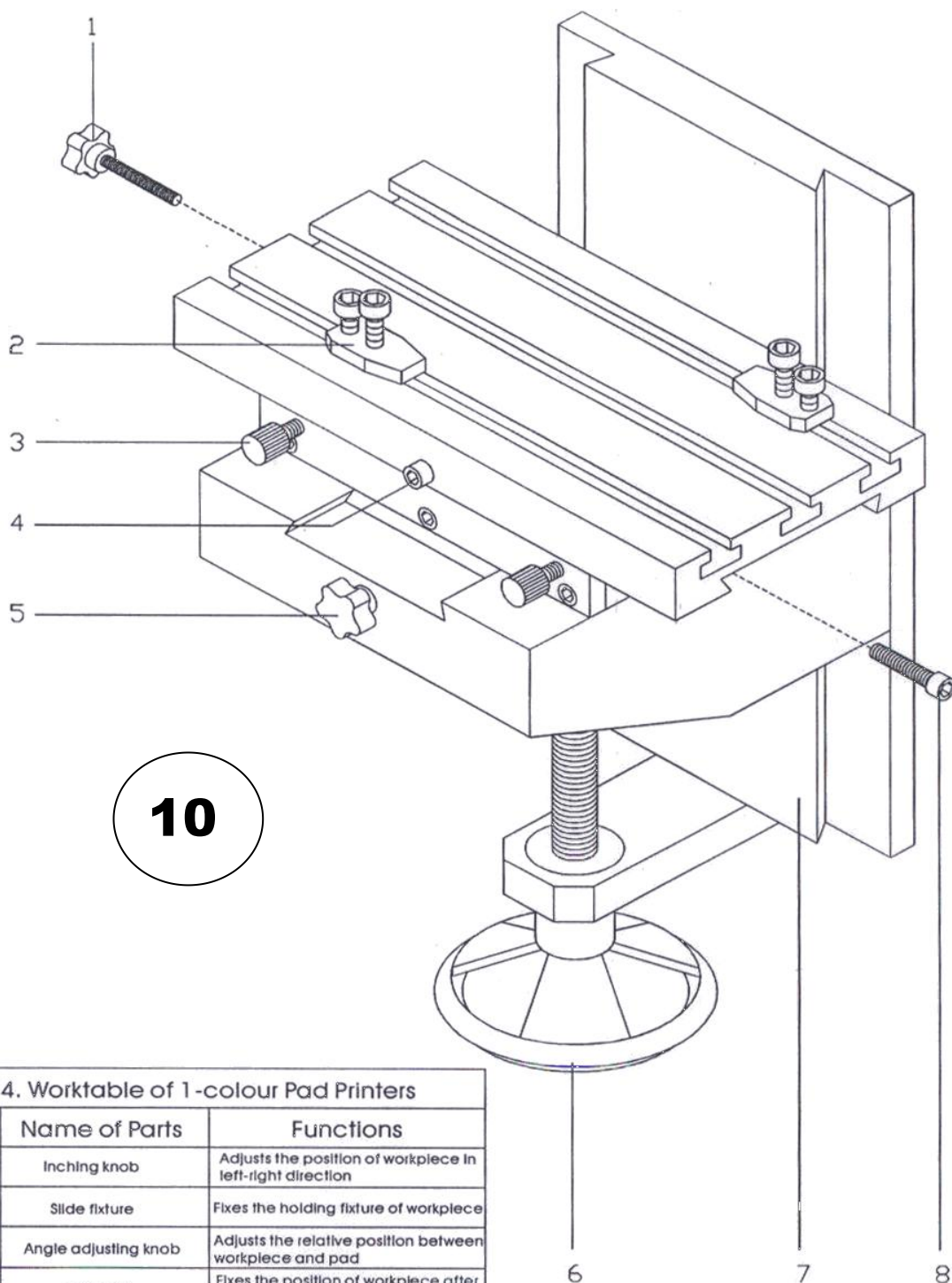
onto the working table, adjust the position of rubber pad so that the rubber pad can print the words to a correct position, then fix the screw. Precision position adjustment need to use the micro-adjustment screw of working table.

8) 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).

9) Test printing.

