

## Water Tank 10,000 Gallon, HO Scale Instruction Manual

### List of parts:

- 1 sheet photo etched 0.010 inch brass
- 1 sheet of 1/8th inch laser cut plywood
- 1 sheet 1/64th inch cedar self-stick siding
- 1 piece 1/16 inch wood dowel

### 1. General Overview

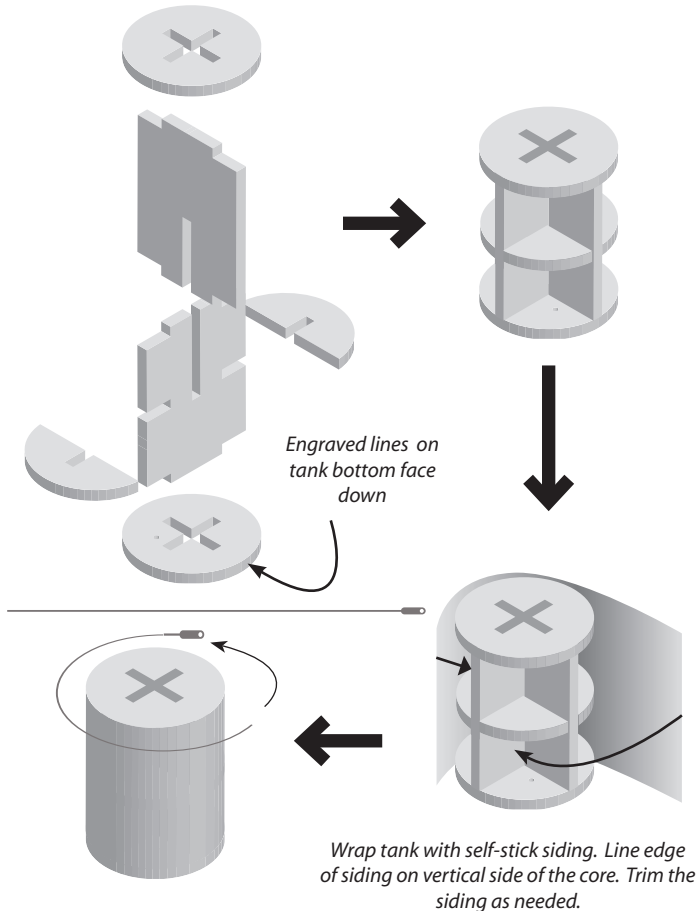
This is an introductory level, mixed media kit depicting a 10,000 gallon wooden water tank on a steel truss intended for roof tops of factories and tall buildings. At one time wooden water towers like this could be seen on buildings across the U.S. They are still common. There are still over 20,000 in service in New York City. They are especially valued for drinking water as the cedar wood makes a more pleasant water taste than steel.

### 2. Build the tank

Prepaint the iron reinforcing bands flat back. Set them aside to cure the paint. In the meantime, assemble the tank core from the laser cut 1/8th inch plywood pieces. Use CAA or carpenter's glue to secure the wood parts. Note the engraved lines



Exploded view of tank core



on the tank bottom. They should face down as they help guide the C-Channel placement later.

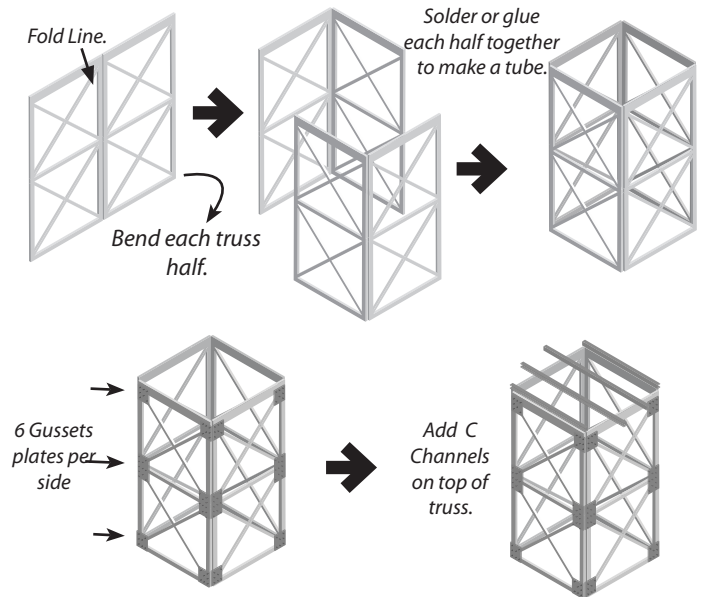
Once the glue dries on the core parts, wrap the self-stick siding around the outer edge. Line up the vertical edge of the siding on one of the vertical core pieces. Note the siding is a bit longer than needed. Once you are satisfied that it is wrapped evenly around the core, trim the excess with an Xacto or utility knife.

