Stilwell Oyster Car

HO Scale

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Thank you for purchasing this kit!

The enclosed Stilwell oyster car was real. It was used to provide landlocked locations with fresh seafood.

Supplied are the basic directions. For more tips and some additional instructions, please see conowingomodels.com

We update instructions over time to improve them, show new techniques, etc. See our website to download the latest instructions.

The instructions for this kit are a bit segmented. They are designed to keep the modeler moving forward. It won't look that way at first, because there are a lot of starts and stops associated with bracing and painting.

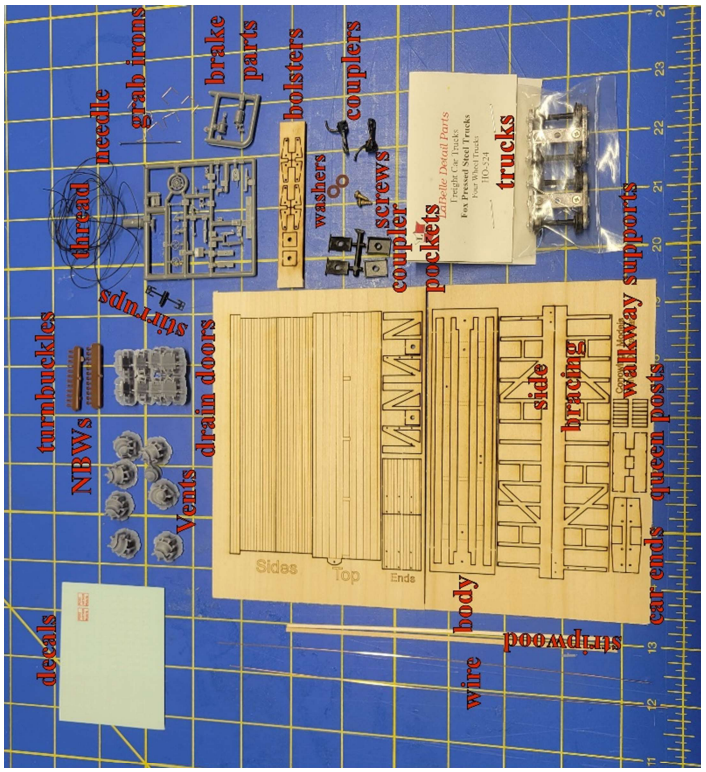
This kit is intended for HO modelers; however, it should be easy to convert to HOn3.

If you've built any of our previous rolling stock, this is a bit of a departure from that. There is significant emphasis on matching up corners to make this kit fit together properly.

Built up, this car is a featherweight. We do not add weight to our cars because they are primarily for show purposes. However, we occasionally run them on our test track. Normally, they do ok, but this one really and truly needs a bunch of weight.

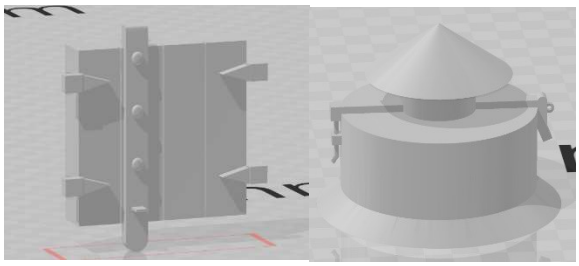
Plan out where you'll want to add weights. The NMRA, in RP-20 (essentially) states that a 36-foot car should weigh 3.875 ounces. Our oyster car used weighed less than .5 ounces. The good news is that you've got almost a boxcar-sized area to add weights to. Add fishing weights, roller skates, the kitchen sink. Most of it will fit. Kidding.

KIT CONTENTS



- 1/32 x 1/16 stripwood x1

3D PARTS PREP



☐ 1. Pictured are the 3D printed parts. They were shipped in their carriers to help prevent breakage. Carefully cut out each piece.

PAINTING

The real cars were dark blue. If you are looking to replicate the real car, we recommend that you use a solvent based paint before assembly. When the paint is dry, reference the location of the external bracing and apply the decals. They should match up to where you don't need to do much cutting in order to properly apply them.

