

# WHAT ARE THE PRECAUTIONS FOR USING A LASER CUTTING MACHINE?

*Posted on 2023-05-31 by redsail*



Category: [Laser Cutter News](#)





Laser cutting machine

What are the precautions for using a laser cutting machine?

1. Follow the safety operating procedures for general laser cutting machines (as follows). The laser is strictly started according to the laser startup program.
2. Users must undergo training, be familiar with device structure and performance, and master relevant knowledge of operating systems.
3. Wear protective tools according to regulations, and wear protective glasses that comply with regulations near the laser beam.
4. Do not process a certain material to avoid the potential danger of smoke and steam by using laser irradiation or heating.

5. When the equipment is started, the operator shall not resign or be in custody without authorization. If you need to leave, stop or cut off the power switch.
6. Place the fire extinguisher where you can reach it; Turn off the laser or switch when not processing; Do not place paper, cloth, or other flammable materials near unprotected laser beams.
7. If any abnormalities are found during the processing, the machine should be immediately shut down, the faults should be promptly eliminated or reported to the supervisor.
8. Keep the laser, bed, and surrounding areas clean, orderly, and free of oil stains, and stack workpieces, plates, and waste materials according to regulations.
9. When using gas cylinders, it is important to avoid damaging welding wires to prevent leakage accidents. The use and transportation of gas cylinders should comply with the gas cylinder supervision procedures. Do not expose gas cylinders to sunlight or close to heat sources. When opening the bottle valve, the operator must stand on the side of the bottle nozzle.
10. After starting, the machine tool should be manually moved at low speed in the X and Y directions to check for any abnormalities.

After inputting the new workpiece program, it should be tested first and its operation should be checked.

11. When working, pay attention to the operation of the machine tool to avoid the laser cutting machine from going out of its effective stroke.

Safety operating procedures for laser cutting machines:

1. The laser cutting machine should be operated by a dedicated person, and when multiple people operate, the main operator must be designated.
2. Strictly follow the following startup sequence

Gas opening: a. Close the discharge valve of the gas storage tank, turn on the power supply of the air

compressor, and after the compressed air pressure meets the requirements, open the gas delivery pipeline valve.

b. Turn on the laser premixed gas and adjust the pressure; If Panasonic laser gas is mixed with the machine, please strictly open various gases in the following order: helium carbon dioxide set the pressure of various gases to the specified value.

c. Turn on the auxiliary cutting of gases (nitrogen and oxygen).

When using bottled gas, first open the valves of each bottle, and finally open the main valve switch; When using liquid gas, after opening the valve, the booster valve should also be opened to increase the gasification volume and ensure the auxiliary gas cutting pressure.

Turn on the main power switch, start the regulated power supply, check the output voltage of the regulated power supply, and adjust the voltage between~.

Turn on the power supply of the chiller and dryer.

Turn on the power supply of the machine tool control cabinet, release the emergency stop button, and turn on the key switch. After the CNC system starts, enter the operation interface.

When turning on the power supply of the machine tool control cabinet, you can also turn on the laser power supply and start the low voltage and high voltage in sequence. And turn the mode selection key switch into external control mode.

3. Strictly follow the following shutdown sequence

Preparation before shutdown

a. Firstly, move the cutting head to the highest point and stop the X and Y axes in a safe position.

b. In a safe location