

Conowingo Models



24-Foot

Wood Flat Car

Amherst Clinic Edition

HO/Hon3 Scale



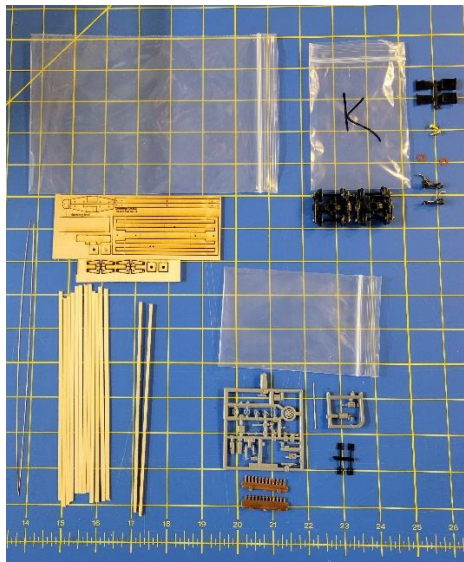
www.conowingomodels.com
<https://www.facebook.com/ConowingoModels/>
conowingomodels@yahoo.com

January, 2023

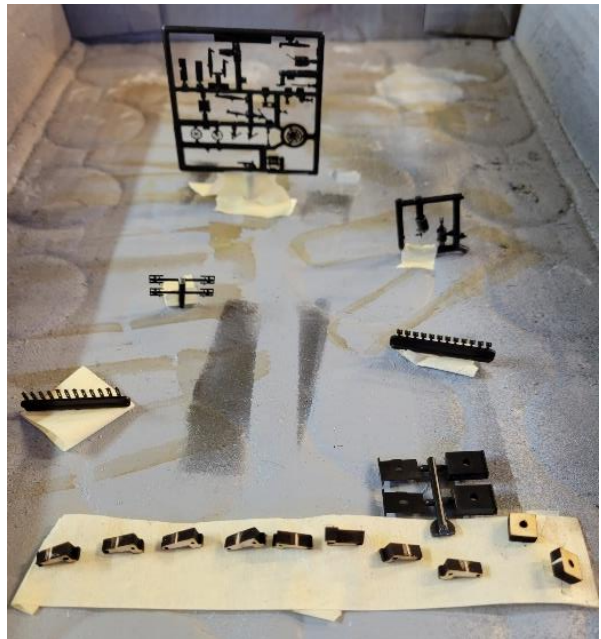
Thank you for purchasing this kit!

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



PAINT PREP



- 1. Prep and paint the following parts flat black. Turnbuckles, brake system including brake wheel, NBWs (nut, bolt, washers), bolsters. All items, except for the bolsters can be left on their carriers for painting.



- 2. Prep nine pieces of 1/32 x 3/32 stripwood. Tape them as shown above to a surface that you will stain.
- 3. Using your hobby knife and/or sanding sponge, scuff the wood to age it
- 4. QUICKLY brush on desired layers of Driftwood and Grey Blue stain. 2-3 desired
- 5. Add weights to prevent warping.

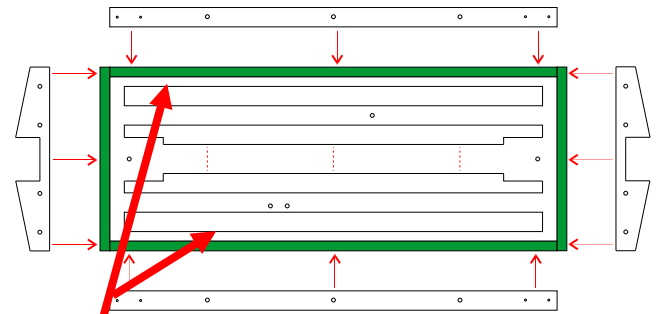
BODY BRACING AND ASSEMBLY



- 1. Remove the body from its' carrier.
- 2. Note there is a side with lines that denote where the bolsters and queen post go. This is the underside
- 3. Remove the four longitudinal pieces of wood as shown above.
- 4. Cut two pieces of 1/16 stripwood to the length of the body



- 5. Using CA, glue the cut stripwood on top of the sides. This forms your bracing
- 6. Cut out the end pieces and side pieces
- 7. Run the needle through the holes on the end pieces and sides to ensure they are free of debris



- 8. Using CA, glue the end pieces and sides into place, dot side up
- 9. Weigh down car to help sides set vertically.

WEIGHT PLANNING

- 1. Plan out where you'll want to add weights.

The NMRA, in RP-20 (essentially) states that the 24-footer should weigh 2.75 ounces.

We think the NMRA standard is a bit overkill, but we haven't run these day-to-day and defer to the experts.

An unweighted example we used weighs .5 ounce with Tichy trucks installed. These will have Kadee trucks installed, which weigh slightly more.