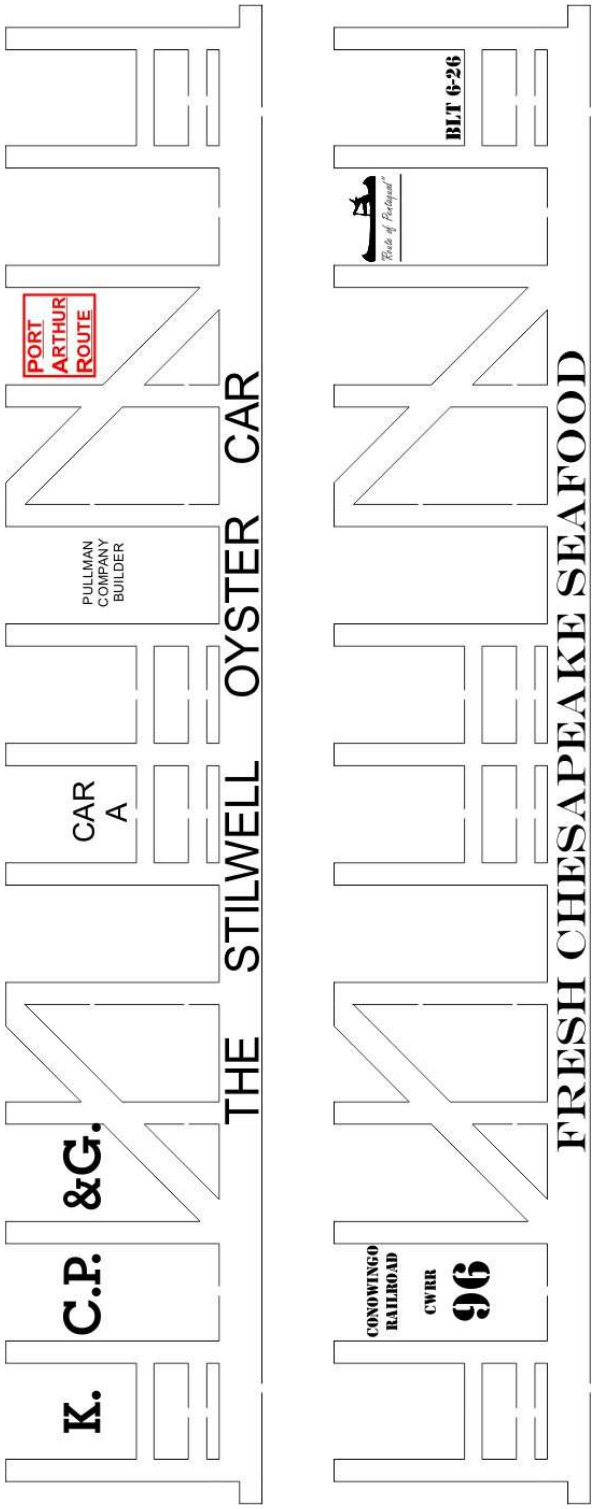
If you want to replicate the weathering effect instead, stain the side and end walls after assembly. Alcohol washes will warp unbraced walls. This kit is very unique in that it is truly externally braced.

☐ **PAINT GRIMY BLACK**

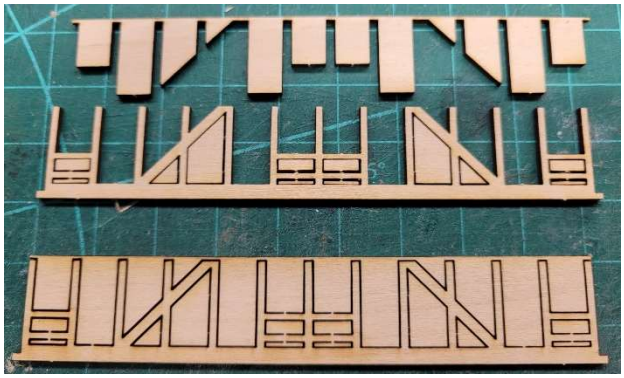
- 4x Turnbuckles
- Brake wheel
- Brake system
- Needle
- 2x Trucks
- 2x Coupler pockets
- Smoke jack
- 4x Bolsters (or 8 if not yet assembled)
- 2x queen posts
- Underside of the frame (optional, it won't show)
- 2x Stirrups
- 8x Vents
- 8x Drain doors

