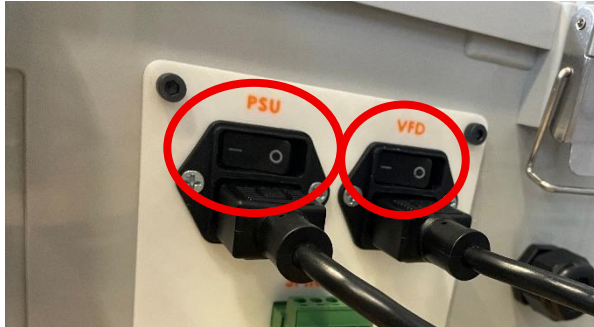


Desktop CNC milling machine: maintenance plan

I: Daily

Before the first operation:

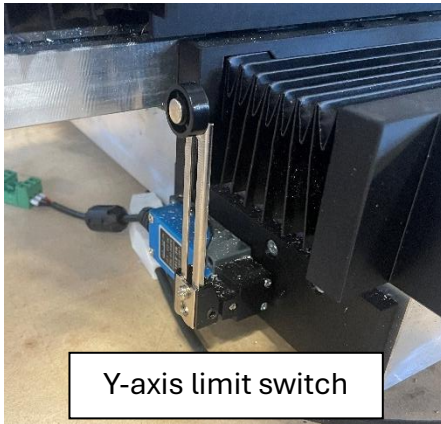
1. Turn on machine
 - Two switches on the side of the electrical box are switched on



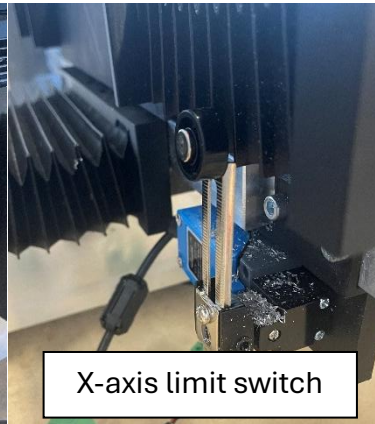
2. Cycle the E-Stop
 - Verify the machine shuts down when pressed in and powers on when released.



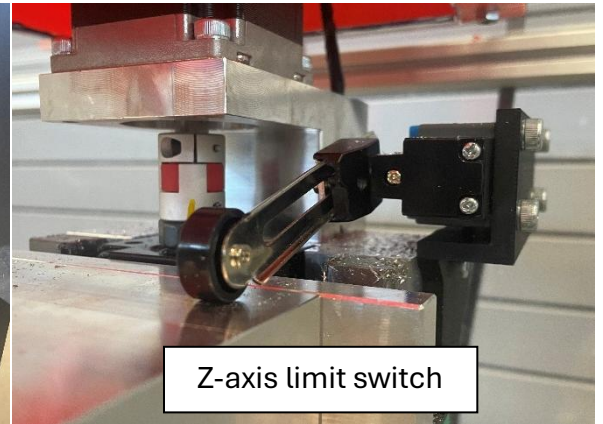
3. Verify the door's safety switch and XYZ movement limit switches are operational
 1. This can be verified through the IO sender software



