Building a contest-quality West Side Caboose model

Frank Markovich

Sierra – West Side Day

Friday May 8, 2018

Nevada City – Nevada County Narrow Gauge Event

Wanted to build this for both the NMRA Convention in Orlando and the NNGC in Denver.

- I entered the model in the NMRA Contest and won 1st place open and got an achievement award. The problem was there were not many models and not a lot of competition in Orlando. I won 4 first places in various categories and a couple were because there were no other models in those categories.
- Fast forward a couple of months to the NNGC in Denver. There were about 10 cabooses and at least 200 plus models. Lots of excellent competition. I took 2nd in both caboose and special equipment. This is a voting contest and limited text is allowed. Being in On3 (smaller scale for this convention) and not doing a Colorado prototype I was surprised that I did as well as I did.

Purpose of the clinic

- Show the steps to creating a contest quality model of West Side Lumber Co Caboose.
- Start of an article that I have been asked to write.
- Present some ideas for:
  - Research
  - Building the model
  - Documenting the model
  - Solving particular problems (and for this model there were a number of problems)
  - After ideas on improvements that I could have made for the future.

A Little Background

- I built an HOn3 version of this caboose in 1980. Guessed at the interior and other items.
- It won 1st place in PRC - NMRA contests. Received over 110 points.
- While it was a very good model, I have switched to On3 and along the way found much more information on the caboose.
- I wanted to make this caboose as close to prototype as possible.
- Even with this I have found a few problems – will talk about them.
- Following is the journey.

IF you wanted to build a kit of a West Side Caboose there are a number of options.

- In HOn3 Durango Press makes an excellent shorty #4 or #6.
- Old Simpson kits of may of he West Side Cabooses.
- In On3 Foothill used to make a #4 (model shown later) that built into an excellent kit.
- Again in On3 Simpson kits – Craig Tribuzi is coming out with excellent updates of many of those kits.
- Rio Grand Models has #5 – also a great kit.
- If you don't want to build one there are excellent Brass ones from Westside Models (HOn3) and Beaver Creek (On3) – these are great looking models.
- All of these models appear on Ebay from time to time – The Durango Press kits are still available retail. One word of warning on the On3 brass Beaver Creek models – these are very heavy. My 3 truck shay with 2 brass log cars and Caboose #4 in the rear has trouble on 1.5% grades – forget 2% or more.

A couple of pictures of the model – 100% Scratch Built other than trucks and couplers.

Also built some kits in both HOn3 and On3

- Durango press makes an excellent HOn3 kit. Made the roof re-moveable and added in a full interior.
- Won a PCR kit and NMRA kit 1st place.

On3 Foothill models

Great kit if you can find it! Goes together well also a contest winner.

A word of encouragement

- I have started and stopped at least 6 times.
- In addition to that, I have at least 3 versions. Not all complete.
- Some parts there are experiments and a dozen or more tries. Such as the siding. I have 3 partial frames and decking – next time I build one the decking will be Ship Lap siding – missed that on this version.
- I have built 2 other versions of this from kits. Yes I am a caboose junkie. I have more caboose models than locomotive models.

