

# Axo Maintenance Manual

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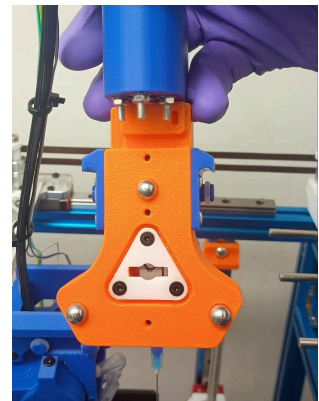
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This is a weekly maintenance guide for the Axolotl setup. The operator needs to perform the maintenance on a weekly basis. This is to ensure that the machine is calibrated and does not break down randomly.

## 1. Single Syringe

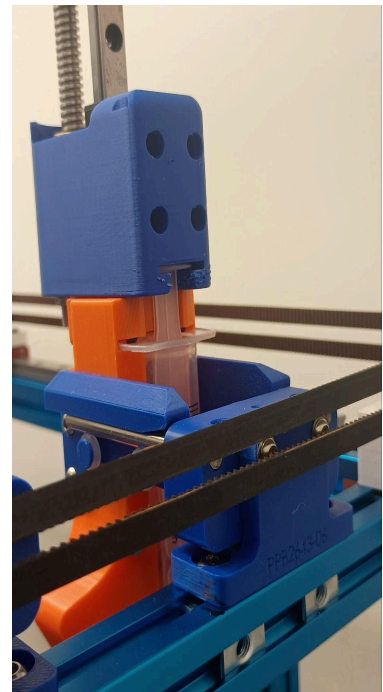
### **Wedge plate**

Ensure that the heat inserts on the Single Syringe wedge plate are not coming-off. If the heat inserts are getting apart, you may need to reheat those heat inserts and push them further inside.



### **Recalibrate the position of the Single Syringe tool holder assembly.**

Many times, the screws on the Single Syringe tool holder assembly gets loose. We need to tighten the screws and do repeated parking of the tool so that there is a smooth parking.



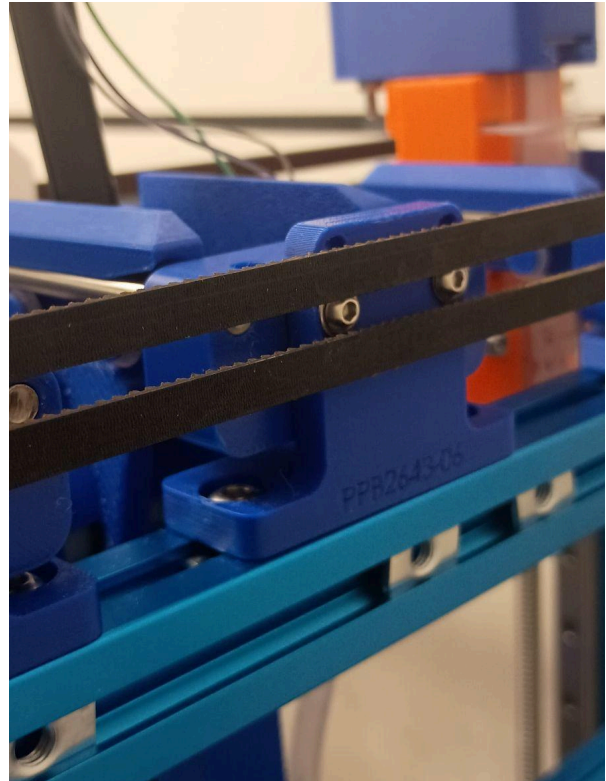
## 2. Vacuum Gripper

### Tool holder

Ensure that all the heat inserts on the Vacuum Gripper's tool holder assembly are in their correct positions. If the heat inserts are coming apart, then reheat them and push them further inside.

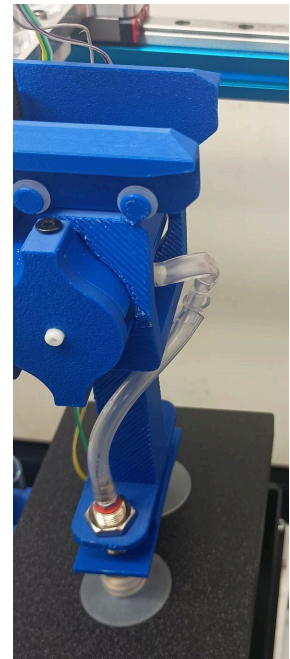
### Recalibrate the position of the Vacuum Gripper tool holder assembly.

Many times, the screws on the Vacuum Gripper tool holder assembly gets loose. We need to tighten the screws and do repeated parking of the tool so that there is a smooth parking.



### Vacuum Gripper Pipe

With repeated operations, the Vacuum Gripper pipe may come-off. You need to tightly push-in the pipe so that it doesn't come-off.



### Limit Switch Wiring

Sometimes, the limit switch wiring gets loose because of imperfect soldering. Hence wherever you face an issue like the vacuum gripper doesn't touch the bottom plate. This is probably due to the premature activation of the Z-axis limit switch on the Vacuum gripper tool. To counter this issue, you may need to re-solder the connections of the Limit-switch wires.



## 3. Spectrometer

### Recalibrate the Vial Positions wrt to the Spectrometer tool

Since the spectrometer probe is frequently used in other setups, the probe position may vary. Hence we need to Calibrate the positions of the Vials wrt to the Spectrometer probe.

## 4. Dual Syringe

### Dual Syringe tool holder Assembly

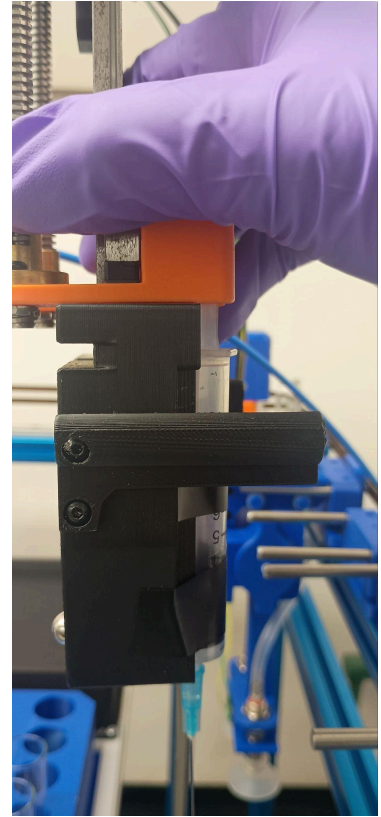
Dual Syringe is the most risky tool in terms of tool parking and posting operations. Hence we need to ensure that Dual Syringe is smooth parking on the tool holder assembly.

To ensure smooth parking, we may apply Tri-Flow lubricant on the rod of the Dual Syringe tool holder assembly. This ensures that while parking, the rod slides-in smoothly into the tool holder wings.



### **Dual Syringe Tool Wings**

With repeated usage, the wings on the Dual Syringe tool gets loose with time. This error causes a heavy tool like Dual Syringe to bend forward even more, which further complicates the tool parking. Hence we need to tighten the screws on the Dual syringe tool wings.



5. **U-Axis Assembly Set screws**
6. **X and Z- axis limit switch wirings**
7. **Set screw on the Tool changer assembly**