Weldo Automatic 8 Colors-Dispenser Machine Instruction Manual

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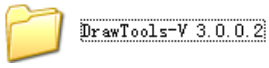
- June 21, 2011

CONTENT

CHAPTER 1 、THE INSTALLATION OF THE MACHINE

1.1 Installation of software， USB-485 driven installation and the serial port setting

[1]Installation of the software

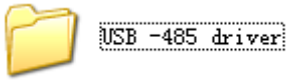
Find and open the folder 

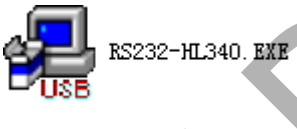
, send 

to desktop as shortcut.

[2]Installation of USB-485 driven

If no cluster communication port(COM) in computer, an USB-485 deriver should be installed as following:

(1) open the folder 

,double click 

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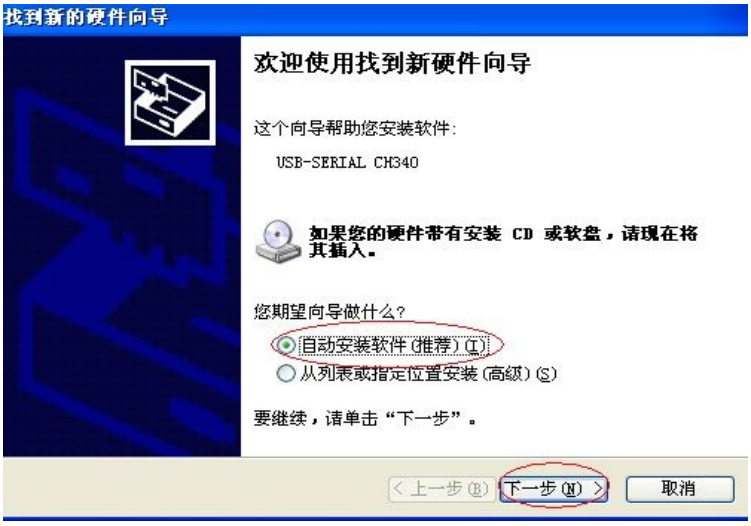
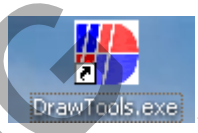
(2) Click “install” once

(3) Insert the LOC’s USB plug in a USB jack on computer, when a interface of “find a hardware guide” pop-up, select “install software automatically”, and click “next”.

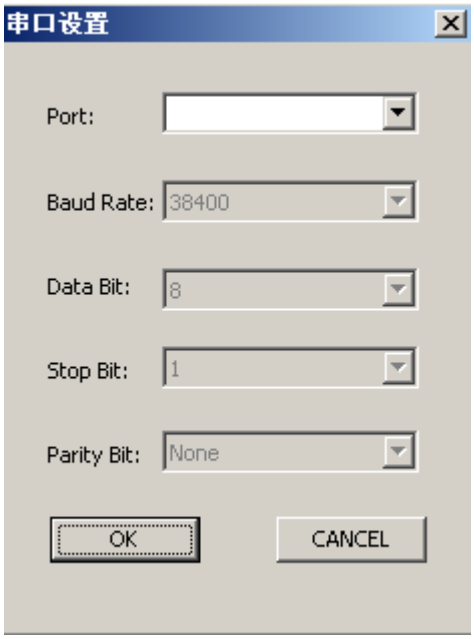


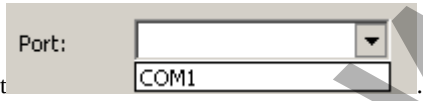
（4）Click “finish”, and USB-485 driver has been installed successfully

1.3 Serial port setting:

Double click 

, open “Draw Tools” ,click Controller , choose Serial port settings ,the interface will pup out



Choose the communication port 

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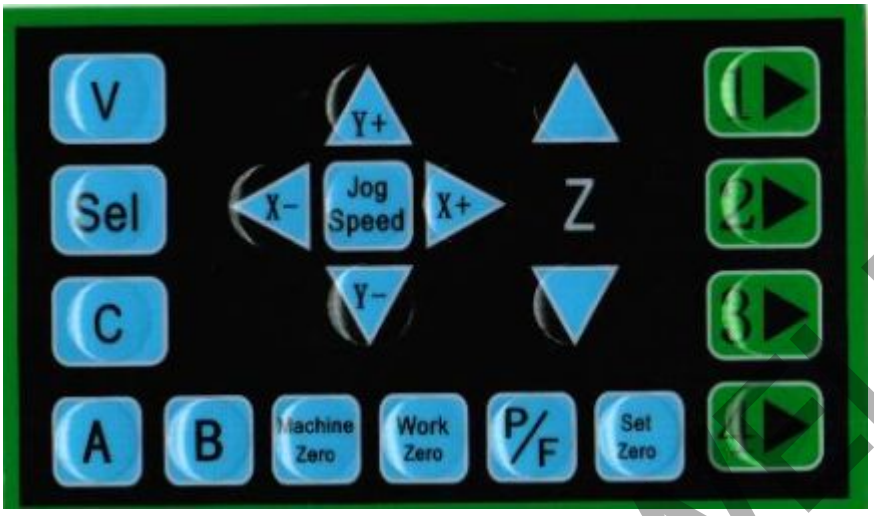
Notice: change to different USB jack, should change to corresponding serial port, otherwise, can not export the process file information to the dispenser machine.

CHAPTER 2 THE INSTRUCTION OF THE OPERATION PANEL

AND AIR PRESSION REGULATOR VALVE

2.1 THE INSTRUCTION OF THE OPERATION PANEL



V(Valve): Release Material that mean give off air bubble from the pipe.

C(Cylinder): Select and compress down the needle shelve belong to the Pin

Sel(Select Pin) : select and shift pin(pin#1, pin#2,pin#3,pin#4,pin#5,pin#6,pin#7,pin#8)

x- x+: manually move needle shelves belong to the pin in right and left direction.

Y- Y+: manually move needle shelves belong to the pin in forward and back direction.

Z- Z+: manually move needle shelves belong to the pin in up and down direction.

Jog Speed: Switch the speed of manual movement of pin, there are three degree: Fast, Middle and Slow.

(Install the pin and aim pin at the mold ,please shift the speed of the pin to mid and slowly)

work zero : Return to process origin, and the needle shelve belong to the pin move automatically

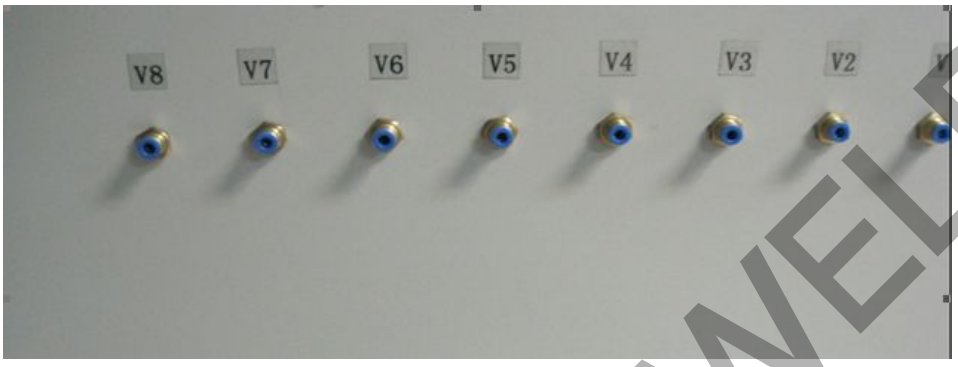
P/F: Shift Pin operation/ file operation.

Set Zero: Press this key to confirm pin origin and file origin.

1.2.3.4: Chose the number of file to be carried out.

A.B.: need not to operate

2.2 AIR PRESSION REGULATOR VALVE



RV 1: regulate the air pressure for V1

RV3: regulate the air pressure for the V2

RC: the general air regulator valve to control the cylinder C1-C8, regulate the air pressure to 3kgs .

RV5: regulate the air pressure for the V5

RV7: regulate the air pressure for the V7

RV2: regulate the air pressure for the V2

RV4: regulate the air pressure for the V4

RV6: regulate the air pressure for the V6

RV8: regulate the air pressure for the V8

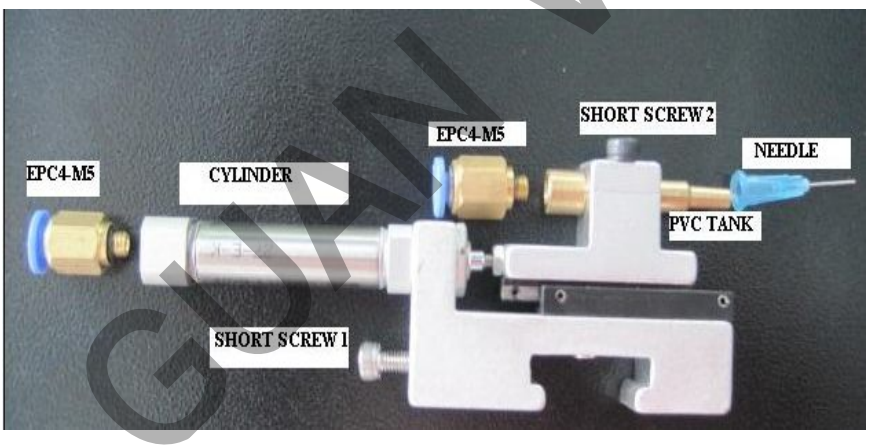
Note: RV1-RV8 the air pressure should be within 4 kgs.

CHAPTER 3 THE INSTALLATION OF THE MACHINE

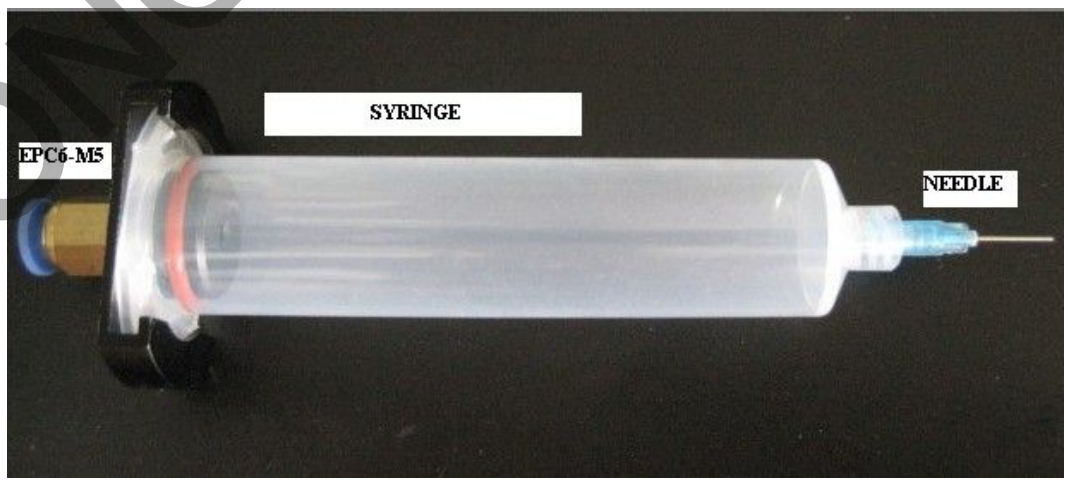
3.1 THE INSTALLATION OF NEEDLE（PIN）SHELVE

Install a needle(pin) shelve on the long rail.

PVC Needle(pin) Shelve Construction	**Function**
EPC4-M5	Connect with the 4 mm pipe
Cylinder	Drive the current needle (pin) moving up and down
PVC tank	Store PVC liquid, connect color pipe and needles (pin).
Short screw 1	Fix the needle(pin) shelve on the rail, and regulate shelve position
Short screw 2	Fix PVC tank and regulate the height of needles(pin)
Notice	A、 When install the needle(pin)shelves , please make sure the shelves in the middle of the rail .especially install more needle(pin) shelves ,the shelves must be within the X axis working distance. B、 According to the product required colors and the size of the mold to confirm the needle (pin) shelves quantity .If need the parallel needles (pin), every needle (pin) should aim at the mold cross firstly, and then fix the shelves on the rail tightly.



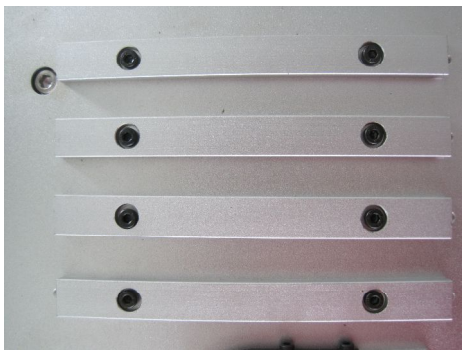
Silicon Needle(pin) Shelve Construction	**Function**
EPC6-M5	Connect with the 6 mm pipe
Cylinder	Drive the current needle(pin) moving up and down
Syringe	Store silicon liquid
Long screw	Fix the needle(pin) shelve on the long rail, and regulate shelve position
Short screw	Fix syringe and regulate the height of needles(pin)
Notice	A.When install the needle(pin) shelves , should make sure the shelves in the middle of the rail .the shelves must be within the X axis working distance B. According to the product required colors and the size of the mold to confirm the needle(pin) shelves quantity .If need the parallel needles(pin), every needle(pin) should aim at the mold cross firstly, and then fix the shelves on the rail tightly.



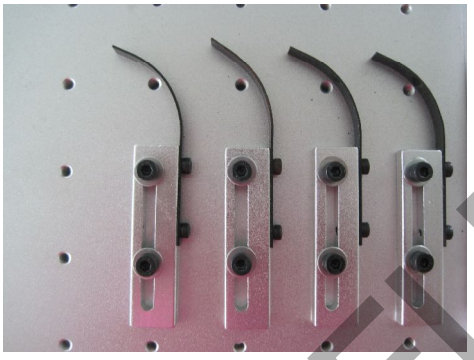
3.2、THE INSTALLATION OF SHORT RAIL

Short Rail: To fix the mold , ensure the mold at proper location.

Clamp : For fixing mold, the clamp consists of fixtures and reeds. There are many tapped holes on the worktable for operator to fix the clamp at proper location according to the size of mold.



SHORT RAIL



CLAMP

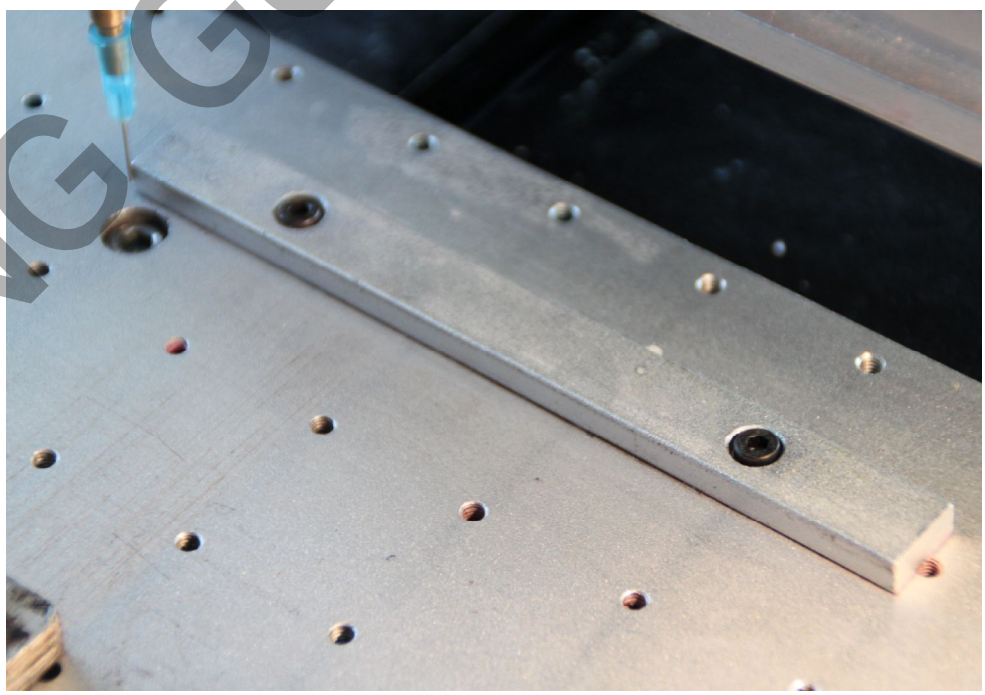
PROCEDURE: fix the short rails in X axis direction and Y axis direction.

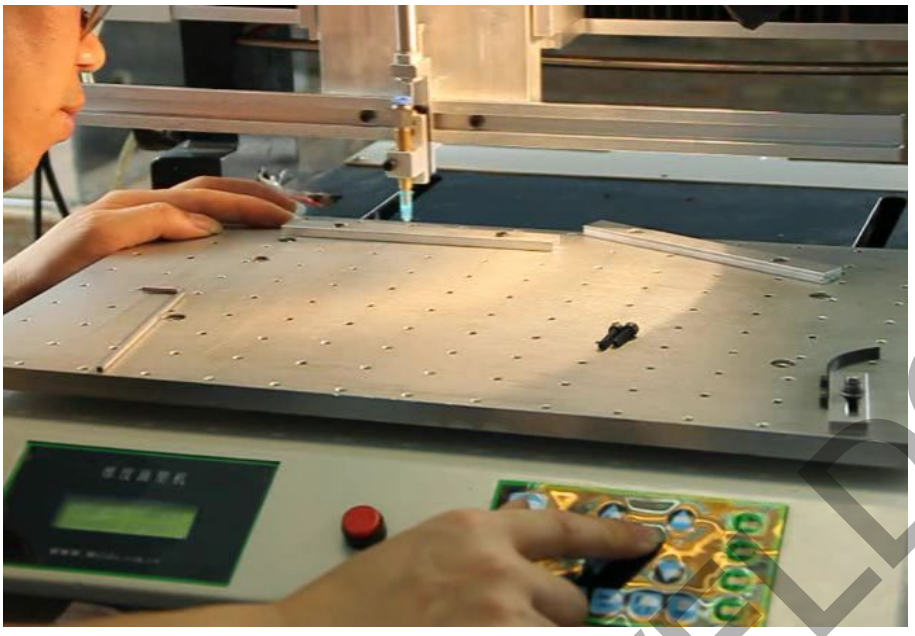
[1] Get a short rail, and fix it in the X axis direction. Press 

to compress down the (needle) pin, and press 

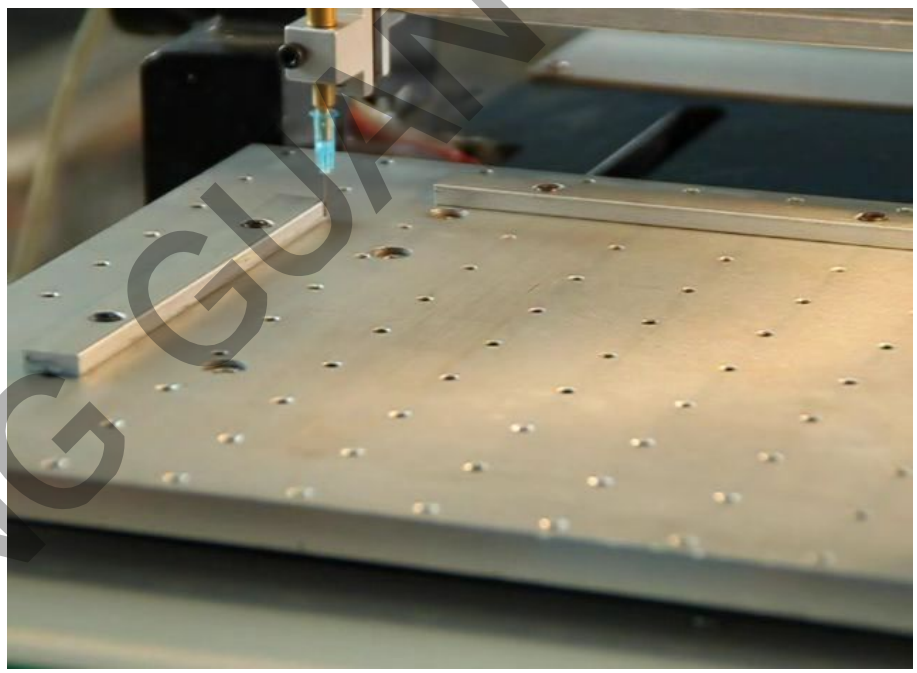
to ensure the pin in the proper height and press 

to move the pin to measure the short rail in X axis direction, ensure the rail upright with the Y axis direction. The pin can close to the short rail ,but touch the rail is not allowed.

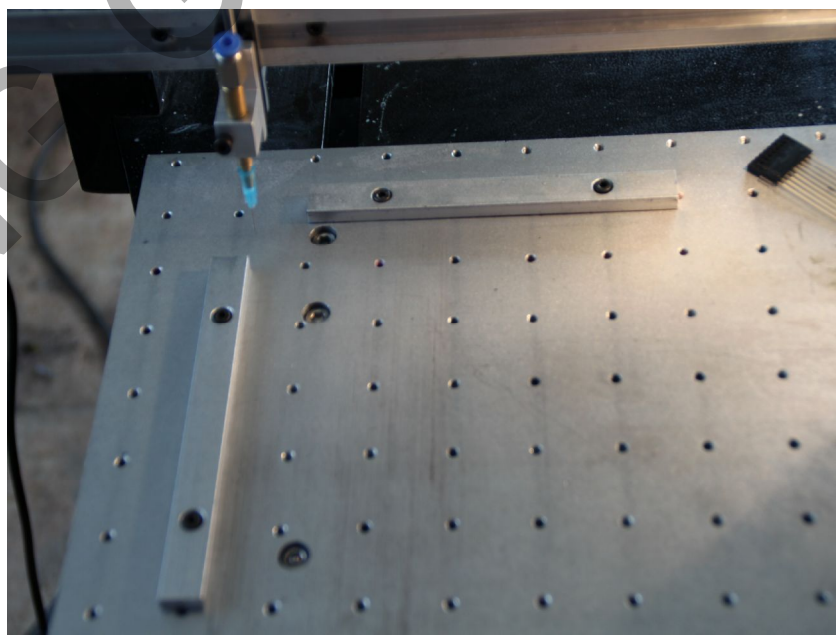




[2] Get a short rail, and fix it in the Y axis direction. Press to move the pin to measure the short rail in Y axis direction, ensure the rail upright with X axis direction.the pin can close to the rail , but touch the rail is not allowed.



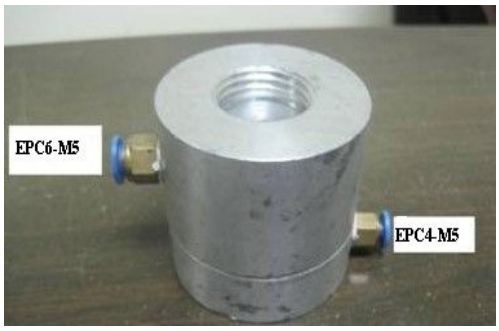
Well Fixed Rail Example:



3、3 THE INSTALLATION OF PVC CHARGING VALVE AND ITS CLEAN WAY

Type:	F60	valve covers ， bearing, EPC4-M5 ,EPC6-M5
	F90	valve covers ， bearing, EPC6-M5

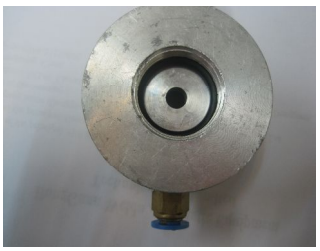
Exampl：（1）Construction of F60



(2) Procedure

(I)Relax screws on the pup and open it

（II）Press F-60 O-seal shape rings in the valve tightly to avoid the liquid flowing from it, install the screws diagonally.

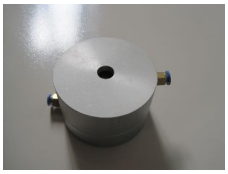


（III）Fix the empty Coca Cola or Pepsi Cola bottle on the valve tightly .

After all the pipes installed in the machine and put the small filtering net on the top of the bottle and feed the colors in it.

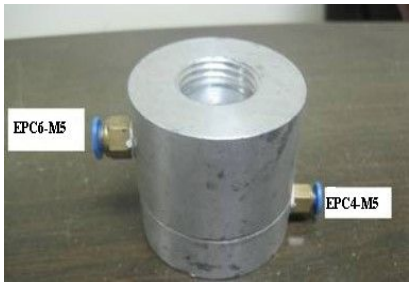
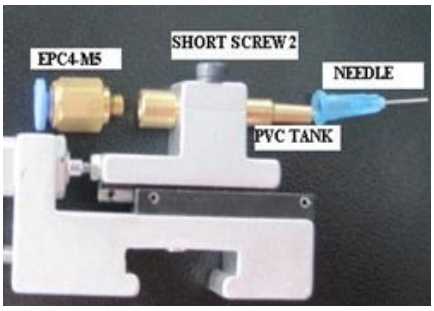
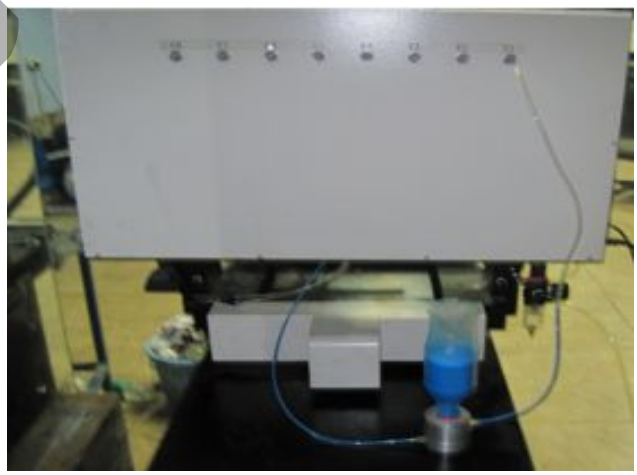
Notice （1）：If inject face color in the mold , F60 charging valve is better .the liquid level should be the same height as the short rail which installed on the working table.

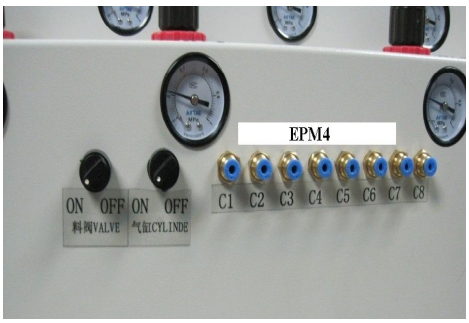
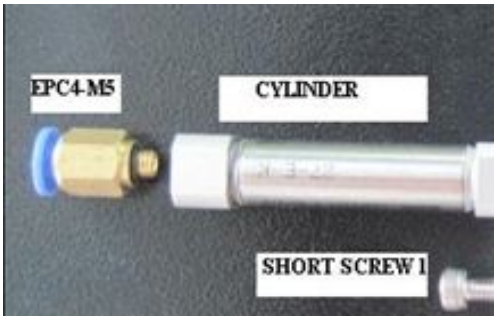
Notice（2）：if inject base color, F90 charging valve is better. The liquid level should be the same height as the short rail that installed in the working table.

When use F90 charging valve , put the valve in a big empty container first，  the valve side that has a hole should be upwards ,and feed the colors into the container. as above image shows

(IV): Maintain and clean up the charging valve : take off the O-seal shape rings from the valve, using PVC oil (banana oil) to clean up it . Use a piece of cloth to wipe the O-seal shape rings. Example as below

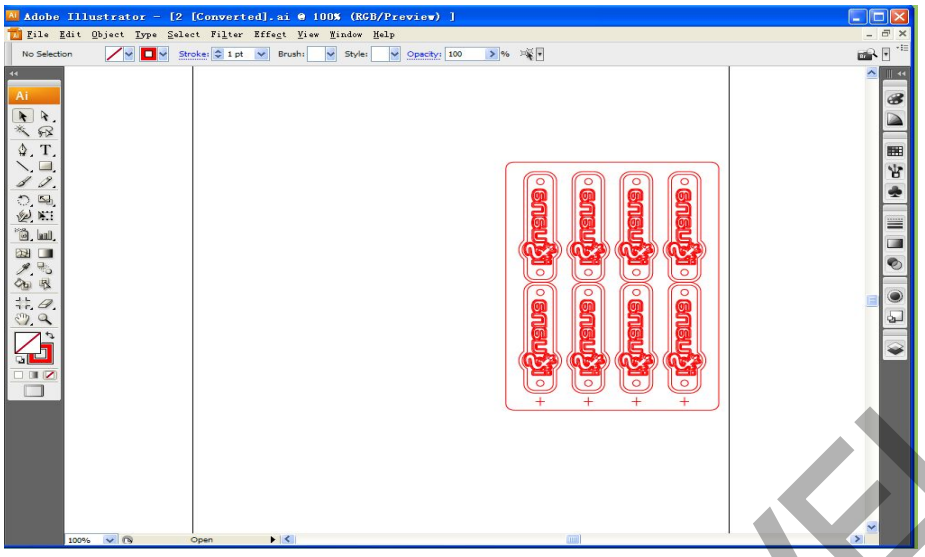
3.4、THE INSTALLATION OF PNEUMATIC SYSTEM

	Pipe type/length / Image	Two 4mm pipes , length 0.7m/pipe	a 6mm pipe / length 0.7m
F60 charging valve		Insert one side of 4mm pipe to the EPC4-M5 F60 tightly .	Insert one side of 6mm pipe to the EPC6-M5 F60 tightly .
EPC4-M5 on PVC tank		another side of 4mm pipe inserted to the EPC4-M5 tightly.	/
V1-V8 : (8 pieces EPM6 represent the machine can dispense 1-8 different colors)	 		Insert another side of 6mm pipe to EPM6 tightly . Example insert to v1

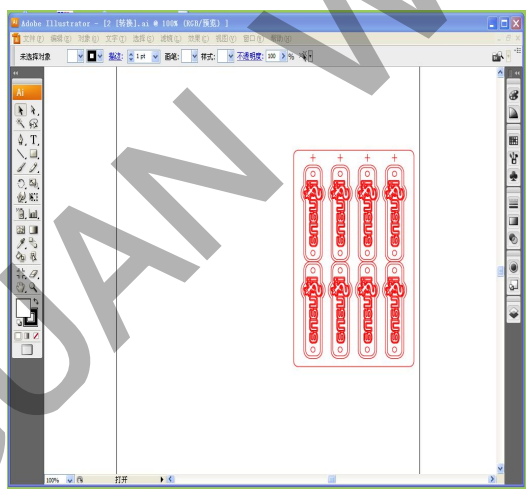
C1-C8 : the EPM4 that in accordance with EPM6 (V1-V8) control the cylinder		Insert one side of 4mm pipe to EPM4 tightly. ⇩		
Cylinder	 	another side of 4mm pipe inserted to the EPC4-M5 on cylinder		
Notice	1、The pipe connects F90 charging valve with V1-V8, and PVC tank, the length of the pipe is about 1.2 m. The pipe should be trimmed tidy. All the length of the pipe should be according to the distance between the charging valve and the machine. 2、When the charging valve connects with the machine , the valve can not be incline ,otherwise the liquid will go back to the solenoid valve and lead to the machine can not work.			

