

# NMRA Achievement Program – Cars

## It is a Journey – With a Destination

My Personal Experience

By Jim Osborn, MMR™

Fox Valley Division

May 2021

Note: this entire clinic is available in downloadable PDF form on the

Clinics webpage of the Fox Valley Division website at:

<http://www.foxvalleydivision.org/fvd2016/imagesfvd2016/clinicdata/apcars.v4.pdf>

# Objectives:

- Acquaint each of you with scratch building
- Provide some inspiration to give it a try
- You will become a better modeler
- Share my scratch building experiences over the past year

# Objectives:

Take a trip on how to get from  
Styrene, wood and wire

to.....

Here



# Clinic Topics:

- Briefly review the Achievement Program
  - Categories
  - Discuss the Merit Award scoring & tips
  - Cover the Cars Category requirements
- Strategy thoughts for a successful outcome
  - Essential project activities
  - Suggestions and hints for a satisfying and winning result
  - Tools and Adhesives
  - Successful examples
  - References

# AP Categories – all this info is available on the NMRA website:

- 11 AP categories
- For the MMR award you need 7 Certificates – and at least 1 from these 4 areas:

## 1) Railroad equipment



- a. Motive Power
- b. Cars

## 2) Railroad settings

- a. Structures
- b. Scenery
- c. Prototype Models

# AP Categories – all this info is available on the NMRA website:

- 11 AP categories
- For the MMR award you need 7 Certificates – and at least 1 from these 4 areas:

## 3) Railroad Construction & Operation

- a. Civil
- b. Electrical
- c. Chief Dispatcher

## 4) Service to the Hobby & NMRA Member

- a. Association Official
- b. Association Volunteer
- c. Model Railroad Author (Cheap plug: write an article for the *Semaphore!*)

# Car Category requirements:

- Four different types of cars represented in a total of eight models.
- One of the cars must be a passenger car.
- Each of the eight must be super detailed with either commercial parts or scratch-built parts.
- At least four of the eight models must be scratch-built\*.

(\*Read & understand the requirements for scratch built!)

- You must earn a judged score of at least 87-1/2 points out of 125 on four of the eight models.
- The other cars do not need to be judged – but described in your qualifications for the category  
(If not scratch-built, they still can be judged)

# Before you begin:

- Learn the rules on how to play the game
- Be familiar with the scoring grid – it's your path to 87.5 points on each scratch-built project & It will help you make a better model
- 5 judged categories:

• Construction	40 points	32%
• Detail	20 points	16%
• Conformity	25 points	20%
• Finishing	25 points	20%
• Scratch Built	15 points	12%



# Before you begin:

- Watch the NMRA National Clinic:

*Be a Contest Winner! by Ron Gough MMR™*

<https://www.nmra.org/be-contest-winner>

- Watch the NMRA EduTrain video:

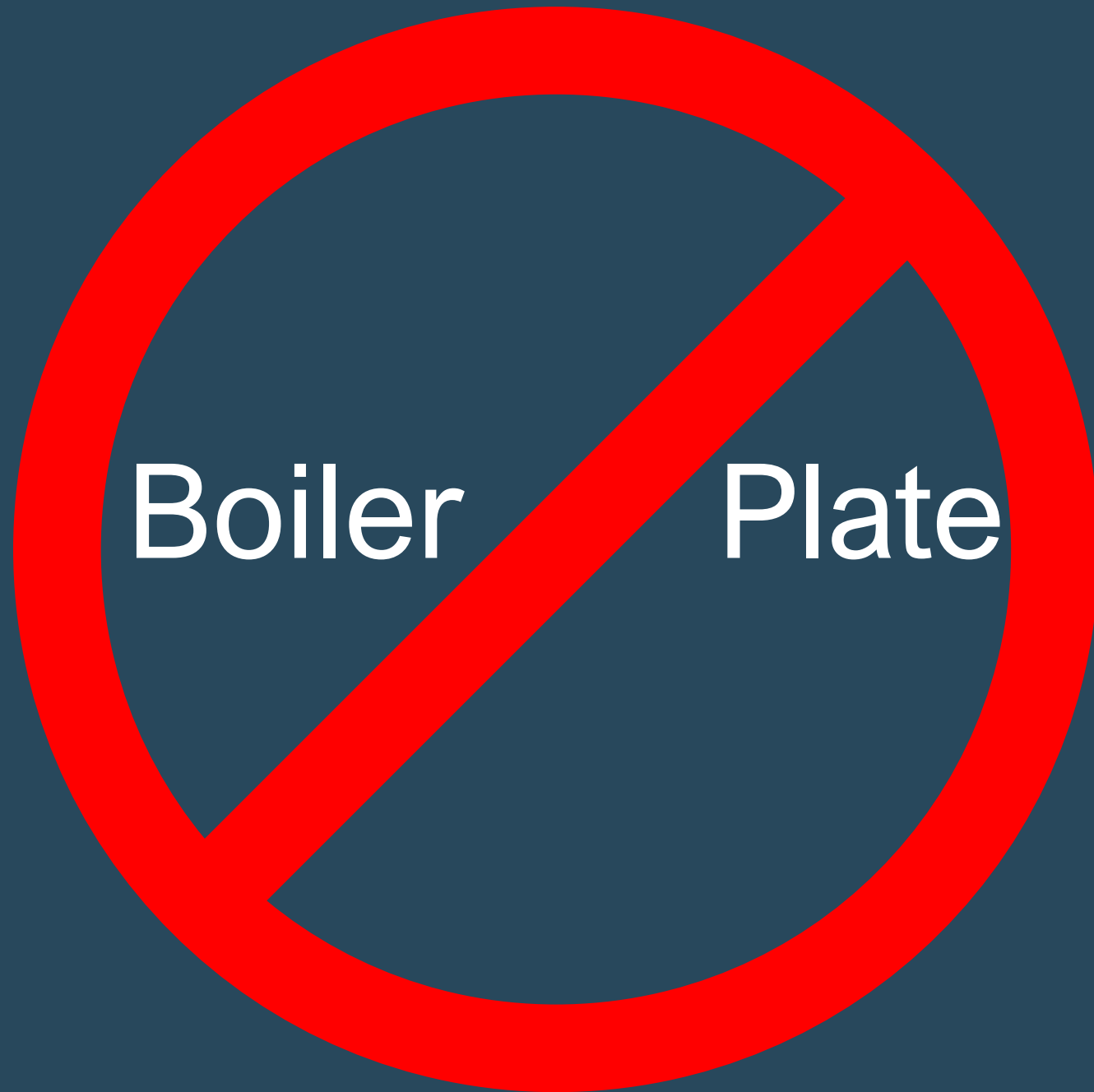
*Filling Contest Forms by Bob Hamm MMR™*

<https://www.nmra.org/edutrain/filling-contest-forms-bob-hamm>

- Peek at “The Master’s Articles” on the NMRA AP webpage

# Scoring grid example :

CONSTRUCTION JUDGING POINTS MATRIX																
Quality & Workmanship	Simple Model				Somewhat Complex				Moderately Complex				Very Complex or Difficult			
Poor to Mediocre	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ordinary	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Good	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Very Good	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Outstanding	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Exceptional	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Boiler

Plate

# My journey experiences:

- Avoid “Ready, Fire, Aim” -- Not here! Planning will help you.

- Write a multi-car strategy down – a starting point.



- You will accumulate info for different cars as you progress
- Do not be afraid to change your strategy as you gain experience.
- Start with the least complicated car (don't to what I did!)

# Develop an 8 car project strategy:

• There are many ways to do this – this was mine	<u>Should have</u>
1) Scratch HO scale Drover Car (passenger car)	8
2) Scratch HO scale Peek-a-boo Gondola	6
3) Merit HO scale C St P M & O express car (passenger car) kit bash	5
4) Scratch HO scale SOO 1926 Box car	7
5) Detailed HO scale CNW Steam Caboose laser kit	4
6) Detailed HO scale B&O wagon top boxcar resin kit	2
7) Scratch On2 scale narrow gauge car	3
8) Detailed HO scale CNW Auto Car resin kit	1

# Pick interesting cars:

- You are going to invest time and money - make it worthwhile
- Leverage off prior accomplishments
  - Narrow gauge truss frame
  - Brakes
  - Available parts
- Cars that match your current skill level.
- Pick cars you want to learn about.
- Pick something that is interesting to you.
- Something new to you or unique – not available as a kit – Kitbash?

