

Gridfinity drawer baseplates

Make one with my
VCarve gadget

Brian Watt • Asmbly Makerspace



Today's workflow

01

Introduction

What Gridfinity is
and what the gadget
makes.

02

Content

Download, install, design,
preview and machine.

03

Conclusion

Review the result
and the next steps.

INTRODUCTION

One grid, many bin sizes

42 x 42 mm

Standard cell spacing

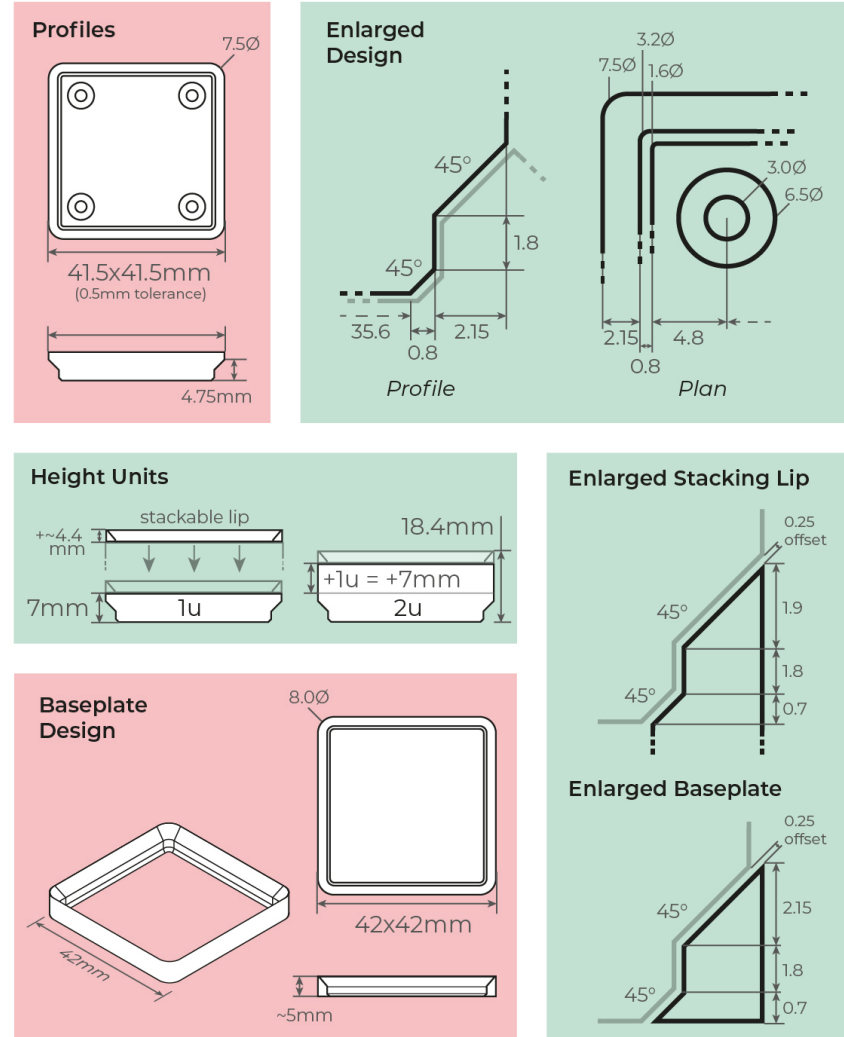
Bins can span several cells.
The baseplate locates them
in a repeatable arrangement.

Gridfinity: Zack Freedman
Reference graphic: @willtree8

Gridfinity Design Reference v5

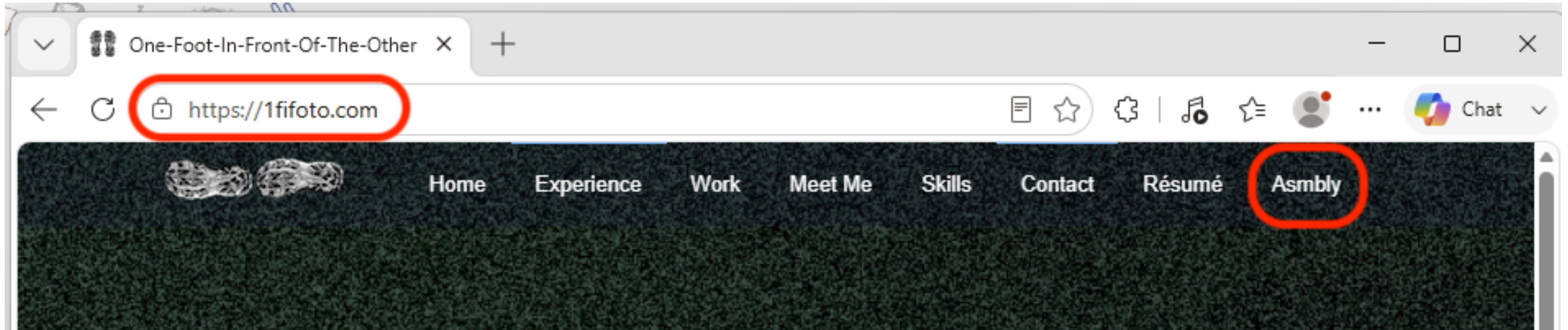
This document is intended as a reference tool for designing Gridfinity modules. It is based on and not intended as a replacement for Zack Freedman's original designs. Gridfinity is licensed CC BY-NC-SA and your projects should be licensed accordingly. Report issues to @willtree8#6831 on Discord or via github.