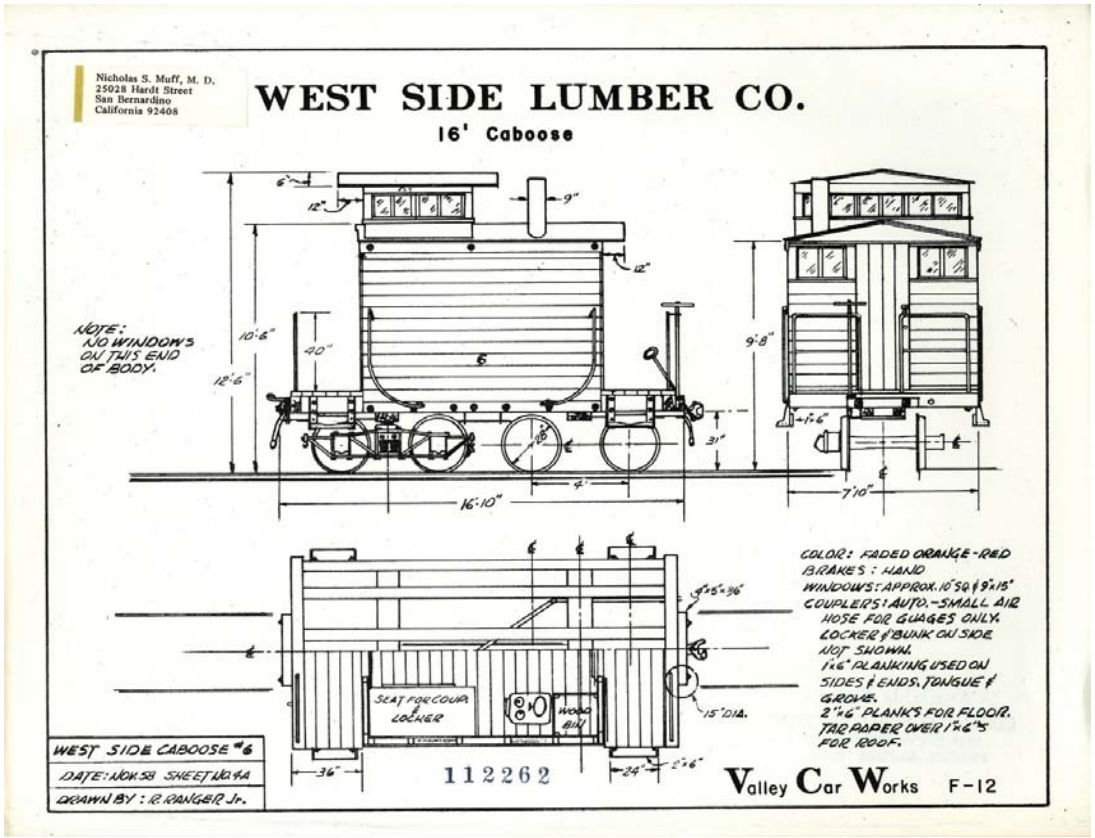
Research

- Videos
  - Too many to list.
- Internet
  - Many sites but most useful is the Nevada County Narrow Gauge Museum in Nevada City, Ca – pictures etc. on rebuilding Short Caboose #4. John Christenson posted dozens of photos of the rebuild and the condition of the caboose when they received it.
- Field Trips
  - West Side Lumber Company," Tuolumne City Memorial Museum.
- Misc
  - Russ Simpson drawing packages on Caboose
  - Russ Simpson CD's on West Side Lumber
  - Dr. N. Muff photo collection
  - Interviews with many people.
- Books – a few on West Side
  - Ferrell, Mallory Hope, *West Side: Narrow Gauge in the Sierra*
  - *Ferrell, Mallory Hope, West Side Pictorial*
  - Krieg, Allan (1962). *The Last of the 3 Foot Loggers*
- Photographs
  - Some I took over the years.
  - Many that I purchased at West Side Reunion and off of Ebay.

More references.

- Online photos of the caboose rebuild at the Nevada County Narrow Gauge Museum. This was one of my main sources of information particularly on the framing and interior.
- Field trips to Westside – mainly when Bell owned it and under Westside and Cherry Valley. Pictures taken and some measurements made at the time.
- 8 mm film taken by Ray Willie – done in the 1960's.
- Simpson Westside Caboose Plans. – Russ Simpson.
- Logging the Redwoods by Lynwood Carranco and John T Labbe
- Railroads in the Woods by John T. Labbe and Vernon Goe
- The Whistles Blow No More : Railroad Logging in the Sierra Nevada 1874 - 1942 by Hank Johnston (1991)
- West Side by Mallory Hope Ferrell
- Rails in the Mother Lode: The Sierra, The Hetch Hetchy, The Pickering Lumber Company, and The West Side Lumber Company by Adolf Gutohrlein and Adolf Hungry Wolf (1969)
- This Was Logging by Ralph W. Andrews
- Glory Days of Logging by Ralph W. Andrews.
- Kinsey Photographer by Dave Bohn
- The Model Railroader's Guide to Logging Railroads by Matthew Coleman

Some of the plans



Some of the information collected – a full 3 pages in the end

Under frame is all 6” by 8” – some drawings indicate 5” by 7” but most agree on 6” by 8”.

Floor is 2” by 6”

Siding is ¾” or 1” by 7 inch ship lap.

Total Height is 12’6” Height to top of main roof is 10”6”

Stove pipe is 9”

End floors are 36” from end beam to wall.