# Consider larger scales:

- HO is okay but S, On30 or O might be better choices
- Avoid Z or N – You cannot get the necessary detail or complexity
- Easier detailing opportunities with larger scales
- You can see what you are doing!
- Large does not break so easily - Details are delicate
- These cars will most likely sit in a display case in the end

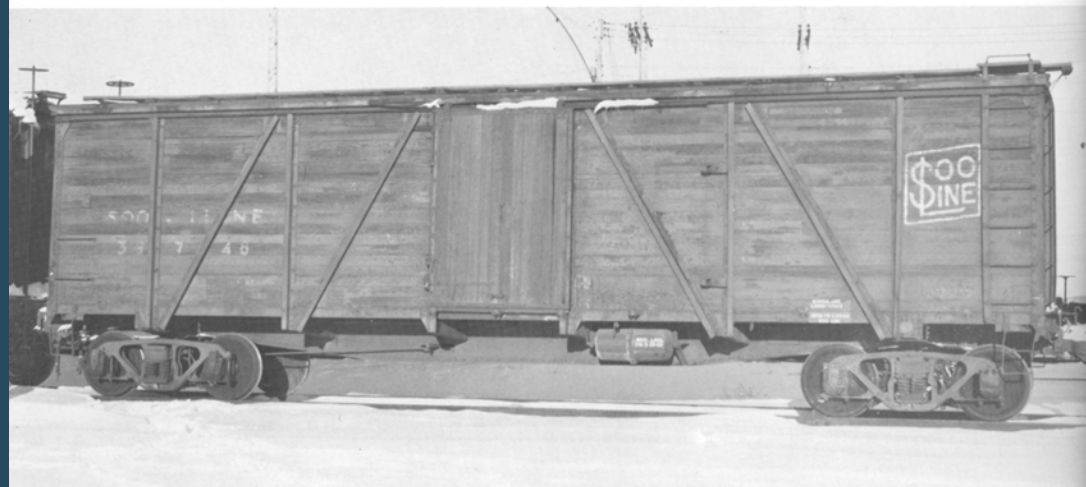
# On each car project:

- Read about the car – learn as much as you can
  - Accumulate pictures and facts
  - All angles of the car
  - Focus on details
  - Ask others for info
  - Use the web
  - Historical societies
- Knowledge is Power!
- All for a Better Result





Car X1372 was built as Soo Line 13516 in 1912. It is an example of a Type 1 boxcar, being a member of the first series of outside braced boxcars cars built for the Soo Line. Here it is shown in work equipment service as a Stores Department car used in moving company supplies. The car was retired in February, 1981 and sold to Interprovincial Steel in Regina for scrap in April, 1981. The photo was taken in June, 1980 at Shoreham by Stu Nelson.



Car 39748 was built by American Car & Foundry Co. for the Soo Line in 1923. It is an example of a Type 2 car, distinguishable by its 5' doors, fishbelly underframe and wood ends. The side sills on all but the Type 1 (earliest) and Type 5 (latest) cars were narrow and "irregular," that is, with "Z" bar braces extending below the sills. The photo was taken at North Fond du Lac, Wisconsin on December 29, 1966 by Larry Easton.





# On each car project:

- Draw or use plans from what you have learned
  - Plans are essential for construction points.
  - They help you get the car built correctly!
  - Pencil drawings are okay – don't worry about CAD unless you are proficient at it.
  - Published plans are better yet!

## Express car roof plans:

Basic roof shape:



.04 Thick x .08 spacing  
corrugated  
Roof Material

Top View  
5.6125 x 1.28 in  
outside dimension

Roof angle = 4 deg.

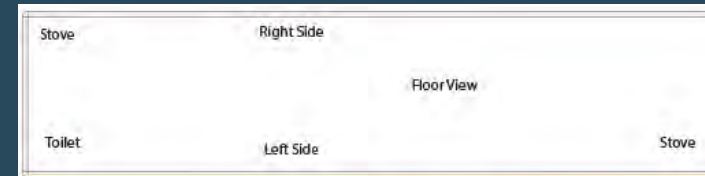


End View  
Top 5.6125 x 1.28 in

Seam caps  
.04 x .04 shape topped with a  
.04 half round shape (22)