*all measurements in millimeters



Start at my website's Asmbly project page

Go to 1fifoto.com



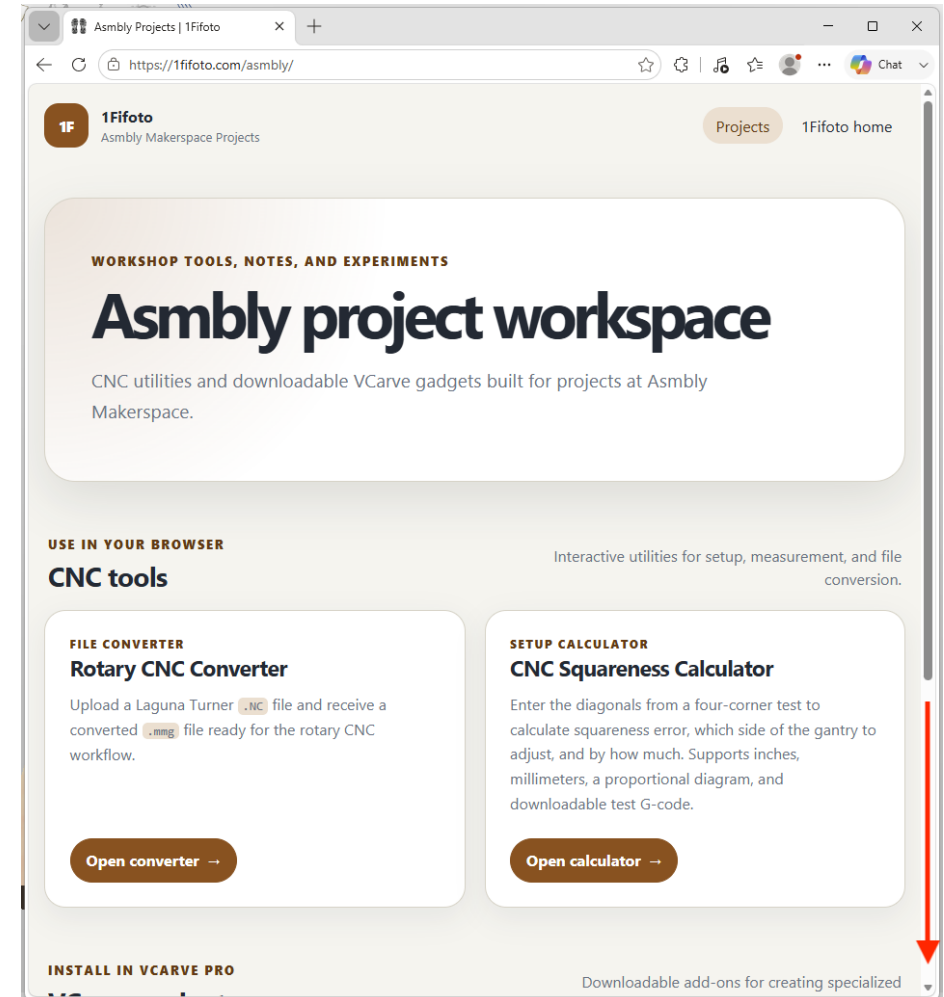
Click Asmbly in the top navigation.

Scroll to VCarve gadgets

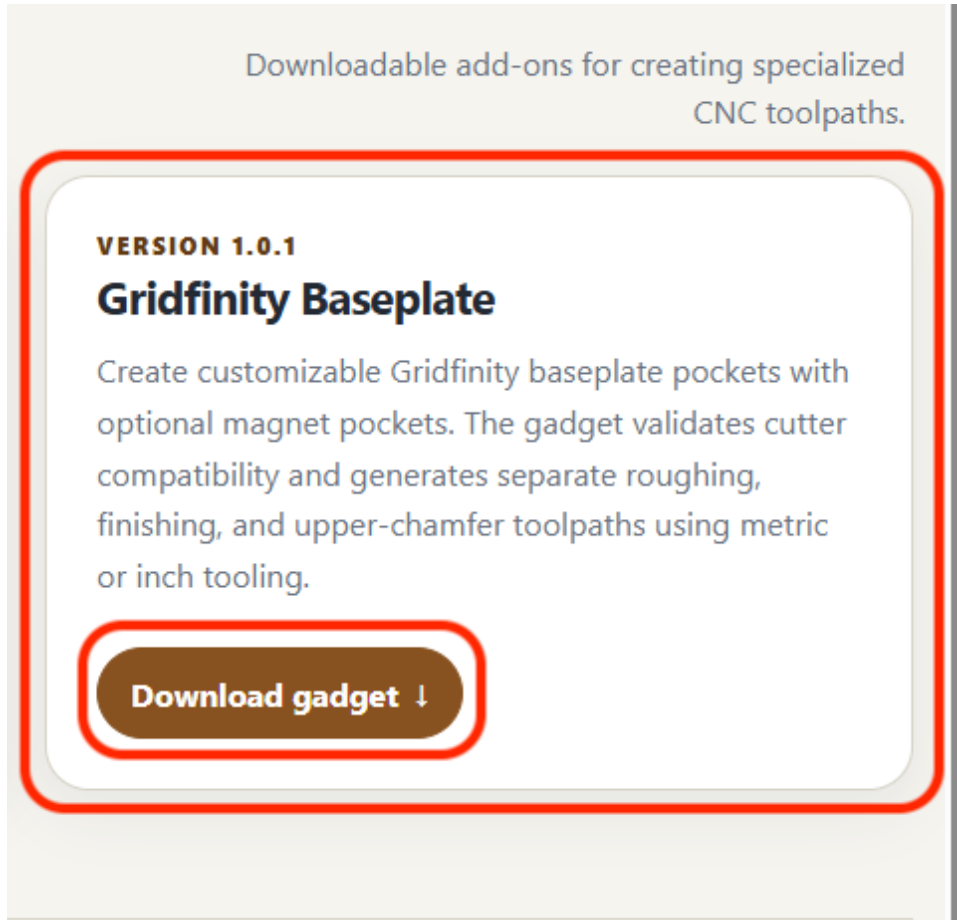
Asmbly project workspace

The page contains CNC tools and downloadable gadgets.

