



Create a Part - Section 3: Run the Partfile

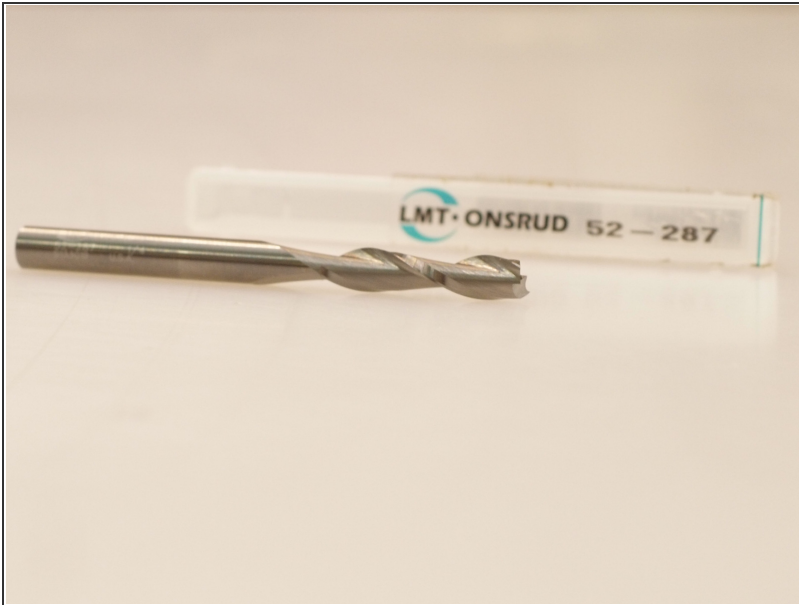
Now that you've drawn, edited, and saved your toolpaths, it's time to put the Handibot to work. This guide will cover safely and accurately cutting the bit holder we worked on earlier.

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TOOLS:

- [Handibot Tool](#) (1)
 - [Computer Running ShopBot 3 software](#) (1)
 - [12"x12"x3/4" piece of wood, plywood, or mdf](#) (1)
 - [1/4" 2 flute Upcut bit](#) (1)
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Step 1 — Gather Materials in a Suitable Workspace



- ⚠ Make sure that you have read and understand the safety and operator's manuals before using the Handibot.
- ⚠ Always work in on a clean, well lit, and well ventilated work space.
- ⚠ Ensure the work surface is stable, free of obstructions, and at a level that provides secure manipulation of the Handibot.
- For this project you'll need the following tools: the Handibot, a computer configured to run the tool, a 1/4 inch bit, the router collet wrench.
- The material that will be cut should be a 3/4" thick piece of wood, plywood, or MDF. It should have minimum dimensions of 12"x12" to ensure adequate tool stability.
- A small wet/dry vacuum is a helpful accessory for dust collection.

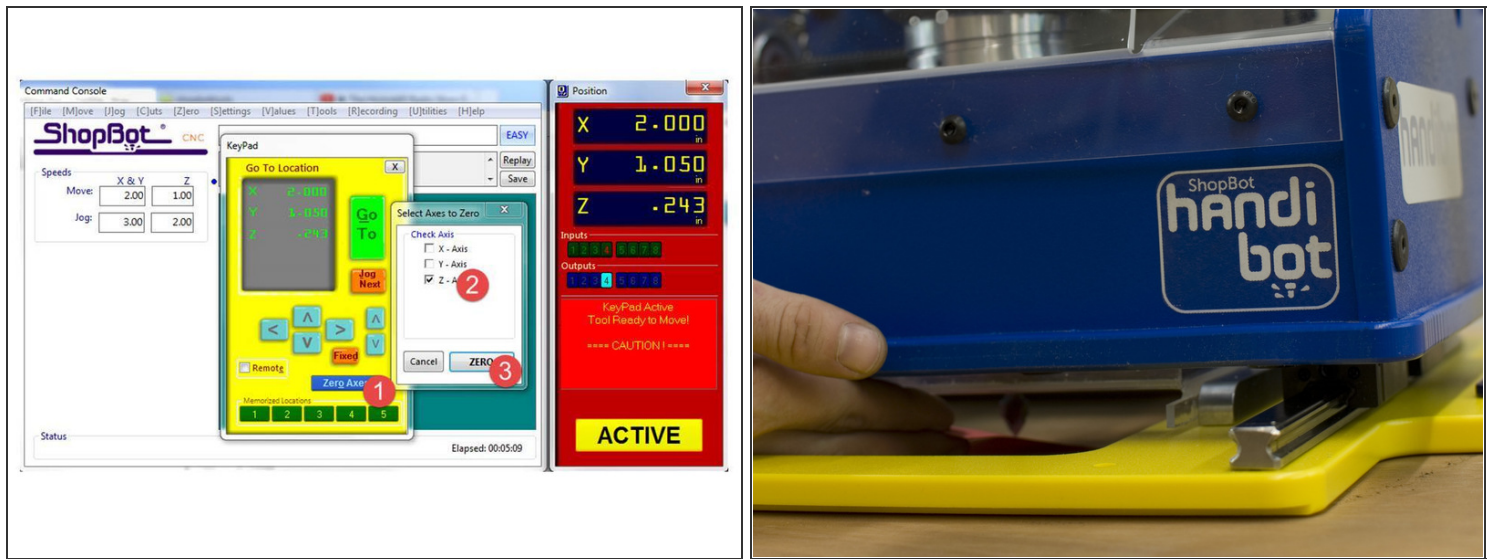
Step 2 — Insert 1/4" end mil into the Collet