Top Side View  
5.6125 x 1.28 in  
Base  
1.2 w x 5.4 long x .08 in

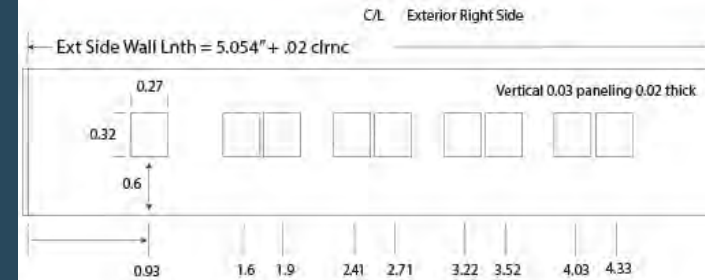
Base 1.25 w x  
.08 in Thick



Floor Frame (gold) = 5.094 x 1.1172"

Int Wall Lnth = 5.054" + .02 clmc

Int End Wall Lnth = 1.132"

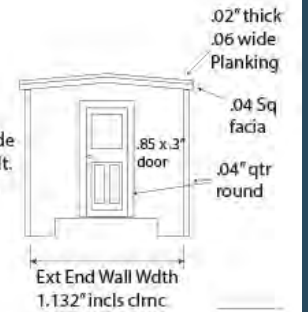


.04" quarter round

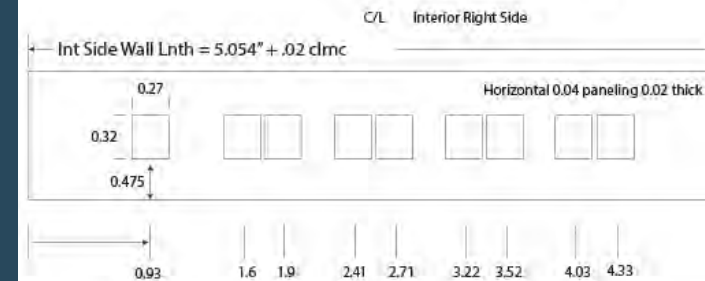
Ext Side Wall Ht. = 1.07"



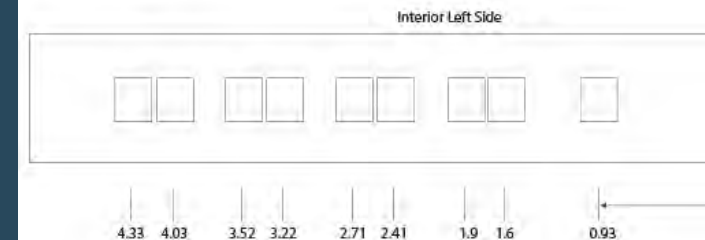
Ext Side  
Wall Ht.  
1.07"



