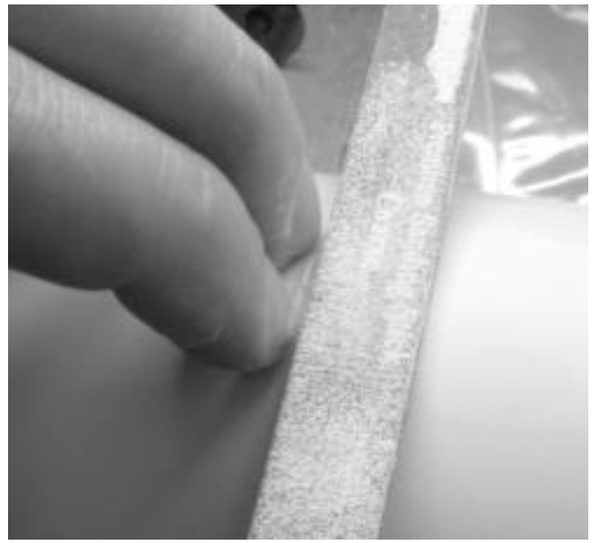
17,595 gallon corn syrup tank car
1:29 scale kit
Instructions

Burl Rice
316 N Spring Street
Sparta, TN 38583

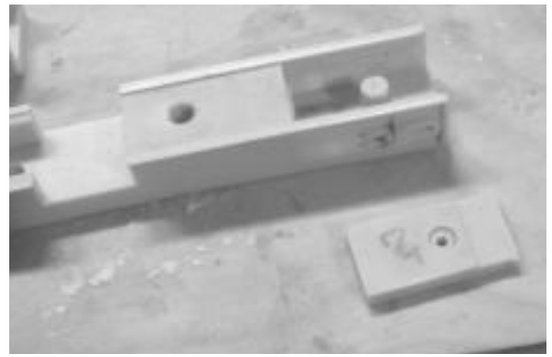
http://burlrice.com

Bill of materials (not included with the kit)

- CA (Cyanoacrylate) glue. I prefer "medium" or “thick” viscosity.
- K&S .032" brass wire
- K&S 1/16" brass wire
- #2 x ½ thread cutting screws (from microfasteners.com)
- #62 drill bit
- 1/16” drill bit
- 5/64” drill bit
- 3/32” drill bit
- Coarse sanding sticks
- Chain (I use cheap necklace chain from Hobby Lobby)
- 17,595 gallon tank car appliances (from Shapeways: http://shpws.me/GFnO)

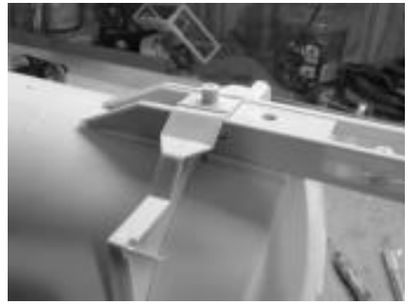


Step 1.
The body casting may have a some flash left over. To remove this, sand it down with a coarse sanding stick. To avoid sanding off the body's weld lines, use your fingernails as a fence to protect them.



Step 2.
Using a 5/64" drill bit, drill out the coupler pocket cover. Flip it over, place it on the coupler pocket, and drill out the mounting lug (all the way through).
Next, enlarge the hole in the cover (only the cover, not the mounting lug) to 3/32". Fasten the cover in place with a 2-56 thread cutting screw.

Trim the flash of the side of the draft key with an X-atco knife.

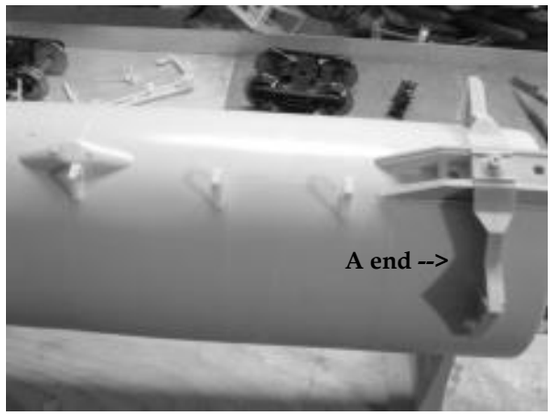


Step 3.
One side of the saddle has a hole for the side rails. These face inward. Ream them out with a 1/16" bit (do not drill all the way through).