Scroll below the browser tools.

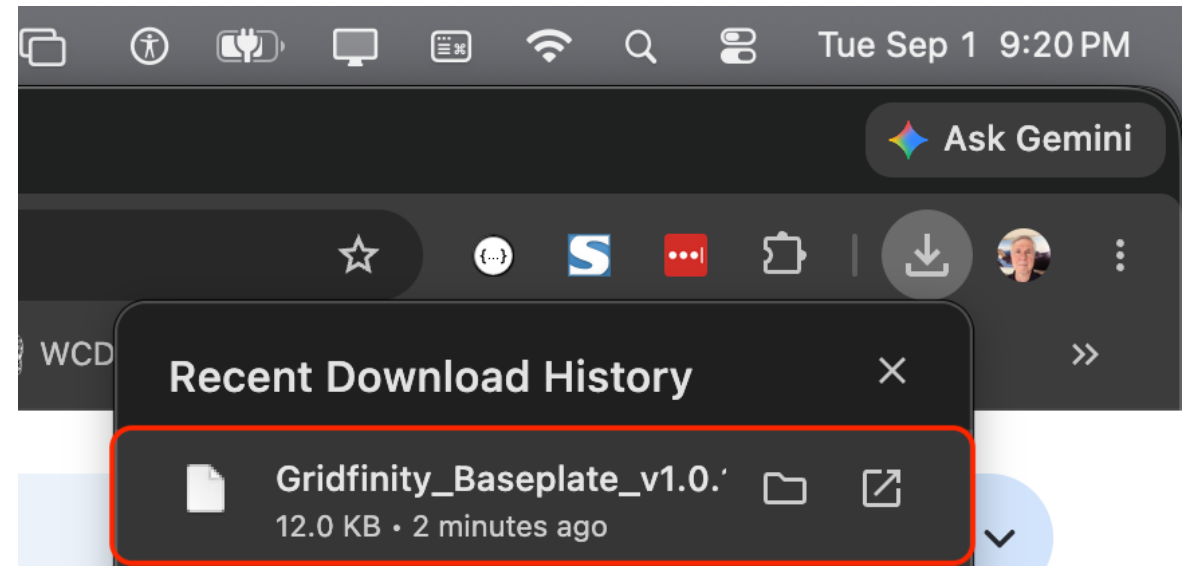


Download the .vgadget installer



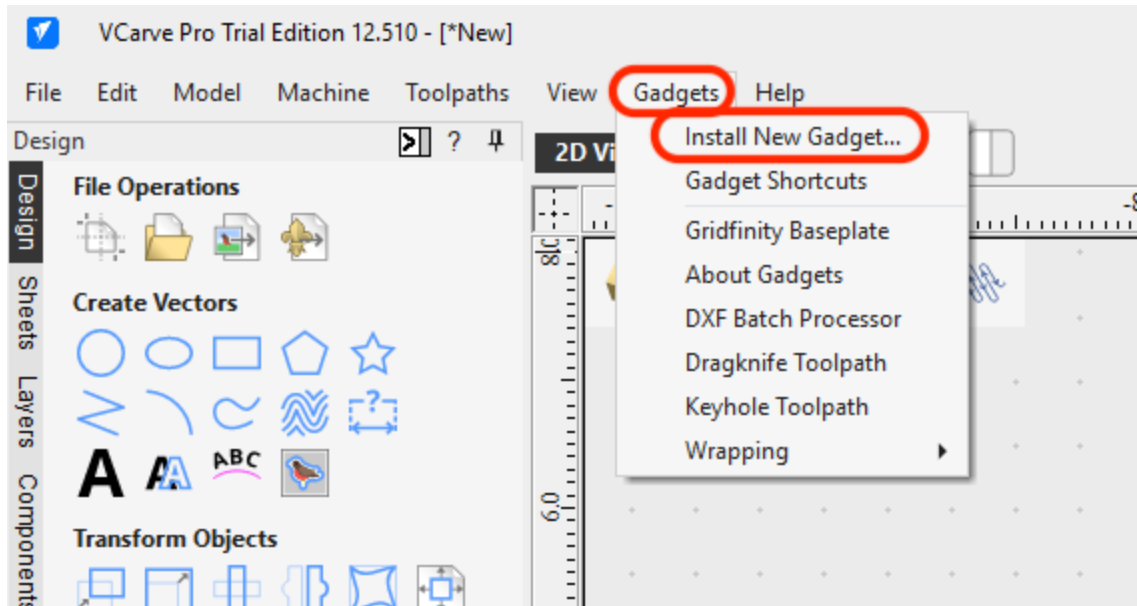
Choose Gridfinity Baseplate

Click Download gadget.



