



Fiber laser cutting machine maintenance guide

The equipment needs to be maintained at a certain period of time to ensure the normal operation of the equipment, reduce possible failures, and extend the service life of the equipment. The fiber laser cutting maintenance regulations are as follows:

Items	Inspection points and treatment methods	Frequency
Water chiller (Distilled water is injected into the water chiller)	Check the water level in the water tank and replenish it if necessary.	Once a week
	Check whether the water temperature setting meets the requirements of the laser and adjust it if necessary.	
	Check whether there is water leakage or blockage in the water circulation of the water chiller.	
	Check whether the dust screen on the side of the water chiller needs to be cleaned.	
	The water chiller needs to be replaced regularly for normal operation.	
Laser system (Please turn off the laser during this step)	Check whether the protective lens and clean it according to the regulations if necessary.	Once a week
	Check whether the light spot of the nozzle is in its center.	
	Clean the workbench and empty the waste cart.	
	Check the safety system such as the door switch.	
Machine tool system	Check the wire connection on the Z-axis assembly, the safety and reliability of the water, gas, and laser head connections.	Once a month
	Check and reinforce all driven electrical connections.	
	Check the emergency stop and emergency stop operations.	
	Check whether the buttons on the control panel function normally.	
	Clean the machine tool guide rails, racks, and screws, and add lubricating oil.	
	Check whether the cable ducts and peripheral cables are worn.	
	Check whether all gas, air, and water connections are safe, the interfaces are good, and whether there is wear and leakage.	
Z-axis lubrication	The ball screw needs to be lubricated every week.	Once a week
Automatic lubrication pump	The machine is equipped with an automatic lubrication pump. When the oil level in the pump is too low, the oil pump needs to be filled with lubricating oil in time.	2-3 times a week
	It is strictly forbidden to use substances containing solid lubricants to prevent blockage of lubrication pipelines.	



Cleaning and maintenance of the cutting head

- 1) To ensure that no dust enters the cutting head, the upper part of the cutting head can be sealed with masking tape after the equipment is installed and debugged.

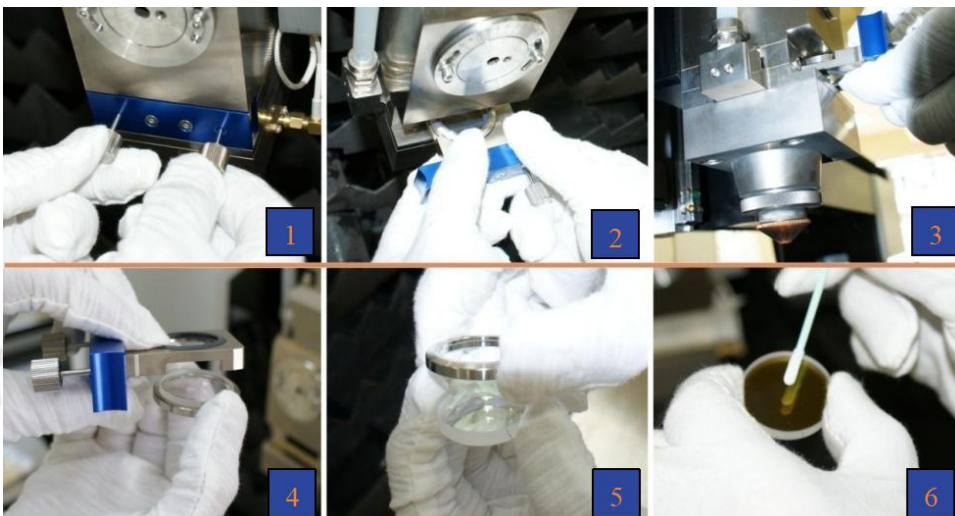


- 2) Please check and calibrate before use to ensure that the light comes out from the center of the nozzle.



