

V E R S A **B U I L T**

VBX

Manual operation

Adjusting Vise Pressure for Boosted Systems

Document #5002217

Revision	Revision Description	Date	By:
A	Initial Release	1/3/2017	BTB

Connect to CNC via DNC Sync

1. On CNC Control Panel Screen, hit MDI/DNC button until it reads “waiting for DNC”
2. Click “Done” in Actions field below where it states “Initiate DNC mode on the CNC control Panel”

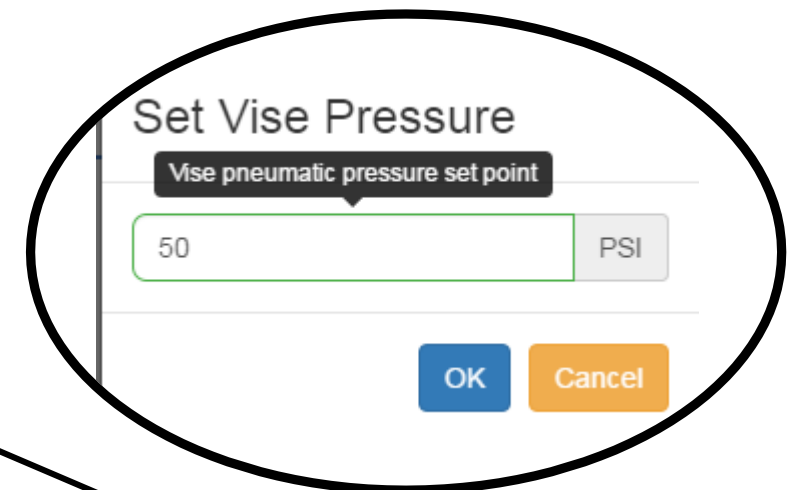
The screenshot displays the VersaBUILT CNC control interface. At the top, there is a navigation bar with a menu icon, the text 'VERSABUILT', and several status icons including a warning triangle, a red double-headed arrow, a green battery icon, a red stop icon, a lightbulb, a gauge showing 100%, and a document icon. To the right of these icons are three buttons: 'DNC Sync' (blue), 'Reset' (orange), and 'Enable' (green).

The main interface is divided into two primary sections:

- Actions Panel:** This panel contains instructions for exiting recovery mode. It includes a 'Done' button next to the text 'The following actions must be performed to exit recovery mode:' and another 'Done' button next to the instruction 'Initiate DNC mode on the CNC control panel.' An arrow from the second step in the instructions above points to this second 'Done' button, which is circled in red.
- Recovery Panel:** This panel provides manual control for various components. It features a central 'Arm' control with directional arrows (+Z, -Z, +X, -X, +Y, -Y) and a home icon. To the right are vertical columns for 'Wrist', 'Gripper', 'Wash', 'Door', 'Vise 1', and 'Vise 2', each with its own set of control icons. At the bottom, there is a 'Movement' slider set to 0.25 in.

Adjust Vise Pressure

1. Double-click on Vise pressure/read-out symbol
2. Enter pressure value between 30 to 110 psi
3. Note: For Boosted Systems, the output pressure to the vise will be 1.9 times value entered on VBX screen



Actions ^ A

Press Enable to begin controlling the robot and CNC.