Install the gadget in VCarve

1 Open the installer



2 Select the downloaded file



Gadgets → Install New Gadget...

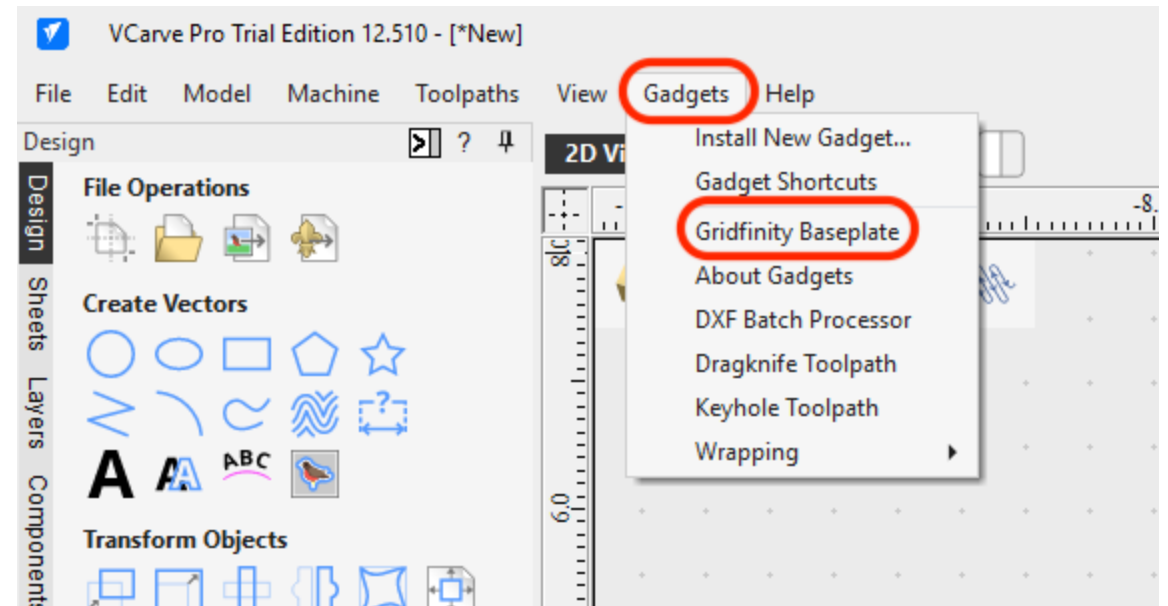
Prepare the job, then open the gadget

Set up the board

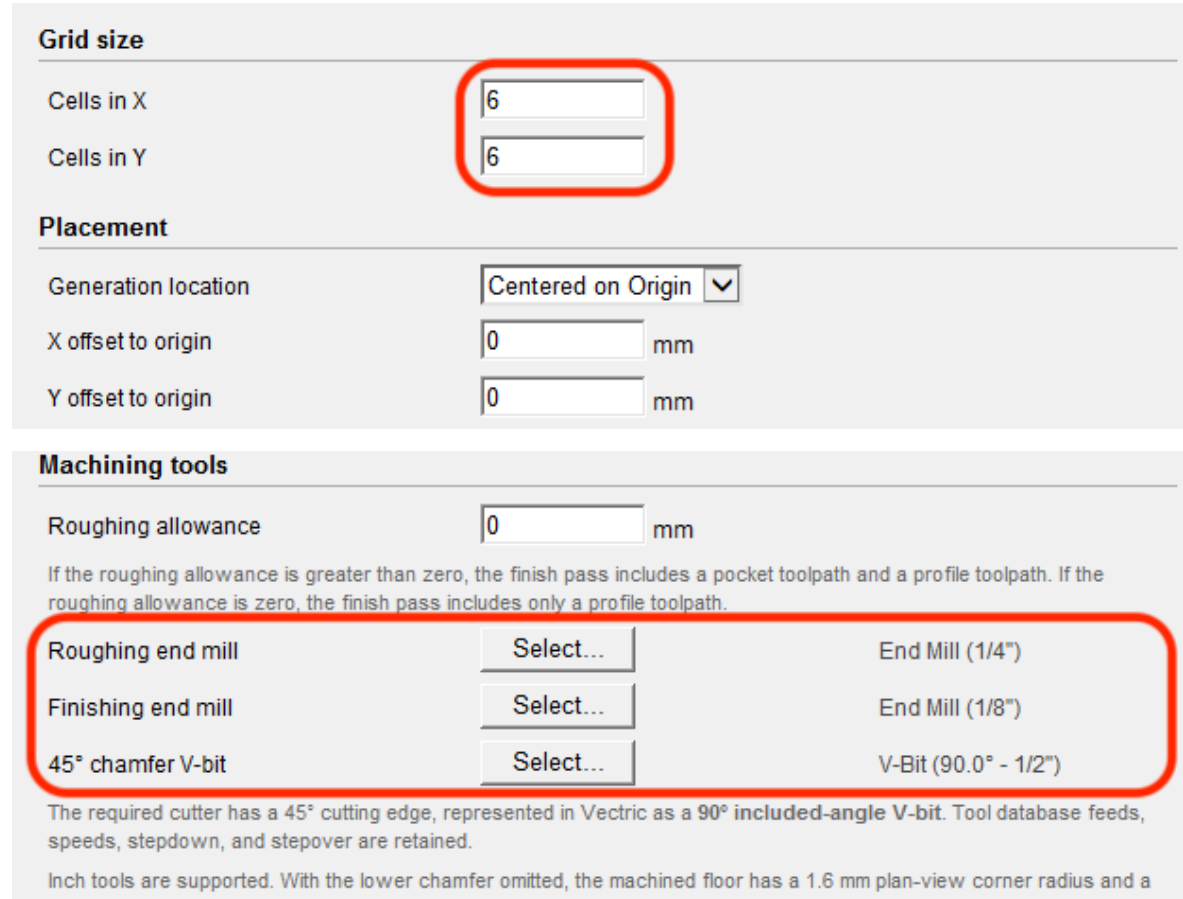
Use the actual board size and material thickness.

