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Installing the 6" Indexer for PRS Standard Tools

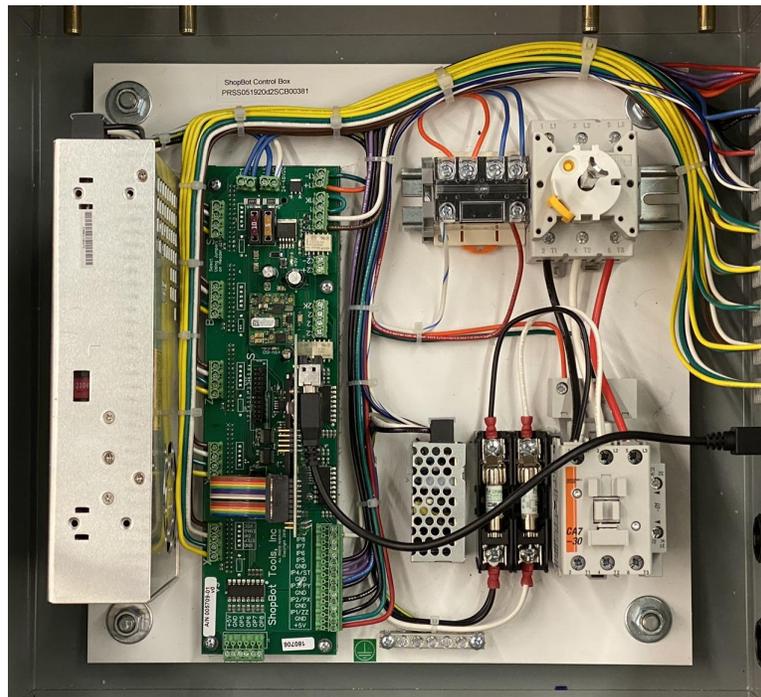


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Introduction

This document will cover the installation and set up of the 6" Indexer for PRS Standard tools that shipped with the G250x Standard control box (All tools after June 2020).

Installation

 **WARNING:** Disconnect electrical power to the PRS Standard Control Box prior to this step!

The motor driver that will power the motor on your indexer came pre-installed with your tool. It is located inside the control box on the far side of the tool shown below.



Figure 1: Standard Control Box mounted on 96x48 tool.



Figure 2: Close-up of mounted control box.

On the right side of the control box is an array of connectors; each connector is labelled according to the motor or device that should be plugged into that connector. The Indexer motor will be powered using the “ACC MOTOR” channel; 4th up from the bottom of the column of 4 pin connectors.