⚠ Before inserting or changing a router bit, turn off the power switch at the top of the router.

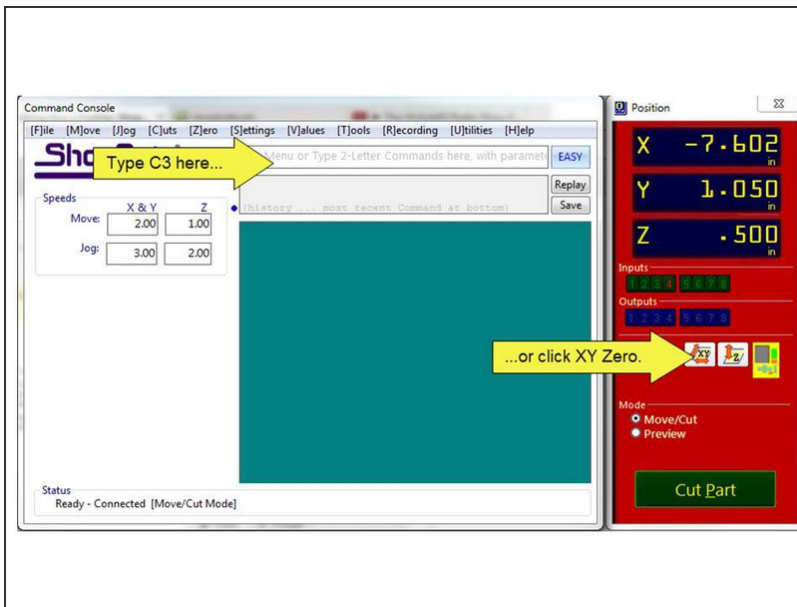
- Use the keypad to move the router to the center of the work area so you can reach the yellow spindle lock button. Carefully move the Z down so that the base of the router is just above the clear dust shield.
- Flip the Handibot over using the inboard carrying handles so that the base plate is facing you.
- You may need to loosen the collet nut before inserting a bit. Hold down the spindle lock (the yellow button shown here) and use the included collet wrench to loosen the nut.
- Insert the shank of the 1/4" end mill into the collet. All of the cutting area of the bit should be visible outside of the collet.
- Hold down the spindle lock button and tighten the collet nut. Do not use excessive force when tightening the collet nut.
- Use the keypad to move the router bit up above the base plate before flipping the Handibot back onto its base. Flipping the Handibot before moving the Z-axis up risks damaging the bit.

Step 3 — Zero the Z-axis



- Set the Handibot down anywhere on your material. Turn on the main power, connect to your computer, and open the SB3 software.
- Use the keypad to carefully lower the bit down onto the material, using the Z-axis zeroing method described in the starter guide.
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- Once the bit height is at the material surface, remember to type a ZZ command to zero the Z-axis in this position.

Step 4



- Zero the X and Y axes
- Type a C3 command to zero the X and Y axes using the proximity switches. The Z-axis will automatically rise to a safe height before moving.
- Alternatively, you can click on the XY Zero button in the Position window. This runs the C3 routine.

