JC3080 Fabric Label Cutting Machine (Ultrasonic Digital Label Cutter)
Operation Manual

JC3080 数控超声波切带机
使用说明书

Content

JC-3080 Ultrasonic Digital Label Cutter

Main Technical Variables:

Cutting Length: 1-90cm

Cutting Width: 1-7.5cm

Cutting Speed: 550pcs/min

Power: 220V/50HZ/60HZ

Weight: 105KG

Dimension: 93<l>*65<w>*148<h>cm

I. Operating Manual of Trademark Cutter

Length of Trademark(Length): Cutting length of trademark beforehand, it can be added or reduced correspondingly according to the real cutting length.

Operation Speed Gears (Drives Speed): It can be divided into 6 gears, the fastest is Gear 6, and the slowest is Gear 1.

Cutting Speed Gear (Reamers Speed): It can be divided into 6 gears, the fastest is Gear 6 and the slowest is Gear 1; 600 pieces per minute of the fastest.

Compensation Position (Make up): There will be ±3mm length compensation. That is standby parameter, not useful.

Length of Waste Mark (Blank): The waste length in trademark belt, that is to say the length of blank, it only work on Function 4.

Trademark Cycle (Period): When there is surplus blank belt or none useless on trademark belt, this function works, the counting method is: the amount of trademark between two blank belts only works on Function

4.

Position of Waste Mark(Reamers Blank): If there is blank trademark belt of cutting belt you must set the amount of waste trademark from blade, when it is the first time to cut or the tracking color mark is wrong. It can only work on Function 4.

Cutting Position (Reamer Sensor): Amount of trademark of blade apart from examining color scale.

Background Colors of Trademark(Grounding Set): Sensor Distinguish Dark or Light, it should be matched with color scale indicator light to use, when the sensor on the color block, the LCD display ☻,then set 0（means black tape white image）; contrarily display ☺ set 1; when the sensor on the color block, moving tape, it must be ☻、☺ display alternately

Amount of Trademark (Total): Set the amount of single batch. After starting the full-automatic cutting, the computer automatically counts. It will automatically stop, when it reaches setting parameter. The amount of trademark of single batch showed by the picture and the cut trademark is plus one.

Accuracy Rate (Label Time): The time of ultrasonic blade head touching wave head. (Advice no use)

Use the Removing Static Function or not (Static on): 0 means shuts the function of removing static, 1 means starting. (Advice no use)

Force of Cutting Trademark (Cut Power): Adjust the force of cutting

trademark to be max. 99 (Advice no use)

Force of Fold-line of Trademark (Force Power): adjust the force of press-line of trademark to be max. 99

Fold-line Function (Press Use): 0, 1, 2, 3 .0 indicates nothing, 1 indicates only pressing one line, such as folding in the centre line, 2 indicates pressing two line, Such as folding in two side. Usually, use Operation Speed Gears (Drives Speed): gear 1 for folding line

Front Fold-line Length (Fore Line): The length from press-line position to the front.

Back Fold-line Length (Back Line): The length from press-line position to the end.

