



# **QUICK BGA 2025**

## **BGA/CSP Rework Station**

# **Operation Manual**

Thank you for purchasing our BGA/SMD Rework System. The system is exclusively designed for reworking and soldering SMD component. Please carefully read this manual before operating the system. Store this manual in a safe, easily accessible place for future reference.

# 1. Summary

Thank you for using QUICK BGA2025 Rework System. This system, which adopts microprocessor control and infrared sensor technology to solder and de-solder to surface mount components safely and accurately. It also can control the whole technical process and record all the information by means of the BGA Software, thus satisfying the higher technical demands of modern electronic industry. It is one of the most valued electronic equipments in electronic field.

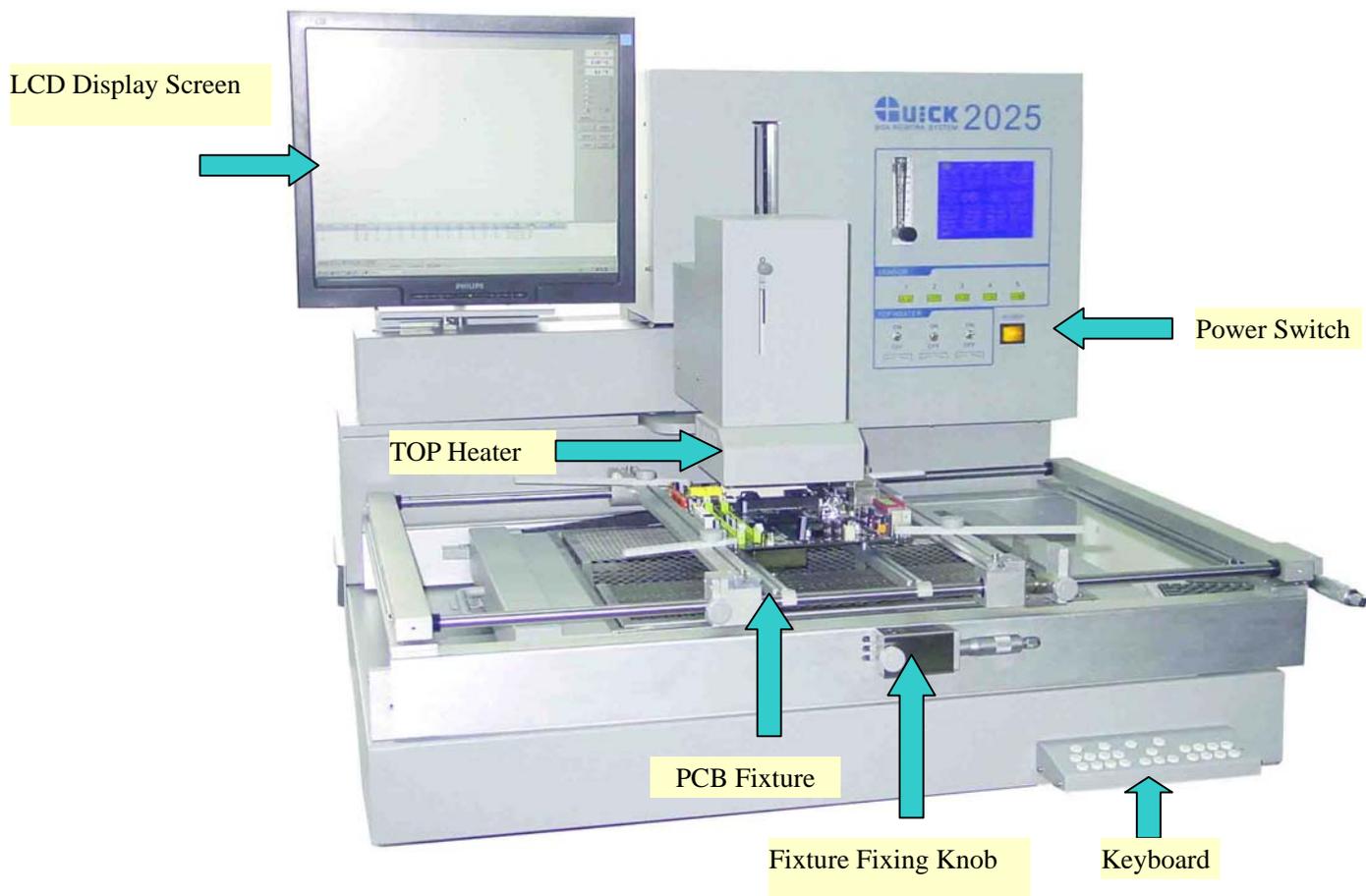
QUICK BGA2025 Rework System adopts infrared sensor technology and closed-loop principle, integrating harmoniously the infrared heater and the sirocco heater together. In order to control the soldering process optimally and get the nondestructive and reproductive PCB temperature, QUICK BGA2025's heating power is up to 3500W. Top heater is infrared and the heating power and the heating window are adjustable, infrared sensor detects the surface temperature of the BGA and the curve of the Temperature can control the detecting temperature. Bottom heater uses not only the infrared heater but also sirocco heater. The sirocco heater is part heating to the PCB of the BGA bottom with temperature's curve controlling and infrared heater is to the whole PCB with controlling the preheating temperature to prevent the board from transfiguration. For more preciseness technics demands and effectual controlling the PCB temperature and the encapsulation temperature, the technology of re-flow soldering controlled by closed-loop ensures the precise and smaller technical window, even heat distribution and appropriate peak value of temperature for lead-free soldering. Besides, the infrared heater is suitable for all applications, such as large or small PCB and lead-free solder, moving automatically in X-axis to heating the PCB evenly.

Optics aligning prism of QUICK BGA2025 Rework System expands to 60\*60mm from 40\*40mm. Big BGA alignment can see clearly and the aligning lens are controlled by the step motor and the chip slave is above the lens. The PCB fixture is square and the maximum size is 600\*500mm, the width of the left and right arms can be adjusted and the abnormality knightheds can be fixed on the arms. On the fixture, there are X micro-adjusting knob and Y micro-adjusting knob for precise alignment and the bottom knighthed is connecting with the arm to keep identical placing position of PCB.

For reducing the manual effects, QUICK2025 BGA rework system can automatically run the processes except adjusting X、Y、 $\theta$  with hand for precise alignment. Besides, the chip sucking and pasting, lens moving, reflow controlling, heating moving and chip de-solder are all automatic controlled by the step motor. And the system has the controlling software with wide screen display of LCD to multi-control the processes unaided or by the outer computer.

The new BGA rework system has the advantages of the infrared heater and sirocco heater, satisfying the demands of reworking the BGA, especially in lead-free soldering.

## 2. Product Picture



## 3. The unit is supplied with:

Please check whether the following parts are included and intact.

- \* Main Unit BGA2025
- \* Sirocco nozzle
- \* PC and LCD Display Screen
- \* BGA2025 Operation Manual
- \* K-type sensors
- \* Video line
- \* BGA Toolbox

**Note:** The parts will be packed according to the packing list. If you don't purchase the optional part, it will not be in the package. If any part stated above is missed out, please contact with our company or agents immediately.

## 4. Safety Instructions

**Note:** For the safety of the system and operator, please read this manual carefully before operating the unit.  
Please note that the unit is suitable for soldering and de-soldering of electronic components.



**Note:** Top and bottom infrared heater and sirocco nozzle will be very hot during working, so explosive and combustible object or gas and solvent is strictly prohibited in working areas, also please don't touch the hot surface parts.

This equipment must be grounding when using.



**Note:** The laser alignment device includes a secondary laser device, so don't see the laser beam directly.



**Note:** When the system in trouble and needs maintenance, it should be maintained by an experienced and authorized technician or expert, or contact with service agent and factory.

The unit with dangerous voltage! The inexperienced maintenance is dangerous for the operators.

## 5. Specifications and Technical Parameters

### 5.1 Specification

1. General Power	3500W (Max)
2. Power of Bottom Heater	1800W (4*450W Infrared ceramic heating tube)
3. Power of Top Heater	960W (8*120W) 2~8μm Approx
4. Power of Bottom Sirocco Heater	700W
5. Adjusting Range of Top Heater	20~60mm
6. Preheating size of bottom radiate board	450mm*648mm
7. Maximal PCB size	500mm*600mm
Minimal BGA size	2*2mm
Maximal chip size	60*60mm
8. bottom cooling fan	
9. LCD Display Screen	Size: 100*75 (mm) 16×2 character
10. Communication	Standard RS-232C (Connect with PC)
11. Infrared Temperature sensor	0~300℃ (temperature testing range)
12. Outside K Type Sensor	5pieces
13. Camera	12V/300mA Horizontal resolution: 480 TV lines PAL format (composite)

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14.LED lighting	White LED (lower side), Red LED (upper side) (with adjustable brightness)
15. Paste Precision	$\pm 0.025\text{mm}$
16.Paste force	1.5N
17.Power Supply	220V/230V AC、 50/60HZ、 3500

## 5.2 Technical Parameter

### Main Interface:

TL: Melting temperature of the solder

T1: starting temperature of heat preservation in the reflow soldering process

T2: ending temperature of heat preservation in the reflow soldering process

T3: Peak value temperature of the soldering and de-soldering process

T0: Valve temperature: The least temperature of the top heater in top heater heating process.  $T0 < TB1$

TIR: The setting temperature of bottom heating tubes

TB: The real temperature of bottom heater

TC: The real time temperature of Top Heater

TB1: The setting temperature of bottom heater before T2

TB2: The setting temperature of bottom heater after T2

KTB: The real temperature of bottom sirocco heater

KIR: The real temperature of bottom Infrared heater

IRT: The real temperature of IR sensor inspecting

S0: Heating time from T0 to T1

S1: Heating time from T1 to T2

S2: Heating time from T2 to T3

S3: Heating preservation time of T3

TOS: select the using sensor (to select between IR and KT1-KT5)

TYP: select solder flow or de-solder flow ( DESO, SOLD)

CUF: select the current process (0-9 ten processes)

TOH: Top heater in working mode or not

BOH: Bottom sirocco heater in working mode or not

IRO: Outside parts of the Bottom Infrared heating tube in heating state or not

IRI: Inside parts of the bottom Infrared heating tube in heating state or not

BUM: Pump is in working mode or not

FAN: Top cooling fan in working mode or not

HED: the position of the top heater (UP-DOWN-UNKN)

ALG: the position of the contraposition arm (IN-OUT-UNKN)

SUC: the position of the nozzle (UP-DOWN-UNKN)

TIM: Showing the count down time

CST: Starting temperature of one step in the whole process

CSE: Ending temperature of one step in the whole process

## System Interface

PASSWORD: System password

SOUND: alarming switch of the host (ON---with alarm sound OFF—without alarm sound)

ADDED IR: heating switch of the outside group of the bottom Infrared heating tubes (ON---switch is on; OFF---switch is off)

COM BAUD: Default baud is 19200

## Data Interface

Data interface has data of the ten working modes which parameter can be changed according to demands. Calibrating set as follows. Reference data in the column“CAL”means the parameters whether calibrating or not. If “CAL” is on, the parameter has been calibrated and is saved in the process. Change “ON” to “OFF” if user wants to cancel the calibration.

