



TS-1002	Pneumatic Gripper Fails to Pick Up Tube	Document Owner: Service Department	Effective Date: AUG-23-2022	Page 1 of 6
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Purpose

This document provides the steps required to correct issues with the VX2/VXL failing to pick up a tube.

Intended Use

When a Pneumatic gripper fails to pick up a tube.

Required Material and Equipment

N/A

Intended Audience

Superuser

Prerequisites

N/A

Procedure

1. Confirm the correct gripper fingers are being used for the tube type, and that there are no defects on the fingers.
 - a. See [SCIF017 Roller Gripper Settings Install Verification](#).
 - b. All 4 gripper finger dowels are present, secured and not bent.
2. If the rack is a honeycomb-style rack, confirm the grip head is in correct configuration for that rack type.
3. Confirm the rack definition being used is correct for the tube/rack type being run.
4. Check gripper function and pressure
 - a. Confirm the air pressure coming into the instrument is reading 0.5 to 0.6 MPa on the gauge on the right side of the instrument.
 - b. Confirm the Air Shut Off switch is set to the horizontal position (On).

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Figure 1. Air Shut Off valve and Air Pressure Gauge

- c. In the software, navigate to Diagnostics > Hardware.
- d. Select **Engage Gripper** in Outputs to open and close the gripper.
- e. Confirm the gripper physically closes and opens when the checkbox is selected.
- f. Confirm the *gripper* pressure gauge is set to between 0.3 to 0.5MPa or adjust if necessary.

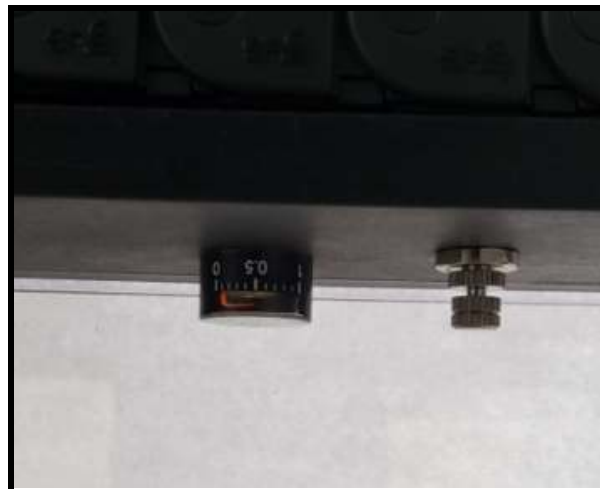


Figure 2. Gripper pressure gauge and pressure adjust flow controller screw.

- g. Confirm the Inputs reflect the state of the gripper (when the gripper is physically open, the gripper input shows Gripper Released, and when the gripper is physically closed the input shows Gripper Engaged).

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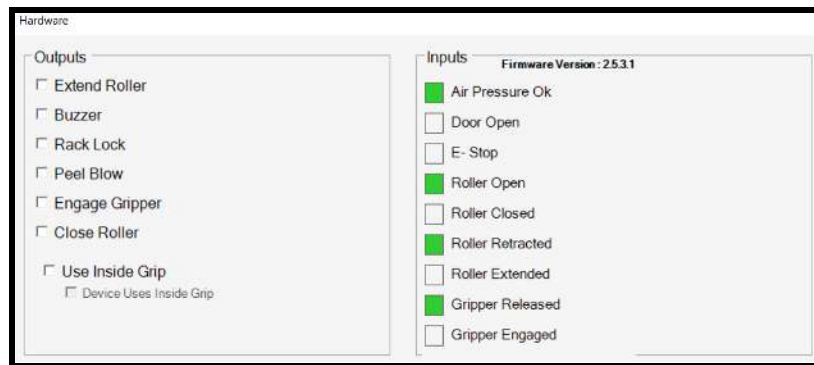
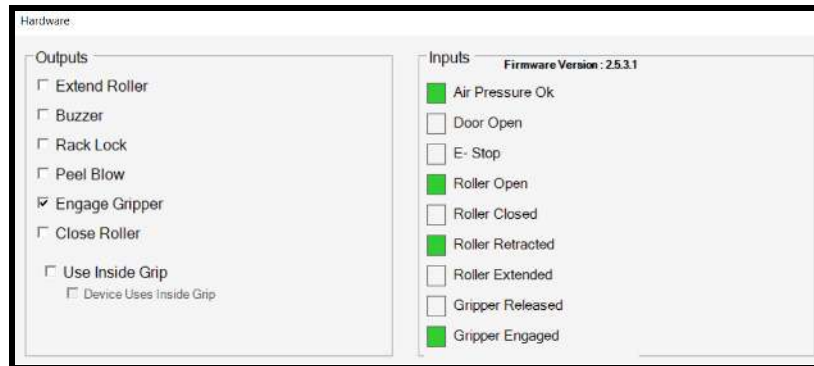


Figure 3. Diagnostics > Hardware Gripper States (SciPrintVX v2.5)

5. Check gripper slot sensors for optimal settings. (See [TS-1013 How to Adjust Gripper Head Sensors](#)).
6. If the arm is not squarely picking up the tubes or putting them back correctly in the racks, check the teach position for correct locations.
 - a. Click **Configuration > Rack Definition**.
 - b. Select the Rack Definition of the rack and tube setup you want to test from the **Select a Rack** dropdown.
 - c. Place racks on the deck and place tubes in rack positions specified by the software.