Operation page layout view:
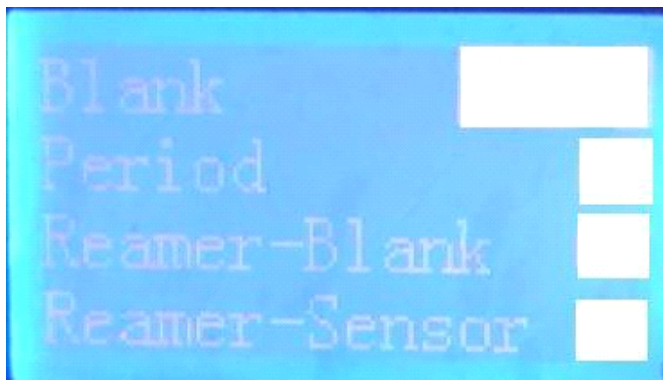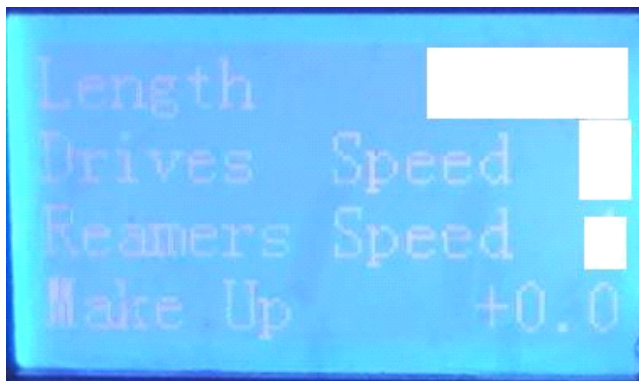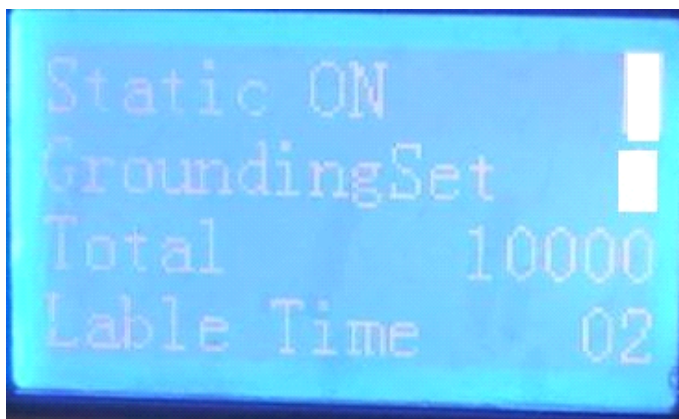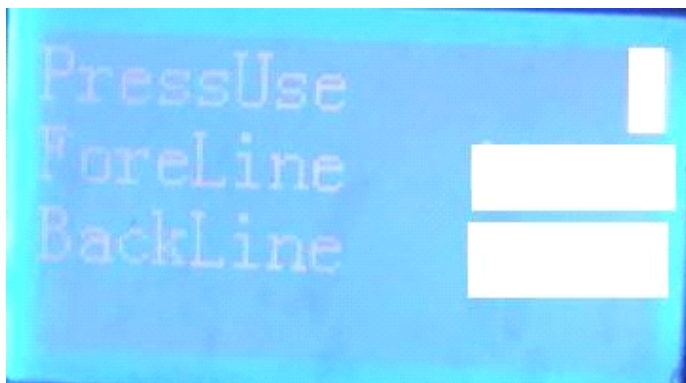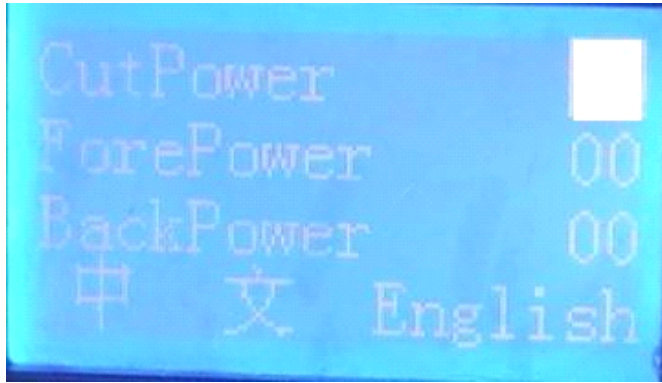
II Parameters Set and Operation Method

Open the machine , when it is Chinese, let the cursor position is on it and then press 1 key to Change as English.

Functions as following: Press digital key to revise its function (1, 2, 3, and 4)

Function 1: Automatic tracking color mark cutting, no blank or waste mark length; when appear function 1, press [Set] for parameter

revised

Function 2: Automatic tracking color mark cutting, no blank length of trademark tape ;(guided cutting)

Function 3: Positioning cutting, no need to use sensor to cut the trademark.

Function 4: Automatic tracking color mark cutting, with blank or waste length trademark belt:

Press left moving key ←and right moving key→ to move trademark belt, press ↓ to cut one time; press [Set] key entering parameter revised page Trademark Length, press select parameters and page down →or page up to find the revised parameters you want, press digital key to revise the data. If the parameters of compensation position can be revised, press number in it. When you need fold line in the two edge of materials tape. It should press 2 in 【press use】. And then revise the parameter for 【Fore Line】 and 【Back Line】. Put the fold length number in frame. When you need fold line in the centre of materials, it just need to revise press 1 in 【press use】.one of parameter, such as put fold line length in length front fold line of trademark or length back fold line of trademark. If it is finished, press ENTER key to save.

Press 0 key let it the one batch quantity as 0, press 7 key let it total amount as 0, press 5, the blade turn to lowest.

