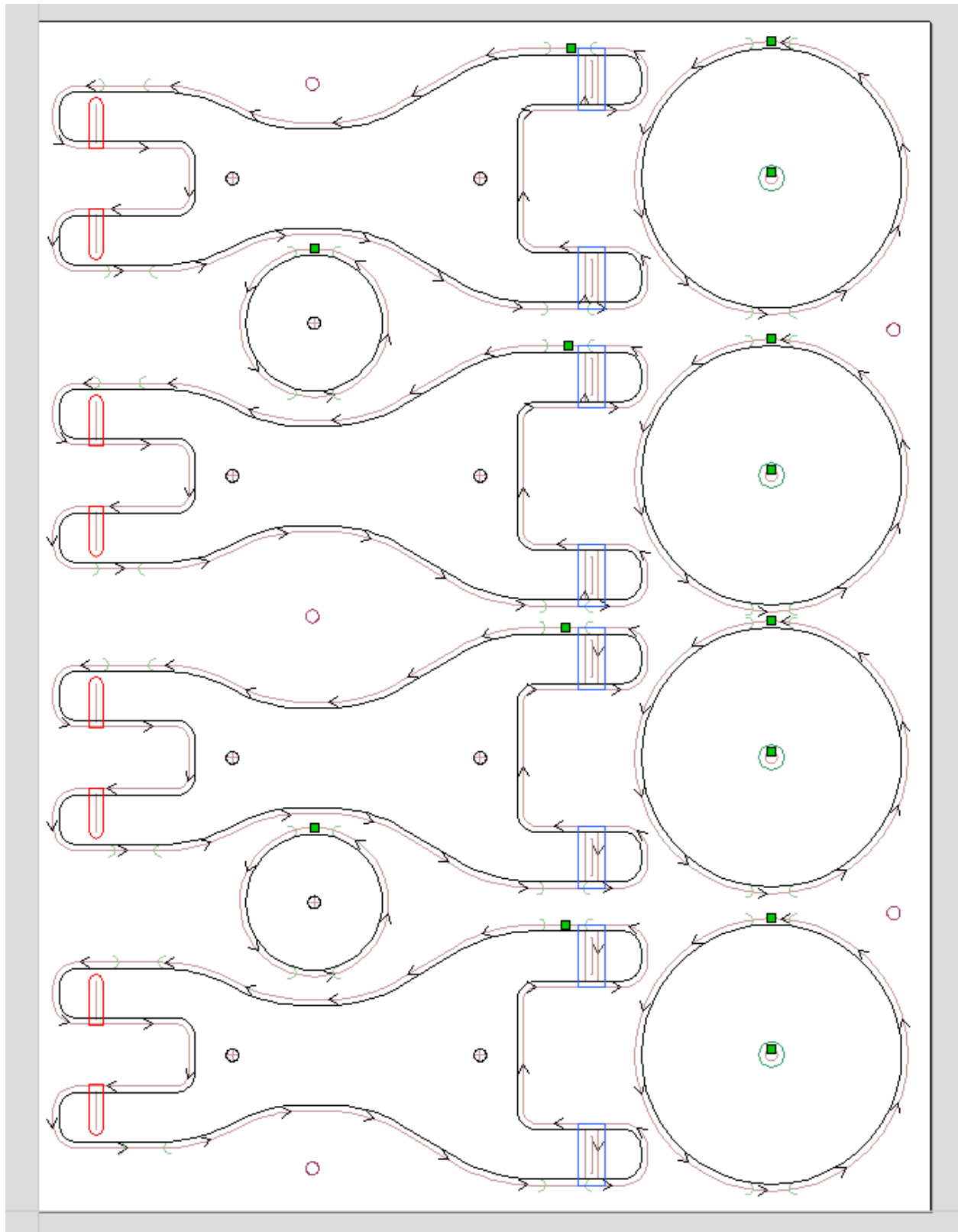


The ShopBot Rubberband Racer

The ShopBot Rubberband Racers are cut out of ½" plywood with a ¼" bit. There are six cutting files in the download with different layouts...three in VCarve Pro V10 format and the same three in dxf. The dxf version is for people that haven't kept up to date on the VCarve Pro versions, but they are identical except for the loss of toolpathing info.

The file are set up for the thickness material I use, with ½" plywood generally 0.475" thick and the dowels a little bit larger than its nominal size. Each machining process is on its own layer in the file though, making it easy to select and modify hole and pocket sizes.

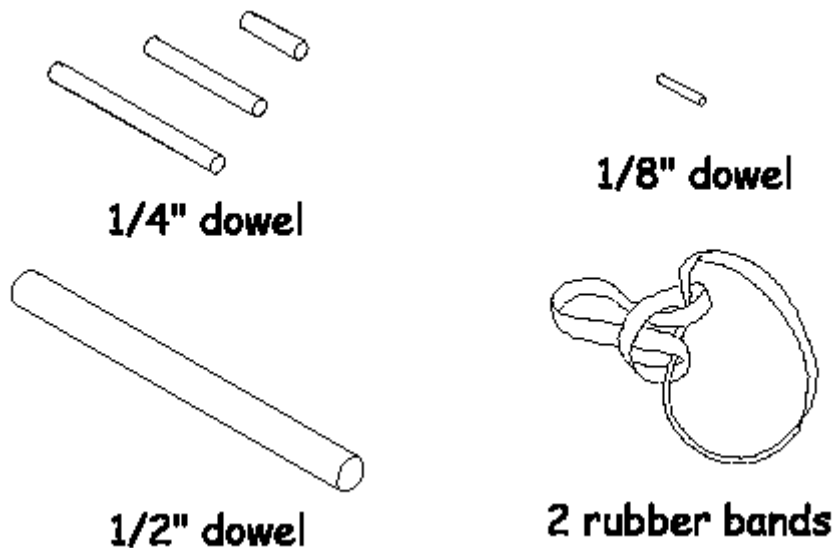
(Note: The Circle Resize Gadget for VCarve makes it really easy to modify several circle sizes at once, and not miss any)



The Desktop and Desktop Max layouts are ready to toolpath and cut, but if you decide to cut a larger number of racers from bigger sheets or want to use odd size scraps, use the "1 racer" files to array copy and fill the material you have.

The first thing to run are the dimples on the Holddown screw layers. When all the hole locations have been marked, use a hand drill to drill pilot holes that are sized to your screws and then screw the blank to your table. Run your racers file, cut the tabs, and trim off any extra tab with a router with a trim bit or a sander.

Cutting the dowels and other supplies



(Note: We recommend buying the dowels before toolpathing and cutting the parts. That way you can measure their diameter and make sure that you don't need to modify the size of pockets and holes)

The rear axles are the 1/2" dowel and are cut about 7" long. If you're cutting them out of 36" lengths of dowel, you'll get five axles that are a little bit longer than 7"; if you use 48" dowel you'll get seven axles that

are a little shorter than 7". You'll also need to drill a hole into the middle of each axle for a short piece of 1/8" dowel, the one that the rubber band hooks on. Drill those holes about 3/8" deep, and cut the 1/8" dowels into 1" lengths. One length of 1/8" dowel will be more than enough for one full sheet of racers.

You'll also need lengths of 1/4" dowel: each racer takes one 3" piece, one 2" piece, and one 1" piece. You should also include a quarter of a sheet of 100 grit sandpaper and at least 4 rubber bands with each racer kit; more if you can so that the kids can use them as clamps and have some extras. I've been using the #64 size that Office Depot sells; they're just right.

Take a look at the YouTube video on Rubberband Racer Assembly:
<https://youtu.be/qweOEH5Bsig>

Posted 3.30.2020