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



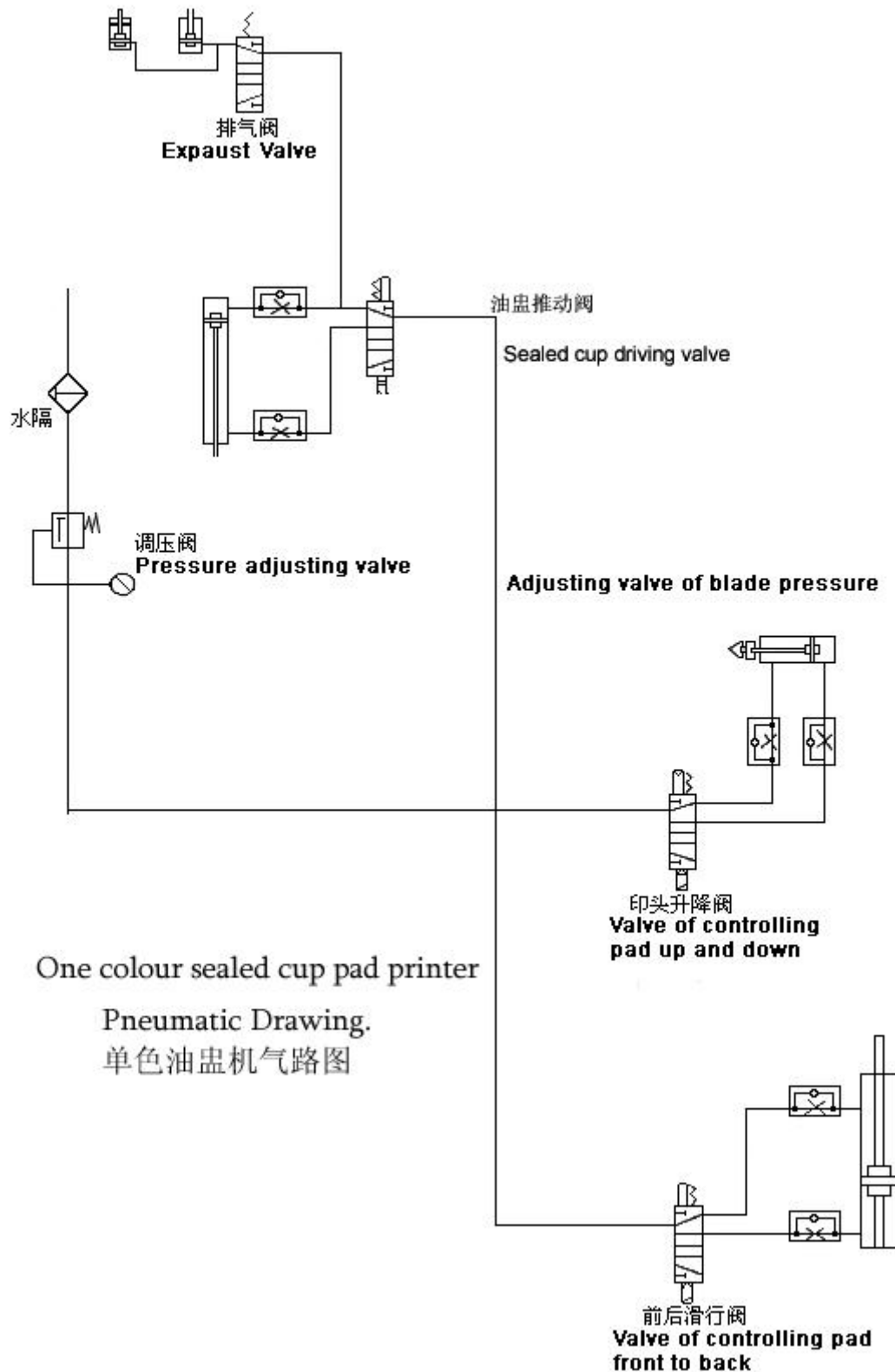
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4. Worktable of 1-colour Pad Printers		
No .	Name of Parts	Functions
1	Inching knob	Adjusts the position of workpiece in left-right direction
2	Slide fixture	Fixes the holding fixture of workpiece
3	Angle adjusting knob	Adjusts the relative position between workpiece and pad
4	Setscrew	Fixes the position of workpiece after adjusting it in left-right direction
5	Inching knob	Adjusts the position of workpiece in front-back direction
6	Handwheel	Adjusts the height of worktable
7	Guide rail	Guides the vertical side of worktable
8	Setscrew	Fixes the position of workpiece after adjusting it in front-back direction

