

# Conowingo Models



## 24-Foot Wood Tank Car

HO Scale



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Jan 2022

### Thank you for purchasing this kit!

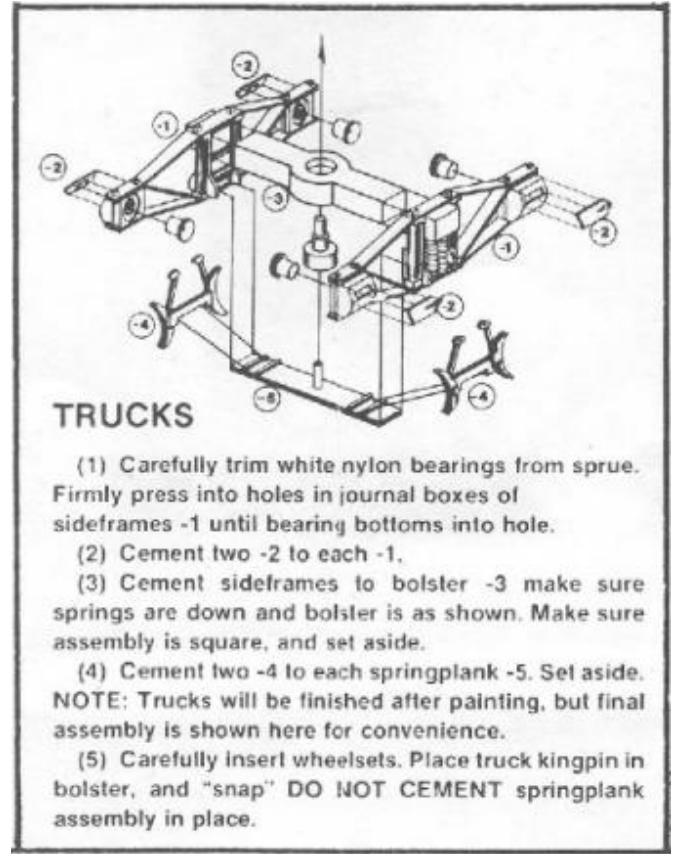
The enclosed wood tank car is fictional but based on some real-world information.

Supplied are the basic directions. For more tips and some additional instructions, please see [conowingomodels.com](http://conowingomodels.com)

### **BUILDING**

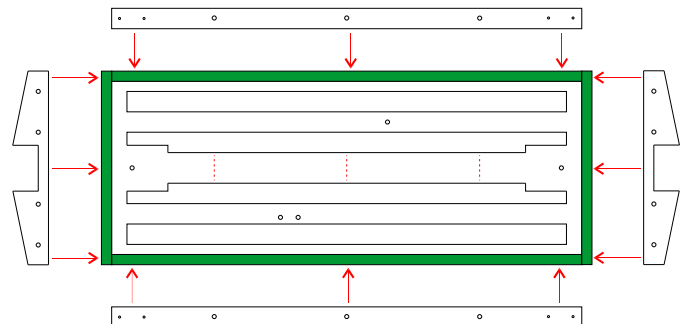
1. Start out by removing the frame from its carrier. Note there is a side with lines that denote where the bolsters and queen posts go. This is the underside. You'll also note where the coupler boxes go. Plan out where you'll want to add weights. We suggest drilling into the dowel and adding weights there. The NMRA, in RP-20 (essentially) states that the 24-footer should weigh 2.75 ounces. An unweighted example we used weighed 1.45 ounces with Kadee trucks installed. Failure to add weight will result in a very uncooperative car that doesn't stay on the tracks.

2. Assemble the Tichy trucks and coupler boxes (some kits) as shown below.



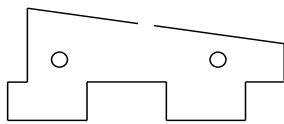
(Courtesy Tichy Train Group)

3. Paint the NBWs (Nut, bolt, washers), trucks and detail parts as desired. They should all be black.
4. We recommend that if you are planning on staining the car, you stain those items now including the 3/32 wide stripwood for the deck. Add a lot of weight to flatten it and let it sit for 24 hours before continuing any step that utilizes the frame.



5. Glue the side rails into place before the end pieces. Ensure the side rails either fit snugly against where the decking will go. The end pieces should fit snugly against the side rails and the cut out on each end should match up to allow for the coupler box to fit.

