

# HOW TO DEBUG THE LASER CUTTING MACHINE?

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How to debug the [laser cutting machine](#) to make the best use of it? In fact, machines, like people, require frequent maintenance. Only in this way can the equipment be kept in a relatively good operating state. There are many parts in laser cutting equipment, and the maintenance cycle of some parts is relatively short, so someone often needs to maintain it.

One: Adjust the machine assembly to improve the cutting effect of the machine.

1. Rail installation:

When installing the guide rails, keep the guide rails parallel. When the laser equipment leaves the factory, it needs to be debugged repeatedly to ensure the cutting effect of each equipment that leaves the factory. If the rails are not parallel, there will be resistance when the machine runs, and most of the cutouts will have jagged edges, so the Y axis rails need to be kept parallel.

2. The installation position of the beam and the coupling is not good:

During the installation of the beam and coupling of the laser cutting machine, if there are no locking screws, or the locking parts are tilted or loose, the cutting effect of the laser cutting machine will be affected.

2. Adjust the parameters of the laser cutting machine to increase the cutting speed of the machine.

Machine tool parameter setting, the machine tool parameters need to be adjusted step by step during the cutting process. Generally speaking, if the machine is not adjusted properly, the cutting speed will be affected, either speed or effect. How to achieve both speed and effect is our responsibility. It needs to be debugged according to the customer's material. When leaving the factory, every parameter of the laser cutting machine is set, but it can be adjusted according to the needs of users later. Generally, when setting parameters, pay attention to the following points:

### 1. Initial speed:

As the name suggests, this setting is how fast the machine starts up. First of all, the initial speed is not as fast as possible. In fact, the machine might shake a lot at first if you go too fast.

### 2. Acceleration:

Acceleration is when the machine is in production, there is an acceleration process from initial speed to normal cutting. Similarly, when the machine is ready to finish cutting, there will be a deceleration process. If the acceleration is too low, the cutting speed of the machine will vary.

### 3. Debugging method of laser cutting machine precision

4. When the focus laser spot is adjusted to small, the effect is established by shooting the spot, and the focal length position is judged by the size of the spot effect. We only need to confirm that the laser spot is at a small value, then this position is the focal length suitable for processing, so that the processing can start.

5. In the part of laser cutting machine debugging, we can use some debugging paper and workpiece waste to determine the accuracy of the focal length position by point shooting, and move the height position of the upper and lower laser heads. The laser spot size will vary in size when point shooting. Adjust different positions several times to find out the small spot position to determine the focal length and proper position of the laser head. The workpiece processed by laser cutting machine has no burrs and wrinkles, and has high precision, which is better than plasma cutting. For many mechanical and electrical manufacturing industries, CNC laser cutting systems are often preferred over stamping and forming processes due to the ease with which they can cut workpieces of different shapes and sizes. There is no need to repair the mold, and it also saves the time to replace the mold, thereby saving processing costs and reducing product costs, so it is generally more economical.