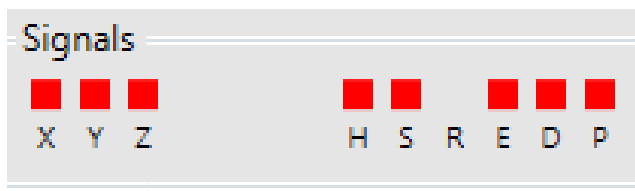
Y-axis limit switch



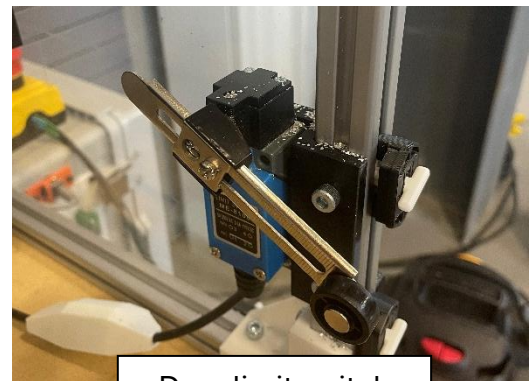
X-axis limit switch



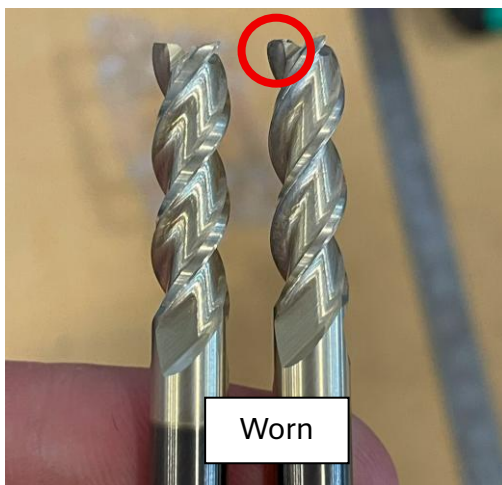
Z-axis limit switch



4. Ensure cleanliness spindle, way covers, machine bed, and vice
5. Inspect all tooling for wear before installing any tools into chuck



Door limit switch

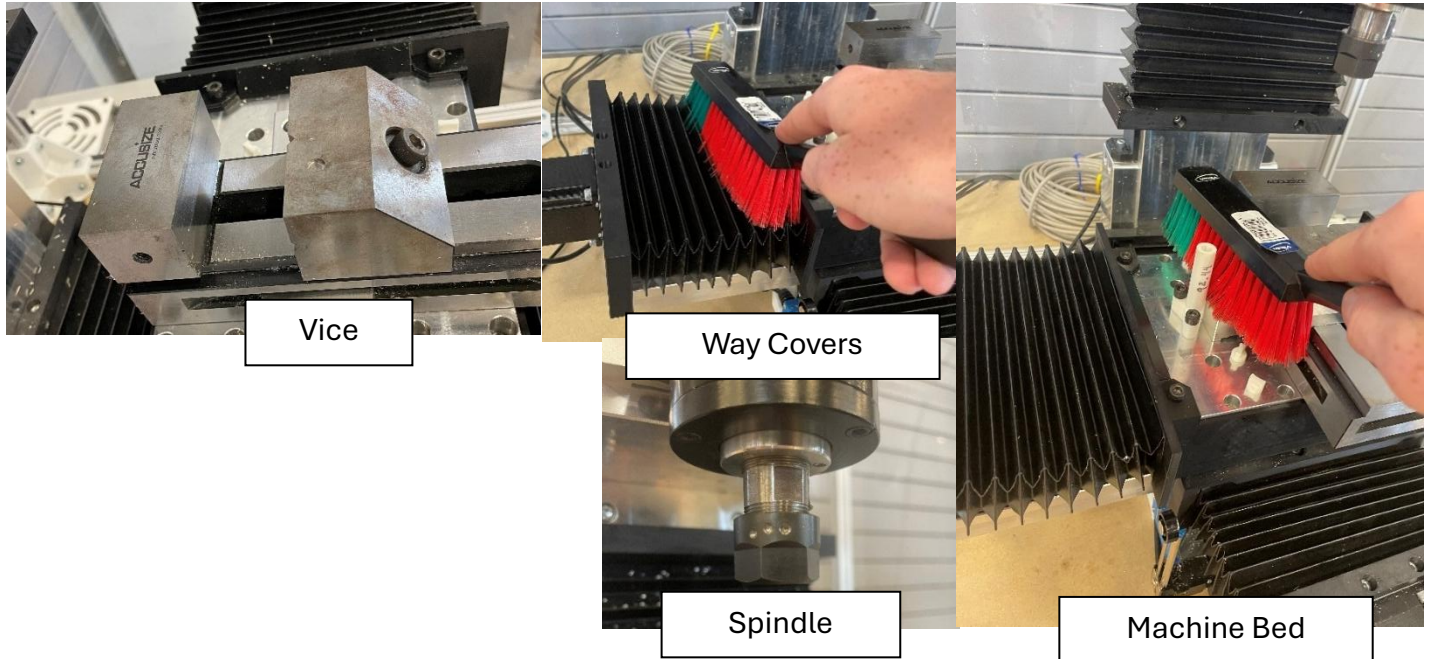


6. Verify if the air hose is if operational by twisting the valve and feeling the end of the hose for air flow



After last operation:

