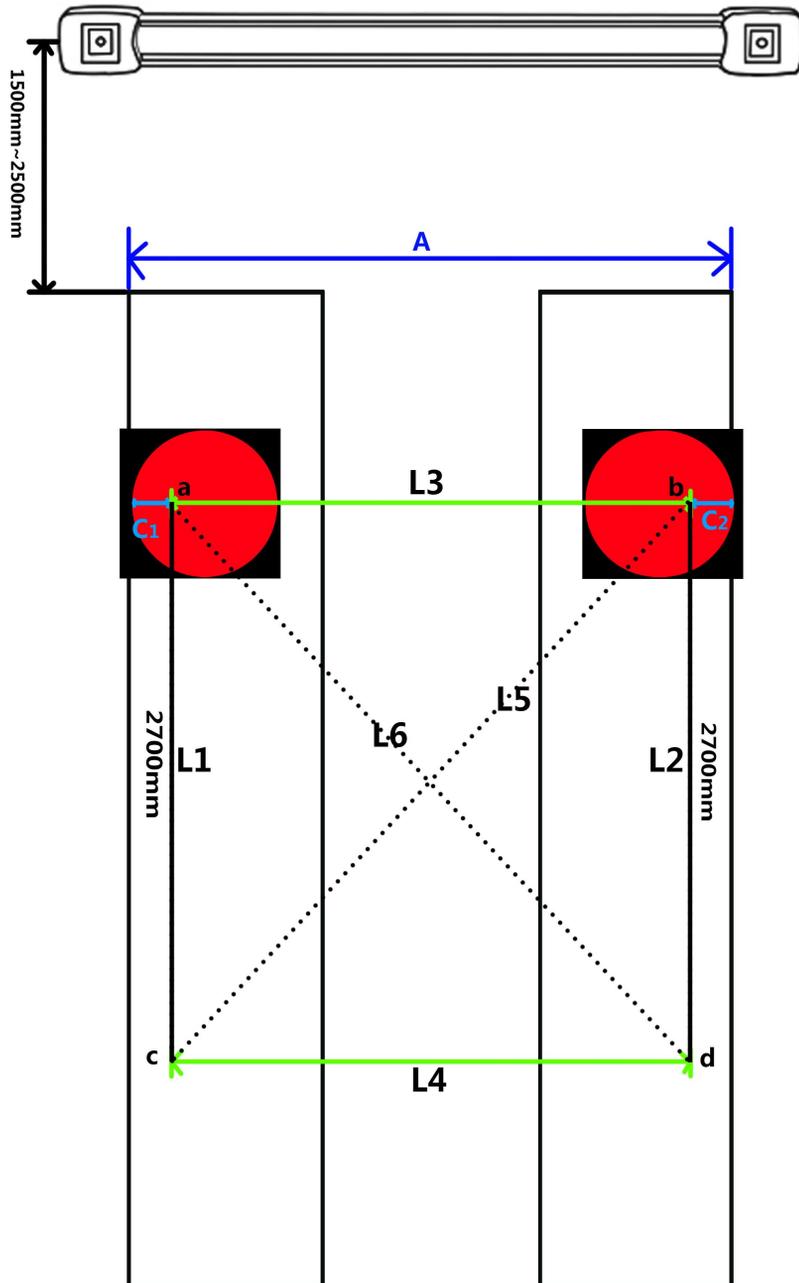


# Hardware preparation before calibration



Goal: Confirm the conditions of the calibration bar in the lifting machine. mark it.  
(tools: chalk, tape measure)

Steps are as follows:

Step1:

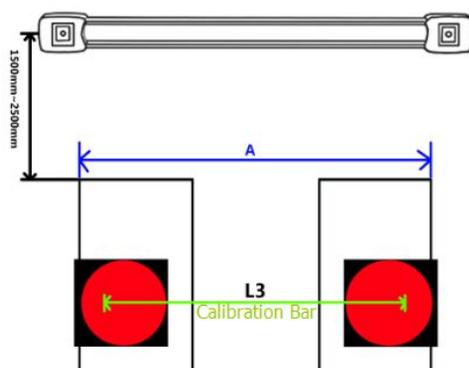
- 1) Confirm the conditions of the camera beam and lift .
- 2) Distance between the camera beam and the lift should be 1500mm~2500mm.
- 3) The best distance between the front calibration bar and the rear calibration bar is 2700 mm.

Step 2:

- 1) Measure the width of the lift. Denoted by **A**.

Step 3:

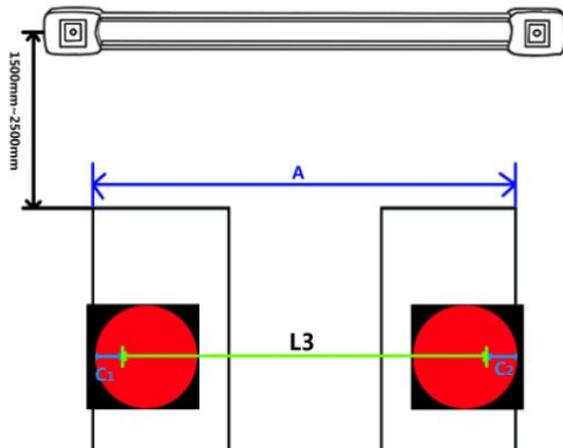
- 1) Measure the length of the calibration bar. Denoted by **L3**.



Step 4:

1) The distance of lift and calibration bar is:  $(A - L3) / 2 = C = C1 = C2$ .

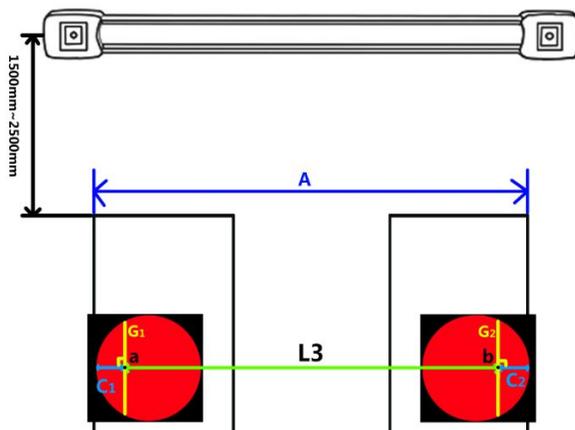
2) Confirmed line C1 and line C2 on the front wheel turntable.



Step 5:

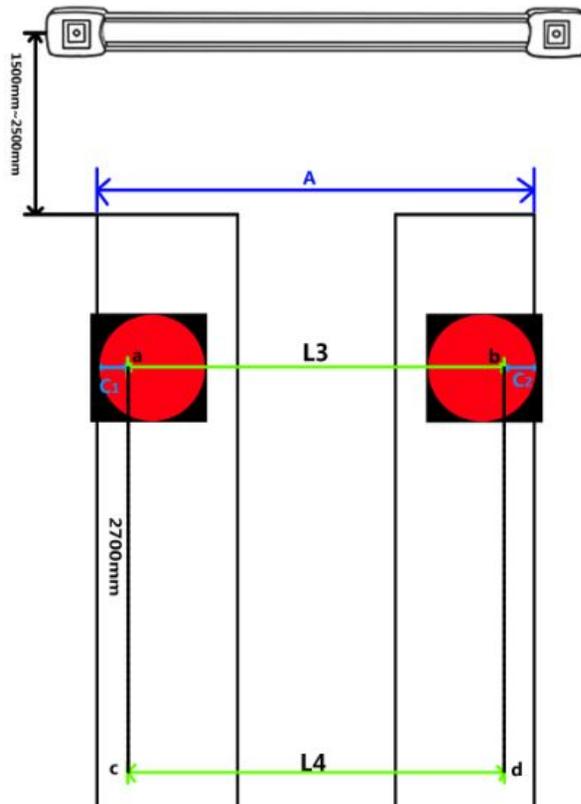
1) In the corner of C vertical line G1, intersection point a.??

