

# Conowingo Models



## Caboose #4

HO Scale



[www.conowingomodels.com](http://www.conowingomodels.com)  
<https://www.facebook.com/ConowingoModels/>  
[conowingomodels@yahoo.com](mailto:conowingomodels@yahoo.com)  
July, 2025

**Thank you for purchasing this kit!**

Caboose #4 is based on the charming Pickering #4, which is currently operating on the Niles Canyon Railway in Fremont, CA. Their website is <https://www.ncry.org/> We haven't spoken with them, but we're sure they would be appreciative of a donation to help keep their operation going for future generations.

While this kit was designed to pattern a specific caboose, it does look generic enough that it would go well on most railroads.

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

## INDEX

INDEX.....	1
VARIATIONS .....	1
PRE-PLANNING WEIGHTS.....	1
KIT CONTENTS.....	2
PRE-PAINTING/STRIPWOOD PREP .....	3
BODY UNDERCARRIAGE ASSEMBLY .....	3
BRACING .....	4
ROOF ASSEMBLY .....	5
CUPOLA ASSEMBLY .....	5
TICHY TRUCK ASSEMBLY (SOME KITS).....	6
BODY ASSEMBLY .....	7
GRABIRON INSTALLATION.....	7
DETAIL PART ASSEMBLY.....	8
UNDERCARRIAGE ASSEMBLY .....	8
FINAL ASSEMBLY .....	8
DECALS.....	9
WEATHERING.....	9
CONCLUSION .....	9

## VARIATIONS

This caboose is very heavily based on the Pickering #4. As such, we didn't apply any thought to variations that might be applicable to this unique caboose. Challenge us! More importantly, challenge yourself!

## PRE-PLANNING WEIGHTS

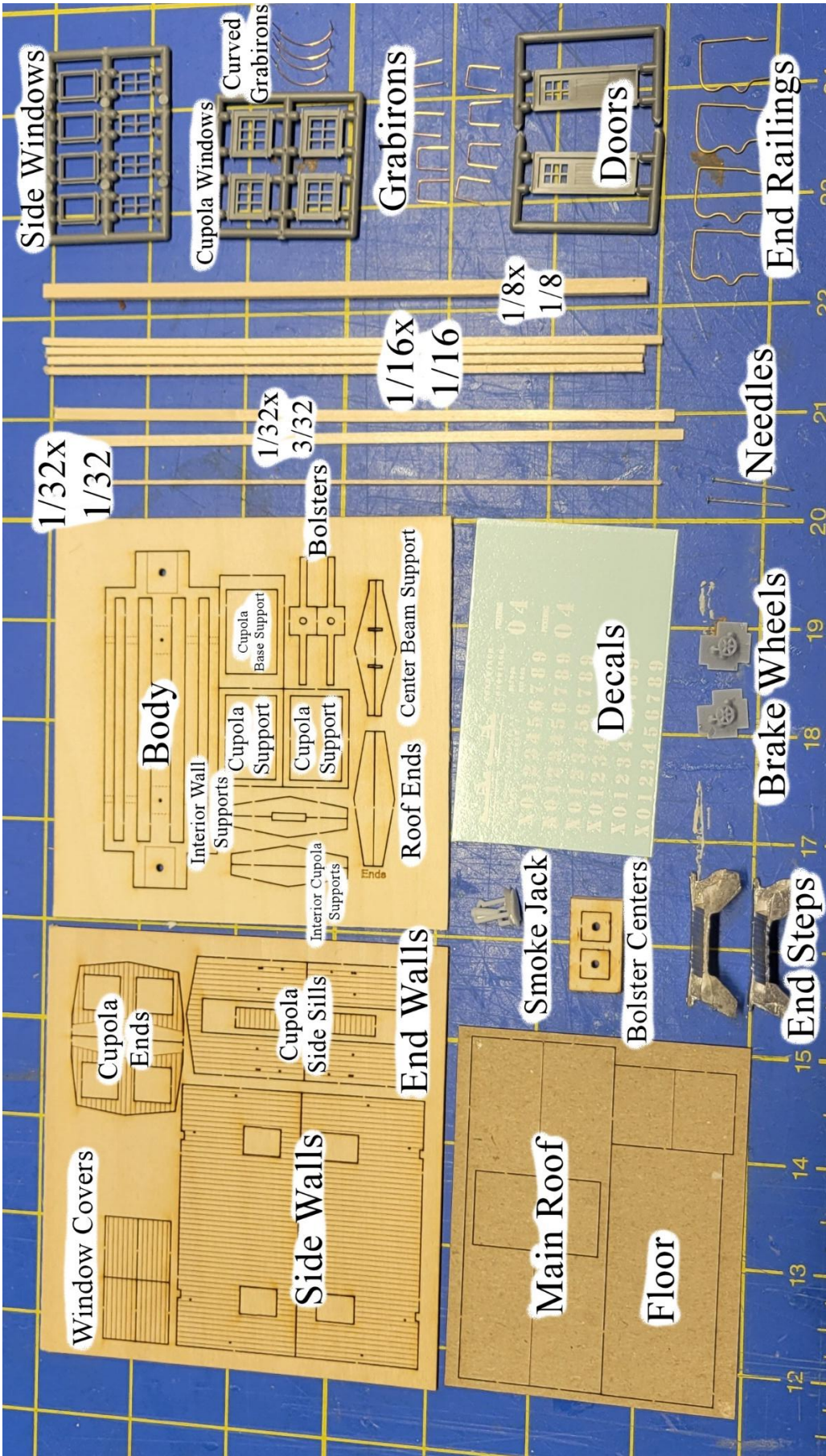
Plan out where you'll want to add weights.

