

Laser Source Replacement Method

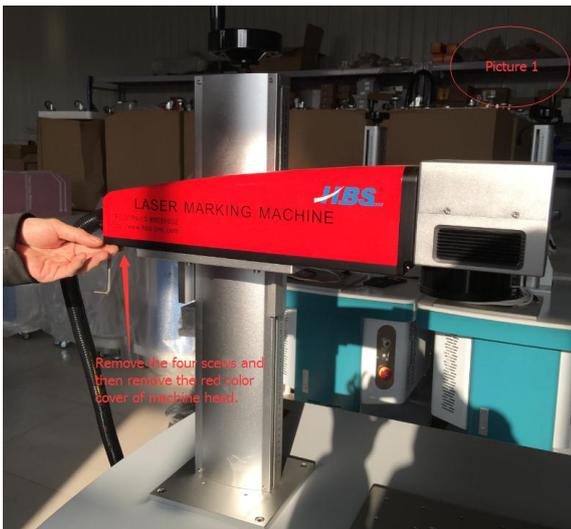
Model: HBS-GQ-20A

This picture guide is based on HBS fiber laser marking machine with model: HBS-GQ-20A, it mainly shows how to replace laser source by end users. The user can replace laser source with following picture illustration with explanation.

1. Learn the components of laser marking machine. Check all parts of fiber laser marking machine very careful, understand each parts very well, the parts for marking machine includes following:

- a. Laser power: it's core parts of marking machine, generate laser beam from electricity;
- b. marking head (horizontal part which is fixed on the vertical support), it includes two parts: laser path(red color part) and galvanometer(consist of lens for reflect laser beam onto work piece).
- c. controlling board and power supply board: it's the power supply system and controlling system for marking machine.
- d. table cabinet and aluminum parts.

2. **Please refer to picture 1 & 2.** Remove the red cover of marking head by removing 4 screws showing in picture 2.