This is a good time to weather the wood. Use gray and tan colors. Be careful with water or alcohol washes as they can effect the self stick tape. **DO NOT SOAK THE WOOD.**

Now add the pre-painted reinforcing bands. Pre-curl the band by gently pulling it between your fingers. Tread the long end of the band through the hole in the turnbuckle. Place it in position on the tank and pull it snug against the tank. Then pull the loose end against the turnbuckle, locking it in position using the bend in the metal. Once you are satisfied with the placement, touch the joint with a spot of CAA or flux and solder. Note the bands are not evenly spaced. They should be closer to each other toward the bottom. Use the photos as a guide. There are six bands in the kit, one is extra in case you make a mistake.

### 3. Assemble the metal truss.

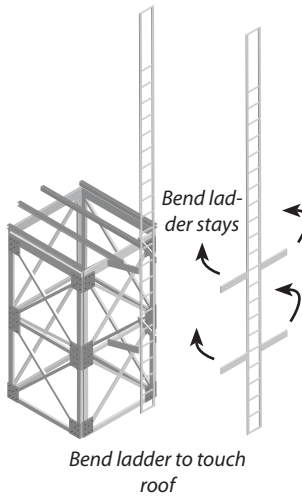
Cut the metal parts from the fret using an Xacto knife, flush cutter or scissors. Note in each truss part there is a half etched groove between the sections. This is the fold line. Using a bench vice, Etch-mate (see [www.missionmodels.com](http://www.missionmodels.com)) or metal bending brake to bend the part into a 90 degree angle with the fold line facing in. Make sure you support the whole part as you bend it to prevent the truss from distorting. The Etch-Mate is perfect for this job, but a vise works well too if you support the unsecured part with a piece of flat wood or 0.060 inch styrene as you bend.



Add 24 gusset plates at the intersection of each truss member. Examine the rivet detail to ensure you align the rivets with the members. Soldering these makes the truss much stronger, but you can also use CAA.

Fold the C-Channel beams on the fold lines using the Etch-Mate or a vise. Using the engraved lines on the bottom of the tank as a spacing guide, solder the C-Channels to the top of

the truss tube. Note the top member of the truss is wider than the bottom member.



#### 4. Add the ladder

Fold the ladder stays at about a 60 degree angle so the ladder will stand away from the truss about 0.4. Solder the ladder stays to the truss so that the stays are touching the horizontal members of the truss.

Clean off the flux with soap and water and paint the truss your desired color. I like grimy black. Dry brush the rivets lightly to make them more visible

#### 5. Build the roof

Bend the roof sections gently so that they form a conical shape. Butt join the two adjoining edges with solder. Adjust the bends so that the roof will sit on a flat surface.

Add the hatch and ladder. You may need to open the holes in the hatch to accommodate the hatch handle. Use the tip of a sharp Xacto knife or a small (number 68 to 72 ) drill bit.

Clean and paint the roof. They are usually covered with dark tar paper, but recent towers in NY City had a light red colored water



proof membrane on the roofs. Some tanks have a central spike sticking out of the top of the roof. This is a member used to frame the roof. You can use a piece of the dowel to simulate this.

#### 6. Final Details

Where you place the ladder and the hatch in relation to the tower is at your discretion, though the ladder should line up with the hatch. Bend the ladder so that it touches the roof and CAA or solder securely. Touch up paint as necessary. Add the water pipe in the hole in the tank floor.

If you wish, you may install the base. Optional super details include electrical connections for sensors, additional pipes, and a sign.

Take a picture of your water tank on your layout, module or diorama and send it to [info@alkemscscalemodels.com](mailto:info@alkemscscalemodels.com). ENJOY!