6. Take the included needle and run it through the holes in the end and side pieces as well as the truss rod holes and supports to ensure that there is no glue or errant laser residue in them.
7. Cut the stripwood for the decking to approximately 9.5 scale feet wide or 1 5/16 inches. You should compare them to the width of the frame and make them slightly larger. Scrape the pieces with a hobby knife, scuff them with a sanding block, cut the edges off of and add nail holes as you feel appropriate.
8. Carefully cut the angled bolster pieces out and glue them together in pairs. You will end up with four pairs. Run the needle through the holes in the bolsters again to ensure they are properly aligned.



You can glue the smaller square bolster pieces together, using one thick and one thin piece for each. You will end up with two pieces.

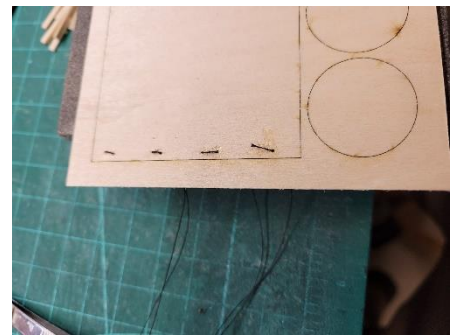


9. With the top side is up, glue down the stripwood as shown. I covered both end pieces and side rails. Ensure you leave a small gap between the pieces to prevent buckling when you paint/stain it. It looks better with spaces as well. A few not-so-perfectly-aligned pieces add life to it.
10. When finished adding the decking, Flip the bottom side up and flatten with a heavy object to prevent warping during the drying process. Be sure not to crush the side or end pieces. You may want to consider clamping the corners to something solid instead.
11. Prepare the dowel. Ensure it is relatively smooth all the way around and that the ends are even. We

recommend that any added weight goes in the ends. One thing you can do if you are so inclined is to cut out an area in the dowel for the knots we'll talk about below. It doesn't have to be deep, but it should be narrow so that the 1/32 scribe wood won't show an indentation.

## 12. Tank Preparation –

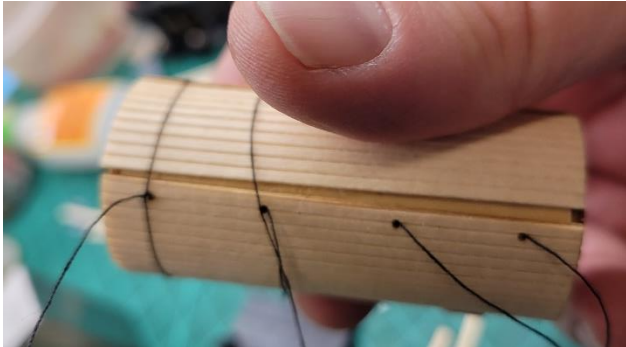
Cut out the large piece of 1/32 scribe wood. Cut two of the pieces of thread in half. The non-scribe side is the inside. You could also substitute other materials for the bands. We used thread because it's readily available and would fit all skill levels. If you have a better suggestion, please bring it to our attention and help make this kit better!



- 12a. Cut four pieces of the string to a length of approximately 9 inches. String a piece of thread through each of the holes on the scribe wood. You can put two overlapping, overhand knots on the inside. What knot you use doesn't really matter. The point is that the thread doesn't pull through the holes and is fairly low profile. All of the excess thread should be on the outside. Add a touch of fast drying glue to the inside.
- 12b. Put the 1/32 scribe in water. Let the water sink in for a minute or two, so it is malleable and starts to curl.
- 12c. Wrap the scribe around the dowel, ensuring that the ends of the scribe will come together. Trim if necessary.
- 12d. Add glue to the outside of the dowel. Be careful not to get it stuck to you or the outside of the scribe piece. We recommend a fast-drying glue, so it sets up quickly, but a slow drying glue will allow you more time to properly align the piece of scribe wood.
- 12e. Wrap the scribe around the dowel again as in step 12c. Ensure that the thread is on the outside and that the scribe wood has a slight and even overhang on both ends, so that the end pieces will fit inside. Use rubber bands to secure the scribe in place.
- 12f. On the end product you want the knots to be on the bottom and out of sight. One thing that bothered us on the pilot model is that the scribe on the end

pieces isn't horizontal. It appears that the boards did run horizontally on prototypical tank cars. Add some glue to the sides of the dowel and add the end pieces so that the scribe runs horizontally. (If that matters to you).

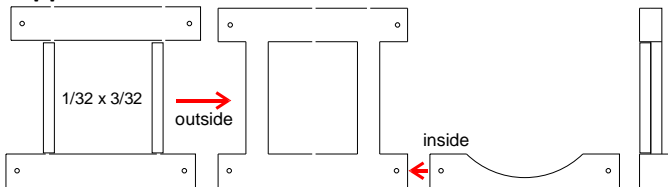
- Run the included needle through the holes in the bolsters to ensure a clear pathway. The laser and glue can clog those when you least want it to.