CHAPTER 4、CONVERT THE MOLD GRAPH FROM AI (CAD)FORMAT TO JPG FORMAT

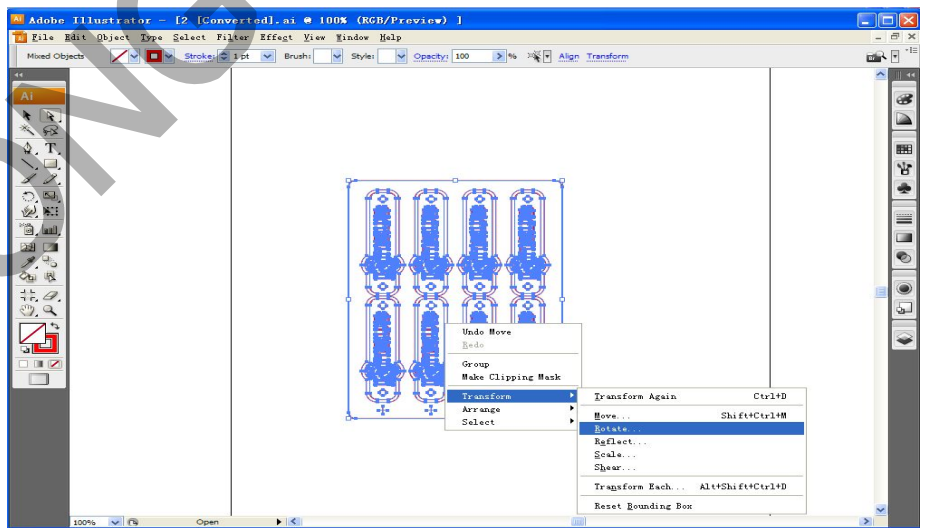
Get a AI graph ,example as below



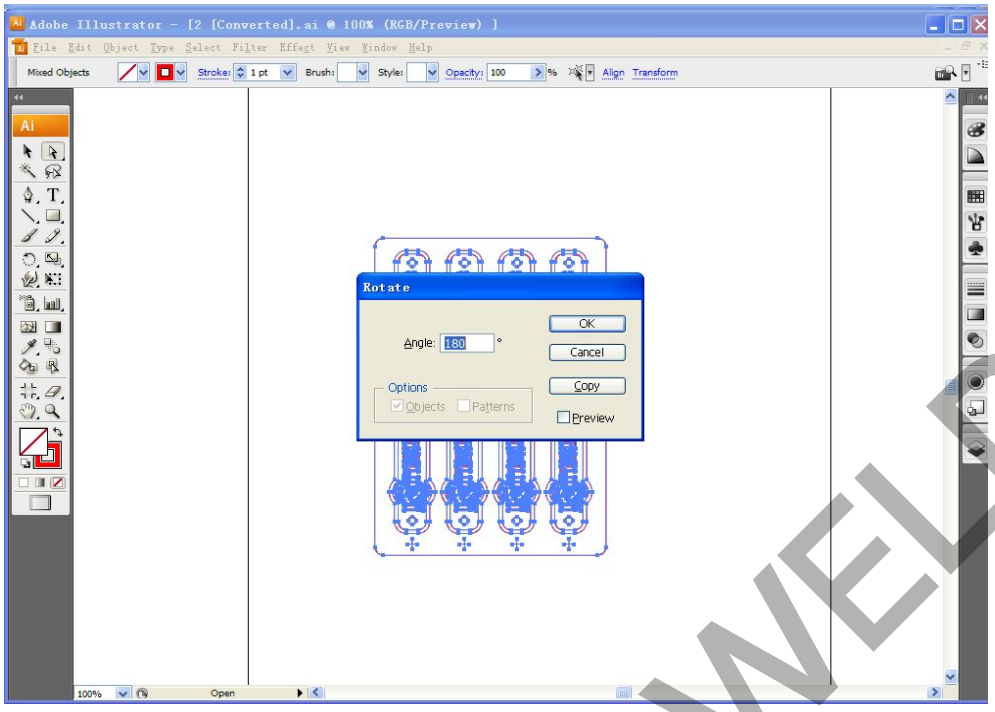
4.1、Transform :to change the graph direction as same as the mold direction ,example as below:



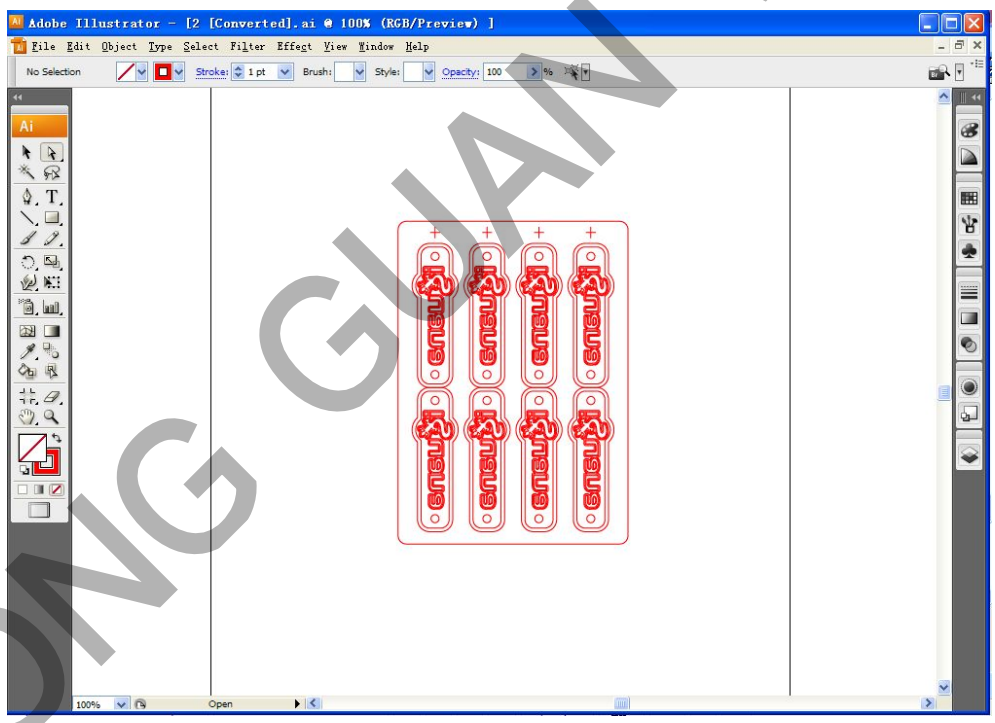
4.2、change the position ,select the graph , click right mouse ,choose transform, choose rotate



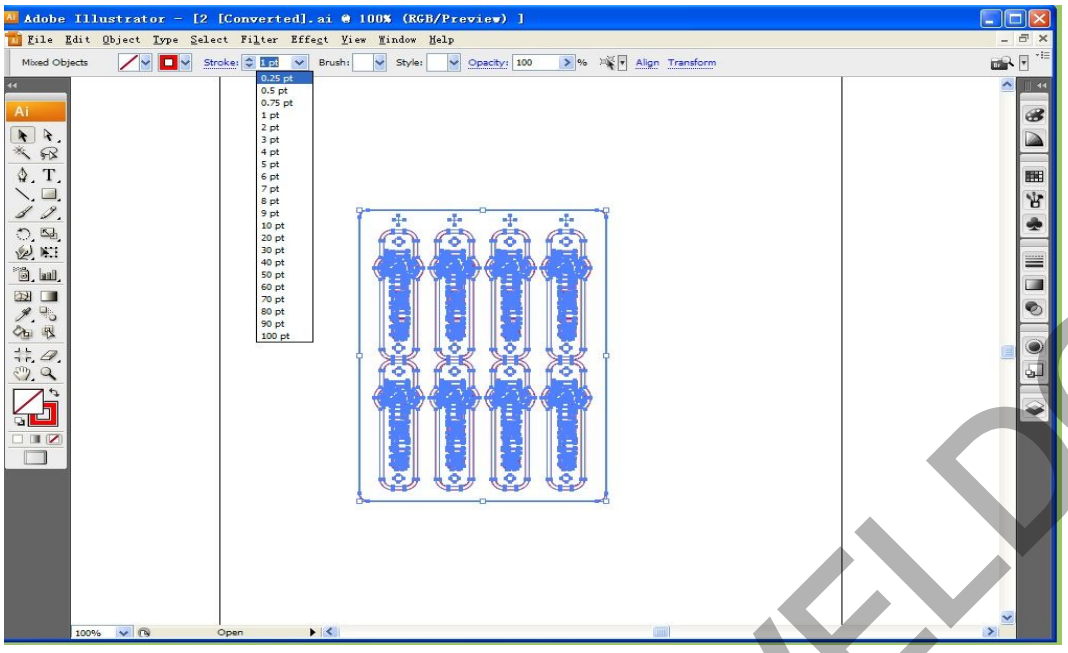
4.3、The rotate will pup out

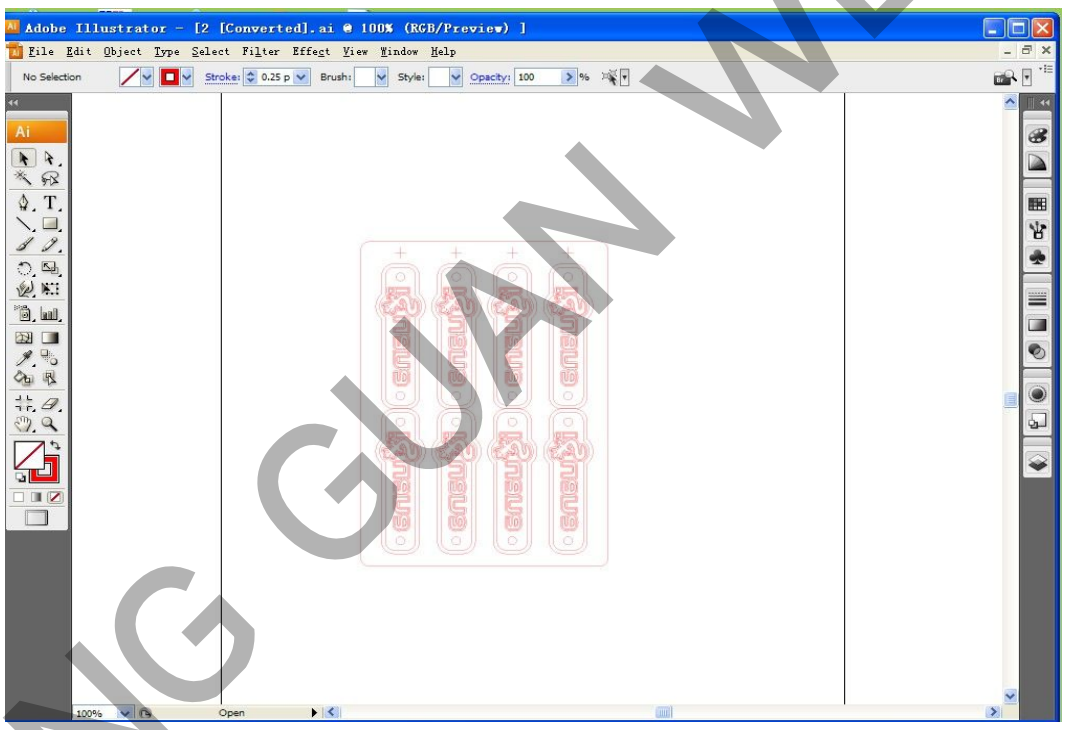


4.4、Set the angle 180°， click “ok”， the graph will change the position,



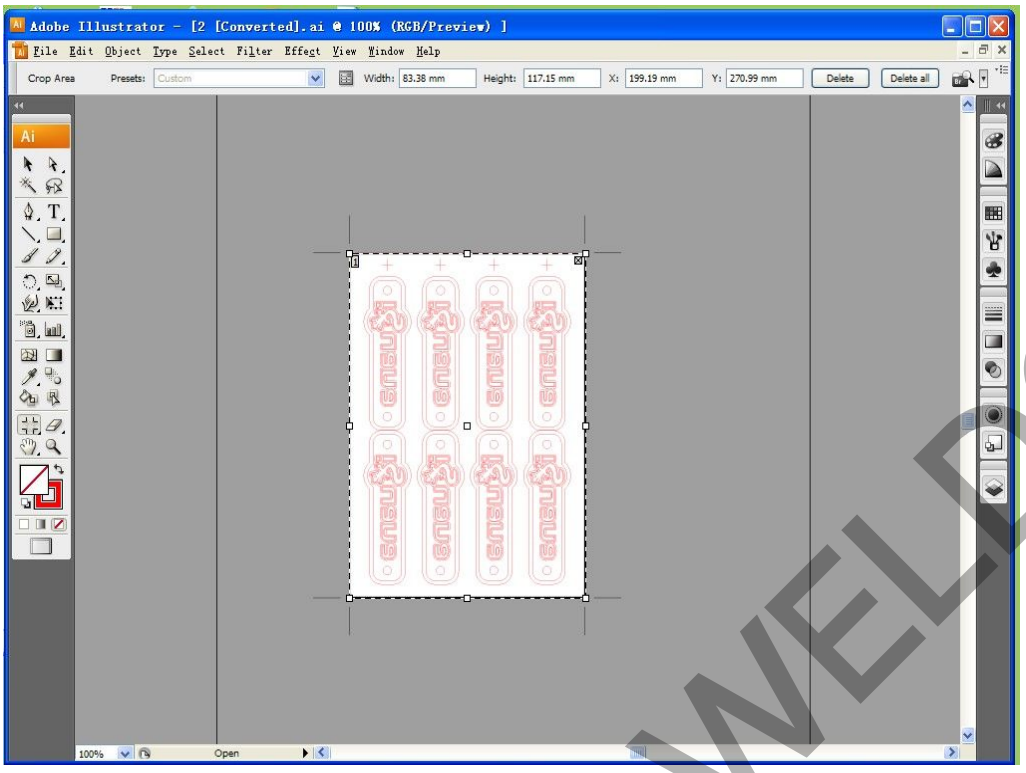
4.5、stroke ： select the graph , choose stroke , always choose 0.25 pt



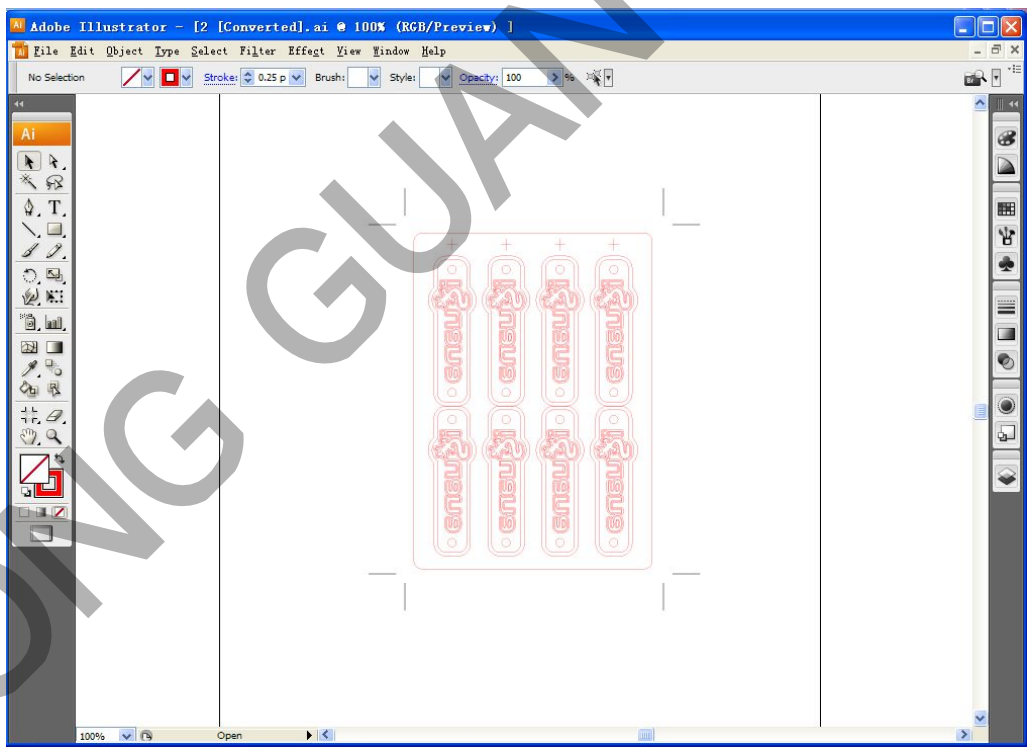


4.6、 crop

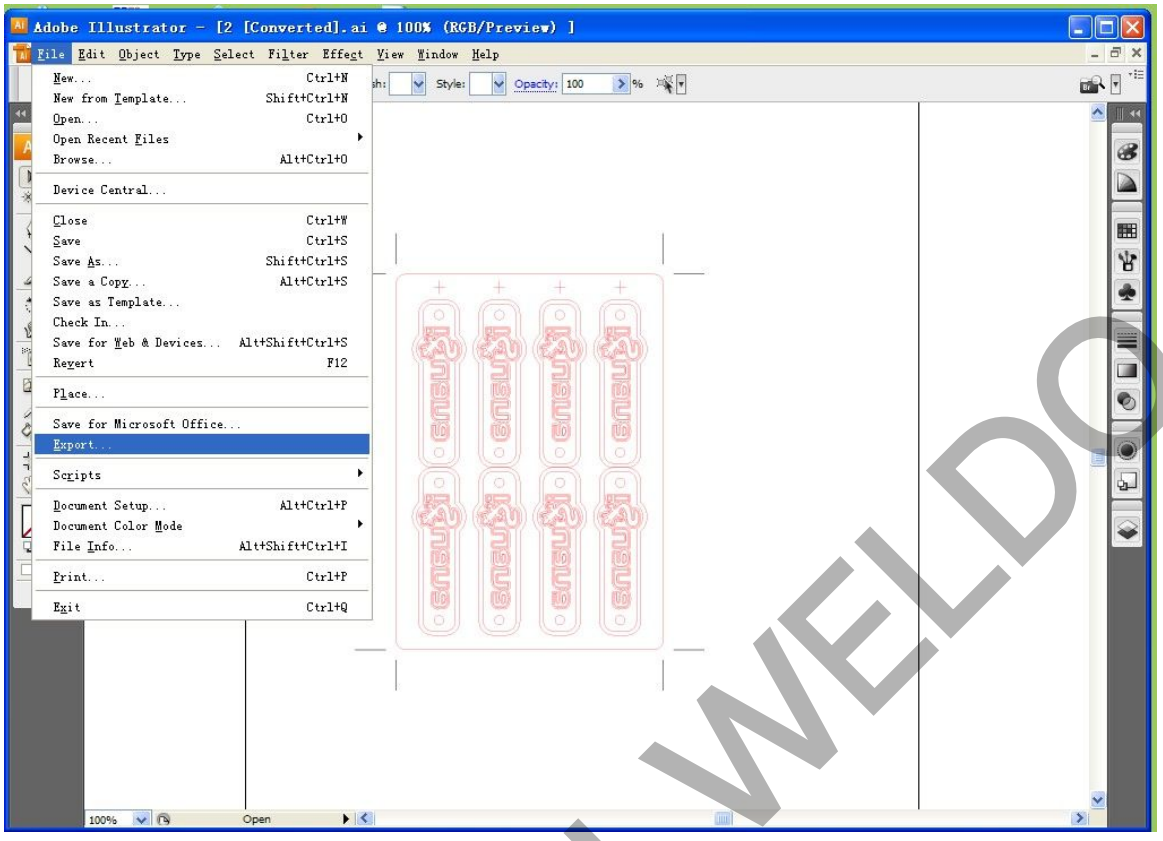
click  ,crop the graph



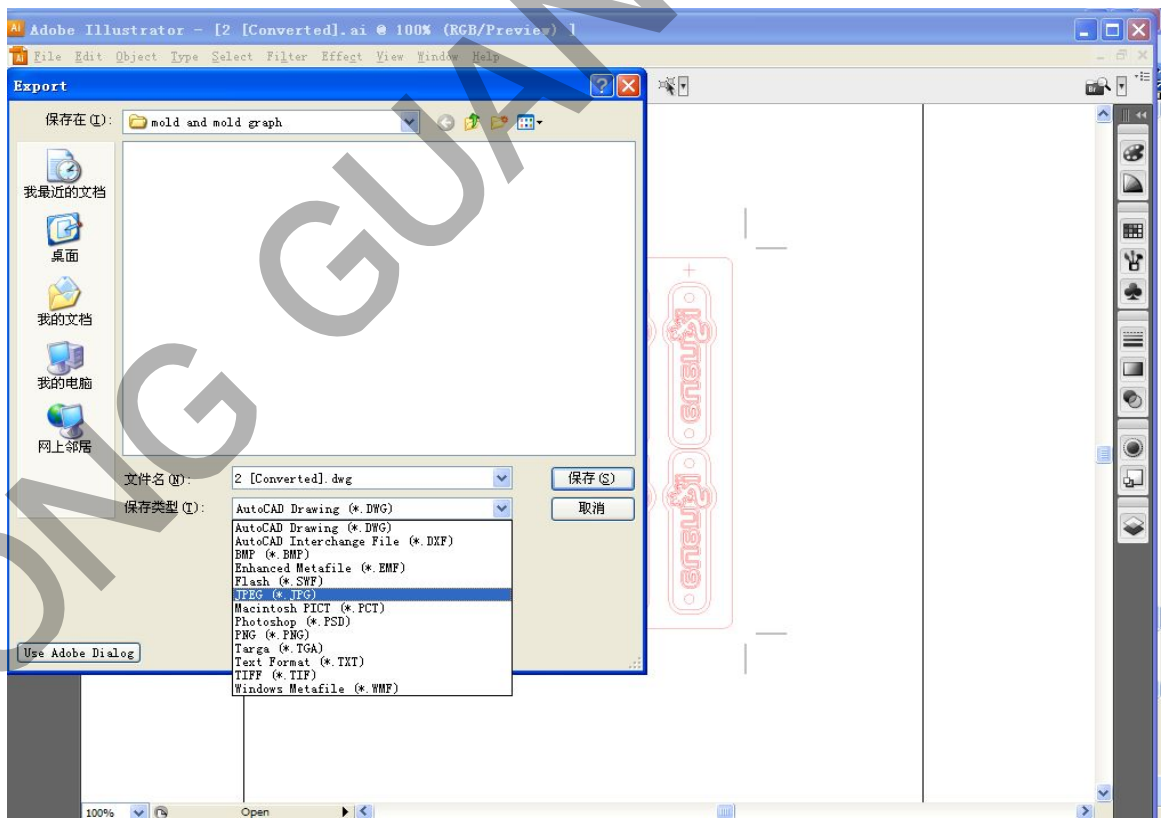
4.7、click  :



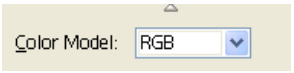
4.8、Export



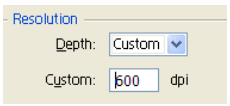
4.9、Choose the save type as JPEG ,



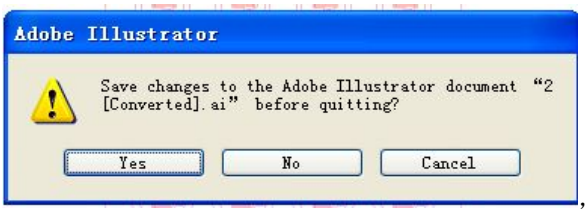
and save the graph to a folder(mold and mold graph) , JPEG Option will pup out , always choose



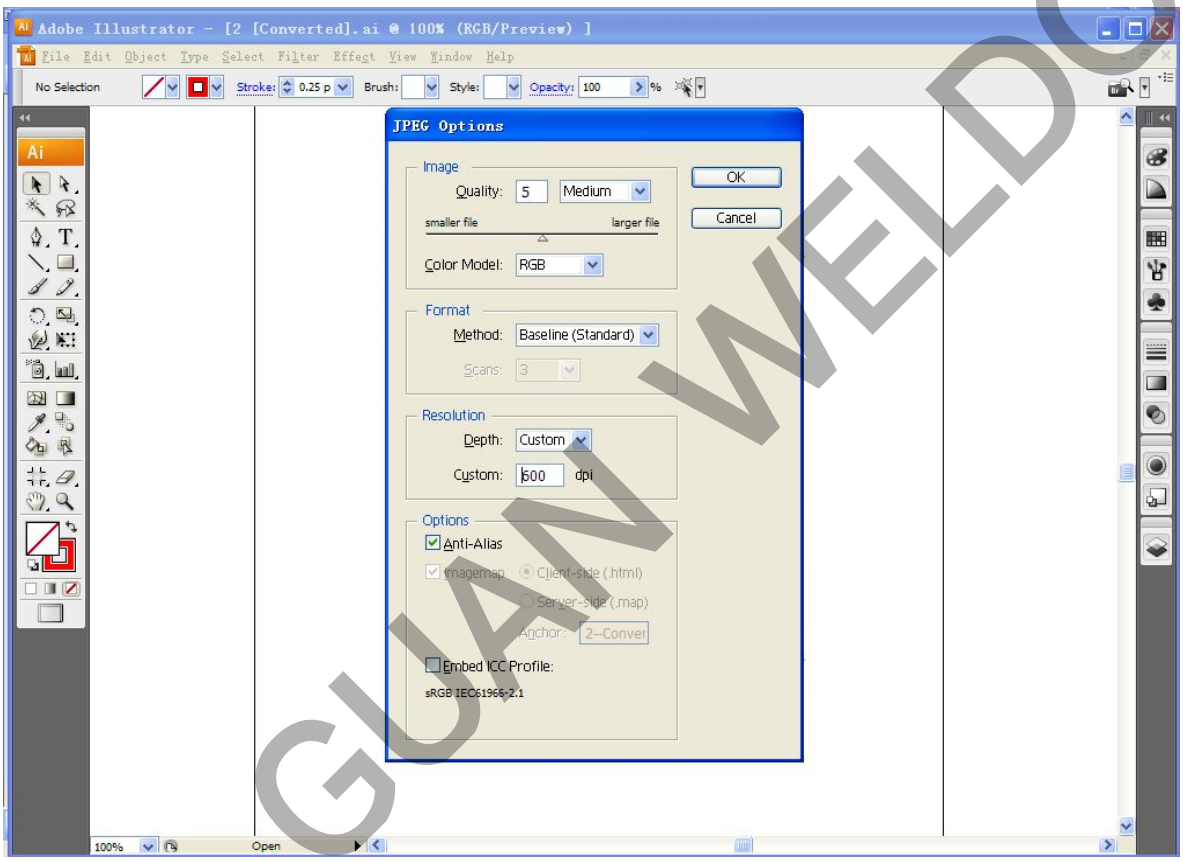
always choose



,and click “ok”, the convert part is finished, and close interface , adobe Illustrator pups out



, choose “No”.

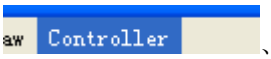


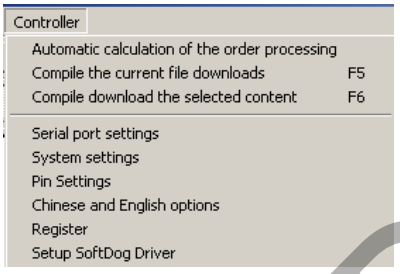
Notice: If no ADOBE ILLUSTRATOR ,other vector software is okay, but must make sure the graph resolution is “ 600” DPI, color model is “RGB” , graph format is “JPEG” .

CHAPTER 5、EDITING PROCESS TEMPLATE FILE

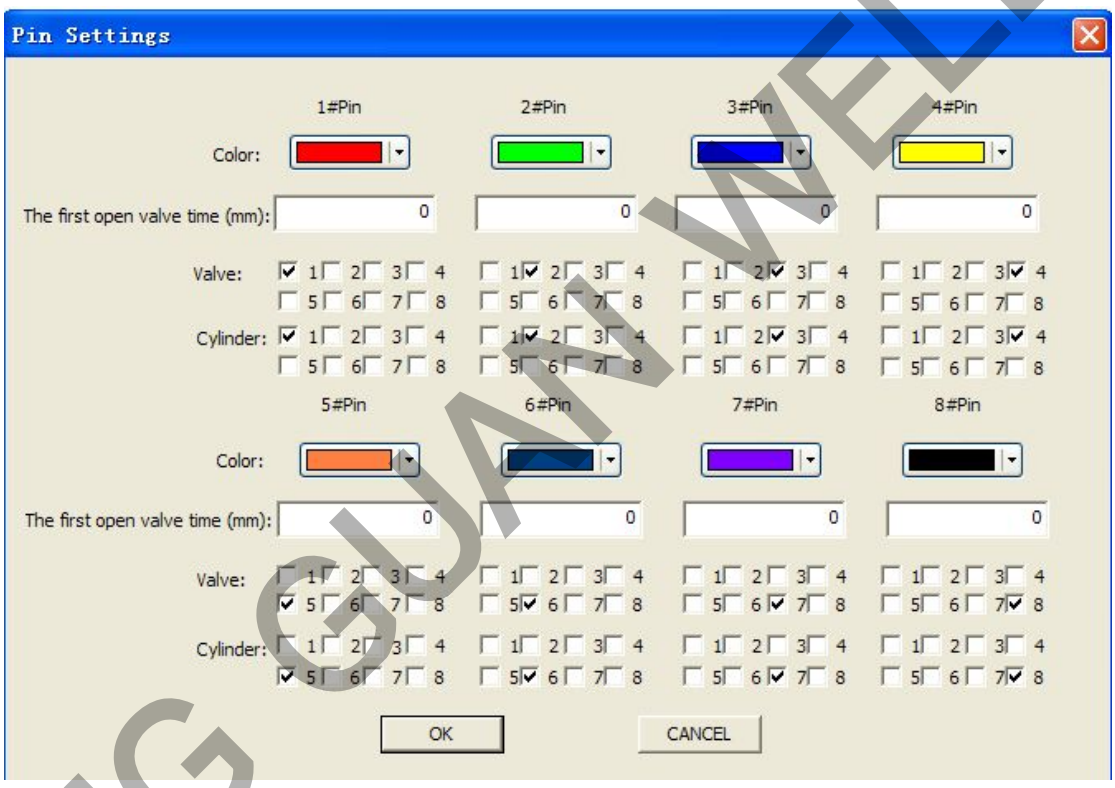
5.1 Recognize Pin setting, system setting and file property setting

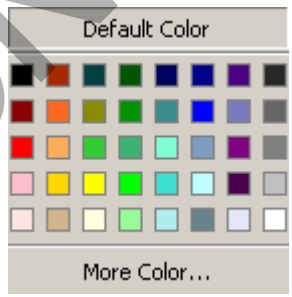
Before editing process file，there are 3 settings should be known，“pin settings”，“system settings”, “File property setting”

Open Weldo software，click 

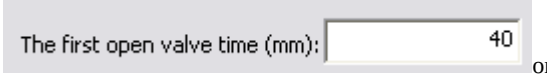
、 

5.1.1 Pin settings: click “pin settings”, the pin settings interface pups out :

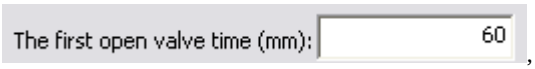


“1# pin” to “8 #pin” stand for “1~8” pins, the colors for each pin are the default colors, click  ,choose different default color 

for each pin.

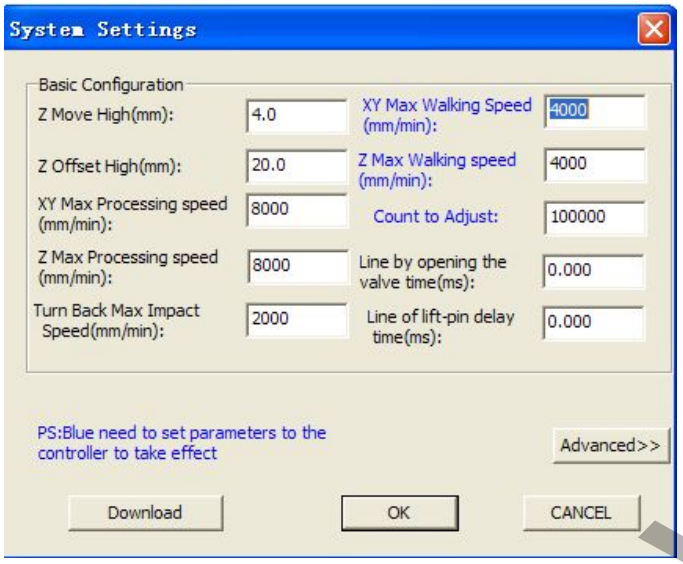
Usually set the first open valve time 40 -60 for “1# pin” 

or



, because when the first pin starts to work , should give sometime to carry out the PVC materials .

5.1.2 : system setting： choose “system settings”, System settings interface will pup out ：

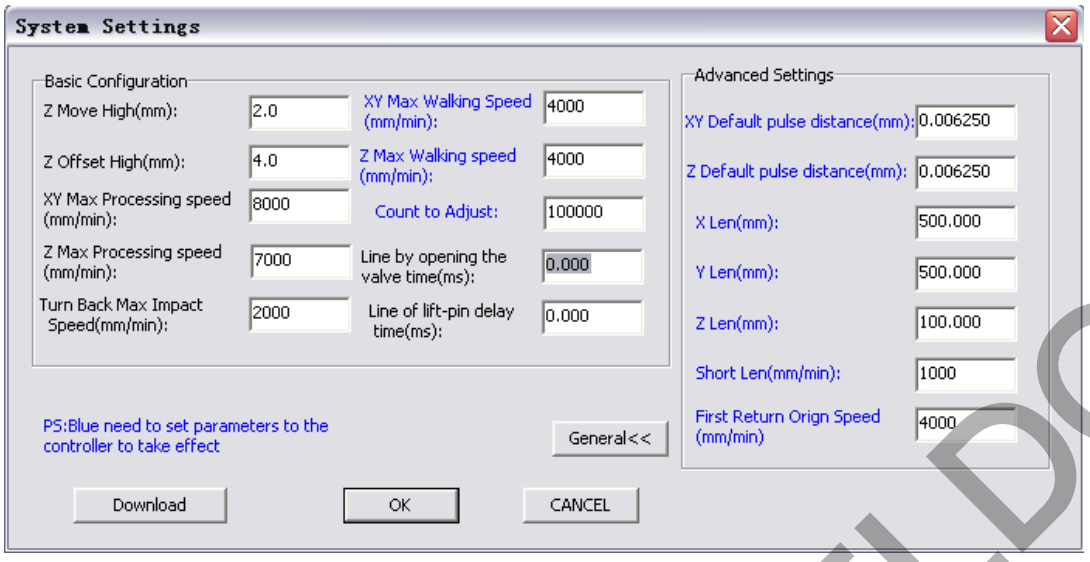


Z Move High(mm): the height of the pin from one position to another position .

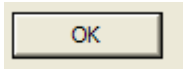
Z Offset High(mm): the height of the pin from one cavity to another cavity.