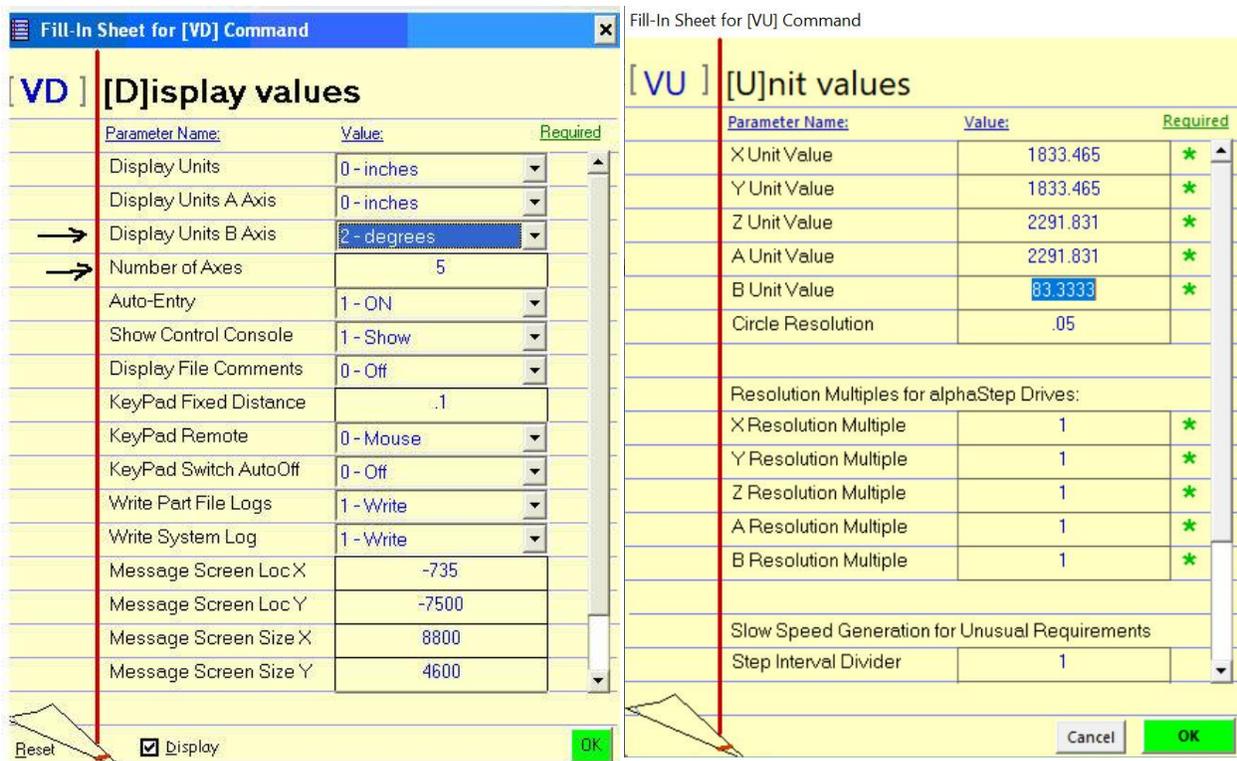
Plug the motor’s Wago connector into the ACC Motor connector and reconnect power to the machine. The electrical installation of the indexer is complete; next we will need to make some settings adjustments in the software.



Making Changes to Your ShopBot Software

There are just a couple of changes you need to make to your software settings before you are ready to use the indexer. Start by opening the control software and click to Values > Display Values on the top menu bar. A yellow fill-in sheet will appear, as shown in the picture below. Change Display units B axis to degrees, and change Number of Axes to 5. Then click OK at the bottom of this sheet to save your changes.

Next click to Values > Unit values. Change the B Axis Unit Value to 83.3333 (go to four decimal places). Do not make changes to any of the other values. Now click OK to save these changes.



Testing the Indexer

WARNING: Avoid rotating the motor with your hand when the power is off. Doing so can generate an electric charge which may damage the driver and/or control board.

Turn your Shopbot back on and switch your software to move/cut mode if you have not already done so.

You can move the indexer just like any other axis by giving it a move command. Type an MB command (for Move B Axis) into the command box, followed by a degree value. Degrees are absolute, meaning that they are all referenced from zero. For example, if the screen reads that you are currently at 10 degrees and you command the software to move to 15 degrees (type command MB 15), your total distance of travel will be 5 degrees.

Zeroing the Tool Before a Cut

Zeroing in B: If you are turning the stock to a finished shape, generally you won't need to zero the B axis before cutting. However, if you are using it to make cuts in a very specific location, rotate the axis using move commands until the desired face or point is pointing straight up (perpendicular to the table surface), then type a ZB command for Zero B Axis.

Zeroing in XY: As with any other cut file, you will need to zero the XY axis before beginning. You can use the C3 command to run the XY homing routine, and/or move the tool to the desired start location on the table and type a Z2 command to zero it in that location.

Zeroing in Z: You have the option of either zeroing to the center point, or the top of the material (outer diameter). Whichever location you choose, make sure that your chosen z-zero setting in the software matches what you do at the machine.

If you zero to the center point, you will need to move the Z axis to that point using the keypad. First use the arrow keys to get it close, then click the button marked "Fixed" within the keypad move window. This will allow you to move the axis in very small increments. Enter a small value (such as .05) and continue to move the Z axis down until the bottom of the bit is on the same level as the centerpoint. Then exit the keypad and type a ZZ command to zero the Z axis in that location.

If you prefer to zero to the top of the material, you can use the z-zero plate as usual.