2) The method of finding point B on the right side turntable are the same)



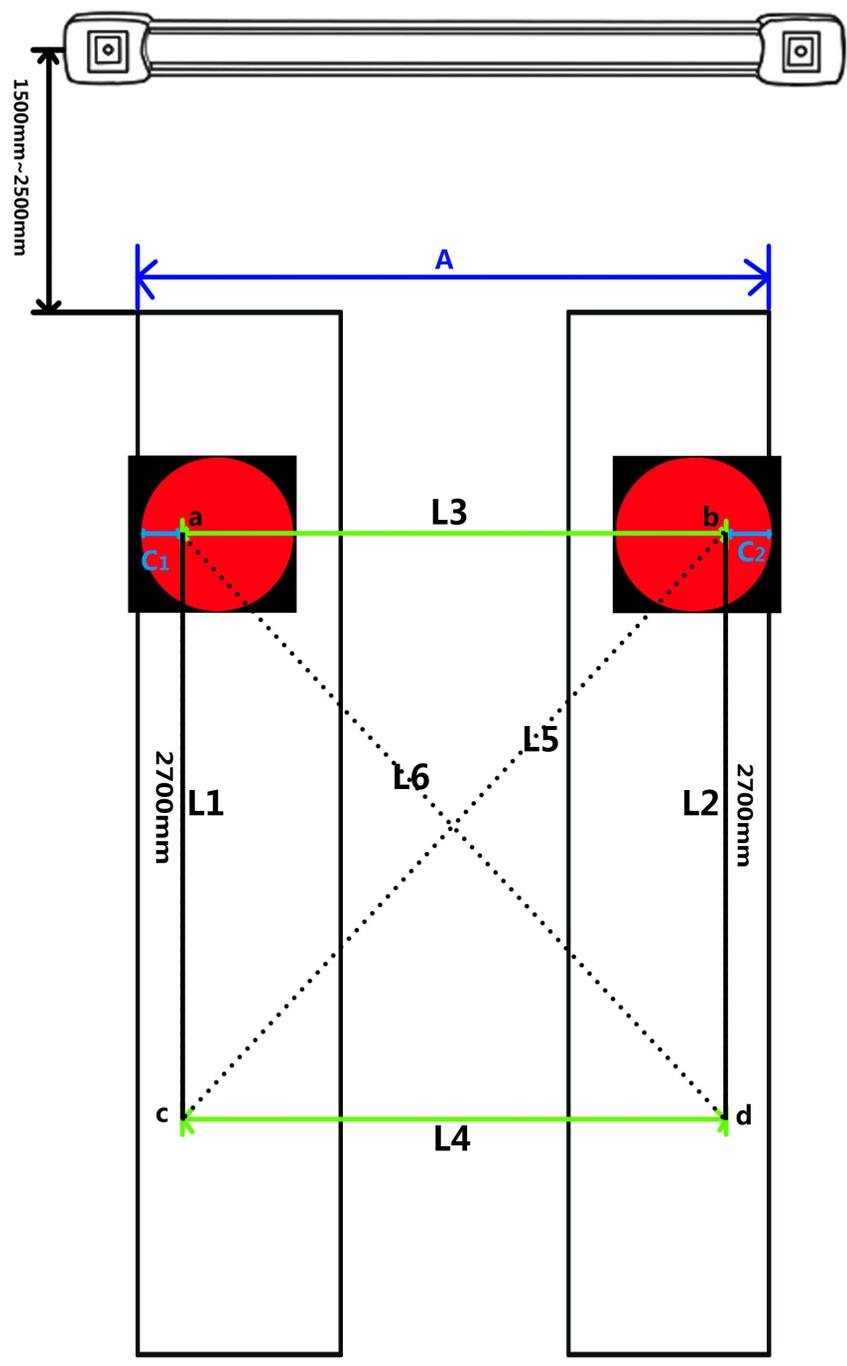
Step 6:

L3 translation 2700 mm to L4. Determine the position of point c and d in the rear calibration bar.



Step7:

Please make sure:  $L1 = L2$ ,  $L3 = L4$ ,  $L5 = L6$ . and quadrilateral abcd is a rectangle.



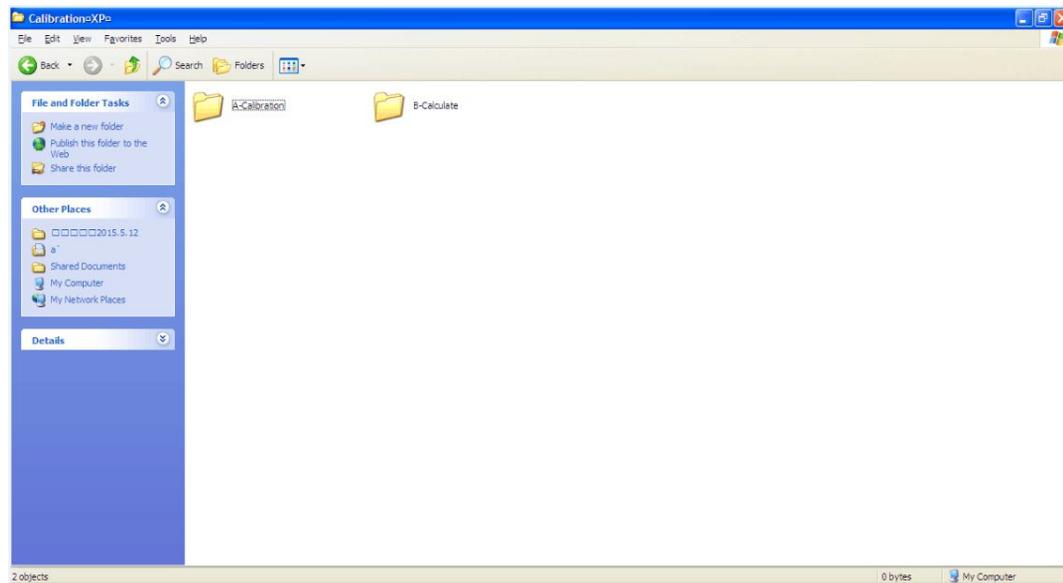
# Calibration

Attention: Make sure the camera is working.