Steps are 24” wide

End railings are 40” high

End boards for the couplers are 4” by 5” by 36” long

Brake while is 15” diameter.

Overhang on roof is 12” both on main roof and on cupola.

Windows about 10” scare and 9” by 15” on end.

Roof boards are over 1” by 6’ with black tarpaper over them.

Doors on both ends but windows only on brake wheel end.

Board on bottom of stairs is 2” by 6” while splash board is a 1” by 6”

Overall length is 16’ 10”. From end beam to end beam (counting coupler beam).

From rail to bottom of roof is 9’8” and the total roof height for cupola roof is 6”

Wheels are 26”

Width of car is 7”10” side to side not counting the steps.

4’1” wheelbase for each truck. Total wheelbase of care is 12’ 6”.

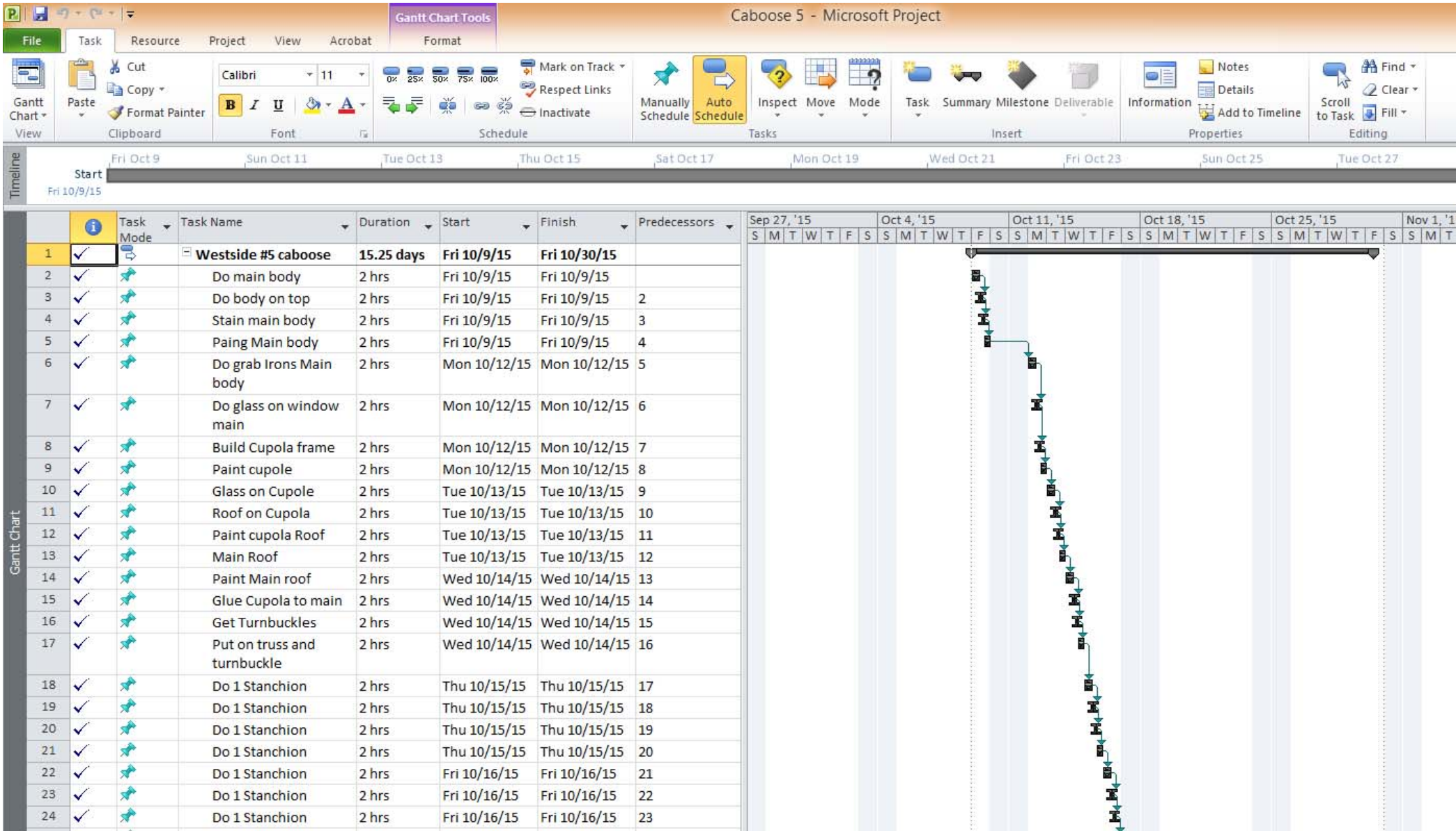
Length over end sills is 16’ 7”

The ratchet wheel on the brake staff has its teeth on the bottom rim of the ratchet, instead of around the perimeter.