- 3) Please ensure the protective lens is clean before use. Please note that no water marks should be left. The following are the steps to clean the protective lens:

- Loosen the two fixing screws
- Pull out half of the drawer of protective lens
- Hold the lens pressing ring from the bottom and continue to pull out the drawer
- Reverse the protective lens drawer to take out the protective lens
- Separate the lens pressing ring from the protective lens
- Clean with isopropyl alcohol or analytical alcohol (alcohol purity is more than 99.5%)

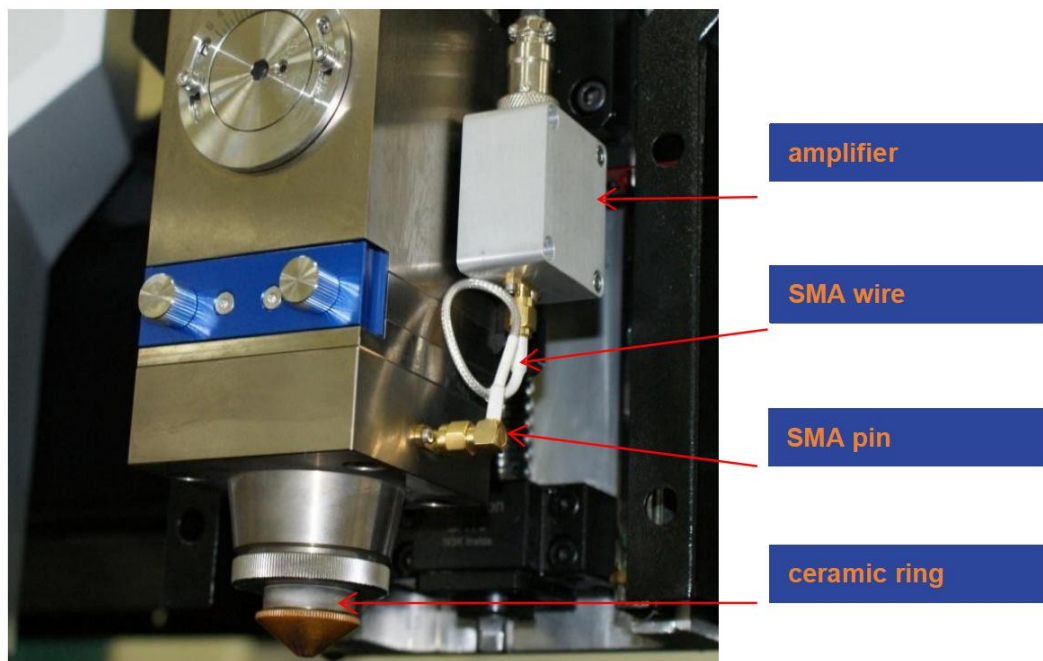




- 4) Please check the roundness and cleanliness of the nozzle before use and clean the nozzle.

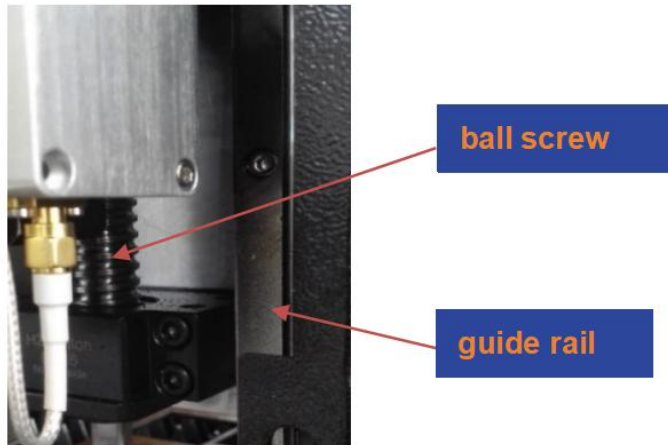


- 5) Before use, please check the ceramic ring, SMA wire, SMA pin, amplifier for looseness and foreign matter, please tighten and clean them.