Notice：the Z offset high should be based on the height of the products .If the mold is plane like below :

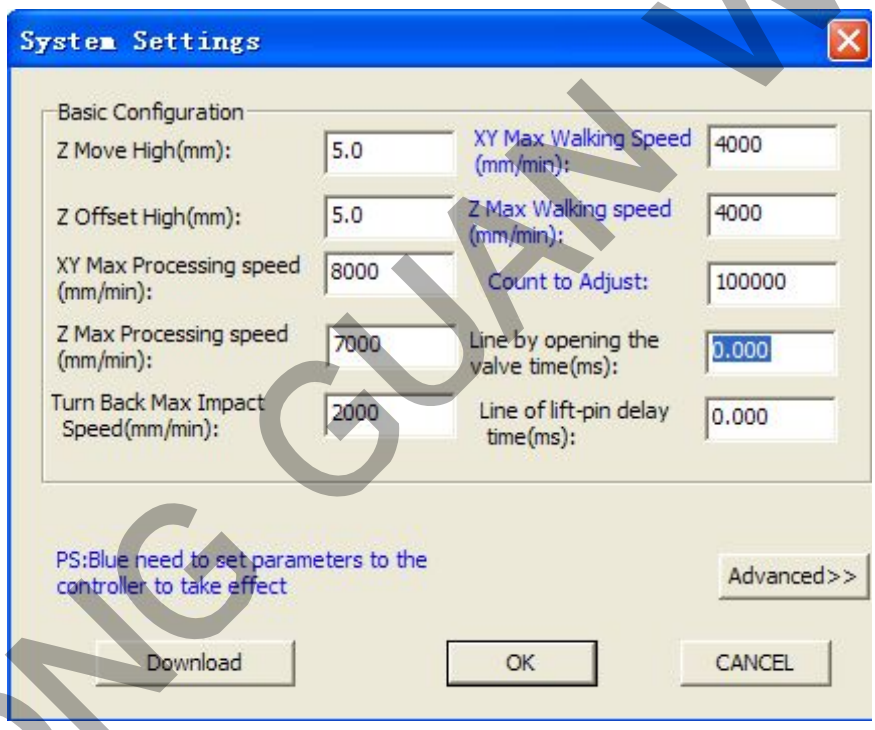
Should always fill below information in “system setting” :



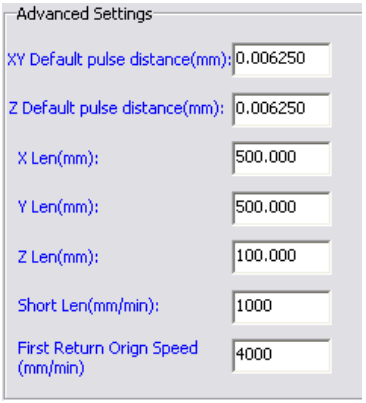
If the mold is stereoscopic ,fill below information in the “system setting”, and press “enter” on keyboard ,or click



, the “system setting” is finished



Click 

, advance setting should always be 

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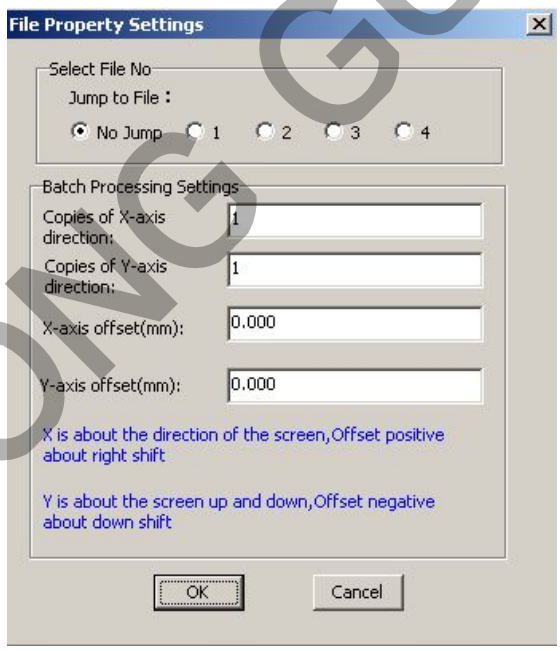
5.1.3 : File Property Setting : there will be many cavities in a mold ,to avoid edit process path for each copies , **File Property Setting** is necessary ,set copies of X&Y axis and X&Y axis offset to process this products.

Double click the blank drawing zone, below interface will be pup out.



Copies of X-axis : The times of the pin moves right direction. For example , the above picture that has 4 copies (cavities) ,

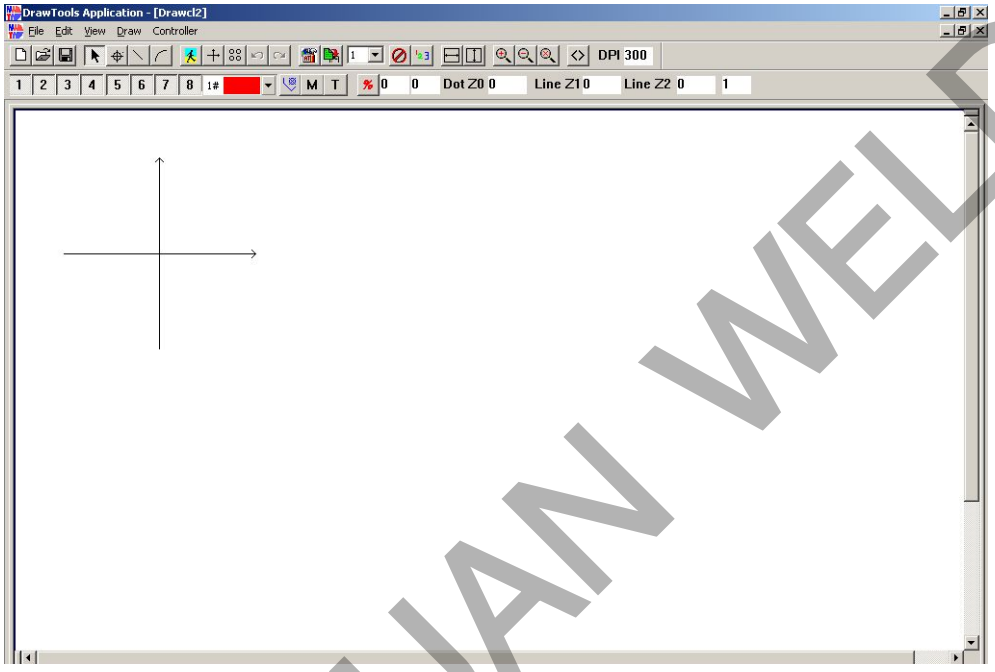
fill in 4, the pin will move 4 times toward right direction.

Copies of Y-Axis: The times of the pin moves down. For example, above picture has 2 copies in Y direction, fill in 2, the pin will move 2 times toward down.

5.2 Procedure to edit process file

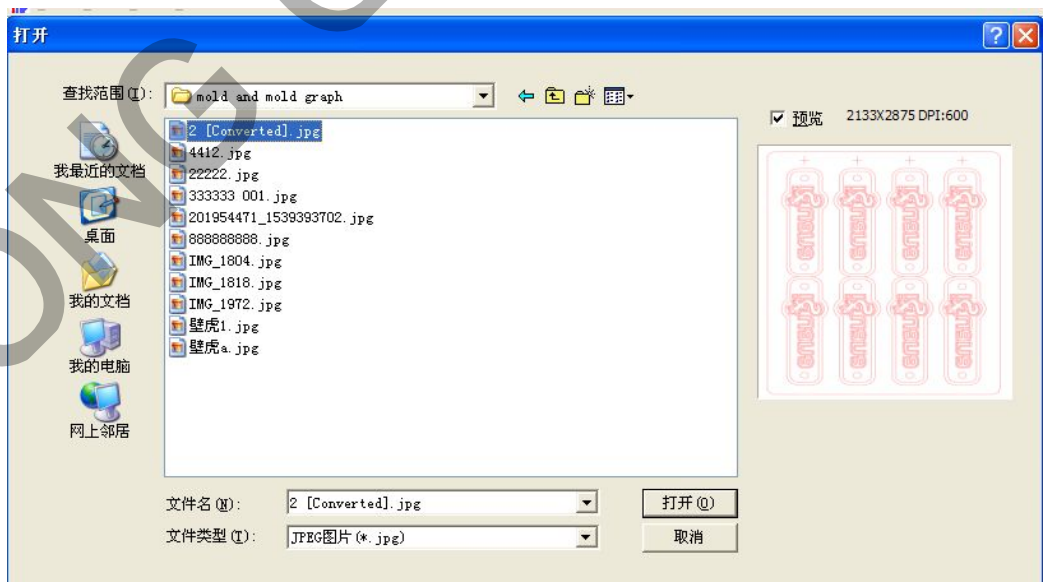
5.2.1 Create new process file

Create a new file in the “drawing zone”, click  , or click “file”—>click “NEW”

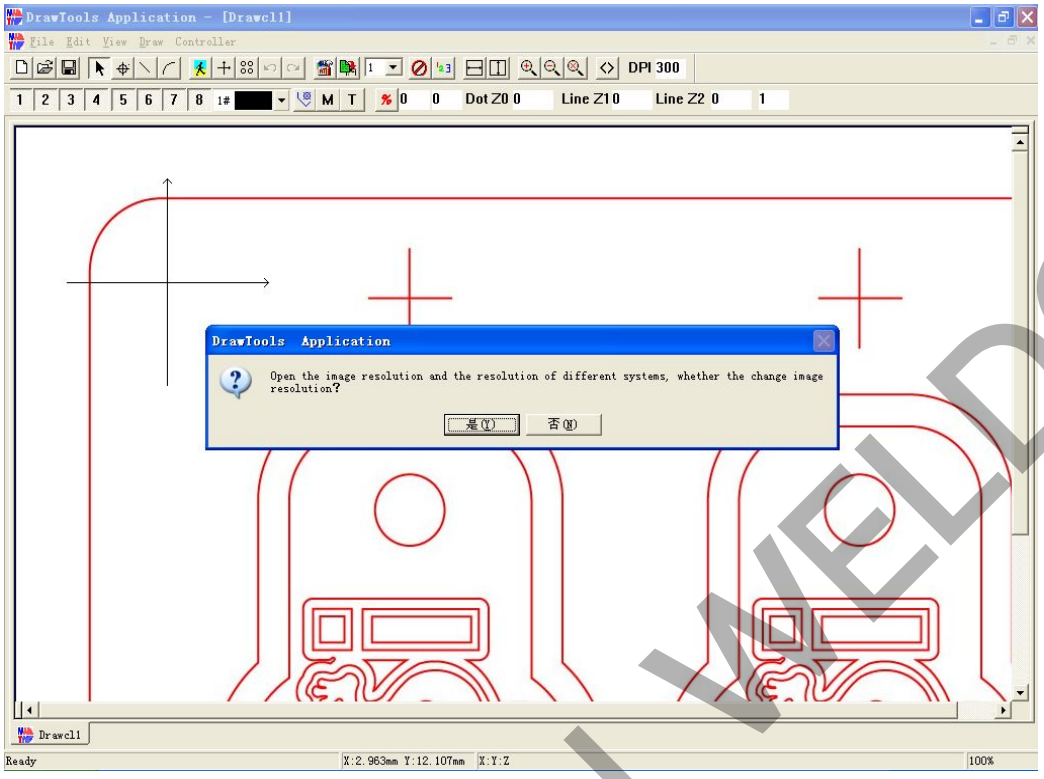


5.2.2 Import a template file

Click  , select the template graph from a file :



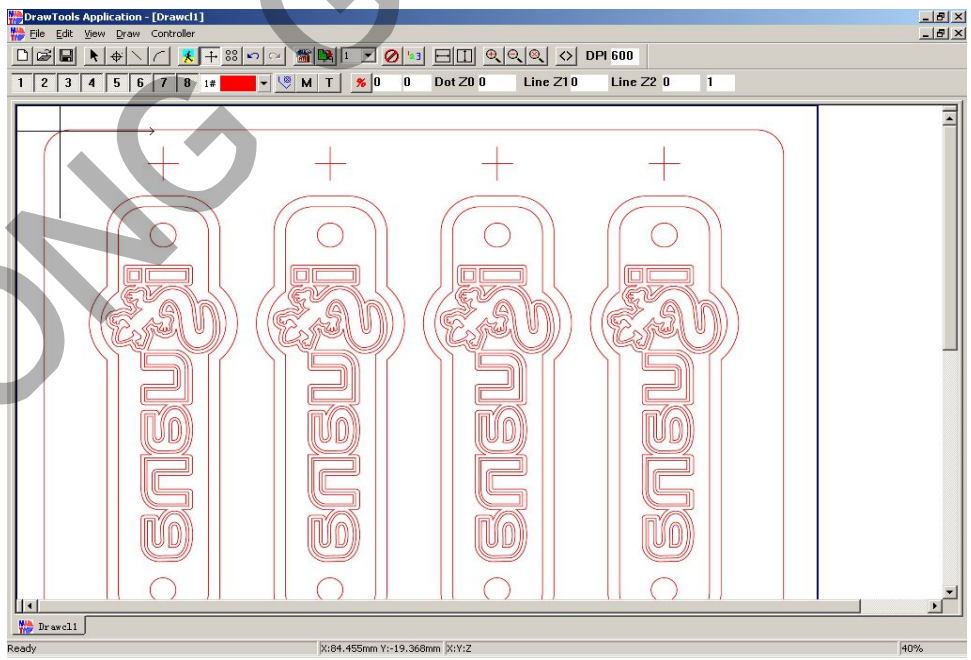
Click “  ”, “Draw Tools Application” will display on “Drawing Zone” , click 



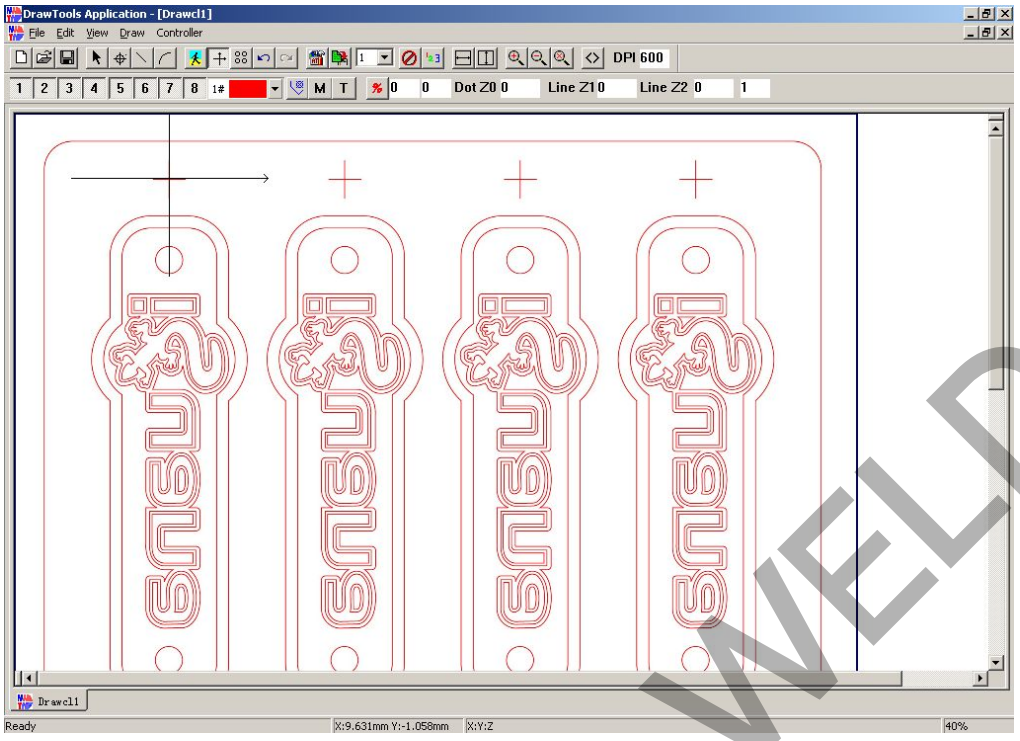
5.2.3 Set origin of file

Click  , the cursor changes to “┼”,put the cursor superpose on the first cross ┼ of process template file , and click  , save the file. Example as below:

Before Superpose:



After superpose:



After set the superpose, click  , the "┼"curse changes to  .

5.2.4 Draw process path

Draw the process path on the process file that creates injection tracks in the process mold.

For small areas, please draw dot, for big areas, please draw line.

（i）Dot

1. Select "Draw" → "dot" or click  。
2. One click left key of mouse for one dot in drawing zone.
3. Click right key of mouse to exit this function.

（ii） Line

1. Select "Draw" → "line" or click  。
2. Click left key → move mouse → click left key → click right key.
3. If repeat "move mouse → click left key" before "click right key", Fold line be drawn.
4. If hold down "Shift" when draw line, only lines at 45 angle to horizontal line can be drawn.

Notice: （1）When draw each dot and line must make sure the dot ,or the line in the middle of the process file , press direction keys 

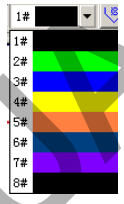
on keyboard moving the dot and line.

（2）When draw lines , at the beginning and ending of each line should draw a dot .

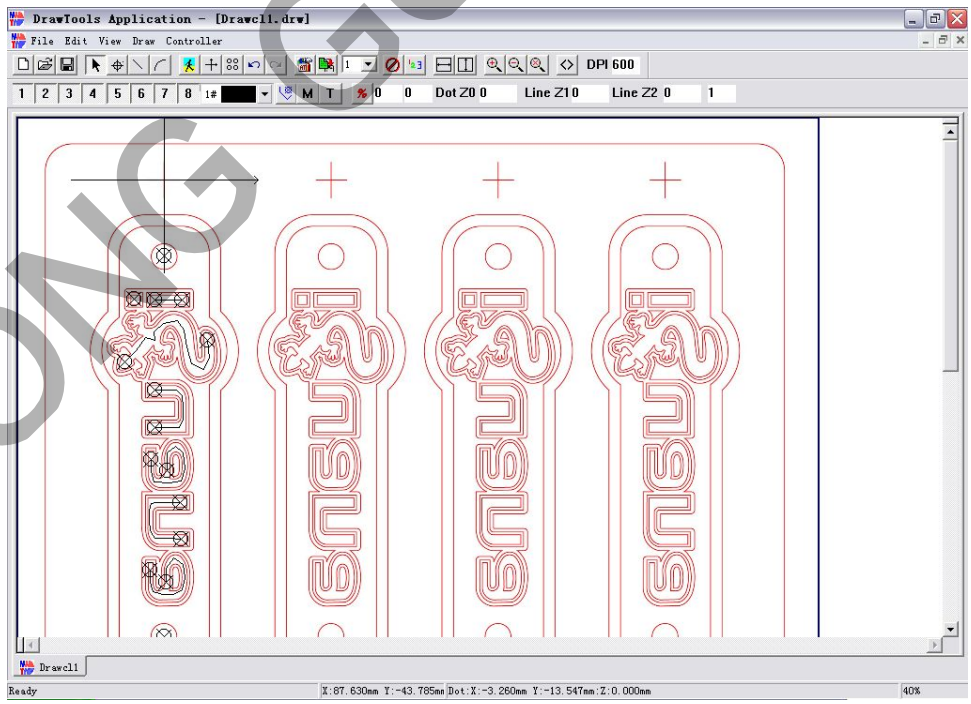
Example below :

（3）when draw process path like  ,shoud set open valve time to the beginning dot that is to replenish the shortage material at the beginning , set close valve time to the ending dot that is to completely finish the materials at the ending position ,and then move to the next position.

5.2.5 Select pin number “1#-8#” to draw process path

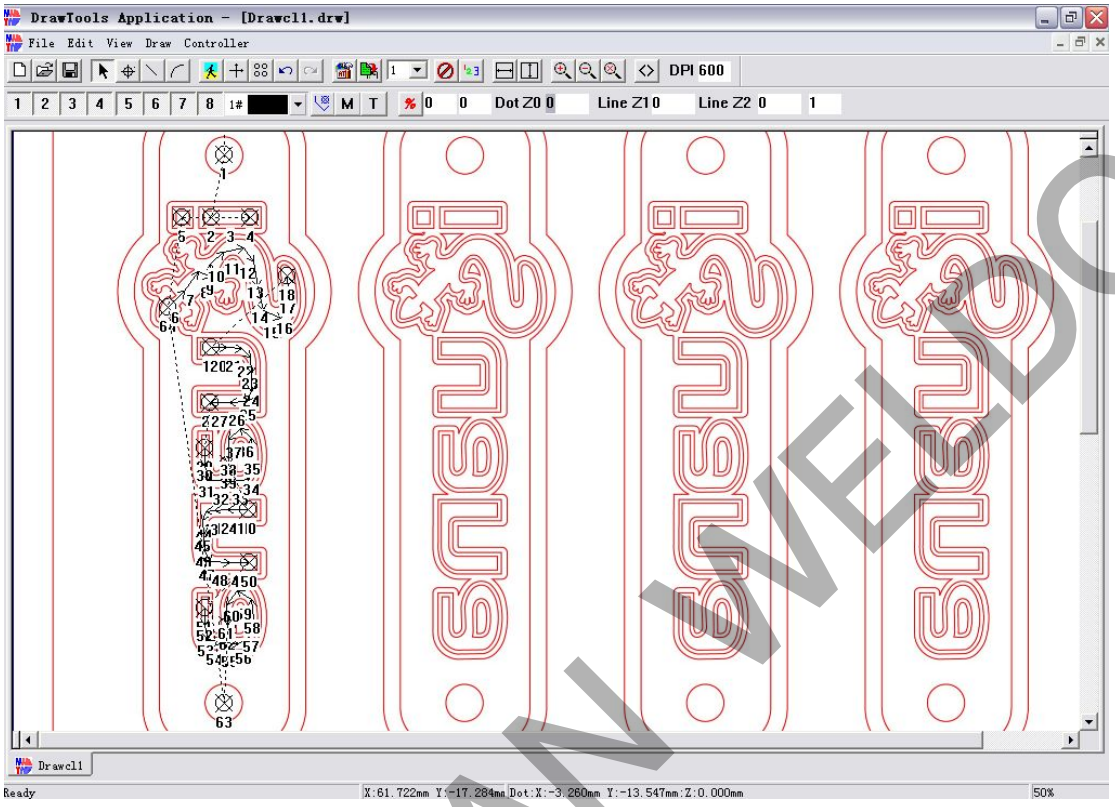
For example, select pin 1# from 

to draw the process path.

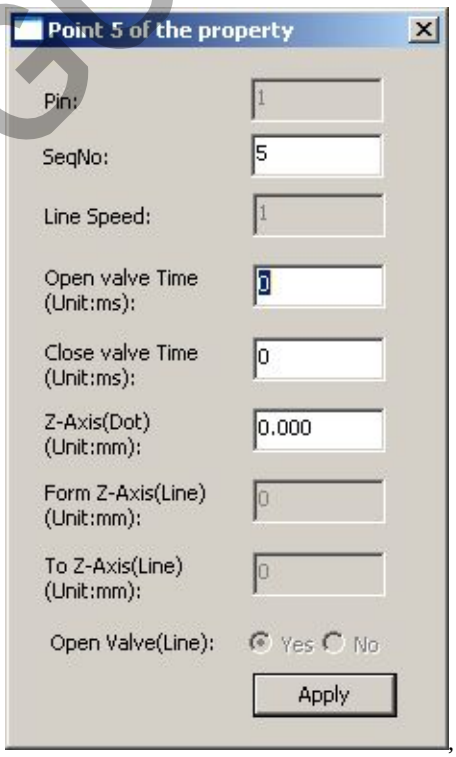


5.2.6 Check and modify process number

Click  , the graph will show the process order ,click it again , hide the process order



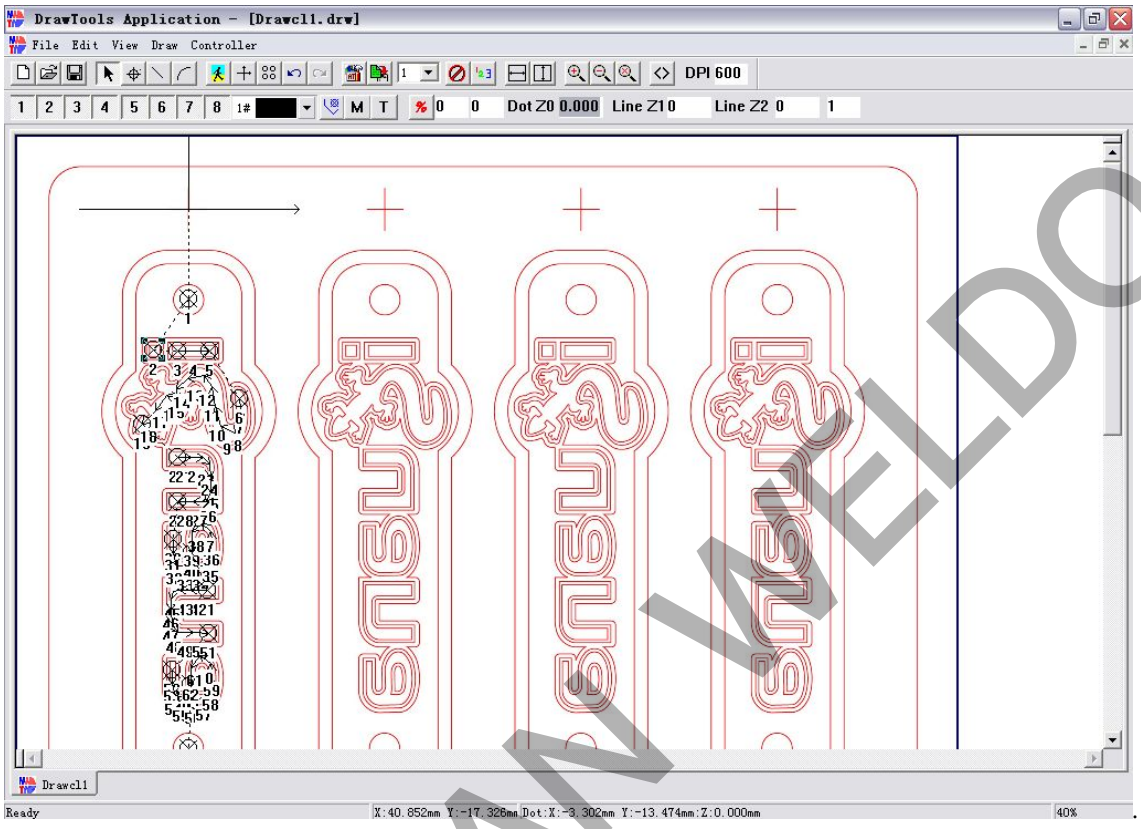
Modify the process order : for example , modify  to “2” on the graph .select  , double click left mouse ,point 5



of the property will pup out , modify the SepNO: “ 5” to “2”, and click

.modify other process orders are the same way.

example as below s:



5.2.7 Set Injection quantum of PVC

(I) set the open valve time and close valve time

[i]Open valve time : the pin injection time on the process position of the mold. The open valve time is long ， more quantity will be carried out.

[ii]Close valve time: the pin staying time on the process position of the mold. If increase the open valve time, the close valve time should be increase accordingly.

Notice: the time unit is milliseconds.

(II) set dot time

Select a dot, according to the process area on the mold, import a estimated open valve time into the first box 

, and import a default close valve time “50” or above 50 to the second box. When import each dot open valve time and close valve time to the blank, must remember to press “enter” to each number.

Example: select 

, import estimated time “80” in the first box ,and press “enter” 

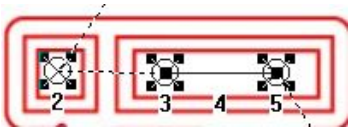
， import “50”

in the second box , and press “enter”. To check the time, click 

, the time will show 

. Set the other dots estimated time the same way as the “dot 1”.

if some dots in the process mold are the same depth ,can select those dots at one time , and set their estimated time all the same , so that need not to set the dot time one by one ,it will save much time.

Example : 

“dot2” ,”dot3” and “dot 5” in the same depth in the mold , select them at one time , set 

,always remember pressing “Enter” when fill in each number .

To check their open valve time and close valve time , click the dot one by one , “dot2” ,”dot3” and “dot 5” all will show 

.If there are other dots the same depth as “dot2” ,”dot3” and “dot 5” on the mold, set the same estimated time .

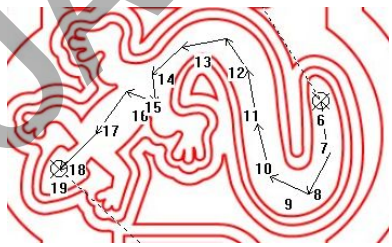
[III] set the speed of the line

There are 10 kinds of speeds , each number represents different speed , the bigger the number is , the slower speed of the pin , the more PVC quantity will be carried out.

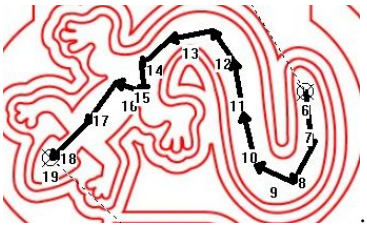
Example:

Select a line: based on the process area in the mold , import an estimated speed in 

.

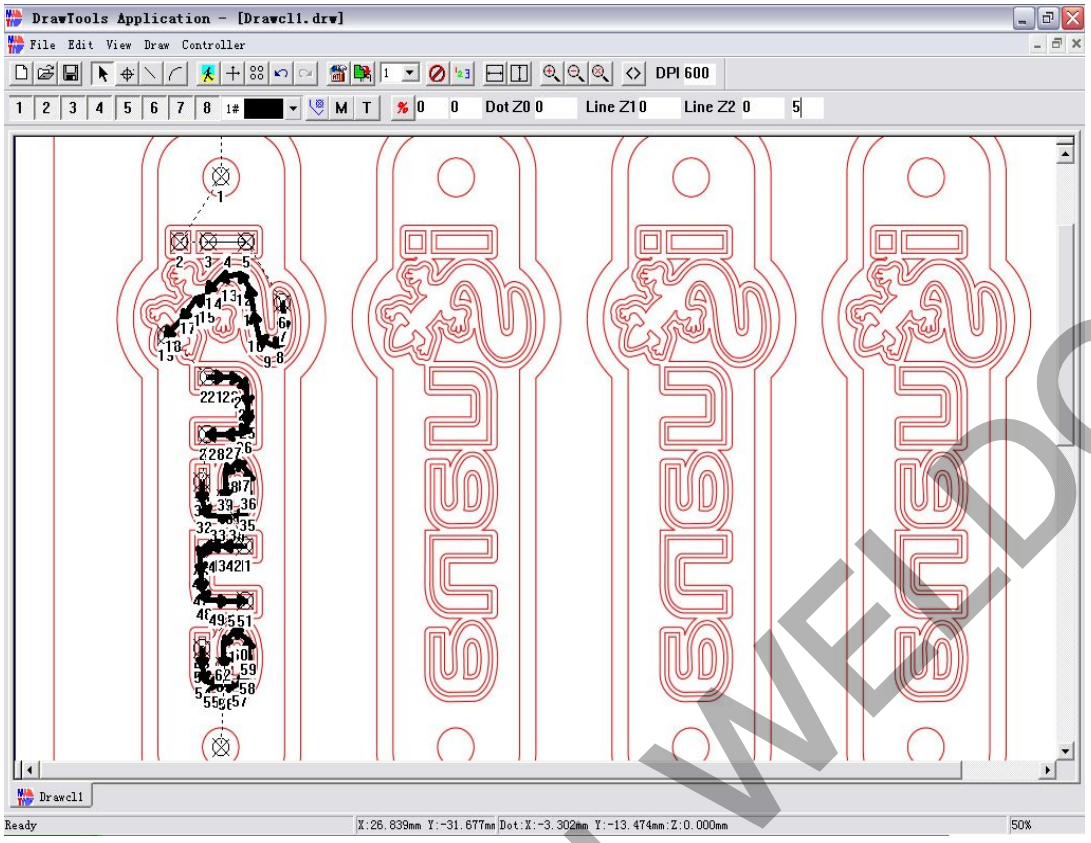
Example :select “line 7” to “line 15” 

, import an estimated number “5” to 

,press “ENTER” , the line will be 

.

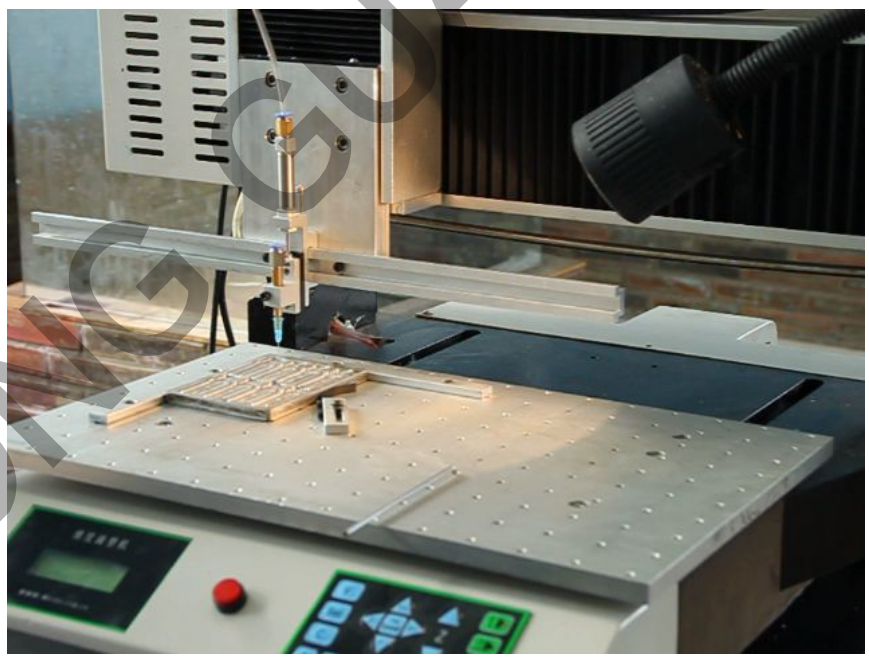
Complete Injection quantum of PVC process template process file as below:



Notice : Air pressure , the type of the pin and the viscosity of PVC will effect the PVC dispense quantity.