How to adjust ultrasonic generator:

Frequency Tracking Pointer   Knob   Locknut
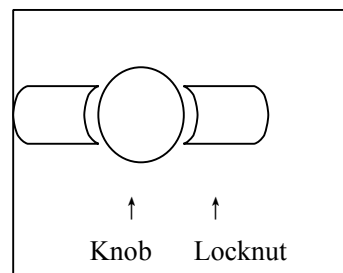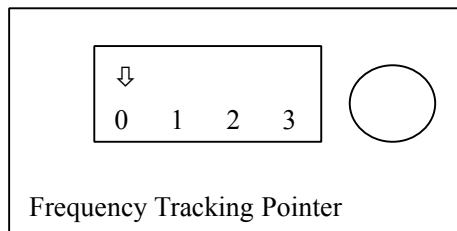
Hold down the button and then rotate the knob clockwise to observe the frequency tracking pointer, if the frequency of the pointer to the general direction of movement, then began to counter-clockwise rotation for knob.

Observed frequency tracking pointers, when pointers close to zero and then locking locknut.

Where can adjust the ultrasonic for how many wave frequencies can

reach?

III debugging cutting Printing Belt of Trademark Method:

Press 9 key to enter, check its input, output, the keys of controller, move the blank of the trademark and the color up and down under the color mark spot from sensor. Observe digital 1 from 1, 2, 3, 4, 5, and 6 to check if there is change. If there is no change, it shows the sensor can not distinguish the color, if there is change, it can be used to cut trademark belt. **Before debugging, set the value of compensation position as zero.**

Function 1. Cut the trademark with color mark successively

First press the left moving key ← and right moving key →

to move trademark belt to make it harmonized with blade, then adjust the position of sensor to stay at 2-5mm blank in front of color mark, fixing the sensor, then move trademark belt lighted by color mark of sensor. Adjust the button of sensor to make the indicator light on (off). Then pull the trademark belt, if the indicating light is on or off, that's Ok. Press key ↓ to cut off the surplus part. Press "on" key, it begins working, press off key, it is decided by the cutting position of the trademark, if its position is too front, press SET key to enter parameters revised page, select parameters of position compensation/make up. Set its value as negative, if its size is approximately equal to its length; try to cut for several times. Observe its position, if it is in front, increase the parameter of compensation position, if the position is in rear, reduce its parameter, if it is cut, its position is in rear, set its parameter as positive, and save its number, then cut again and adjust it.

Function 4: It is used to cut the trademark with blank or waste mark, the debugging method is the same as Function 1, before debugging, use Function 3 to cut for several times to make the cut trademark belt compared with the length of trademark, the cut length must be approximately equal to the length of trademark, furthermore, use Function 3 to cut its length, they should be equal.

Connecting-wire Instruction of 25-needle Connecting Plate

1.-Vcc puts out+5V DC power supply to supply the driver with electricity to connect PU+ and DR+ of the driver.

2. - DR1- direction control end of cutting tool driver connects DR- of the driver or not.

3. - PU1- pulse control end of cutting tool driver connects PU- of the driver.

4. - Vic puts out+5V DC power supply to supply the driver with electricity to connect PU+ and DR+ of the driver.

5. – DR2- direction control end of feeding driver connects DR- of the driver or not.

6. - PU2- pulse control end of feeding driver connects PU- of the driver.

10. – Outside connect DC power supply with +12V switch power supply of "Borui BR40-2G or Shansheng".

11. – Outside connect DC power supply with GND of"Borui BR40-2GH or Shansheng".

12. - IN1 outside connects signal end of tracking color mark sensor.

13. - IN2 signal end of cutting tool sensor.

14. - IN3 on Key

15. - IN4 off Key

25. – Outside connect +DC1 DC power supply of "Borui BR40-1B-DM or Shansheng".

24---- Load control end, removing static control end

23---- Load ultrasonic control end

22---- Outside connect GND1 DC power supply of "Borui BR40-1B-DM or Shansheng".

Connecting-wire Instruction of Controller

Attention: the controller adopts 5V power supply, it should not be connected to other current, or the control module will be burnt. If there is something confused, please contact our factory. We are bound to give you satisfying reply to make you feel safe to use it.

The red wire connects to +5V switch power supply of "Brui BR40-2GH or Shansheng", while the black wire connects to GND of switch power supply. Don't forget to connect the right wire, or the module will be burnt. Don't connect the two wires with other power supply.