1. Double click **calibration (xp) exe**.icon.



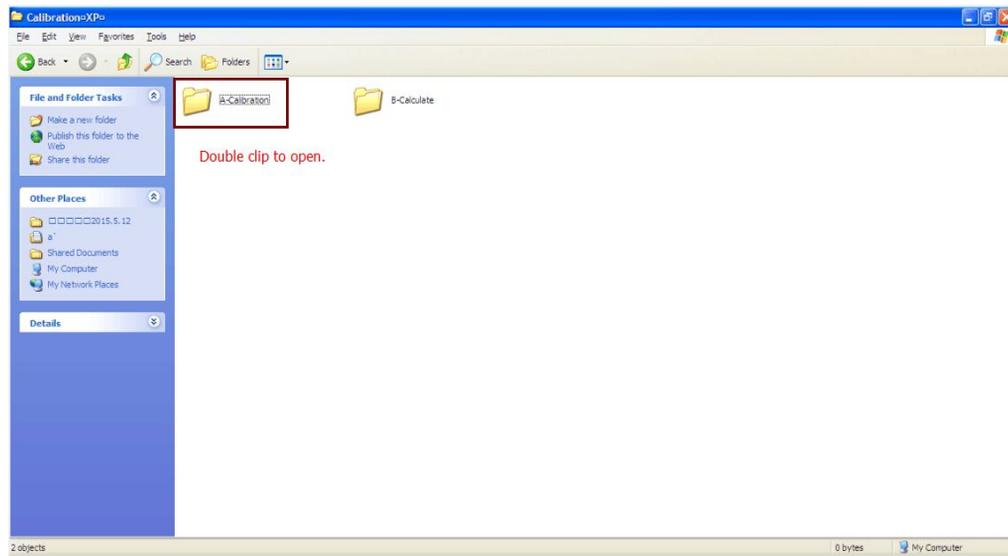
2. Find **A-calibration folder** and **B-calculate folder** showed in the interface. As follow:



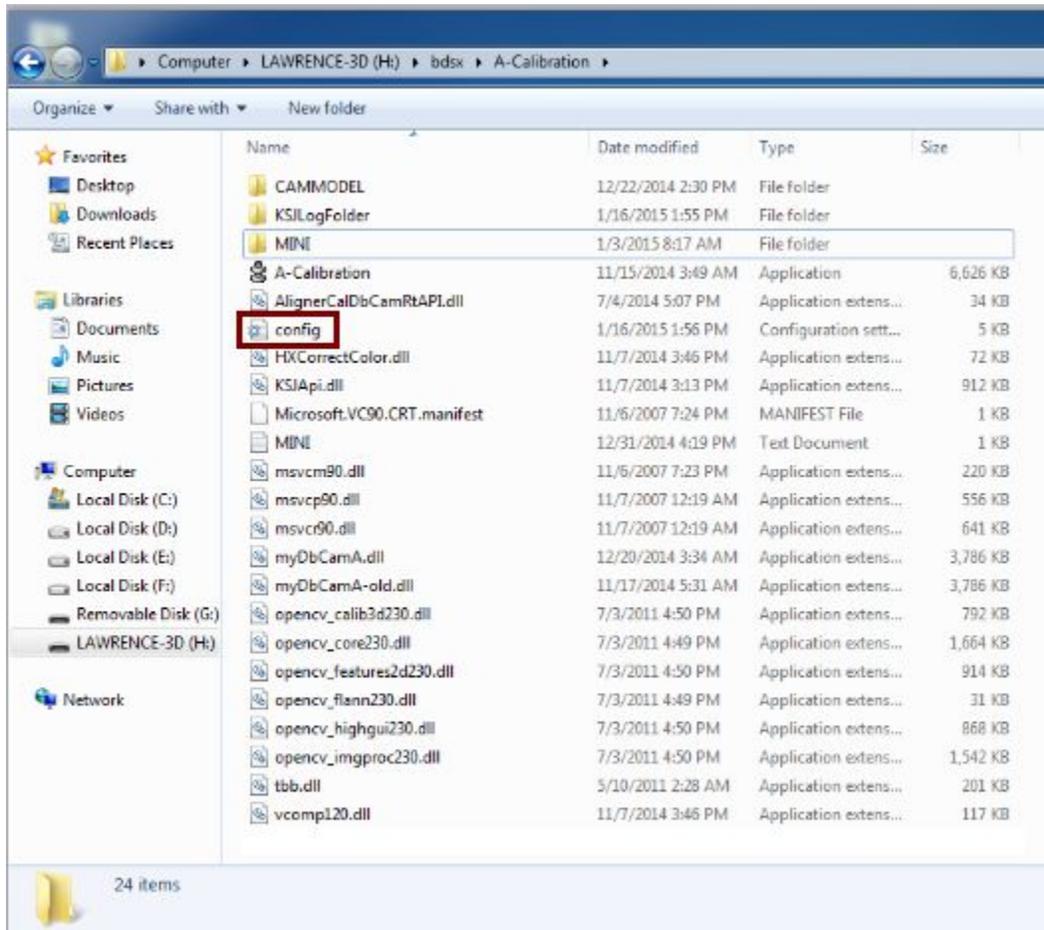
3. Input **dongle** to **USB** port in computer.



4. Double click **A-calibration** folder. As follow:



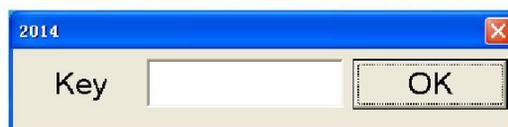
5. Backup config.ini to other folder,save it. Then copy this **config.ini** document to **A-calibration** folder.



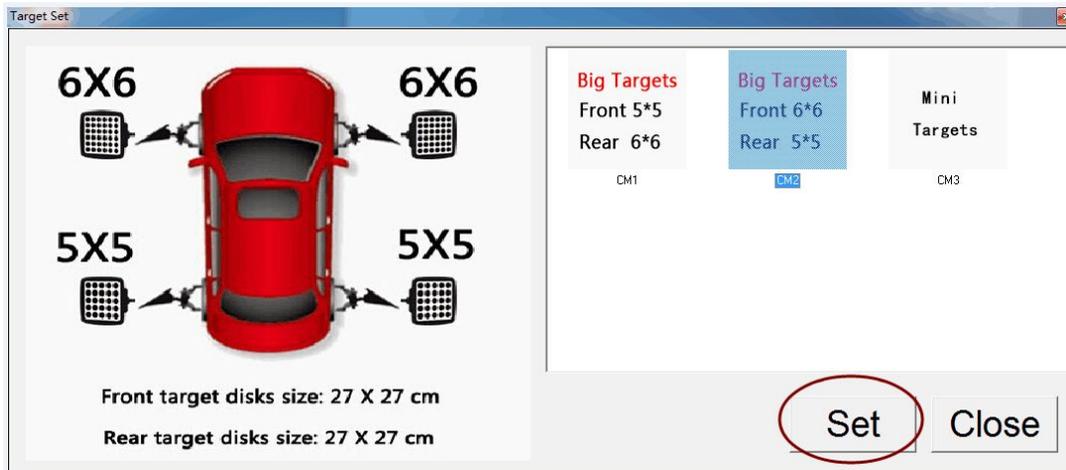
Attention:

The lawrence program can work in the computer systems of windows xp, windows 7 and windows 8 computer systems. For windows 7 and windows 8 computer systems,run as administrator is required.(right clip A-calibration ,choose run as administrator )