The following actions must be performed to exit recovery mode: Done

1. Enable the cell.
2. Move the robot arm to CNC home.
3. Reconnect DNC.
4. Address and clear the listed error actions.

Active Jobs 🗑️ +

Part	Order	Processing	Remaining
140-215	001525	1	0

Recovery

Arm

Wrist

Gripper

Wash

Door

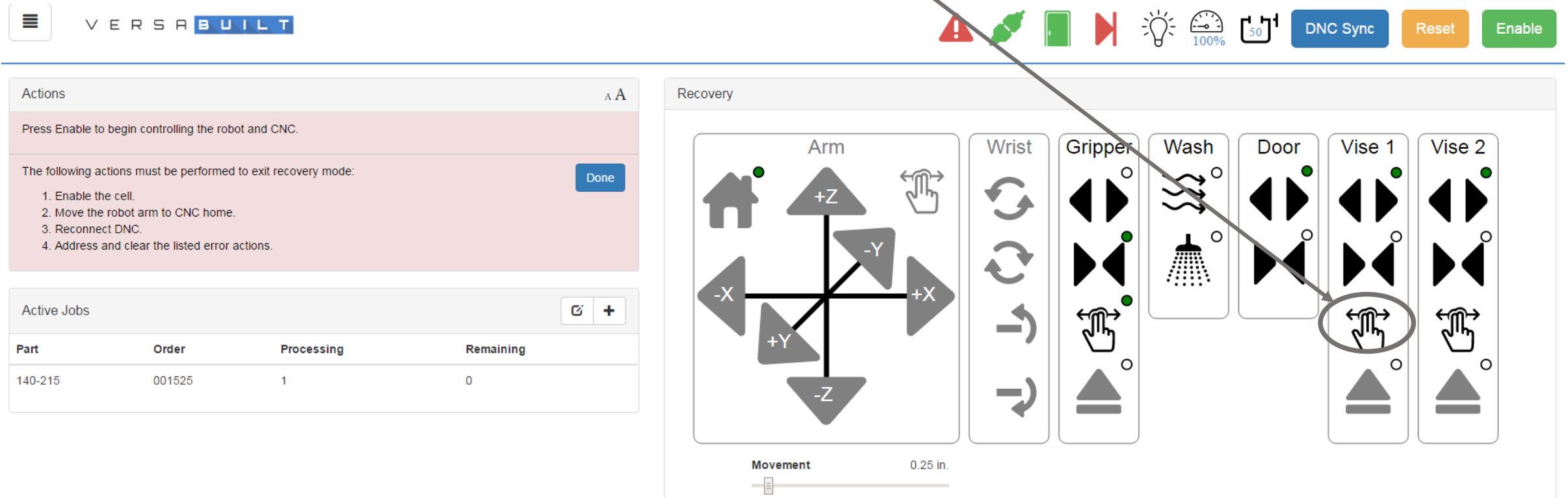
Vise 1

Vise 2

Movement 0.25 in.

Enable Manual Operation of Vise

1. Click on “Hand” symbol for each Vise shown
2. Note: This turns off the 24VDC signal to the solenoid valves to the vise during robot operation, allowing manual operation of the vises



The screenshot displays the VERSA BUILT control interface. At the top, there is a navigation bar with a menu icon, the text "VERSA BUILT", and several status icons including a warning sign, a green leaf, a green battery, a red stop sign, a lightbulb, a speedometer at 100%, and a document icon with "50". To the right of these icons are three buttons: "DNC Sync" (blue), "Reset" (orange), and "Enable" (green).

The main interface is divided into two sections. On the left, the "Actions" panel contains a pink background with the text "Press Enable to begin controlling the robot and CNC." Below this, it lists actions to exit recovery mode: "1. Enable the cell.", "2. Move the robot arm to CNC home.", "3. Reconnect DNC.", and "4. Address and clear the listed error actions." A "Done" button is located to the right of this list.