Set the origin

Choose a datum that matches your planned grid placement.



Set the grid and select three tools



Grid size

Cells in X: 6

Cells in Y: 6

Placement

Generation location: Centered on Origin

X offset to origin: 0 mm

Y offset to origin: 0 mm

Machining tools

Roughing allowance: 0 mm

If the roughing allowance is greater than zero, the finish pass includes a pocket toolpath and a profile toolpath. If the roughing allowance is zero, the finish pass includes only a profile toolpath.

Roughing end mill	Select...	End Mill (1/4")
Finishing end mill	Select...	End Mill (1/8")
45° chamfer V-bit	Select...	V-Bit (90.0° - 1/2")

The required cutter has a 45° cutting edge, represented in Vectric as a 90° included-angle V-bit. Tool database feeds, speeds, stepdown, and stepover are retained.

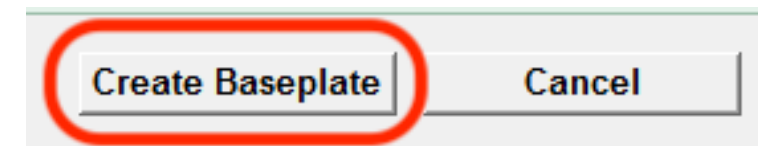
Inch tools are supported. With the lower chamfer omitted, the machined floor has a 1.6 mm plan-view corner radius and a

6 × 6 cells

252 × 252 mm grid
Centered on the origin

Example tools

1/4" roughing end mill - set feeds & speeds
1/8" finishing end mill - set feeds & speeds
90° V-bit - set feeds & speeds