Failure to add weight will result in a very uncooperative car that doesn't stay on the tracks.

We recommend tungsten putty for weights

Alternatively, a permanent load can be added

Small fishing weights are an idea, but probably not a good one as they can interfere with the freedom of movement of the trucks

COUPLER BOX ASSEMBLY

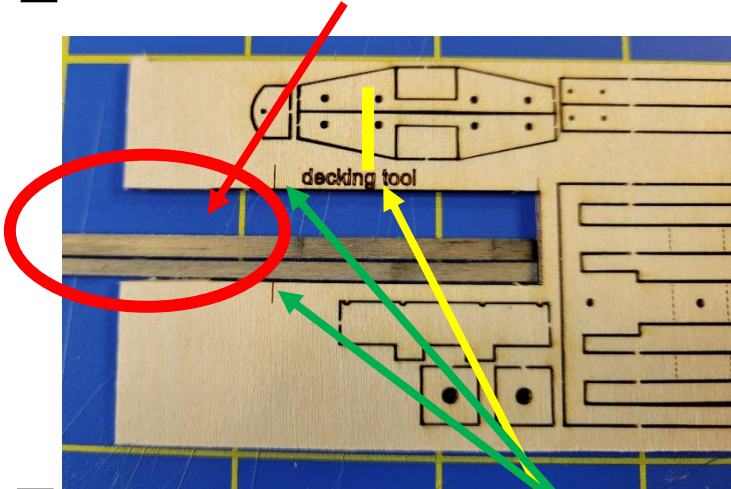


- 1. Insert the coupler into the box, with the flat side of the box down and the brake hose sticking up
- 2. Snap the lid in place. The lip on the lid faces up

DECK BOARD INSTALLATION

- 1. Carefully remove the 1/32 x 3/32 stripwood from the masking tape

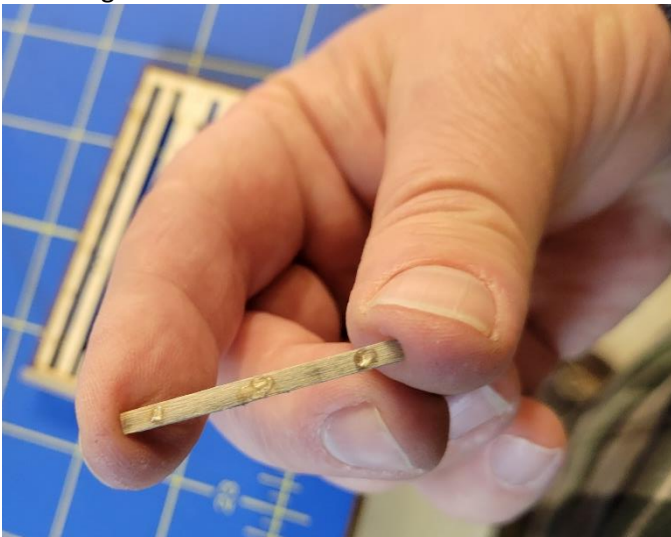
- 2. Cut out the excess wood from the decking tool



- 3. Using the provided tool, cut each piece of 1/32 x 3/32 stripwood to fit. The cut guide are the hash marks shown on either side of the decking tool.

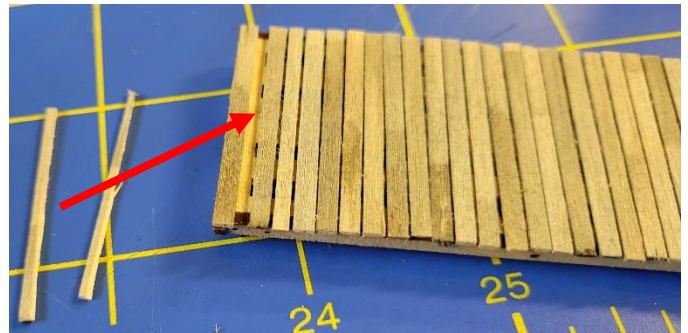
Repeat the following steps one board at a time until you have finished the deck- This is because we didn't have the luxury of preparing the deck and waiting for it to dry. You don't want unpainted wood showing through the boards.

**If you are assembling this at home, we recommend you paint the top of the deck with a solvent-based light grey color (to prevent warping) and glue the deck down as described below.