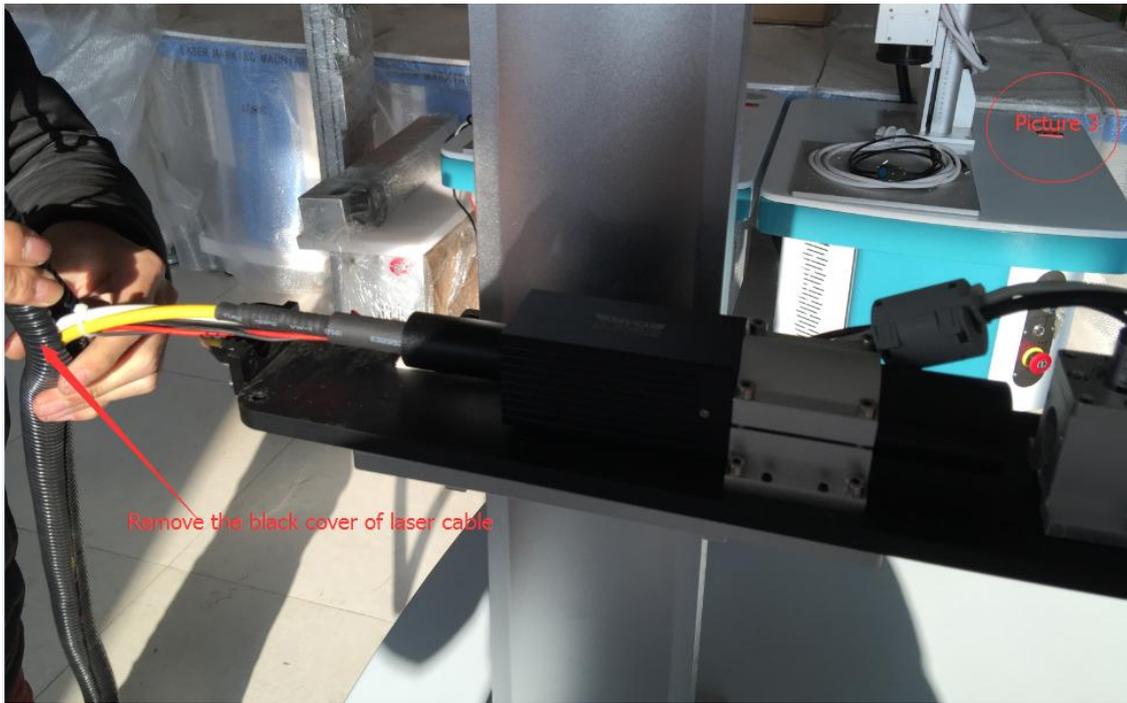


Picture 1



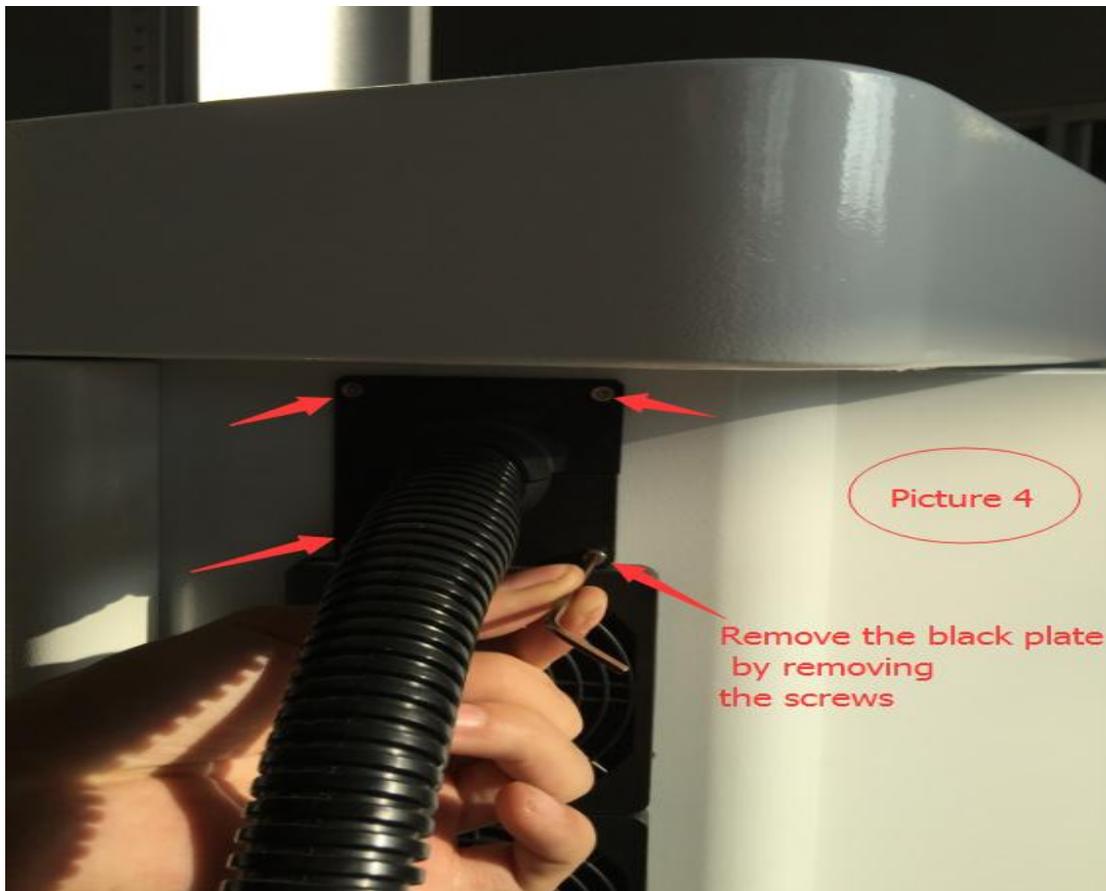
Picture 2

3. **Please refer to picture 3.** After remove the red cover, then check the black cable cover, remove the black cover for laser cable according to illustrated in picture 3.