Ext End Wall Width  
1.132" incl clmc



Int Side Wall Ht. = .945



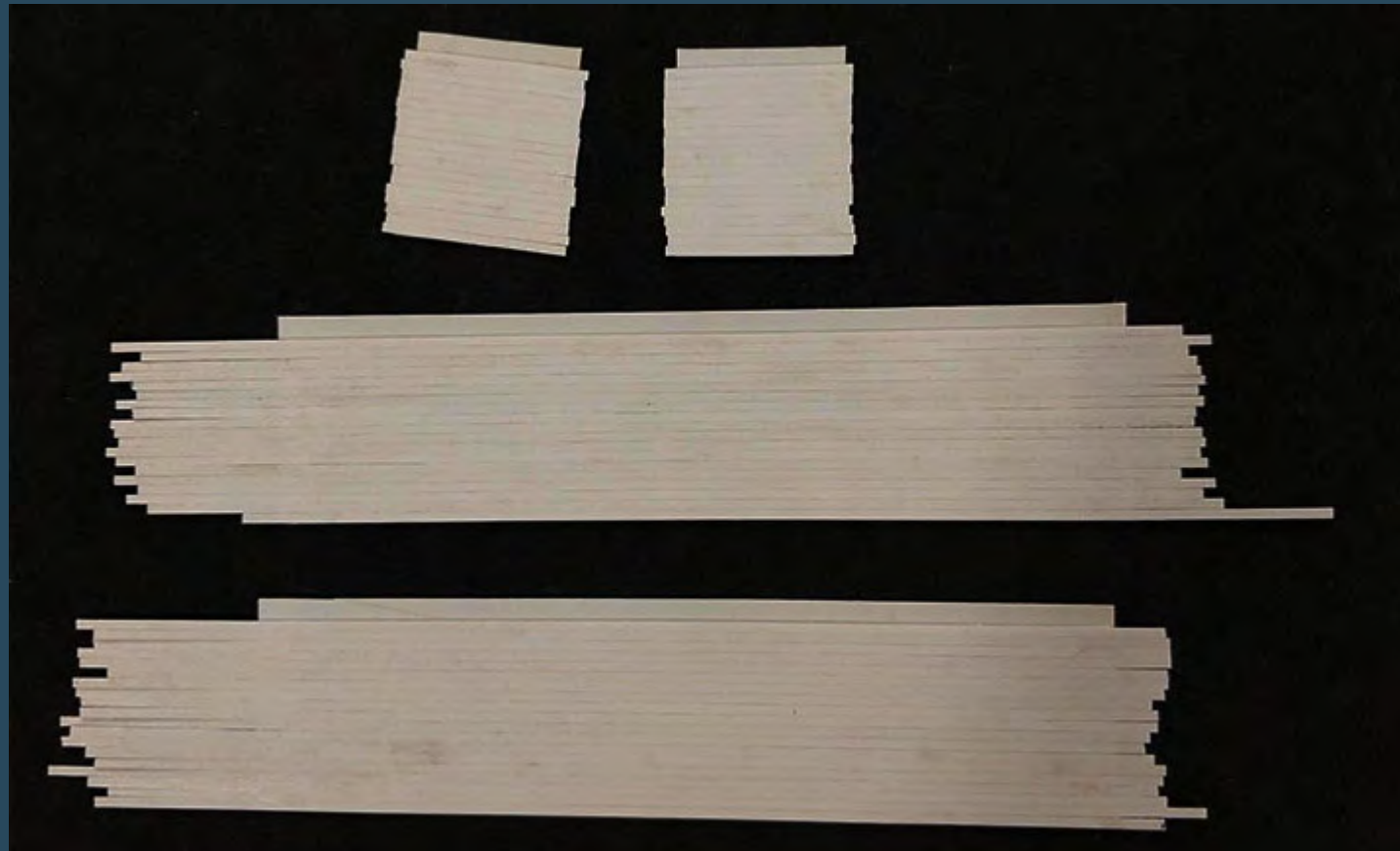
Int End Wall Width  
1.132" incl clmc

# On each car project:

- Document, document, document as you progress!
    - Count and log parts, vendors, etc.
    - Scratch vs. commercial parts
    - Take photos along the way – it's easy with our cell phones – just takes 10 seconds.
    - Essential for interior details
    - Necessary for the paperwork at the end of the project
- ➡ • You have to tell your story to the judges – that's your responsibility



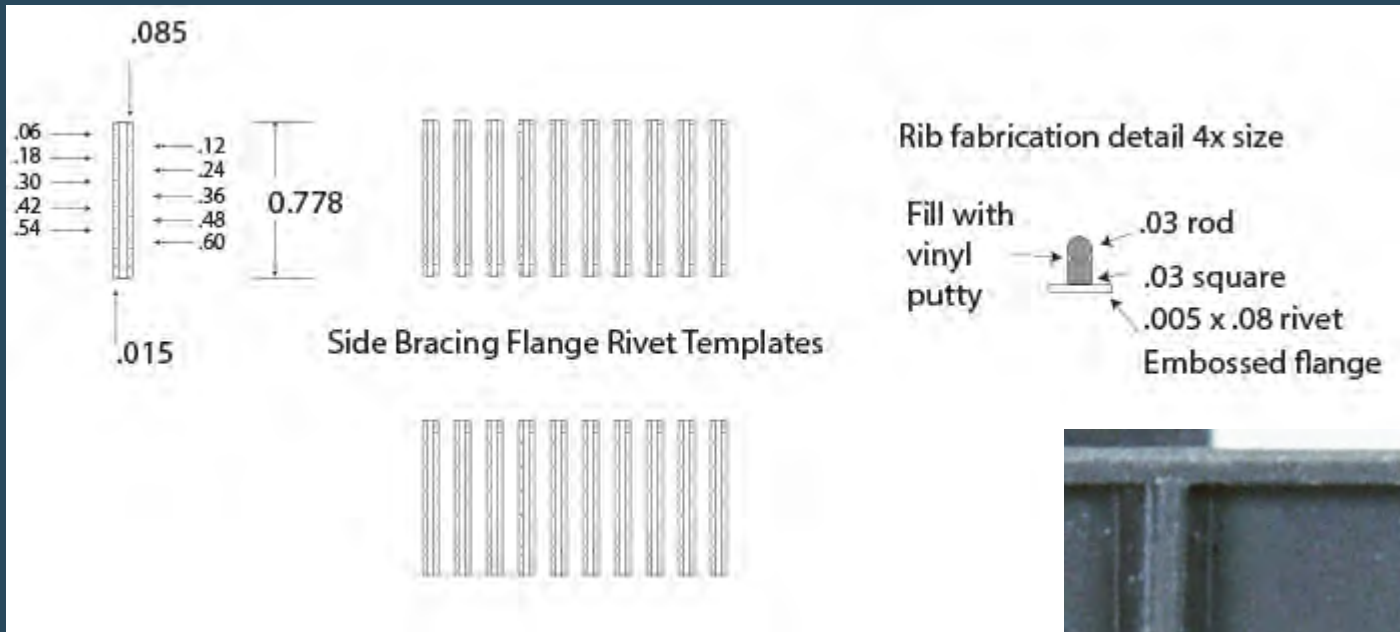
Drover caboose  
Interior details:  
Seats, stoves,  
Toilet, sink,  
People,  
overhead bunks  
Floor & wall boards