With the body resting upside down in the cradles, test fit the bolster and saddle to the body. When you're satisfied with the fit, glue it in place with CA. After the glue has set, drill out the mounting holes in the bolster with a 5/64" bit (all the way through the body), and screw in 2-56 thread cutting screws.

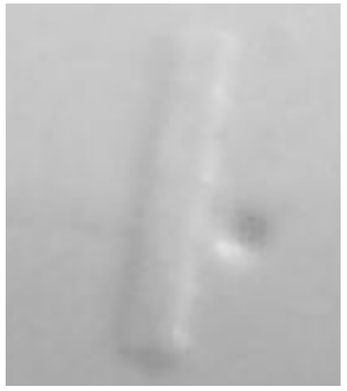
Also drill out the kingpin with a 5/64" bit.

Note that the saddle has a notch in the corner to accept the end railings. This faces the end of the body.



Step 4.

Glue the nylon brake component hangers on. Note that the one labeled "3" on the sprue, is the shortest, and goes in the middle of the body. The longest ("1" on the sprue) is closest to the end of the body.



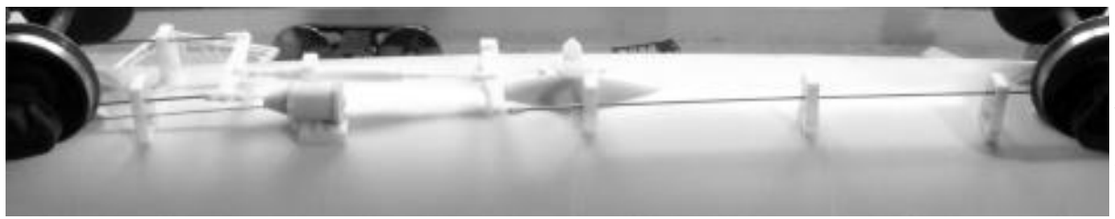
Note that the body has alignment marks for the hangers. The hanger butts against the mark, with the dimple covered by the hanger.

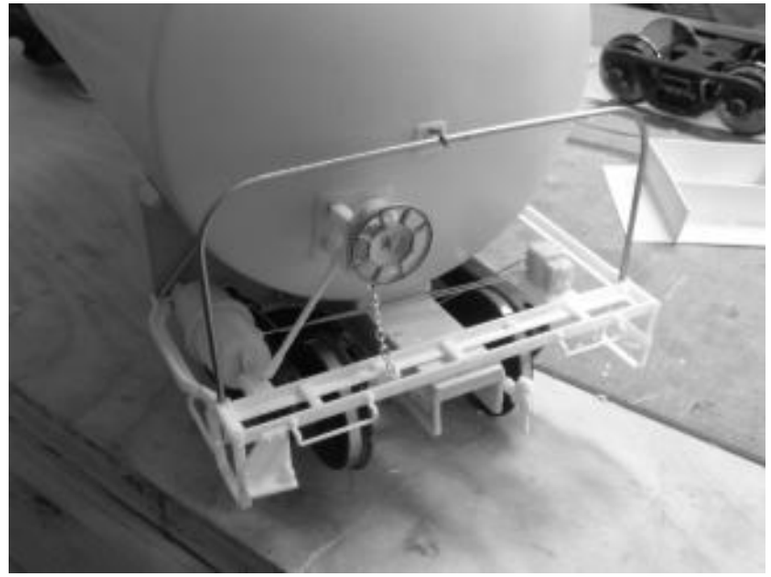
Note that in the photos above, the B end of the car is at the left.

Step 5.

Drill out the brake beam's clevises with a #62 bit. Be careful, as is they are fragile. These will receive .032" brass wire.

Attach the brake cylinder to its mounting pad. Check the alignment of the assembly. There is a dimple for a drill hole to receive the peg on the brake beam brace - however, you may have to move slightly to the right. Also add the drain valve at this time, and attach the trucks with 2-56 screws.





Step 6.

Check the fit of the B end's end walk assembly. Note that there are alignment lugs on the bottom of the end walk that line up with the edges of the coupler pocket. You will have to chisel off the webbing on the saddle casting where the AB reservoir sits.