The NMRA, in RP-20 (essentially) states that this car should weigh 2.8 ounces. An unweighted example of the pilot model weighed 1.5 ounces with Kadee trucks and couplers.

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

Any added weight to this caboose should be done inside the cabin.

**KIT CONTENTS**



## PRE-PAINTING/STRIPWOOD PREP

### Stripwood Cut / Parts and Color Chart

Wood/ Part	Length	Qty	Purpose/ Note	Color	Interior Color	Prepaint
Body		1	Undersides	Black	N/A	No
Body Bracing 1/16	2.35 in	2		N/A	Light Green	No
Body Bracing 1/8	2.35 in	1		N/A	Light Green	No
Endwall Corner Bracing 1/16	.5 in	4		N/A	Light Green	No
Endwall Vertical Bracing 1/16	1 in	4		N/A	Light Green	No
Sidewall Horizontal Bracing 1/16	2.25 in	2		N/A	Light Green	No
Sidewall Vertical Bracing 1/16	.85 in	2		N/A	Light Green	No
Bolster Centers		2		Black	N/A	Yes
Bolsters		2	Tomato Red ends	Black	N/A	Yes
Brake parts		1		Black	N/A	Yes
Brake Wheel		1		Black	N/A	Yes
Center Beam Support		1		Black	N/A	Yes
Couplers (optional)		2		Black	N/A	Yes
Gearboxes		2		Black	N/A	Yes
Ladders		2		Black	N/A	Yes
NBW's (Nut, Bolt, Washers)		12		Black	N/A	Yes
Needle		1		Black	N/A	Yes
Roof		2		Black	N/A	Yes
Trucks		2		Black	N/A	Yes
Smoke Jack		1		Metal/Black	N/A	Yes
End Steps		2		Red/White	N/A	Yes
1/32 x 3/32	3.32 in	2	Roof Supports	Tomato Red	N/A	Yes
Cabin Windows *		4	White Trim on window panes	Tomato Red	N/A	Yes
Cupola braces (1/32 x1/32)	.66 in	4		Tomato Red	N/A	Yes
Cupola exterior walls		4		Tomato Red	Light Green	No
Cupola window covers		4		Tomato Red	Light Green	No
Doors		2		Tomato Red	Light Green	Yes
Roof Ends		2		Tomato Red	N/A	Yes
Walls		4		Tomato Red	Light Green	No
End Railings		4		White	N/A	Yes
Grabirons		12		White	N/A	Yes
Upper Windows *		4		White	N/A	Yes

\* Over the life of the car, it has had several color variations

This pre-painting guide assumes that you will finish the caboose as we did and the same way as Pickering #4.

