



Warning: The equipment must be used with a **vacuum cleaner**; otherwise, processing cannot be completed, and it may result in damage to internal components, requiring paid repairs.

Warning: It is recommended to use a **voltage stabilizer** with the equipment to prevent the impact of voltage fluctuations, which may lead to damage to electrical components, requiring paid repairs.

○ Daily Check ○

| Tool number | Serviced time |
|---------------|------------------------------------|
| Tool number 1 | Serviced time 171.20% (3424Minute) |
| Tool number 2 | Serviced time 133.85% (9637Minute) |
| Tool number 3 | Serviced time 10.40% (749Minute) |
| Tool number 4 | Serviced time 4.07% (293Minute) |
| Tool number 5 | Serviced time 54.90% (3953Minute) |
| Tool number 6 | Serviced time 18.17% (1308Minute) |
| Tool number 7 | Serviced time 2.25% (162Minute) |

01. Check the tool life:

Check the tools usage time in the tool list of the UPCNC 3 software.

Take care to replace and reset the tools when it approaches the preset life to prevent continued use from causing abnormal conditions.

○ Maintenance every two weeks ○

Collet Maintenance:

To ensure smooth needle turning operations, it is recommended that spindle collets be inspected and serviced every two weeks.

- 1 Remove the spindle maintenance tool (spindle maintenance tool)



- 2 On the UPCNC 3 screen, click on "Calibration" -> "Clean Spindle", which will move the spindle to the clean position.



(Click to calibrate)



(Clean position)

- 3 Click on the "Loose Collet" icon, leave the spindle in the open collet position, use a torque wrench with the collet tooling and place it into the spindle collet and loosen the collet counterclockwise.



(Collet wrench)



(Remove collet)

- 4 Remove the collet and use a dust free cloth and cleaning brush to wipe and clean the inside and outside walls and ends of the collet to ensure that the collet is clean, and use a cleaning felt to clean the spindle area.



(Cleaning the collet)



(Cleaning the spindle)

- 5 Apply a small amount of grease to the front of the collet, spread it evenly, and when finished, place the collet into the spindle with the tool loosened according to the original operation, tighten it in a clockwise direction, and close the collet by clicking on the "loosen tool" icon.



(Collet Maintenance)



(Collet Installation)

Note: After **pre-tightening**, use the equipped special tool for locking to prevent over-tightening or uneven application of force.

○ Daily Maintenance ○

Cleaning the Work Bin:

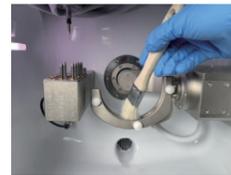
To ensure performance and prolong the life of the machine, it is necessary to clean the machine every day after machining is completed.

Maintenance tools required: vacuum cleaner, brush

- 1 First, use the brush to sweep down the accumulation of dust that is more difficult to clean, and focus on cleaning the areas where dust is likely to accumulate, such as the tool magazine and the clamping area.
- 2 Use a vacuum cleaner to carefully clean dust from the bottom of the work bin. When cleaning is complete, close the work bin door.



(Cleaning tools holde)



(Cleaning jig)



(Vacuum Cleaner Vacuuming)



(Cleaning Completed)

Note: Before using the vacuum cleaner, make sure that there are no large debris or fallen restorations in the work compartment to avoid damaging the restorations or the vacuum cleaner.

○ Quarterly maintenance ○

Equipment Calibration:

To ensure the accuracy of the equipment and the processing of the restorations, it is recommended to use the automatic calibration function once a quarter after a long period of use or changes in the surrounding environment.

From the UPCNC 3 interface, click on the "Calibrate" button and follow the instructions within the function to complete the calibration process.

- 1 Prepare the calibration tool

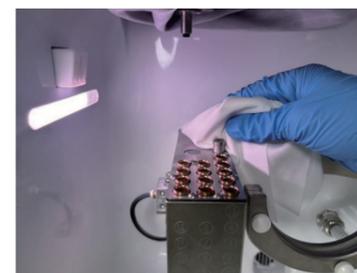


(Calibration Tool)

- 2 Remove the pin and use a brush to sweep the machining compartment in relation to the tool holder and wipe the calibration column with a dust free cloth to ensure cleanliness.



(Cleaning the cutter block)

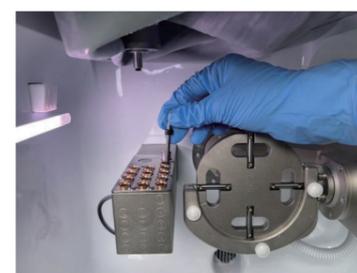


(Wiping the calibration column)

- 3 Install the automatic calibration disk, with the side marked "UP" up, and install the calibration tools in tool magazine 13.



(Installation of the calibration disk)



(Installation of the calibration tools)

- 4 Start the automatic calibration process, which takes about 20 minutes. After completion, you can resume normal production operations.

Note: 1. For equipment that has been in use for more than one year, you can adjust the calibration frequency of the equipment according to the actual situation in order to optimize the accuracy and performance of the equipment.

2. When the environment of the device is below 20°C, please warm up the device before calibration.