The angle cocks are shown in the side and top views as if they were mounted vertically, but actually they are mounted at 30 degrees to the vertical, as shown in the end view.

I do a project plan – MS Project for this one

- There are also good project management programs on the Mac.
- Following is first page of the plan.
- It is like doing a self kit!



	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**Westside #5 caboose**	**15.25 days**	**Fri 10/9/15**	**Fri 10/30/15**	
2		Do main body	2 hrs	Fri 10/9/15	Fri 10/9/15	
3		Do body on top	2 hrs	Fri 10/9/15	Fri 10/9/15	2
4		Stain main body	2 hrs	Fri 10/9/15	Fri 10/9/15	3
5		Paing Main body	2 hrs	Fri 10/9/15	Fri 10/9/15	4
6		Do grab Irons Main body	2 hrs	Mon 10/12/15	Mon 10/12/15	5
7		Do glass on window main	2 hrs	Mon 10/12/15	Mon 10/12/15	6
8		Build Cupola frame	2 hrs	Mon 10/12/15	Mon 10/12/15	7
9		Paint cupole	2 hrs	Mon 10/12/15	Mon 10/12/15	8
10		Glass on Cupole	2 hrs	Tue 10/13/15	Tue 10/13/15	9
11		Roof on Cupola	2 hrs	Tue 10/13/15	Tue 10/13/15	10
12		Paint cupola Roof	2 hrs	Tue 10/13/15	Tue 10/13/15	11
13		Main Roof	2 hrs	Tue 10/13/15	Tue 10/13/15	12
14		Paint Main roof	2 hrs	Wed 10/14/15	Wed 10/14/15	13
15		Glue Cupola to main	2 hrs	Wed 10/14/15	Wed 10/14/15	14
16		Get Turnbuckles	2 hrs	Wed 10/14/15	Wed 10/14/15	15
17		Put on truss and turnbuckle	2 hrs	Wed 10/14/15	Wed 10/14/15	16
18		Do 1 Stanchion	2 hrs	Thu 10/15/15	Thu 10/15/15	17
19		Do 1 Stanchion	2 hrs	Thu 10/15/15	Thu 10/15/15	18
20		Do 1 Stanchion	2 hrs	Thu 10/15/15	Thu 10/15/15	19
21		Do 1 Stanchion	2 hrs	Thu 10/15/15	Thu 10/15/15	20
22		Do 1 Stanchion	2 hrs	Fri 10/16/15	Fri 10/16/15	21
23		Do 1 Stanchion	2 hrs	Fri 10/16/15	Fri 10/16/15	22
24		Do 1 Stanchion	2 hrs	Fri 10/16/15	Fri 10/16/15	23

Plans

- Well I did them in Microsoft Project. I list each stage of construction.
- I plan out as much as I can before starting the project.
- Also acquire the materials, paints, etc.
- I drew out plans and made jigs for the underbody frame the sides and ends.
- Also Mixed the paints.

Two of the problems I had to solve

- First was the siding. I was led to believe that is was milled siding. But it was not it was ship lap siding. Careful study of the photos showed that. Verified it with John Christensen and with a trip to this museum to look at the caboose. Also the photos.
- Next the side framing was mitered into the frame. While I did that no one could tell unless they turned the caboose over and looked very closely at the underframe. The wood was also mainly 2 by 2's with 2 by 4's running at diagonals.

#4 Ship lap siding

Siding

- First tried siding by using 1/64 veneer with some laser cut board 1/64 that I first painted. Would have worked if the sides were siding. This by the way was a struggle. Not a bad idea but took lots of time.
- Did try a number of other methods including individual boards on the veneer.
- The prototype siding was close to 1” thick which presented another problem.
- When I found out (or figured out) that it was Shiplap Siding, I went to a different approach.
- I was thrown off at first thinking it was Tongue and Groove siding.