Soo outside braced  
Boxcar showing  
Individual board  
Construction on sides  
and ends

# Take it slow – Step by step:

- Think of each challenge as a mini project
  - Passenger seats
  - Rivet embossing
  - Side ribs
  - Cutting windows
  - Window frames
  - Ladders

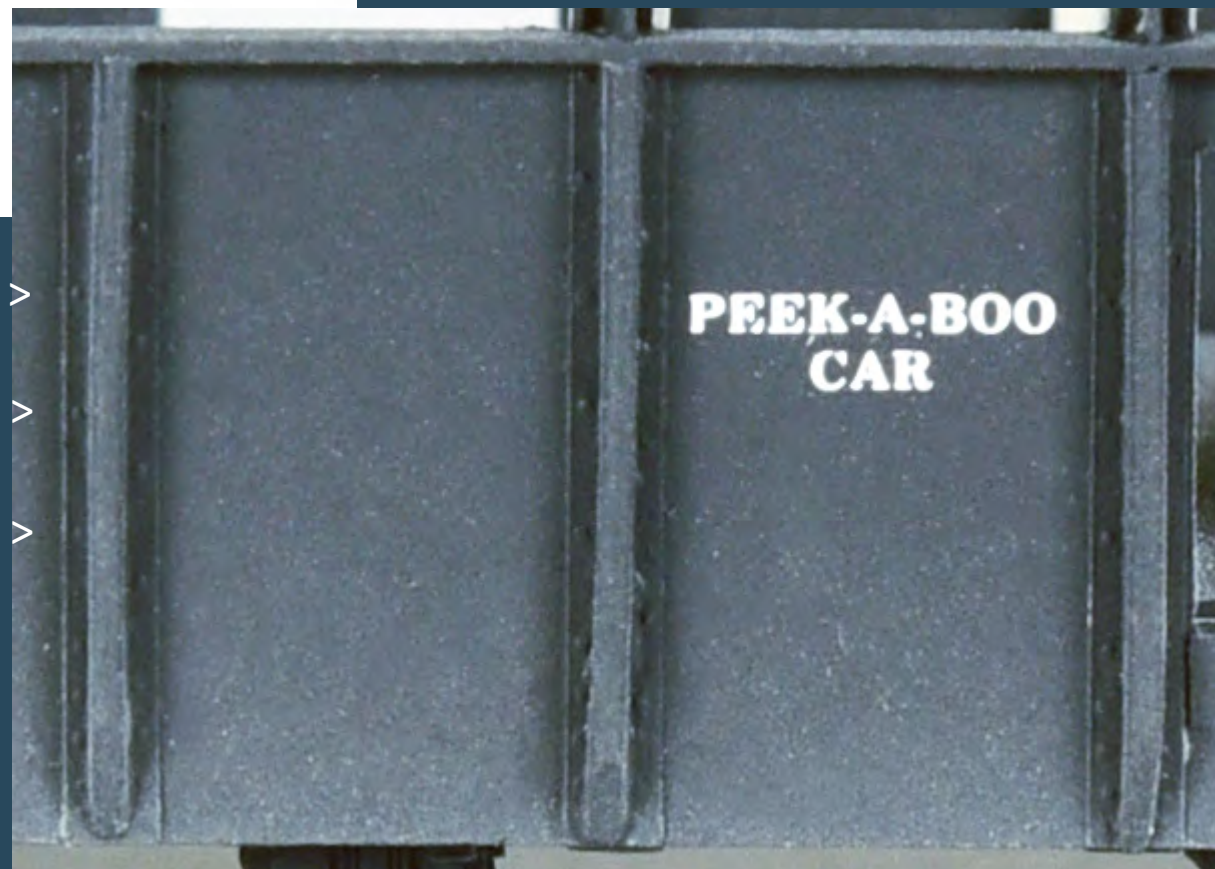


## Gondola side ribs

Embossed Rivet >

Embossed Rivet >