QUICK BGA 2025 has ten working modes which parameter can be changed according to demands. Calibrating set as follows.

	T0	S0	T1	S1	T2	S2	T3	S3	TL	TIR	TB1	TB2	BF A	SEN	TYP	CA L
0	90	40	145	50	160	55	200	30	183	150	140	160	9	0	0	0
1	90	55	145	50	155	40	200	20	183	165	130	150	9	0	1	0
2	90	40	140	50	150	50	200	15	183	160	125	145	9	0	0	0
3	90	45	140	60	155	40	200	20	183	160	135	150	9	0	1	0
4	80	55	145	65	155	45	200	25	183	170	140	160	9	0	0	0
5	80	60	165	45	175	45	230	25	217	170	150	170	9	0	1	0
6	90	60	160	45	170	40	230	20	217	170	160	180	9	0	0	0
7	90	60	165	40	175	45	230	25	217	170	160	180	9	0	1	0
8	90	60	160	45	175	40	230	20	217	170	170	180	9	0	0	0
9	90	60	165	40	170	40	230	20	217	170	150	170	9	0	1	0

Note: typ:0—sold, 1—deso sen:0—ir cal:0—no cal Time unit: “S” Temperature unit: “°C”

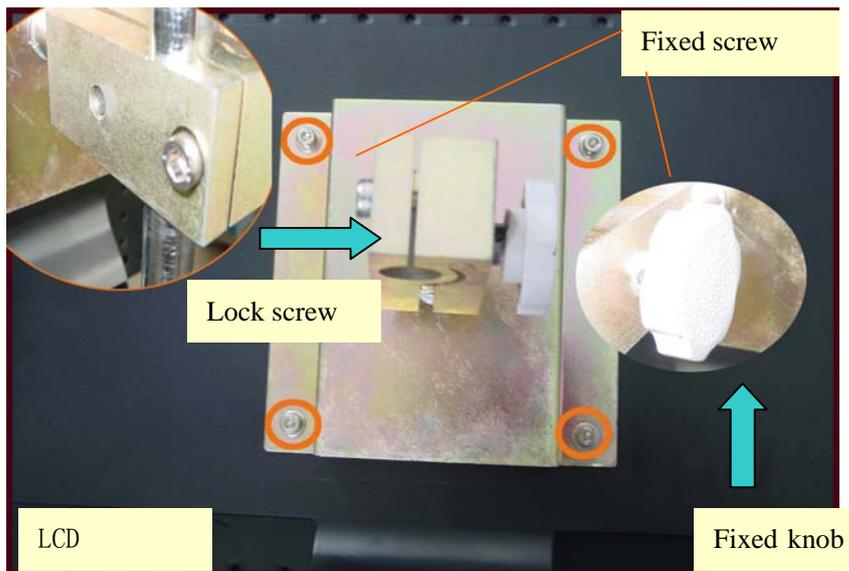
## 6、 Install and Connecting of the Equipment

### 6.1 check the package of the equipment

- \* Check the package of the equipment is good or not.
- \* Take out the QUICK BGA 2025 rework system from the package and place it on the solid working desk.
- \* Check every unit is good or not. If not, please replace the unit from our company or agents in time.

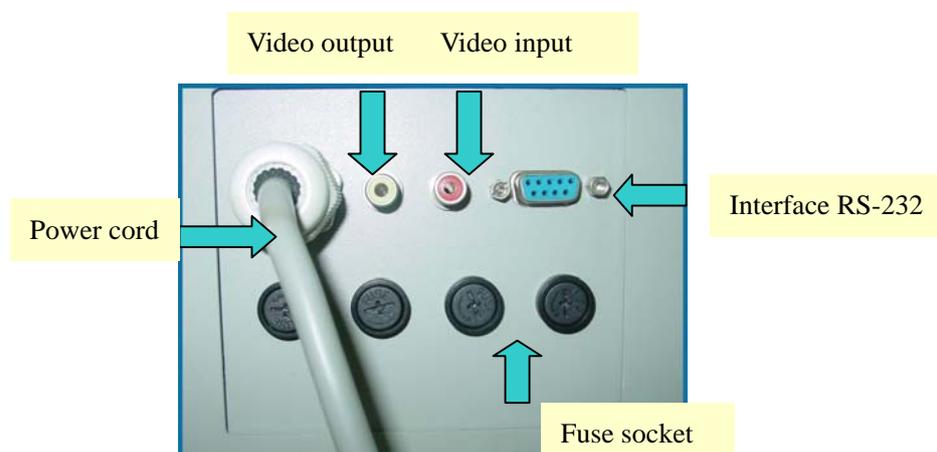
## 6.2 Install the LCD

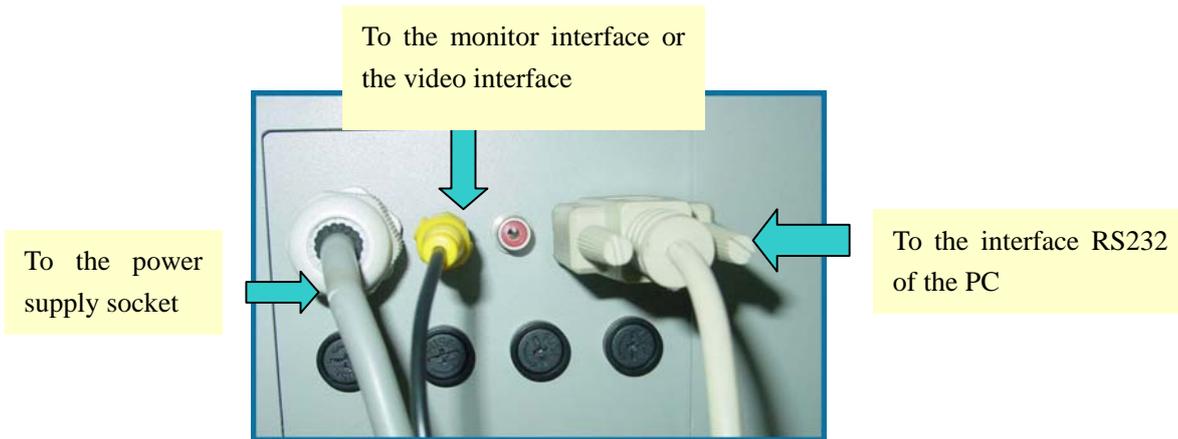
1. Take out the LCD carefully from the package, back out the base of the LCD and then unscrew the four fixed screws.
2. Install the fixing board to the LCD and screw down the fixed screws.
3. Screw down the fixed knob in the left and lock screw in the right of the fixing board and install the fixing board on the bracket and then screw down the knob and screw.
4. Connect the plug of the RPC to the socket at the bottom of the bracket.
5. If user wants to adjust the height of the LCD, please unscrew the fixed knob and lock screw to adjust the LCD to suitable height and then screw down the fixed knob and lock screw.



## 6.3 Connect the Equipment

- \* Check the using power supply whether is the same with the rating voltage value in the specification scutcheon.
- \* Check the switches of the entire units are turn off or not.
- \* Connect the power cord to the power socket.
- \* Connect the RS-232 cord to the RS-232 socket in PC if you use the BGA software.
- \* Connect the video line of the external monitor to the VIDEO-OUT socket.
- \* Connect the K type sensors (optional) to the external sensor's socket in the front.





Turn on the switch of the power supply after connecting all the units and cords.

## 7、 Parts Instruction

### \* SENSOR

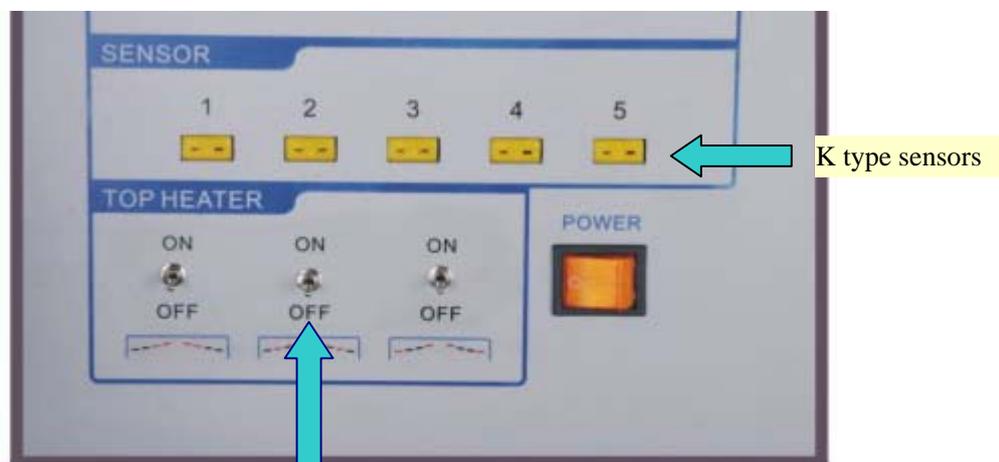
The system has five K type sensors checking the temperature of the point in the PCB, such as the temperature of BGA surface, bottom temperature of the PCB, real temperature of the tin ball. And these values can show on the LCD. Besides, users can select the sensors during KT1-KT5 by “TOS”.