- 4. Apply glue to the underside of the deck board in three spots – the sides and center

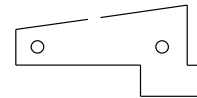
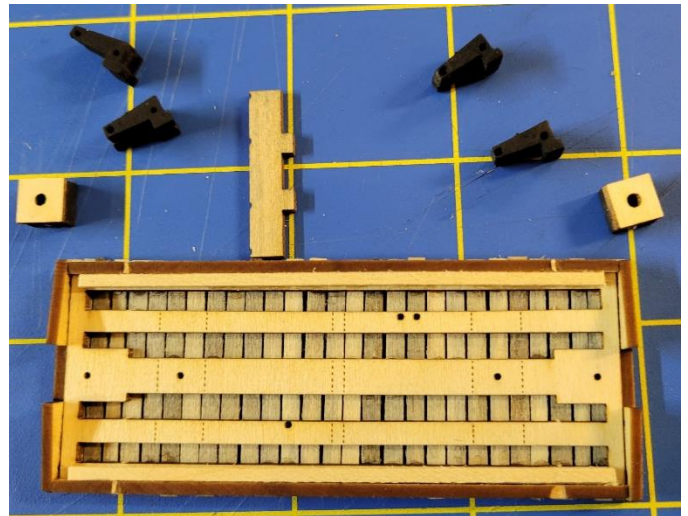
- 5. Going from one end to the other, apply the deck boards side to side, leaving a little bit of room for expansion and contraction. It also helps age and weather the car.



- 6. When you are getting close to finishing, start from the opposite end and work your way inward. You will probably have to cut one board to fit

- 7. Once the deck is covered, flip the body over and add weights

BOLSTER ASSEMBLY AND INSTALLATION



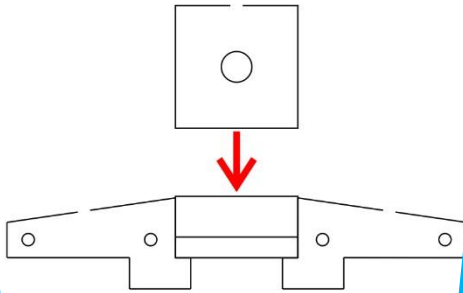
- 1. Locate the eight bolster half pieces you painted earlier

- 2. Run the needle through each to ensure they are free of debris

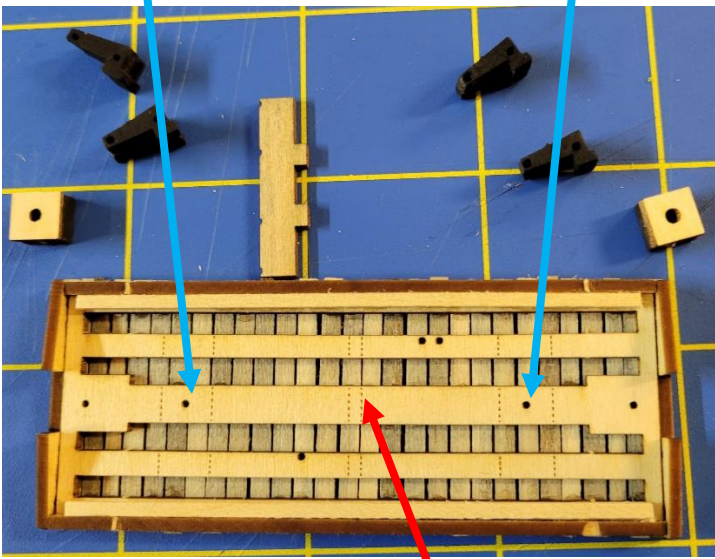
- 3. Pair up the bolster halves and glue together, ensuring they are straight.

- 4. Run the needle through each assembly again, to ensure you didn't block any holes

5. Fit and glue the bolster side pieces into place on the body, between the dash marked lines. The notches will sit between the longitudinal decking pieces



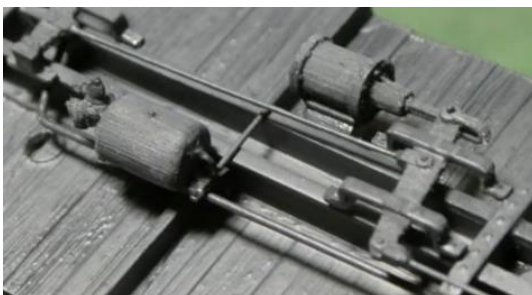
6. Fit and glue the bolster center pieces into place on the body with the thinner piece on the bottom (closest towards the body)



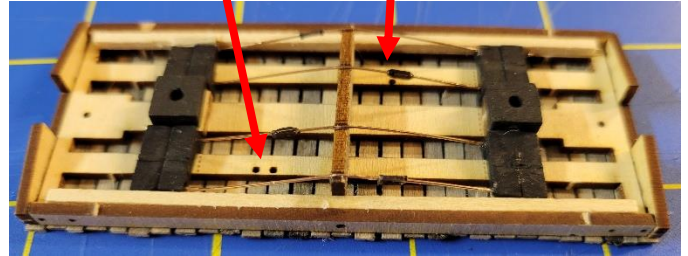
7. Install the queen post between the dashed lines in the center. The notches will sit between the longitudinal decking pieces

BRAKE SYSTEM INSTALLATION

1. The Tichy brake system that is supplied is the Westinghouse Split-K brake style



2. Install the reservoir and brake cylinder as desired. There are pre-cut holes for them to be installed. Be careful as this can interfere with the operation of the trucks. They can be cut down to fit.