☐ **PAINT BLUE**

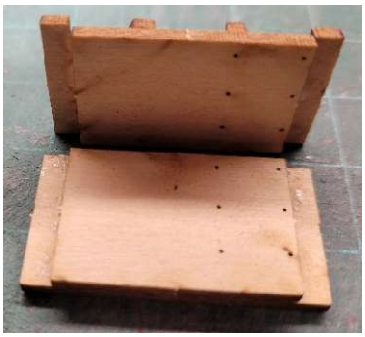
- 2x End walls
- 2x Side walls
- 2x End wall supports
- 2x Side wall supports
- Walkway
- Walkway supports



MAIN BODY CONSTRUCTION

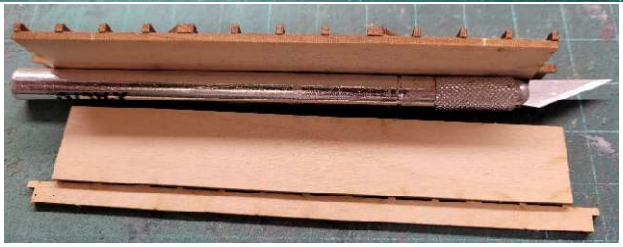


1. Cut out the external supports from their carrier tray. Shown above are the sides. Cut out the end braces as well.



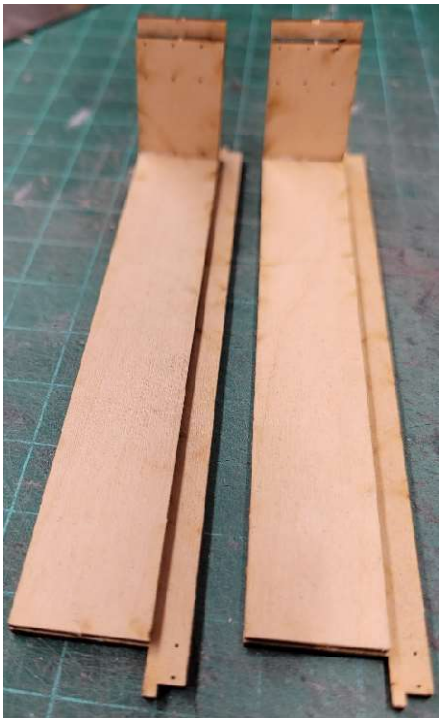
2. Match up the end walls and end wall bracing as shown above.

3. Apply minimal amounts of glue to the area where the bracing will contact the outside wall and assemble as in step 2. Allowing glue to contact the outside walls in visible spots will cause the wood not to stain properly, even if removed.



4. Match up the side walls with their respective bracing. The end of the side walls will come to the inside edge of the outermost brace as shown in step 2. The bracing and walls should match up a the top as well.

5. Glue the bracing and sidewalls together.



6. When dry, glue the end walls to the side walls as shown above. Use 3-2-1 blocks or something with a 90’ angle to support the end walls during the drying process.

7. Glue the underbody to the walls as shown above. This photo only has one side for demonstration purposes. Reference photo below for how it all fits together. As shown, the pieces can be a little disconnected. Consider using some CA to square up the corners.

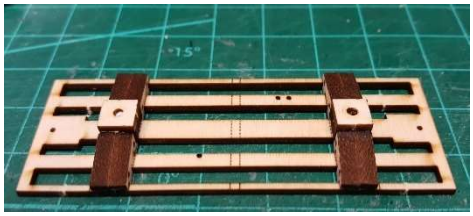
UNDER DECKING

We've included two different ways to model the truss rods in this kit. You can either use the wires or the thread. We will describe each separately. You may choose to add the brake system before this section. It is included next, followed by how to install the truss rods.

☐ 1. Locate the eight bolster pieces.

☐ 2. Pair up the bolster pieces into four sets, making sure they fit together correctly. Laser cutters don't always create perfect 90-degree cuts, and while this usually isn't a problem, in this instance, accuracy is crucial.

☐ 3. Glue together each pair, ensuring that the needle will go through the truss rod holes.



☐ Glue the bolsters to their respective positions on the underbody as shown above. The center of the bolster should match up with the laser cut line. (This is an early development photo, with parts missing and the bolster centers installed.)