The system is a closed loop temperature controlling. Testing the temperature of BGA surface with infrared temperature sensor. Besides bottom sirocco and infrared heater test the temperatures with other K sensors.

### \* TOP HEATER

The power of the top infrared heater is controlled to satisfy the different needs and only one of it is normally opening and others are controlled by the three switches on the faceplate.

One group of the top infrared heater near the inside is usually opening without switch controlling and the power is 240W. When enhancing the power of the top heater, set the switch of the “TOP HEATER” as “ON”. The power enhances 240W every opening one group heating tubes.



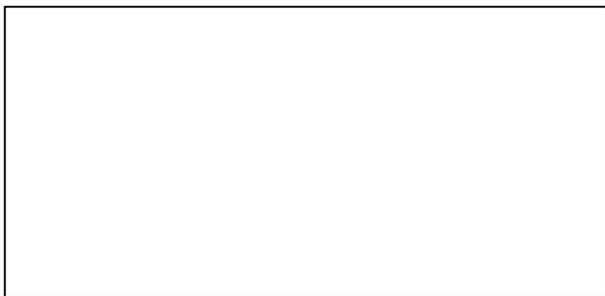
Controlling switches of top heater

**\* DISPLAY WINDOW**

LCD display window shows all the information and data of the system. Users can see clearly parameters in the all interfaces and the position information of the every part. Display the relevant information with the process running.



Display window



Air blow meter



**\* APERTURE ADJUSTING**

The aperture system of the top infrared heater is adjustable from 20mm\*60mm to 60mm\*60mm by one adjustment knob. Unscrew the knob before adjusting, and adjust the window size that you want, then screw down the knob. The scale “2” on the housing means 20mm and “3” means 30mm, other scale is similar. For example, if you want to adjust it to 50×50 (mm), adjust one knob to the scale of “5” and screw down the knob.



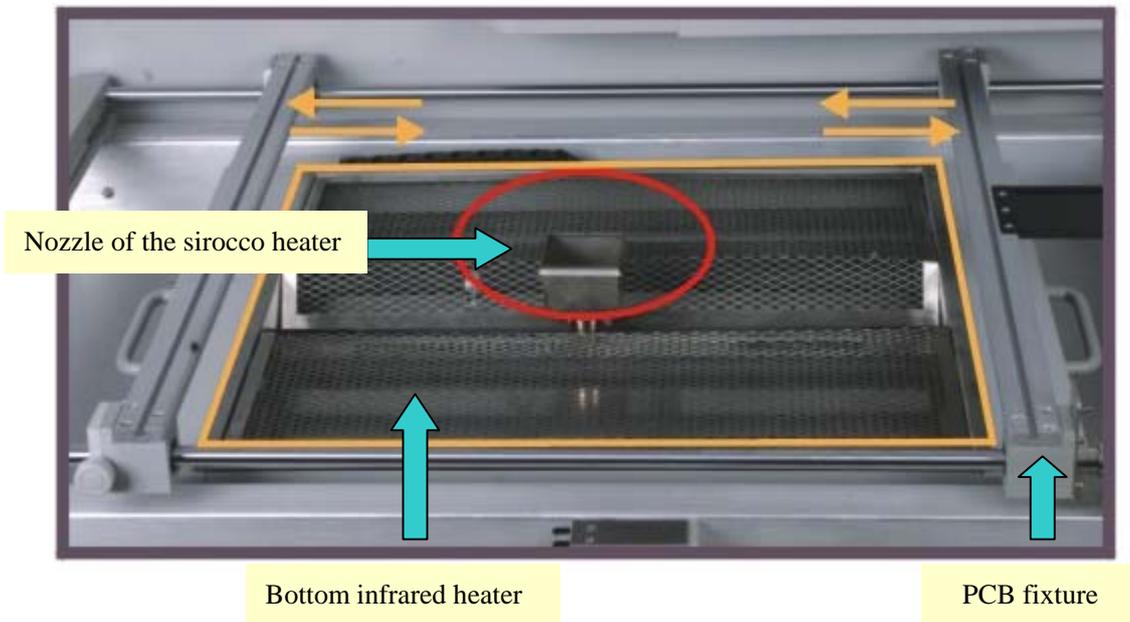
Aperture adjusting knob



**Note: Adjusting the aperture system can protect the adjacent components on the PCB from being heated. But when the aperture system is adjusted to too small size, the top heater will become very hot when working continuously. So it's necessary to increase the size appropriately to avoid cutting off the life of the heater.**

**\* Bottom Preheated Board and PCB Fixture**

Bottom preheated board has infrared heater and sirocco heater. Sirocco part heaters controlled by the temperature curve is to the PCB of the BGA bottom and infrared heater controlling the preheated temperature is to the whole PCB to prevent part transfiguration of PCB. According to different position of the BGA on the PCB, move the infrared heater in X-axis to ensure even heating of the PCB.

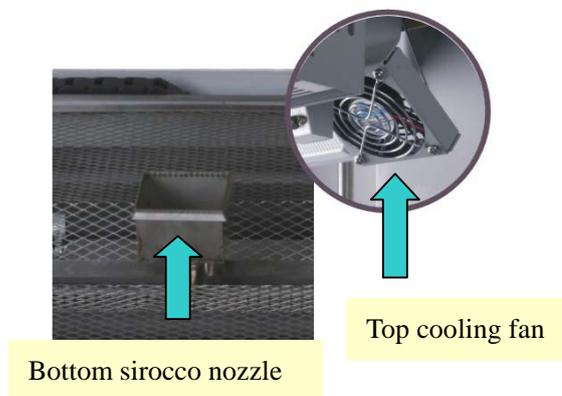


**\* Bottom Preheater**

The size of the bottom infrared preheater is 450mm\*650mm and one group infrared heating tubes near outside of it is controlled by the switch. User can open the heating tubes according to the size of the PCB and other technics need. It is setting the parameter “ADDED IR” in the SYSTEM interface to control the switch state (“on” means heating and “off” means do not heating)

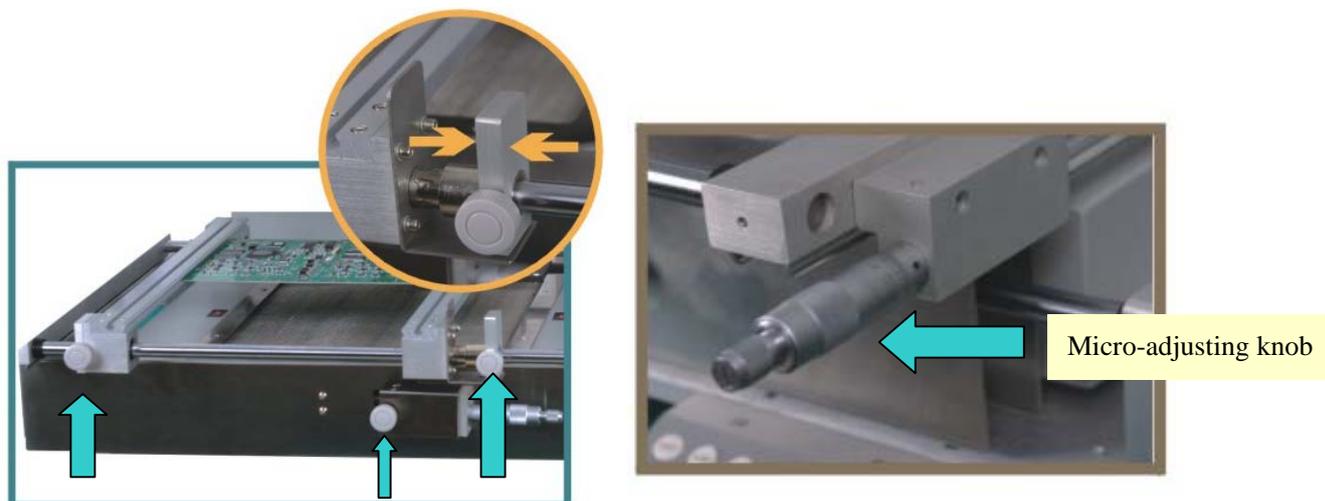
For not lowering the bottom temperature of the BGA and the de-soldering effect and reducing the preheated temperature of the whole PCB, bottom sirocco heater is to the PCB board of the BGA bottom.

When top-cooling fan starts to work, bottom sirocco nozzle blows cool air at the same time for cooling the PCB of the BGA bottom and more quicken.



## \* PCB Fixture

- Movable PCB fixture is able to fix PCB with different size. It has four lock knobs and two micro-adjusting knobs. Two PCB lock knobs are used for locking PCB Fixed Bar to prevent it from moving the PCB. The other two Fixture Lock Knob is used for locking orbit to prevent fixture from moving. The two micro-adjustable knobs are used for precise adjusting when the elements align.
- Unscrew PCB Lock Knobs and push the Slide Block by hand to open the PCB Fixed Bar, make the distance accord with PCB size. Fix PCB between them and screw down PCB Lock Knobs after adjusting position. PCB can move forwards and backwards between Fixed Bars. If you want to lock PCB Fixture, please screw down Fixture Lock Knobs.
- when the elements precise align, screw down the lock knobs before micro-adjusting. Turn “micro-adjusting knob one” for moving the PCB fixture to left or right. The PCB fixture to right when turning clockwise and to left when turning anticlockwise. Turn “micro-adjusting knob two” for moving the PCB fixture to front or back. The PCB fixture moves to front when turning clockwise and to back when turning anticlockwise.



### ●Fixing Anomalistic PCB

Fix anomalistic PCB with anomalistic knightheads and bottom fixtures for preventing subside.



## \* Keyboard Instruction

The keyboard can control all the data setting and modifying flows. The keys in the middle of the keyboard are used for setting parameters and the keys in the right are used for adjusting the light of the camera and zooming the image. The keys in the left are function keys to control the start and exit of the process.