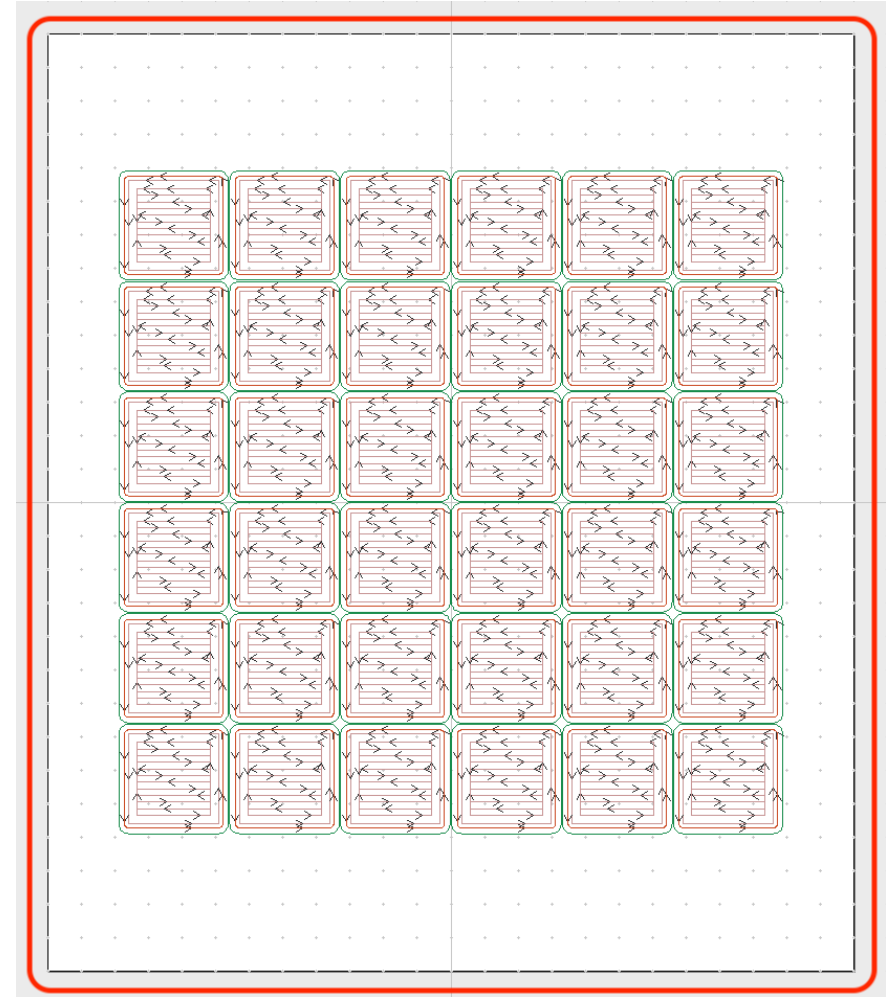
Create Baseplate Cancel

Check the grid on the board

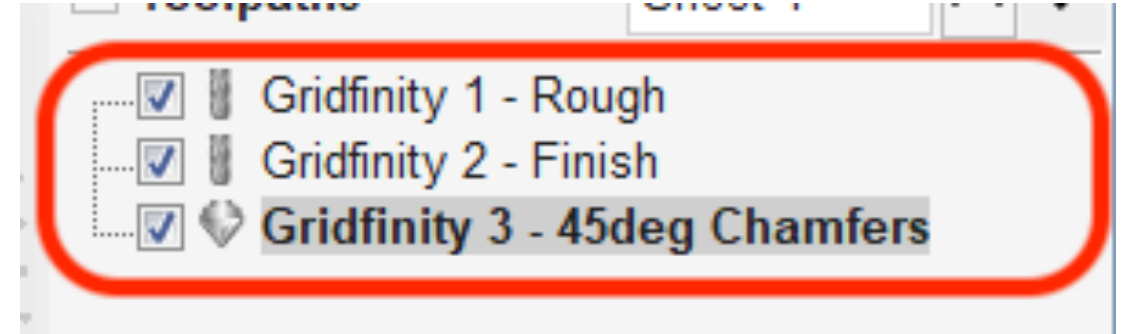
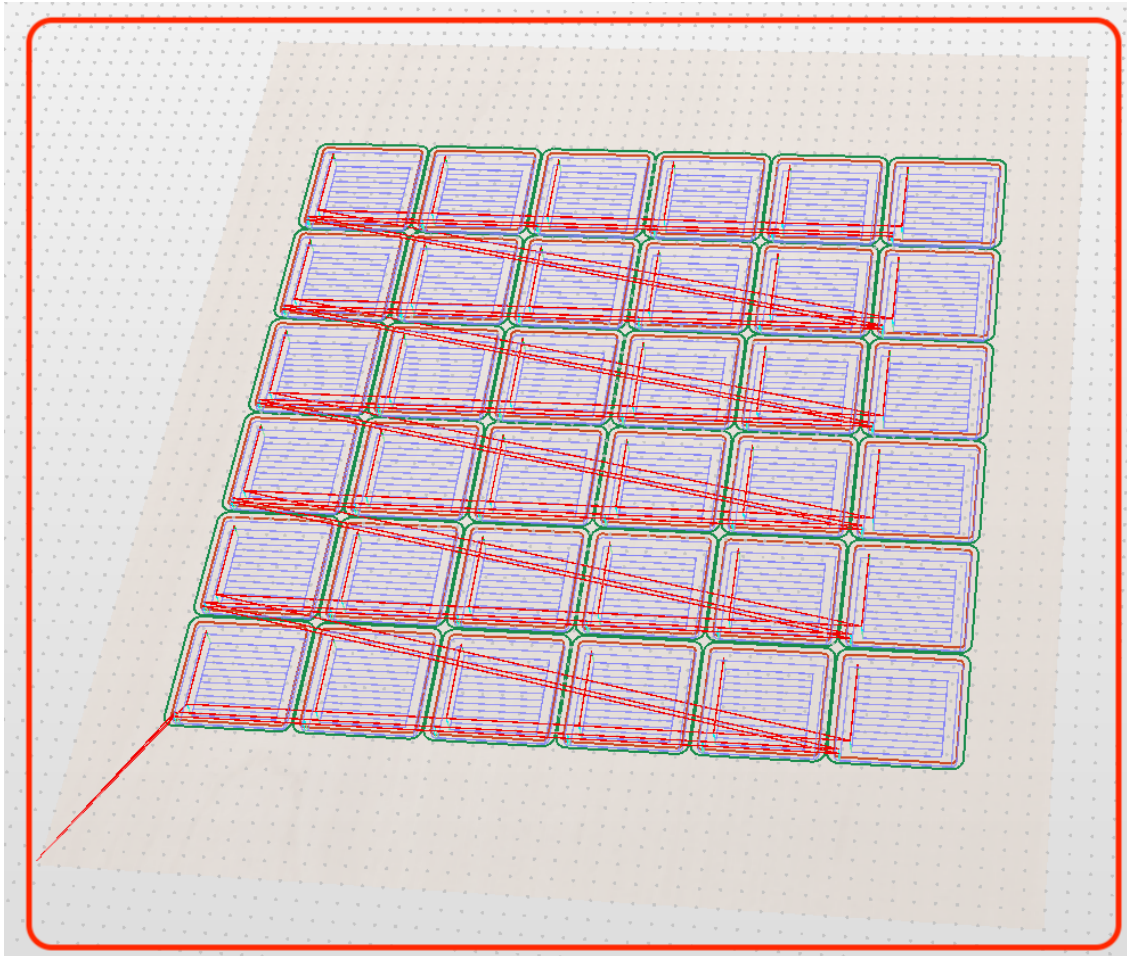
36 pockets

Six columns × six rows

Confirm the position,
board margins and
space for workholding.



The gadget creates three toolpaths



1 Rough

Clear the bulk of each pocket.

