

# SAFE OPERATION PROCESS OF LASER CUTTING MACHINE

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## REDSAIL CM2435 LASER ENGRAVING/ CUTTING MACHINE

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While paying attention to production, we must consider the safety of production. Reasonable operating procedures are not only the guarantee of safety, but also the guarantee of life, including the life of machines. [Laser cutting machines](#) also have their operating requirements.

First, turn on the main switch of the regulated power supply, switch the output voltage to the regulated mode, and do not use the mains power; after connecting the main power switch of the machine tool, connect the control power of the machine tool. After the system self-inspection is completed, each axis of the machine tool returns to the reference point, and then the chiller is started to check the water temperature and pressure. Three minutes after the chiller is powered on, the fan turns and starts to cool down.

Then turn on the nitrogen and oxygen cylinders, check the pressure of the cylinders, and start the air compressor and cold dryer. When the chiller is close to the set temperature, turn on the main power of the laser, and turn on the low voltage, when the laser panel appears. HVREADY When the word "" appears on the laser panel, the high voltage, HVSTART" On this basis, the laser red indicator light is on, and the "LASERH-VOLTAGENOTREADY" alarm displayed on the upper right corner of the CNC system before disappears, indicating that the high voltage is normal and the laser is on standby.

1. Before cutting, determine the type of material, the thickness of the material, and the size of the material. Be sure to check that all cutting heads are correct.
2. Adjust the plate so that its edge is parallel to the X-axis and Y-axis of the machine tool, so as to avoid the cutting head working outside the range of the plate. Move the Z axis to the starting point of cutting, and simulate the program to be executed to ensure that there will be no alarms exceeding the soft limit. Enter edit mode to adjust power and speed punch time according to material type and thickness.
3. If you want to cut carbon steel plate, manually select nitrogen, and adjust the barometer as the pressure value required for cutting. Then check the focus position, execute the coaxial inspection program, ensure that the laser beam passes through the center of the nozzle, the Z-axis moves randomly to the board surface, and adjust to determine the distance between the nozzle and the board surface (adjust the control box potentiometer).
4. When the above items are normal, you can switch to the execution state and cut the workpiece.

5. If there is slag hanging, slag returning or other abnormal conditions during the cutting process, stop the machine immediately, find out the reason, and continue cutting after solving the problem to avoid damage to the equipment.
6. After the work is completed, shut down in the following order: 1) Turn off the laser high voltage; 2) Turn off the low voltage on the laser panel; 3) Cut off the laser main power supply; 4) Turn off the chiller; 5) Cut off the machine tool control power supply, cut off the machine tool main power supply switch. ; 6) Turn off the cold dryer; 7) Turn off the air compressor; 8) Turn off the oxygen and nitrogen valves.

Different machines and equipment will of course be different, but the process is similar.