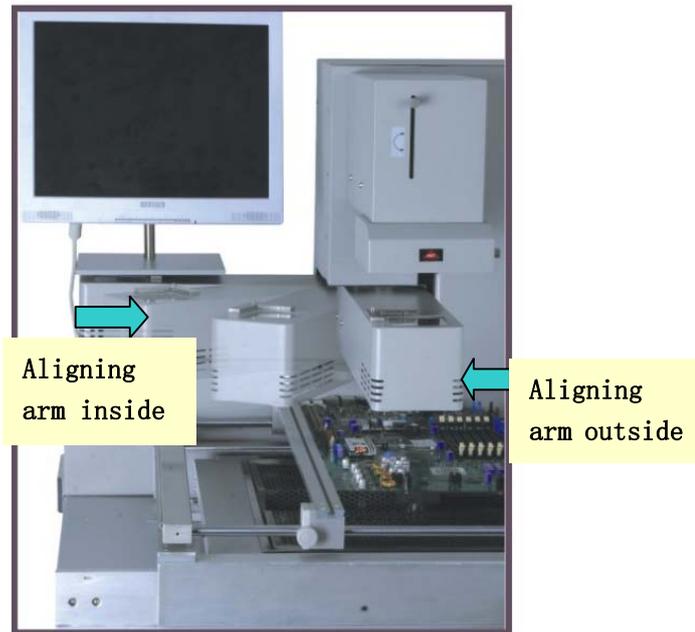
- A、 control the cursor moving to left or right and data modifying with UP、DOWN、LEFT、RIGHT key at any interface
- B、 Function of the “SET” key is confirming the input information and function of the “SAVE” key is saving the information and than exiting the process.
- C、 BEGIN key: Make the system into the reflow de-solder process or reflow solder process in the waiting state
- D、 EXIT key: Exit the current running process after pressing it and back to the starting state after pressing it again
- E、 T-H ( ↑ ) and T-H ( ↓ ) key: Control the top heater moving up and down by manual
- F、 SUCKER ( ↑ ) and SUCKER ( ↓ ) key: Control the nozzle moving up and down
- G、 CAM-CON key: controlling the position of the aligning arm inside or outside
- H、 SUCK key: Make the system into the chip sucking state and suck the chip
- I、 PASTE key: controlling the chip placing
- J、 FAN-CON key: controlling the cooling fan. Cooling fan starts to work after pressing the key and bottom sirocco nozzle blows cool air. Cooling fan stops work and does not blow cool air when pressing it again.
- K、 “FOCUS+” and “FOCUS-” key: For camera focusing
- L、 “ZOOM+” and “ZOOM-” key: Zooming the image
- M、 “RED+” and “RED-” key: Adjusting the brightness of the top red light
- N、 “WHITE+” and “WHITE-” key: Adjusting the brightness of the bottom white light
- O、 CAL key: In the process of reflow de-solder or reflow solder, pressing the key when the temperature between T2 and T3, make TC is equal to TL to multiply the coefficient by current temperature. It is calibrating the parameter of TEL and saving it (in the hole of CAL).

**Note: It must be in the DATA interface to cancel the calibrating. Setting the “CAL” parameter as “OFF” to cancel the calibrating quotiety back to initial state. In initial state, please do not press the key CAL that will affect the calibrating of the other temperatures. If pressing the key CAL not carefully, please press the key SAVE on time exiting the process. This is different to the other rework system QUICK2005 and QUICK2015.**

### \* Aligning arm instruction

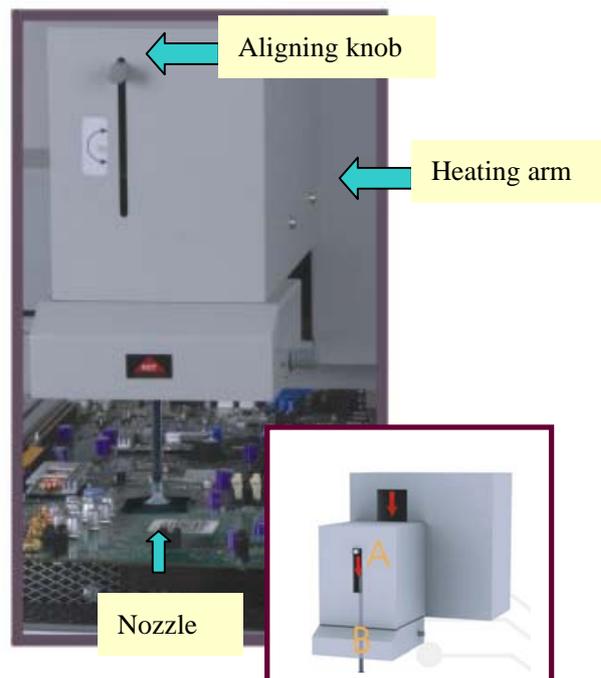
Aligning arm is used in the element alignment. In the aligning arm, there is a camera which transmitting the information by video cord and then displaying the image about the soldering point in the PCB and element pins below the nozzle. Users can observe element alignment by adjusting function keys.

- Aligning arm is controlled by the “CAM-CON” key. Pressing “CAM-CON” key, when the aligning arm is in side, it will move automatically from inner to outer and stop in one line with the top heater, and when the aligning arm is outside, it will do the opposite action to the initial state. But the aligning arm does not act when pressing it until the top heater up to certain height.
- Aligning arm is outside when the camera in using state and the light of the camera is adjustable. User can get a clear image by lighting, focusing and zooming and the aligning operation is easy and convenient by micro adjusting.



### \* Nozzle Instruction

- The nozzle will act during the process of placing and sucking the chip, SUCKER (↑) and SUCKER (↓) keys control the nozzle moving upwards and downwards.
- Press “SUCK” key to the state of the chip sucking and the nozzle will suck the chip automatically.
- Press “PASTE” key to the state of the chip pasting and the nozzle will paste the chip automatically.
- Element adjusting knob is in the middle. Turn it when optics alignment to make the BGA sucked by the nozzle turning until the stannum ballpoint in the BGA is superposable with the cuprum point in the PCB. During the process, up and down micro-adjusting knobs and left and right micro-adjusting knobs work in together for precise alignment.



## 8、 Parameters Setting

### Interface Setting

- A. **MAIN** (current process setting)
- B. **SYSTEM** (system setting)
- C. **DATA** (parameters setting)

#### A、 MAIN Current Process Setting (with keyboard)

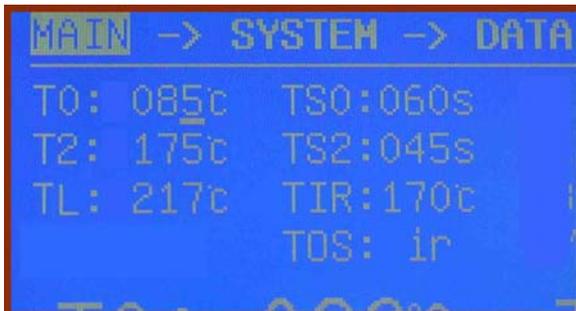
It is necessary and must to adjust the parameters when de-solder firstly PCB and BGA. Operation steps are as follows.

**For example: setting the temperature of TEO is 95°C(former temperature is 80°C)**

TC and TB show room temperatures in initial state. Press “SET” key to select the “T0:080°C ”and then press “SET” key again into the setting state. Cursor is in the 1’s digit of the selecting item.



Pressing “UP” or “DOWN” key to change the value of the 1’s digit as“5”, and then pressing “LEFT” key to make the cursor move forwards one digit. Pressing “UP” or “DOWN” key again to change the ten’s digit “9”.



Press “SAVE” key to save the data. Press the “SAVE” again to exit the parameter setting state if only need to set the “TO” and then press “RIGHT” key to the next parameter setting.



## B、System Setting:

System setting includes password setting, alarming setting, setting controlling switch state of out side parts of the bottom infrared tubes, baud setting.

1) Press “RIGHT” key to the system setting interface in the MAIN interface.



2) Press “SET” key to select “PASSWORD” item. Press “SET” key again to setting value of the “PASSWORD”. The data setting refers to the example one.



\* Initial password is “000”and omnipotent password is “159”. Users can input omnipotent password “159” if forgetting the setting password and then the system is back to initial password “000”.

\* If user needs to modify the password, inputting the new password again with the above method. It will display: Saving Password when successfully modify!

**Note: it must input the right password if user wants to modify the setting parameters, otherwise only can consult the system, not have the authority to modify the parameters.**

3) Press “SAVE” key to save the data and press “DOWN” key to setting the alarm parameter. If setting “SOUND” as “ON”, it will alarm when the temperature up to the TL.



4) Press “SAVE” key to save the data and press “DOWN” key to setting controlling switch state of the out side parts of the infrared heating tubes. If setting “ADDED IR” as “ON”, it means the out side parts of the infrared heating tubes are heating when the bottom heating. Setting method as above.



### C、Parameter Setting of the DATA Interface

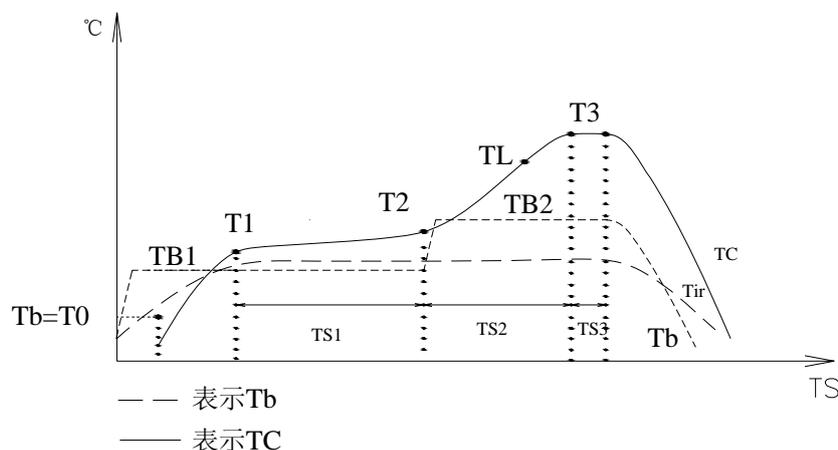
Press “SET” key and select the “DATA”, and then press “SET” again to setting the parameters. Now the cursor is on the selecting item and the method of the setting the parameters as the example one. “DATA” interface will show the ten processes in the host machine. Of course, user can modify it by oneself as needing. The ten processes all have password protection and authority setting to ensure the reliable technics

**Note: It must be in the DATA interface to cancel the calibrating. Setting the “CAL” parameter as “OFF” to cancel the calibrating quotiety back to initial state.**



#### C-1. Modify Parameter of working flow

1. If it is necessary to modify parameters of some processes, first you must select the certain process and then modify its parameters (modify method as above).
2. The modification of parameter must accord with the following technics graph.