3. Spoiler Alert ** Part of your homework will be to finish plumbing the brake system as desired

TRUSS ROD INSTALLATION

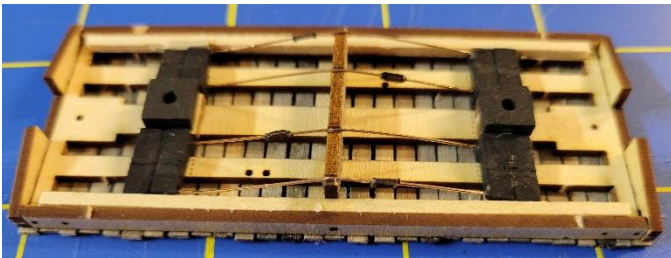
1. Mark the middle of each piece of wire with a Sharpie. Adding a turnbuckle to the cut end won't work due to tight tolerances.
2. Cut both pieces of wire in half using a pair of wire cutters
3. The following steps you will repeat 3 times (for a total of 4 times)
- Bend the end of the wire with the Sharpie mark as close as you can to the end using pliers or a similar tool. The bend should be 90°. This is to add a stopper to the end
 - Route the end through a bolster, moving from the outside inward.
 - Add a turnbuckle to the wire, but have it between the wired bolster and the queen post
 - Route the wire over the top of the queen post, being mindful of where you want your turnbuckle. (It's up to you). You will need to move it.



- Gently, fish it through the corresponding hole on the opposite bolster **USING ONLY FINGER PRESSURE from this point forward.**

- You will need to pull the wire back in order to get it into the hole.
- You want the wire to pass through the opposite bolster as flat as possible to prevent it from causing damage. The outermost bolsters damage easily.
- Gently, remove the slack
- Final position and glue the turnbuckles
- Fine tune the wire as you see fit
- Bend the wire as you did on the first step

- 4. Glue the wire it enters the bolster
- 5. Once the glue is dry, cut the wire as close as you can to the bolster



- 6. If a bolster is damaged, position the wire the way you want it and glue it into the bolster. Cut some scrap 1/32 x 3/32 to fit and glue it into the bolster as well.
- 7. If you're building this at home, now would be a good time to add your weights to the body.

NBW INSTALLATION

- 1. Carefully cut out a brake wheel
- 2. Cut the head off the needle with wire cutters to a height of 4 scale feet (35/64 inch) or as desired.



- 3. Glue the needle into the wood brake wheel support with the sharp end in the hole.

- 4. Glue the wheel on top of the needle. Don't install it just yet
- 5. If you're planning on painting the sides as shown below, paint it now.
- 6. Cut out the NBWs. Use sprue cutters if you have them so you won't damage the square washers



- 7. Glue the NBWs into place. Four go on each end and one goes on each side next to the queen post

TRUCKS AND COUPLERS INSTALLATION

- 1. Flip the car over and apply the fiber washers to the tops of each bolster center

HOMEWORK

- 2. Put a truck over each bolster center (upside down, of course)



- 3. Run a screw through each truck and into the hole in the bolster center. **DO NOT OVER TIGHTEN.** This will cause the truck to not move.
- 4. We haven't used these screws before. If they do not tighten, remove the truck and washer, insert a drop of glue, wait a minute and restart at the second step.

FINAL ADDITIONS/ TOUCH UPS

- 1. Glue the brake wheel into position at either side of either end
- 2. Glue the stirrups on each corner. There are holes notched out for them.
- 3. Touch up any unpainted areas with flat black paint such as the truss rods and brake wheel

WEATHERING

- 1. You may choose to smoothen out the sides of the decking using a sanding sponge. Be careful as this can cause decking to separate from the car.
- 2. You may also choose to roughen up the wood further with the sanding sponge or hobby knife. Ponce wheels can be used to add nail holes
- 3. Using a large brush, apply a weathering stain, such as driftwood, as desired
- 4. Mix a small batch of orange paint with a little bit of black paint and water. This is for rust
- 5. Apply the rust to brake wheel, NBWs, couplers, truss rods, wheels and trucks using a small brush
- 6. Any excess can be either wiped off or diluted with either a wash of water or weathering solution

- 1. This car is really light. It will need weights. We recommend adding tungsten putty to the underframe
- 2. Install load to add weight as desired
- 3. Complete brake installation as desired
- 4. Add decals or markings as desired

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

See Conowingomodels.com for more unique model railroad products.

If there are any parts missing, please e-mail us 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 or the Facebook page often to view any newly developed rolling stock.