7. Double click **A-calibration.exe**. Icon. Input password: **10086**.



8. Choose the suitable target type, enter set to continue.

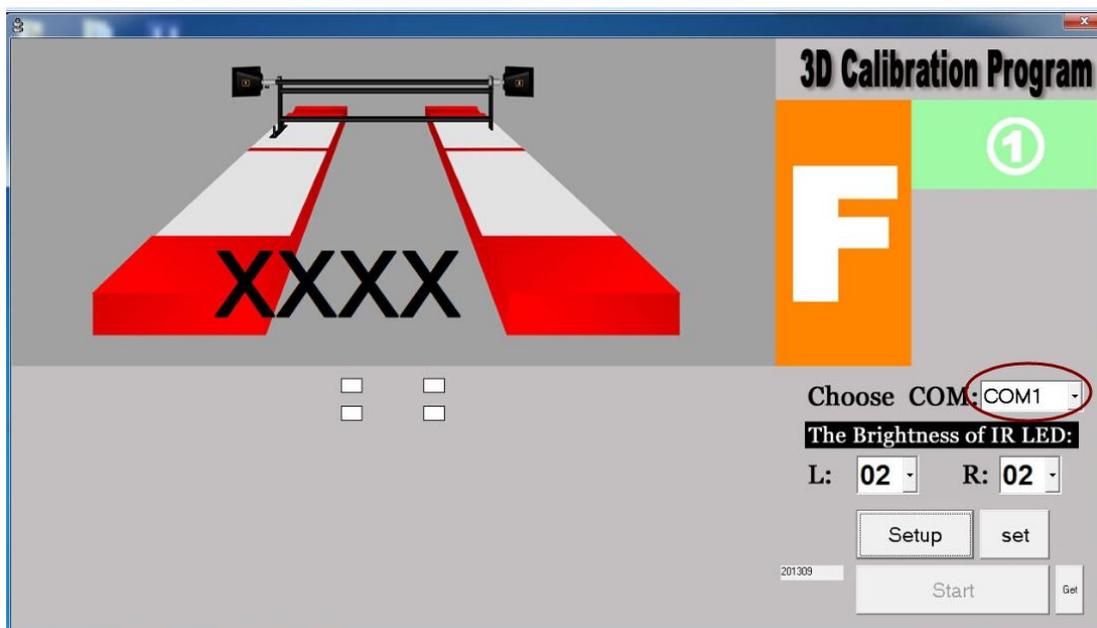


9. Choose the suitable **COM port**.

How to confirm **COM port**?

Method 1: Desktop-right click-choose **device manager**-find COM PORT to confirm the COM PORT number.

Method 2: Check the **config.ini** to find **com=COM\***, the \*is the COM PORT number.



10. **Take** the calibration bar to the confirmed position.(L4). Enter **setup** to check target picture in the software. If it is clear,enter **star for** next step.



11,

Attation:

- 1) **The interface** will show red,green,blue line on the camera picture **on the screen.**
- 2) **“Beep”sound** means it can goes to next step.
- 3) 20 ° yellow arrow mark means the degree need to roated.

14,

- 1) **The interface** will show red,green,blue line on the camera picture **on the screen.**
- 2) 20° yellow arrow mark means the degree need to be roated.
- 3) Roate calibration bar backward to **19.70° ~20.30°** ,software will grasp the picture automatically.
- 4)**“Beep”sound** means it can goes to next step.

Black data means the degree on thecalibration bar rotaed.

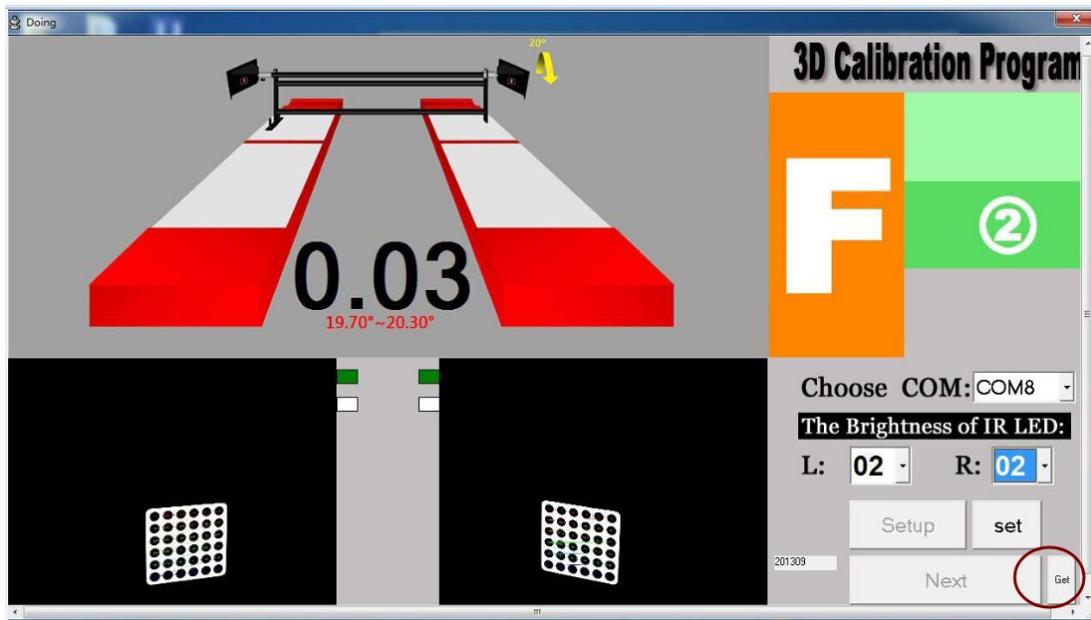
Red data means the range value ( **19.70° ~20.30°** ) .

Attention:

- 1) Rotate calibration bar backward to  $19.70^{\circ}$  ~  $20.30^{\circ}$ , software will grasp the picture automatically.
- 2) "Beep" sound means it can go to next step.

If software can't take picture automatically, you can enter **get** to next step.

Reasons for cannot grasp automatically: There are continuous vibration source surrounded.