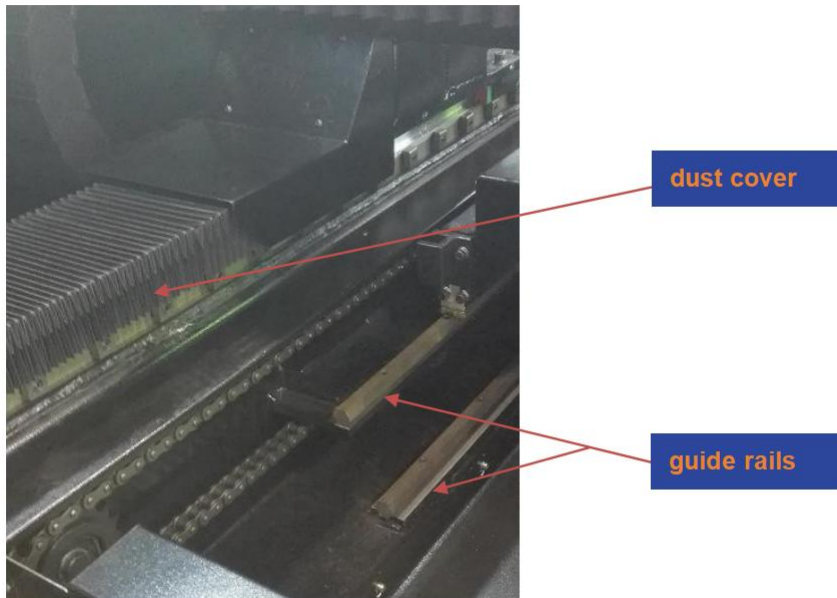


Cleaning and maintenance of machine tool transmission parts

- 1) Clean the Z-axis guide rail and ball screw with a clean cloth every month, and apply a proper amount of lubricating oil (Mobil 00# lithium-based grease) manually after cleaning.



- 2) Check the integrity and stability of the dust cover every day, and clean the dust cover and guide rails from iron filings, iron blocks and other foreign objects.



- 3) This equipment is a dual lubrication system.

For the automatic oil pump, if the oil level is too low, the system will alarm. Please use Great Wall Heavy Duty Vehicle Gear Lubricant 90GL-5, refill the oil and reset it.

For the manual oil pump, oil it once every 15 days, 30 times each time, please use Mobil 00# lithium-based grease.



automatic oil pump



controller

oil pressure gauge

filling port

manual oil pump



filling port

Liquid level gauge

joystick

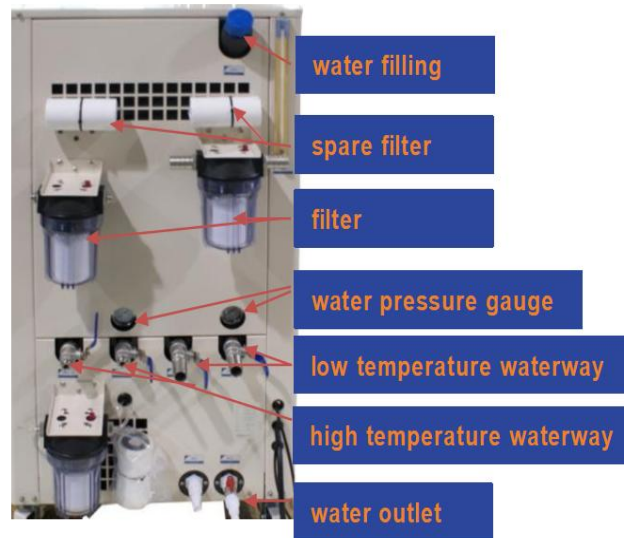
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Cleaning and maintenance of water chiller

- 1) Clean the filter every day to ensure good ventilation and heat dissipation.
- 2) The temperature of the chiller is generally maintained at 22°C to 28°C. (In summer, the high temperature is set to 28-32°C, and the low temperature is set to 26-29°C. Please pay attention to timely adjustment.)
- 3) Change the water every month (use distilled water), and clean the water tank every time you change the water. Circulate the dirty water in the equipment with new distilled water once, and then inject new water.



