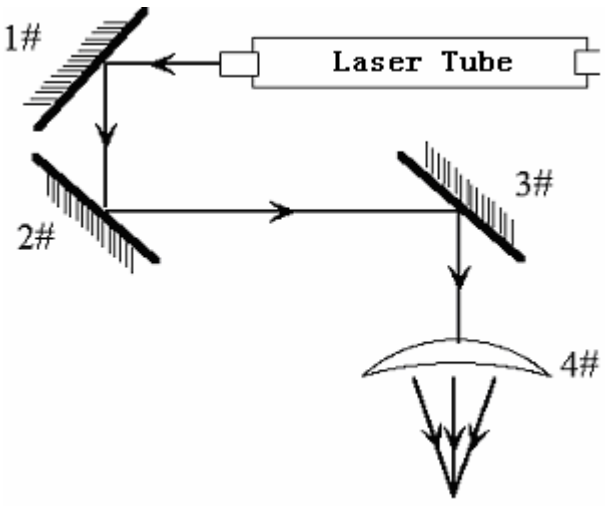
Mactron Technology Co., Limited
ADD: No.12 Huayu Building, Guansui Road, Wanjiang Dist.
Dongguan City, Guangdong Province, 518054 China
Tel: +86-769-26384404 Fax:+86-769-26384091 Email:sales01@mactron-tech.com

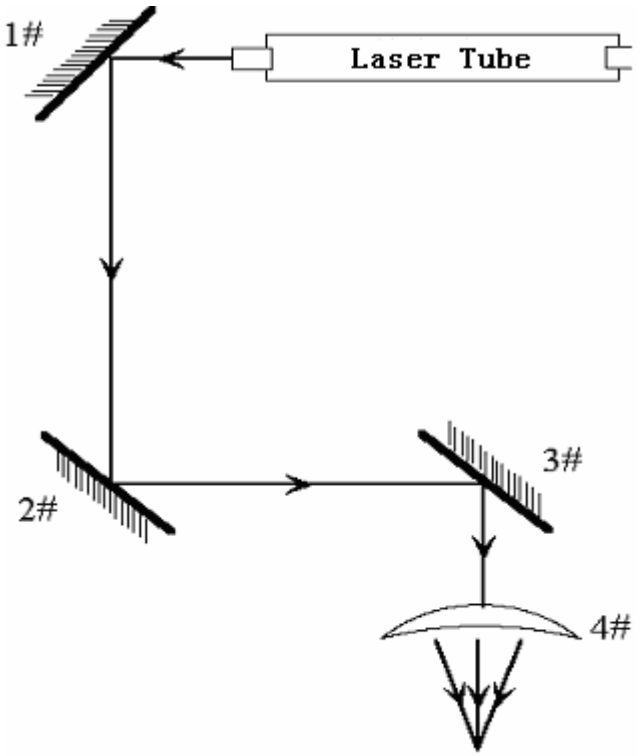
Appendix 1 Standards of ray reflection

Step 1. Make sure that the ray from the laser tube directs to the center of No. 1 reflecting mirror.

Step 2. Put adhesive tapes (other paper) on No.2 reflecting mirror, move the beam as near as possible to the laser tube. Press the reflecting button (to control the strength of the laser), to make a mark on the paper.



Step 3. Move the beam gradually away from the laser tube as far as possible. Press the reflecting button, to make a mark on the paper.

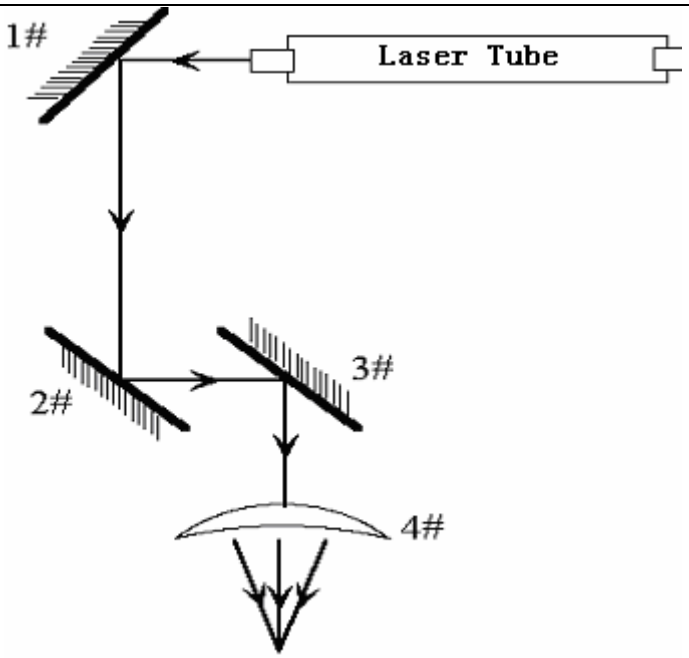


Step 4. If the two marks do not overlap completely, adjust No. 1 reflecting mirror until the two marks coincide each other.