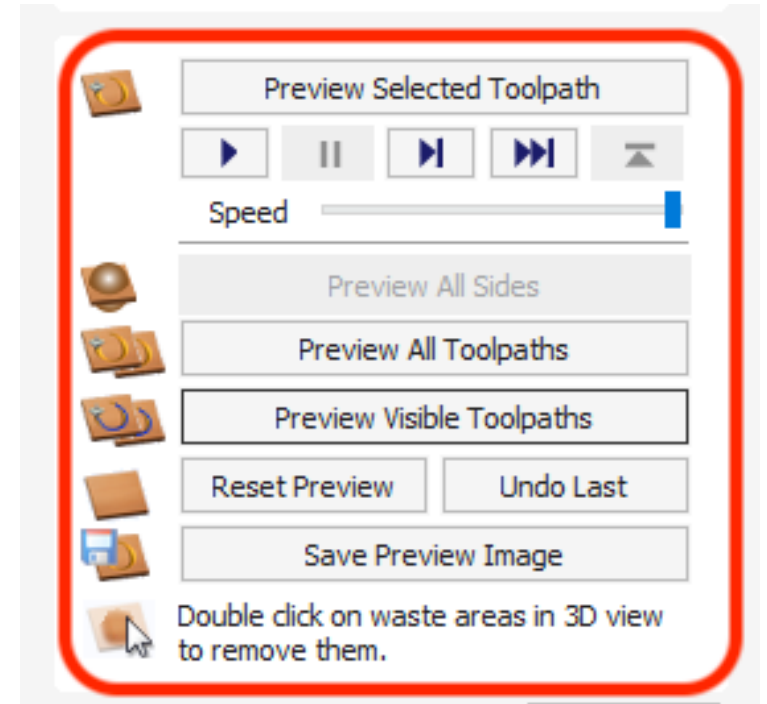
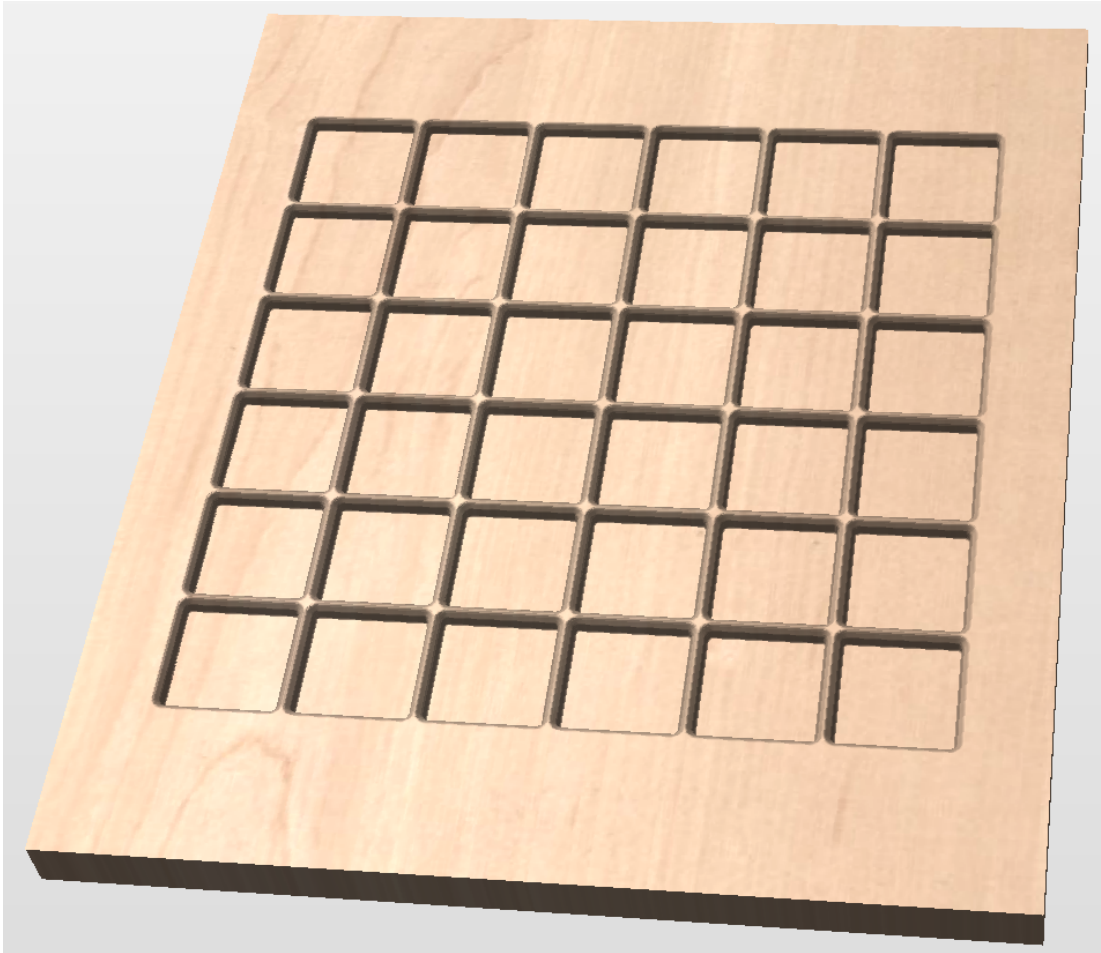
2 Finish

Finish the pocket walls.

3 45° Chamfers

Cut the upper seating edges.

Preview all three toolpaths



Inspect pocket depth,
corners and chamfers.

Take the verified paths to the CNC

Review

Check tool numbers, feeds, speeds, depths and safe Z.

Post

Save the toolpaths with the postprocessor for your CNC.

