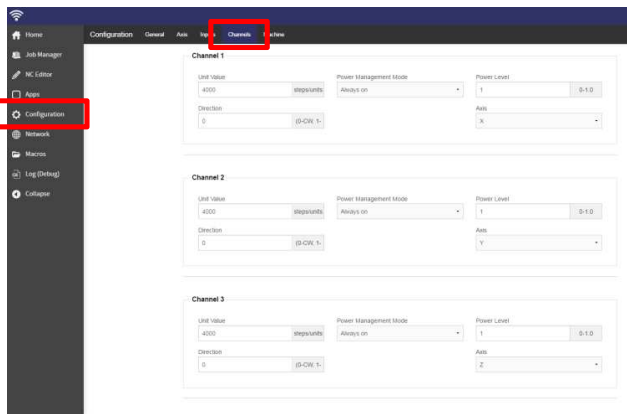


Swapping Driver Channels and Adjusting Unit Values

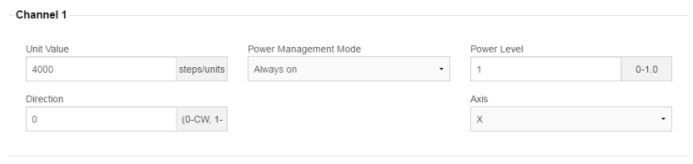
1 Your Handibot comes stock with four driver channels; x, y, z and one accessory channel. Occasionally you may want to switch which channel controls which motor



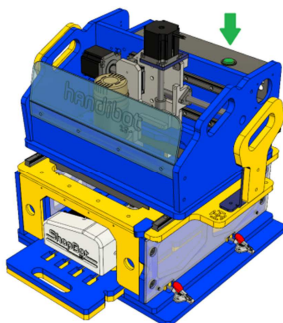
2 To access the driver channel assignments, open the configuration window in the FabMo interface and select “Channels”



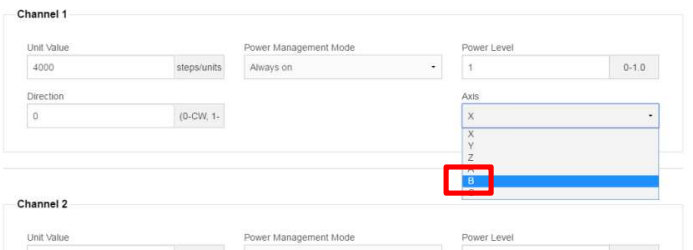
3 Each channel will have its settings listed. **Unit Value** determines how many steps the motor takes based on the move specified by the toolpath. **Axis** determines which motor the driver controls.



4 Say, for example, that the accessory driver is not working—but we want to cut a turned part on the rotary axis. The part is oriented along the Y axis. We would like to change moves in the X axis into rotational movement.

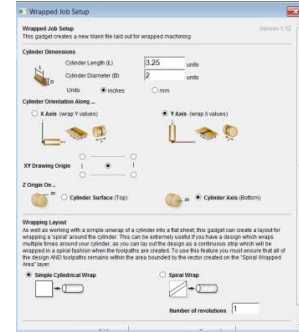


5 First, we'll switch Channel 1 over to B axis control.

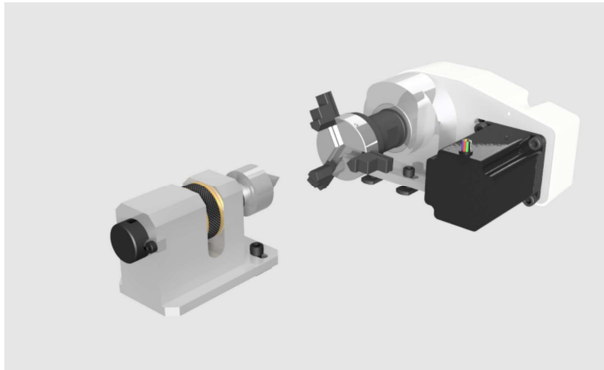


6 In the near future we will be able to switch the axis type from linear to rotary—which will make this swap more simple. In the meantime we will leave the axis in linear mode and compute the appropriate **Unit Value** based on our .crv file.

7 When setting up your wrapped job in vCarve, you will be asked to input a cylinder diameter for your material. Based on this value, vCarve will unwrap a 3D cylinder into a 2D work area of a specific size—the X dimension of this area will be the circumference of the cylinder.



8 The motor on your rotary axis makes 33.333 steps per degree of rotation. We need to translate that to steps per inch...



9 The number of inches per full rotation is the circumference of your cylinder or simply the X length of your work space. Take that number and divide it by 360 to get inches per degree.

For example:

A 2" diameter cylinder has a circumference of $\pi * 2 = 6.28$ "

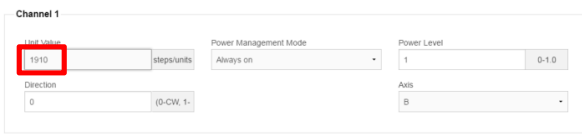
That comes out to $6.28 / 360 = 0.017$ inches/degree

Invert that— $1 / 0.017 = 57.3$ degrees/inch

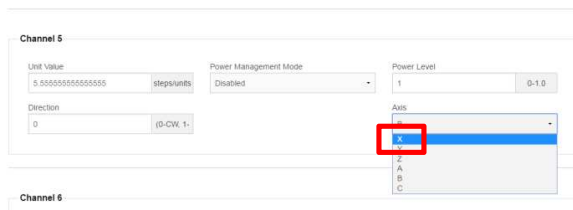
Multiply— 57.3 degrees/inch x 33.3 steps/degree

= 1910 steps/inch (Your new Unit Value for the rotary axis)

10 Input your new Unit Value for Channel 1.



And change Channel 5 over to "X"



11 When saving your toolpath out of vCarve—be sure to just use the regular "ShopBot TC INCH" post-processor, rather than the rotary axis processor that is normally used.

Again, this is only a temporary work-around until full rotary support is available in FabMo. That update should be available within a couple of weeks.