

Adding a Z-Zero Plate: Handibot



Before you start

RISK OF ELECTRIC SHOCK: Unplug the power to your Handibot before you start. Failure to do this can result in electric shock and/or damage to your ShopBot.

Tools you'll need:

- 4mm hex wrench
- Small Phillips-head screwdriver suitable for electronics

Move the X-Axis away from access bolts



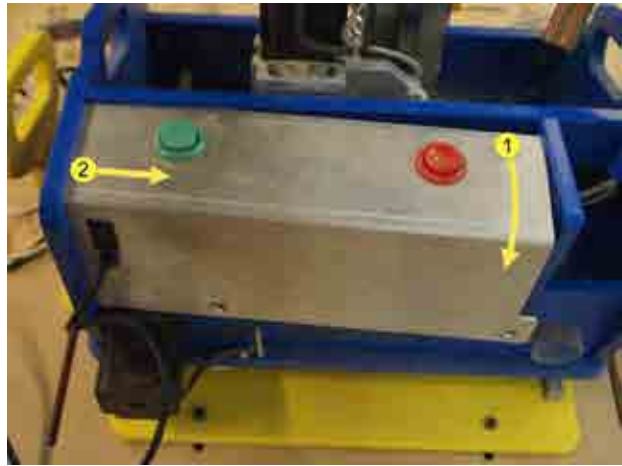
With power off, manually push the X-axis to the right of the tool. For easier access, it may be helpful to remove the clear debris shield on the front of the tool. Two bolts for the electronics enclosure bulkhead are located near the X-axis motor. Use the 4mm hex key to remove these bolts.

Remove rear access bolts

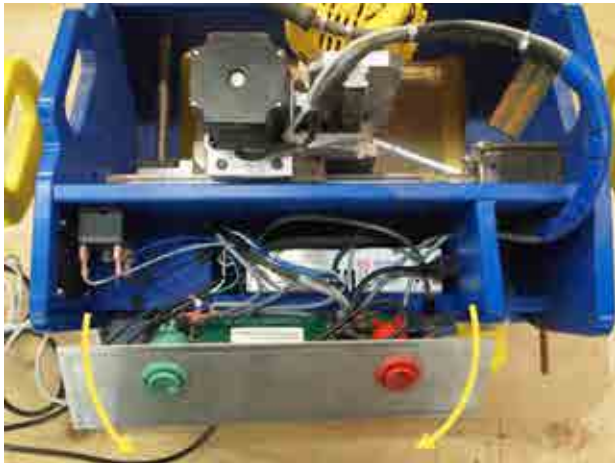


Three bolts on the reverse side of the tool that must be removed. Remove the two bolts from the electronics enclosure cover. The remaining electronics enclosure bulkhead bolt is next to the vacuum port.

Remove electronics enclosure cover



Push the electronics enclosure bulkhead to the side until the cover is released from the slot. Pull the right side of the enclosure out and to the right.



Once the enclosure cover is released from the slots rotated the top away from the Handibot. Be careful not to excessively strain any wires. This exposes the control card, control board, powers supply and other components critical to Handibot operation.

Install the Z – Zero plate wires



Route the z-zero plate and alligator clip wires through the electronics enclosure bulkhead port.



Find the input terminal on the control board. It will already have wires in inputs 2, 3, and 4 as well as the ground position. The Z – zero plate and alligator clip should create a simple circuit between input 1 and ground. Use a small Philips-head screw driver to loosen the ground and input 1 screws. Insert the alligator clip wire into the ground position. Note that this position is already quite crowded. The Z - zero plate wire goes in the input 1 position. Snug the terminal screws and check that the wires are secure.