☐ 4. Place the queen post piece horizontally on the underdeck, following the example shown in the On30 version below. Alternatively, you could choose to add it after you've installed the truss rods as we did on the On30 pilot model, but it might be more challenging to do so.

BRAKE INSTALLATION (OPTIONAL)

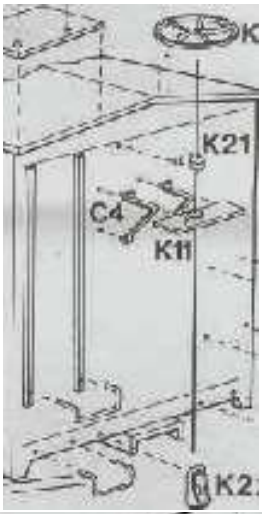
We have included the brake system installation guides from Tichy Train Group. On the pilot models, we generally don't include brakes because we're mainly concerned about the overall appearance of what goes on top of the deck, not under. We offer two things to consider-

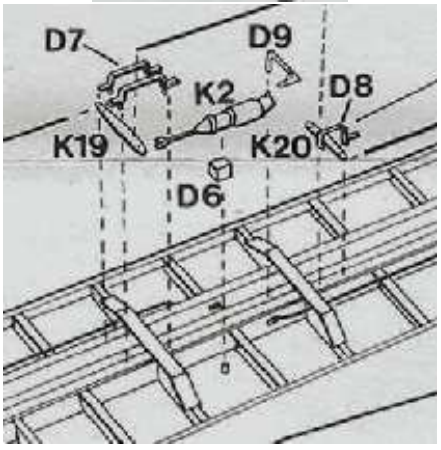
1. The brake component location and how it relates to the trucks. If the components interfere with the trucks, it will adversely affect how the car performs.

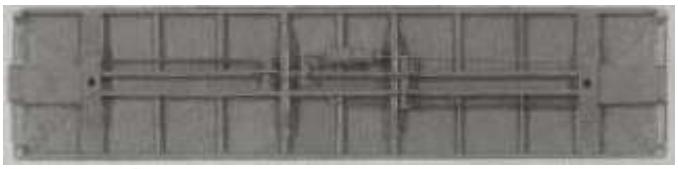
2. Should you decide to install the brakes, we recommend you do so before adding the truss rods.

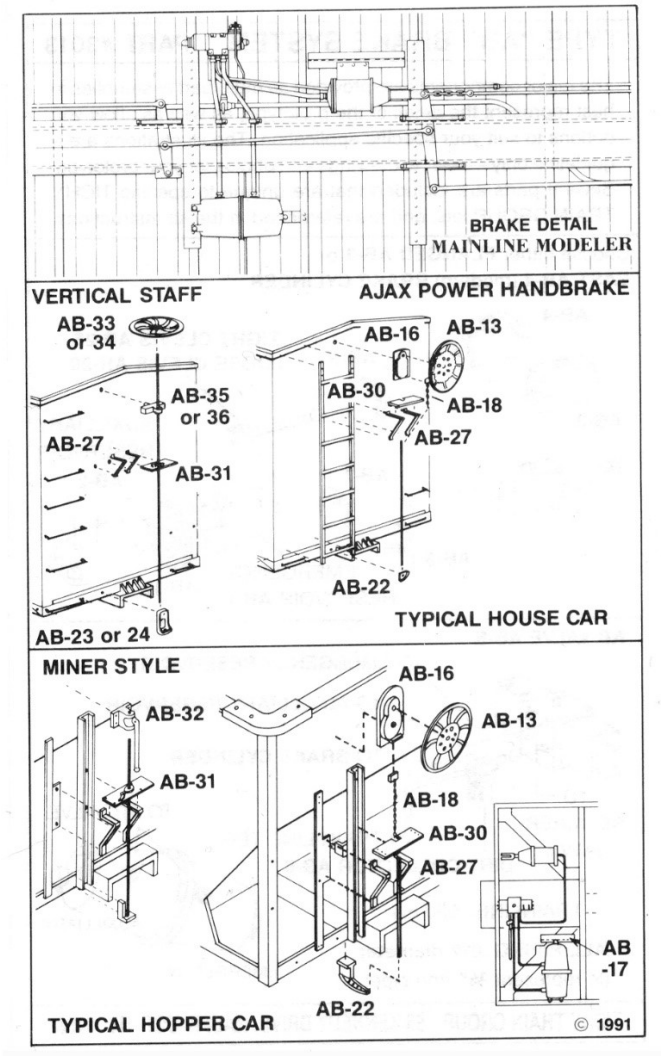
3. We found the below diagram slightly confusing, yet still helpful. Tichy has renumbered the parts since the diagrams were drawn. Ignore the part numbers and follow the shapes.

