

CAUSES AND SOLUTIONS FOR BURRS ON METAL LASER CUTTING MACHINES

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The more common problem of [laser cutting machine](#) in the process of processing is that it is easy to produce burrs. Generally speaking, there will be irregular metal parts such as sharp angles and burrs at the transition point on the surface of the workpiece, but this does not mean that the generation of burrs is acceptable. It directly affects the dimensional accuracy, shape and position accuracy, and surface roughness of the workpiece, reduces product quality, and brings many problems to subsequent inspection, assembly, performance, and aesthetics. Therefore, burrs should be avoided as much as possible.

When many companies use laser cutting machines for cutting, they find that the cutting workpiece has a lot of burrs and the quality is not ideal. Therefore, they suspect that there is a problem with the quality of this cutting machine. Is this the reason? No. In most cases, the appearance of burrs is not due to the quality problems of the laser cutting machine itself, but due to the wrong operation mode of the operator or insufficient maintenance of the cutting machine.

In addition, there is another major cause of glitches, which is the problem of auxiliary gas. During laser cutting, the laser beam irradiates the surface of the workpiece to generate a high temperature, which evaporates the surface of the workpiece, thereby achieving the purpose of cutting metal. The role of the auxiliary gas is to blow out the residual slag on the surface of the workpiece after the workpiece is irradiated and vaporized by the laser. If this is not done, as the slag cools, attachment burrs will form on the cut surface of the workpiece.

The following summarizes several common burr causes and their corresponding solutions to help you avoid the problem of laser cutting burrs:

Reason 1: The laser cutting machine produces a deviation in the upper and lower positions of the laser beam focus, causing energy not to be concentrated on the workpiece, the workpiece is not vaporized, the slag output is increased, it is not easy to blow off, and it is easy to generate burrs.

Solution: Adjust the position of the focus of the laser beam, and adjust it to a good state according to the offset position.

Reason 2: The output power of the laser cutting machine is insufficient, and the metal cannot be vaporized, resulting in a large amount of slag and burrs.

Solution: Check whether the laser cutting machine is working normally, if not, it needs to be repaired

and maintained in time; if it is normal, check whether the output value is correct.

Reason three: The cutting line speed of the laser cutting machine is too slow, which destroys the surface quality of the cutting surface and produces burrs.

Solution: Adjust and increase the cutting line speed in time to make it reach the normal value.

Reason 4: The purity of the auxiliary gas of the laser cutting machine cannot meet the required standards, and it will also cause burrs on the workpiece.

Solution: Change to high-purity auxiliary gas.

Reason 5: The working time of the laser cutting machine is too long, which will cause the equipment to appear in an unstable working state and also cause burrs to appear.

Solution: Turn off the laser cutting machine, restart and move after a period of time, so that it can have a full rest.