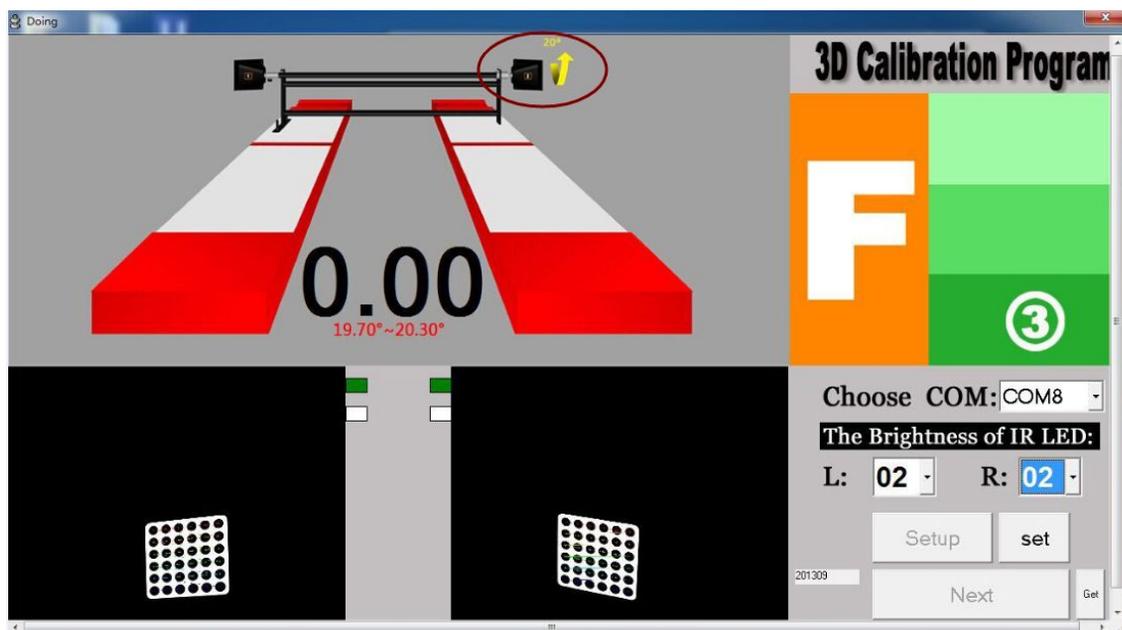


Key point: both hands grasp the bar to rotate the bar stably and smoothly.

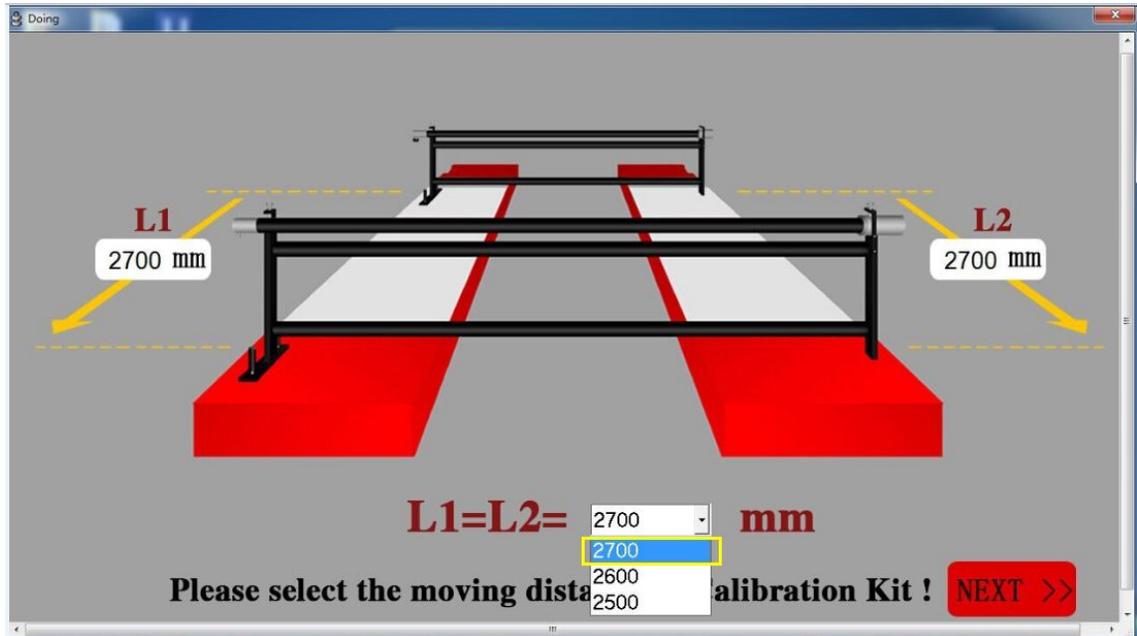


Attention:

1. Roat calibration bar forward to  $19.70^{\circ}$  ~  $20.30^{\circ}$  ,software will grasp the picture automatically.
2. "Beep"Voice means can goes to next step.

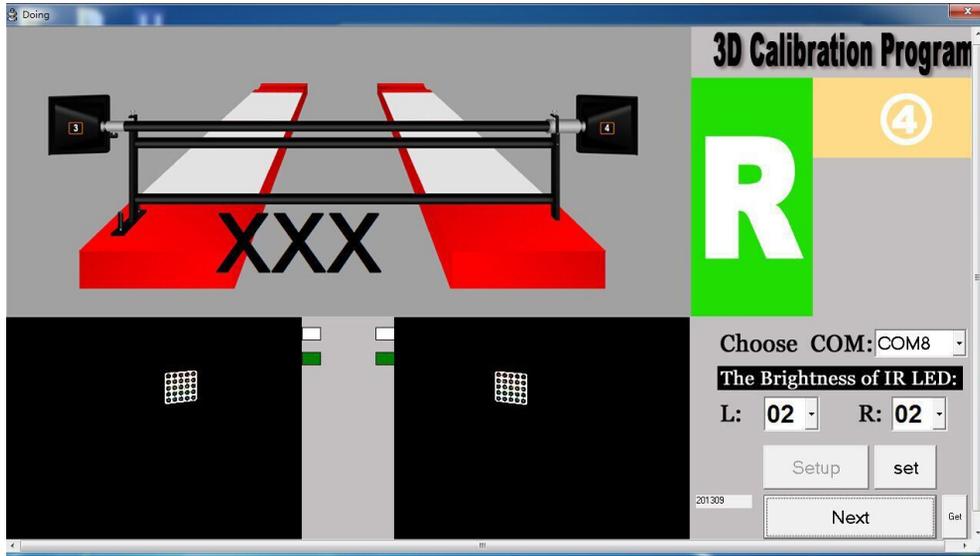


12. According to actual situation to choose the distance between front and rear.  
Note:  $L1=L2$ . Then enter **next** for next step.



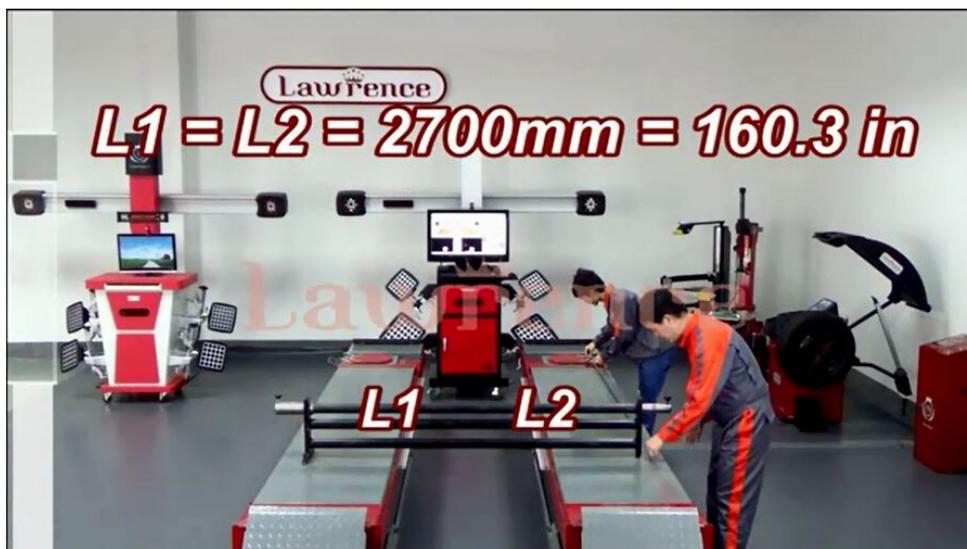
13. Dismount the target, and move the calibration bar to rear position. 2700mm from the front. then enter **next** to next step.