5.2.8 Setting pin aim at the mold

(1) fix a clean flatness and square mold on the working table tightly



(2) turn on the machine switch  , always press 

twice time.

(3) set “F” origin and “P” origin

a. F origin setting :

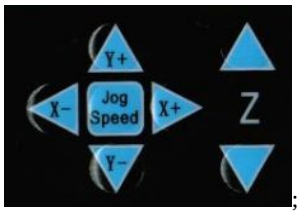
（i）. Fix the mold on the table , press 

until 

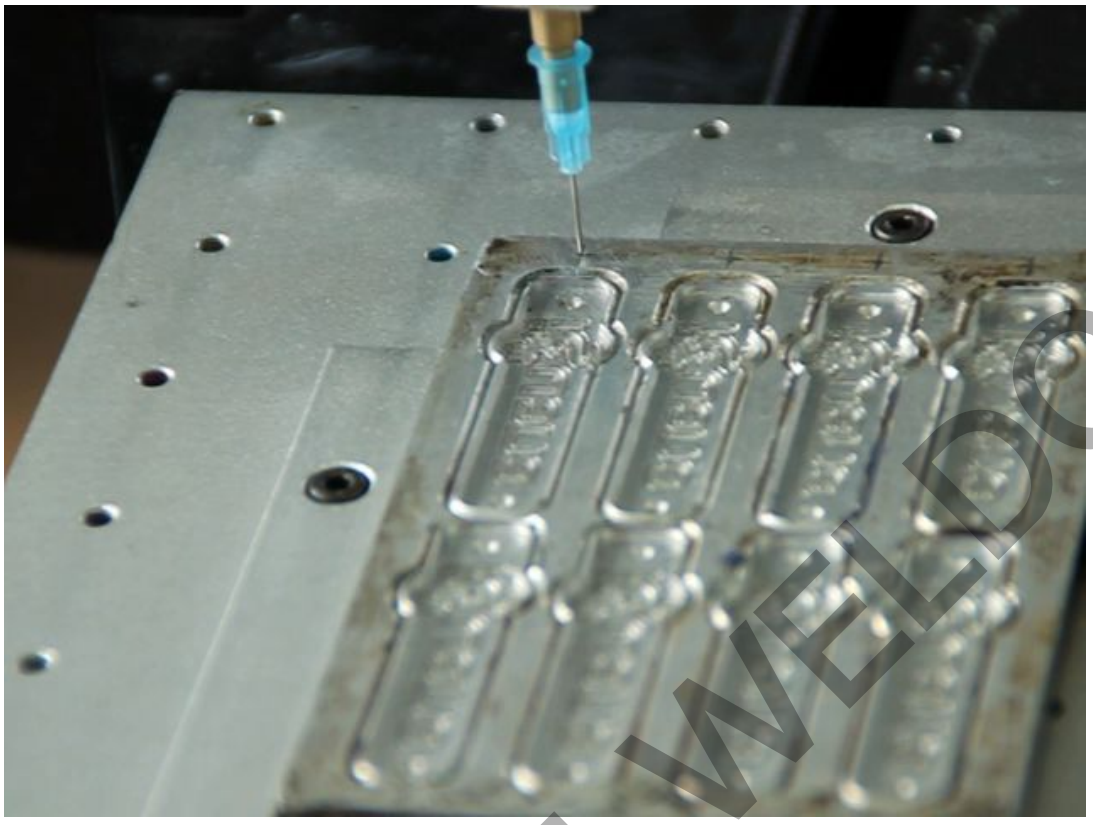
appears on LCD; press 

(Notice: please press 

to ascend the pin to avoid the pin touching the mold before press 

,otherwise ,if the pin touches the mold , the pin will be twisted and distortion) ,and aim pin1# at the first cross in the mold by operating panel 

; the pin can be infinite close to the mold, but touch the mold is not allowed.



(ii) . Press 

， then “ F1 OK” will appear on LCD， F point setting is finished.

[iii] .Press 

,the machine will work and then move back to the F origin.

Notice：the insert-system can save four files at most; when set F1, press Sel to select file before press C, F2、F3 or F4 will be displayed on LCD as F1.

[2] Set origin of pin （also called P origin）

P origin setting for all pins can find correct injection location.

(i) Press P/F shift F1 to P1 that “P1 OK” appears on LCD

（iii）P1 point setting is finished.

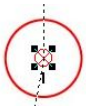
（3） Press Sel until “P2” appears on LCD，press C to compress P#2，then operate the panel and aim pin #2 at the first cross in the mold，the method is the same as setting F origin.

(4) Setting pin#3-8 is the same way as pin #2.

(5) Anyway, all pins origin from P#1 to P#8 are the same. The operation way P#3-P#8 are the same way as P#2.

5.2.9 Download process template file to the machine

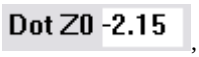
(1) select a dot to measure the height of the product area

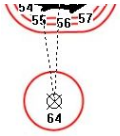
(i) select a dot ,for example select dot ”1”  , and click  ,the dot “1” is download to the machine .

(ii) Press the process file number on the panel (if the file is 1, press 1▶,if it is 2, press 2▶)the machine will move the

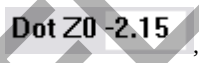
corresponding pin(needle) to the working point  in the mold. Read the coordinate figure of Z on LCD.

(iii) Press 

to descend the pin (needle) approaching the mold slowly , please do not touch the mold, read the coordinate figure of Z on LCD. For example if the figure is :Z-00215， -00215/100= -2.15， import -2.15 to 

, and press “enter”， the round dot “1”  will change to square  . The dot “64” 

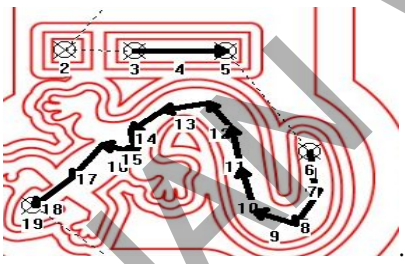
is the same height as dot “1”， click 

, import “-2.15” in the 

, press “enter”，round 

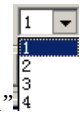
change to square 

.

(iv) “Dot 2 ”、“ dot 3—line 4—dot5” “dot 6~dot 16” are the same depth, so their height is the same, only need to measure the height of “dot 2”, 

.

If all the dot or lines in the same depth, their height is the same, if different dots and lines have different depth, should set their height one by one .

(v) If all the height of dots and lines are completed , select process file “1” 

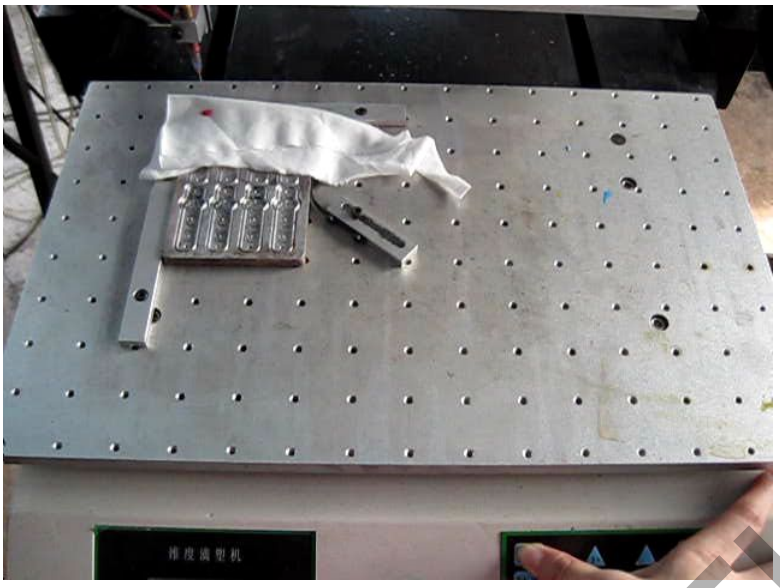
in the toolbar， press  , the whole process file is downloaded to the machine , the process file is saved in inserted-system , and press  , the pin will move in the mold.

5.2.10、 Release Air Bubble From the pipe

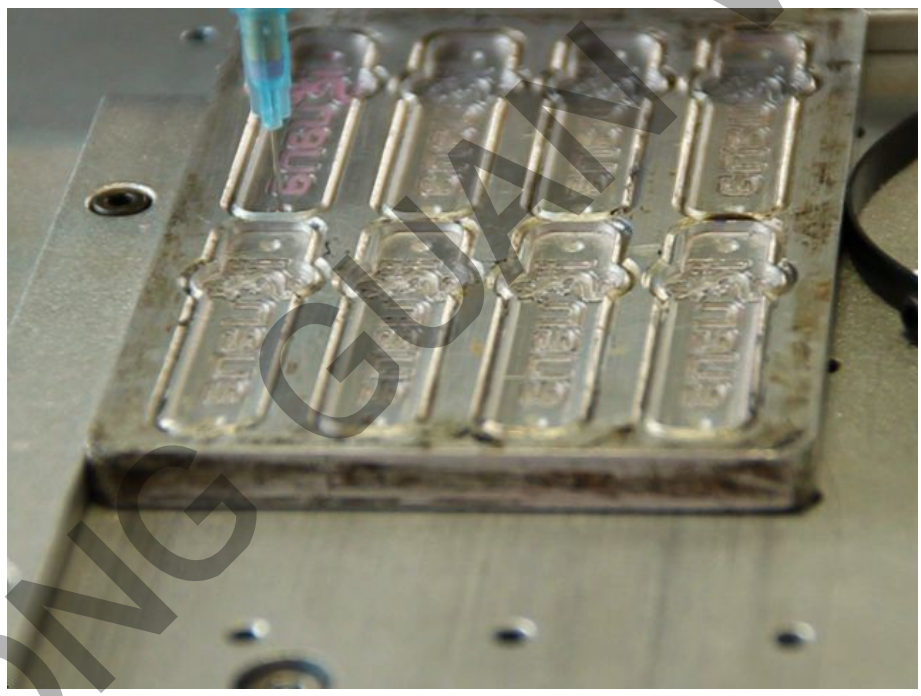
(1) turn on the “VALVE” and “CYLINDE” 

(2) put a cloth under the pin and hold 

to carry out the materials from the pipes until there is no air in the pipe.



(3) Press  , the machine will carry out the materials to test if the color can completely fill in the first cavity or not , if not , need to reset the dot open valve time , close valve time and the speed of the line again and again until the materials can full the space .



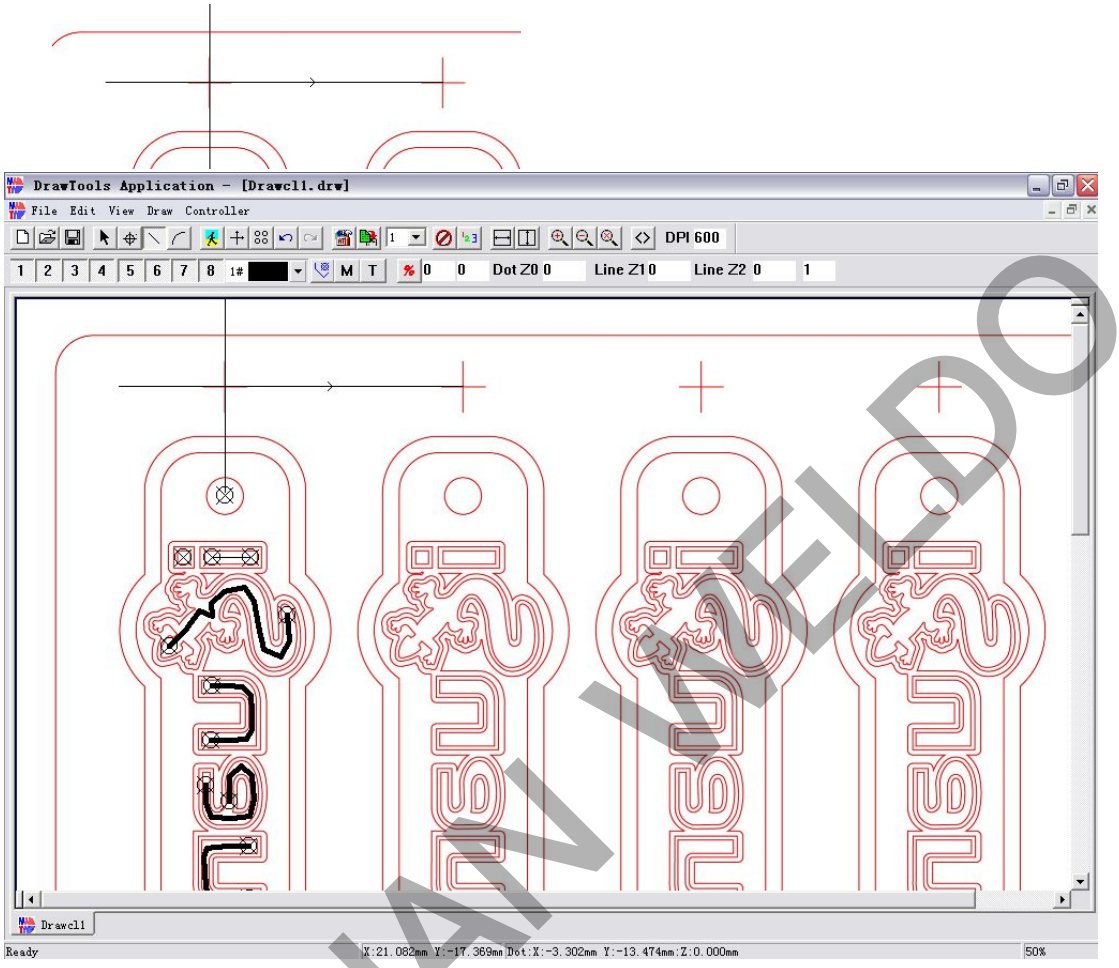
5.2.11 Measuring cavities distance

Measuring cavities distance is to edit process path for each copies, set copies of X&Y axis and X&Y axis offset to process the products.

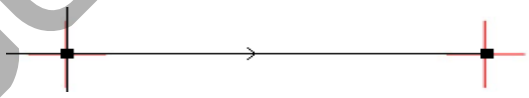
(1) Measure X direction distance. Measure the distance between two near cross.

Click  =>put the curse suppose on  => move curse to the second  ,there will be a line as below shows,

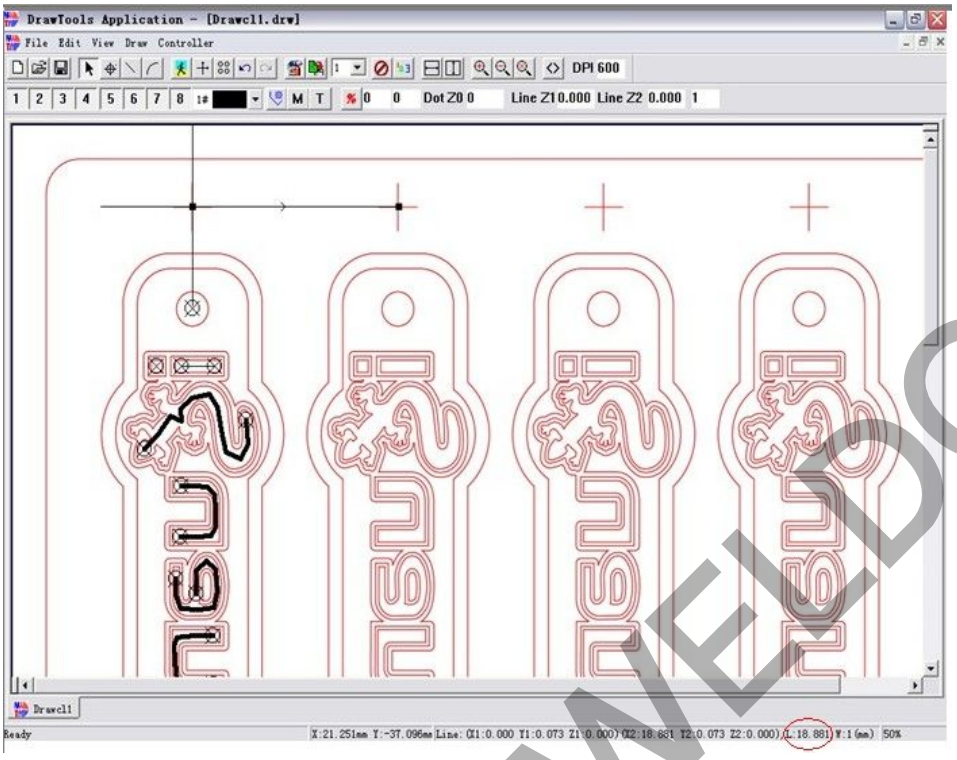
the line is the distance between copies .



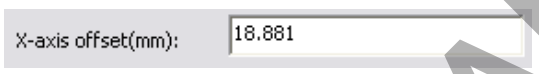
(2) Click  to change the curse to arrow.

(3) Click left and click the line 

(4) Read the distance from the statue column L:18.881,

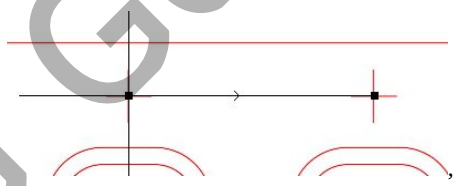


(5) double click blank , the File Property Setting will pup out, fill in 4 in Copies of X-axis direction that mean the pin will move 4 times to the right 

; fill the distance 18.881 to X-axis offset 

that mean the distance between two near copies in X direction is18.881mm.

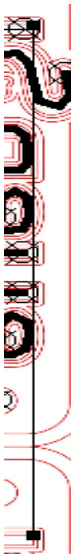
(6) Press 

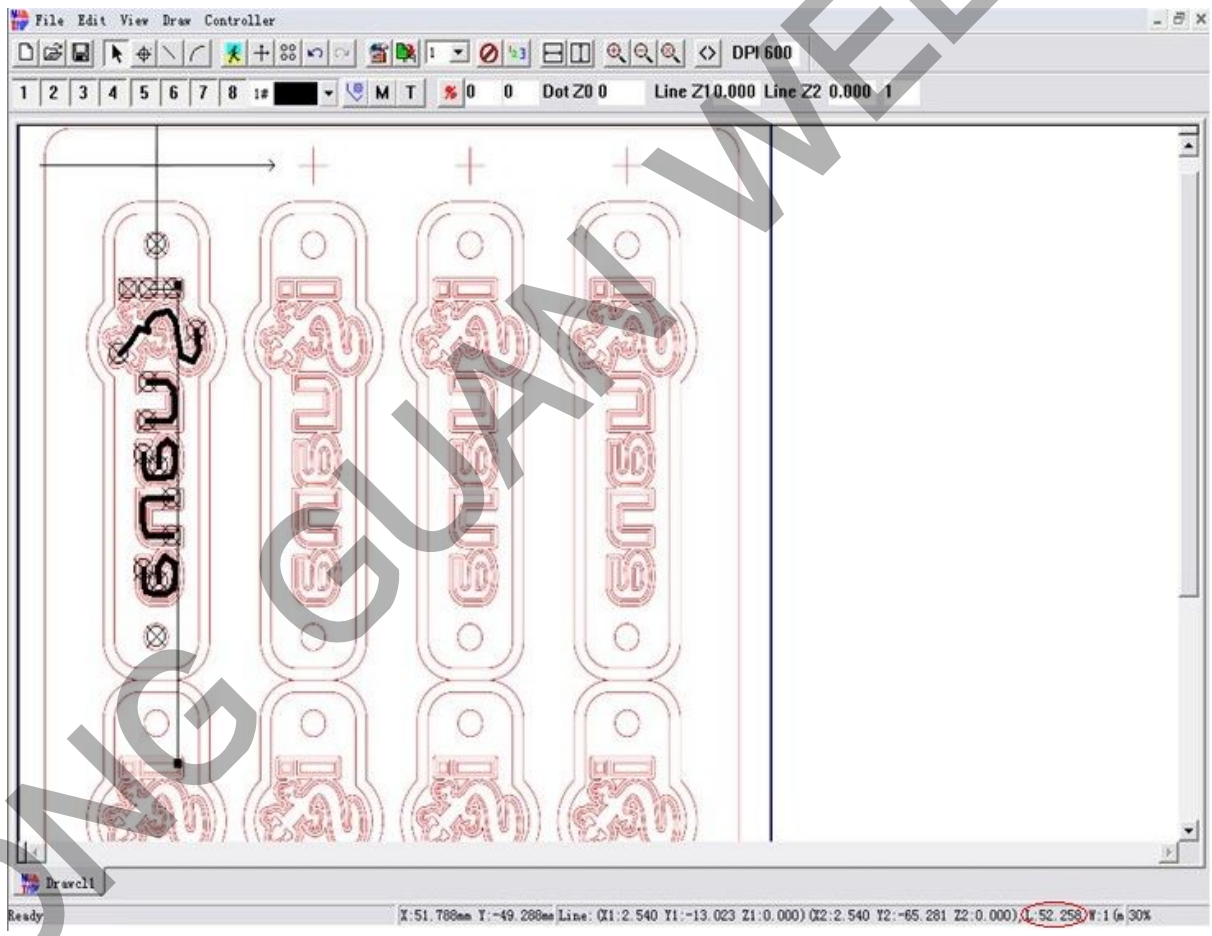


(7) Select the line , press “Delete” to delete the line

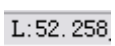
(8) Measure Y direction distance. Click  , change the curse to “┼”

(9) Find a point from one copy, and find another point from the Y direction copy .Example below

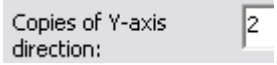


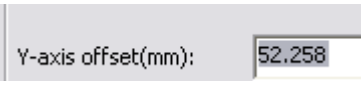


(10) click  , change the curse to arrow .Or click right to exit this function.

(11) click left and click the line , read the distance 

from the statues column

(12) double click blank , the File Property Setting will pup out, fill in “2” in 

that mean the pin will move 2 times in the Y-axis direction; fill the distance 58.258 to Y-axis offset 

that

mean the distance between near copies in Y direction is 52.258mm .

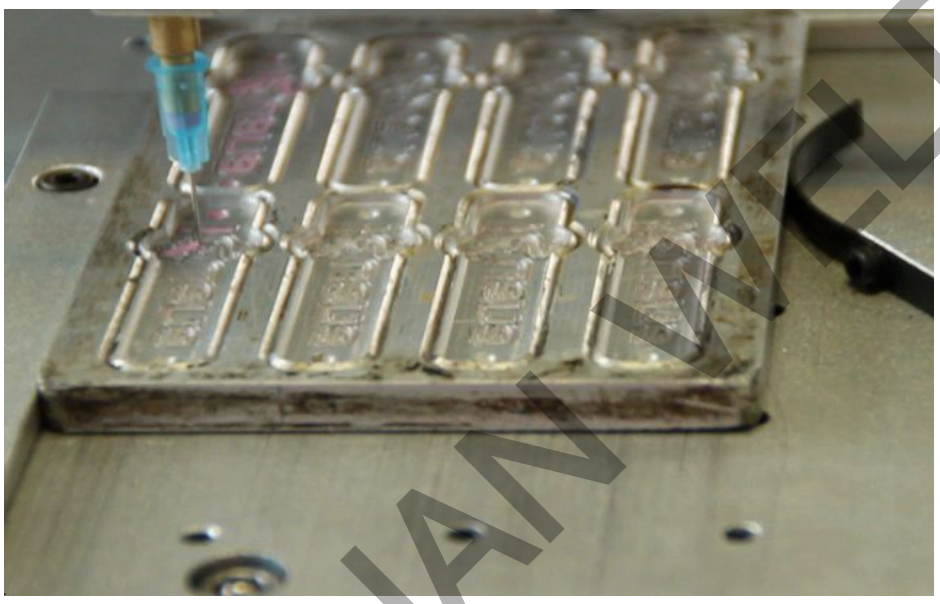
(13) Press 

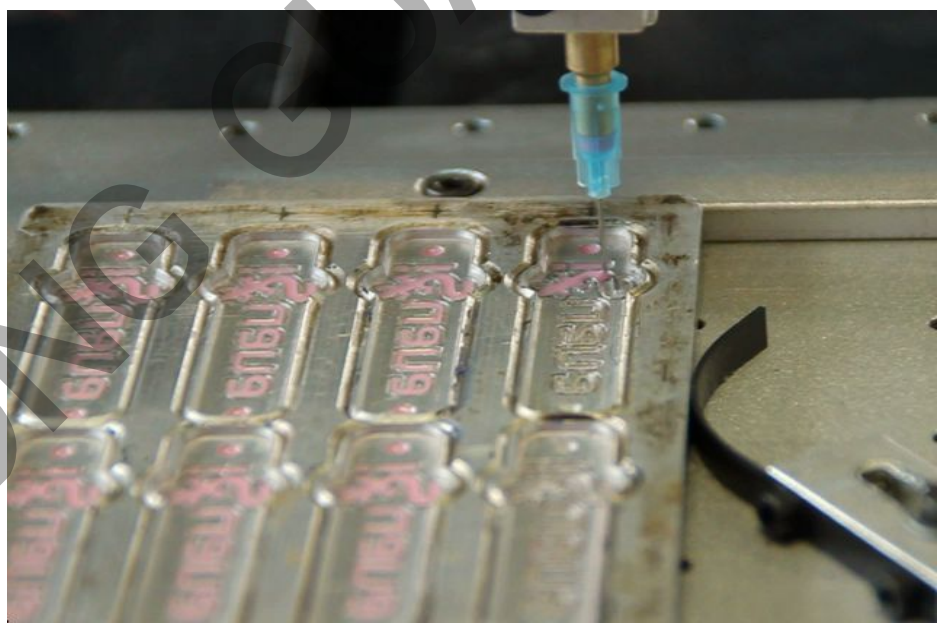
(14) Select the line, press “Delete” to delete the line.

5.2.12 Download process template file to the machine

(1) Click  and download the whole file to the machine

(2) Press  , the machine will carry out the materials to fill in the 8 cavities.



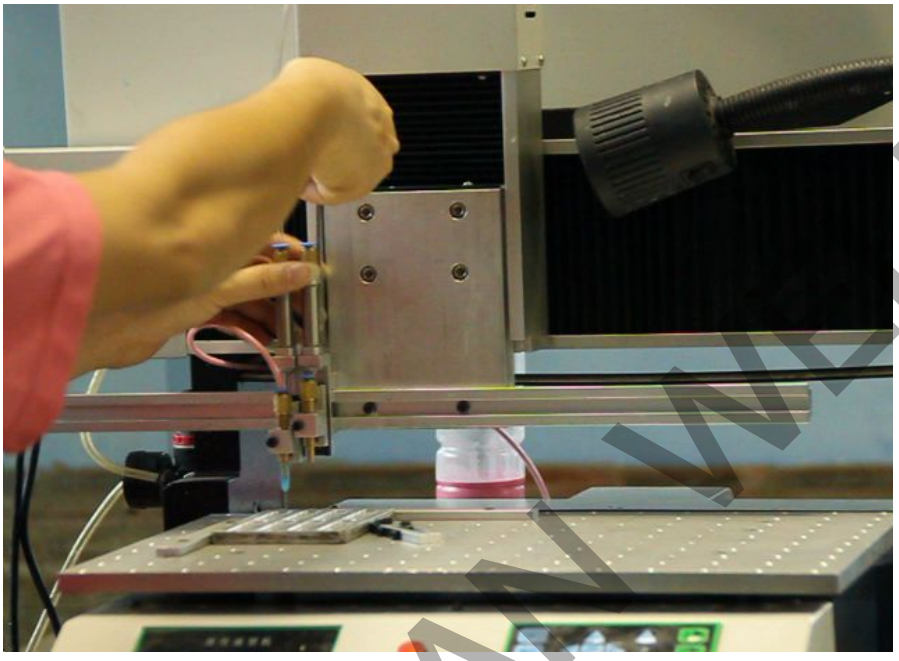


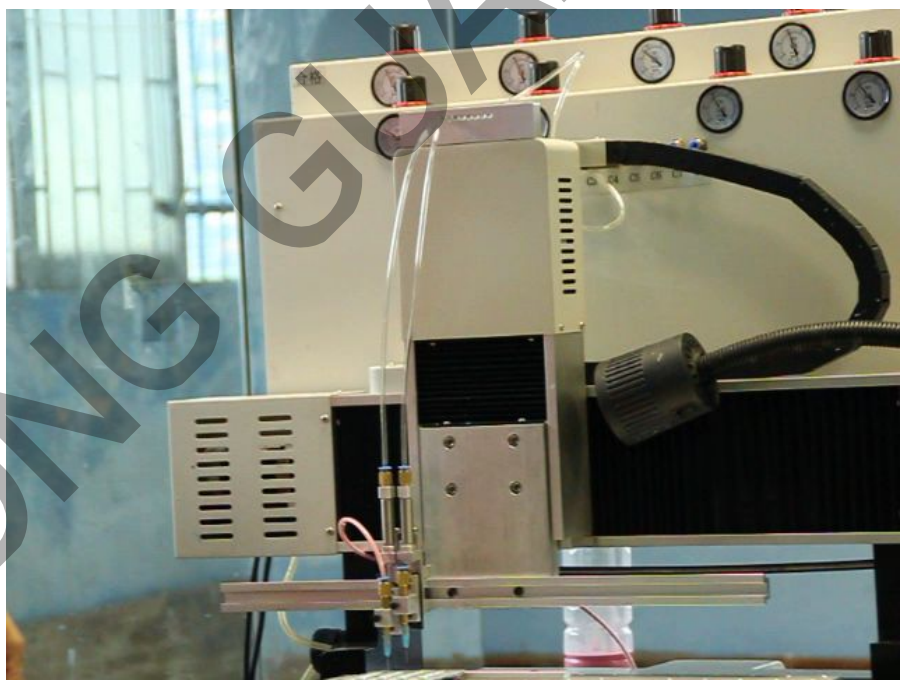
CHAPTER 6、TWO DIFFERENT COLORS

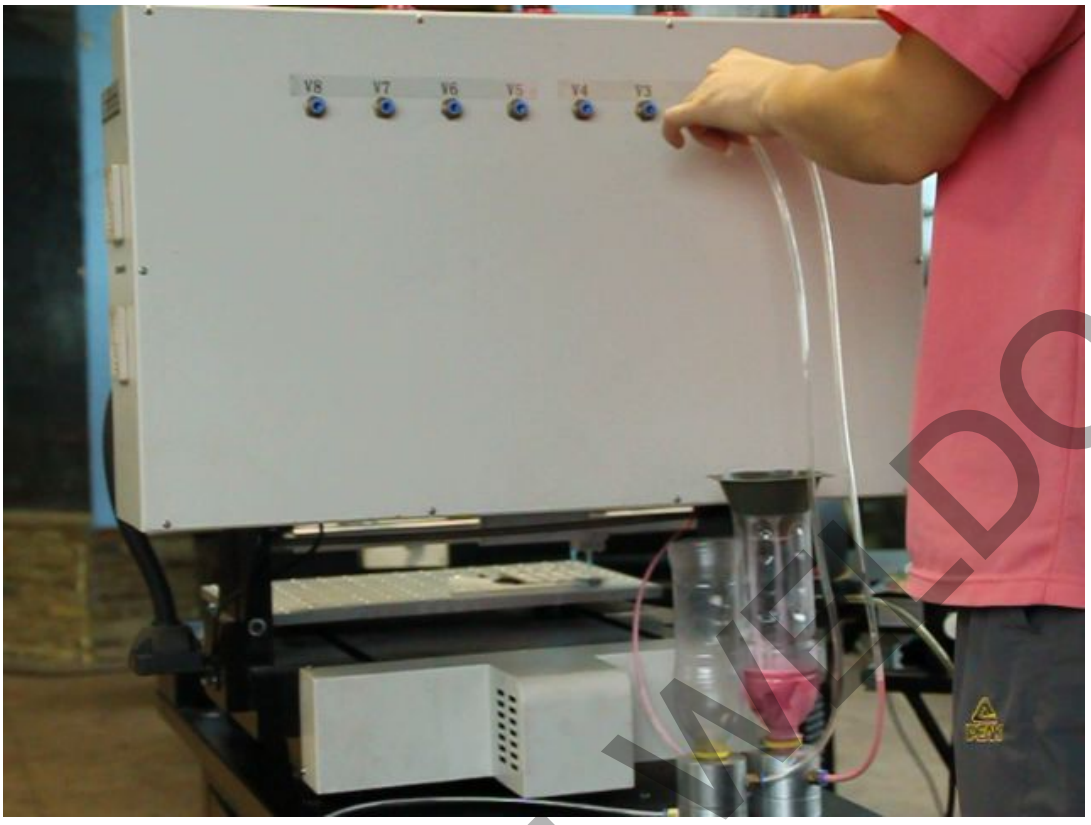
Chapter 5 is about the single pin with single color working in the mold. Because a design will have two or more colors, this chapter introduces how to dispense different colors in the mold.