- One at a time, route the thread around the tank and under itself at the spot the thread comes out of the scribe. Straighten it up as much as possible and sinch it tight. Add a drop of fast drying glue. (#1 sinched and glued. #2 about to be sinched.) Do this for all four bands. Cut excess when dry.

At some point, you may want to a drop of glue on each rod which can be used to simulate turnbuckles. Tichy also offers turnbuckles under part number 8021.

### 15. Supports-



- Assemble the support ends and center support as shown below. **Do this step twice.** Use scrap pieces of the decking material to form the vertical supports. Ensure that you can pass a needle through the holes.



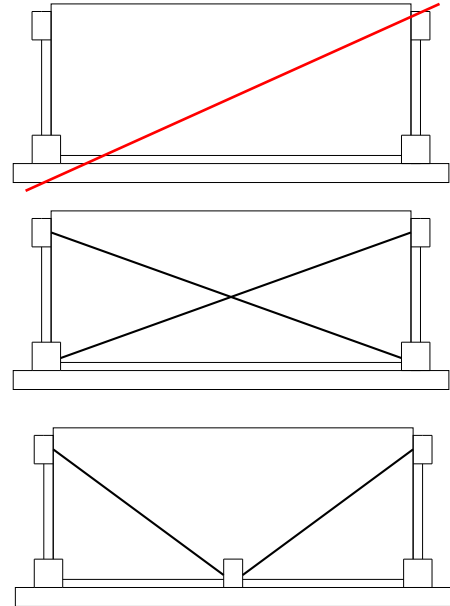
- Should you decide to make it look like the pilot model, Assemble the two curved supports so they are back-to-back. You could also separate them, should you so choose.

### 16. Restraint Rods -

You will want to apply restraint your tank to your car. To do so, take a look below and decide which option you want to use. The first is not recommended, as

there is practically no restraint on it. The second choice provides the most restraint, while the third provides roughly half of choice #2. We went with choice #3 because it looks cool.

You could do this step after step 18 should you choose to do so. This way was kind of a fun challenge, but not necessary. If you're like me and have fat fingers, you'll want to not delay this step.



- Cut off a piece of thread about 1 foot long and reserve it for step 20. Fish a piece of thread through the top holes on one support end. Add a knot and glue in place with some fast-drying glue. Like with step 12a, you want it secure, but not take up too much room. You will eventually cover it with an NBW.

- Fish the thread from each side through the curved support(s) if they are being utilized.

- Fish the thread through the opposite top support (or lower as the case may be). Either way, leave it loose.

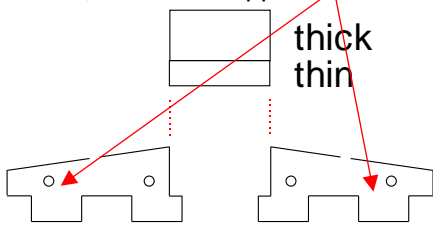
### 17. Cradle The Tank

- Situate how you want your tank to fit into the support ends. Adjust it to ensure how you want it all to go together, ensuring the tank fits in the cradled supports. When you're happy with it, glue the tank into the cradle. We used a fast-drying glue, but slow-drying glue will give you more time to adjust.

- Put it on a level surface to ensure it sits level.

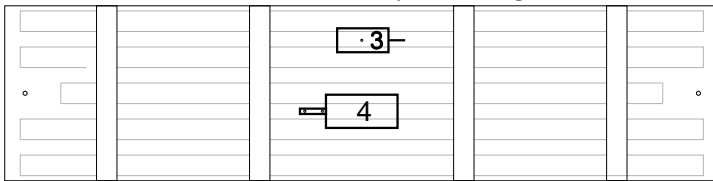
- Remove any slack from the restraint rods and glue in place with a fast-drying glue, keeping in mind that you want to add NBWs later. You will want to cut the remainder of the thread off when you are happy that the thread is tight and secure.

18. Glue the bolsters and queen post(s) into place and secure with clamps. The side pieces of the bolsters are notched to fit the under decking of the car. Ensure you use one of each thickness on the bolster center pieces. If there are any alignment issues, cut off the lower, outboard supports.



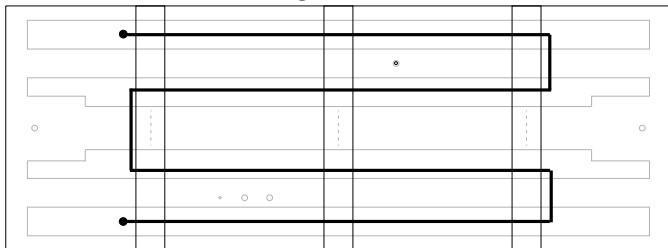
The queenpost goes in the middle. There is a dash line showing where it goes.