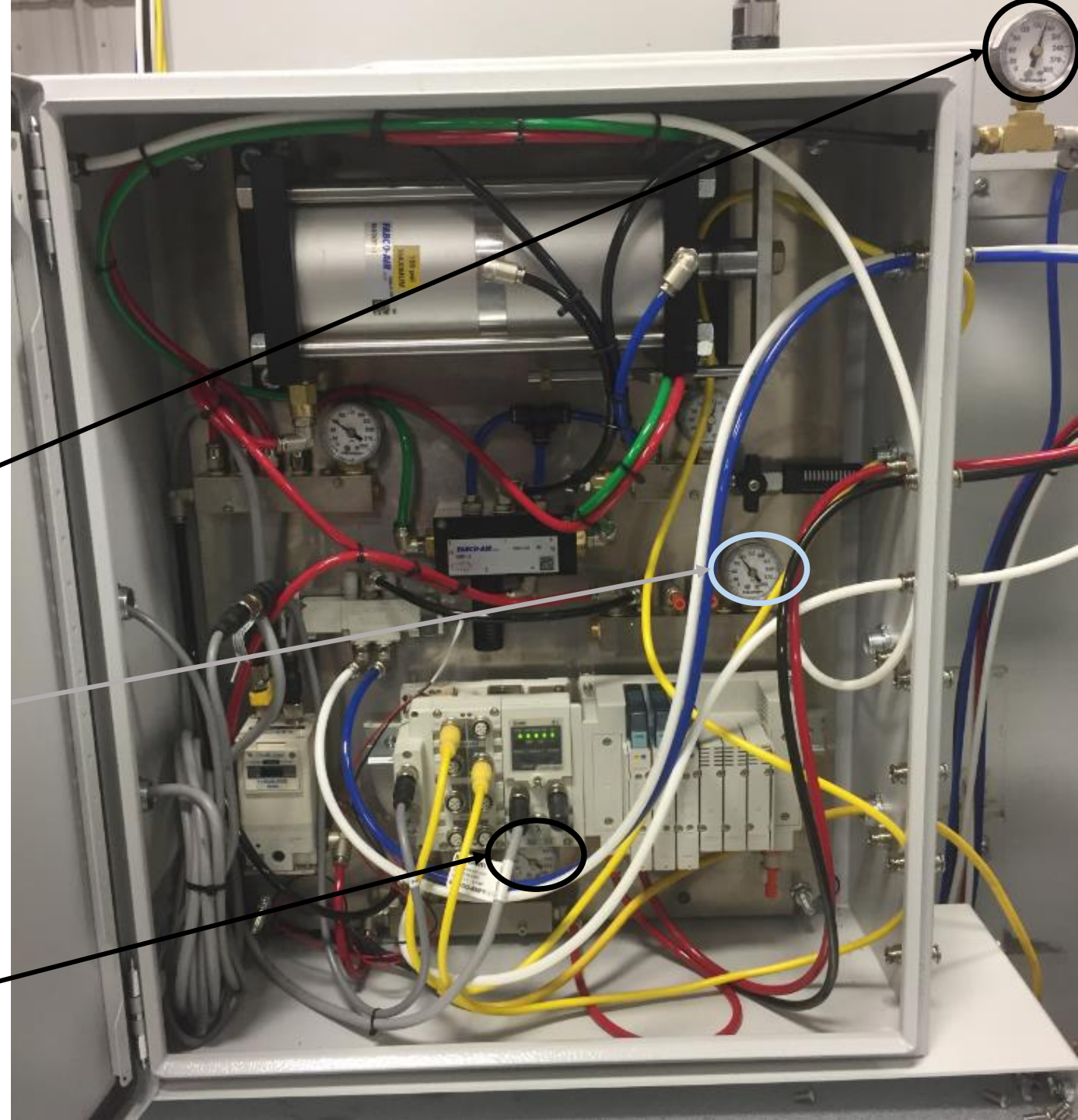
On the right, the "Recovery" panel shows a 3D coordinate system for the "Arm" with axes labeled +Z, -Y, +X, -X, +Y, and -Z. Below the coordinate system are several control panels: "Wrist" (with circular arrows), "Gripper" (with a hand icon), "Wash" (with a showerhead icon), "Door" (with a door icon), "Vise 1", and "Vise 2". Each vise panel contains a hand icon and a triangular button. The hand icon in the "Vise 1" panel is circled in grey, indicating the manual operation mode. At the bottom of the recovery panel, there is a "Movement" slider set to "0.25 in.".

Verify pressure setting

1. After setting pressure, open Air/Electrical panel & verify regulated pressure equals set point on VBX screen
2. Verify “Boosted” air pressure to vise is approximately 1.9 times the set-point/regulated pressure
3. Note: Regulated pressure cannot be greater than VBX supply pressure

Examples:

Regulated Pressure	Boosted Pressure	Vise Clamping Force
50 psi	95 psi	3272 lbf
75 psi	143 psi	4908 lbf
100 psi	190 psi	6544 lbf
110 psi	210 psi	7200 lbf