1. Clean all chips around the spindle, way covers, machine bed, and vice

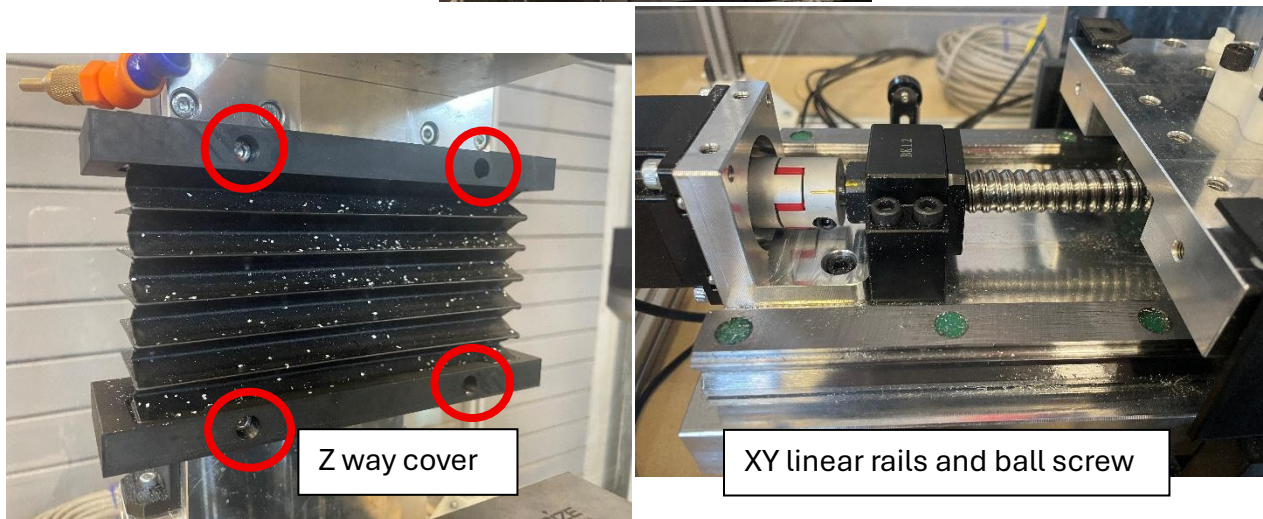
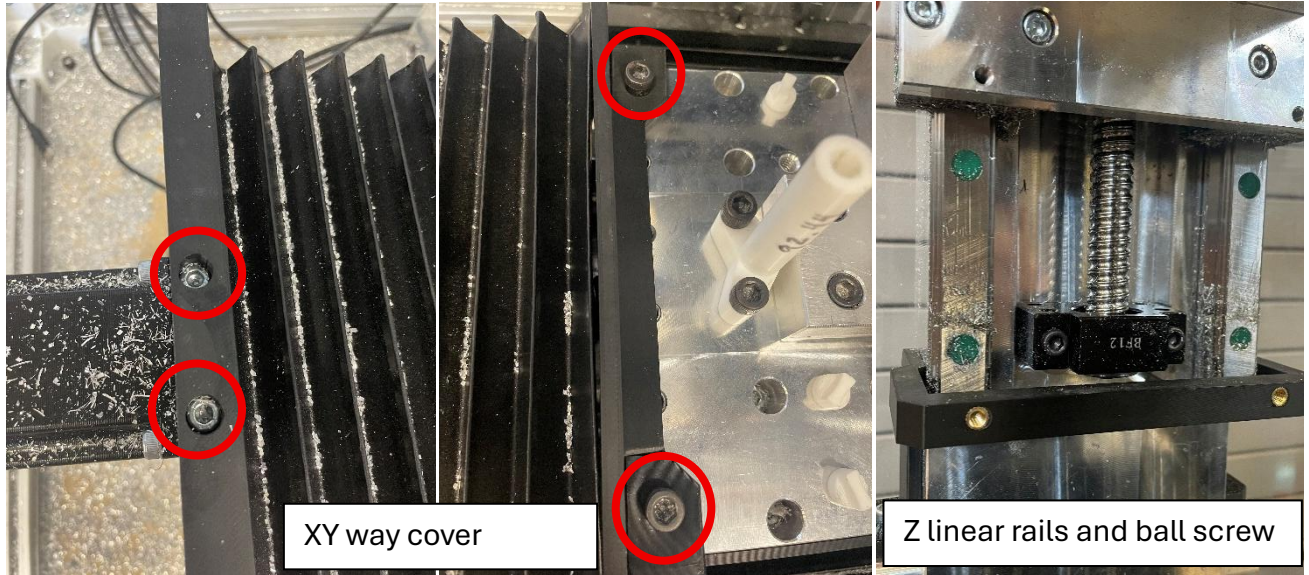