The soldering technics is decided by T0、TB1、TB2、T1、T2、T3、S1、S2 and S3. It describes the temperature graph during the period of the system working. TL means Melting temperature of solder and the range between T2 and T3.

#### T0

T0 is the valve temperature of the bottom heater required by the top heater heating. Also it is the first temperature of this technics process. When the working flow begins, the bottom heater starts to heat up and the top heater begins to heat up after the temperature up to T0.

#### TB1、TB2

TB1: The setting temperature of the bottom before the T2

TB2: The setting temperature of the bottom after the T2

#### T1

T1 is the heat preservation starting temperature of reflow soldering. It is also the second temperature of this technics process. The temperature rises to T1 with a proper speed of the electronic elements permitting. Use the UP, DOWN, RIGHT, LEFT, RIGHT, SET and SAVE key to set the values of T1 when modifying the parameters.

#### T2

It is the temperature when finishing the heat preservation of reflow soldering. The pre-heating temperature rises to T2 when to the time S1. During this time, PCB and component pre-heating is finished and the solder is activated. Use the UP, DOWN, RIGHT, LEFT, RIGHT, SET and SAVE key to set the values of T2 when modifying the parameters.

#### T3

It is the peak value temperature of reflow soldering. When the temperature reaches T2, the temperature equably rises to T3 with a definite raising speed. The soldering or de-soldering will be finished when the temperature reaches to the peak value and performs the next step. Use the UP, DOWN, RIGHT, LEFT, RIGHT, SET and SAVE key to set the values of T3 when modifying the parameters.

#### TL

Melting temperature of solder. At this temperature, the solder starts to melt down and turn into liquid.

During the soldering and de-soldering, users can press CAL Key to calibrate the value of TL when the solder do not turn into liquid or do not turn into liquid on time. Use the UP, DOWN, RIGHT, LEFT, RIGHT, SET and SAVE key to set the values of TL when modifying the parameters.

#### S1

Heating time rises from T1 to T2. User can set the value in the range of 0~300s.

#### S2

Heating time rises from T2 to T3. User can set the value in the range of 0~300s.

#### S3

Prolonged heating time (heat preservation time) after the temperature reach T3, and user can also set the value

in the range of 0~300s.

#### TIR、 KTB

TIR: the setting heating temperature of the bottom heating tubes;

KTB: Real-time temperature of bottom sirocco heating, correspond to TB 底部热风实际温度, 相当于 TB

#### KIR、 IRT

KIR: Real-time temperature of bottom infrared heating

IRT: Real-time detecting temperature of the infrared sensor

#### TB、 TC

TB: Real-time temperature of bottom infrared heating

TC: Real-time temperature of top heating

#### TOS

It is used for choosing the system's sensor type between IR and KT1-KT5. Besides system's non-touch infrared sensor (IR), users can also choose K type sensor used for measuring temperature. The signal of chosen sensor will be displayed and used for process controlling. Use the UP, DOWN, RIGHT, LEFT, RIGHT, SET and SAVE key to set the values of TEL when modifying the parameters.

#### Password

It is used for setting password. It is designed for preventing the equipment unnecessary or non-authorized change. When it is set to "000", the password protecting is useless. The password is used for all flows and it can be useful and useless in each flow. The system requires inputting correct password before any change.

Using of password refer to A item.

## 9、 Operating Technics Instruction



**Note: Top and Bottom Heater will be very hot during working, so please don't touch the hot surface of the parts.**

### 9.1 Soldering Technics (System's power supply is on)

1. Turn on power switch of each part.
2. Move PCB Fixture bracket with PCB above the Bottom heater and make the soldered component on the

- PCB between Top heater and Bottom heater (the soldered elements have been placed on the PCB board by PL system). The position of the soldered BGA must be corresponding with the position of the sirocco nozzles.
3. Adjust aperture system for getting a proper window size.
  4. Select parameters with keyboard. (Refer to Parameters setting)
    - A. Select the required flow, if need to modify the parameter, input the password before performing relevant operation.
    - B. Select “solder” working mode.
    - C. No change in communication speed, and press “SAVE” button to save and exit to MAIN surface.
    - D. System starts working after pressing “BEGIN”, running the select flow
  5. LCD will display series of setting temperatures and the current temperature of TB and TC during working, and indicate when it reaches T1, T2, T3 and TL. S1, S2 and S3 are counted down and user can know about the setting value clearly.
  6. When the temperature reaches TL, there will be a sound signal (if setting alarming).
  7. When the temperature reaches T3, the sound signal changes to a briefness sound and the system stops heating for seconds of S3. After that, the system will not heat up anymore and exit the process automatically and then the technical process is over.
  8. The system can perform a series of function action during working.
    - A. After press BEGIN key, the top infrared heater move downward near to bottom.
    - B. After the system sounds unvaryingly, the top heater move upwards. Top cooling fan blows cooling air and bottom sirocco nozzle stop blowing warm air to blow cooling air. The effect of cooling is better when blowing cooling air simultaneously.
    - C. The top cooling fan and bottom sirocco stop blowing after 50 seconds, and the soldering technics is over.

**Note:** The process of the De-soldering technics is same with the soldering technics besides selecting “DESO” when setting the process parameter.

## 9.2 Aligning Technics

1. Turn on power switch of each part.
2. Press “CAM-CON” key and move the alignment arm to aligning position. The lights of up and down both are on.
3. Place the component above the prism of the alignment arm.
4. Suck the chip automatically and back to aligning position after pressing “SUCK” key. Manual operation is also convenient.
5. Check whether the image displayed on Monitor fitting user’s demand. Use keyboard to adjust it. Adjusting refers to “Keyboard Instructions”.
6. Unscrew the PCB Fixing Knobs on the PCB Fixture to open PCB Clamp Bar. Fix the soldered PCB on the PCB Fixture and adjust PCB’s position to the below of the aligning arm. Make the Monitor display the image of soldering point, and make the images of soldering point and component in the same center point. It is convenient for adjusting. After roughly adjusting, screw down Fixture Fixing Knob to lock PCB Fixture to prevent it from sliding right and left.
7. Align the component with two Adjusting Knobs and two Micro-adjusting Knobs. Make the images of the component soldering pins and the soldering point on PCB overlap. The image can be observed on the

monitor. Aligning adjustment refers to “Adjustment knobs” and “PCB Fixture”.

8. After alignment, aligning arm goes back to initial position when pressing “CAM-CON” key.
9. Paste the chip automatically when pressing “PASTE”. The aligning process is over and it’s the time to solder.