4. Do **not** install the brake wheel until the end. They will fall off, often disappearing to the floor long before the model is finished. Info on brake wheel installation can be found on the last page.



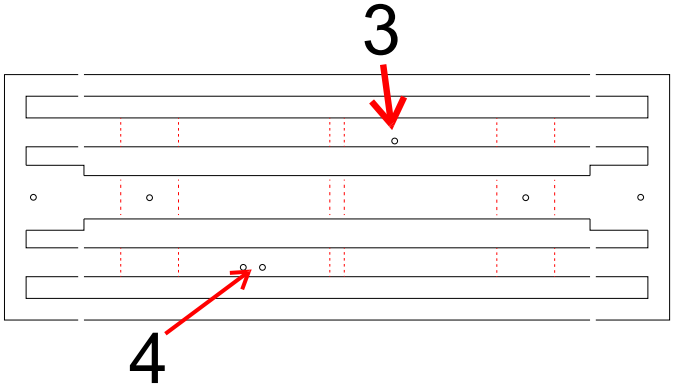






(Courtesy Tichy Train Group)

Parts 3 and 4 can be installed on the underside of the body in the locations indicated below.



Wire Truss Rods (Optional)

You have the option to install either wire truss rods or thread truss rods. If you want to install thread truss rods, disregard this section and proceed to the next.

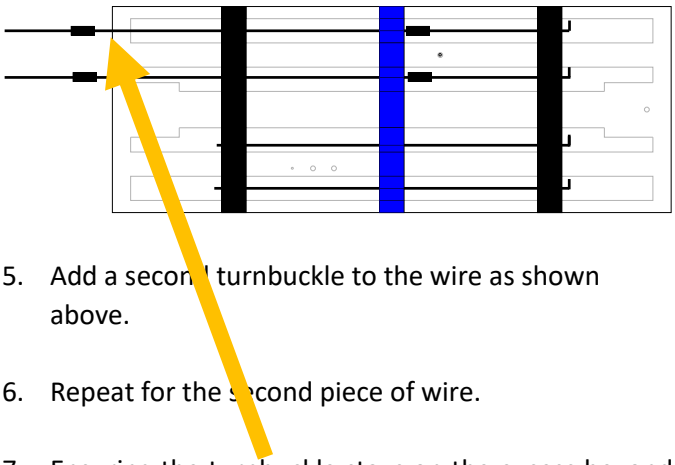
In the next steps, you'll use two pieces of wire to thread the four truss rods. If you decide to cut the two wires into four beforehand, make sure to attach the turnbuckles first. The space between the turnbuckle and the wire is nearly non-existent. As a result, it's nearly impossible to thread if you add the turnbuckle to the cut end. This is true even when working with the pre-cut ends!

- [ ] 1. Take one piece of wire and add a small, 90' bend at one end.

- [ ] 2. Feed the wire through one hole in the bolster.

- [ ] 3. Add a turnbuckle to the wire.

- [ ] 4. Run the wire across and through the corresponding hole on the opposite bolster as shown below. Orientation of the bent end does not matter. It is merely to hold the wire taught when tightened.



- [ ] 5. Add a second turnbuckle to the wire as shown above.

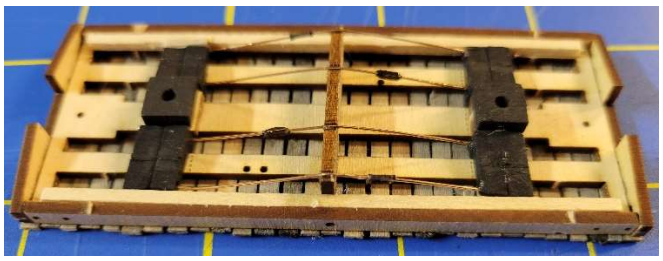
- [ ] 6. Repeat for the second piece of wire.