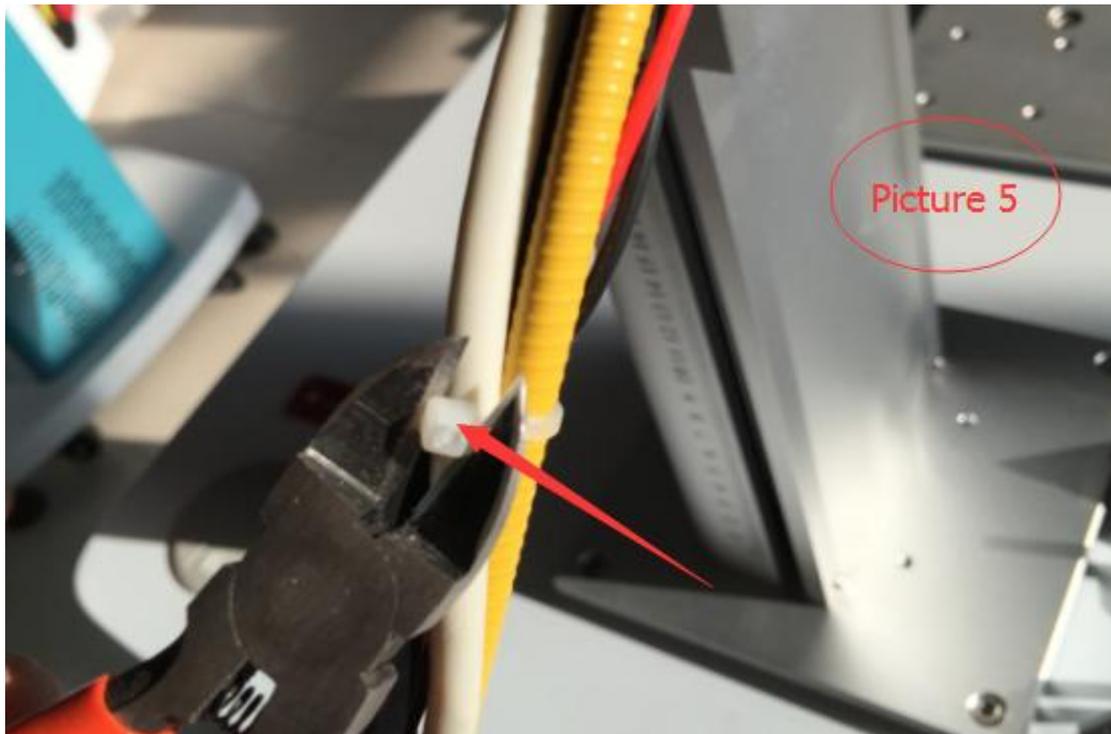
Picture 3

4. **Please refer to picture 4.** In the other end of laser cable, as showing in picture 4, remove the 4 screws and take off the black plate, and remove the black cable cover completely.



Picture 4

5. **Please refer to picture 5.** Remove all of the fasten fixture by cutter, should remove all.



Picture 5

6. **Please refer to picture 6&7.** Go back to laser head! Loosen the 4 screws as shown in picture 6, no need remove the screws, and then pull out the laser head out from the fasten fixture as shown in picture 7.