Step 5 — Register the Handibot to the material



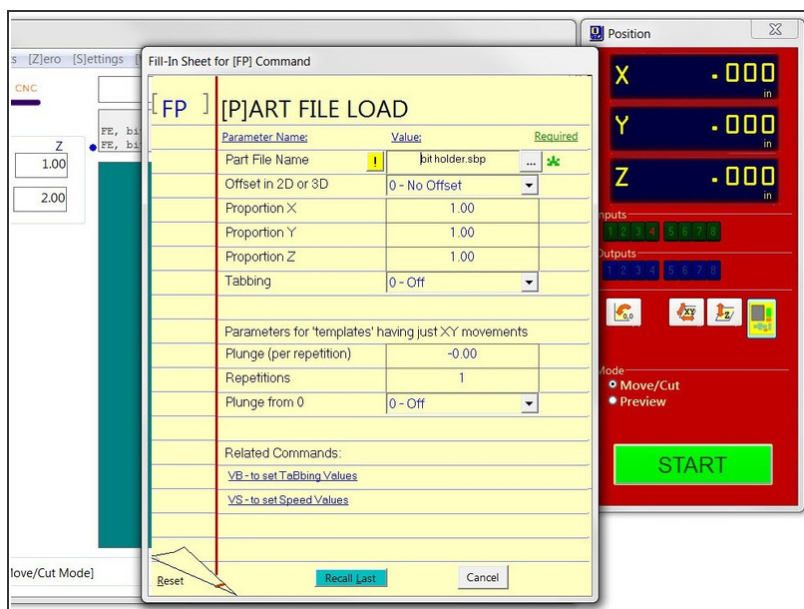
- If you are just cutting on scrap material, you can set the Handibot down anywhere just to make a test cut. However, it will be good practice to register the tool first.
- Registration techniques are methods of ensuring that the tool will cut in the position you want. This may be important if you have a specific size of material, for maximizing material usage, or if you will be doing multiple cuts that require a tool change.
- The simplest registration method is to square your material with the front left corner of the Handibot baseplate. Position your Handibot over your material so that the front and left edges are flush.



Step 6 — Start dust collection system



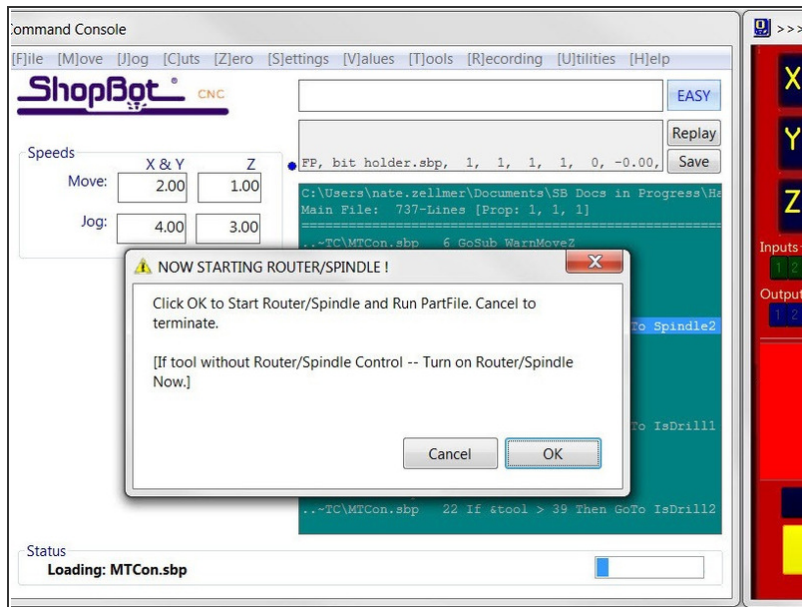
- Plug a hose from a small wet/dry vacuum or dedicated dust collection system into the port on the back of the Handibot.
- Start the dust collection device before beginning the part file.

Step 7 — Load Bit Holder part file



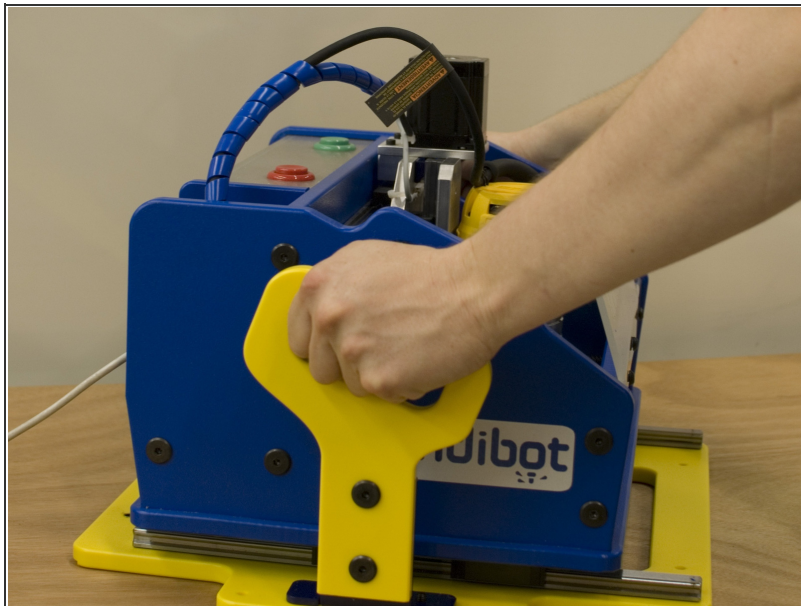
- Load the cut file by clicking File > Load Part File. Clicking on the green **Cut Part** button in the position window does the same thing.
- Navigate to the folder where you saved the bit holder file. In the former tutorial the path was **Handibot Projects > Handibot Bit Holder**.
- Find the ShopBot part file you saved earlier. In the tutorial it's saved as **BitHolder.sbp**. Select this file and press **Open**.
- A fill-in sheet should appear with several options. Ensure that the part file name you chose is in the first window. Do not change any other settings.
-  Double check that the router On/Off switch is set to On. If you do not the router will not turn on when the tool starts moving.
-  Make sure that the cutting area is clear. Keep hands, cords, and stray material out of the cutting area.