Boosted Pressure

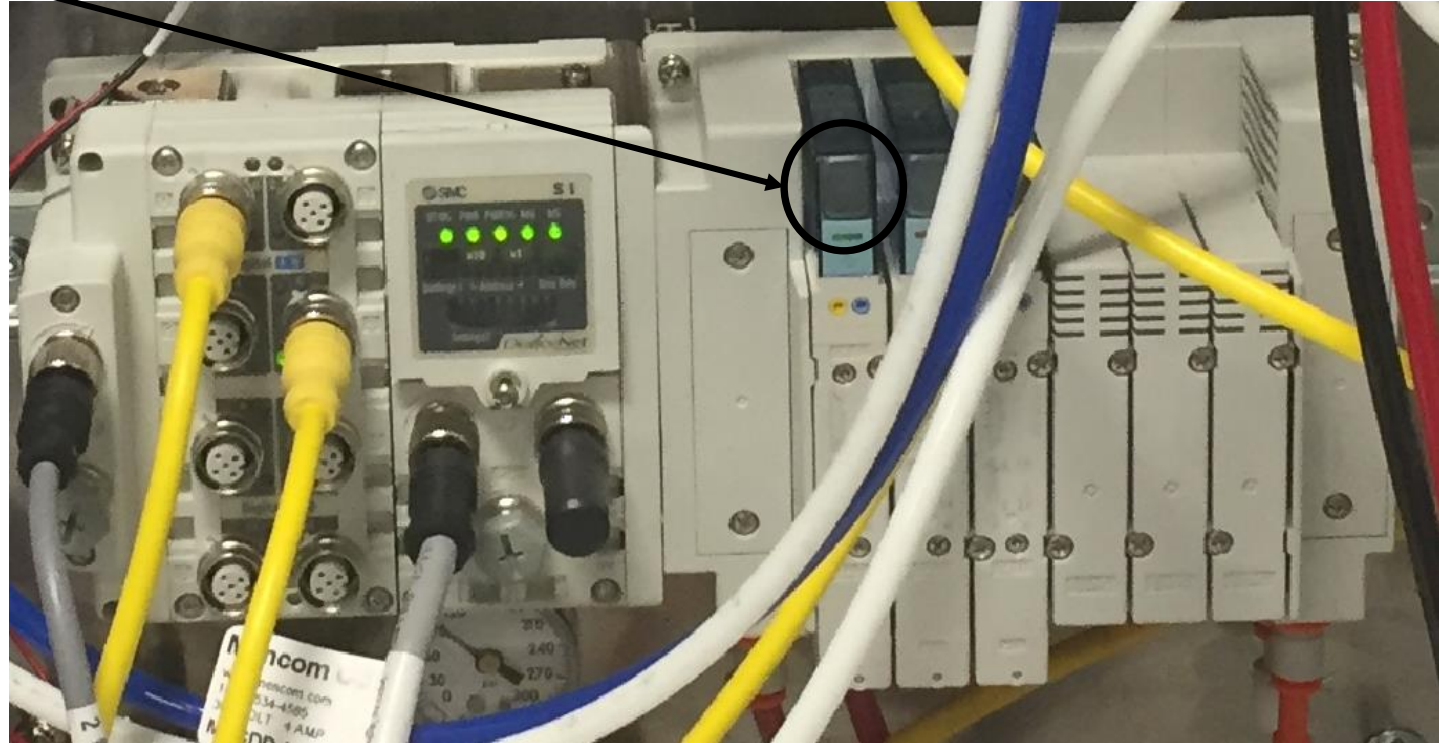
VBX Supply Pressure

Regulated Pressure

Verify vise is ready for manual operation

1. Check lights on Vise valve manifold
2. Lights on the top sections of each valve should be **OFF**

**Lights indicate either vise open or vise closed signals from VBX*



Verify Vise Movement

1. Using manual hand valve to the left of the MultiGrip vise, toggle open/close
2. Verify the “Boosted” pressure reaches 1.9x set-point pressure on each open/close (can take up-to 5 seconds to reach pressure)
3. Note: The manual valve has 3 positions: Vise Open, Vise Closed and closed center. When returning to robot operation, the manual valve must be placed in the closed center position