Drill a #62 hole in the back side of the brake fulcrum (where the chain attaches in the photo). This receives a .032" wire from the brake beam assembly. Glue the end walk to the coupler pocket and the saddle with CA.

Glue the two halves of the AB reservoir together. Drill out the holes for the airlines with a #62 bit. Bend the airline piping out of .032" brass wire, and glue them in place.

Using 1/16" brass wire, form the handrail around the bending jig. Cut the ends of the wire flush with the end of the jig. Using .032" brass wire, make an eyelet for the top mount of the handrail. Drill a #62 hole in the end of the tank body. Using a 1/16" drill bit, carefully clean out the holes in the end walks (you should be able to do this by twisting the bit with your fingers). Supporting the underside of the end walk with your finger, gently seat the handrail in the holes, then insert the eyelet (both get secured with a dab of CA).

Attach the brake wheel housing assembly at this time.

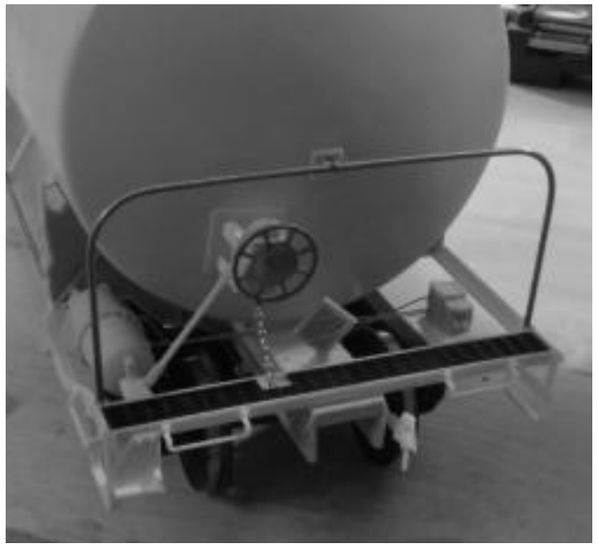
Repeat for the A end.

Step 7.

Prep the end walks by wet sanding the back with 250 grit wet/dry sand paper. This is to remove the waste left from the laser cutting process, and should open up the grates.

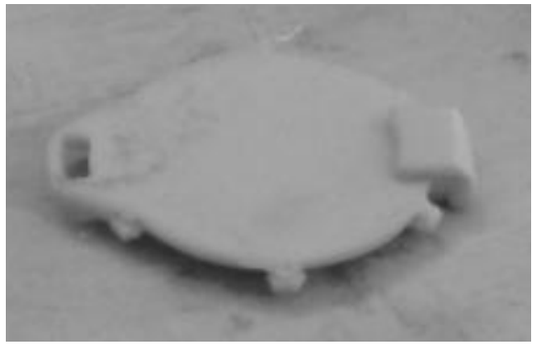
On the B end, you will have to cut a notch for the brake wheel chain.

Also install the placards at this time. The photo below shows the back of the placards. There are four (4) total - two (2) are mounted on the tank saddle, and two (2) are mounted on the top of the draft gear. Note that each placard is two pieces, glued together.



Step 8.

Assemble the manway cover. Note that the photo shows the back of the cover.



Step 9.

Glue the manway cover to the tank body, being careful to keep it centered. Note that the hinge side faces the dimple on the top of the tank body.

Drill out the dimples with a 1/16" bit. There are a total of five (5).

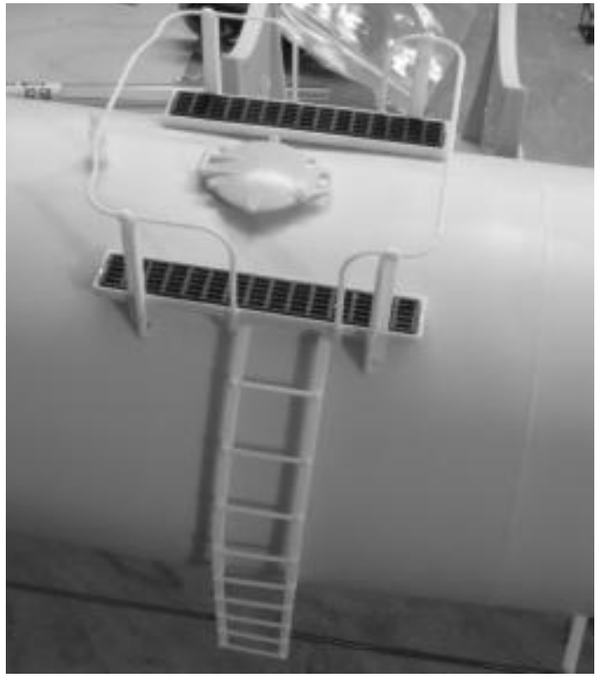
Step 10.