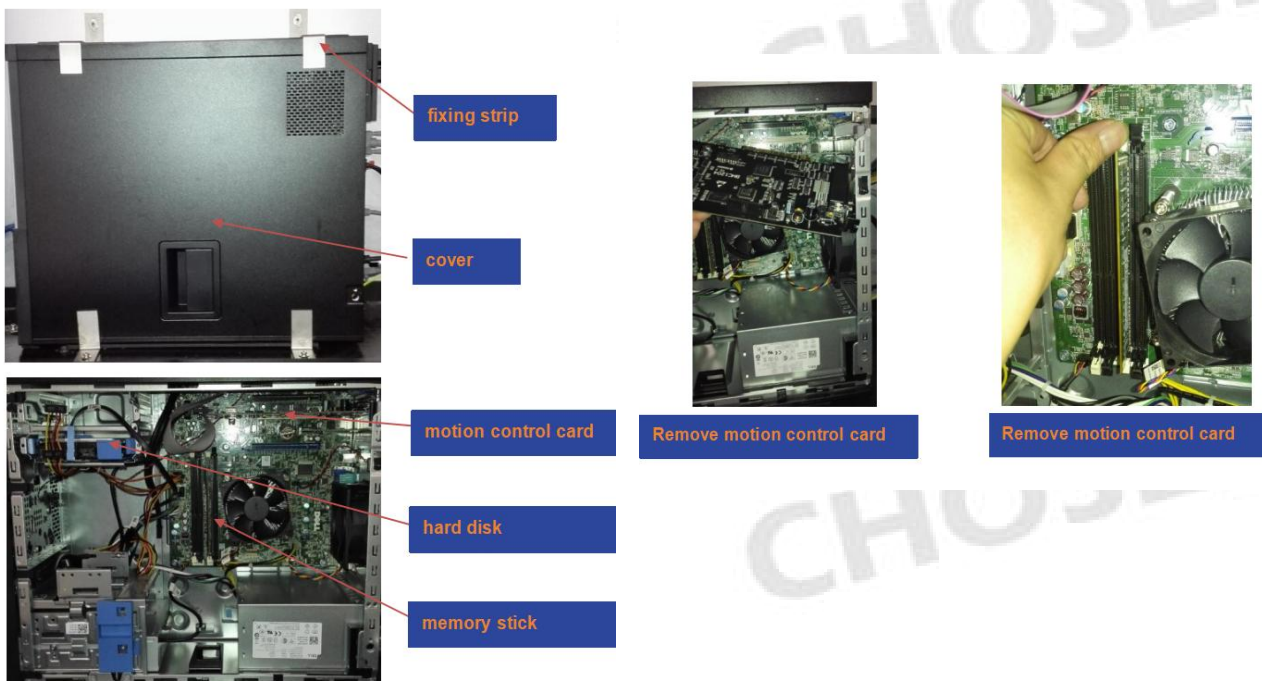


Cleaning and maintenance of electric cabinet

- 1) Remove and clean the filter of the electric cabinet every month (can be cleaned with water or compressed air) to ensure good ventilation and heat dissipation.
- 2) Dust the electric cabinet once every six months (monthly in bad environment). Before dusting, the equipment needs to be powered off (Note: do not touch any wiring terminals within 5 minutes after power off). Use a vacuum cleaner or dry cloth (do not use compressed air) to clean the dust in the electric cabinet.



- 3) Clean the industrial computer every six months (every three months in bad environment), remove the fixing strip and then remove the cover.
- 4) The motion control card and memory stick can be removed for cleaning. Please use a clean dry cloth for cleaning.





Other notes

- 1) The support plates should be replaced every six months (depending on the actual usage), otherwise the cutting will be affected or the thin sheet cannot be cut. Users can purchase the plates and replace them (3mm carbon steel plates for ordinary and 2mm carbon steel plates for the encrypted support strips). The drawings can be obtained from our after-sales service engineers. When replacing, just loosen the layers on the left and right sides of the support plate.
- 2) Clean the entire equipment every six months, including the inner and outer sheet metal, lighting, workbench, operating table, mouse and keyboard, and wireless handheld box, to ensure that the equipment is in good condition.



layer