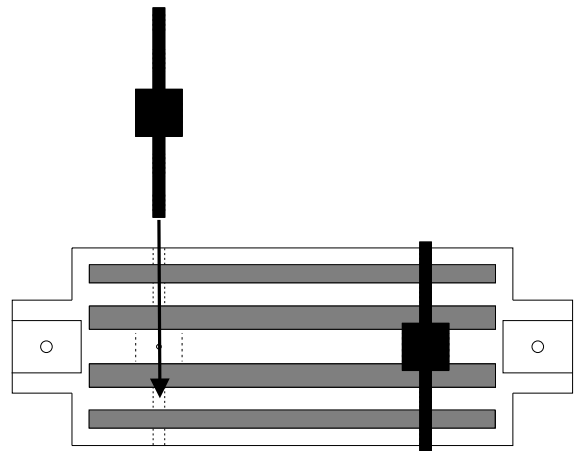
We recommend that you use the stripwood cutting portion with a grain of salt. We all model a bit differently and what worked for us, may have different results for you.

On this particular kit, we only recommend pre-painting a few items. If you paint the walls, etc. before bracing, they will warp and you will ruin the kit. We destroyed one of the pilot models trying to cheat and it didn't work.

The body, bosters, bolster centers and center beam supports can be prepainted, but **ONLY** with non-acrylic paint. We used Testors Model Master Flat Black.

We also didn't use the correct red paint for the exterior. Ours came out too red and not enough orange. The pilot models actually don't look as inaccurate as the photos show.

## BODY UNDERCARRIAGE ASSEMBLY



1. Remove the body from its carrier.
2. Remove and discard the four sections shown above in grey.
3. Note the dashed lines that denote where the bolsters go on the scribed side of the body.



4. Install the two bolsters, making sure that they overhang evenly on both sides.

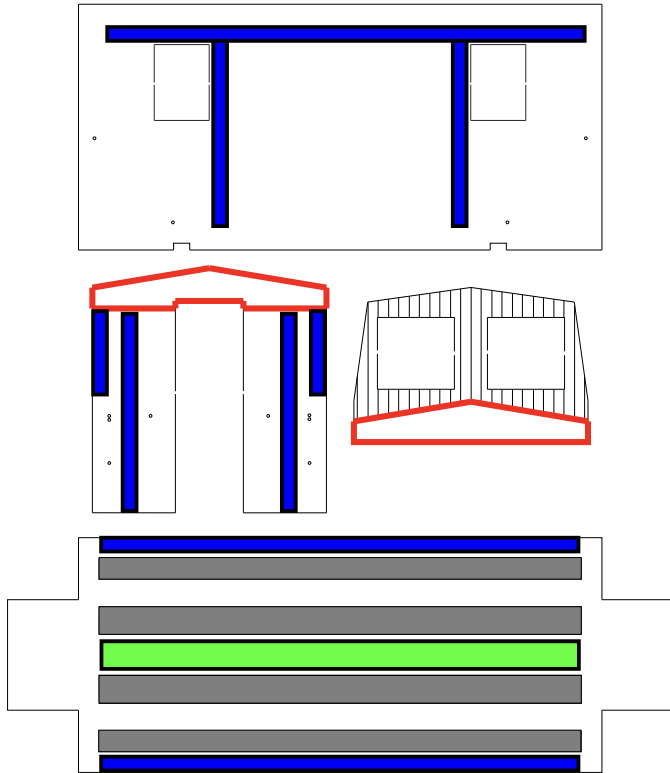
Notice how they stick out of the sides above.

It is tempting to install the center beam support. **DO NOT DO THIS YET!** Trust us, it makes things more difficult.

5. Add weights and let dry.



## BRACING



**Ensure that you use the correct braces. You will notice that there are several sets of braces.**

If you are building one of the first production-series kits, you will notice there are two sets of end walls. Use the set that is by itself. Otherwise, you will have a gap at the top of the doors.