19. Included is the standard Westinghouse K-brake system. I'm not that familiar with the system. If you are, please enlighten us on the Facebook page. Glue the brake reservoir (4), brake cylinder (3) and any other desired details into place on the underside. There are notches where they need to go.



(36-foot car shown)

20. Take the length of thread (about 1 foot long) and put an overhand knot in one end (We used three knots and a dab of CA at the first bolster because the thread is thin) and gently thread it through the bolsters and queen posts as shown below. The wooden queen posts have notches for the truss rods to pass over. Initially, concentrate on just getting it threaded and then tighten it.



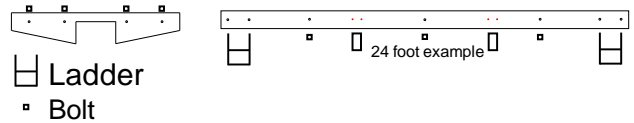
21. Once taut, apply a drop of CA to the thread at the end of the threading to hold it in place. We hung the whole assembly from my workbench with a small clamp while it dries to keep tension on it. When it's dry, add the final knot (or several) as close to the bolster as you can get it and cut the excess. A drop of glue on each rod can be used to simulate turnbuckles.

22. Center and glue down the cradled tank onto the deck. If you had decided not to use the center cradling piece, cut and add the 1/8 basswood to each side of the tank.

23. Install the coupler boxes. I recommend applying some CA to the frame where the coupler boxes will go, followed by appropriate screws (unfortunately, the screws included with some kits are for the trucks and are too long for this application).

24. Install the trucks at this time using the screws and insulating fiber washers (some kits). For those unfamiliar, the washers go between the truck and bolster to smoothen truck movement. Tichy Arch Bar trucks (some kits) can now have the spring planks installed. Despite the instructions, I've found that a dab of CA helps keep the spring planks in place. If the screws don't hold, add a drop or two of CA into the holes and try again.

25. Glue into place the NBWs and stirrups. They have cut holes where their respective parts fit.



26. For the brake wheel, cut the head off the needle with wire cutters to a height of 4 scale feet (35/64 inch) or as desired. Glue the wheel and rod to the wood piece, sharpened end down and in the notch. We glued ours to the end of the car. Different variations are highly encouraged!

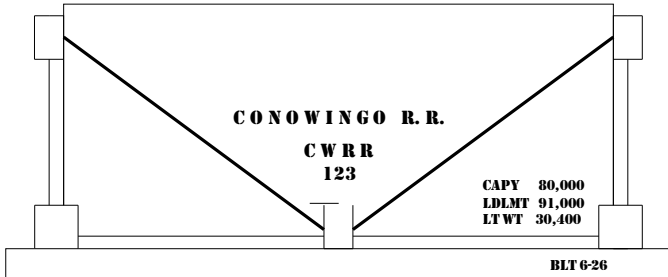


27. Install the smaller dome on the top center of the tank. You will need to cut the center support piece from the inside of the dome so that it sits flat on the top.

28. **Further detailing** – While designing this kit, we were trying to figure out how the pieces of the Tichy Tank Car Detail Set

should be applied. The set is pretty neat and includes some really nice detail parts. However, it does lack instructions. For that, we'd recommend looking at <https://www.tichytraingroup.com/Portals/0/Instructions/4020.pdf?ver=2012-12-28-000306-000>

29. Add the decals and weather as appropriate.



Please share your completed photos on <https://www.facebook.com/ConowingoModels/>

See [Conowingomodels.com](http://Conowingomodels.com) for more unique model railroad products.

If there are any parts missing, please e-mail us [conowingomodels@yahoo.com](mailto:conowingomodels@yahoo.com) and we'll get those parts headed your way. We strive for a perfect kit, but mistakes do happen. We apologize if this happens.

Many thanks to Steve Milley, Jeff Grove and Mark Schreier for their help! Additional thanks to Don Tichy for all the parts and diagrams!

Like the design? Want to see this car developed into other things? Please drop us an e-mail and/ or visit the Facebook page to see the latest development with it.

**Visit [conowingomodels.com](http://conowingomodels.com) or the Facebook page often to view any newly developed rolling stock.**

We have been asked a few times for photos of the completed undersides. Here is a 24-Foot car with Tichy trucks and no weights added. The underside doesn't photograph all that well, but hopefully it provides everyone with what they are looking for.