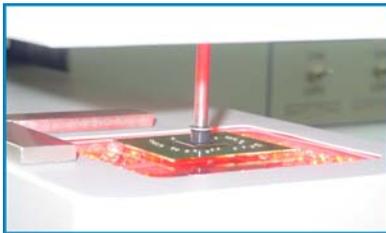
2



3



4-1



4-2



4-3



4-4



7



8



9-1



9-2



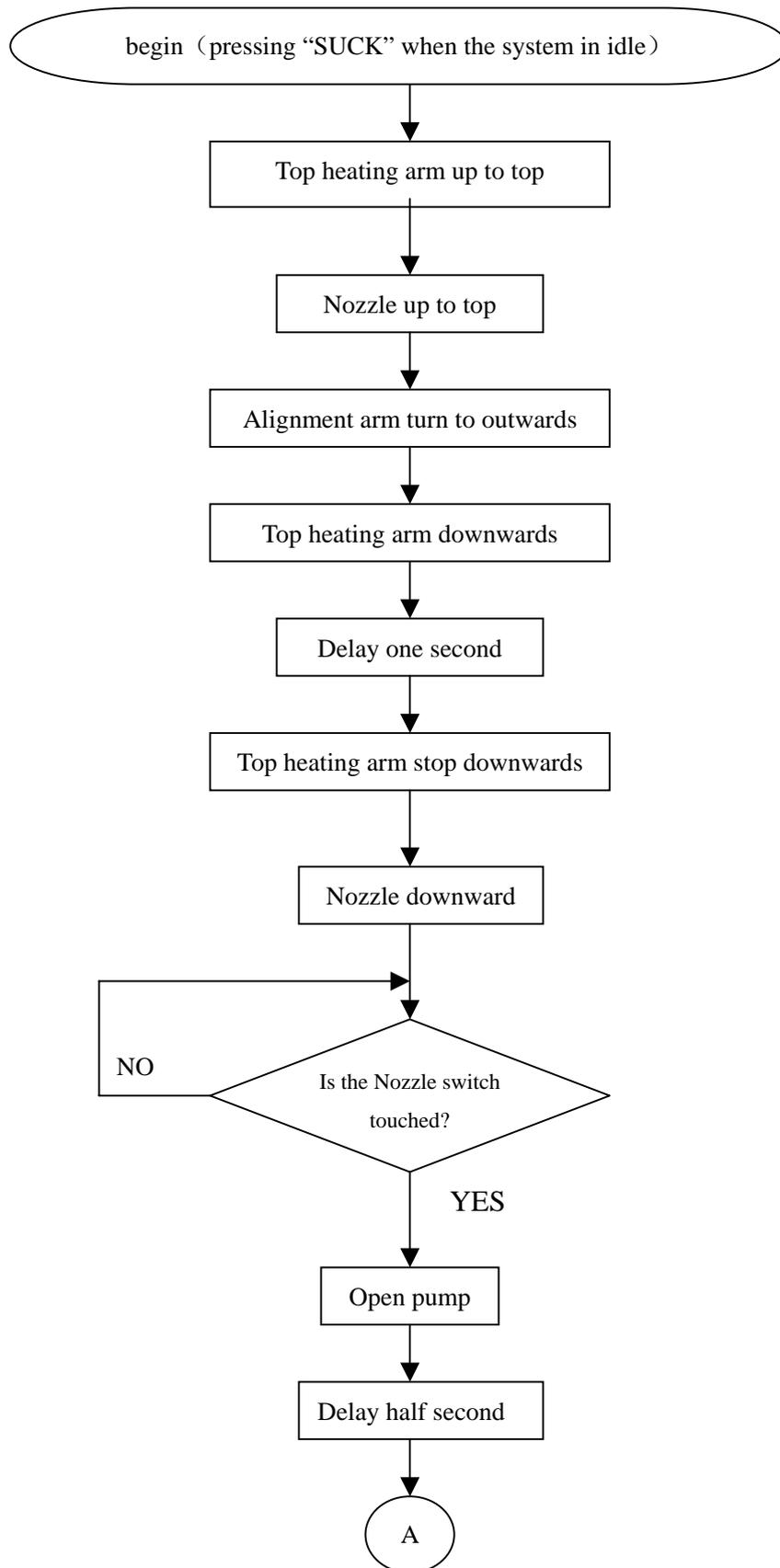
9-3

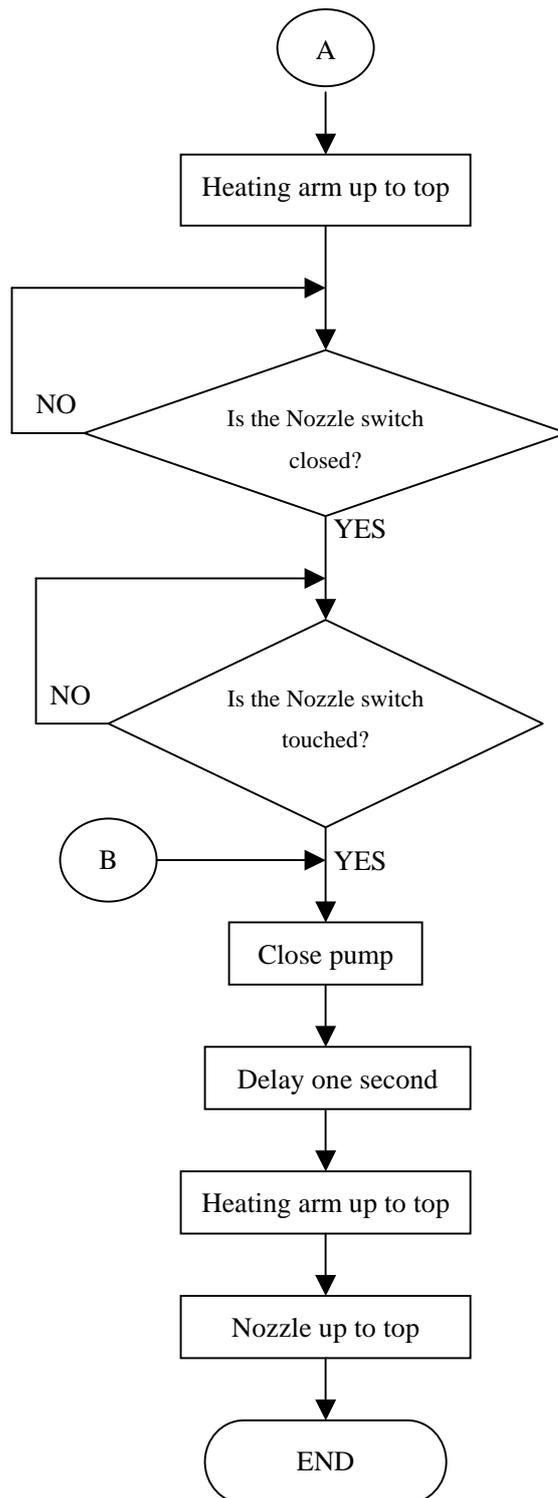
### 9.3 Intelligent Processes Instruction

BGA2025 has three intelligent processes that can run many processes automatically to reduce the effects of artificial operation. (the pictures of the suck and paste process refer to 9.2)

