

# Shopbot Cutting using Aspire/ VCarve Toolpath

*Last updated April 11,2023*

## 1. Shopbot Machine Setup

- a. Put on eye protection. Bring ear protection with you.
- b. Find a teacher or partner to work with you when you operate the Shopbot.
- c. Verify with a teacher to see if the "Start of Day" routine has been completed.
- d. Measure the thickness of the material that you plan to cut.
- e. Close the doors.
- f. Start ShopBot Command Console
- g. Raise the Z-axis so the bit won't drag on the table (no higher than 4 inches)
- h. Use the proximity switch to set Calibrate X & Y AXISES. **(C3 keyboard command)**
- i. Move the tool to over the board **(J2 18,24)**
- j. **OPTIONAL** for using 'material surface' as zero
  - i. Calibrate Z AXIS on the table. **(C2 keyboard command)**
- k. Raise Z AXIS 3 inches using the **JZ 3** command
- l. With your instructor, attach material to the table.
- m. Raise Z AXIS 3 inches using the **JZ 3** command
- n. Set new X and Y Origins for your design
  - i. Raise the Z-axis so the bit won't drag on the table
  - ii. Using keyboard jog to the appropriate X and Y location. **(J2 X,Y)**
  - iii. Using keyboard to zero the appropriate X and Y Location. **(Z2)**
  - iv. You set origin.
- o. Select Cut

## 2. Start up Aspire and VCarve software

- a. Open your file
- b. Select objects you wish to cut
- c. Select Toolpath
- d. Pin Toolpath

## 3. Click on material setup

- a. Check Z - zero is on the bed, NOT the board
- b. Enter the thickness of the material \*
  - i. Model position material should be the same thickness as the material.
- c. Click OK.

## 4. Go to TOOL PATH OPERATIONS

- a. Select 2D Profile Toolpath
  - i. Under cutting depth, select the cut depth of the material (CLS tools).
  - ii. Select the proper tool -CLS down bit ¼
  - iii. Click add tabs and add tabs
  - iv. Hit CALCULATE.
- b. Preview toolpath
- c. Click on CLOSE
- d. Select SAVE TOOL PATH and save the file in a shopbot format

## 5. Conduct air cut

- a. Select FILE-LOAD
- b. Load the appropriate file
- c. We Select 1 3-D offset
- d. Press ENTER
- e. Turn on the spindle by pressing the big GREEN Button
- f. You should hear a "SOUND" of the spindle now turning
- g. Press ok
- h. After checking that everything is good; press space bar
- i. Select quit
- j. Return to origin (**J2 0,0**)

## 6. Perform cut

- a. Select FILE-LOAD
- b. Load the appropriate file
- c. Select **no offset** rather than 1 3-D offset
- d. Press enter
- e. Turn on the spindle by pressing the GREEN Button
- f. You should hear a "SOUND"
- g. Turn on the vacuum
- h. Press enter again to start cut

## 7. Cut is done

- a. Turn off vacuum (which is so loud you shouldn't forget)
- b. Use a hammer and chisel to remove tabs

## 8. Clean up after yourself

- a. Get a broom and sweep