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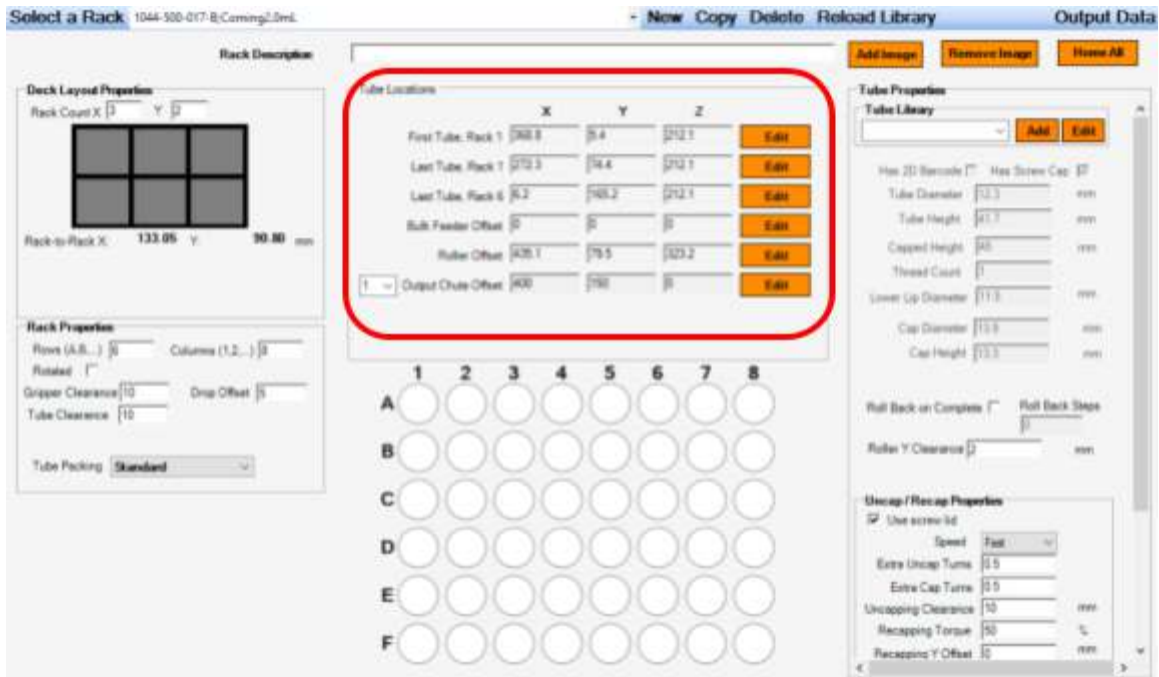


Figure 4. Configuration > Rack Definition

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- d. Click **Edit** next to the First Tube, Rack 1 position, and click **Move to X,Y,Z**.

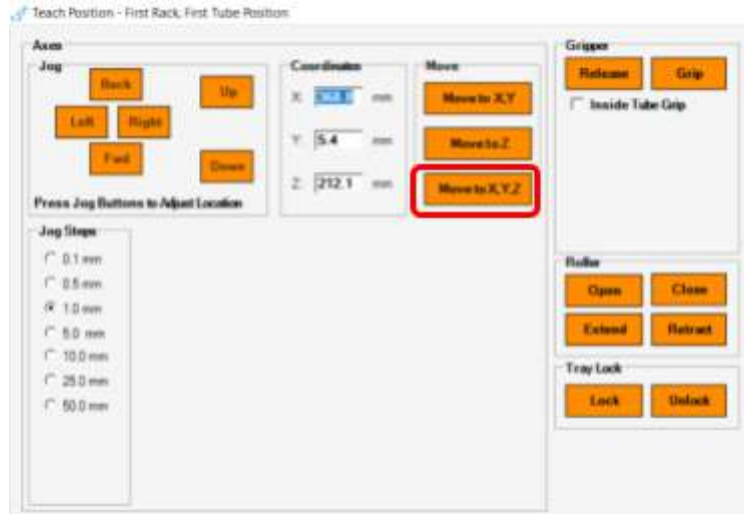


Figure 5. Teach Position screen

- e. When the gripper head/fingers move over the tube in that position, click Grip/Release Gripper to observe the placement of the fingers relative to the tube/rack position. There should be little to no movement in the tube or arm while closing/opening.

Note: Look at the space between the finger and the edge of the tube to ensure there are equal distances for all four fingers. Adjust the teachpoint by jogging *0.5 to 0.1mm* at a time to optimize the teach point. Click **OK** to save.

- f. Repeat for all teach points.

If you need additional assistance, please call our service department at 314-298-9800 or email service@scinomix.com.

Definitions

N/A

Revision History

Version:	Change:	Effective Date:	Approved by:
A	NEW	APR-21-2020	B. Petti



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B	Content review; added Intended Use section.	AUG-23-2022	Service Department
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