- [ ] 7. Ensuring the turnbuckle stays on the excess beyond the end of the body, cut the wire. You want the pieces of wire to be approximately even. (Shown short for clarity)

- [ ] 8. Repeat for the second wire.

- [ ] 9. Using a cut off piece of wire, with the turnbuckle in the middle, (it doesn't have to be centered) feed both ends of the wire through the third set of bolsters. Keep them as straight as you can. This prevents unwanted kinks.

- [ ] 10. Repeat step 9 for the last remaining wire.



- [ ] 11. Apply glue to the bottom of the queen post and insert it vertically into its laser-marked position. Make sure the wires run over their corresponding notches on the queen post. Please note that the photo above doesn't display the excess wire that you will have.

- [ ] 12. Apply glue, preferably CA (cyanoacrylate), but you can use your preferred adhesive, to the bent end around the holes in the bolsters. Apply it to just the wires on one end.

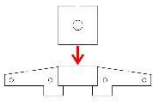
- [ ] 13. Individually, delicately pull the wires from the end that hasn't been glued to get rid of any slack. Aim to have the truss rods as straight as you can. You might not eliminate all the slack, but keep adjusting until you're content. Be cautious not to damage the queen post or bolsters while doing this.

- [ ] 14. Bend each wire on the excess end to lock it in place.

- [ ] 15. Apply glue, preferably CA (cyanoacrylate), but you can use your preferred adhesive, to this end around the holes.

- [ ] 16. Apply a small amount of glue to each turnbuckle. Random placement is fine, but staying within 50% of the center is more prototypical. They should not be on the queenpost

- [ ] 17. Once it's dry, trim the excess wire. It doesn't need to be perfectly precise, as it won't be visible as long as you touch it up with black paint later on.



- [ ] 18. Glue the center bolster pieces into place on each bolster. We typically use one 1/16 piece and 1/8 piece as shown above.

Threaded Truss Rods (Optional)

☐1. Apply glue to the bottom of the queen post and insert it vertically into its laser-marked position as shown in step 10 of the Wire Truss Rods section.

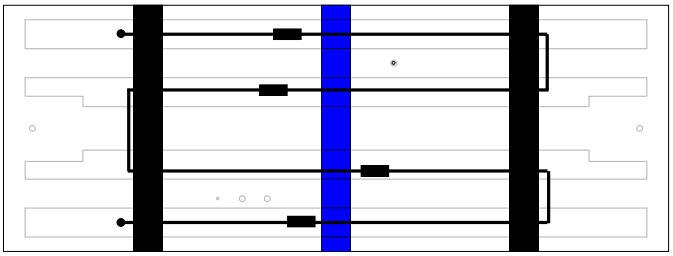
☐2. Take the length of thread and tie an overhand knot at one end. (We used three knots and a bit of CA glue at the first bolster because the thread is thin.)

☐3. Carefully guide the thread through the bolsters, as demonstrated below.

☐- As you are threading the bolsters, place a turnbuckle on the thread between each bolster. Random is fine. Do not glue them in place yet.

☐- You should have one turnbuckle for every span of the truss rods (a total of 4). Knots shown as circles. You will only have one knot at this point.

☐- The wooden queen post has notches for the thread to pass over. Ensure the thread is in the notches and that the turnbuckles aren't on the queen post.



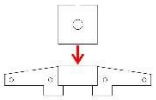
☐4. Gently pull the thread to remove sagging. Be careful not to break the queen post or pull the knot through the bolster.

☐5. Once taut, add the final knot (or several) as close to the bolster as you can get it.

☐6. Apply some CA to the thread at the end of the bolster to hold it in place.

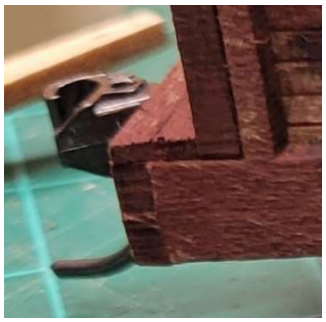
☐- We hung the whole assembly from the workbench with a small clamp while it dries to keep tension on ☐ it. It doesn't hurt to add CA to each bolster where the thread carries through.

☐7. When it's dry, cut the excess thread.