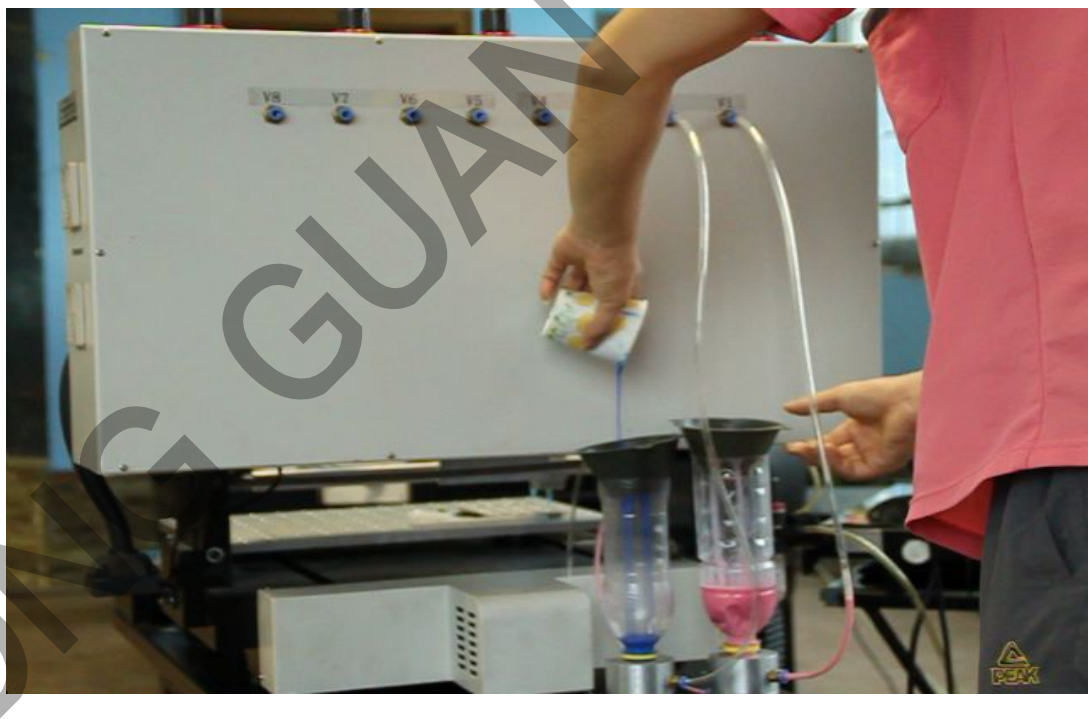
6.1 Installation of charging valve, needle shelve and pneumatic System

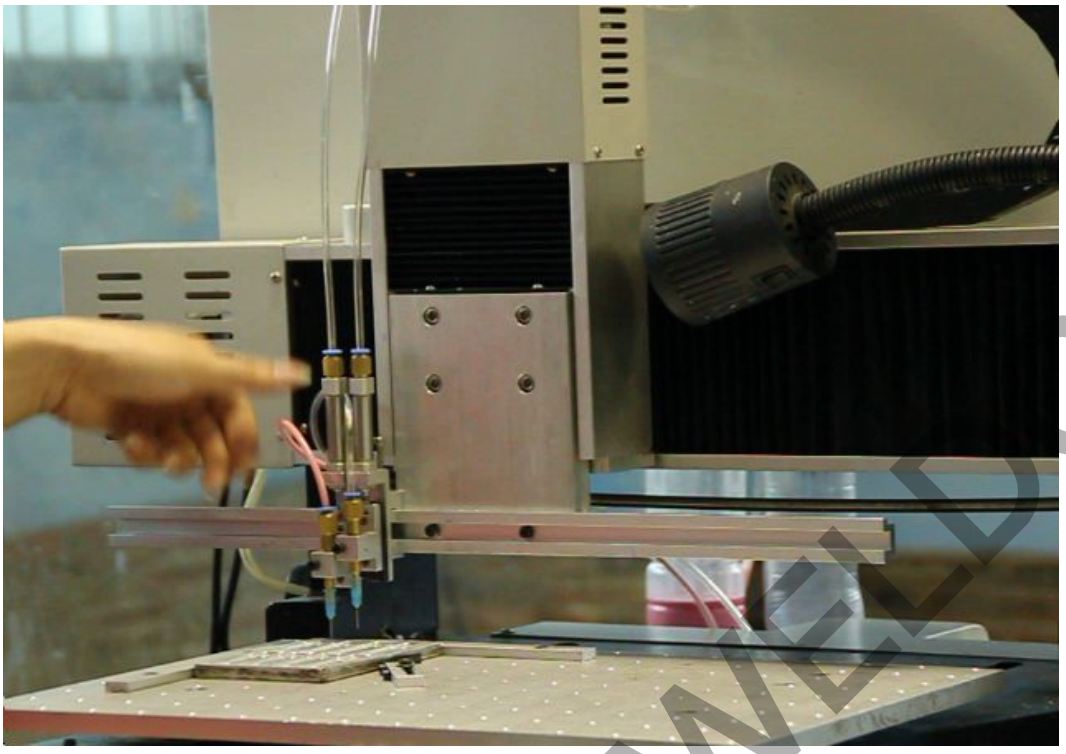
This procedure is the same as the chapter 1











6.2 “P#2 ” origin setting

[1] set “F” origin and “P#1” origin .The procedures are the same as chapter 5.

[1] press 

, change P#1 

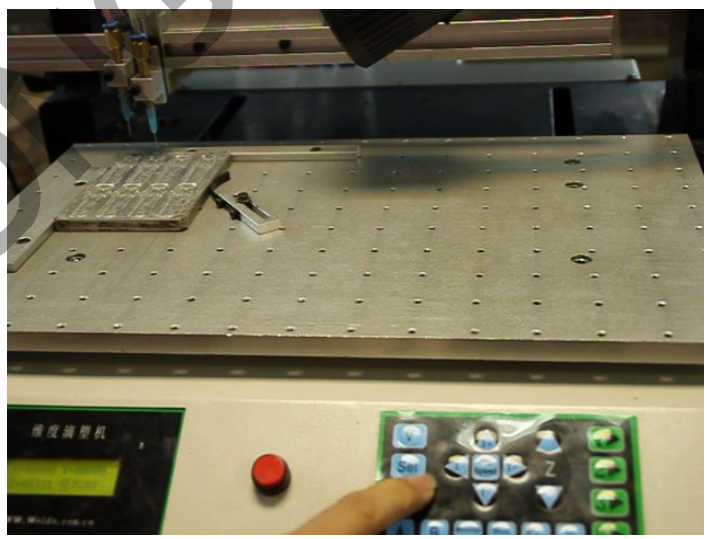
to P#2 

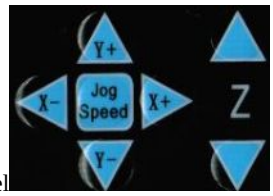
.

[2] move panel and regulate P#2 the same height as P#1

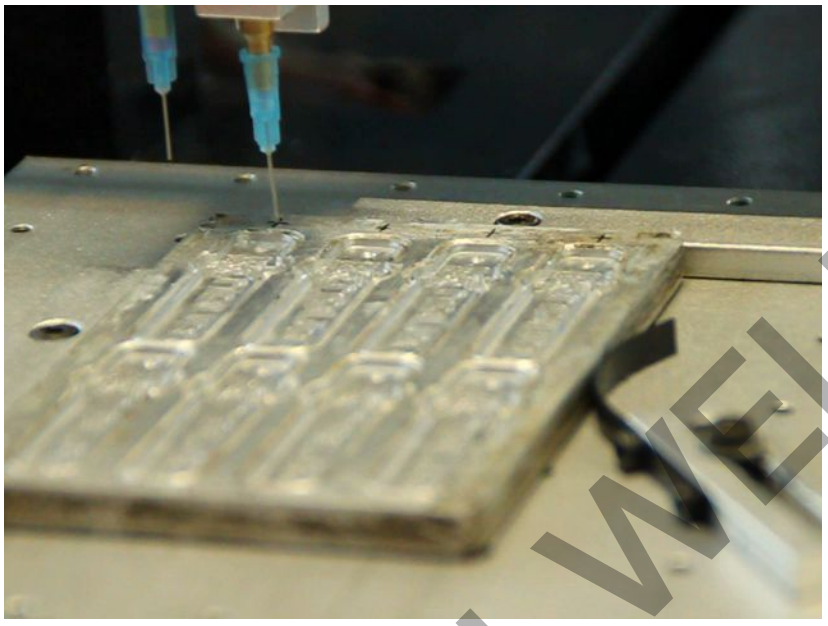
[2] press 

, P#2 will be compressed down



[3] Operation panel 

to move P#2 aim at the first cross in the mold.

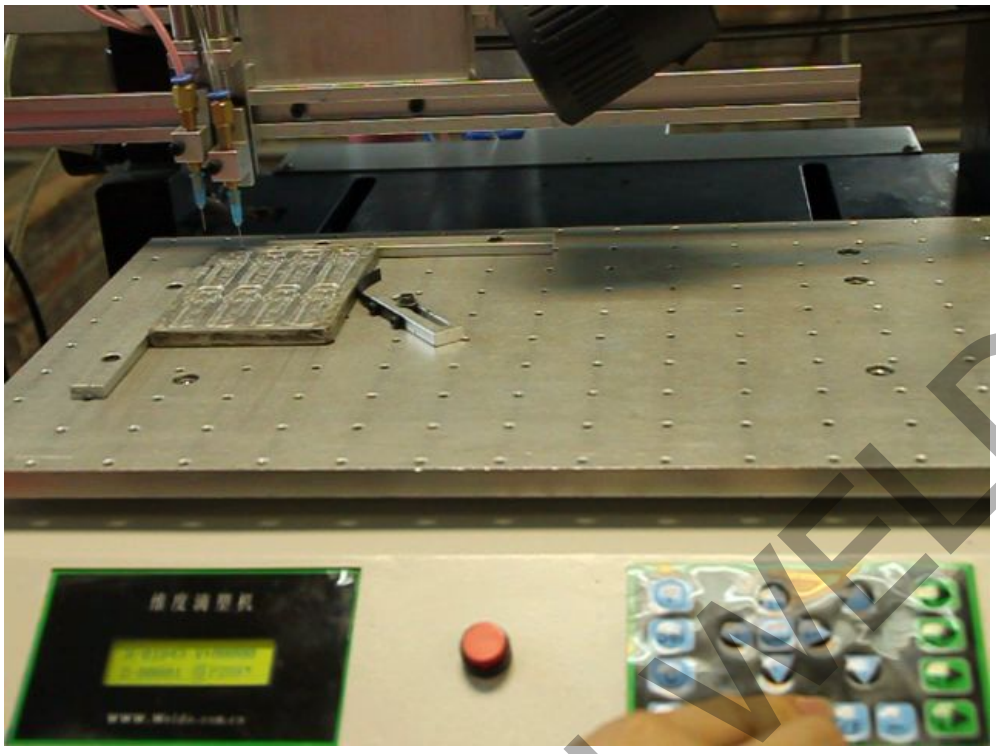


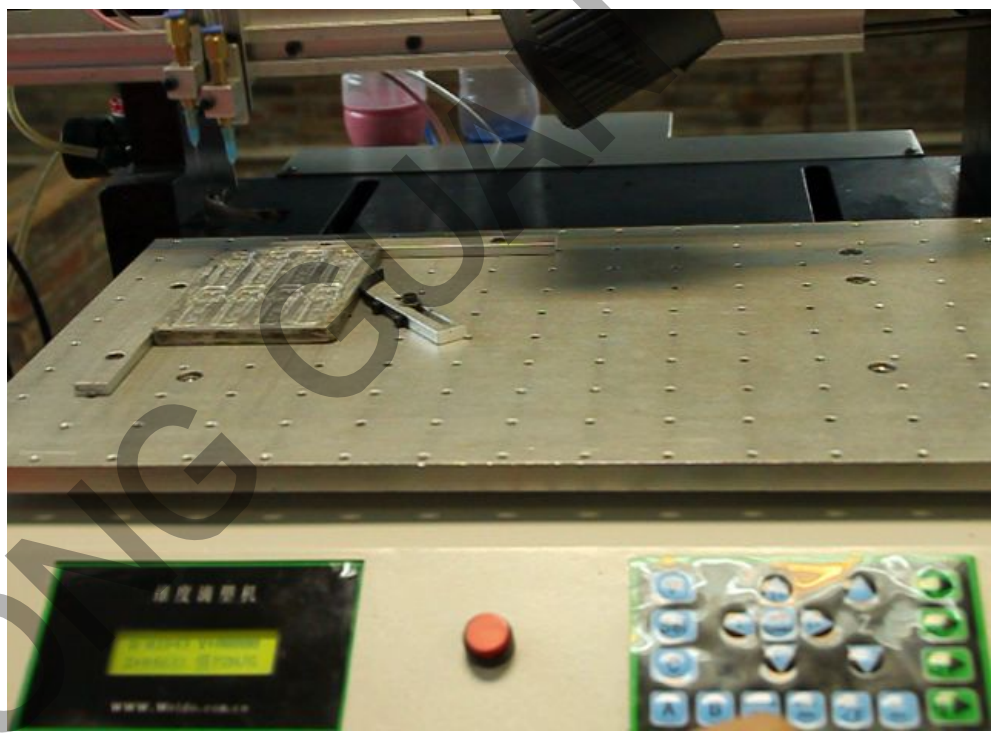
[4] Press 

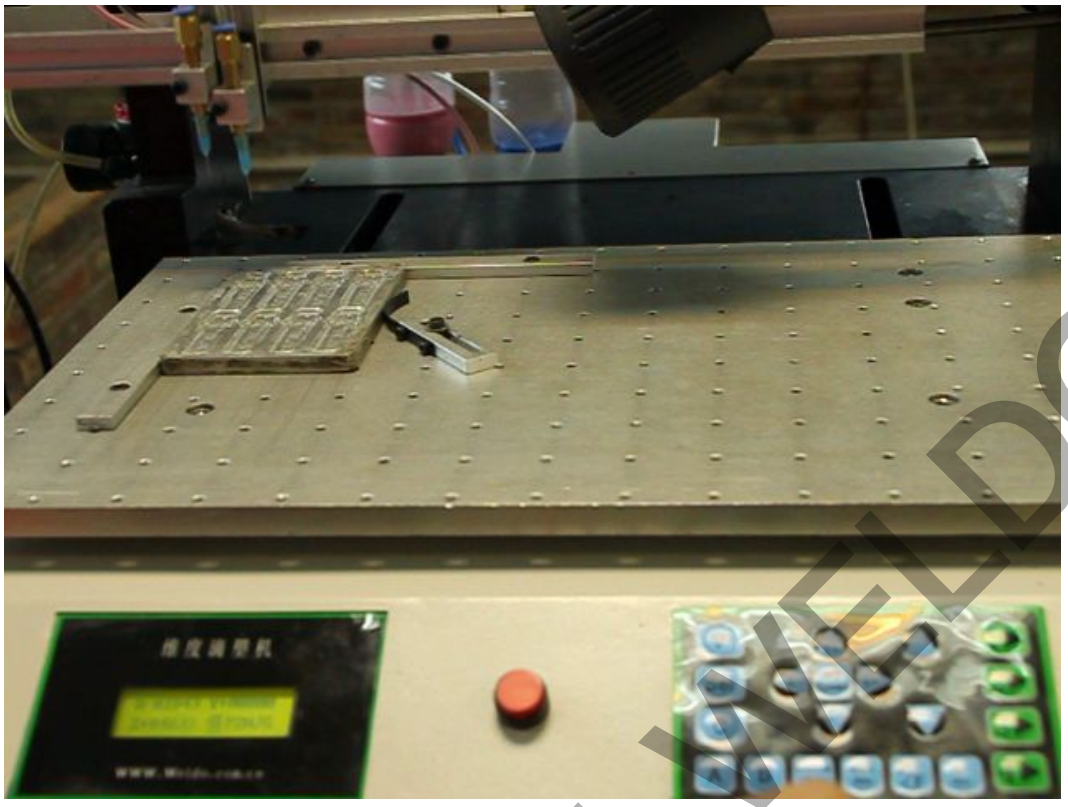
to keep above operations, “P2 OK” will display on LCD.

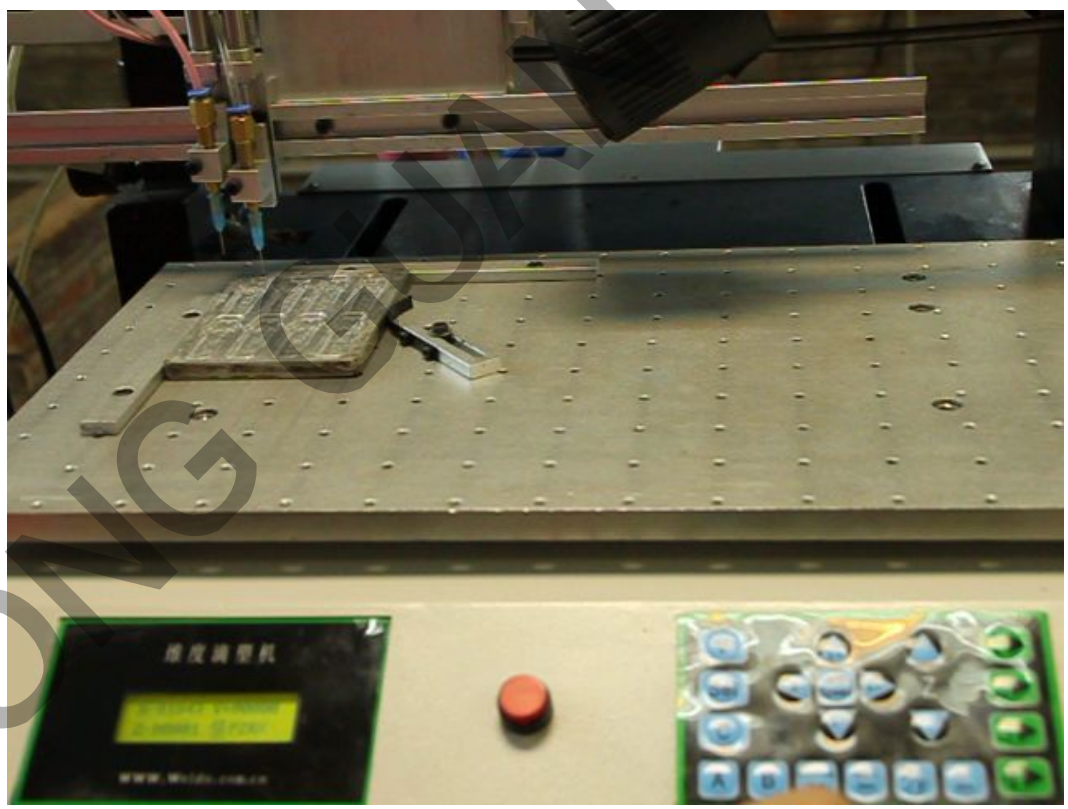
[5] Press 

to check if P#2 can return to the origin or not.



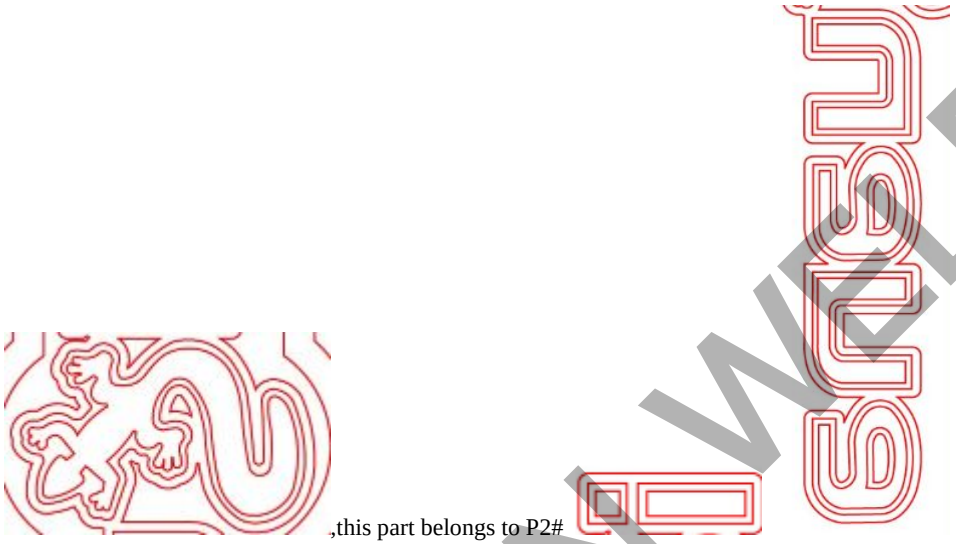






[6] go to software DrawTools, this step borrow the process path from chapter3 ,open valve time , close valve time and process area height from chapter 3. Hide another pins 3 4 5 6 7 8 , change the P# 2 color

Notice : Because previous chapters introduce the template file process path , so this chapter borrows the process path from them .But in the actual production , the operator gets the products will be more than one color , so when edit the process path ,the operator should be draw each process path belong to the pin one by one .For example , this part is belong to pin 1#



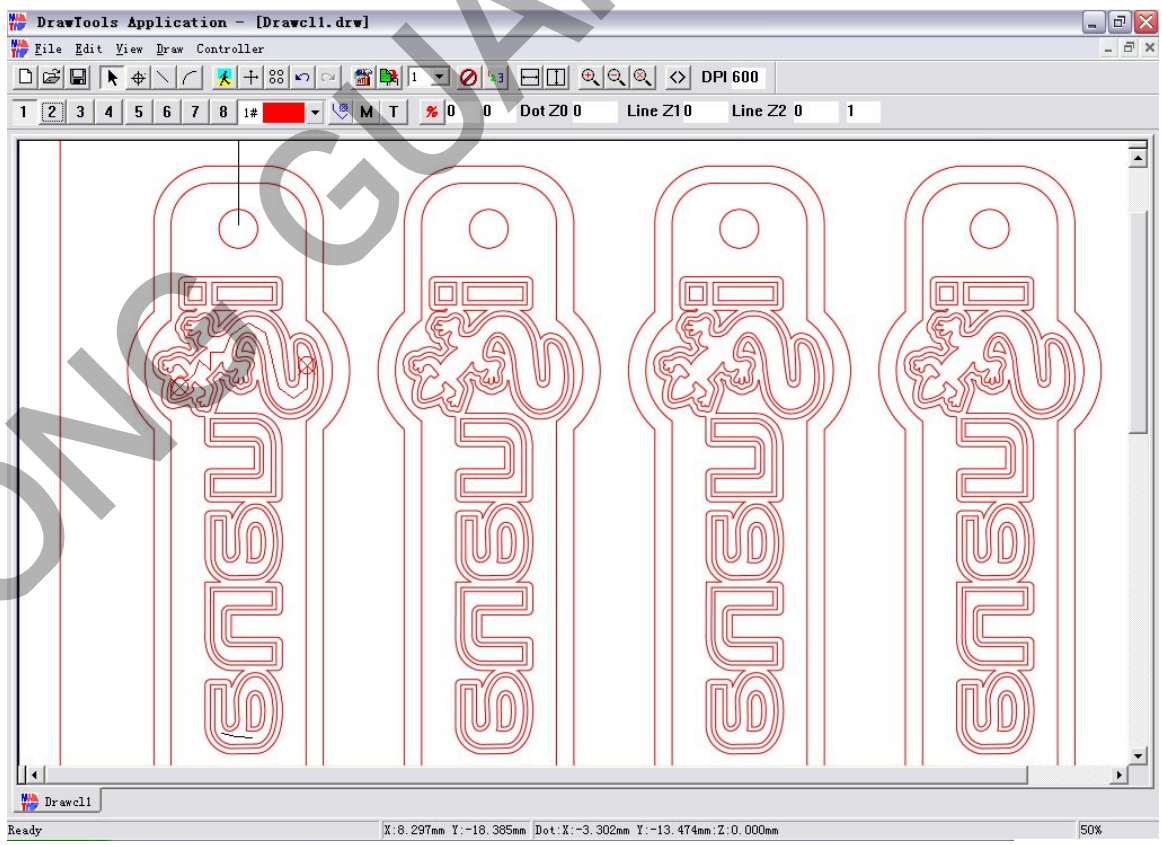
,this part belongs to P2#

.

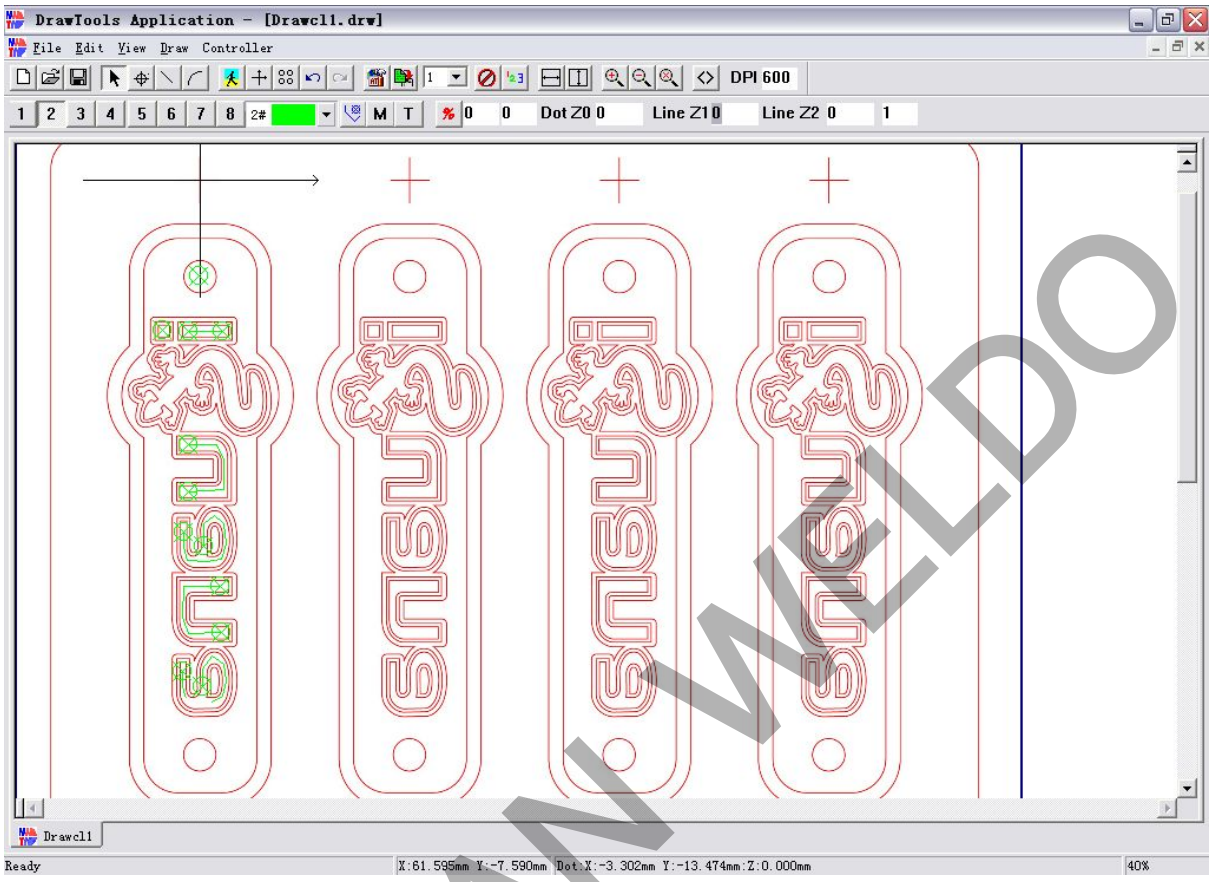
Click and hide 

, highlight 

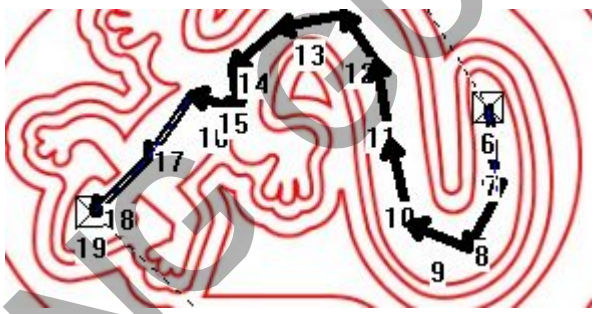
to draw the process belong to P2#



Click 2 and highlight P1#=>click 1 and hide P#1 .

