

Manually Setting X and Y Zero Locations

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The Easy Way

To use this method, set up the positions of the X and Y hard stops and proximity targets as covered in the proximity installation documents.

The software will pick the 0,0 location. After running this routine, mark the 0,0 location on the spoil board for reference. To put the Z zero location at a different point, it will be necessary to use the manual method outlined later in this document.



Under the SB3 full mode, go to "Tools" and "Shop-Bot Setup" or type TS.

Understand the information	in the	рор	up	screen	before	con-
tinuing to the next screen.						

ShopBot Setup (First Step)	
To help you get up and running quickly this program wil about your Shopbot and prompt you to fill in some mea information to customize your my_variables.sbc file.	ask you some questions surements it will use this
Your my_variable.sbc file contains all kinds of informati- particular tool, like prox switch offsets and Z-zero plate used to fill in the inputs in this Setup program, so you o of sorts to change the values of any of those settings. Ihem manually you can find your my, variables.sbc file SBPARTS folder and edit it with the ShopBot editor or is CAUTION. If you manually change your my_variables fit alues be VERY careful to keep the formats and data ty alues can cause lots of troublef!! Click the Next button to get started.	on that's specific to your thickness. Those values are an use it as an easy editor fyou would rather change in the CUSTOM folder in your my other text editor. ^{III} e by directly typing in new pes the samea mis-typed
and the repair solution to get solution.	
<previous step<="" td=""><td>Next></td></previous>	Next>



ShopBot Setup (Tool Settings)	
This step is to help confirm the correct settings file was selected when you installed Shopbots control software.	
Accroding to the settings file you have selected you have a.	
What units will you be using for your Inchesting this setup program? This doen't have to be the units that you'll usually work Inchesting the units that you're using NOW	Make sure the top section has the correct tool settings. Un-
What's the size of your ShopBot table top, and the Z-axis movement? These numbers can be changed in SB3 Values menu then limits [VL] command. X-axis 96.5 Z-axis 48.5	der accessories, check all of the proximity switches to acti- vate them for use (machine may not have the same settings as shown here). Once settings are correct, continue to the next screen.
Do you have any of the following accessories? I have a z-axis zeroing plate and want to setup the Z_zero routine I have prox switches and want to setup the XY_zeroing routine	
V I haveZ Prox Switch	
I have 2 cutting heads2 routersor the ShopBot drill head	ShopBot Setup (Z Zero Plate)
I have an Automatic Tool Changer (ATC) <previous step<="" td=""> Next></previous>	Now let's get down to the real work. The first step is to set up a Z-axis zeroing program. It's done by connecting a flat metal plate to one of the input switch connections in your control box, and then running the C2 custom cut to run a z-zeroing routine.
	First, though, you'll need togive us some values.
	The ACTUAL thickness of the contact plate that you'll be using. Measure carefullyyour zeroing will only be as accurate as this measurement.
nis screen can be skipped for now, as	The input switch number that your zeroing plate is connected to. Most people connect it to input #1, but if you have some other accessory that's connected to input #1 that could cause interference you might want to use a different input.
esired.	back to it later if if you prefer you can pick a location on the table that the tool ALWAYS goes to when you run your Z-zero routine. I can give a more consistent result from your Z-zeroing routine but can be a problem if you do a tool of bit changes and don't want to move back each time you re-zero.
ShopBot Setup (Prox Switches)	Yes, I want to always zero my Z axis at the same place on my table
ou can put down your measuring tools for a few if you wantwe can automate this tep for you. If you have a PRS tool make sure that the X-axis prox switch is onnected to input #2 and the Y axis prox switch is connected to input #3, or if you ave a PRT tool make sure that you have both prox switches connected to the #3 put switch. Then click the "Make it easy on me" button below. If you would prefer to do it manually, just check the "like doing things the hard ay" button and fill in the offset values in the boxes below.	<previous next="" step=""></previous>
How do you want to setup your prox switches and XY zeroing routine?	
Make it easy on meset up my prox switches automatically Like doing things the hard way. It fill in the values below using	
the instructions that came with my prox switches.	
Click Here To Make It Easy On Me	
Eill in these values if you want to set up your prox switches manually The distance between your 0.0 point and the X-axis prox switch contact point.	This screen will set the zero location to the proximity switches. Click the "Click Here To Make It Easy On Me
The distance between your 0,0 point and the Y-axis prox switch contact point.	button to start the zeroing process.
<previous step<="" td=""><td></td></previous>	





This screen will prompt the operator to put the spindle or router at the desired 0,0 location. Once completed, run the routine. This will determine the distance that point is from the proximity switches to allow for an easy return to that point.