Some of the photos I used a reference

- On following pages


Hidden


NCNG


LOUISVILLE

Final success for siding

- I took scale 1/2 by 7's in O scale which is roughly a 1 by 12 in HO scale (the wood that I used).
- Used the HO scale wood.
- I beveled the edges with a sanding block.
- Next I sanded the wood to make it even thinner. Broke some in the process. I wanted to get close to 2 pieces on top of each other equaling 1 scale inch in O scale. Or about .0015 from the thickness of each piece.
- I then weathered the wood with chalks and alcohol stain.
- I made a spacer jig.
- Then built the interior of the wall by first applying the ½ by 7's to the framework. Did this over the framework jig.
- On top of that added the exterior using the jig and making sure that the first piece was offset .01 from the interior boards. That would give a Ship Lap of 1 by 7.

Back 1 step

- I built up the framing for the interior.
- This was on a jig. Jig built by using clear styrene over a copy of the plans. I then used scrap styrene glued to the base styrene to make the jig. I did 1 side and 1 end at a time.
- Wood was already pre-stained.
- I did add some grain detail but it cannot be seen.

I then built the underbody frame

- Made a similar jig.
- Routed the side frames of the underbody for the side frame of the top part of the caboose. See next Slide.
- Before putting the sides on I added the decking – stained in different ways – very light under the caboose then a little darker for the interior and darker yet for the exposed ends of the caboose. I built the decking while the underbody was still in the jig!
- Added in the bolsters and brake detail.

Adding the caboose sides

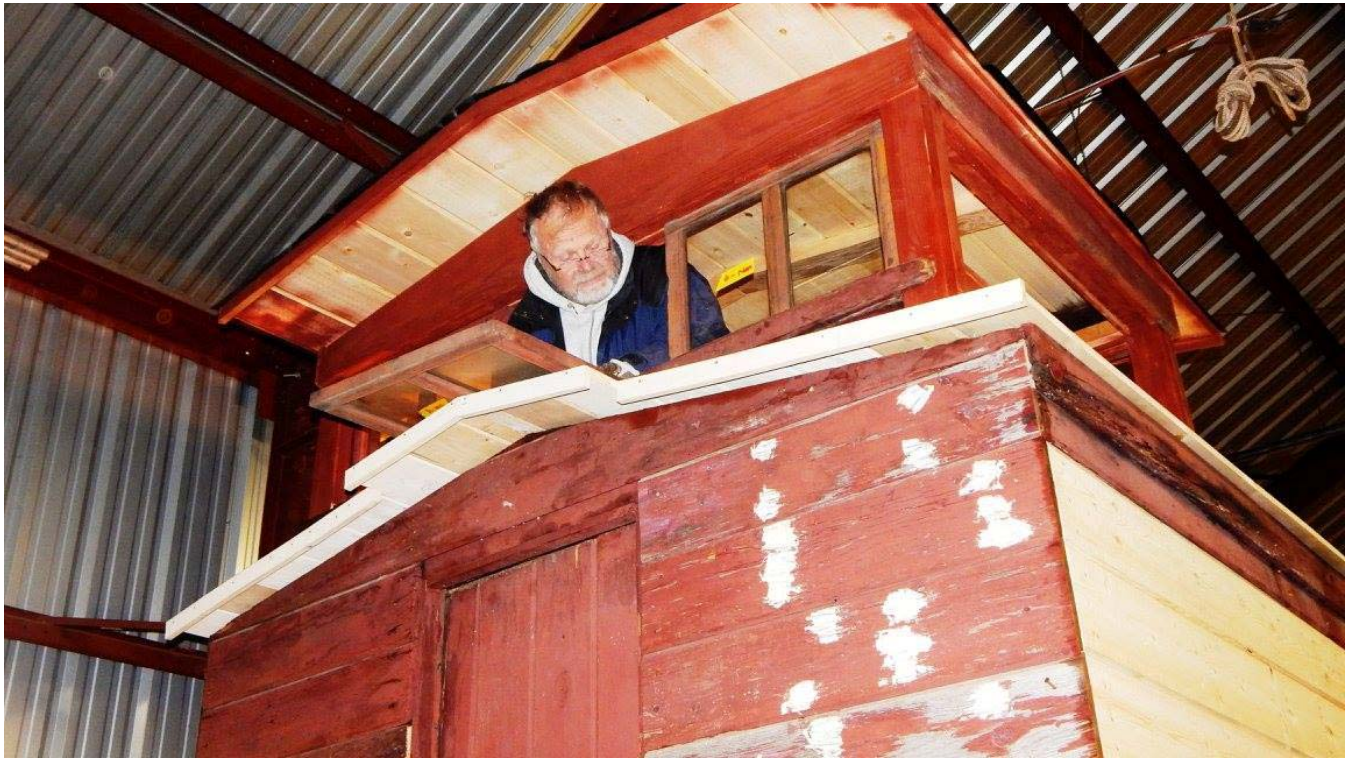
- Did one side at a time. I had to sand and file a bit to get the sides to fit. I used weights and squares to ensure that each side was true and upright. For most of the wood to wood I had used Carpenter's glue but for this I ended up using White glue. If I made a mistake I would be able to fix it.
- After the sides were both on and looked square I added the two ends. For those I used Carpenter's glue again.
- I let all of this dry for a few days.