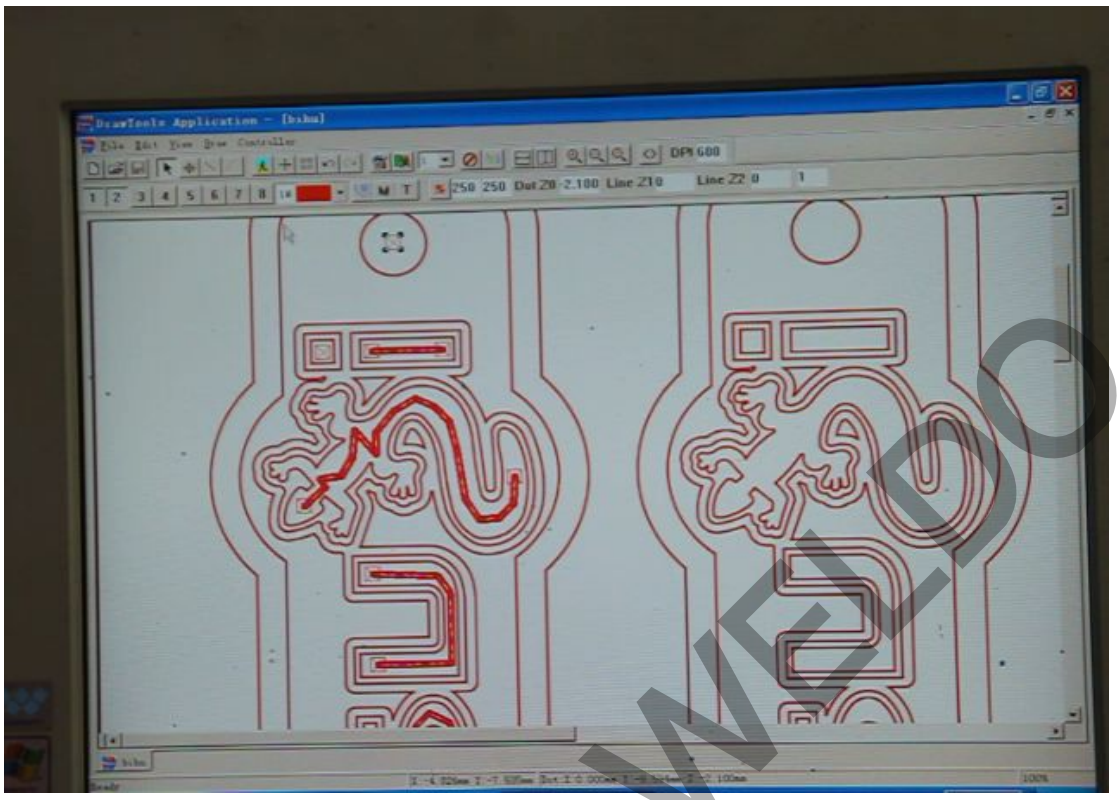


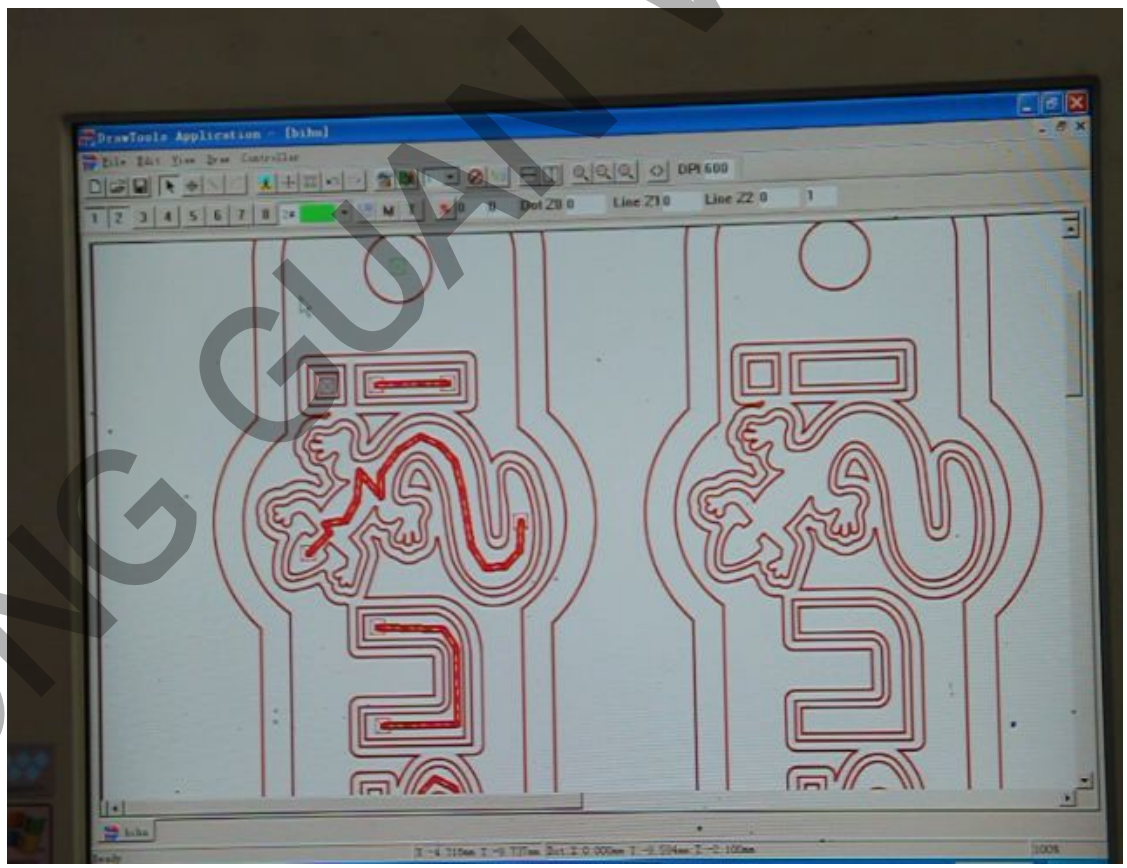
[7] select the process area belong to P#2. For example P#2 processes 

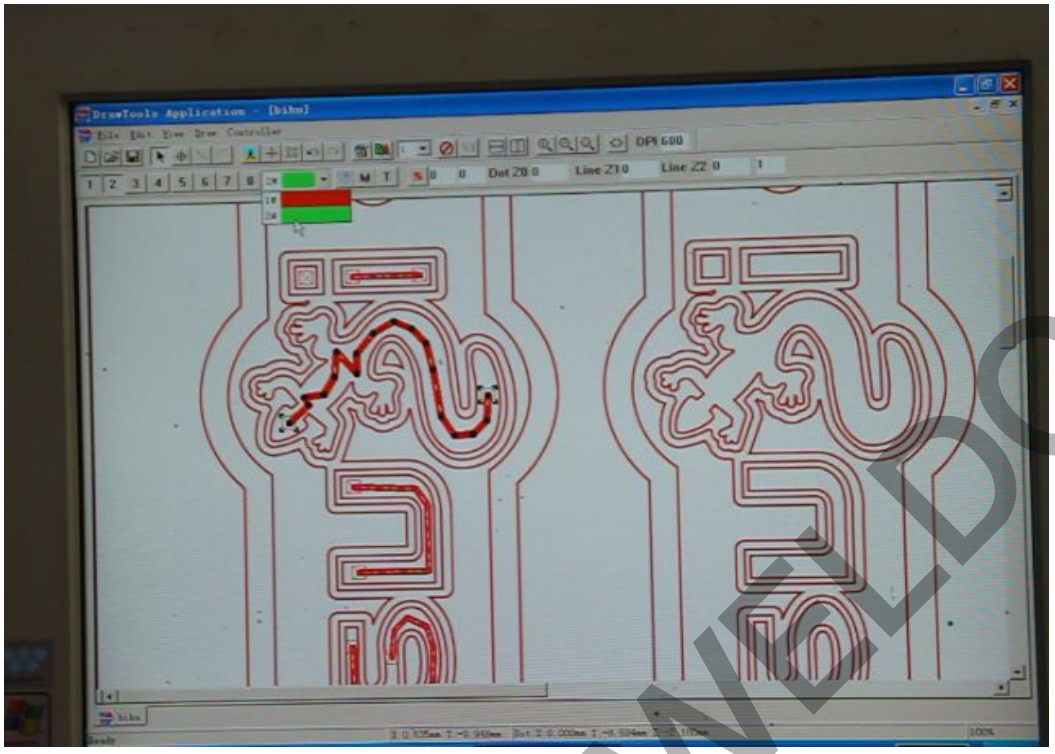


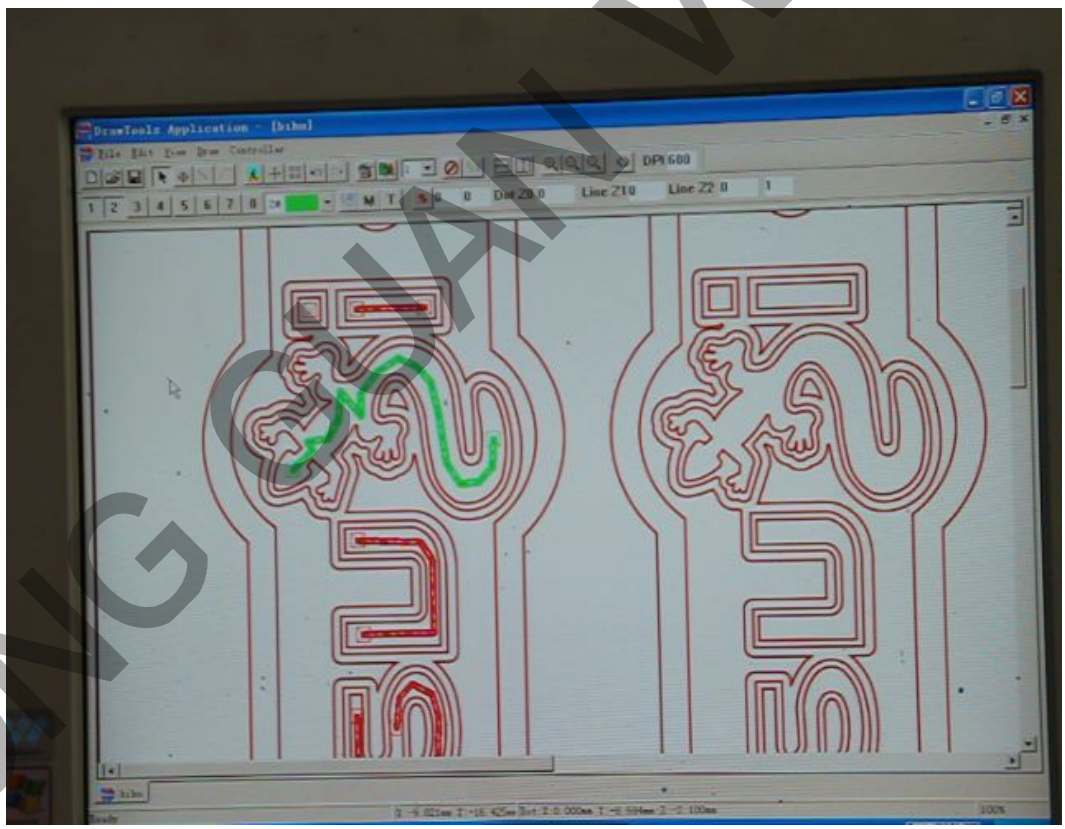
. select those areas , and click 

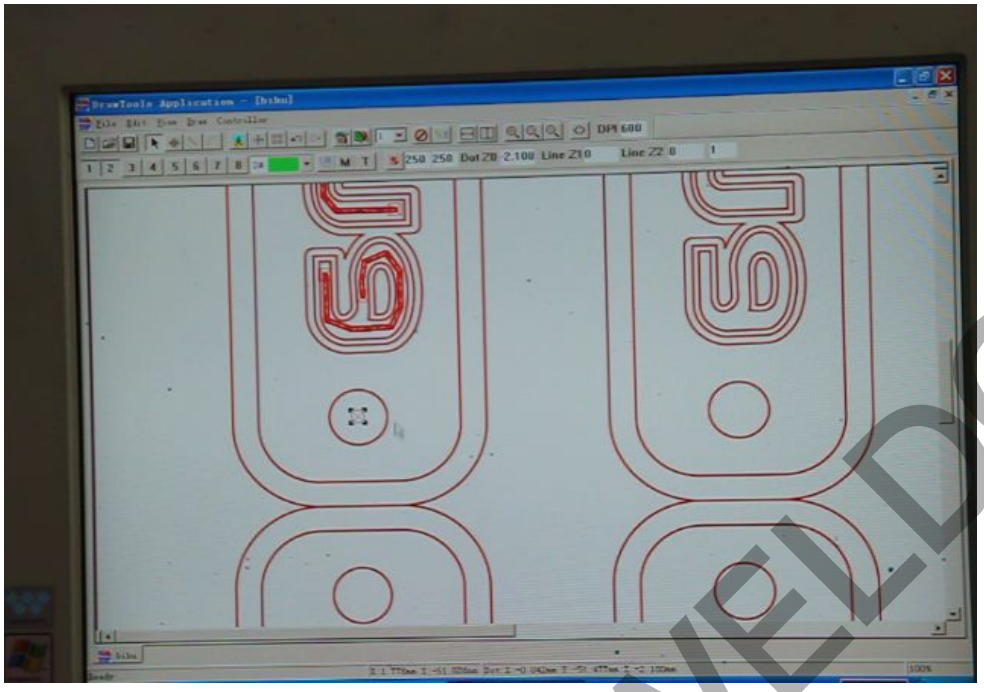
, those areas will change to green.



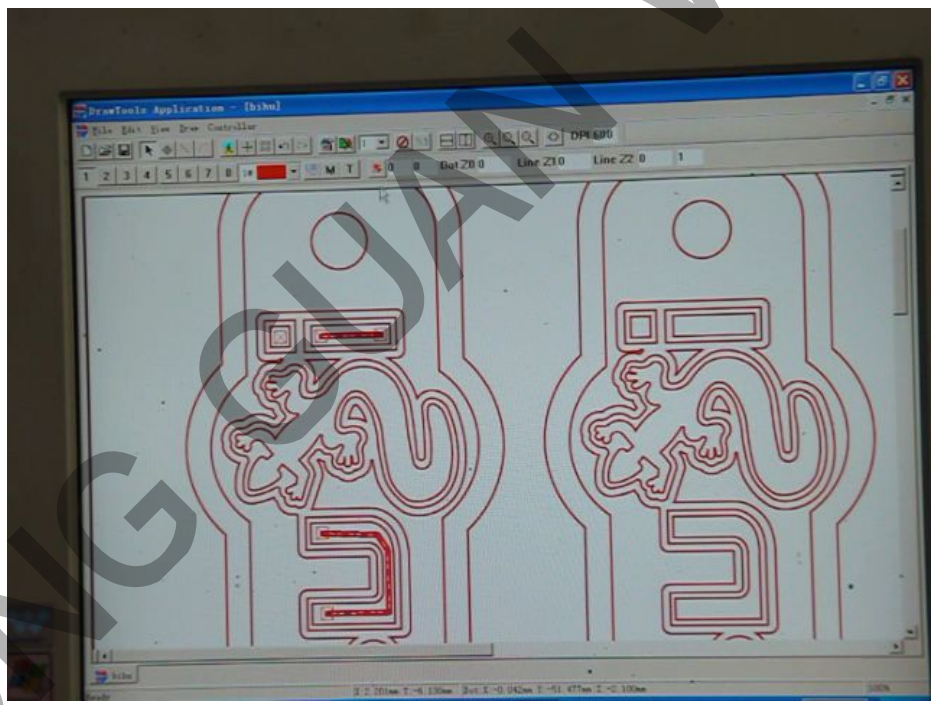




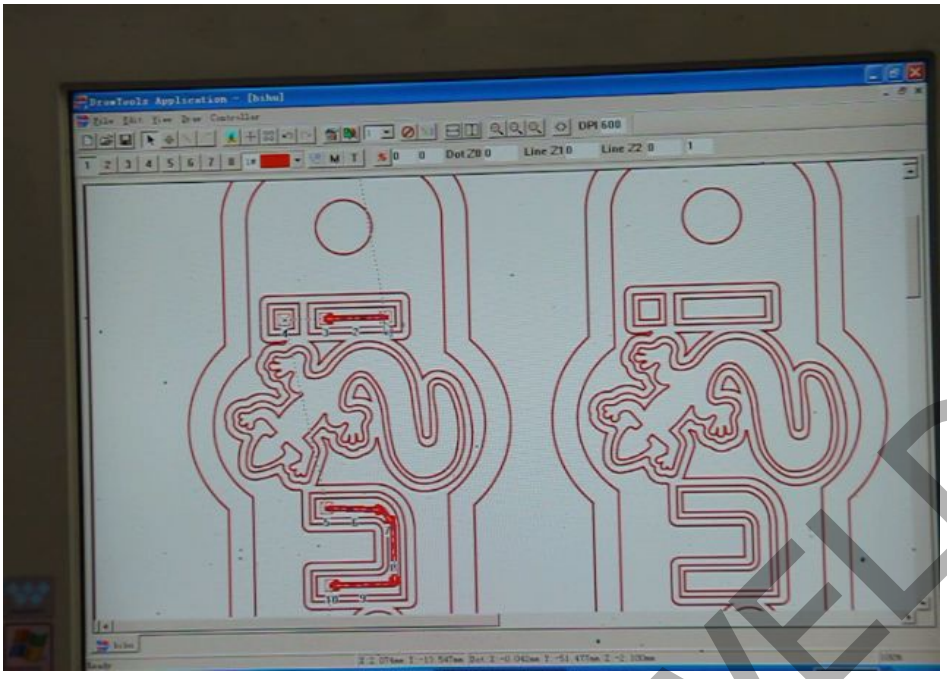




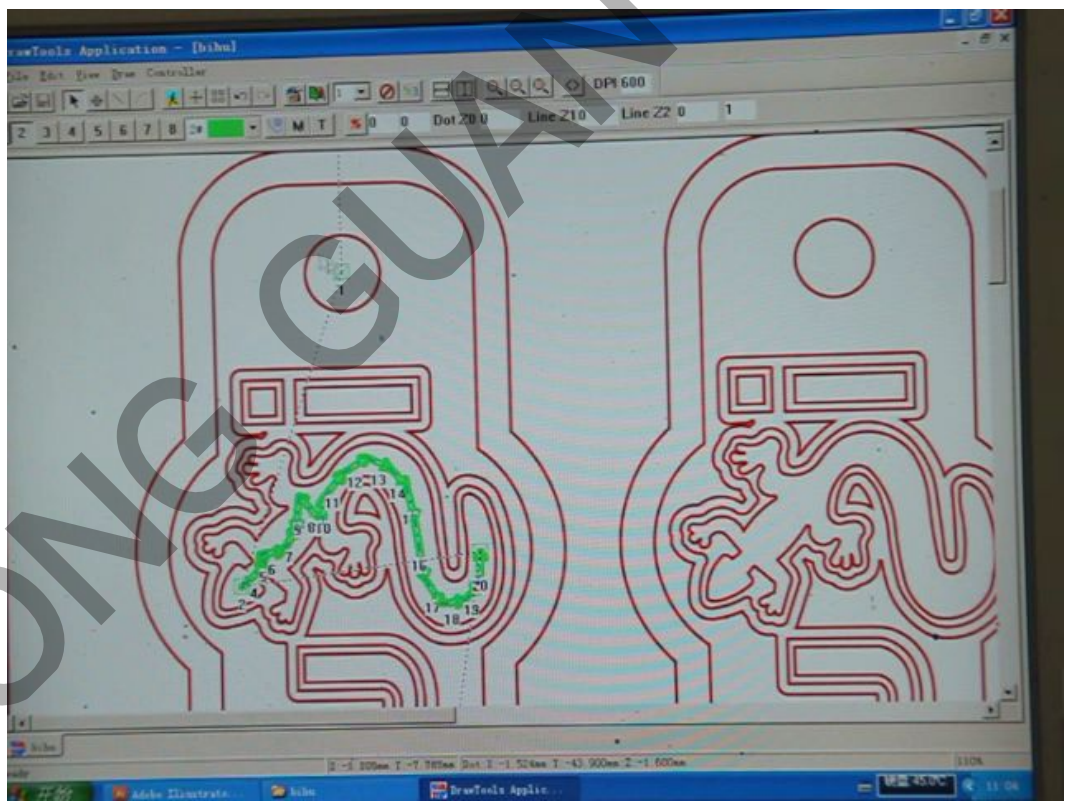
[8] click  ,hide the green area



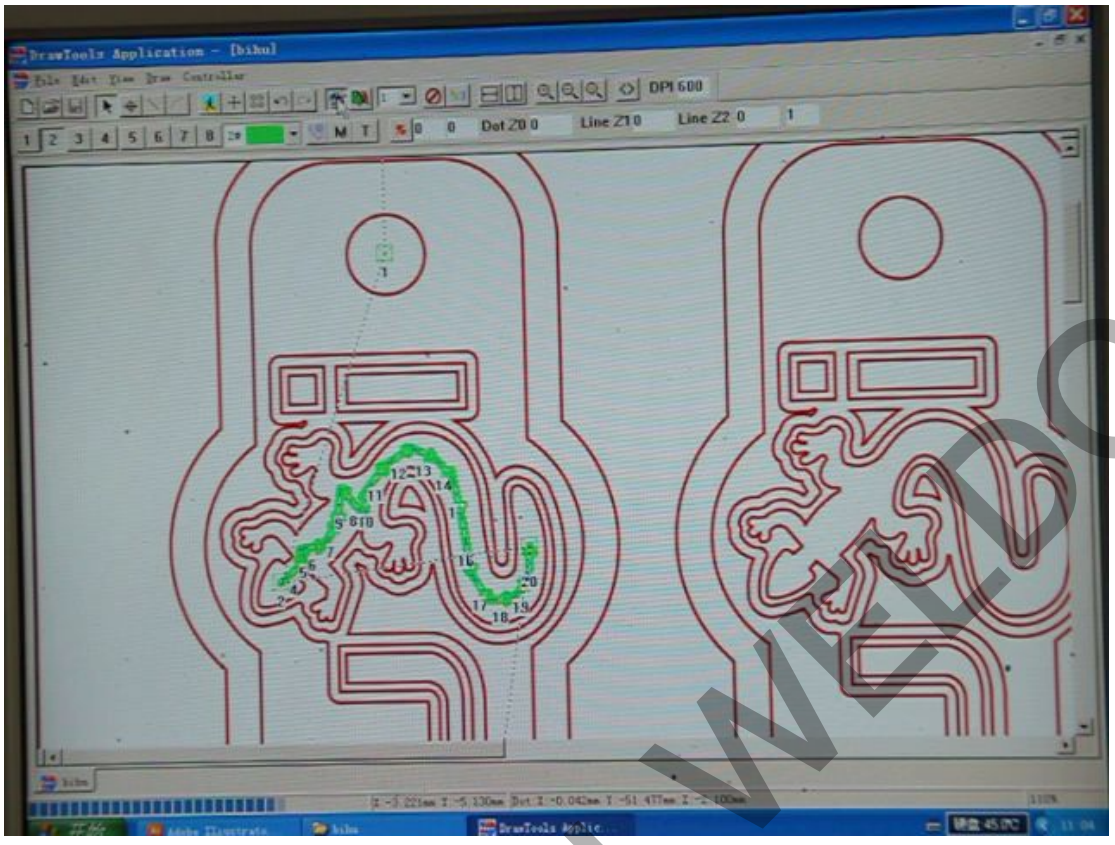
[9] click  to show the P#1 process number



[10] click  => click  ,hide process area belong to P#1 =>click  to show the process area and process number belong to P#2



[11] click  and download the P#2 process area to the machine

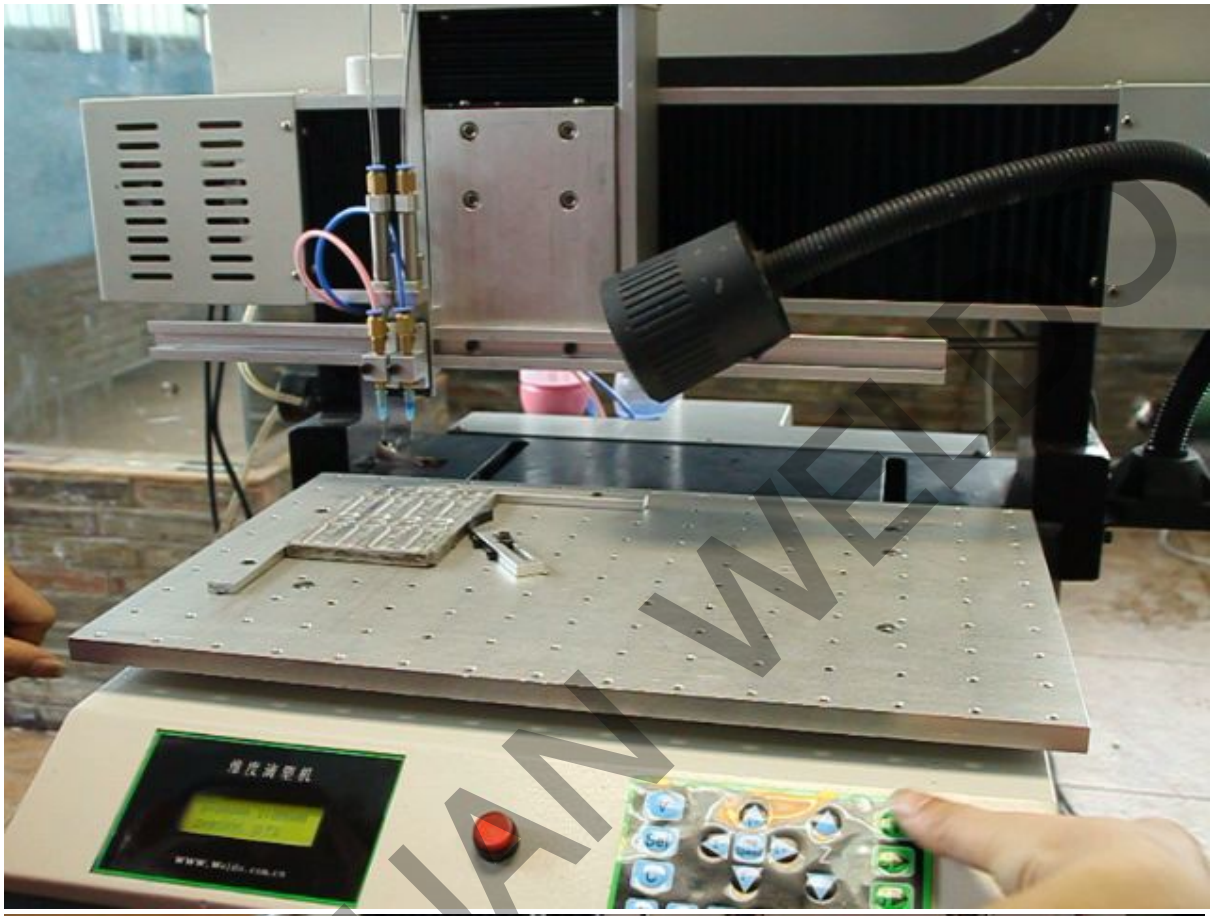


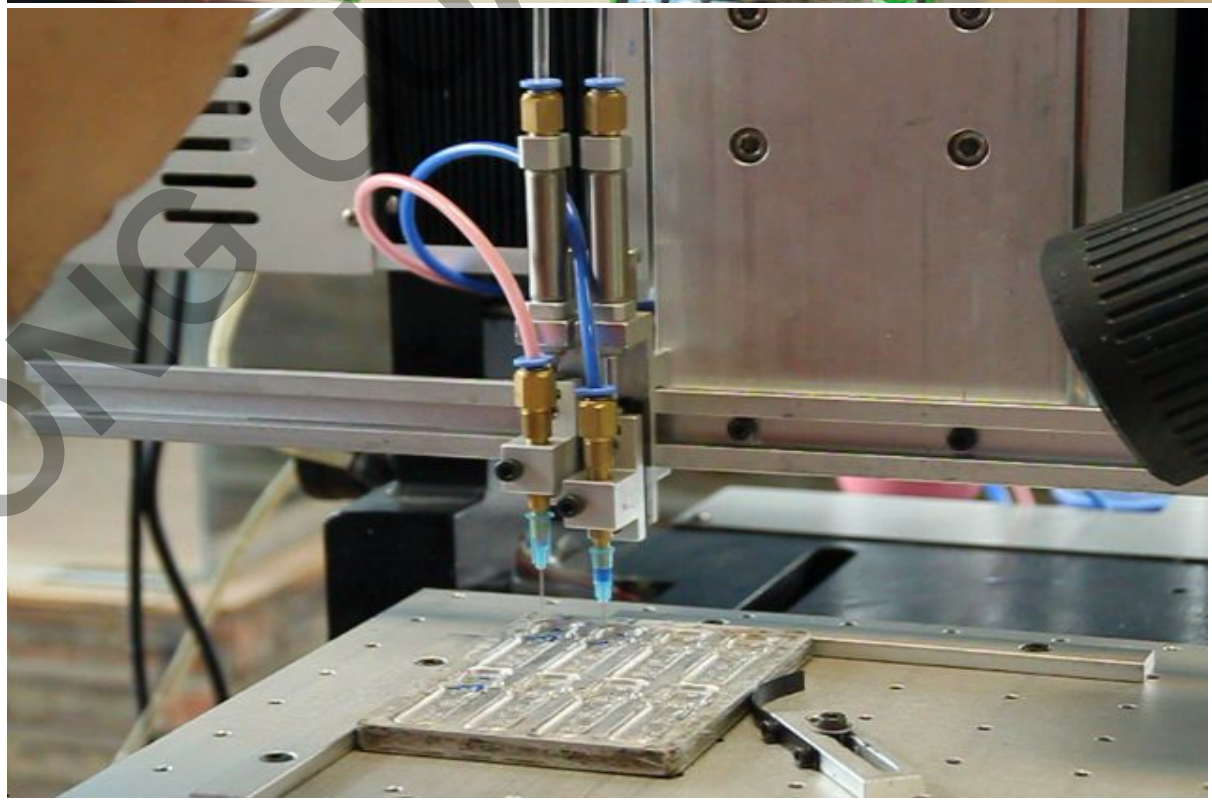
[12] Release the air from the pipe belong to P#2

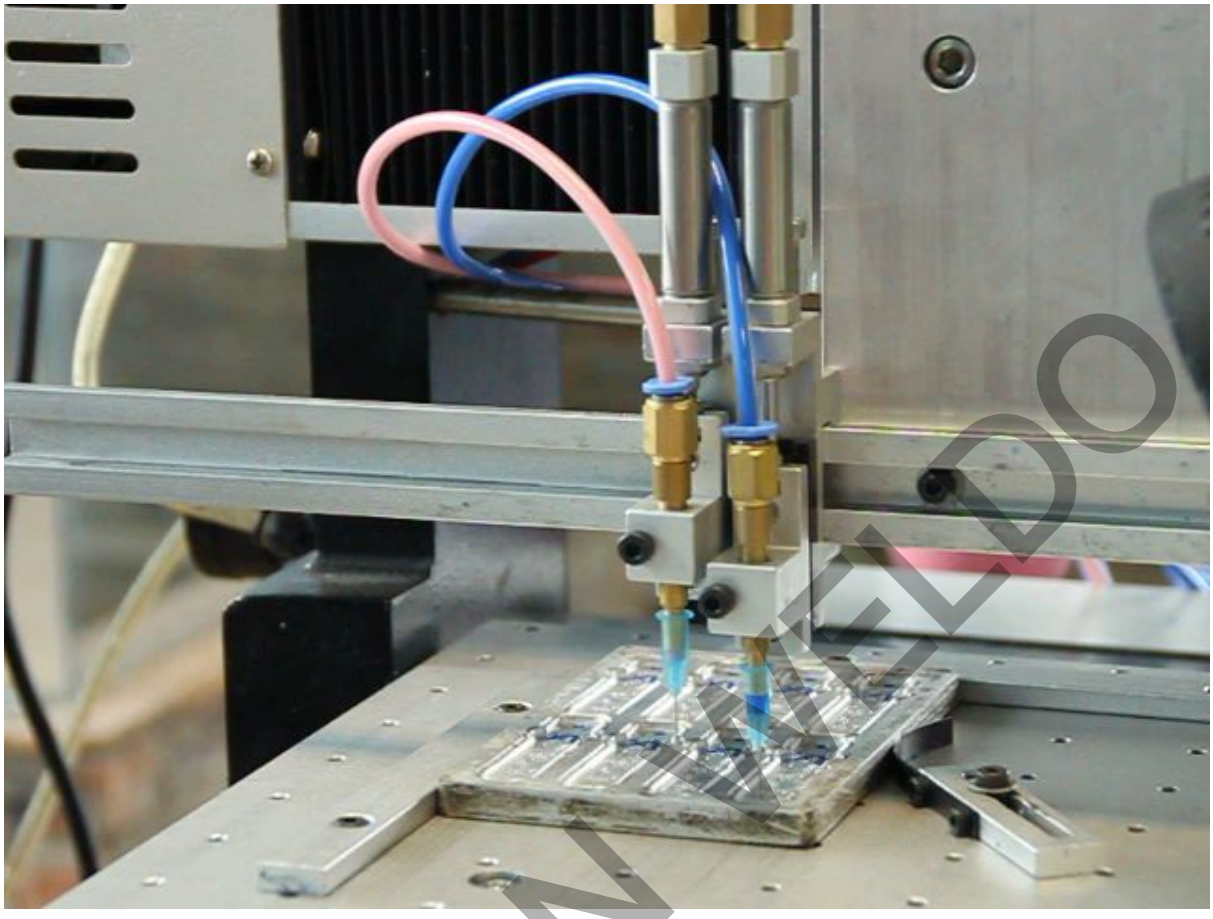
(1) turn on the “VALVE” and “CYLINDE”

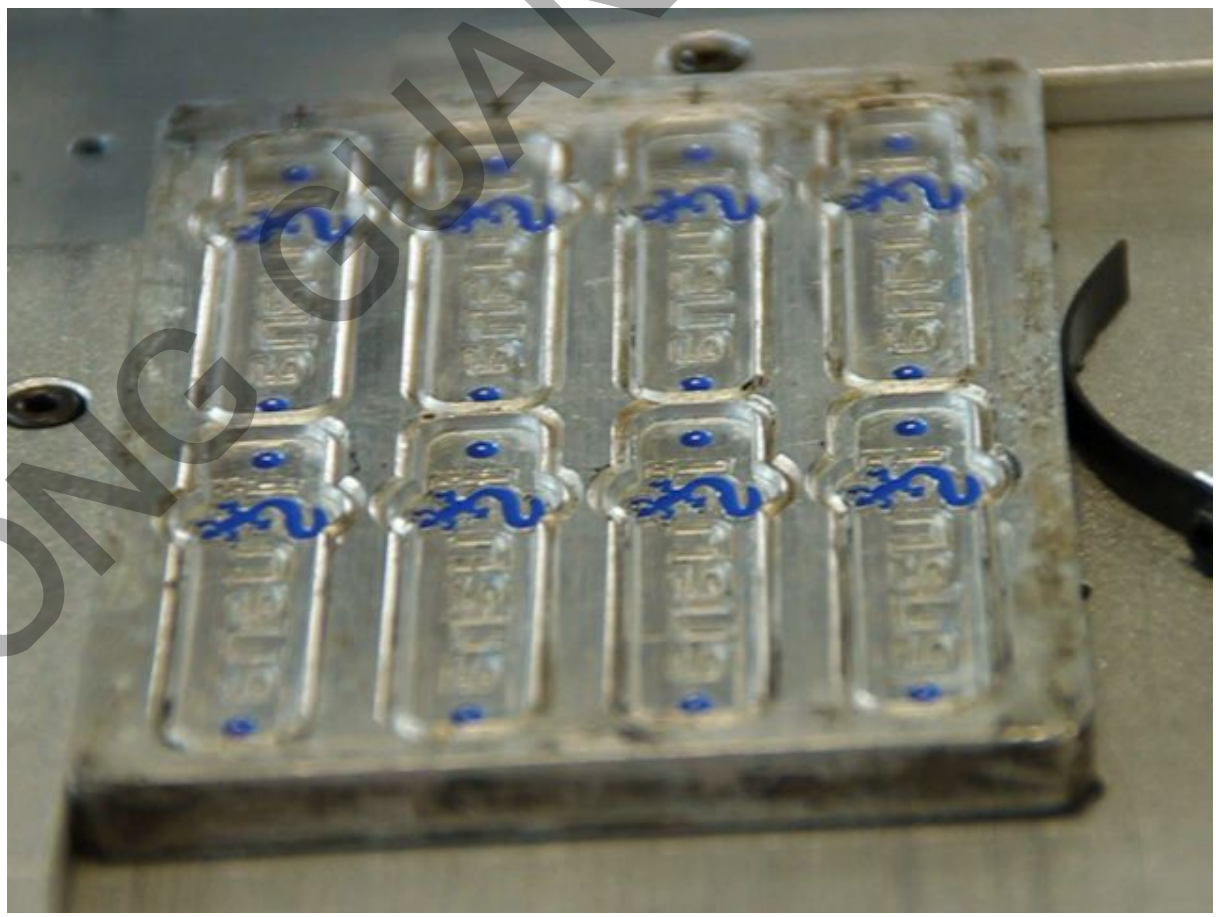
(2) put a cloth below the pin#2 and hold V to carry out the materials from the pipes until there is no air in the pipe.