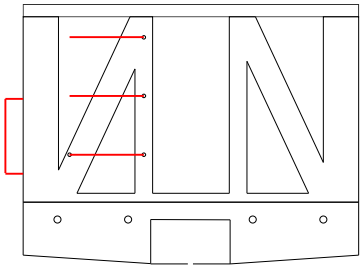


☐19. Glue the center bolster pieces into place on each bolster. We typically use one 1/16 piece and 1/8 piece as shown above.

FINISHING TOUCHES



☐1. Fit, cut and glue into place two pieces of 1/32 x 1/16 stripwood to each end. This forms a step across the car body.



☐2. Glue into place the grab irons on both ends as shown above in red. There are pre-drilled holes for this purpose. We recommend using a spare piece of 1/8 x 1/8 stripwood to keep the grab irons an even distance from the end wall braces. The same is true with the grab iron on the side.

☐3. Glue any weights inside the body, ensuring they are evenly disbursed.

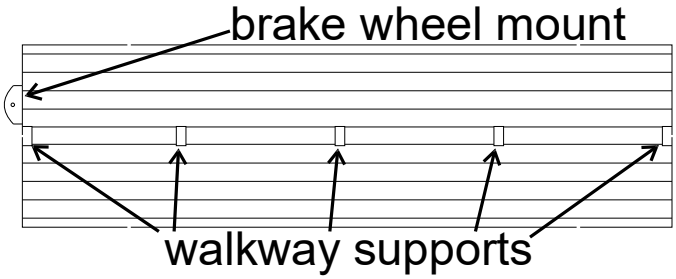
☐4. Install the coupler boxes. We recommend applying some CA to the frame where the coupler boxes will go, followed by appropriate screws (unfortunately, the screws included with some kits are for the trucks and are too long for this application).

☐5. Install the trucks using the screws and insulating fiber washers (some kits). For those unfamiliar, the washers go between the truck and bolster to smoothen truck movement.

- If the screws don't hold, add a drop or two of CA into the holes and try again. Work the trucks so they don't get glued into place.

☐ 6. Glue the cover to the body, ensuring it is square and fits evenly.

☐ 7. When dry, glue the walkway supports into place on top of the cover as shown below.



☐ 8. The brake wheel mount in this kit varies slightly from our other kits. To install the brake wheel, insert the sharpened end of the pin through the brake wheel mount and glue it to the stripwood you attached in step 1.

☐ - Once secure, glue the brake wheel to the top of the pin.

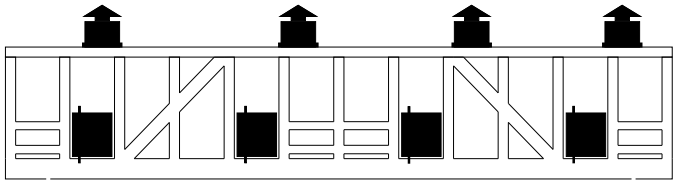
☐ 9. Install the end nut, bolt, washers (NBWs) and stirrups using glue.

- Either CA or white/wood glue seems to work equally well.

☐ - The NBWs have holes cut for them. Orientation of the NBWs doesn't matter, however they should be random and not all oriented the same way.

☐ - There are also holes cut to serve as guides for the stirrups. Unlike the photo above, the stirrups are on the opposite side and there are only two. We usually install the stirrups absolutely last because they are usually the first thing to fall off! It is included in this step because this is the logical place for it.

☐ 10. Glue the walkway into place along the top of the body.



☐ 11. Install the vents and drains as shown above. Be careful of the orientation of the drains.

- The vents are in the approximate locations. They don't seem to have been symmetrical, but were in the same positions on both sides. They also appear to have been centered between the walkway and edge.

☐ 12. Do any necessary paint touch-ups and final weathering.

13. Please share your photos on our Facebook page!
https://www.facebook.com/ConowingoModels

Once again, thank you for your purchase!

If there are any parts missing, please e-mail us what you need to complete the kit and we'll send it your way. Suggestions for improvement are welcome. Please join us on Facebook and post your photos!

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https://www.facebook.com/ConowingoModels/
for more exciting, funky buildings and rolling stock for your model railroad!

Many thanks to my family, Jeff Grove, Steve Milley and Mark Schreier for their support!