Step 8 — Run the Bit Holder File



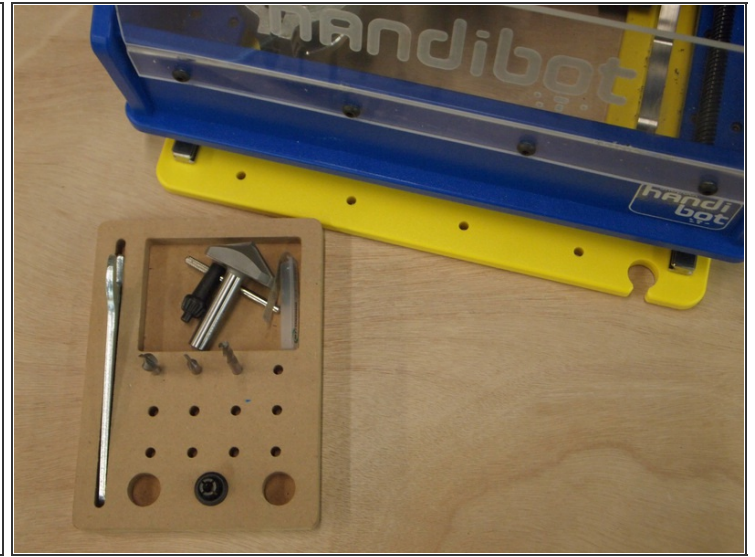
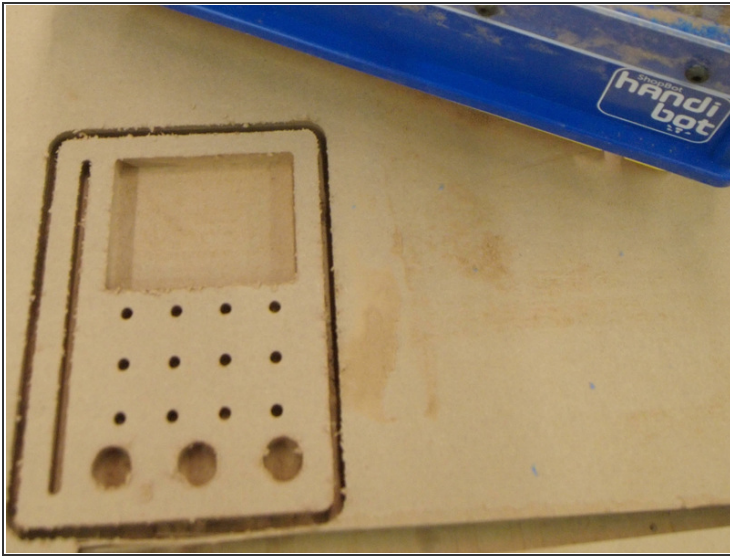
- Press the green START button in the red ShopBot position window.
- A prompt stating NOW STARTING ROUTER/SPINDLE will show.
- ⚠ Make one last check that the router is set to On and that all hands are free of the cutting area.
- Press then briefly hold the green start button on top of your tool. You may also click OK in the pop up window.

Step 9 — Cutting Operation



- The router will now start and the tool will begin to move. Hold the outboard handles throughout the cutting operation to prevent movement of the tool or material.
- After the part file is complete wait for the router to come to a complete stop before moving the Handibot.

Step 10 — Final Finishing



- Once the Handibot has come to a complete stop, verify that the bit is above the surface of the material.
- Remove the Handibot from the work piece using the carry handles.
- The part is held within the stock by small tabs left during the machining process.
- Use a utility knife to remove these tabs to separate the part from the stock.
- Clean up the edges and sand to your desired finish with fine grit sandpaper.
- Congratulations! You've finished that part and can use it to hold spare bits, collets, the wrench, and any other small parts you may need.

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