

## 8 Tips for Daily CNC Router Machine Maintenance



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Purchasing a CNC router machine is an important decision and large investment for a woodshop. CNC machine is the life of the factory. If a machine breaks down, it will waste time and cost, and bring direct losses to the manufacturers. So the routine maintenance of the machines should not be overlooked. It is very imperative to keep your machine uptime and productivity. Proper use and maintenance of CNC machines can prevent machinery failures and greatly prolong the machine's life. And if the machine is well maintained, which can keep the machine in good work condition and stability, so the processing speed and accuracy can be well guaranteed. Daily maintenance is not time-consuming. On the contrary, it can reduce time and cost.



Here are 8 tips of CNC router maintenance we sort out to keep the CNC machines at your woodshop running properly.

**1. Maintain a good external environment for the machine**

(1) Ensure the temperature of the operating workshop, especially in the winter, it is better to let the machine to reach room temperature.

(2) Check the applicable temperature of the fueling standard, at least to the minimum temperature.



(3) When the machine is not in use, if the room temperature is lower, the water in the tank should be poured out to prevent cracking of water tanks and water pipes. Although the influence of temperature on the CNC router machine is not very big, because many operators add butter to the screw and forget to clean up in winter, which makes the machine hard to run when it starts up. The temperature in some workrooms is very low. Although the oil is added, it can still be frozen.

(4) The humidity in the operation room should not be too high, otherwise, the electrical accessories of the machine are easy to worn out.

(5) CNC router machines cannot be installed in places with high humidity, dust, and pollution, otherwise, the performance of electronic components may be degraded and will cause poor electrical contact or short circuit faults. So if the environment of the CNC machine is not good, it will directly affect the normal operation of the machine.

(6) Electromagnetic interference in the operation room must be noted, if the interference is too large, it is easy to affect the machining accuracy. And it should be kept away from the equipment with high vibration to avoid interference.

## **2. Keep the CNC machine clean**

(1) Every time the work is done, sweep and clean the table in time. Blow away the dust on the machine with an air gun! A lack of cleaning could lead to a buildup of dirt and debris. Besides,

some debris can get into the lubrication system, so that stop the machine from working. Wiping down your machine daily will also keep the wood chips from building up in damage.



(2) Clean up the chips around the guide rail and the **linear bearing guide blocks** to prevent the machine from jamming due to debris interference when it is running.

(3) Regularly clean the lead screw to prevent foreign objects from sticking on the lead screw. The screw is very important in the equipment. It determines the accuracy of the machine and also it plays an important role in the transmission process.

(4) Clean the industrial control box regularly, dust is the biggest killer of the circuit board. When the board is too dirty, it may cause a short-circuit fault. After each use of the machine, pay attention to cleaning, be sure to clean the dust on the platform and the transmission system.

(5) Filters should be checked and cleaned on a regular basis and replaced if necessary. When the filter is too dirty, there may be cause poor heat dissipation and malfunction.

(6) Cleaning your **tool holders** and collets and spindles are also important. They must be rustproof and clean.

(7) Check the surface of the spindle. You can wipe it with a clean soft cloth.

### **3. Regular lubrication**

CNC machines need to be regularly lubricated to function properly and prevent premature wear. Each of these components such as the spindles, the lead screws, the guide rails, bearings, tool

holder and sliders require regular and correct lubrication to slow down the wear speed. Please be sure to follow the manufacturer's recommendations and use grease or oil. Improper lubrication can lead to machine parts sticking or not moving as smoothly as they should and even cause more serious problems.

(1) First, clean the guide rails and lead screws. Use a rag to clean the oil and material debris on the guide rails and the lead screws. If the temperature is low, add oil to the rails and lead screws, preferably antifreeze oil.

(2) The refueling cycle is twice a month.

(3) If the machine is not used for a long time, it should be refueled regularly to ensure the flexibility of the transmission system.

(4) After the oil is added, move slowly back and forth to ensure that lubricating oil can be evenly applied to the guide rail and the lead screw.

(5) Regular (weekly) lubrication of the transmission system (X, Y, Z three axes).

#### **4. Check your computer regularly**

Computer abnormalities can also cause a lot of problems, especially for the computer connected to a CNC router machine.

(1) Clean the dust of the chassis regularly, pay attention to the heat dissipation of the chassis, and be careful that the industrial control card is faulty due to excessive dust.

(2) Regularly defragment the disk and optimize the computer system.

(3) Regularly check and kill the virus.



## 5. Cooling water for spindle motor

- (1) Cooling water is very important for the **water-cooled spindle motor**. If the cooling water is too dirty, it will cause serious damage to the motor, so ensure that the cooling water is clean. And the water spindle motor must not be dehydrated, and the cooling water should be replaced regularly to prevent the water temperature from being too high. In winter, if the working environment temperature is too low, the water in the tank can be replaced with antifreeze.
- (2) Pay attention to the water level and don't make the water-cooled spindle motor water shortage so that the motor heat cannot be exported in time.
- (3) Pay attention to the ambient temperature and be careful because the water temperature is too cold and cause the water tank and water pipe to freeze.
- (4) Antifreeze can be used for cooling.



#### **6. Follow Manufacturer's regular maintenance schedule**

The manufacturer can provide manual which tells you when and how to maintain your machine. So please read it carefully and follow them strictly. This helps to identify potential problems before they become breakdowns, especially for inexperienced operators.

## 7. Inspection



- (1) Check whether the moving part of the machine ([drivers](#) and [motors](#)) and the fixing screws are firm and reliable every month. If any lose connection, tighten the screws.
- (2) When inspection on the machine, be sure to turn off the power and wait until the monitor has no display and the main circuit power indicator is off.





(3) Check [CNC cutter tools](#) and parts before cutting.

Damaged CNC tools and parts can affect cut accuracy and quality and ultimately leads to more problems. So please inspect the condition of the tools and parts, such as CNC cutting tools, tool holder, collets, [tool holder forks](#), table gaskets, [CNC suction cups](#), jigs and replace them when necessary.



### **8. Have quick-wear parts on hand.**

Keeping some easily damaged parts such as CNC router bits, CNC tool holder clips, collets, in-stock can save much time and extra shipping cost. You don't need to wait for spare parts shipment and delivery. Just find them in your warehouse and replace them! Also, these spare parts don't cost you too much. Start with a CNC router parts list and find a reliable parts provider.

Hope there will be helpful for you. [Rico CNC](http://www.ricocnc.com) is a professional cnc spare parts supplier. If you are looking for affordable CNC parts with high quality, Rico CNC is a good choice for [CNC](http://www.ricocnc.com).

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