Dismount the target. And parallel translation the calibration bar from front to rear position where marked before.



Attation:





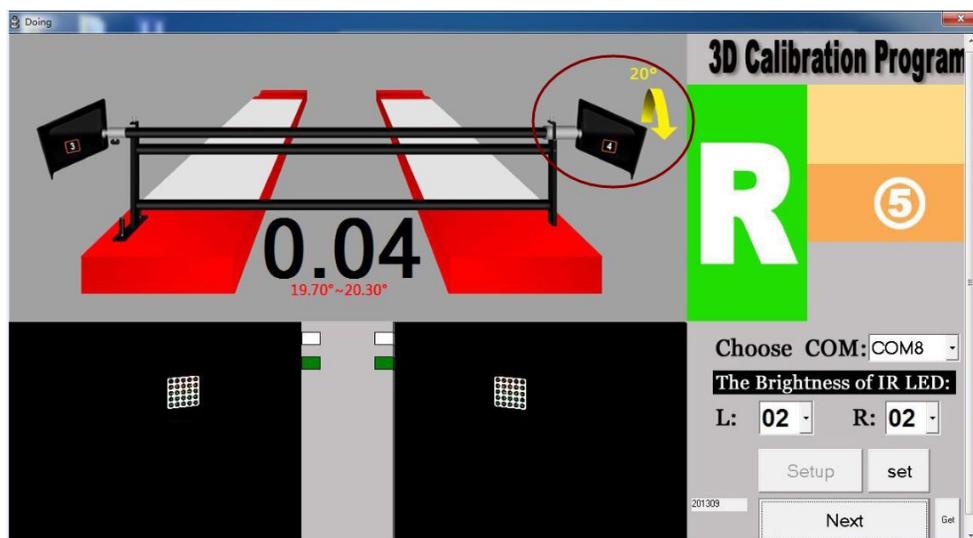
14,

2) The interface will show red,green,blue line on the camera picture on the screen.

2) 20° yellow arrow mark means the degree need to be roated.

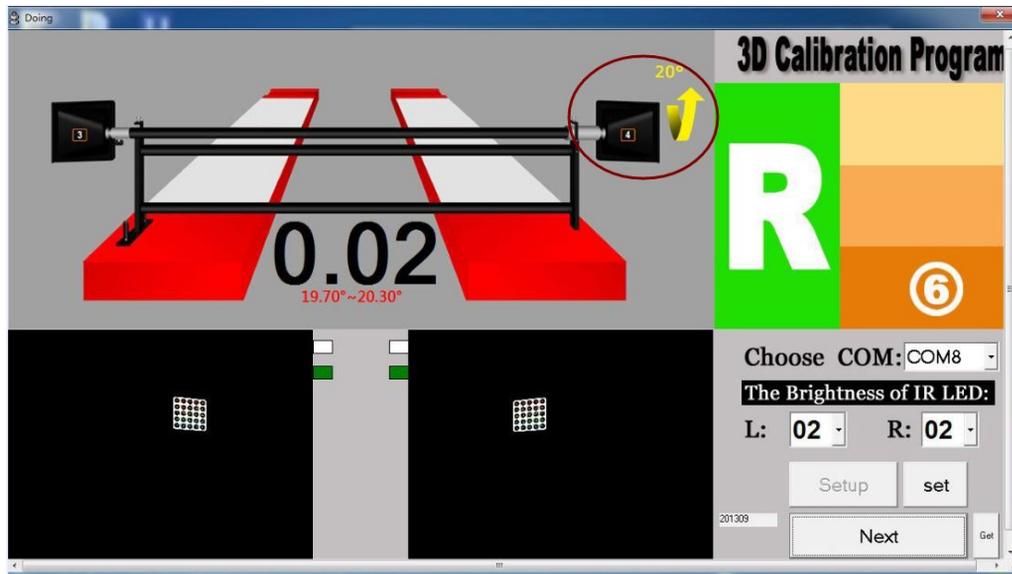
3) Roate calibration bar backward to 19.70° ~20.30° ,software will grasp the picture automatically.

4)“Beep”sound means it can goes to next step.

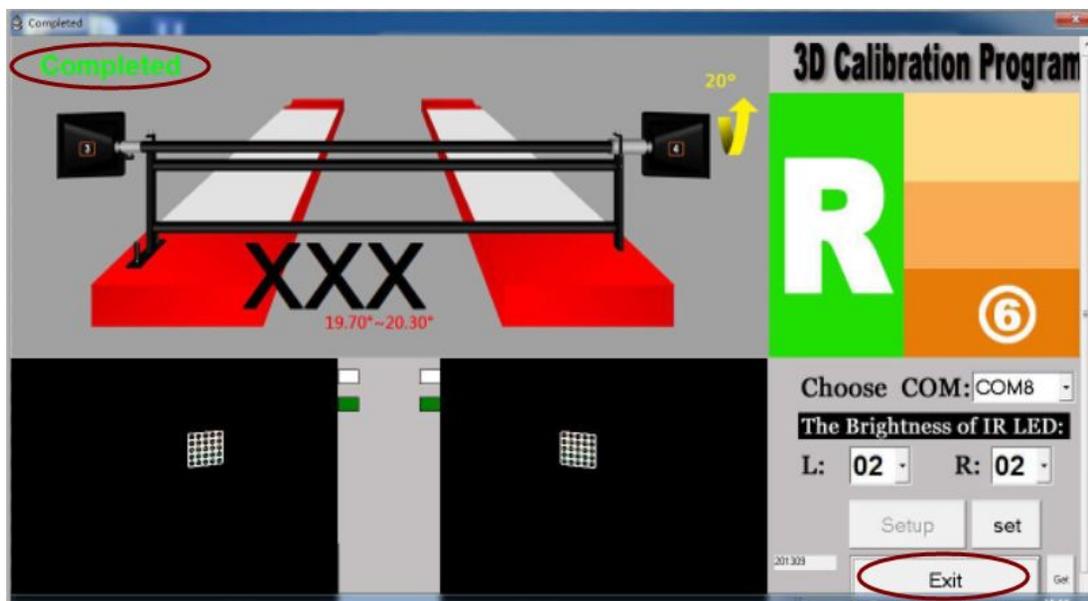


15. Roate calibration bar forward to 19.70° ~20.30° ,software will grasp the picture automatically.

“Beep”sound means it can goes to next step.