2. Power off machine

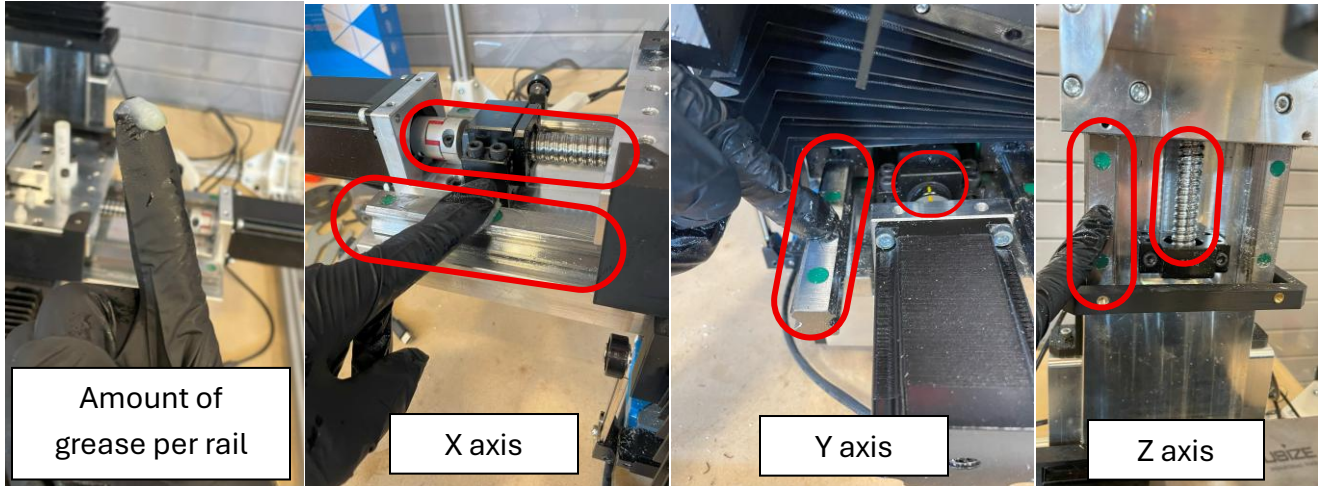
II: Weekly

NOTE: Perform the following AFTER you have completed daily BEFORE tasks

1. Clean all chips from under the way covers
 - First remove XYZ way covers with 3/16 and M4 Allen wrench



2. With machine bed's centered in the XY axes and way covers removed, grease all machine slide rails and ball screws
 - NOTE: Wear nitrile gloves when applying grease
 - Use EP1 grease provided in the BoM