(3) press  , machine works and carries out materials in the areas of mold belong to P#2.If the materials can full the molds ,and go to next step [4].

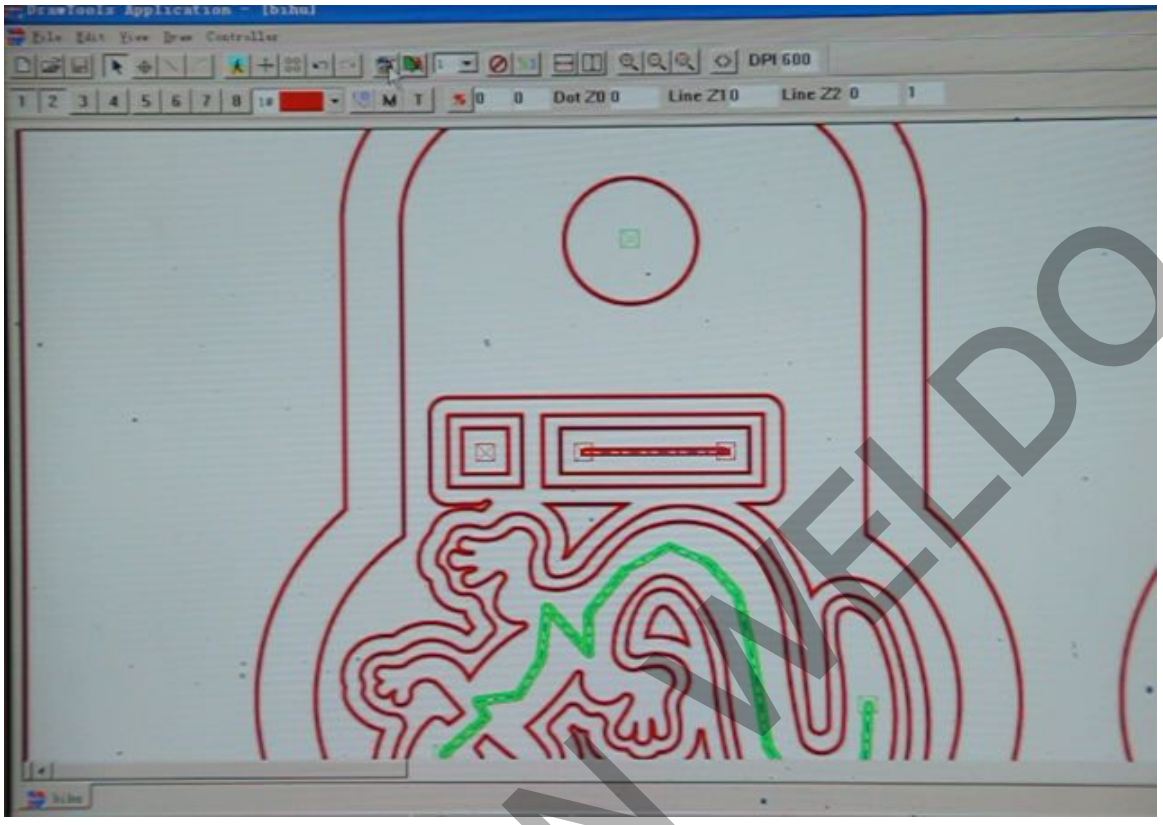


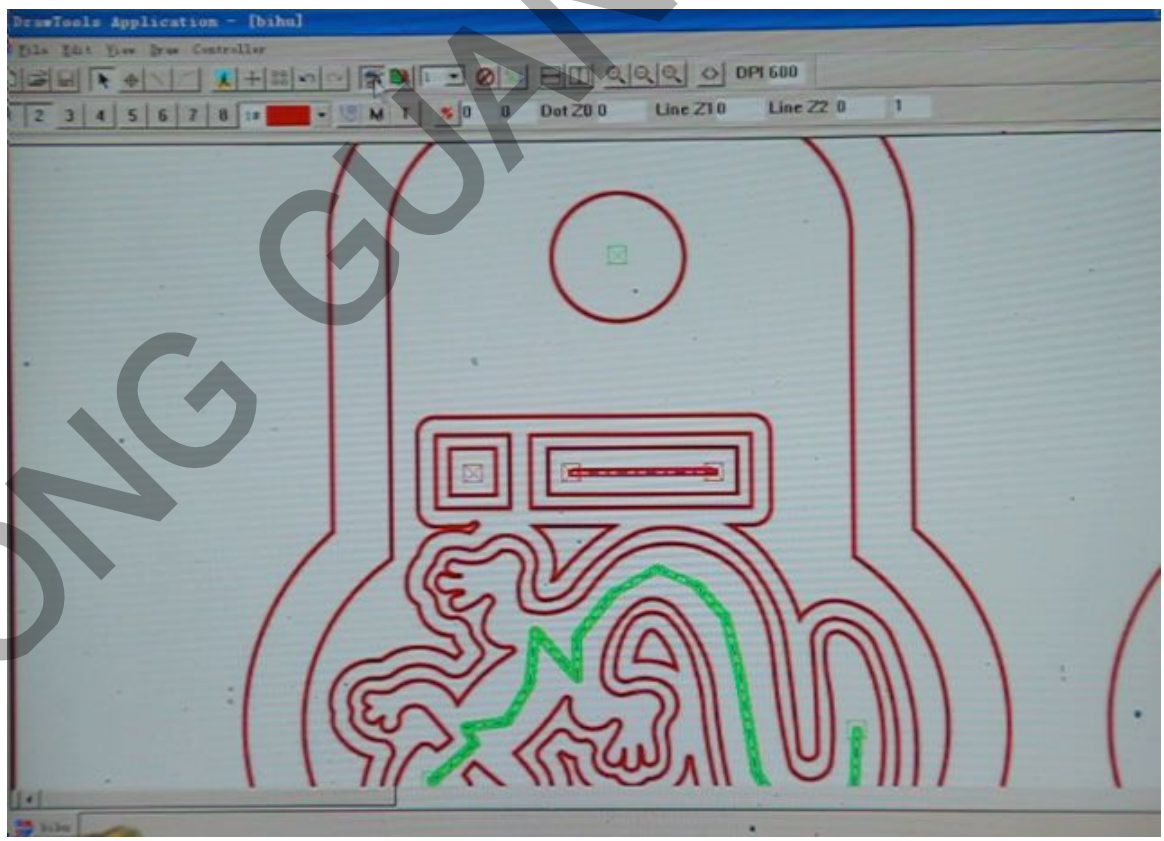




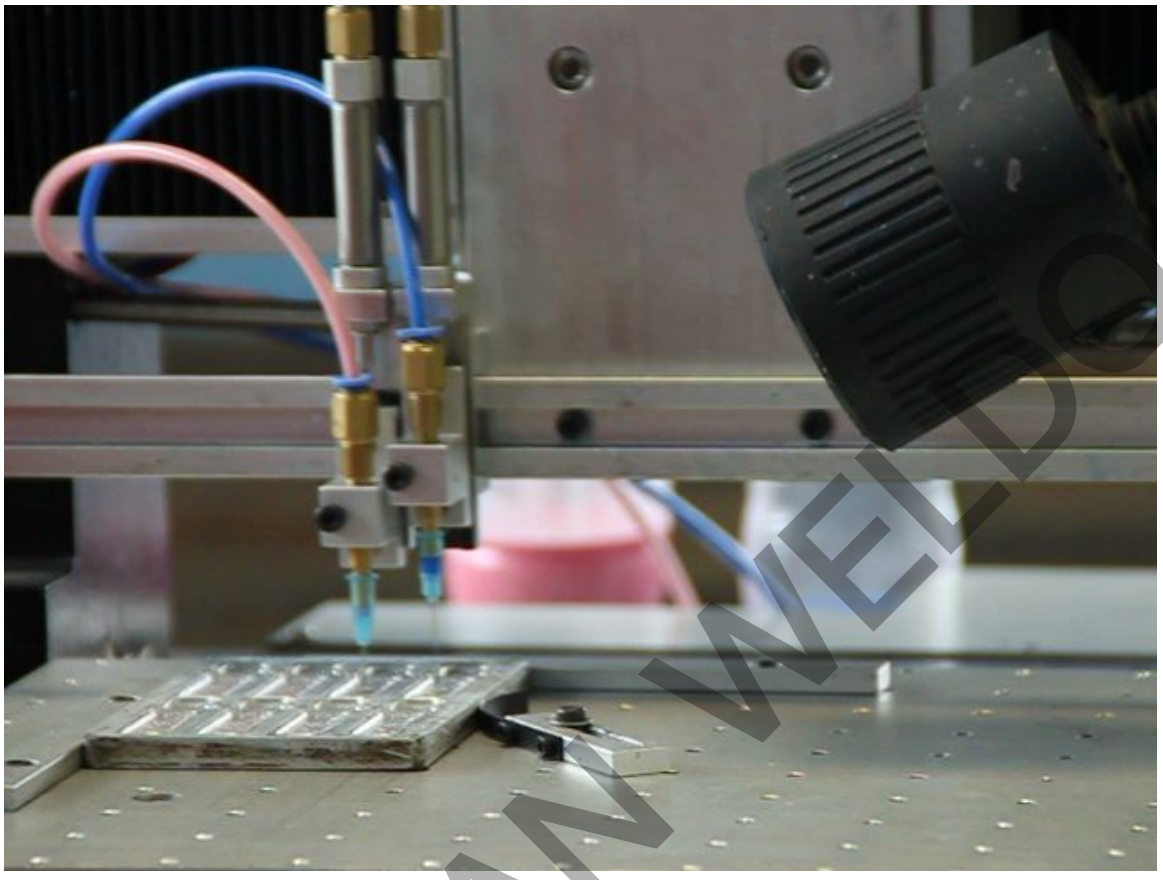


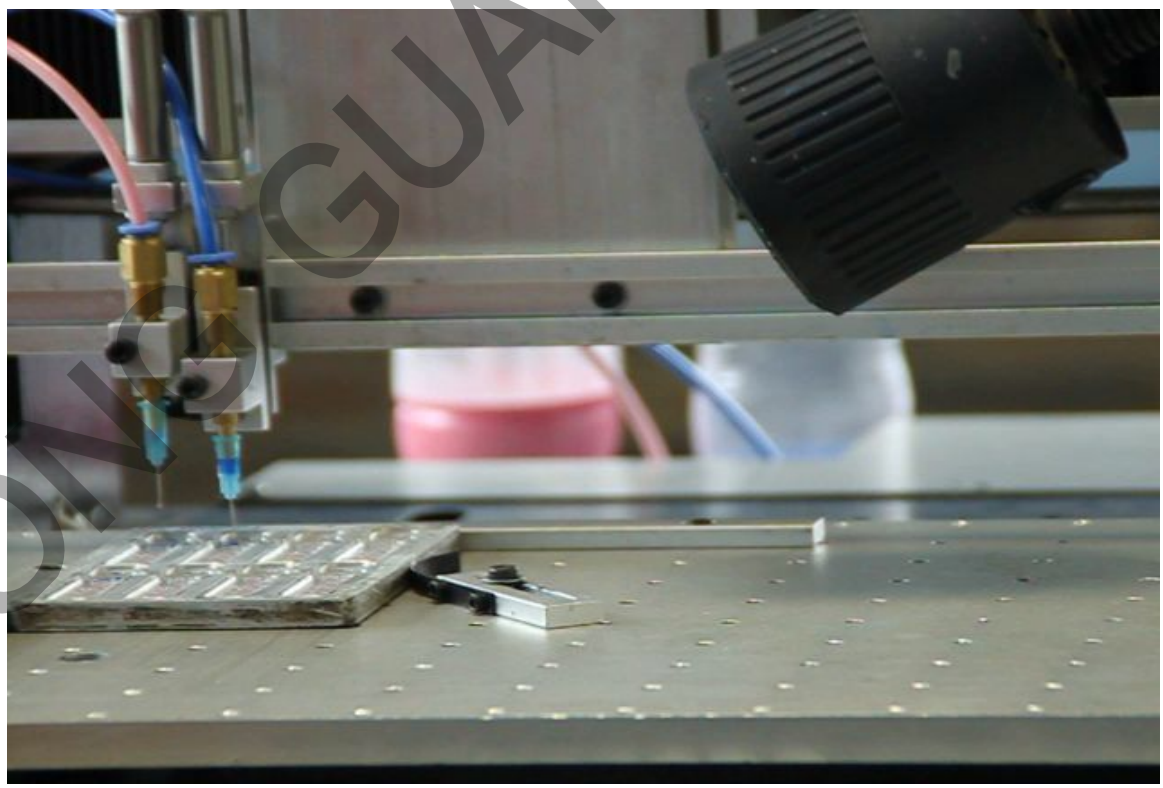
(4) click  to show process area belong to P#1 =>click  and download the whole process area to the machine

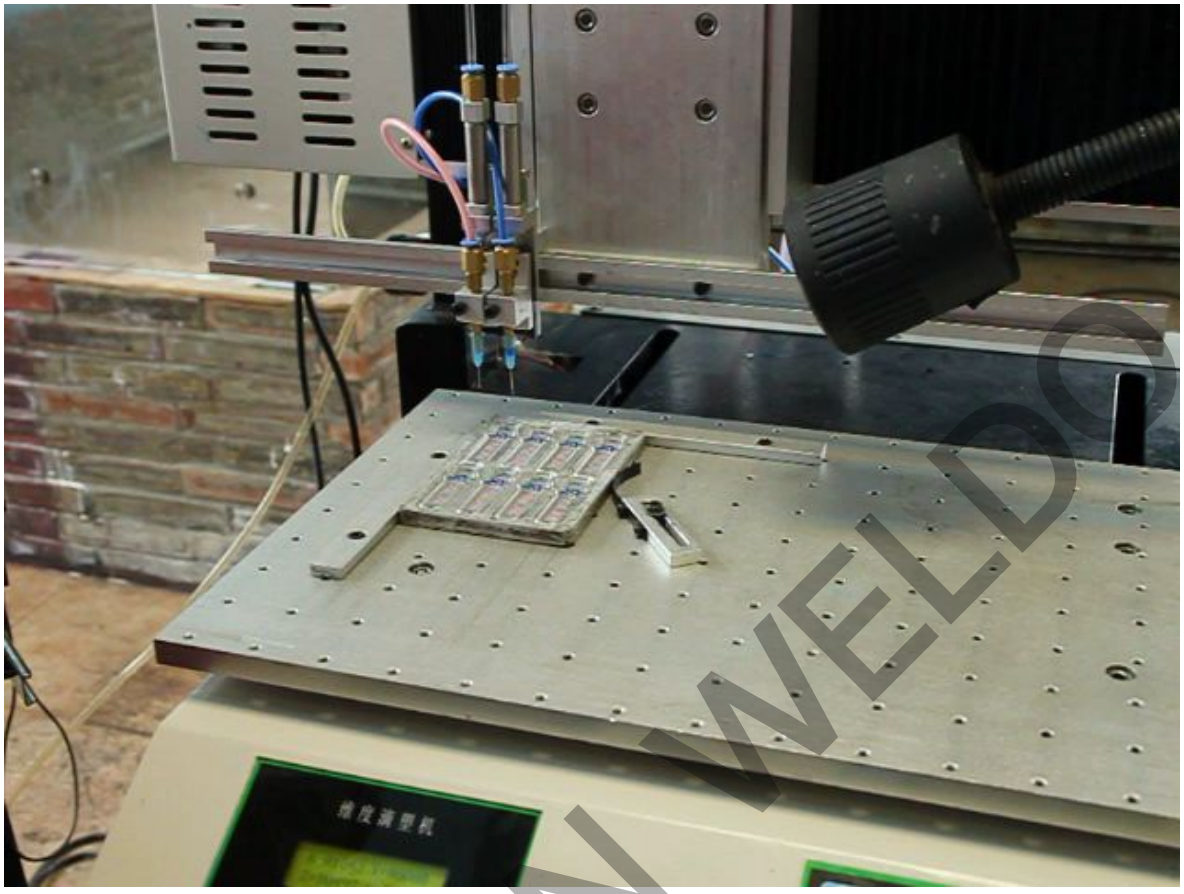


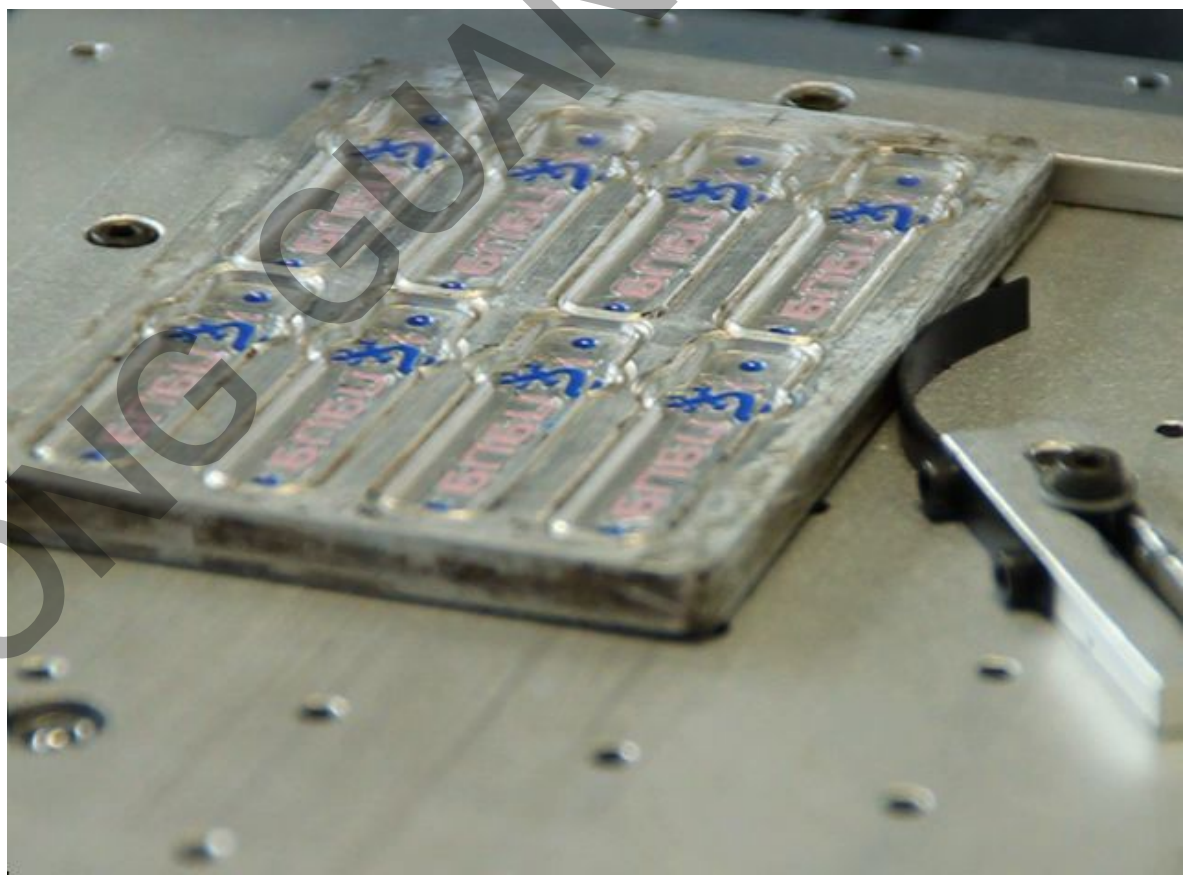


[5] go to the machine , press  , the machine will works on the process area of molds belong to P#1 and P#2.





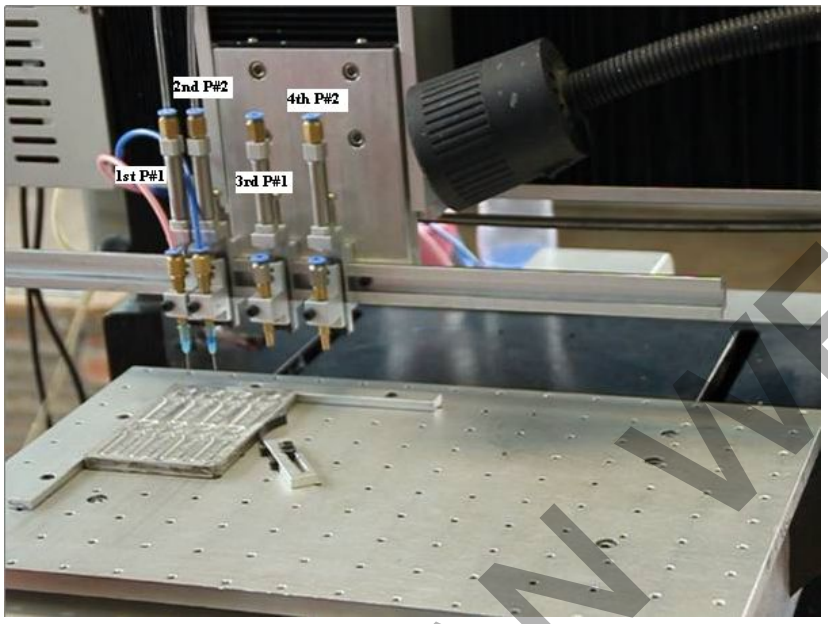




CHAPTER 7 PARALLEL PINS

Parallel pins are the best way to save time and improve the production that likes installing many hands on the machine. Chapter 6 introduces 2 different pins of 2 colors working in the mold, and this chapter introduces parallel 4 pines for 2 different colors.

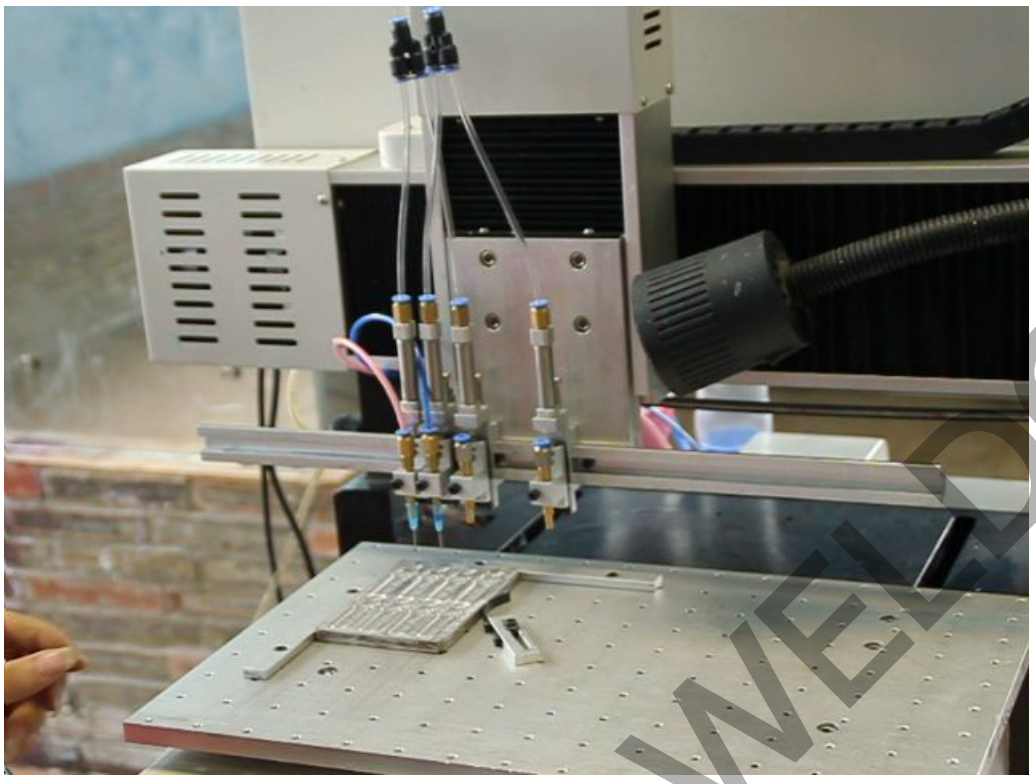
[1] installation of Needle Shelve



[2] Installation of Pneumatic System

(i) Use the joint ,EPY4 

divides the air pipe as below showing , and the C1 controls the 1st P#1 and 3rd P#3 , C2 controls the 2nd P#2 and 4th P#2 .



(ii) Operate panel and show P1 on the LCD => press  , 1st P#1 and 3rd P#1 will be compressed down

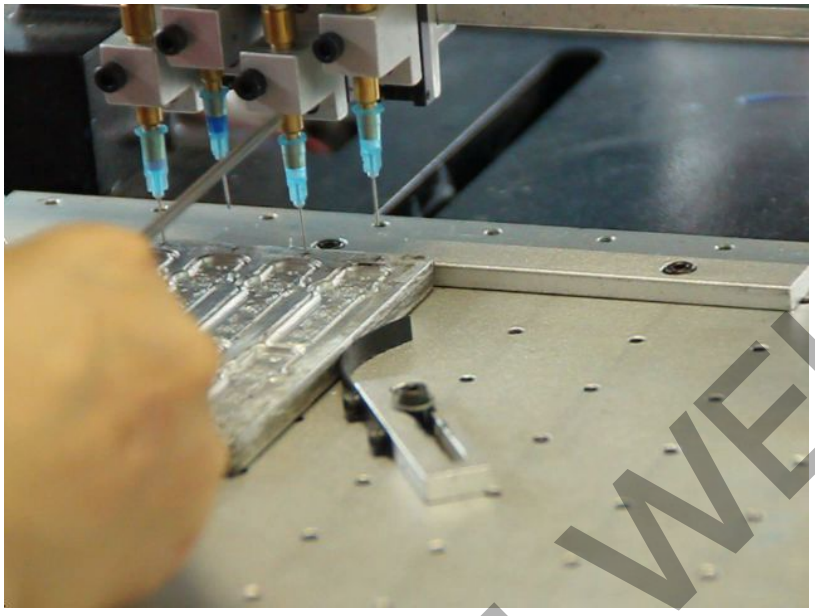
(iii) Install the pins on the 3rd and 4th shelves tightly

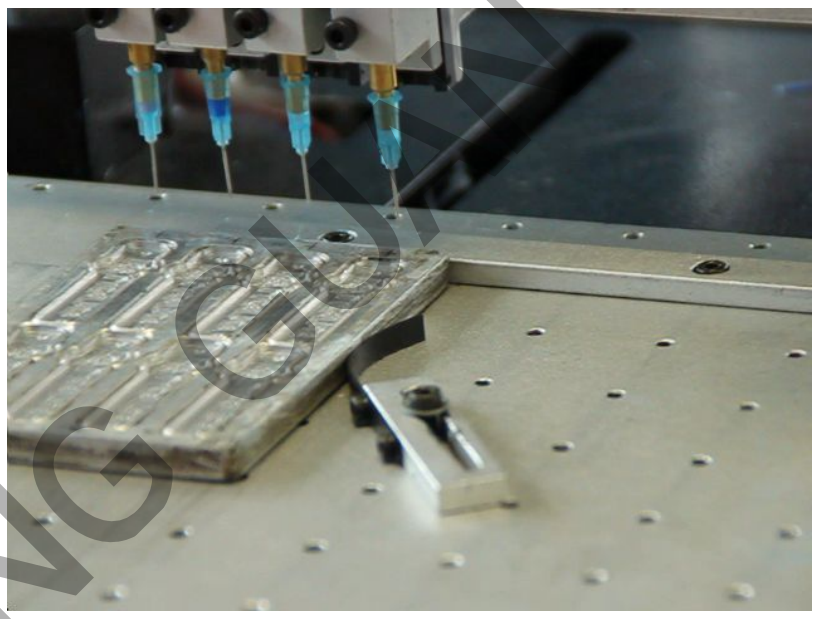
[3] Move and fix the needles shelve on the long rail.

(i) Press 

and compress the 1st P#1 and 3rd P#1, move the 3rd needle shelve and aim it at centre of the 3rd cross on mold and fix the 3rd needle shelve.

（ii） regulate the short screw and ensure the 3rd P#1 the same height as 1st P#1





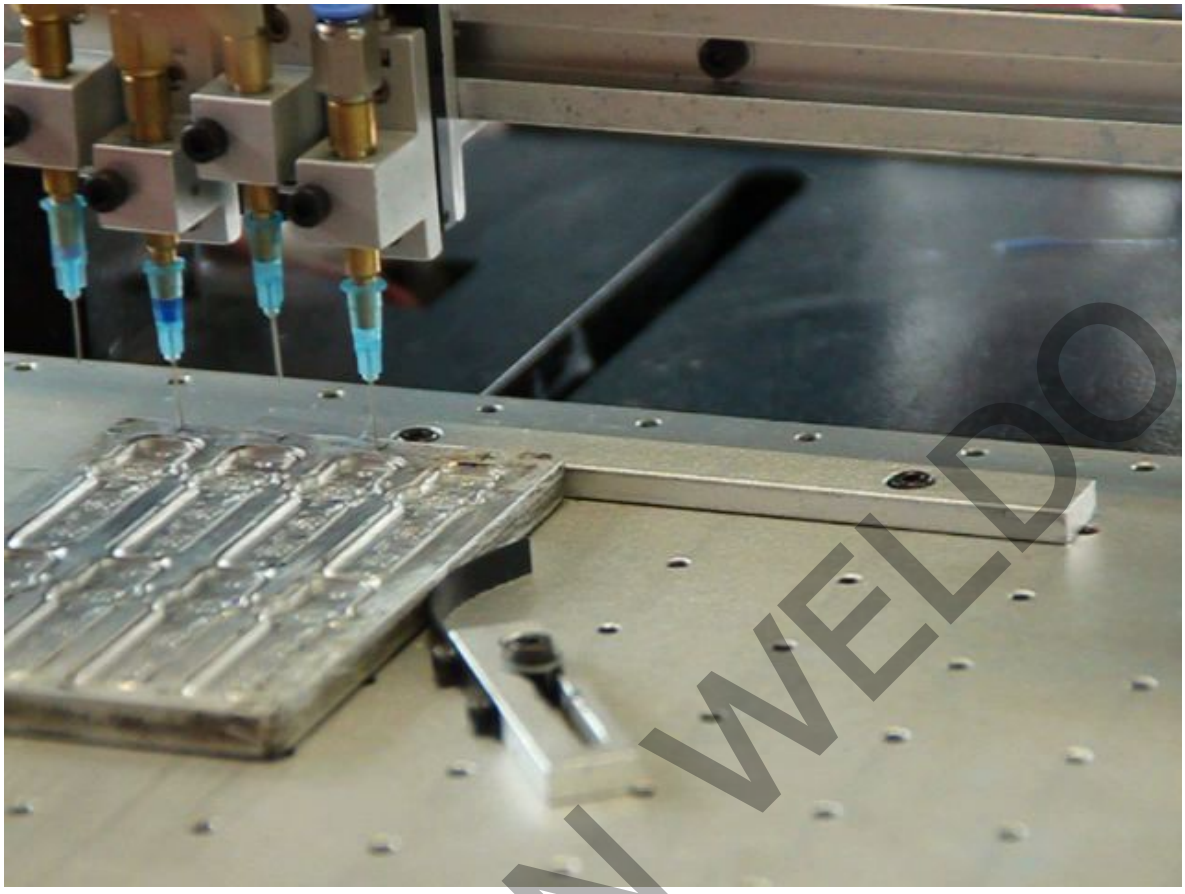
(iii) press 

=> press 

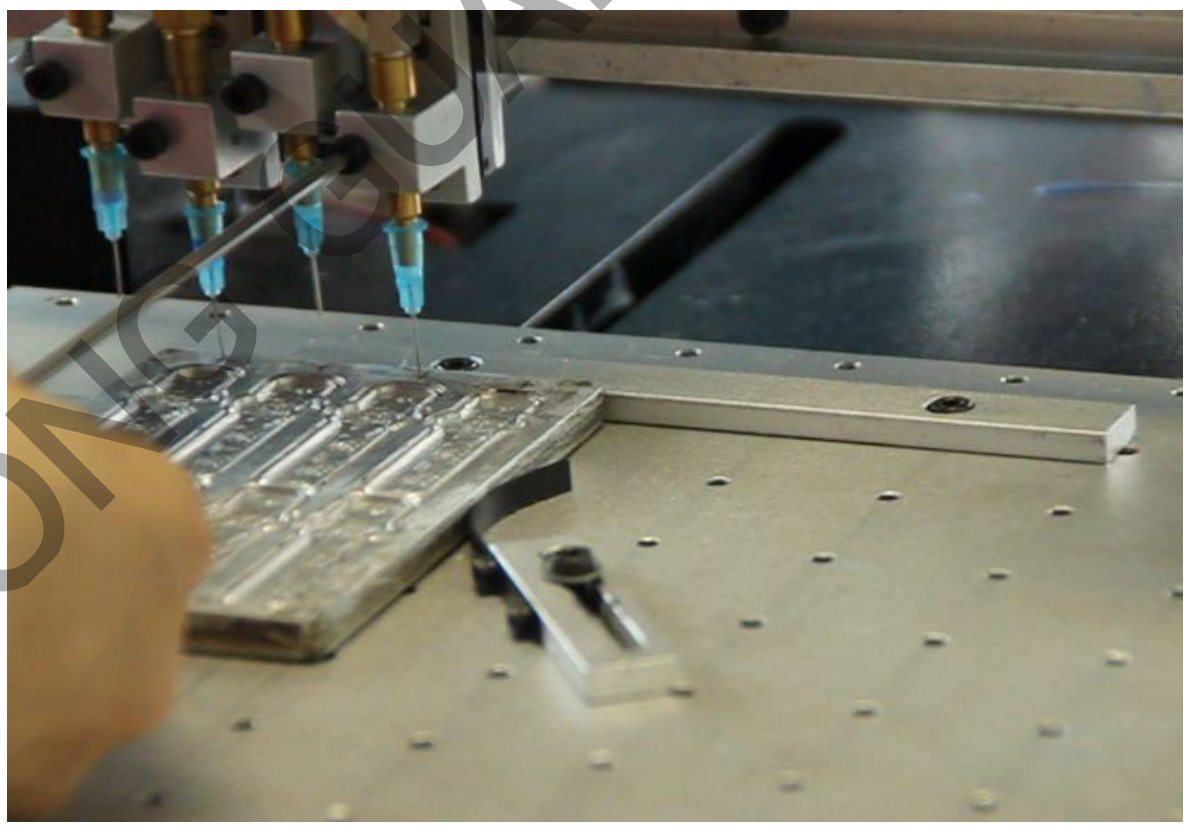
to shift P#1 on the LCD to P#2 => press 

, the 3rd Pin #2 and 4th Pin#2 will be compressed down .