The support braces that go over the door openings has a door cut out in it. Due to a change in the end rails, the door had to be altered and it will not match up with the opening on this piece.

The roof end pieces are wider than the cupola braces.

**Above we have three wall or cupola pieces, plus the body. There are two of each piece, for a total of six pieces.**

1. Add 1/8 stripwood to the center of the body on the inside. (Shown in green)
2. Use the 1/16 laser-cut pieces of basswood (shown outlined in red) to brace the end walls and cupola.

3. Use 1/16 stripwood to brace the areas shown above that are blue.

These pieces should be glued to the interior. (The side without any laser etching on it.)

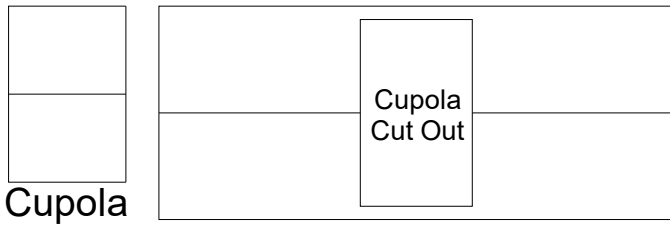
The horizontal piece on the side walls needs to be placed as you see it and even on both sides, because the cupola will sit on it and you want it as square as possible.

4. We've included a piece of chipboard to block light from coming through the floor of the caboose. We didn't use it on the pilot models. If you decide to use it, we recommend cutting it to fit between the 1/8 inch stripwood and 1/16 stripwood pieces and gluing them into place.

The cupola end walls will need to be braced on the outside, while the end walls will be braced on the inside.

Ensure that you do not block any of the holes on the end or side walls.

### ROOF ASSEMBLY

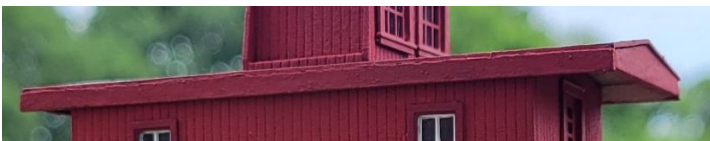


We'll admit that it seems counter-intuitive to build the roof now. However, it facilitates the construction process rather well.

1. Cut out the outline of the chipboard roof, making sure not to cut the roof ridge.
2. Remove the cupola cut out.
3. Cut the cupola out. Again, do not cut the roof ridge.
4. Bend the roof ridges of both the cupola and the roof.



5. Glue the roof ends to the main roof on both ends as shown above. (Only one end shown for clarity)



6. Fit, cut and glue the stripwood for the roof supports into place on the main roof as shown above.

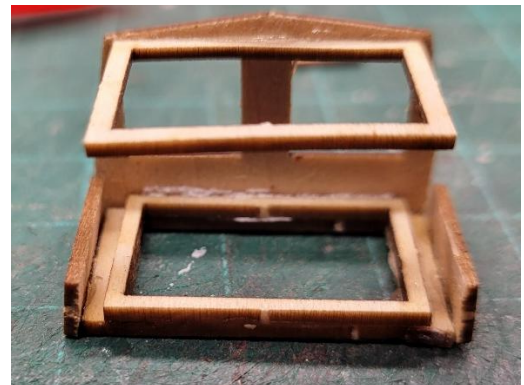
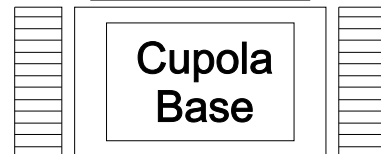
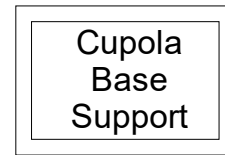
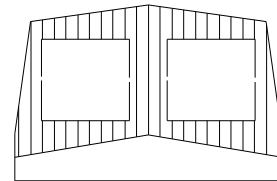
You will need to do this for both sides.

**SAVE THE EXCESS. YOU WILL NEED IT LATER.**

### CUPOLA ASSEMBLY

Think of the cupola assembly is a box, with slider windows on the sides. The real Pickering #4 windows actually swing outward from the top, but assembly goes better if you think of them as sliders.