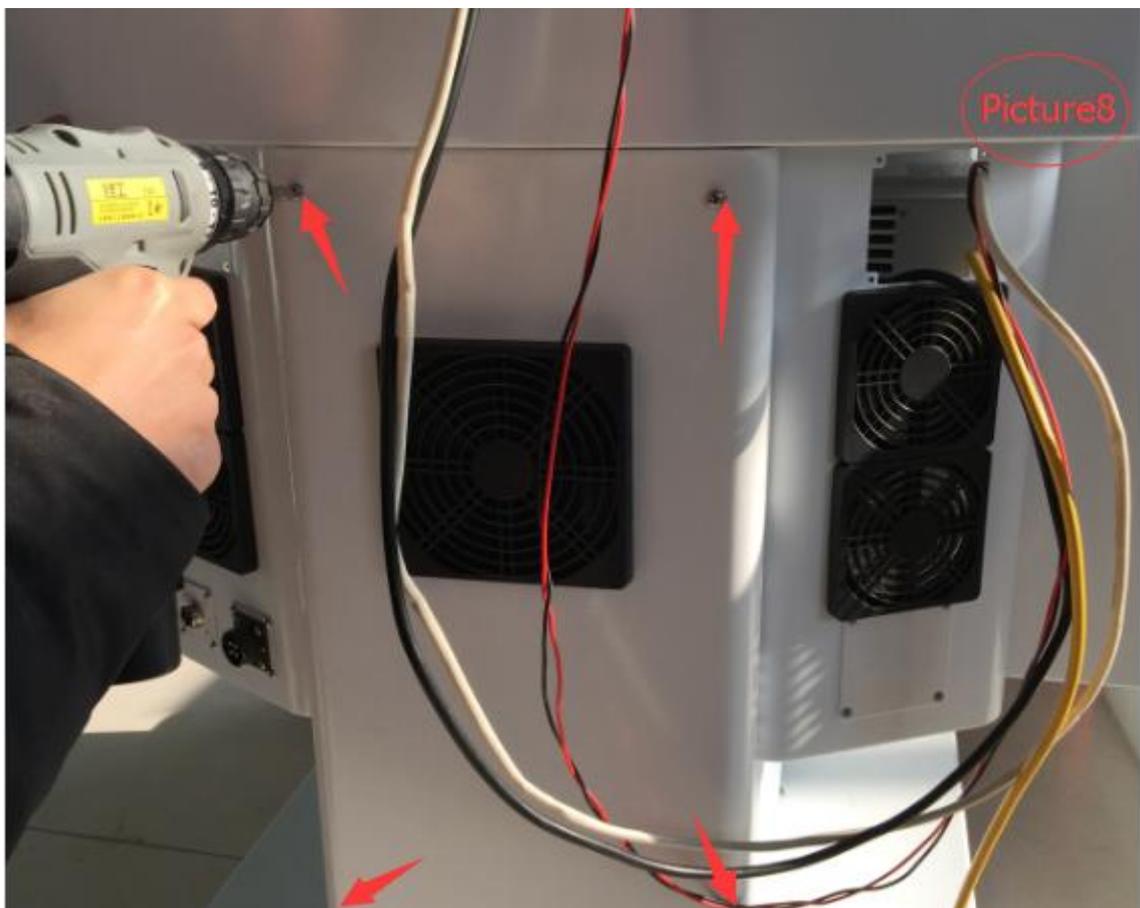


Picture 6



Picture 7

7. **Please refer to picture 8.** Go back the backside of the machine, remove the main back side cover of the machine. After removing the back side cover, please check the laser cable inside, and the clear the laser cable by removing the black cable cover and it's fasten fixture completely so that we can pull out the laser cable easily.