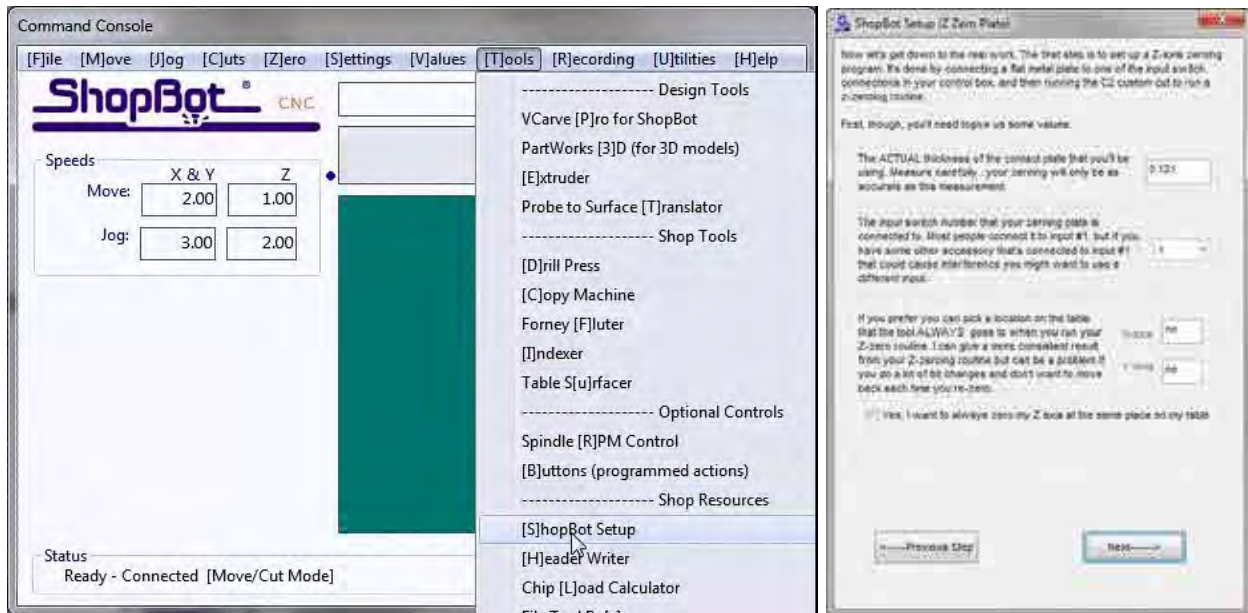
Replace the electronics enclosure cover



Carefully rotate the electronics enclosure cover back into position being sure to tuck all wires into position. Insert the left side of the plate into the slot on the Handibot body. Check again for any protruding wires, and then slide the right side of the cover past the enclosure bulkhead. Push the bulkhead slot over the cover. Replace the 5 bolts with a 4mm hex wrench.

Connect the tool to the operation computer and power it up. Check Handibot function by completing the X/Y zeroing routine. You're ready to conduct the Z zeroing routine using the Z-zero plate.

Setting Up the Z-Zero Plate



The Z-zero routine uses a variable for the thickness of the Z-Zero plate. This is predefined for the factory plate at 0.121 inches. If you have a different plate, you'll need to program a different value. To change this go into ShopBot Setup. This is accessed through the Easy mode Help button or the Tools tab in the Command Console. Step through the ShopBot Setup process being sure to check "I have a z-axis zeroing plate and want to setup the Z_zero routine." Change the default value of 0.121 inches to the actual thickness of your Z-zero plate. Click Next to complete ShopBot Setup.

Running the Z-Zero Routine



The Z-zero routine can be run from the Cuts menu as Custom Cut 2. There is also a shortcut button for this on the Position window. Selecting either of these will start the routine.



The program will prompt you to place the clip and plate. Fasten the alligator clip to the router collet and position the plate below the bit. It is good practice to check the connection first by touching the tip of the bit with the plate. This should cause Input 1 to light up in the position window. Once in position, click OK and the routine will run. The bit should go down to touch the plate, stop, raise, and then complete a slow confirmation touch. The Z-axis is now zeroed. Be sure to put the clip and plate away before starting a file.