The Manual Way

To use the X,Y zeroing routine (C3 or the zeroing icon) in a custom location, the values for the routine must be set.

Set the desired 0,0 location

Insert a V bit into the collet to easily visualize where the X,Y location is.

Use the keypad control (K) to move the tip of the bit to the 0,0 location. Move the Z down close enough to the spoil board surface to accurately see the location on the spoil board - but not so close to drag the bit across the top of the material.

To make small adjustments, click on the "Fixed" key in keypad control and edit the increments so that each bump of an arrow will move the axis the defined distance. Increments are adjusted by changing the value in the box that appears when clicking on the fixed key. Click on the fixed key again or use "Esc" to resume normal motion.

When the tip of the bit is at the desired location, zero the X and Y axis there by using the blue "Zero Axes" button on the Keypad screen, or escaping from keypad control and using Z2. Note that the red position screen indicates 0,0 in both X and Y.

Determine the distance between the 0,0 location and the limit/proximity switches

Using keypad control, hold the left arrow button down until the X-axis runs into the limit switch. Once it has stopped, do not press the left arrow button down again, or the X-axis will continue past the limit switch.

Write down the value of the X-axis shown on the position screen. It should be a negative number.

Press on the right arrow button to move the X-axis off of the limit switch. Return the X-axis to 0 by typing 0 in the X-axis box on the Keypad control, and clicking on "GO TO".

Use keypad control and hold the down arrow button down until the Y-axis runs into the limit switch.

Write down the value of the Y-axis on the position screen. It should be a negative number.

Press on the up arrow button to move the Y-axis off of the limit switch. Return the Y-axis to 0 by typing 0 in the Y-axis box on the Keypad control, and clicking on "GO TO".

The 0,0 should be the current position of the machine, and should display 0 for both X and Y. If this is correct, continue to the next step. If not, start this section over.

It should be necessary to only do this once until the spoil board is changed or the location of the target bolts get moved.

In case these numbers are needed again, keep a record of the values in a location that's easy to find. This will enable consistency in tool setup for jigs, as well as other time saving measures.

Use ShopBot setup to enter values into the X,Y zeroing routine

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have selected you have a.				
What units will you be using for your mea	surements	• Inches		
uring this setup program? This doen't hav nits that you'll usually work in, but just the ou're using NOW	e to be the units that	o mm		
What's the size of your ShopBot table top	X-axis	48.5		
can be changed in SB3 Values menu the	n Y-axis	24.5		
inte (VL) commune.	Z-axis	8		
Do you have any of the following access I have a z-axis zeroing plate and wan I have prox switches and want to set	iories? It to setup the Z_ up the XY_zeroi	zero routini ng routine		
I have 2 cutting beads 2 couters or	the ShoeBot drill	head		
There a sentry newsel	C)			
Thave an Automatic Tool Changer (AT				

Enter "TS" from the menu to open the ShopBot tool setup screen.

Page through the screens by clicking on Next until the screen appears to enter the desired values.

This screen shows that the size of the new configuration has been recorded by the control software.

This is the screen where the values will be entered from the previous page (remember that they should be negative).

The ShopBot software can also determine the distance between the 0,0 location and the limit/proximity switches. Click on that option from this screen.

Start with the tip of the bit at the correct 0,0 location.

After pressing the "I'm Done" button on the next screen, the XY homing routine can be run by entering C3 or using the icon.

u can put down your measuring bools for a few if comate this step for you. If you have a PRE tool me fitch is connected to input #2 and the Y axis prox. or if you have a PRE tool make sure that you have nected to the #3 input switch. Then click the "Mai box. you would prefer to do it manually, just check the you would prefer to do it manually, just check the box.	you wantwe can ike sure that the X-axis prox wwitch is connected to input e both prox switches is it easy on me" button "I like doing things the hard below.
How do you want to selup your prox switches a Make it easy on me_set up my prox switches it like doing mings the hard wayIt is in the using the instructions that came with my pro-	nd XY zeroing routine? is automatically values below x switches
Click Here To Make It Easy Or	i Ve
Fill in these values if you want to set up your pro-	switches manually
The distance between your 0,0 point and the X-axis prex switch contact point.	3.549
The distance between your 0,0 point and the Y-axis prox switch contact point.	•.585
The distance between your 0,0 point and the Y-axis prox switch contact point.	- 585
	Next