Glue the top vent (this is a clear acrylic part) into the 1/16" hole from Step 9.

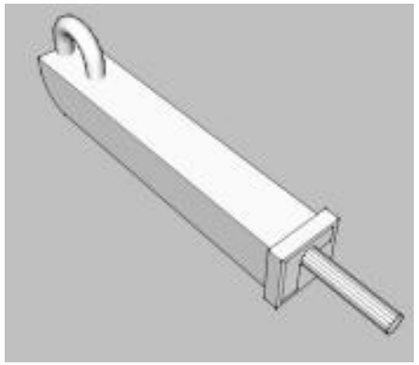
Glue the top walk to the tank body. Note that one side of the railing is extended - this faces the top vent.

Glue the top walkways in at this time.

Glue the side ladders to the tank body, taking care to align them by the center weld bead.



Step 11.



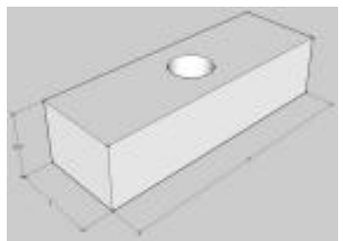
When removing the side rail supports, note that one end is not a sprue (do not trim this end flush). This lug will fit into a 1/16" hole in the tank body. It should look like the photo when you've removed it from the sprue of nylon parts.

Drill out the dimples in the body to receive the side rail supports. There are a total of four (4).

Step 12.

Using 1/16" brass wire, install the side rails. First, cut the wire to length. Slip the support (from step 11) on, and let it hang for now. Put a dab of CA on one end of the wire, and back the other end of the wire into the hole in the ladder, then seat the other end in the mounting hole in the saddle. After the glue has set, put a dab of CA on the support (from step 11), then gently pull the wire back just far enough to turn the support and seat it in the hole in the body.

Step 13.



Using the cradles, paint the bottom of body first. In order to paint the top, use some scrap wood (minimum 3/4" thickness) with a 1/2" hole to accommodate the mounting lug for the trucks.

Decals.

These decals were printed with an ALPS "micro-dry" printer. ALPS ink is waxed based, thus having low abrasion resistance while still on the sheet. Avoid touching the printed area with hard or sharp objects (such as tweezers or the point of a hobby knife) as the ink can be scratched off.

I recommend leaving a small margin around the decals when trimming them from the sheet. This will give you enough room to pick them up with tweezers without touching the ink.

A glossy (or semi-gloss finish) is a must for proper application. A dead flat surface will result in a "silvery" sheen on the decal.