**Be very careful with assembly, the parts are brittle. We also highly recommend NOT using CA for this step. We destroyed several cupolas by not taking our own advice.**



1. Glue the cupola base support to the cupola base, ensuring it is centered.
2. If you have not done so already, glue the interior cupola supports to the outside (scribed side) of the cupola ends in the non-scribed area that matches their shape. (Shown in the bracing steps)

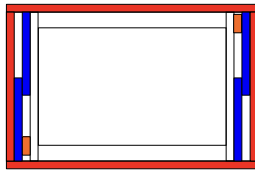
3. Glue the cupola ends to the base as shown above (only one end shown for clarity)

The scribed sides face outward.

4. Glue the cupola side sills into place as shown above.

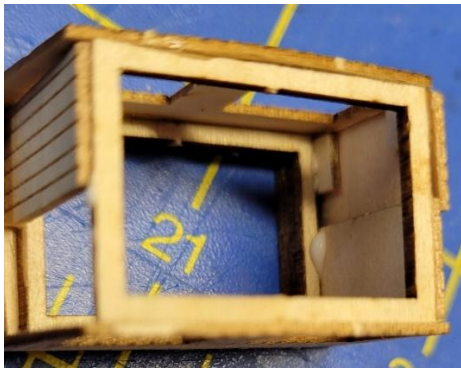
The scribed sides face outward.

They sills should fit against the inside of the cupola ends. (Photo above is why we recommend NOT using CA. The glue set up too quickly and we couldn't adjust it without destroying it.)



5. Glue the cupola window covers into place as shown above in blue. Top brace not shown for clarity.

You may choose to add a shim (shown above in orange) made from scrap 1/32 basswood. This will help keep the window cover spacing even.



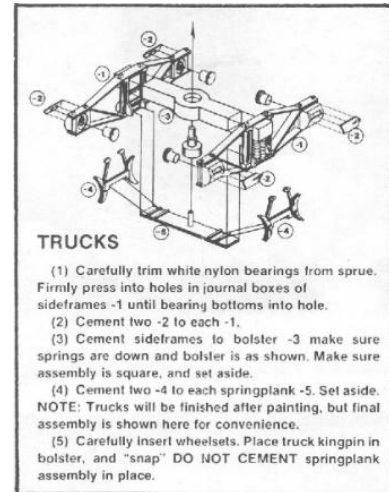
6. Put the main roof over the cupola. If you don't do so now, the cupola won't fit later! The windows will make the cupola wider than the opening.

**Don't glue the two pieces together!**

7. Glue the cupola roof into place on top of the cupola.
8. You may choose to fill in the roof ridges with putty to cover up the seams.
9. We recommend painting the cupola at this step, but after the glue has thoroughly dried.

## TICHY TRUCK ASSEMBLY (SOME KITS)

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



(Courtesy Tichy Train Group)

## BODY ASSEMBLY



Glue the sidewalls into place so that they sit evenly over the tips of the bolsters as shown above.

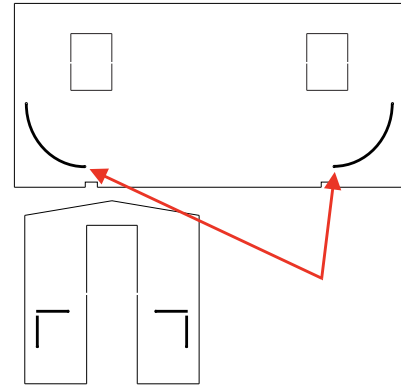


1. Glue the end walls into place between the sidewalls, ensuring that they are even.

The end walls sit on the edge of the body and between the side walls.

2. If the roof assembly is dry, we recommend sliding it over the top of this assembly. This will hold it in place.
3. When dry, we recommend painting the walls.

## GRABIRON INSTALLATION



1. Take a small hand drill and drill out the two holes as shown above by the arrows.

The purpose is to drill a hole for the grabirons to go through the 1/16 stripwood on the opposite side. Do this for both side walls.