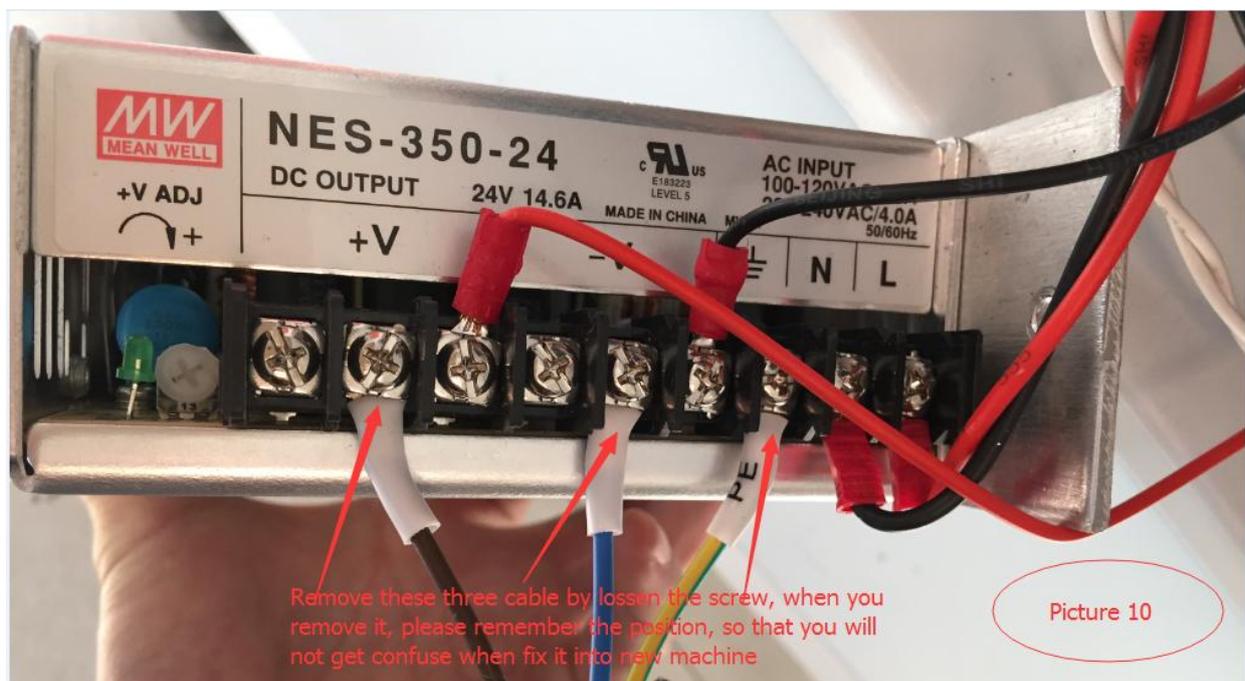
Picture 8

8. **Please refer to picture 9.** Now open the controller door, remove the 24V power supply by removing off screw showing in picture 9.



Picture 9

9. **Please refer to picture 10.** After remove the 24V power supply, you will see there are lots of connections, remove the three connections as shown in picture. In this step, please make sure all of connections and remember the connection before remove it, otherwise, when you fix the cable to new machine, you will get confused!!! After that, you can remove the grey cable(connected with laser source) from controller.



Picture 10

10. **Please refer to picture 11&12.** Now open the left door of marking machine, you will see the laser source, remove the 4 screw of laser source, and take off the laser source as shown in picture 11. **During removal of laser source, please refer to picture 12 carefully, there are three connection points, two of them are permanent fixed, please don't disconnect them or you will damage the laser cable!!! Just pull out the third connection (at the bottom of left side of laser source).**

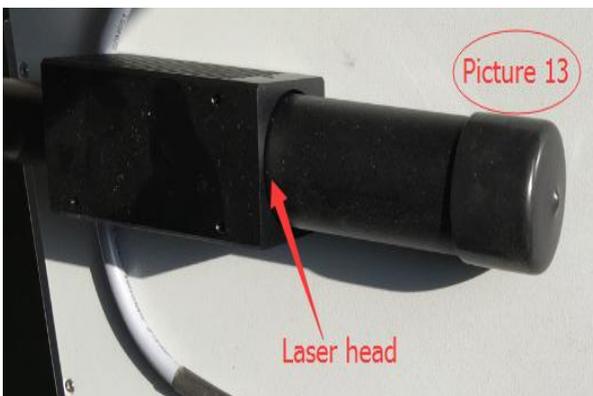


Picture 11

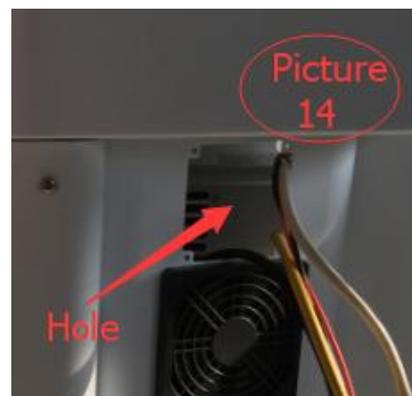


Picture 12

11. **Please refer to picture 13&14.** Now we need take out laser source with all laser cable completely! **The laser cable between laser source and laser head is PROHIBITED TO DISCONNECTED!** You can move out the laser head (shown in picture 13) through the hole (shown in picture 14, the hole is in back side of machine), and then remove the complete laser source with all related cable out side of marking machine.