Connecting-wire Figure as Follows:
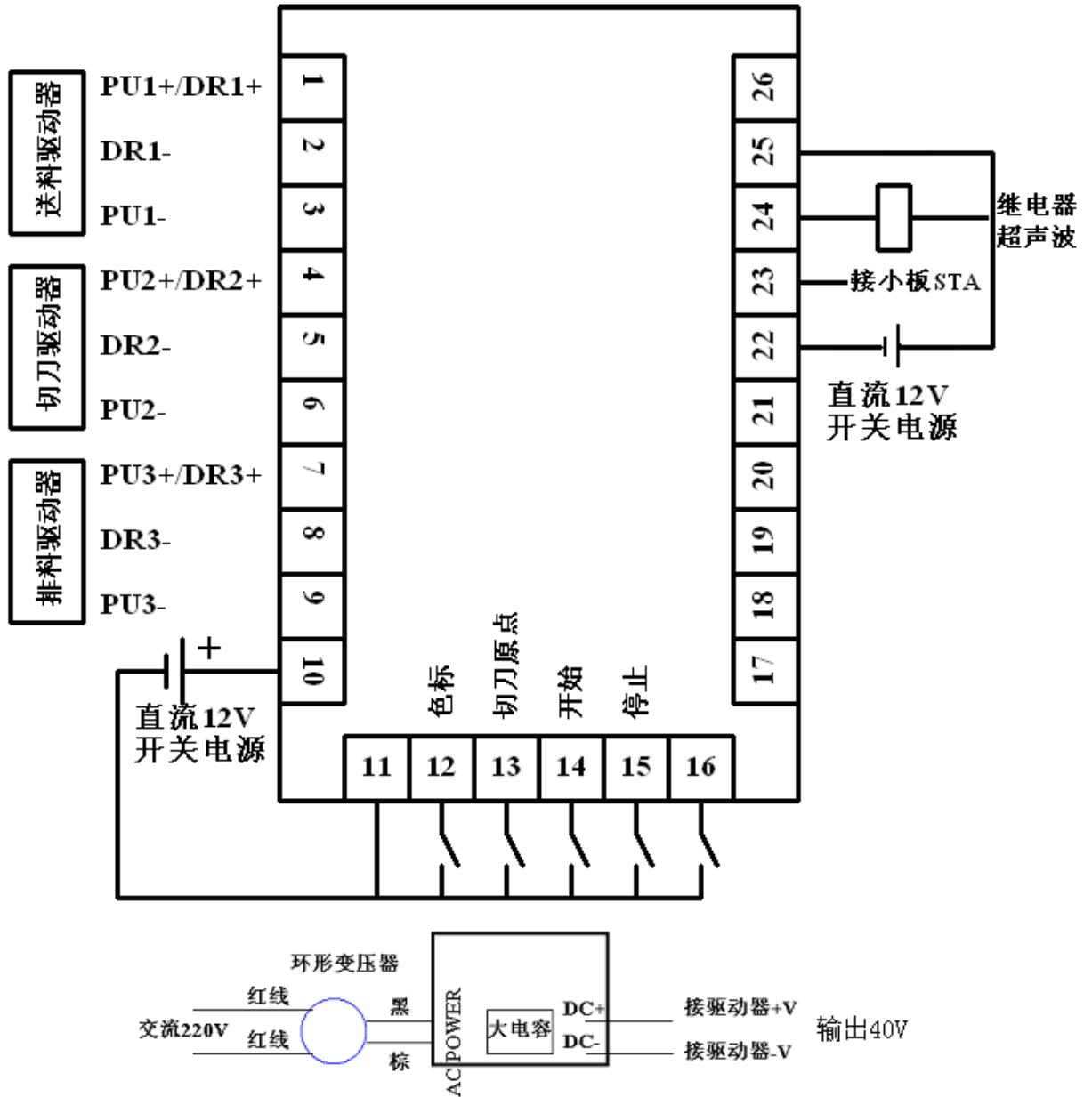
排料驱动器 Discharging Driver　　　　　　切刀驱动器 Cutting tool Driver
送料驱动器 Feeding Driver　　直流 12V 开关电源 DC 12V Switch Power Supply
色标 Color Scale　　　切刀原点 Origin of Cutting Tool　　　开始 On
停止 Off　　继电器超声波 Relay Ultrasonic　　　控制超声波 Control Ultrasonic
接小板 STA Connect Small Plate STA