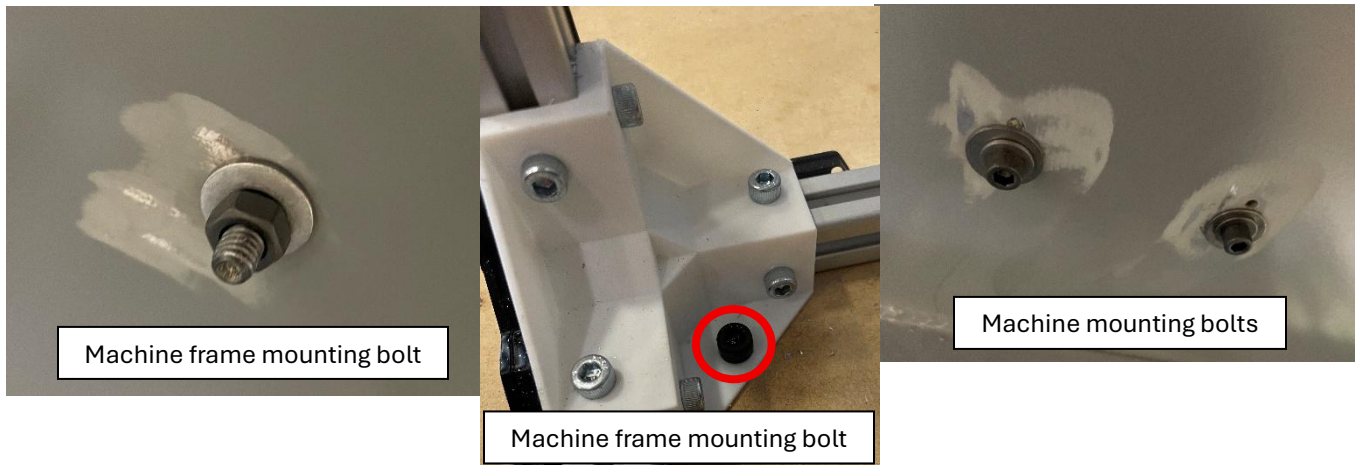
3. Start the spindle warmup program for best part quality
 - This program is named 09999 on the machine

W

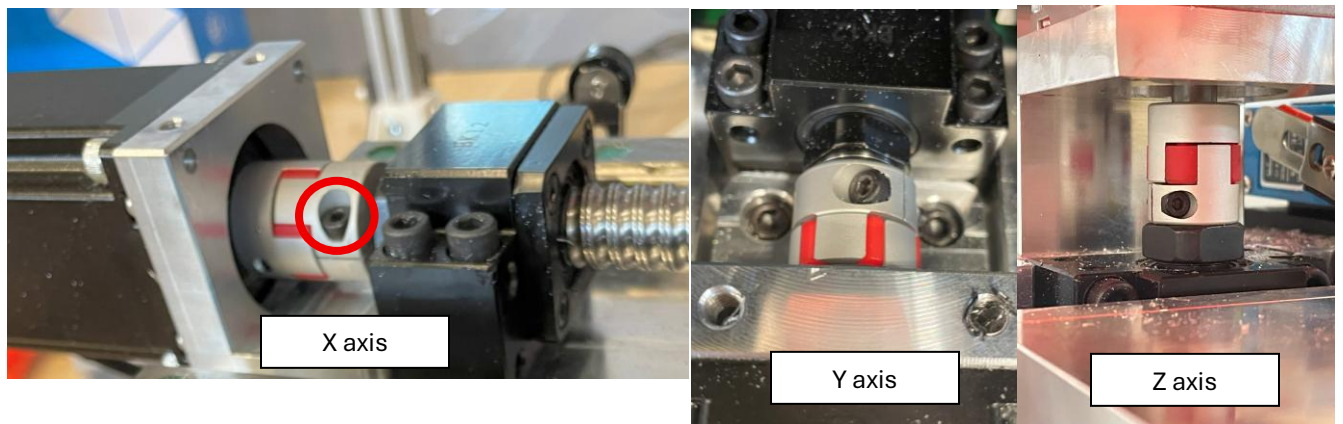
III: Monthly

NOTE: Perform the following AFTER you have completed all daily BEFORE and weekly tasks

1. Ensure all mounting bolts for the machine, machine frame, and guarding are all secured



2. Verify set screws in the motor couplers are torqued to 1 N-m and apply thread locker to set screws if they were loose



3. Check the squareness of the machine bed with 1-2-3 blocks
 - a. Refer to squaring instructions for more information

IV: Semesterly

NOTE: Perform the following AFTER you have completed all daily BEFORE, weekly, and monthly tasks.

1. Replace wear components (as needed)
 - a. Ex. Way cover mounts, soft jaws, etc.
2. Perform a deep cleaning and grease the machine
 - a. Remove x-carriage, saddle, and z-carriage assembly
 - b. Inspect the machine for any signs of fatigue or damage.
 - c. With these components removed, apply grease to the linear rail blocks through the grease port.
 - d. When rebuilding the machine, clean bolts and apply new thread locker