(iv) the 2nd Pin# 2 will aim at the centre of 1st cross on the mold， move the 4th needle shelve aim at the centre of 3rd cross on the mold ,and fix it.



(v) Regulate the short crew and ensure the 4th Pin#2 same height as 2nd Pin#2



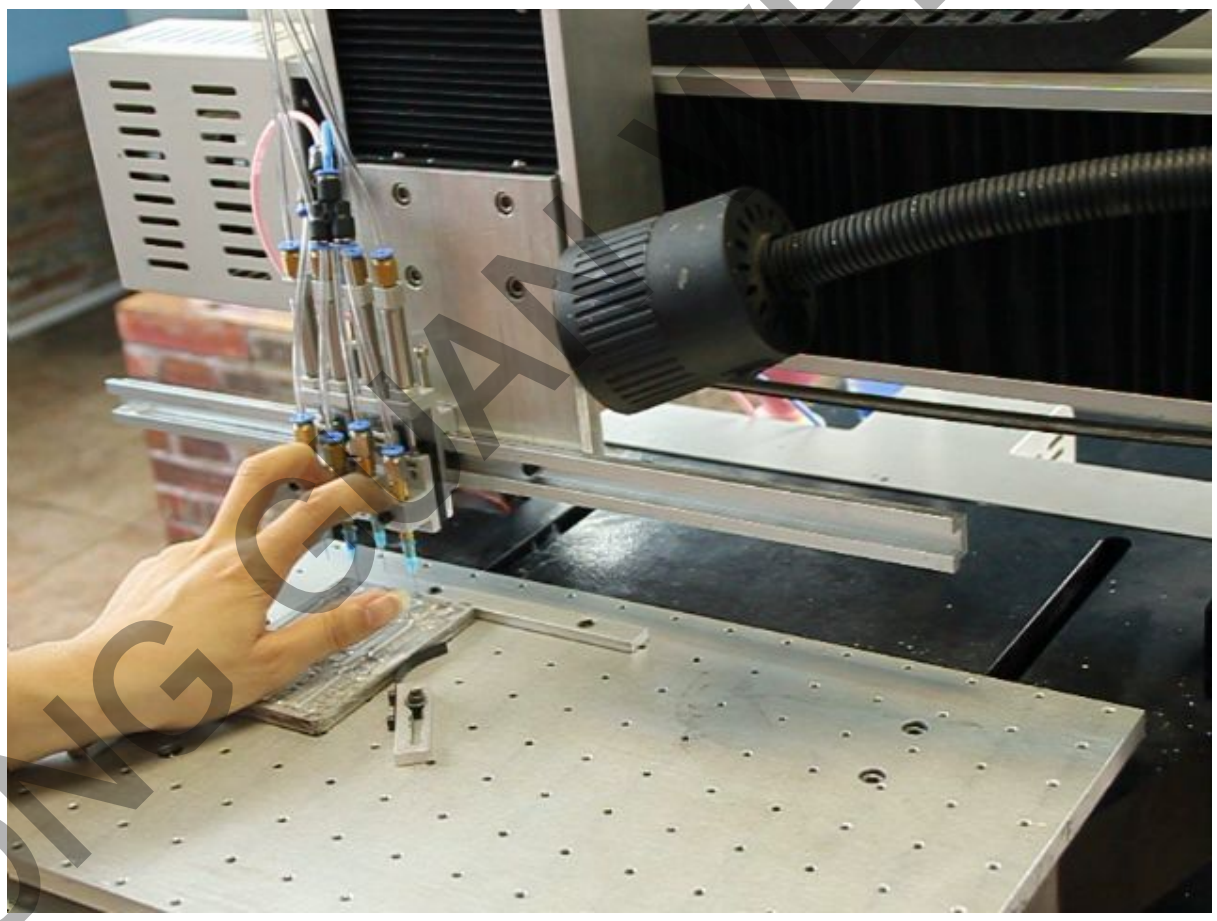
(vii) Press 

to check if 4th Pin#2 can go back to the centre of 3rd cross or not, if not should regulate the pin again.

[3] Installation of Material System.

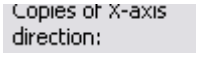
(i) Use the joint ,EPY4 

and divide the material pipe as below showing .



（ii）go to the software to set the 

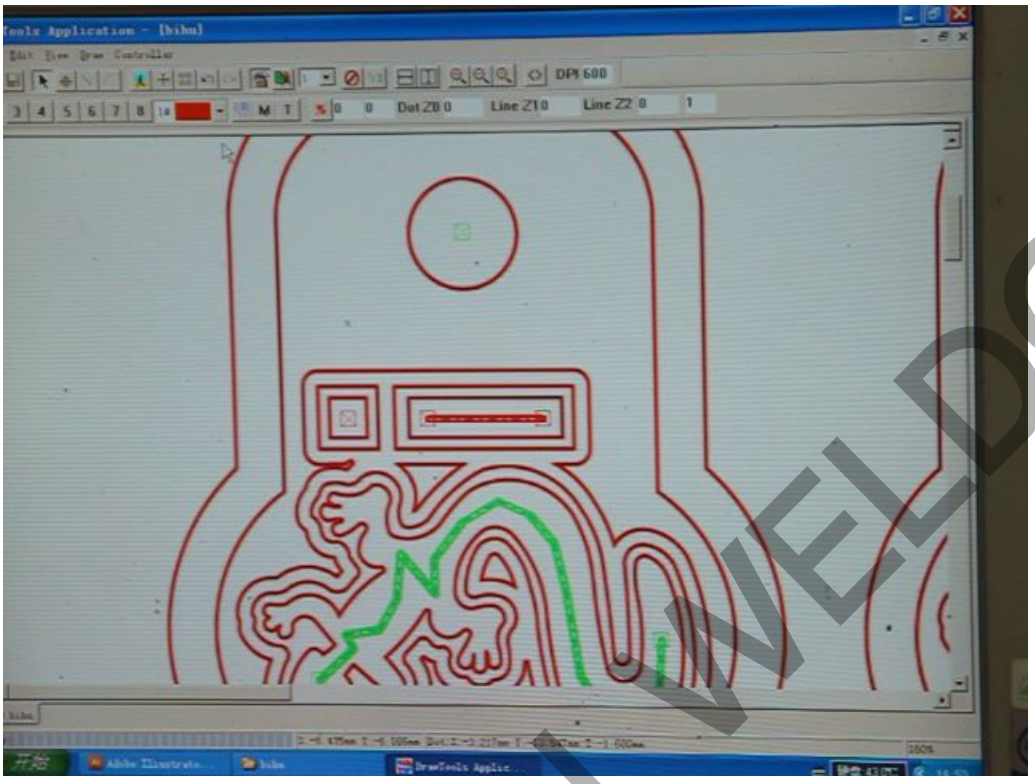
.In chapter 5 ,it is single pin working on the 8 cavities , and it is 2 pins (1st P#1 and 3rd P#1 , 2nd P#2 and 4th P#2)working on 8 cavities at the same time .

(iii) Double click the drawing zone , File Property Setting pups out and modify the 

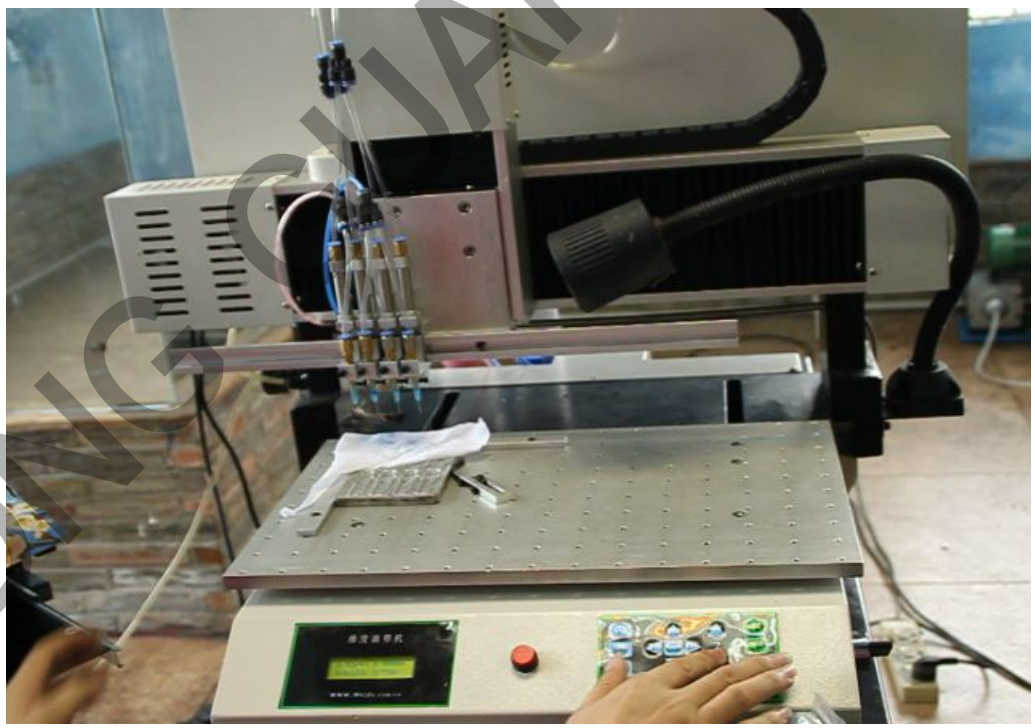
to and press 

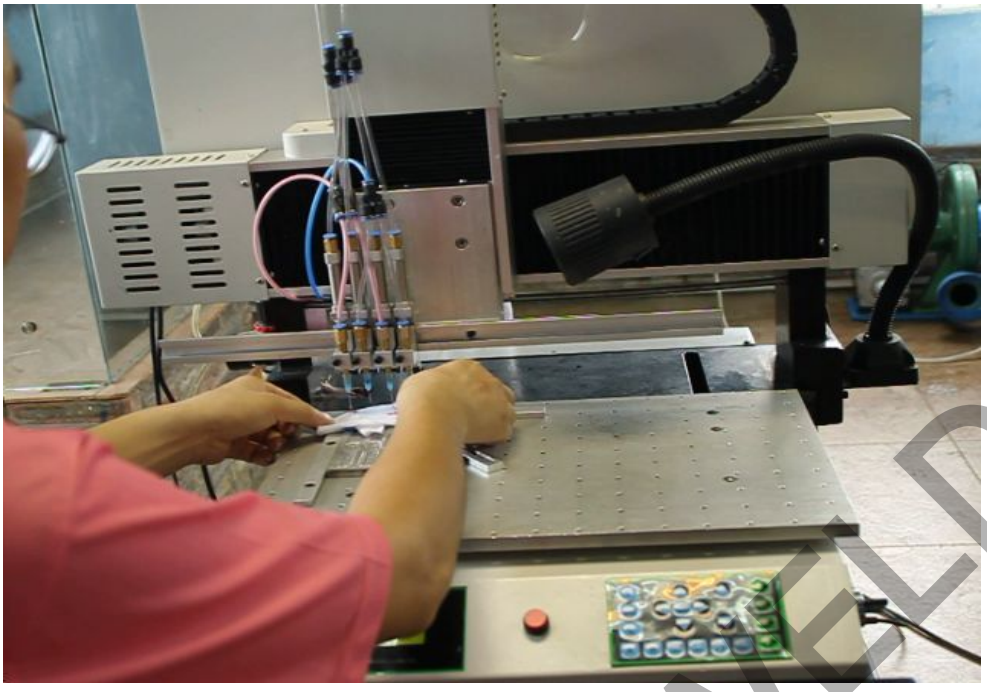
.

(iv) press  and download the whole process file to the machine.

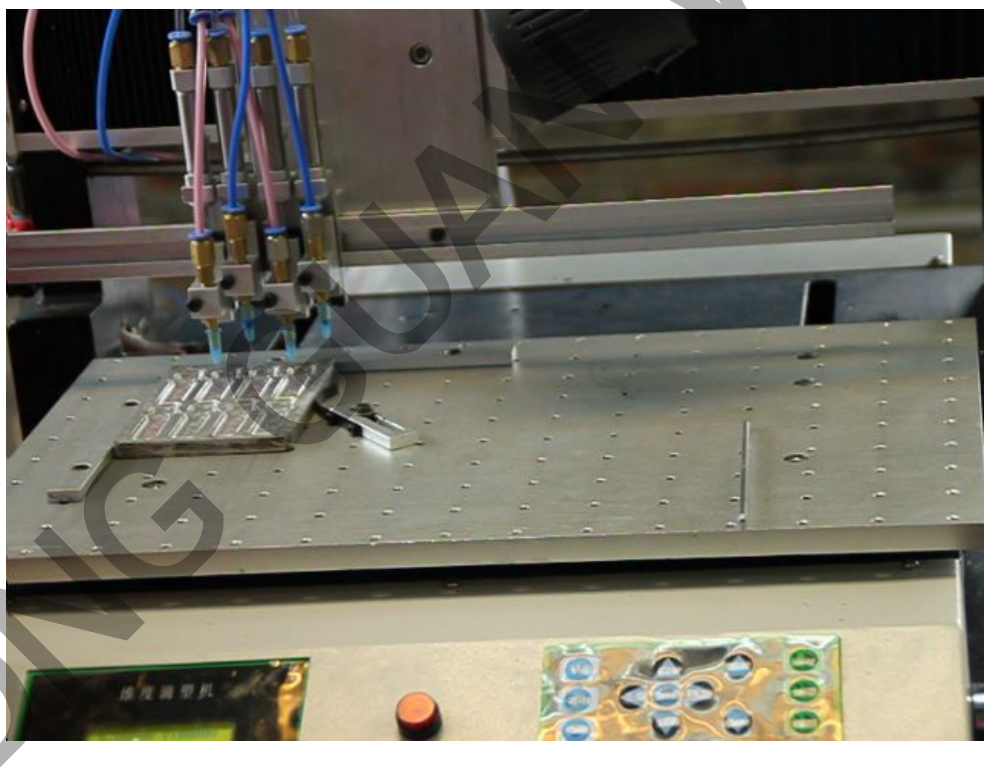


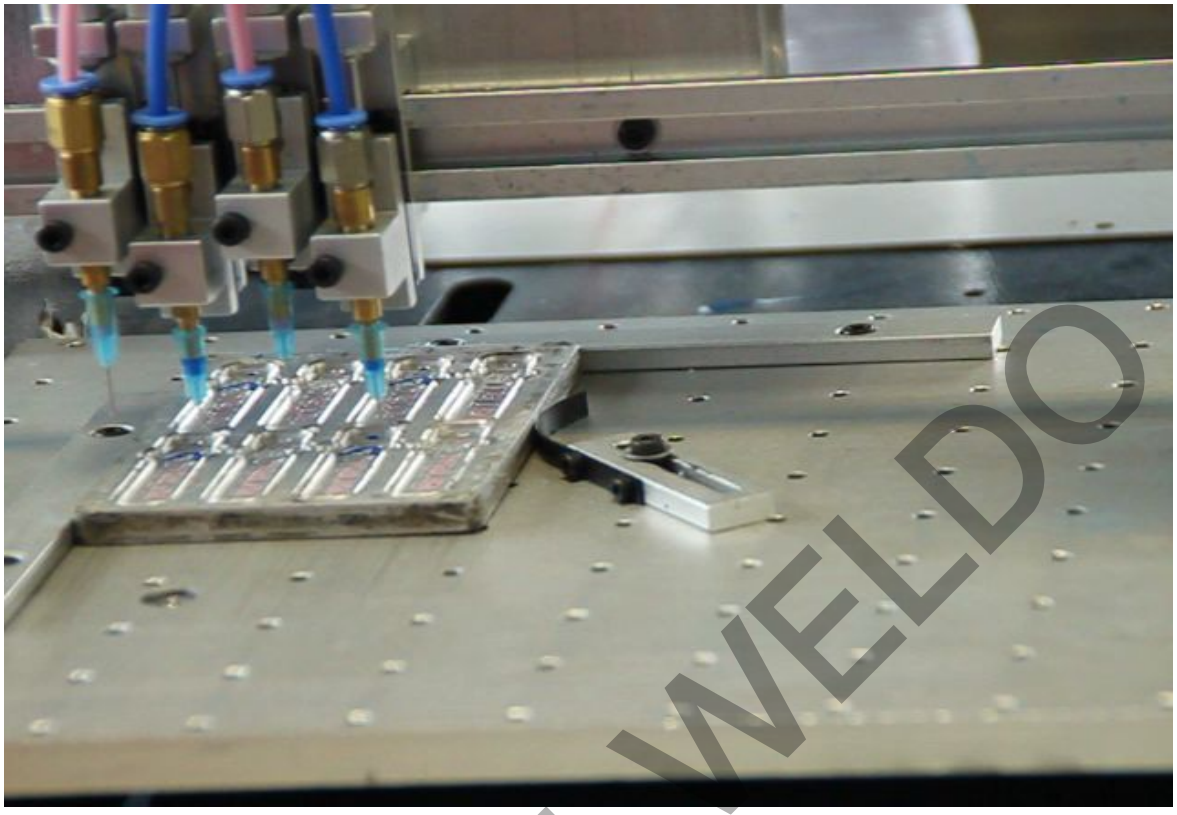
[4] Release the 3rd P#1 and 4th P#2 air from the pipe

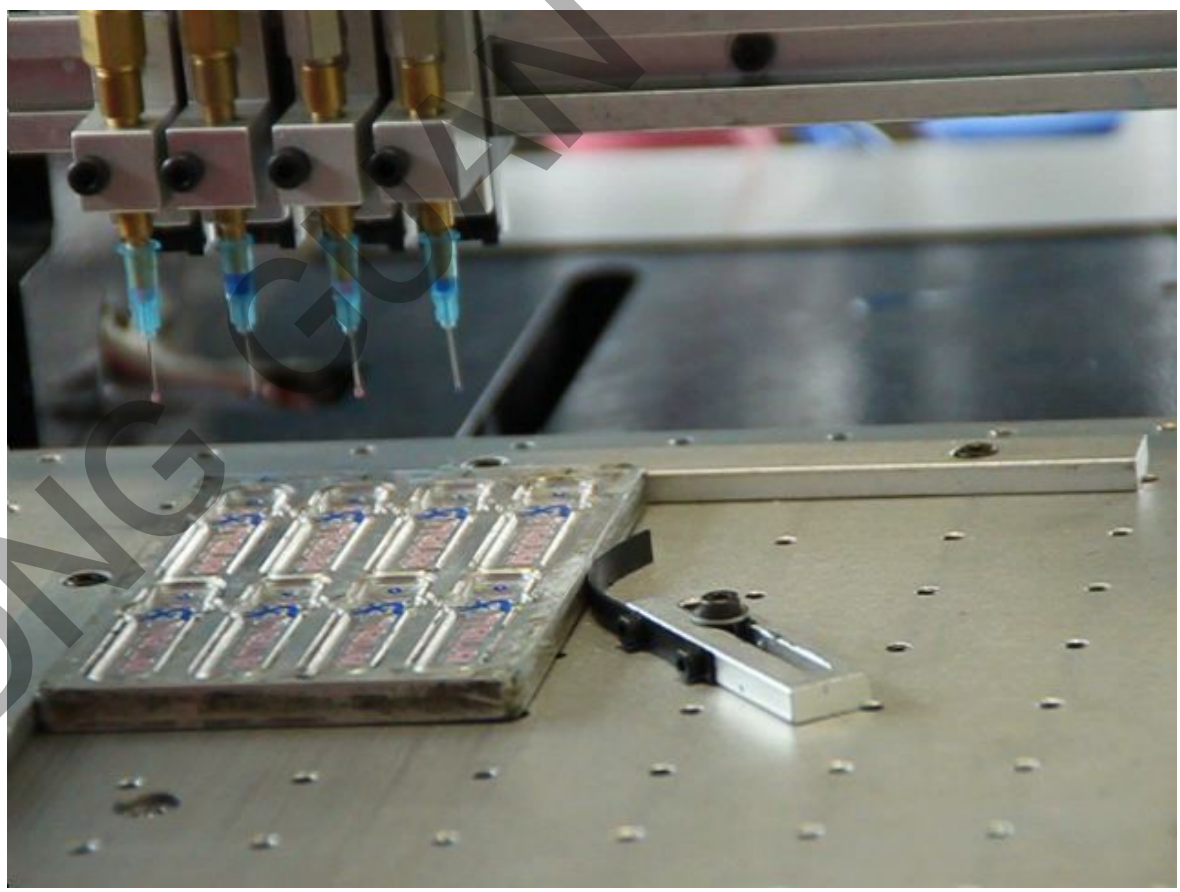


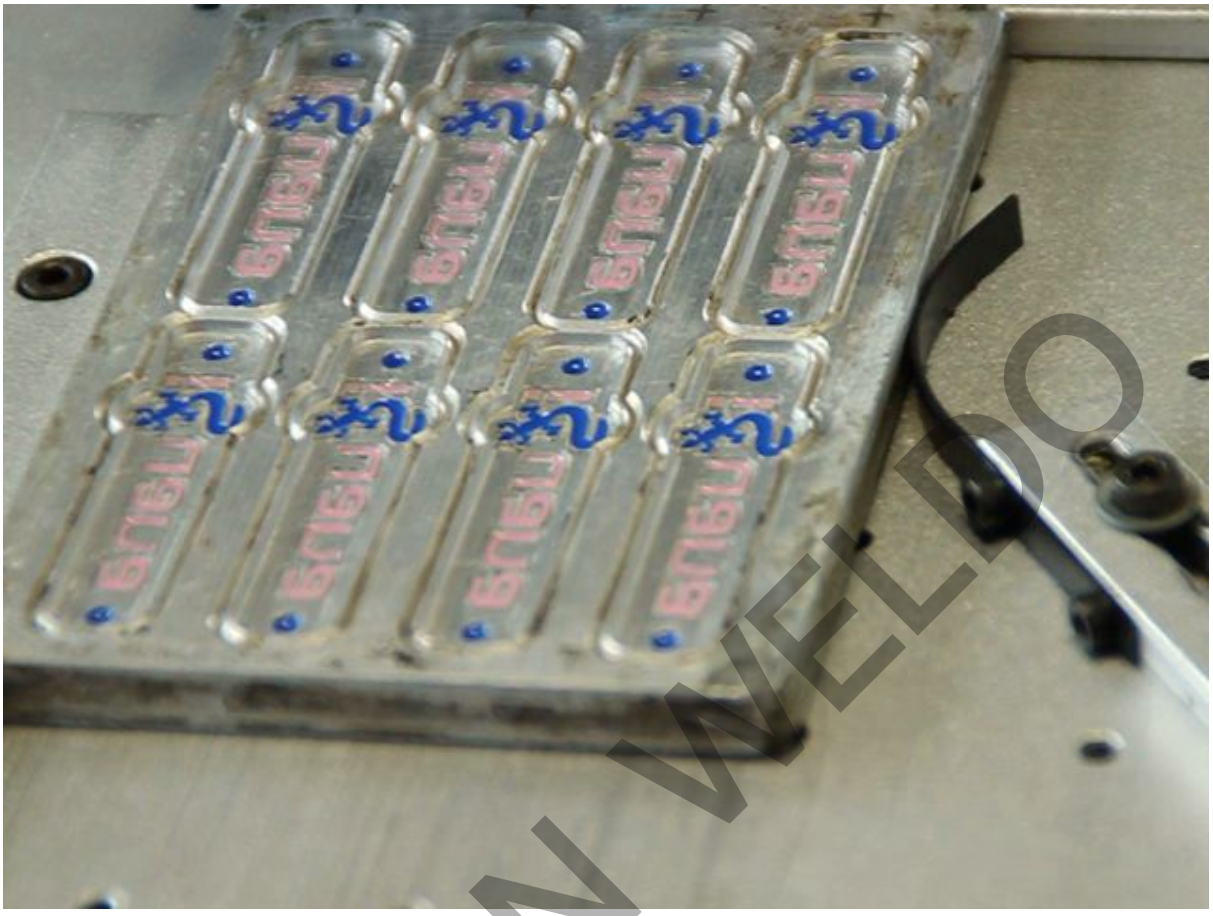


[5] press  ,the machine works in the mold.



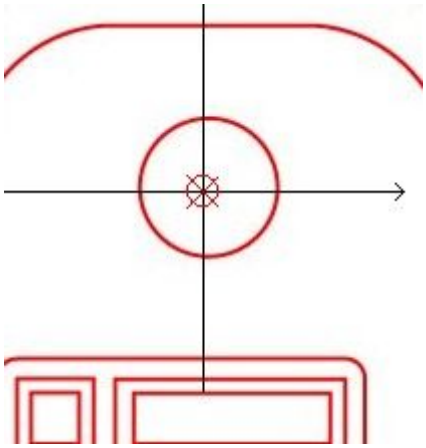




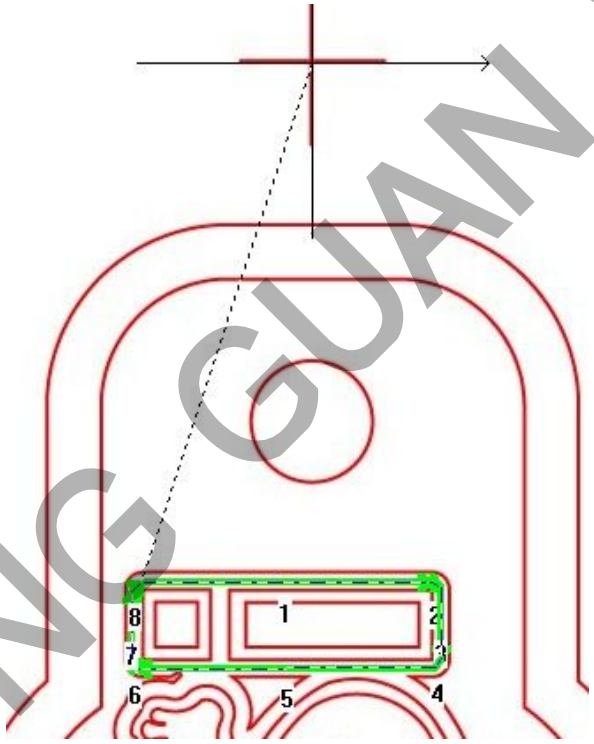


CHAPTER 8、THE COMMON PROBLEMS OF EDITING TEMPLATE PROCESS FILE AND ITS SOLUTIONS

[1] when edit process template file , the process template file origin“十” does not superpose with any dot or line of process template file , example about fault superposition



[2] When edit round or square process path, lines closed are not allowed, correct drawing path should be as following.



CHAPTER 9 THE TIPS ABOUT HOW TO IMPROVE THE PRODUCTION

[1] **The cavities quantity of a mold .** how to engrave the mold is the key factor to the production. For example , a single color label , if 4 cavities in a row with 2 lines that 8 cavities in a mold ,if 6 cavities in a row with 2 lines that 12 cavities in a mold. If engrave 5-6 pieces molds for 8 cavities and 12 cavities in a mold respectively, a worker operates the machine, working time is 10 hours , the production of 12 cavities mold is 7000-8000pcs ,while the 8 cavities mold is 4000-5000pcs.

[2] Requirements to engrave the mold. Based on the products requirements, generally the size of the mold is around 20cm x10cm.Besides , the back of the mold should be flat and smooth, more molds in same design should be engraved by the same CNC engraving machine to ensure the mold with high precision . Many clients pay attention to the 4 angles (90 degree) of the mold, but ignore the difference thickness between molds. In actual production, the molds thickness can not be well grinded by sand paper. Plus, many mold makers are trying to use the brass molds and ignore the productive of production, they will engrave the 12 cavities to 8 cavities, actually ,this cause the client great loss

[3] Two key procedures to use the dispenser machine. First ,the installation of short rail is the basically procedure, because many operators think the short rail is on the working table that can not change shape ,so they is easy to ignore it . Move the pin of the needle shelve to observe if the rail is upright to the X axis and Y axis or not. Second, check the mold. It is need to check all the molds in same design, if there are big difference between the molds, it is hard to keep the production going on .There is a way to check the molds ,move the pin to measure the height of the left cross of the molds, and record all the small differences between molds. Because the difference thickness between molds will affect the software to set the height of the molds.

[4] The installation of pins. Many operators think it is the most easy thing to install the pins, figure out the numbers of parallel pin and install the pin aim at the cross centre of mold receptivity .But there is some needed to be attention, first, installation of each pin should ensure the pin tightly on the needle shelve, and the pin can not be compressed down. Second, each pin should be installed by pincers to ensure the pin tightly on the needle shelves. Third, move the steel part of the pin is not allowed during install , but can shake the plastic part of the pin right and left, because if shake the steel part of the pin that will cause the pin twisted , it will be hard to aim the pin at the molds accurately in following steps.

[5] It is the key factor to aim pin at the molds and set the height of the pin to make the products. Many customers operate the machines many years, but they can not set the material quantity ideal, the problem is that aim the pin at the molds and set the height of the pin in a wrong way, as we know, material quantity to each line and each dot can be set again and again, if the quantity is too much that can be reduced, if too less can be increased. There is no difference to the

software and the operator , the key difference is how to well aim the pin at the molds and set the height of the pin.

[6] Regarding aim the pin at the molds. After finish the installation of the pin, please mark a cross "十" on the X axis short rail , "P origin" should be aimed at the cross of the X axis short rail always, and move each pin to close the X axis short rail, in this way, to check the difference of the height of each pin, if some pin is higher than the X axis short rail , relax the short screw of the needle shelve ,low down the pin and lightly press the pin to close X axis short rail, but please do not spin the pin , if spin the pin that will lead to the left and right differences of the pin .After finish above procedures, and move each pin by left and right aiming at the cross("十") of the molds ,in this step, it need not to consider the height of the pin, the procedures of aiming the pin at the cross is completed.

[7] Regarding the height of the pin in the software. First , remember the height of the F origin, and compress down each pin and touch the injection area of mold bottom, and ascend the pin 0.05mm-0.10mm slowly always, but some lines are very small, in this situation, it needs to regulate the height of the pin ,because if the height of the pin is too low that the pin will touch the mold ,when the machine dispenses the lines that the pin touched the molds is not allowed , and the pin will be easy twisted. For the machine dispenses the dot that need not to consider the height of the pin , because the machine can carry out the materials and dispense on the dot.

[8] The operator should be carefully. How to use the machine is not difficult, first step is to learn operation of the machine, and then carefully operate the machine. Carefully is not hard and tired, more carefully, less operation time, and the less problem come out during the production. Some customer is lack of patient and carefully, so they find it is difficult to operate the machine , while some of customers can well master the machine during few hour studying. Therefore, the operator should be patient and carefully.

CHARPTER 9 THE CUT WAY TO AIM THE PIN AT THE MOLDS

[1] Well installation X and Y axis short rail, and move a pin check if the X and Y axis upright to X axis direction and Y axis direction or not.

[2] Use a pin and check the mold, according to the quality requirement of the products to check if the molds meet the products requirements or not.

[3] Find the smallest stroke to select the pin，all the pins aim at the cross of the molds, and shake the pin to check the pin attached the needle shelve tightly or not

[4] Operate the panel and chose P1P2P3P4P5P6P7P8 (based on the colors to choose the “P” quantity). Move the first pin belong to each color aim at cross of the mold, and press “Zero Set”. Checking other pin’s height are the same height with the first pin or not , if not ,regulate other pins the same height as the first pin.

[5] Move each pin aim at the cross of mold, and shake the pin right and left lightly, but it is not allowed to shake the first pin for each color.

[6] All procedures should be step by step , shake the first pin belong to each color are not allowed. When set the open valve time /close valve time to the dot and speed to the line , the air regulator should be regulated to 4 KGS. If change the air pressure, please change the size of the pin.

[7] Operate panel and press F1, press C to compress down the current pin. The compressed down of the first pin aim at the first cross at left, and press work zero.