2. Glue the hand rails into place as shown above on all four walls. Only two walls shown for clarity.

We recommend temporarily placing pieces of 1/32 scrap wood between the hand rails and the side wall of the caboose. This creates a space that keeps the hand rails evenly spaced. **Do not glue them into place and remove them when the glue is dry.**

**Do not glue the doors into place yet!**



3. Trim the end railings so that they will fit on the end steps. **Be careful to cut them evenly.**
4. Glue the end railings into place as shown above.
5. If you haven't painted the end railings already, this is your best opportunity to paint them.

### DETAIL PART ASSEMBLY

We highly recommend that the windows be painted before assembly.

1. Glue the acetate into place on the doors and windows.

On the smaller windows, you will need to glue the inner frames into the outer frames.

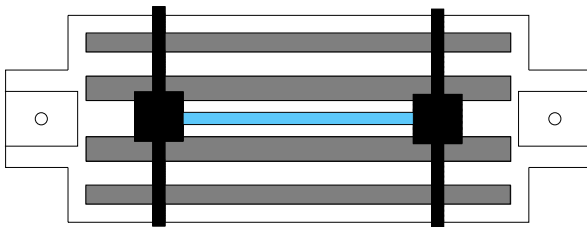
2. Glue the eight windows into place.



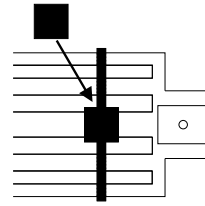
3. File/cut down the underside of the smoke jack so that it will sit level on the roof.
4. Glue the smoke jack into place.

On the real car, it appears to be centered on the right side between the side window and corner as well as between the door and the corner.

### UNDERCARRIAGE ASSEMBLY



1. Install the center beam support as shown above in aqua on the underside of the body.



2. Install the two bolster centers on the bolsters.

### FINAL ASSEMBLY

1. Install the step assemblies on the ends, making sure that they are as close as possible to the body and that there is no drooping.
2. Assemble and install the couplers.
3. Glue the roof assembly into place, ensuring it is centered on the body.
4. Glue the doors into place.
5. Glue the ladders into place.



6. Cut and install the cupola braces as shown above.

It appears that on the real car the braces connect on the side of the roof, centered above the window and go to the corner of the cupola window.

We recommend using a slow drying glue as it will take quite a bit of effort to get the braces into the correct spot. Ours aren't perfect by any stretch, because we used CA. (Not recommended.)

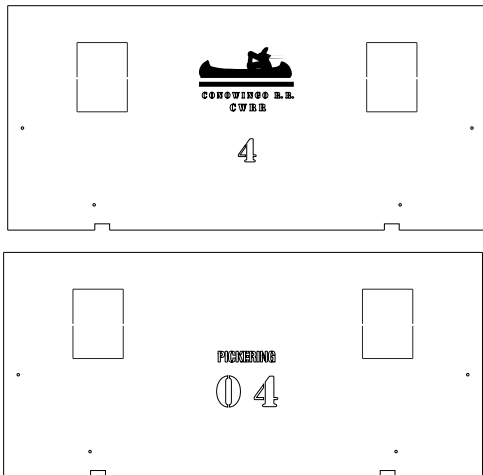
It has been recommended that these braces be replaced using wire. If you do this, please let us know how it worked out. We may incorporate it into future versions of this kit.

7. Cut the sharp end of the needles down to approximately four scale feet.



8. Fit the needle through the center of the brake wheel.
9. Glue the head of the needle to the brake wheel.
10. When dry, glue them into place on the end sills.
11. Cut and install the braces for the cupola
12. Do any paint touch-ups.

### **DECALS**



1. Apply decals to both sides as shown above.

### **WEATHERING**

The pilot model wasn't weathered initially and still isn't at the time of writing. However, we recommend using a light coat Hunterline Concrete to dirty and lighten the features, followed by some Driftwood. Rust will be simulated by using diluted orange/black on the metal parts and trucks.

### **CONCLUSION**

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.

Also, suggestions for improvements are always welcome. Many thanks to Steve Milley, Jeff Grove and Mark Schreier for their help! Additional thanks to Don Tichy for all the parts and diagrams!