关闭放料开关　可调电阻500K

接放料电眼信号　接电眼电源+　接电眼0V　　接开关电源COM　接开关电源DC2+

IN　12V　GND　SW　12V　RW　GND　12V

GND
STA　接25针接线板23脚

~220L　~220N　~220L　~220N

放料电机　除静电

~220交流电
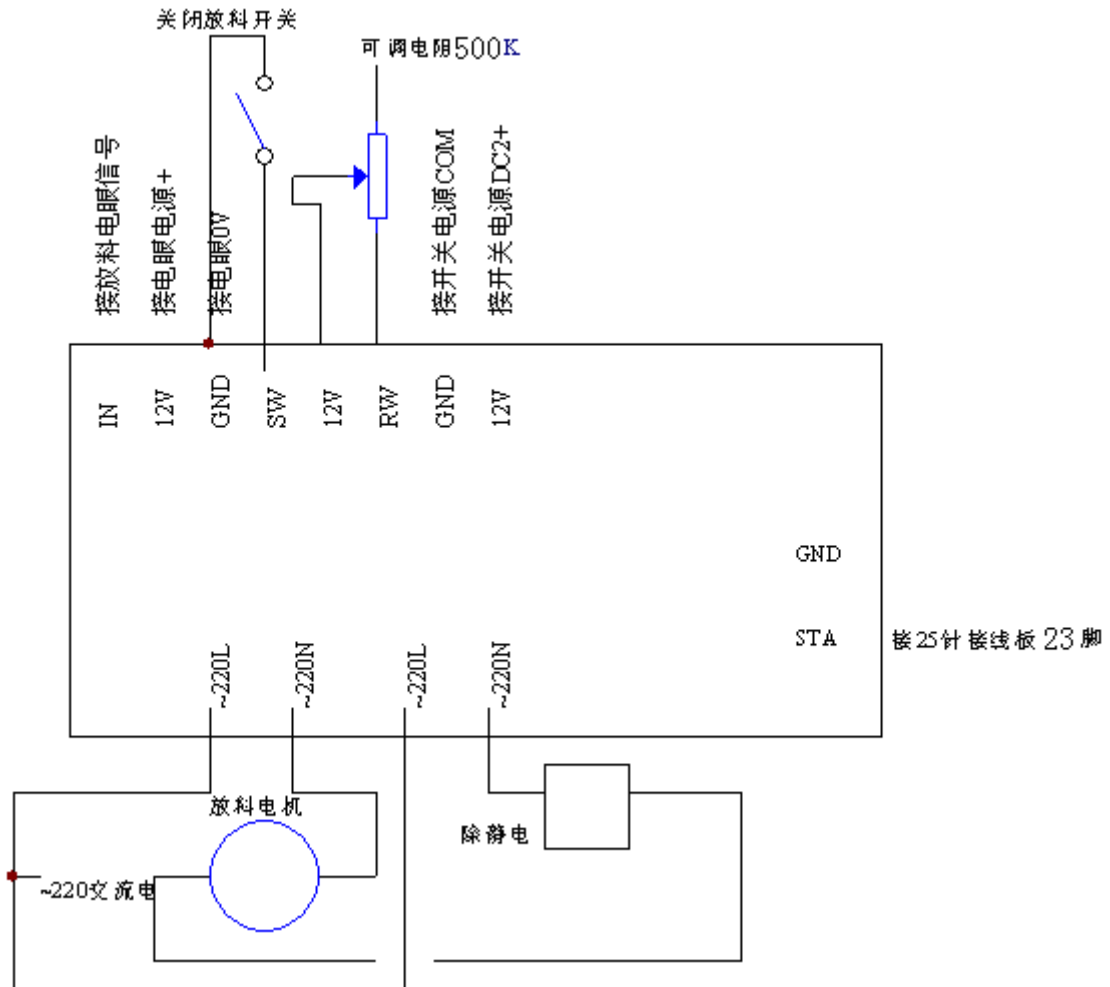
IV   Method of Usual Troubleshooting

Phenomenon 1: the upper electric cutting tool to-and-fro several times.

Reason 1: During the procession of reposition, you don't find the low position sensor, on the working page, press "9" to enter into test page, use baffle slice to shut out the middle of switch, look whether the showed 2 changes, if it isn't, it means the sensor doesn't work; if the voltage of connecting-wire plate 11 and Foot13 hasn't changed<10，it means there is something wrong with connection of sensor, if the voltage is >10, it means the circuitry may be open circuit, if the voltage is 0, it means the short circuit.