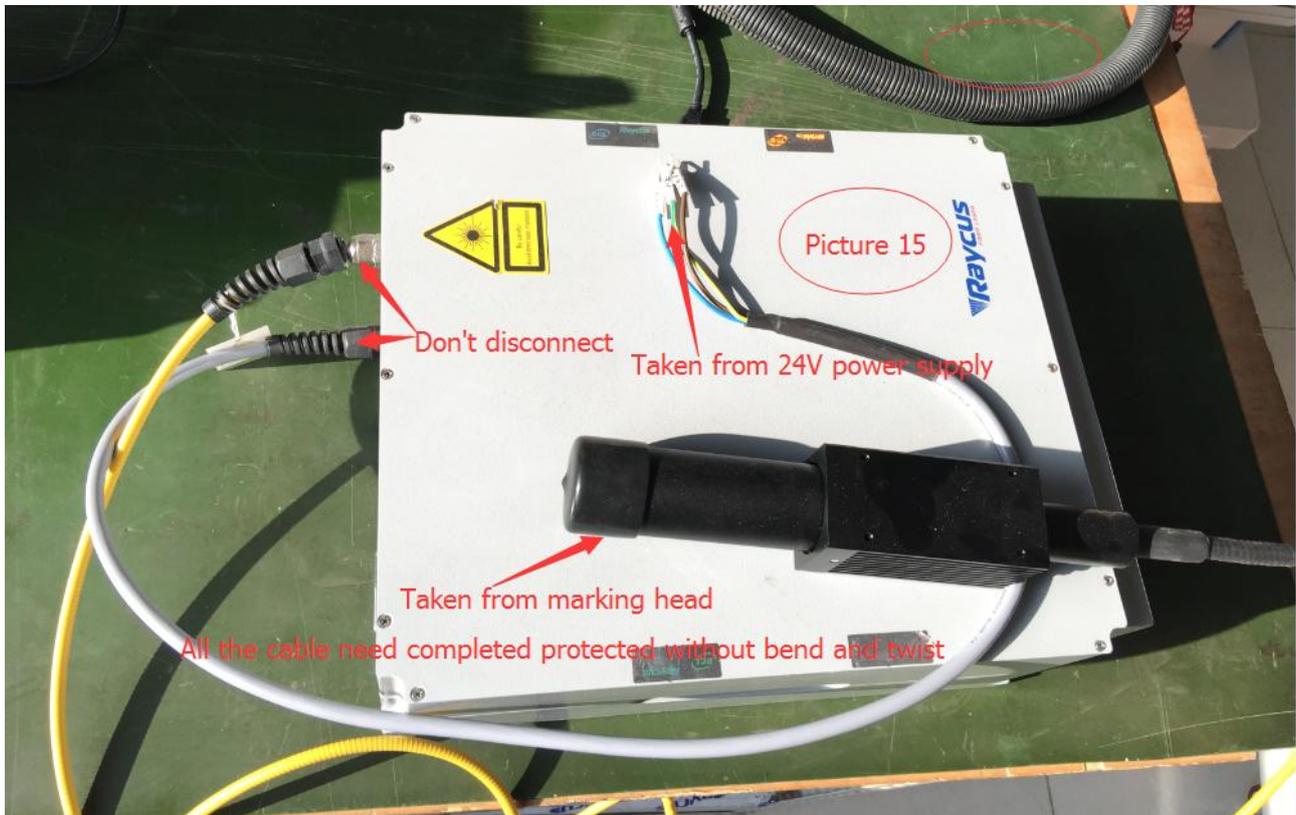


Picture 13



Picture 14

12. **Please refer to picture 15.** The picture 15 is for laser source with complete cable that remove from the machine. All the laser cable is prohibited to disconnected by end user, and should keep the laser cable smoothly without bending and twisting because it fiber cable.



13. The laser source is completely dissembled! Now, based on the same procedure, according to above mentioned picture guide, you can easily fix the laser source to marking machine. The main procedure is as follows:

- a. Pass the 'laser head' from the back side hole , and then fix the laser head to the 'marking head';
- b. Pass the grey line to controller, and the fix the three connector of grey cable to 24V power supply.
- c. Connect the power socket to laser source and then fix the laser source properly.
- d. Fasten all of the cable properly and then put on the black cable cover.
- e. Fix the backside door; fix on the red color marking head cover;
- f. Congratulations! The laser source is successfully replaced by your smart engineer!

Mr. Champion

December 19th, 2016

-----over-----