Windows

- These were all laser cut. I drew them out. There are actually 5 different size windows sizes.
- I had these cut from 1/64 fiber board. I first stained them and then for the outside I painted them.
- While this is slightly oversized it is very close to scale size. It is less than a scale ½ in too thick.
- Used real glass that is sandwiched between the two window frames.
- This part was the most tedious. About an hour per window to assemble and put on the model. Lots of broken glass and ruined windows in the process. I would have used clear styrene if I were to do it over again. You get 1 chance only with the frame on the glass – each side.
- I drew the frames out in Corel Draw and had them cut professionally at first but he used material that was too thick. But then can them myself at a friends house. (as a side note – I learned quite a bit doing this),
- See windows in Cupola on next slide.

Main roof

- Made the roof removable. But actually built it on the caboose.
- First made the underside framing which is cut into the caboose sides.
- These were very lightly tacked in place.
- Applied the 1 by 7s to 1/64 veneer. Glued this (1 by 7's down) to the framing. Left to dry. Then lightly removed the whole assembly from the caboose.
- Put back in place (now a press fit). Attached the tar paper roof. Let this dry. The tar paper was first painted black. Used very thinned craft paint and a few very light coats.
- Next 2 slides shows caboose roof boards.
- Following is model interior



Cupola

- Again built up a jig. Built each side separately, then assembled the four sides together.
- The roof is built up of the 1 by 7’s over 1/64 veneer with a simulated tar paper on the top.

Hand rails, steps etc.

- These were made over a jig. Just bent brass wire.
- Used a dry transfer for the number 4.
- For all the NBW's I drilled these early on. Applied and each side or end was complete.
- The steps were scratch built from plastic that was cut to shape then part was cast with resin. NBW were added. Steps are wood.
- If I did it again wood have used the Foothill Models steps!!
- Doors were made board by board and hinges out of wire, left partly open to see interior better.

Interior

- One great thing about the NCNG rebuild was seeing exactly what the interior was.
- I scratch-built the interior with the exception of the stove. Don McKinney gave me a stove that worked perfectly. The pipe is just brass.
- Pillows are made of material over a sanded piece of balsa wood.

What I might have done differently

- Used Foothill models caboose steps. Look better and very easy to build.
- Would use styrene for the windows.
- I should have taken better notes as I built the model. Also photos along the way.
- Would do Ship Lap Siding on deck.

Traveling with the model

- A real problem.
- I use a Pelican case. I have two, a very small one for 1 to 2 small models. A large one for larger models or more than a couple.
- I hand carry usually if flying. Didn't on last leg and had to do a repair. Will hand carry from now on.
- Driving is best. If at all possible that is what I would do in the future. Structures and Dioramas are really hard to fly with.

Future Models

- Most likely at least one more caboose. Although I have quite a few. Kits for #3, #6, #5, and #1 all built up. 3 brass caboose. Two more #4's that I built earlier (not as well done but run really great).
- At least one more funky one of a kind non-revenue such as the Powder House Snowplow (started scratch-building it but not very far along)

Will post this on my website

- www.frankmarkovich.com
- Near the top of the site.
- There are a couple of other model presentations on the site.