1. Suck process
2. Paste process
3. Solder or de-solder process

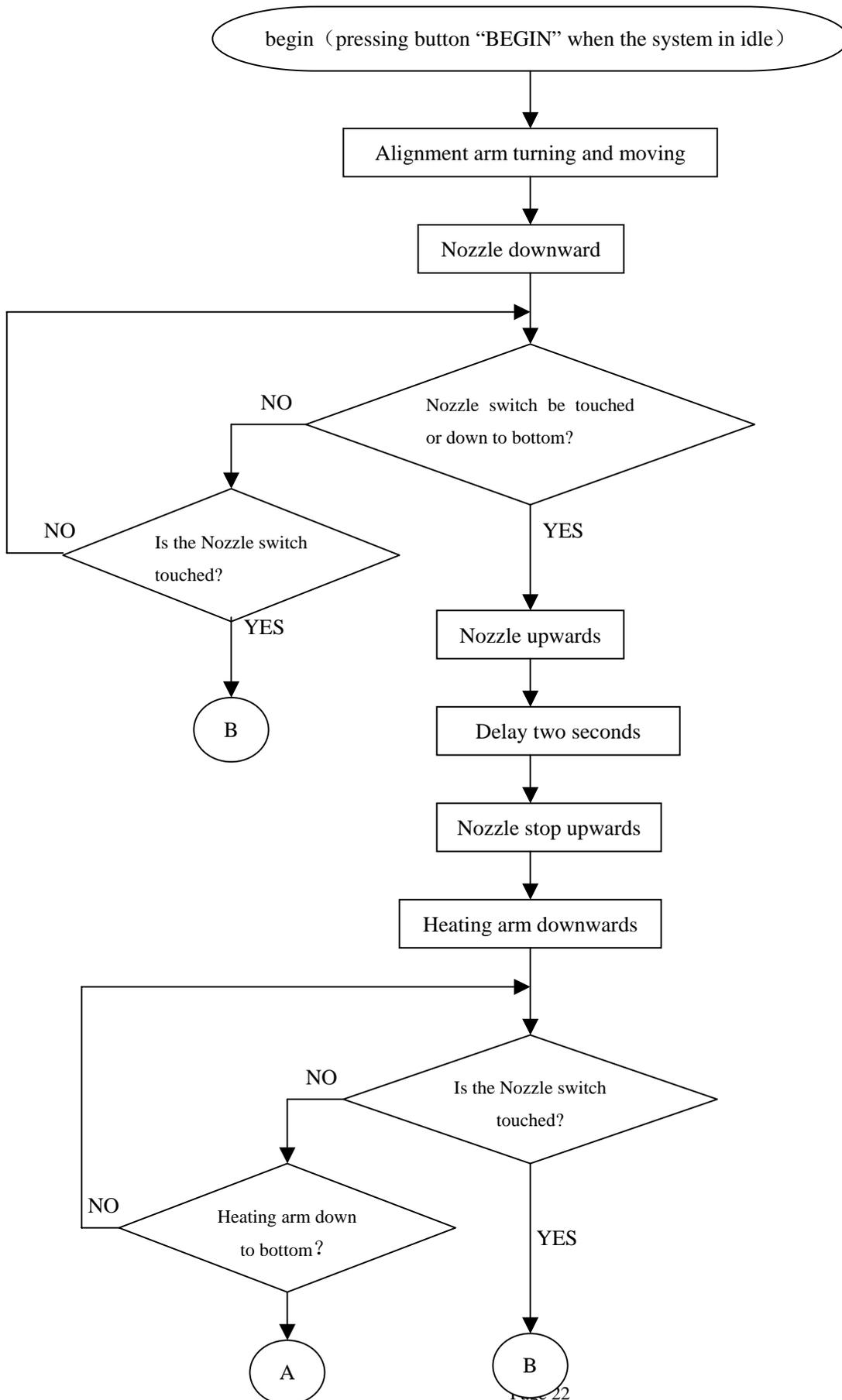
## 1、Suck Process

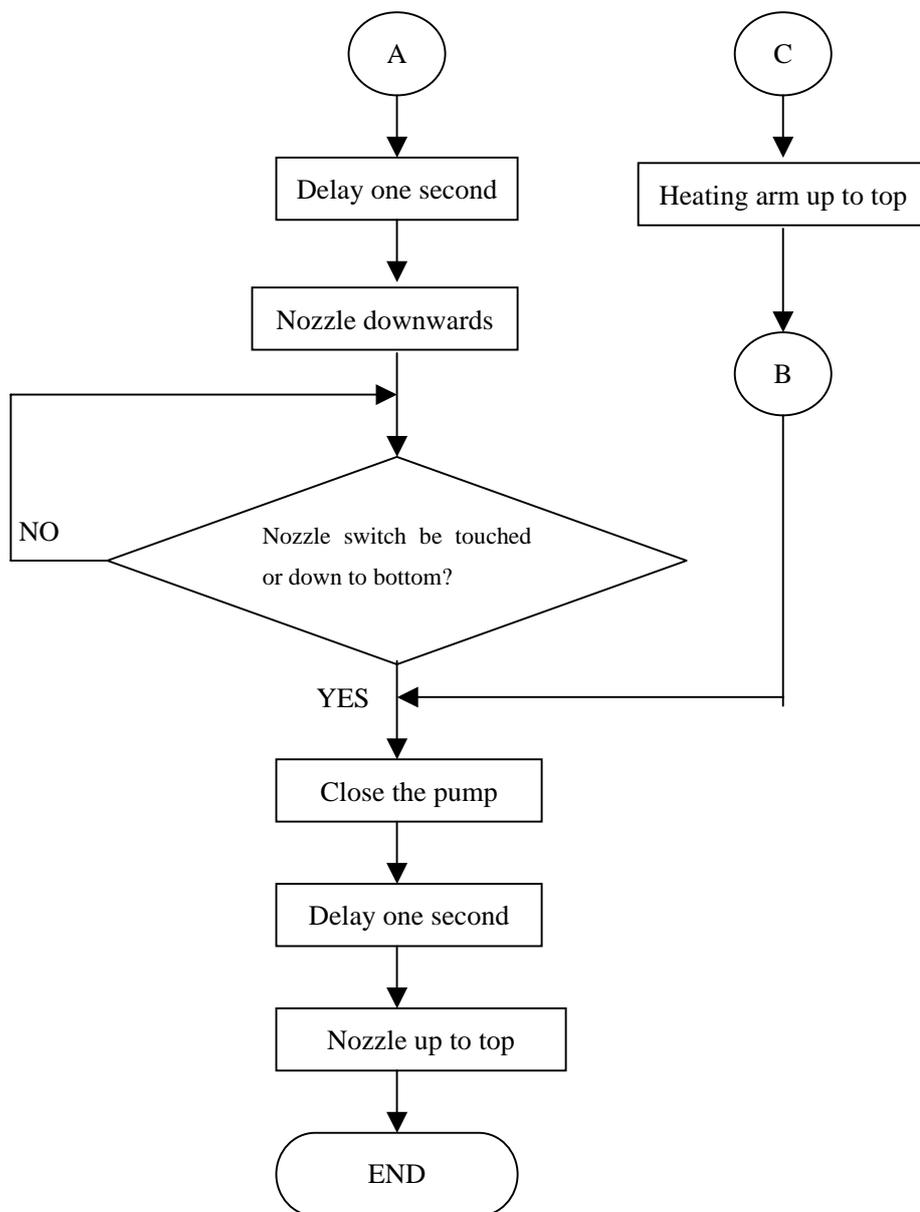




**NOTE: Process runs from B after pressing “EXIT” key at any time in sucking process. After closing the sucking switch, the sucked elements must be taken away before closing the pump switch.**

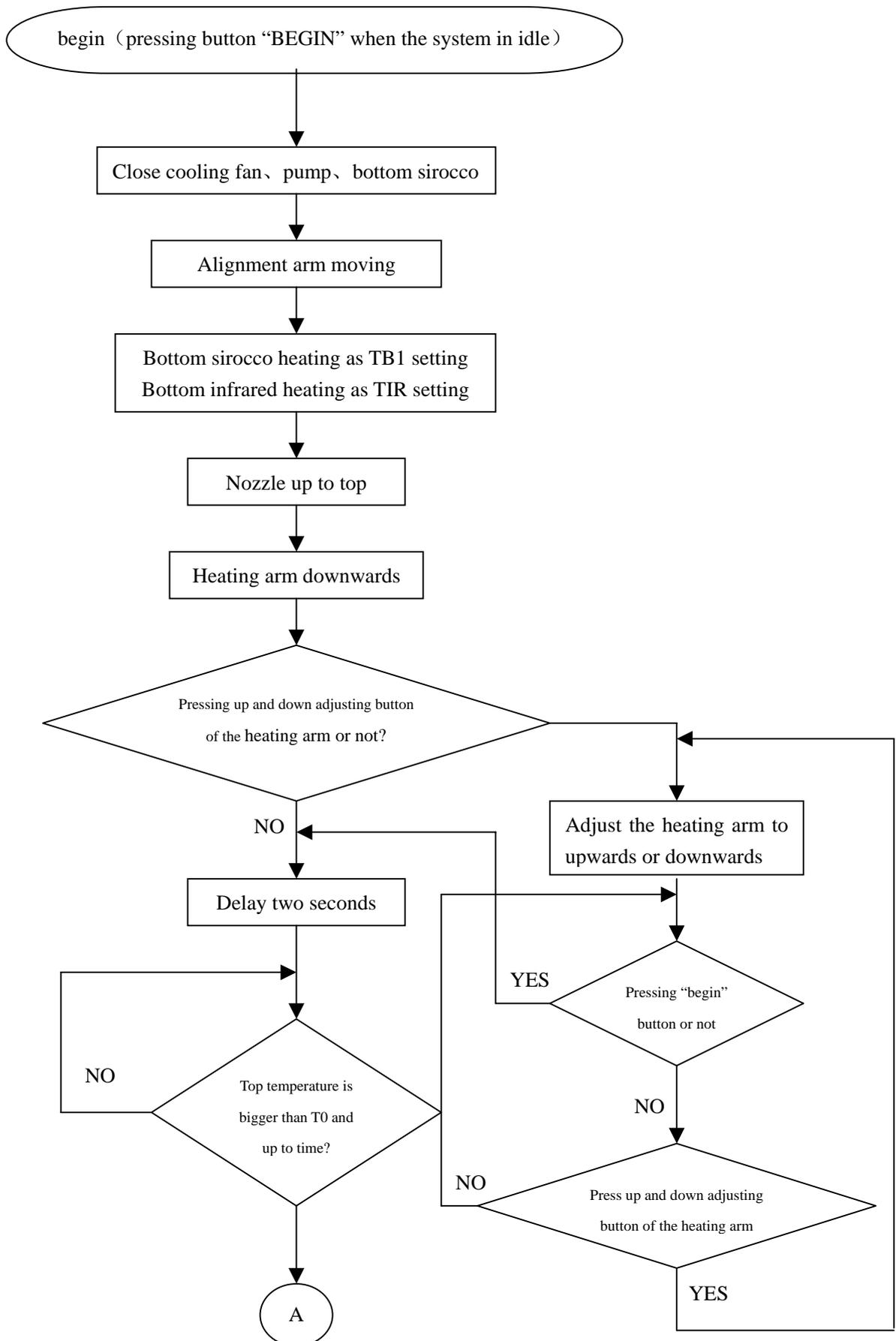
## 2. Paste process:

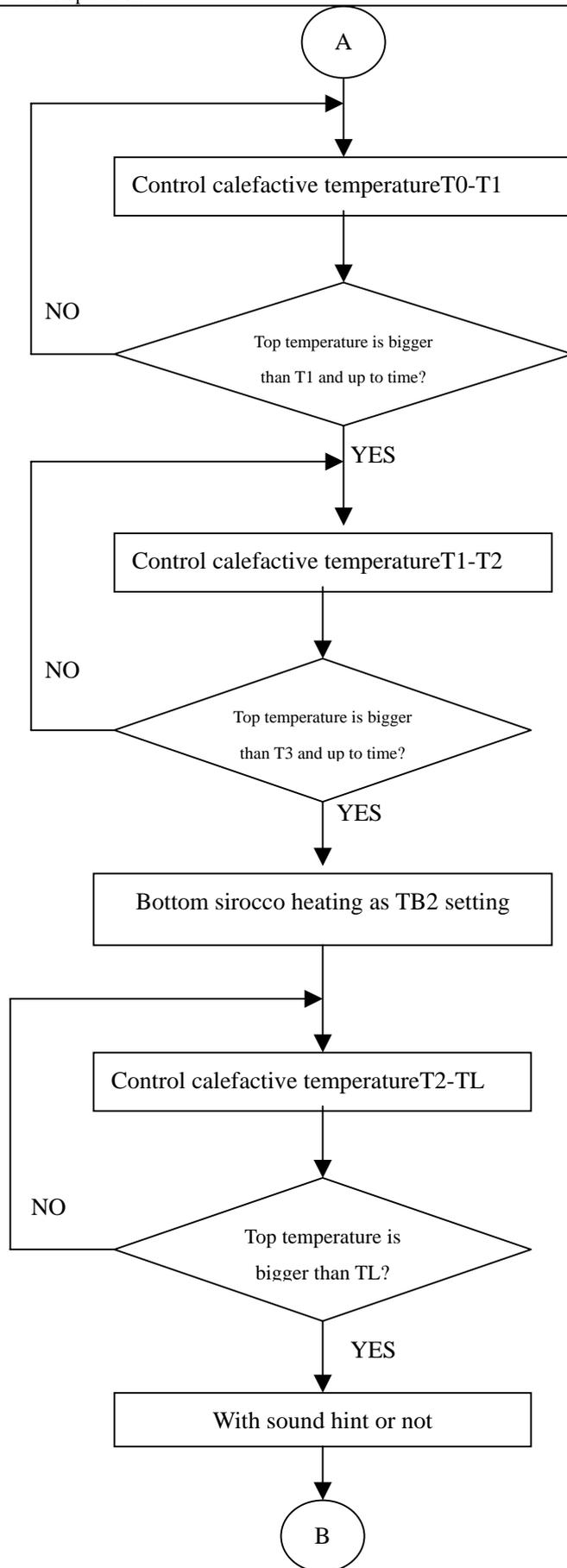


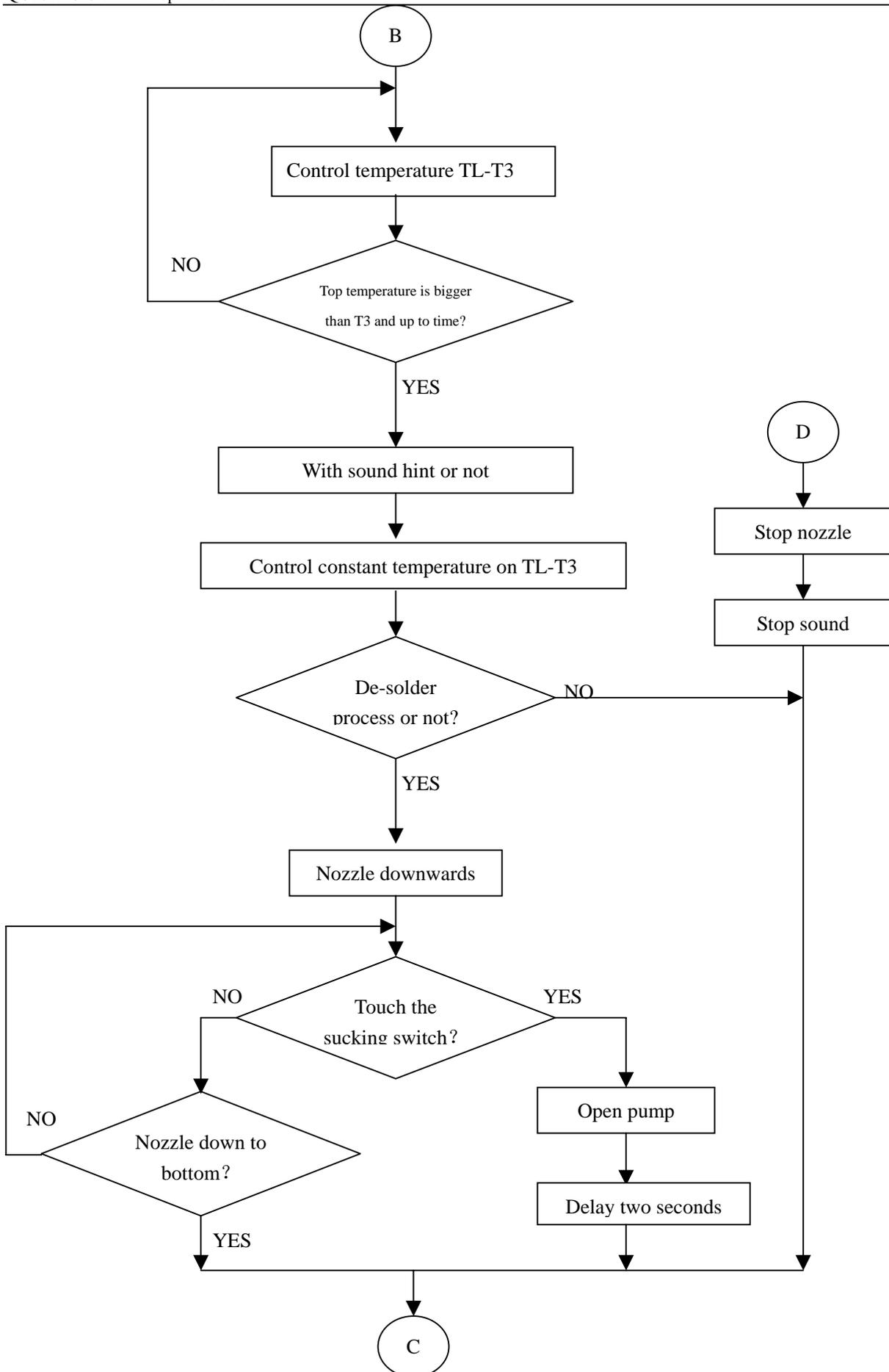


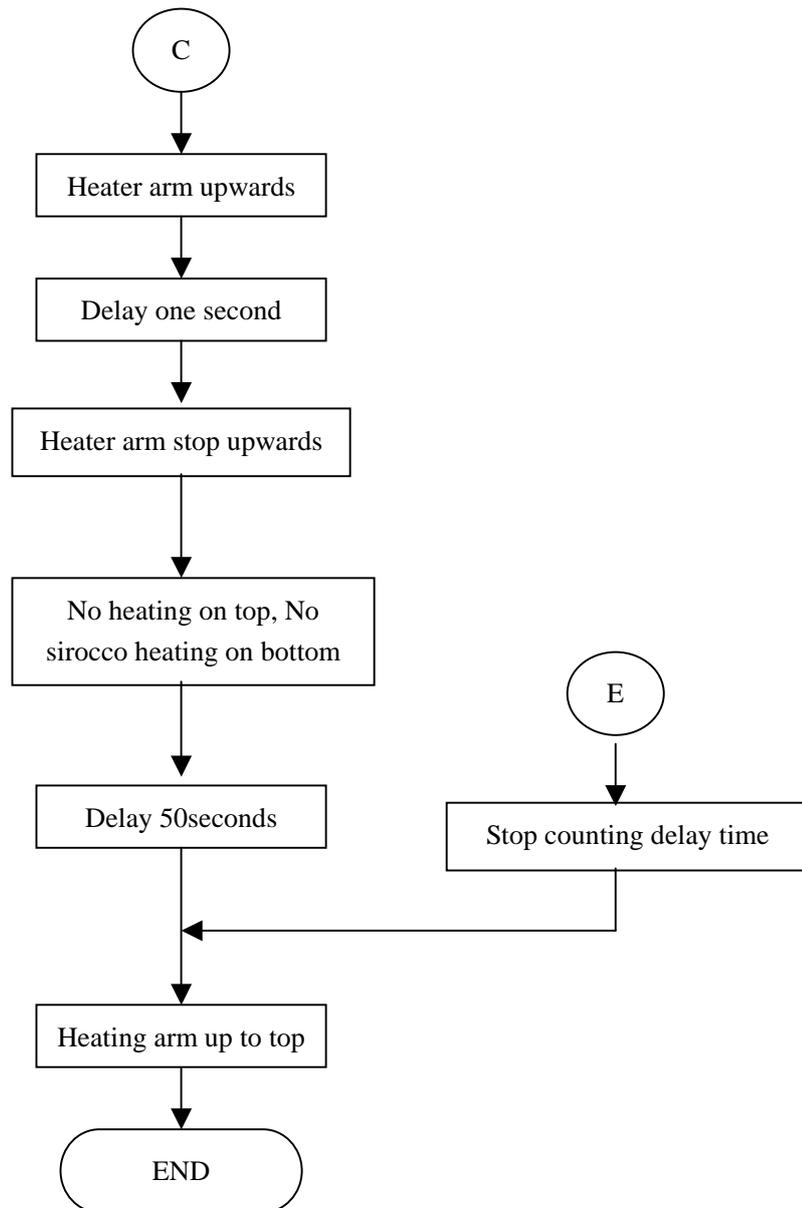
**NOTE: Process runs from C after press “EXIT” button at any time in the process.**

### 3. Desolder Process









**Note:** After the heating process, run the process from E ” after sucking the chip when pressing button “EXIT”. Other states run the process from D when pressing button “EXIT”.

## 10. Calibrating the System

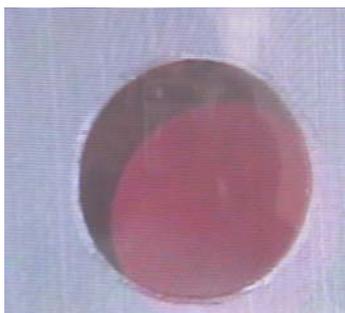
Due to vibrations during transporting, it is necessary to calibrate the system before using. The steps are shown as follows.

### 10.1 Checking the Calibration

1. Insert the calibration plate into the PCB fixture and adjust the position, lock the fixture.
2. The vacuum tube section of vacuum pump will be treated as the calibration hole. (If it has nozzle, please remove it.)
3. Press T-H ( ↓ ) key to make top heater move down.
4. Turn SUCKER ( ↓ ) to lower the calibration tube. Check whether the calibration tube superposes exactly with the round hole on the calibration plate. If they aren't superposition, please adjust Micro-adjustment Knobs of fixture until the calibration tube and hole completely superpose. After superposing, please don't do any change to the calibration plate or calibration tube.



5. Press T-H ( ↑ ) to make top heater moving up.
6. Press "CAM-CON" to make the camera in alignment state and then adjust the image displayed by Keyboard. Observe the images: the system is precise if the two images (Circle) in the Monitor superpose, otherwise not. The system needs to be adjusted.



Imprecise

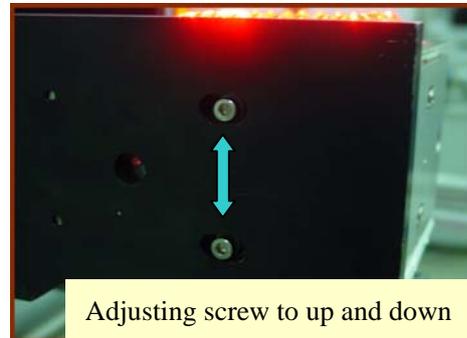


Precise

### 10.2 Adjusting the alignment

1. Take out the cover of the alignment arm.
2. Use spanner to adjust the two adjusting screws on the front board, the adjusting extent can not be too large, until the two round images superpose on the display.
3. Locking the adjusting screws on the left .

4. Adjust the two adjusting screws on the alignment arm until the two round images on the display superpose.
5. After superposing, screw down fixing screws on left side. After screwing down, the image displayed should be superposed too.
6. If necessary, you can repeat the above steps to calibrate once again.



### 10.3 Adjusting the Temperature

1. Fixing one side of the outer K type sensor on the testing board with the high temperature adhesive tape, other on the temperature testing meter, and then calibrate the temperature.
2. Press “BEGIN” key to run the process after setting parameters to heating up the testing board.
3. When the temperature on the test meter is same with the setting value “TL”, press button “CAL” to adjust the temperature. Then TC value on the MAIN interface will update to the new setting value and the calibrating parameter will be write into the process and save.
4. If necessary, you can repeat the above steps to calibrate once again. Normally, the temperature is correct, not to adjust.

**Note: please do not press the key CAL in initial state that will affect the calibrating of the other temperatures. If pressing the key CAL not carefully, please press the key SAVE on time exiting the process. This is different to the other rework system QUICK2005 and QUICK2015.**

## 11、 Equipment Maintenance

**Remark:**

For ensuring reliable function and maintenance of equipment, please use parts provided by original factory. Please turn off power switch of each part and pull out power plug when not in use.



**Note:**

**After cutting off the power supply, the surface of the equipment is still very hot, so please don't use any dangerous or combustibile solvent to clean it.**

**Clean parts:**

Clean the dust on system with clean towel.

Suggest using dry or wet towel to clean the equipment. Solder on the glass of Bottom Radiator can be cleaned out with hard object. Please be careful not to break down the glass.

Clean the prism of camera with pledget and be careful not to scrape it.

Use the towel with cleaning oil to clean PCB fixture and orbit.

**Replace Suction Pad:**

If you want to replace the Suction Pad, please turn off power, and replace it after the vacuum suction nozzle and Top Heater cooling down.

**Take Suction Pad out of suction nozzle downwards, and install a new one in opposite direction.**