Phenomenon 2: The cutting tool always rests on the position apart from sensor..

Reason 2: Sensor signal is wrongly set, change the motor pulse 0100 into 1100 under the machinery parameters page, if it is 1150, and change it into 0150.

Phenomenon 3: The press key doesn't work.

Reason 3: Press any key on the panel, observing whether there is red light twinkling quickly in the controller. If the red light isn't related to press or not, it means there is something wrong with key panel caused by connector plugs becoming loose inside.

Phenomenon 4: The display is abnormal, but other operations work normally (motor can work).

Reason 4: It means there is something wrong with the display screen, which is caused by connector plugs becoming loose inside and great machinery vibration.

Phenomenon 5: Feeding motor can't work

Reason 5: Maybe there isn't pulse output, press 9 on the panel to enter into "test page", in the test page, select the DC–voltage–gear of the digital universal meter and measure Foot 11 on connecting-wire plate with the black end of it and then measure Foot 10 on connecting-wire plate to check whether there is 12V-voltage or not. If not, maybe because Foot 10 on connecting-wire plate isn't connected to DC2 (+12V), also maybe

because Foot 11 isn't connected to COM (GND ground). If there isn't anything wrong with circuitry connection, measure Foot 1 with the red end of it to see whether there is 5V-output. If there isn't 5V-output, the motor can't work; if there is 5V-output, measure Foot 3 to see whether there are voltage changes (1V-5V). If there are some changes, it means there is something wrong with the motor or the driver, if not; maybe there is something with the controller.

Phenomenon 6: Feeding Motor without Direction

Reason 6: Maybe it is caused by wrong circuitry connection or no output, select the DC–voltage–gear of the digital universal meter and measure Foot 11 on connecting-wire plate with the black end of it and then measure Foot 2 on connecting-wire plate to check whether there are voltage changes (1V-5V). Press <- key Foot 2 to output about 1 voltage, press -> Foot 4 to output about 5V. If there are some changes, it means there is something wrong with the driver.

Phenomenon 7: No static output

Reason 7: Press No. 9 on the screen touch panel and then enter into "test picture", on which press Key 2 to check if there is static output. Under the normal connecting condition, check if there is output change about Foot 24. If there are no changes, it means there is something wrong with the controller. If there are some changes, it means there is something wrong with MOC3041.

Phenomenon 8: Discharging motor can't work.

Reason 8: Touch COM ground with the black end of universal meter and measure IN foot of electrostatic plate with the red end of universal meter and then induce the materiel inductor with hand to check if there are changes about this foot. If there are no changes, it means there is something wrong with the inductor. It there are some changes, measure the right welding point on 1K resistance under the 555 chip to check if there are some changes. If there are no changes, it means there is something wrong with 555 chips. If there are some changes, it means there is something wrong with MOC3041.

Phenomenon 9: When Ultrasonic cutting label process, there have been appear continuous or occasional

Reason 9: Cutter drive, the temperature higher than 70 ℃ , measure the drive voltage is 85V, replace the drive.

Phenomenon 10: Static Eliminator interference

Reason 10:

Stop working, press 5 key second time and then reset for starting.

Phenomenon 11: Cutter blade screw loose

Reason 11 ; When change another nature of materials, it should be re-adjusted blade position

System configuration ：

TYTECH-217-217 controller

Switch power 5v, 12v

Step motor driver 2pcs

Feeder motor replace the traditional time for the relay ,as controller use stronger hardware and AJ software, make the performance of controller more stable and higher reliability, it can be compare with plc. Repair not more than 5%. 。

Because of burn of connect line wrong, irresistible external causes damage, and damage, lost of carry, don't care can't stop, press 9 key, show testing parameter, and then press stop, if 3.4 number flash.

Transducer, generator,voltage,current request：

1. LOK frequency from 19.90 - 20. 2.KHZ

2. Current not more than three small 0.6A

3. Voltmeter cannot be more than two small space 4V

4. frequency adjust the rate of the match

5. When adjust the rate of frequency, if outside adjustment can not up to 6A, but the current changes, it shows that vibration and generators no problem then adjust inside frequency screw.

V. Part List of Cutter

Name	Qty
Spanner	1pcs
Blade	4pcs
synchronous belt	1pcs
Import Screw 5*20	4pcs