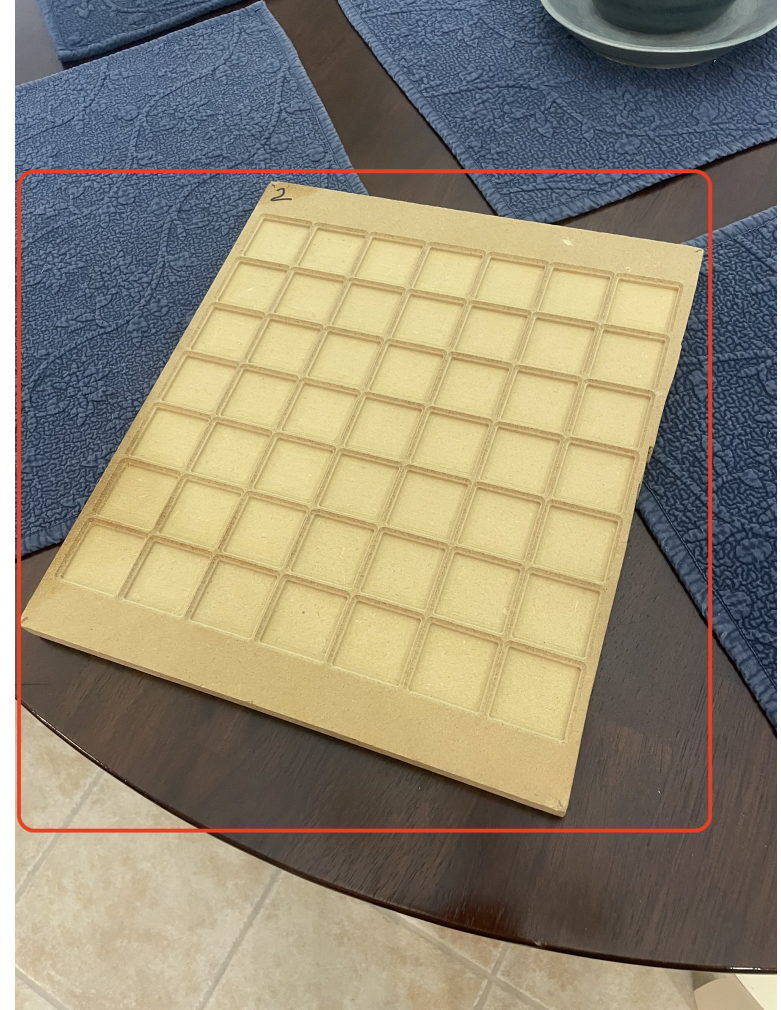
Machine

Set up the stock and tools. Run Rough, Finish, then Chamfers.

Example machined baseplate

The 7 × 7 grid is now cut into the board.

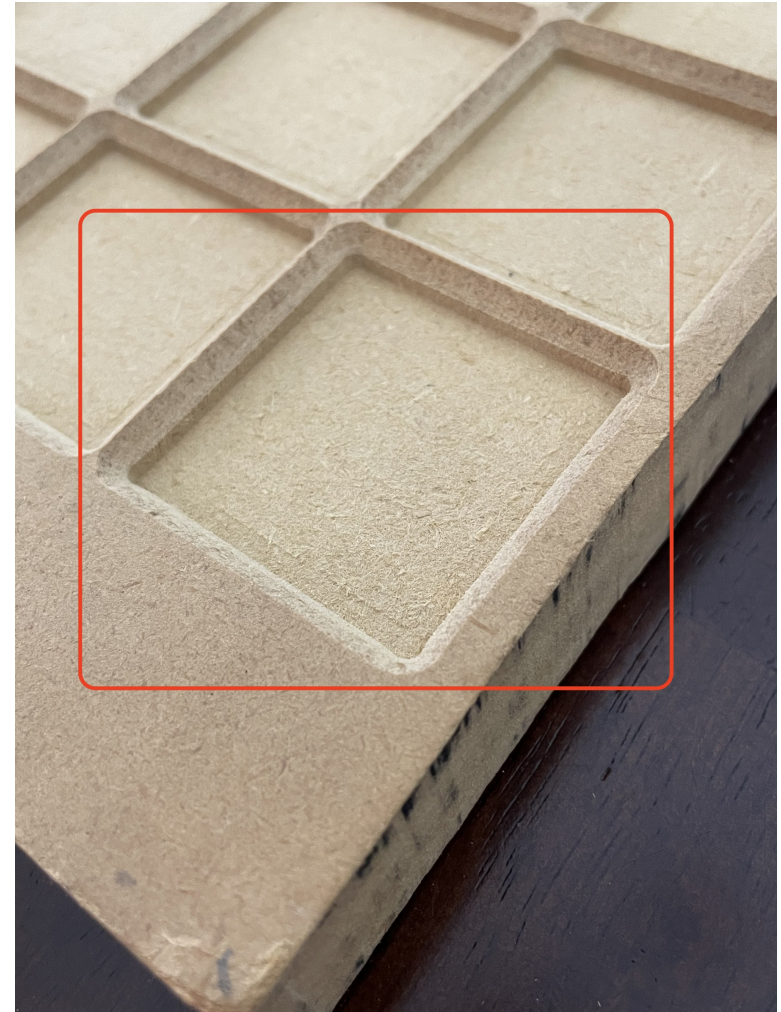
Compare the physical result with the VCarve preview.



Look closely at one pocket

**The red box highlights
the seating profile.**

Inspect the chamfer,
wall, floor and corner.



Fit the bins into the grid

Larger bins sit next to each other.

Check the fit before committing to a full drawer.



A repeatable route to drawer organization

Get the gadget

Download the .vgadget.
Install it in VCarve.

Make the design

Set the grid and tools.
Review all three paths.

Prove the result

Preview, then machine.
Check the fit with real bins.

The end.

What drawer will you organize?

1fifoto.com/asmbly/