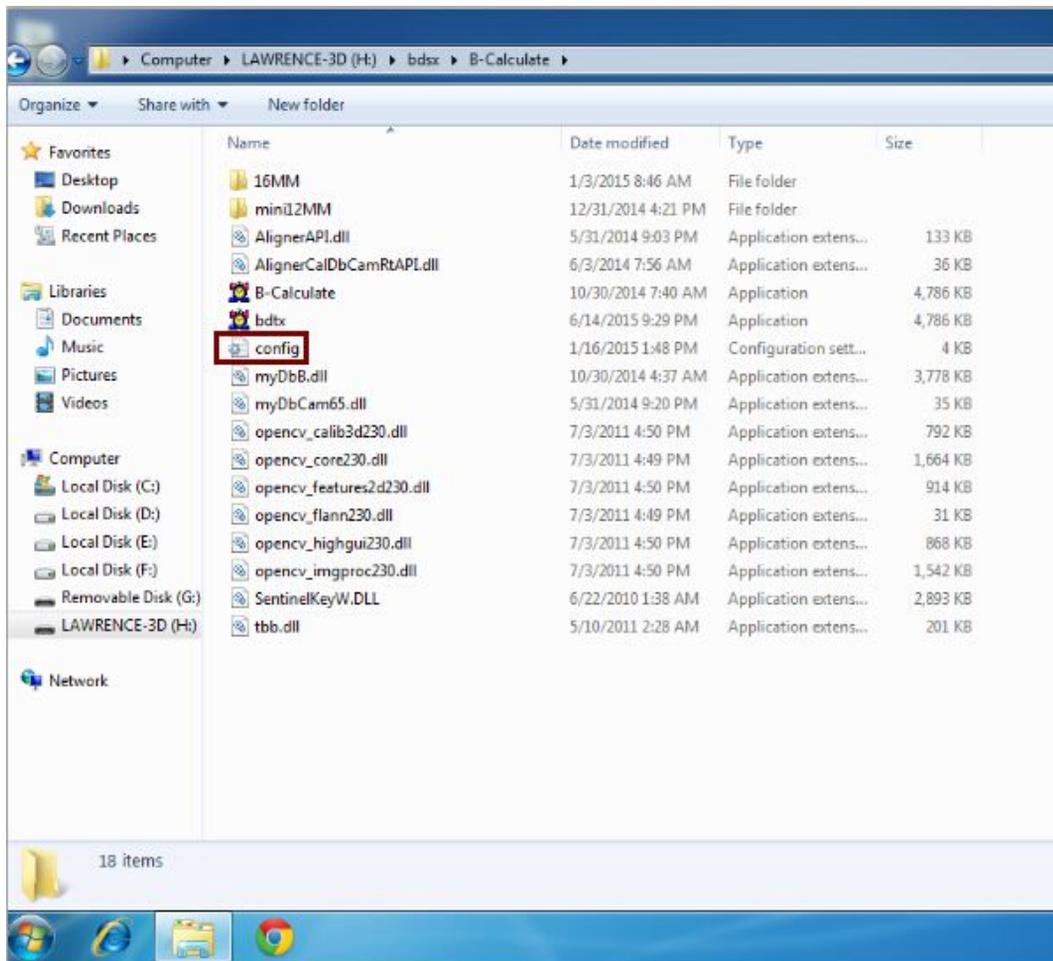
16. Finish roating, you can find word:Completed. Means finish. Enter **exit**.



17. Find document config.ini in A-calibration. If you can find the data in last line as follow, means the calibration finished.

```
[DbCaliParam]
RT_L_1=AC+smA2wUJ34rhpB2q3fW4gscEeWznNfabW0FqWXjW4as0JZYkw7V1KCoD+agrYDgc77wG+oG4AVEg4LW1zaYWTI1MOKfzeq1Jus4NK2zSm0hxWo/q693ipfQ0=
RT_L_1=yRtzXSDU1Li1h1OWYsbJbojL7yR8gJSpJ1U20Ru7pV6TD1ESkpMzcVFobjxCE9GDjVDvfgkmkXuC2jGSIioi1D4STUp1v7ufv70g7vueCy90ZSJ1Wex0kds
RT_L_2=tnfi2fRdA3ghNf1VhrphHQng5UUCfP04U9TuepQ9YgW76v/+nw7Y8wMAoTyS4Zv90i10BPAAUH5SVdIYawUWR/VrA/n4stSPzD8QP81zENOPr+i/SJin1S6FhD=
RT_L_2=92vpEU56QcsHqqlsxy0De+TZMVoLgiIi4wWG6in88TS1XJkPsgSPGhTbly/KawqwiV1VZ1eDAGPGXZ8RzS25z/T+3Qc1M7hcrAt1GLMzr/31ruqJepTHGCqmrwI=
RT_L_3=4+7g4JFR1oKhP5QxN1QzSFRGoCQnjcNsBksFR09J/Vubr111+uSIyJSlOsojXS8t0coD/QZDHJkaCCzNYs034c3fs1c9+KL2Kadgcgh8Tz6z87sMjd8guBsJEO=
RT_L_3=dN9WkCR3VhfIXV81Y+8x+cFsn3EjRctie/65LEdF3f10XMQ1BAwtPXxCDseVco049xeNab1WbOF140++uQmTd1S61f77+JaIdcjbT+1FSbkhq1nq+XTe
RT_L_4=uqUEoY/NIUC0hHBO+c1ZkEwiWzbbA71D0nHSRrFKKe4U3kqvbPRqSxaHrBbaCfwzumiS29sSC+Mnp1mo1AXOQ6TP1Y/MYoIVzKQK31rQzD1PVP9pERF2C=
RT_L_4=39op3Z2ULSItm0fk4fTL7wv0Azu2TjoIG5MU4pwXg41bfAqYJw4Ow7b4Zkw6NF91+uIdm/0ofSwPXIdL3MS3mtysgn2YL7+mq1QyE7/pBdTIX9D6wOX1zvwNB==
RT_L_5=7jZ23KKBpJS23UQhejd1MslwiHQgu7le4SnC0kuV05oEGHG1eCbRjpr8UK7bGUpad8YJY9QCE/8/qsANZOfE6iGkN/HuwxygUYbFY6CsWcNRtCLSYPokJr
RT_L_5=Bb/3i0AcxgZ3ekQ/HtdIUNnVlN0W9k41LJx6ScZImzLXtvBcQclUtylX11pd63NhgRr+MLIUB6AC6zEophV9AydLgiXpsV2Eu73T2wYbMOeHqPZ9oFKgbdta
RT_L_6=Ao9i3L3LLrXDcuLEt6k0Dmpc/JI5E1aHUNuUFIRFG3HYReWe3EaHys7hJApMZIMVRxg+dmjPRal aykvwxRvypGq2TVEso2YhpA/vp1OawD2sc/FFpih04P8D==
RT_L_6=HQ+KQRy4YtvmNB81cZ7siW7Q3yy01X23MQyX6fLLIU8TdKnMfZ+sSGbCrrpaopJoa/TLOGoI5wCctbX++5Vey8h13nDjmcLkZMw3JqEuF9RjYB4cfC7Yj0wRA==
nA-??00
```

