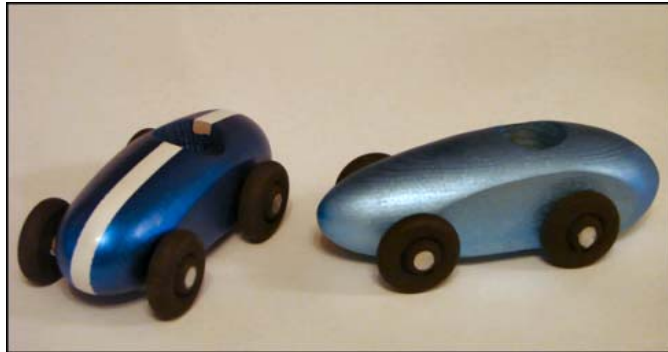


## Off-Center Toy Car

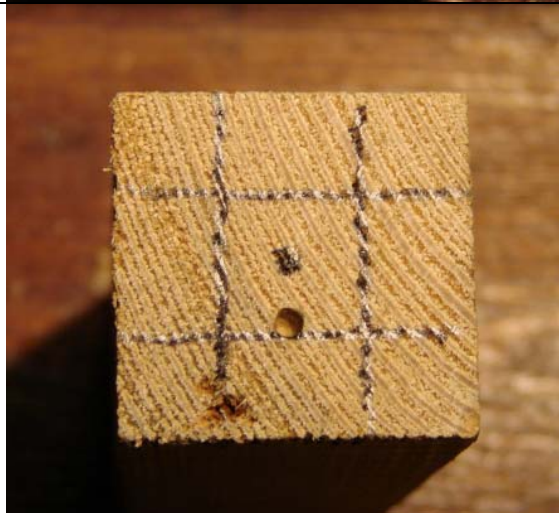
By Ed Malesky



Prepare a blank  $1\frac{1}{2}$ " x  $1\frac{1}{2}$ " by  $4 - 4\frac{1}{2}$ " long. I made these out of ripped 2x4's. Drill two axel holes about  $1\frac{1}{8}$ " in from each end and a  $\frac{3}{4}$ " hole for the cockpit on top. The diameter of the axel holes depend on the type of wheels that you are using. I used 1" wheels with  $\frac{1}{4}$ " holes, so drilled the axel holes with a  $\frac{5}{16}$ " bit. Some 1" wheels have a  $\frac{3}{16}$ " center hole, so axel holes for these should be  $\frac{1}{4}$ ".



Mark the ends for the offset, about  $\frac{3}{8}$ " toward the bottom of the car, ie. the axel hole side. Repeat on both sides



Mount the blank on the lathe between centers with both centers in the offset punch marks.



Use a skew or a spindle gouge to round over the top and form the ends. You just want to remove the flat from the top. Make sure you don't cut too much around the wheel area, since the wheel needs some flat area to keep the wheels free turning.



Turn the ends until you are almost cut through at each end. You can sand the nose and tail a bit while the lathe is on, but be careful. Sand the top smooth of any tool marks by sanding with the grain and the lathe off.



Remove the car from the lathe and cut off the buttons on the end. Sand the nose and tail smooth.



Cut axels to give about 1/8" play, so the wheels turn freely. Note the two different hole diameters in these 1" wheels.

Wheels with the 3/16" hole can be purchased at local craft stores. The better wheels can be purchased on-line from places like:

<http://www.craftparts.com/mall/page38.asp>

For most of the cars I used the Toy Maker's Choice wheels (TW-1000)



Paint the car and assemble. I painted wheels black, the ends of the axels silver and did a variety of treatments on the car.

In most cases I started with a coat of sanding sealer, since I was working with pine. On some cars I then sprayed with enamel and when dry added masking tape strips and overpainted with pearlized paint using an airbrush. On some cars I used the airbrush directly on the sealed surface and applied a base color and then blended in a darker color on the lower part of the body.

You could also easily turn little drivers to fit in the cockpit.

**You can take this another step and create a train using the same techniques.**



In this case I cut the blanks 1 1/2" wide, by 2 1/4" tall and 4" long. I used 1 1/4" wheels here and drilled a 1 3/8" counterbore to recess the wheels. I did this by first drilling the counterbore on one side, then through drilling with an 1/8" bit through the center of the counterbore to locate the center on the other side. After the counterbores, I drilled for the axels. Drill the windows with a 3/4" bit.

In this case the offset was about 1" up from the bottom, meaning that on the center cars you do little more than round over the roof. For the engine and rear of the round over as on the cars.

I'm still working on the coupling, but I routed slots in the bottom of the cars to take some kind of wooden hook and eye. Cars should be at least 3/8" apart, so the train will turn.