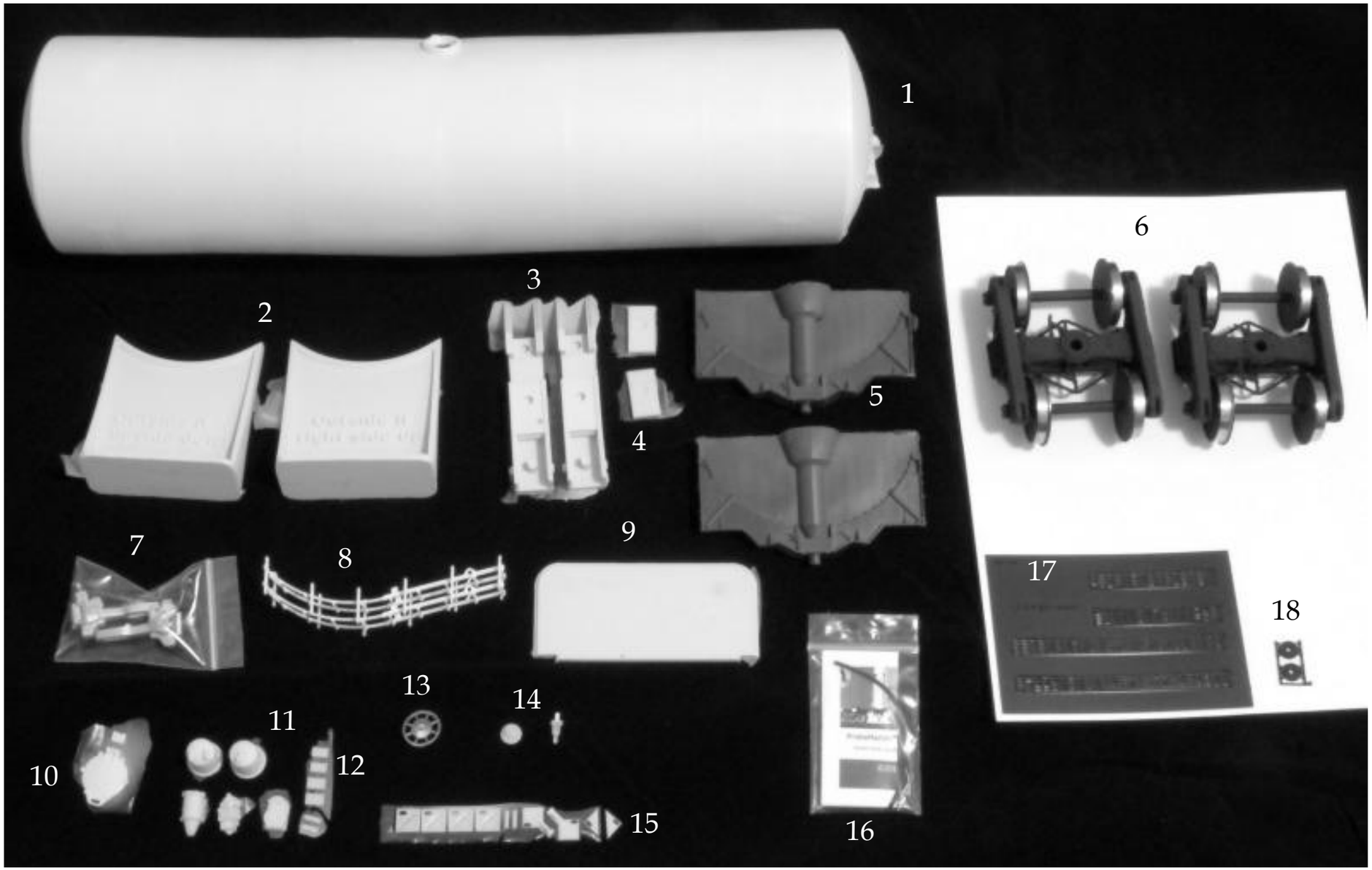
To apply the decals, soak them in water for 15-30 seconds and then slide them into the desired position. Distilled water is preferred. A wet, soft-bristled brush is an excellent tool to position them with.

The glue on the sheet is only to hold the decal on the carrier paper - it will not hold the decal in its final position. You will need a decal setting solution to bind the decal to the model. I recommend Champ's Decal Set. Get the decal where you want it, blot out as much water as possible, apply the decal set and let it do it's thing (don't touch it again till its almost dry).

Once applied, let the decals dry for at least 24 hours before clear-coating. A clear overcoat (gloss or flat both work fine) will seal and protect the applied decal. If done correctly, the clear film will disappear.

Note that some brands of clear coat, if applied directly to bare decals, can cause them to crinkle, especially the new formulations of Krylon and Testors. I coat my decals with a thin layer of clear acrylic to prevent this, but you should always test on scrap material first. If you are unable to find a suitable clear coat, you can airbrush a thin layer of Future Acrylic Floor Sealer (also sold as Pledge Floor Care) over the applied decals to seal them.

A final coat of Krylon UV-Resistant Matte Finish #1309 is recommended for any model that will receive direct sunlight.



1) body
2) cradles
3) coupler pockets
4) coupler pocket covers
5) saddles
6) trucks
7) couplers
8) ladders
9) end railing bending jig
10) manway cover
11) reservoir/cylinder/ABD valve/brake wheel housing
12) routing cards/AEI tags
13) brake wheel
14) 3d printed acrylic valves
15) placards
16) glad hands
17) laser cut walkways
18) truck washers