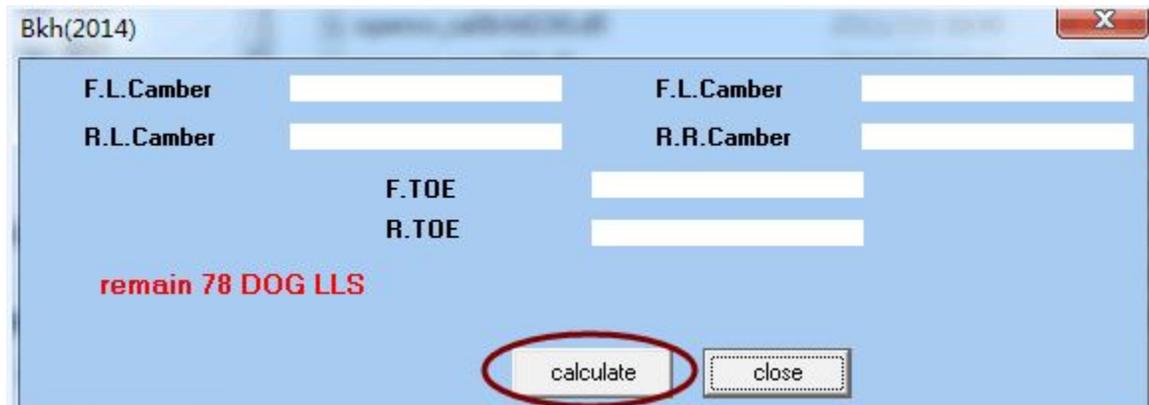
1. Double click open B - calculate files. Copy the new config.ini document to B -calculate.

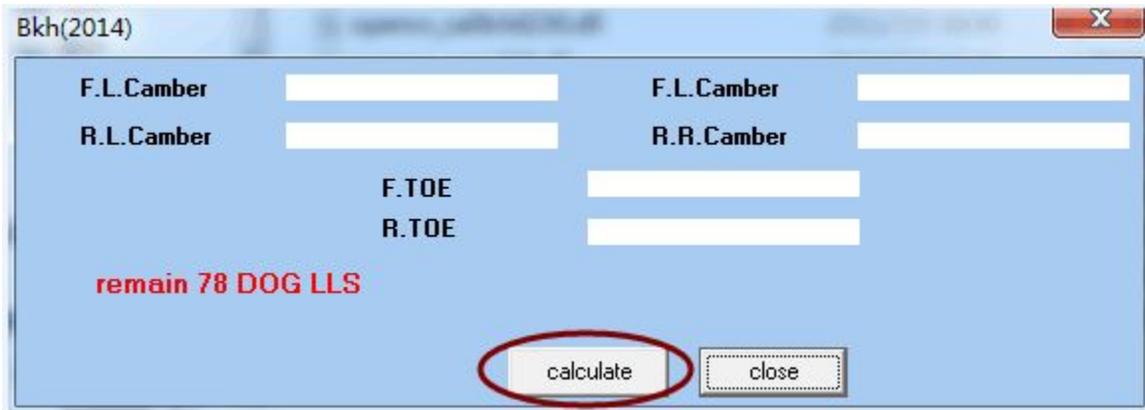


2. Change the **Dongle** for **Calibration Dongle**.

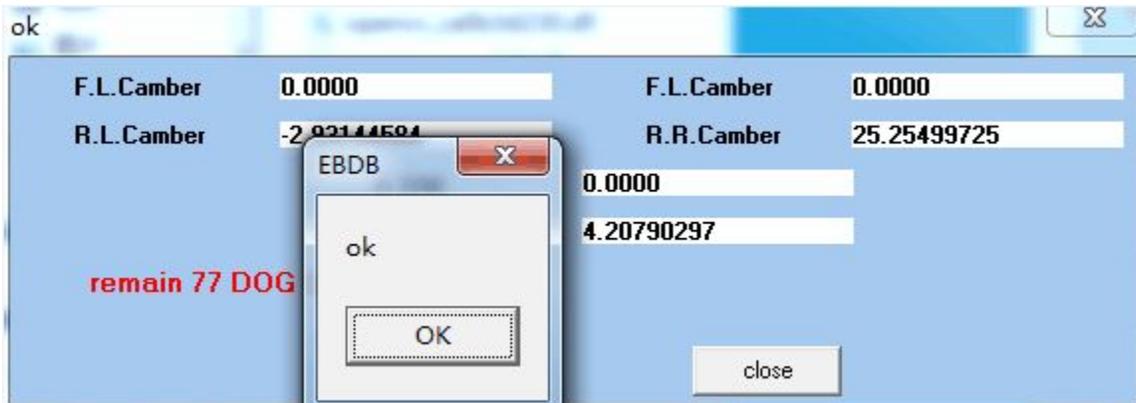


3. 1) Double-click to open the **B - calculate.exe**. Icon (if use windows 7 and window8,must operate as an administrator)
- 2) Enter **calculate**,you can find word"Waiting" On the top left corner, means software is caculating.





4. When you find "Ok" On the top left corner, means finish calculate. Enter **close** to exit.



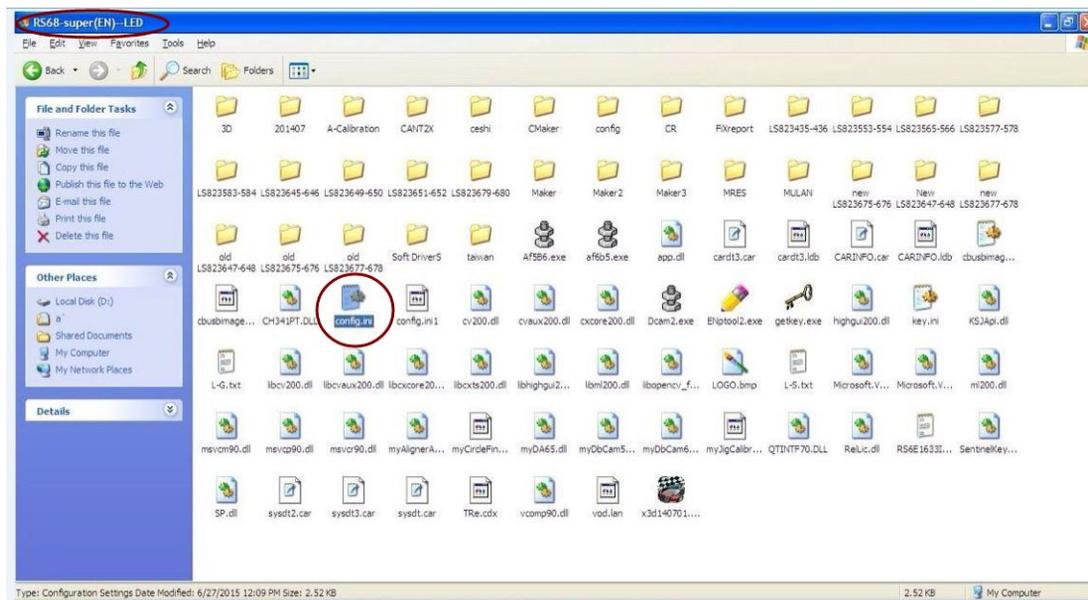
remain 77 DOG

remain 77 DOG

means still can make calibration 77 times.

5. In B-calculate file, check the calibration time in the config.ini. For example, if you find the calibration time **initdate=2015/6/25 18:35:25**, calculate finished.

6. Then copy the final **config.ini** to the original software package folder. All is finished.



END