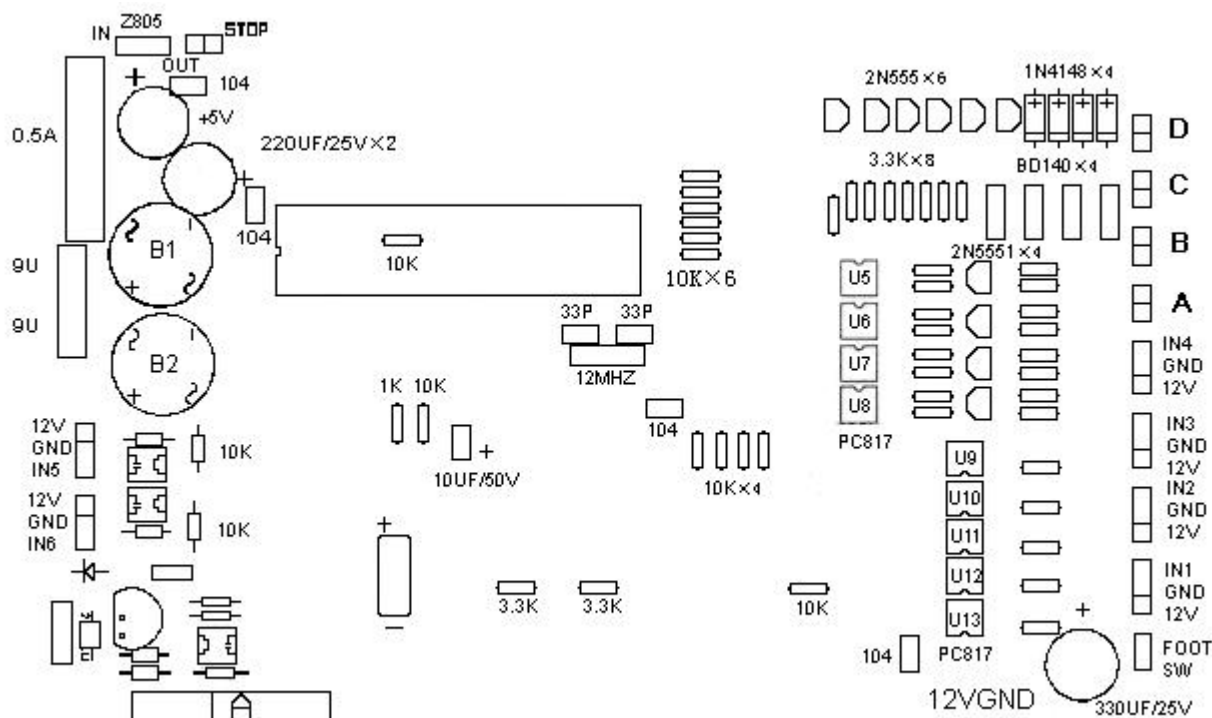
How to adjust working table



6. Pneumatic-controlling drawing.



7. Circuit diagram



Instructions:

D----connects to solenoid valve of the last two cylinders for sliding the shuttle.(the 4 color pad printer with shuttle)

C----connects to solenoid valve for sliding the conveyor (pad printer with conveyor)/connects to solenoid valve of the first two cylinders for sliding the shuttle (the 4-colour pad printer with shuttle)/connects to solenoid valve for sliding the shuttle (the 2-colour pad printer with shuttle)

B----connects to solenoid valve for lifting the pad A----connects to solenoid valve sliding the sliding carriage.

IN4

GND ----Connects to the proximity sensor for controlling the down stroke length of the pad in its forwards stroke

12V

IN3

GND -----Connects to the proximity sensor for controlling the down stroke length of the pad in its forwards stroke.

12V

IN2

GND -----Connects to the proximity sensor for controlling the up stroke length of the pad in its forwards stroke.

12V

IN1

GND ----Connects to the proximity sensor for controlling the up stroke length of the pad in its forwards stroke

12V . FOOTSW-----connects to the foot switch.

12v

GND

IN5----Connects to the proximity sensor of the conveyor cylinder

12v

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 contaminative 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 accidental 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.

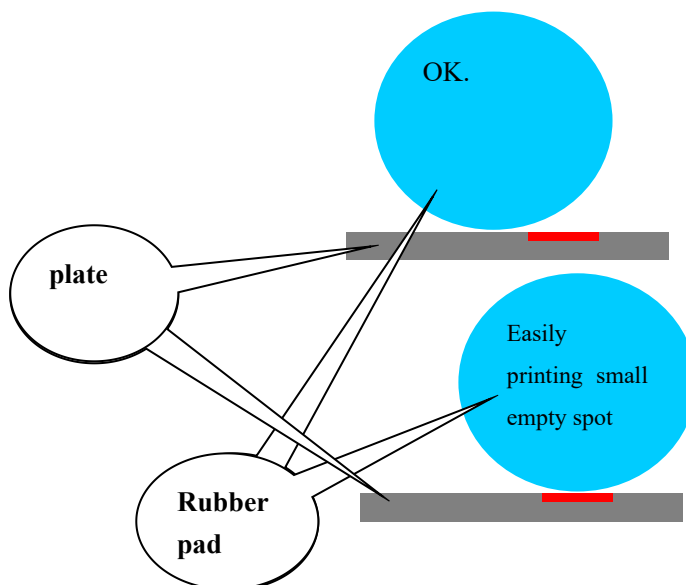
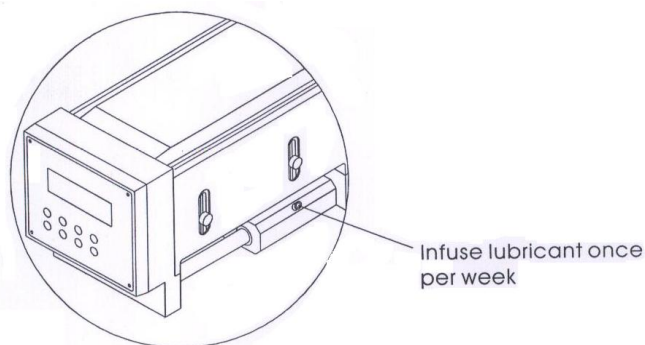
3. Usage of the ink:

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

- **Speed Panel of pad printer**

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

- **Power supply panel**

After you connect with power supply, you must open the switch of mainly power panel to start the machine. If you open the switch and find no display on IC panel, Please check the fuse.



- Air source connecting.

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.