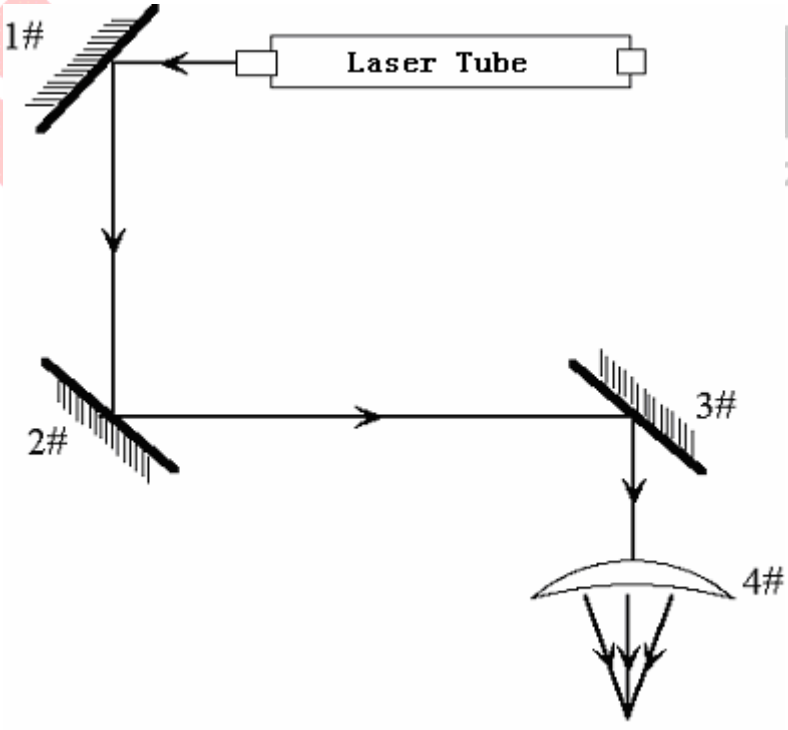
Step 5. Repeat step 2 to 4, until the two marks coincide each other completely.

Step 6. Put adhesive tapes (other paper) on No.3 reflecting mirror, move the laser head (the cartridge) as near as possible to No. 2 reflecting mirror. Press the reflecting button (to control the strength of the laser), to make a mark on the paper.

Mactron Technology Co., Limited
ADD: No.12 Huayu Building, Guansui Road, Wanjiang Dist.
Dongguan City, Guangdong Province, 518054 China
Tel: +86-769-26384404 Fax:+86-769-26384091 Email:sales01@mactron-tech.com



Step 7. Move the laser head gradually away from the No. 2 reflecting mirror as far as possible. Press the reflecting button, to make a mark on the paper.



Step 8. If the two marks do not overlap completely, adjust No. 2 reflecting mirror until the two marks coincide each other.

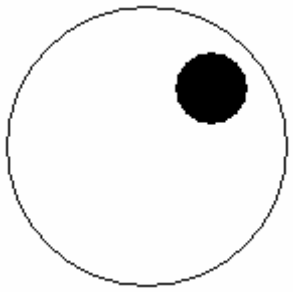
Mactron Technology Co., Limited
ADD: No.12 Huayu Building, Guansui Road, Wanjiang Dist.
Dongguan City, Guangdong Province, 518054 China
Tel: +86-769-26384404 Fax:+86-769-26384091 Email:sales01@mactron-tech.com

Step 9. Repeat step 6 to 8, until the two marks coincide each other completely.

After the above procedures, it is certain that the laser will focus on the same place no matter the laser head (the cartridge). The next step is to adjust the ray route, make the ray can reach No. 3 mirror through the incident hole before No. 3 reflecting mirror.

Step 10. Put adhesive tapes (other paper) on incident hole before No. 3 reflecting mirror. Press the reflecting button (to control the strength of the laser), to make a mark on the paper. If the mark is in the middle of the incident hole, then you can go to the next step.

Step 11. If the mark is not in the middle of the incident hole, as follows:



In this example, the mark is deviated to the upper and to the outside. The correction ways are as follows:

Vertical deviation: Heighten or lower the laser tube for modification.

In this example, the laser tube should be lowered down and repeat all the steps from Step 1.

★Make sure that the power cord is disconnected during laser tube adjusting.

Mactron Technology Co., Limited
ADD: No.12 Huayu Building, Guansui Road, Wanjiang Dist.
Dongguan City, Guangdong Province, 518054 China
Tel: +86-769-26384404 Fax:+86-769-26384091 Email:sales01@mactron-tech.com

Horizontal deviation: the following approaches can be chosen:

1. Adjust the position of the laser tube. In this example, you can move the laser tube a little to the beam. And start from step 1.
2. In this example, loosen the spring of NO. 2 reflecting mirror, start from step 6.
3. In this example, tighten the spring of NO. 1 reflecting mirror, start from step 2.

The following principle should be observed no matter which correction way is chosen.

The laser ray should be focused on the center of the reflecting mirror completely.

Simultaneously, the technicians for maintenance and repair should understand the optical principles thoroughly. And he should come up with a solution instantly according to the position of the marks.

Step 12. The standards for calibration are:

1. The laser rays should be focused on the center of the reflecting mirror completely.
2. When the laser head (the cartridge) moves to the four corners , the laser rays remain the same points at the center of the incident hole.

Step 13. In case of any obvious stains occurred during the above adjustment, the reflecting mirror and the focusing lens should be cleaned completely.

Step 14. Determine the focus of the lens. The practical focus of each lens should be measured individually because of processing methods. First, put the convex side of the lens upward,

Mactron Technology Co., Limited
ADD: No.12 Huayu Building, Guansui Road, Wanjiang Dist.
Dongguan City, Guangdong Province, 518054 China
Tel: +86-769-26384404 Fax:+86-769-26384091 Email:sales01@mactron-tech.com

adjust the focus through self-examination (speed 8%, strength 50%), record the focus value when the carving line is the thinnest and deepest. Carry out a practical carving. Then mount the convex of the lens downward, repeat the above procedures. Compare the result and choose the better one. Tell customers the mounting method and the focus value of the lens, place it at a conspicuous place.

Step 15. Make sure to tell the customer to clean the lens and mirrors every day. During operation, change the cooling water for laser tube in time, to avoid high temperature.