Embossed Rivet >





Details added at this stage:

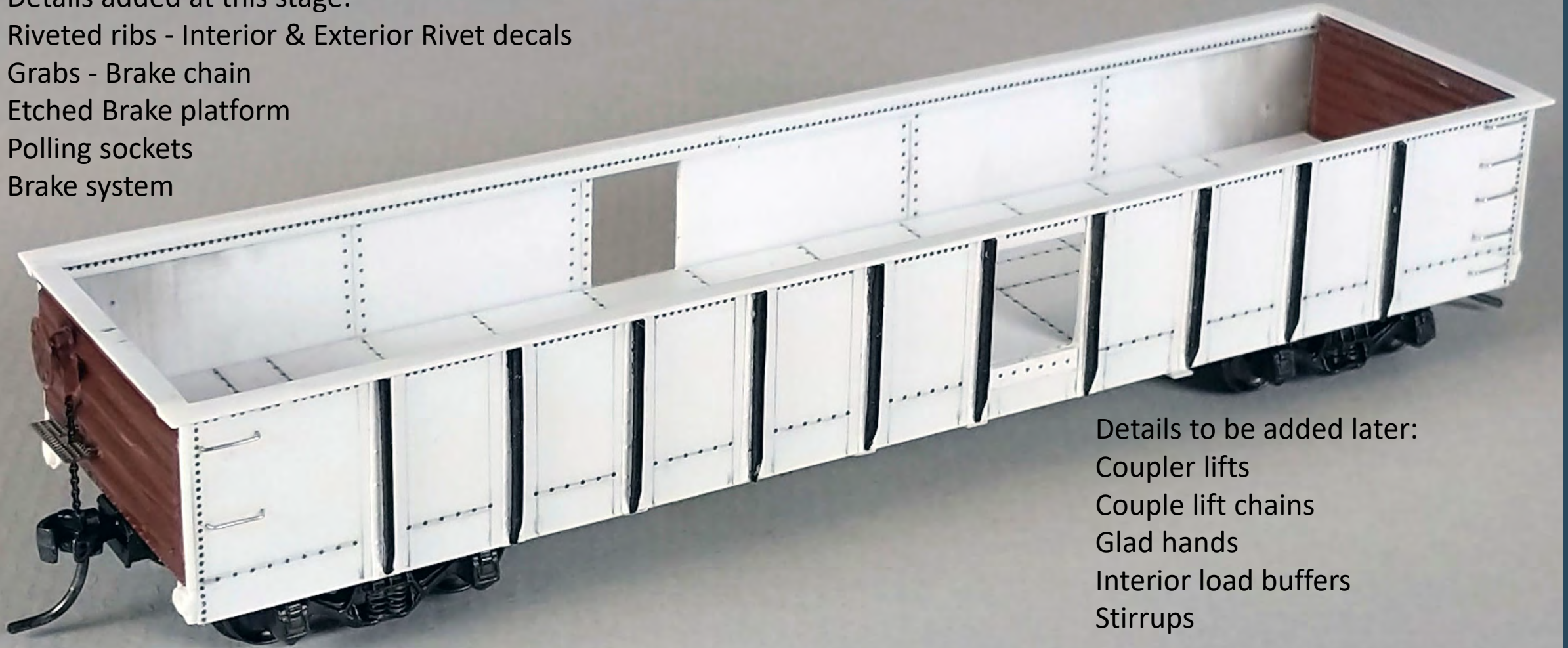
Riveted ribs - Interior & Exterior Rivet decals

Grabs - Brake chain

Etched Brake platform

Polling sockets

Brake system



Details to be added later:

Coupler lifts

Couple lift chains

Glad hands

Interior load buffers

Stirrups

# Take it slow – Step by step:

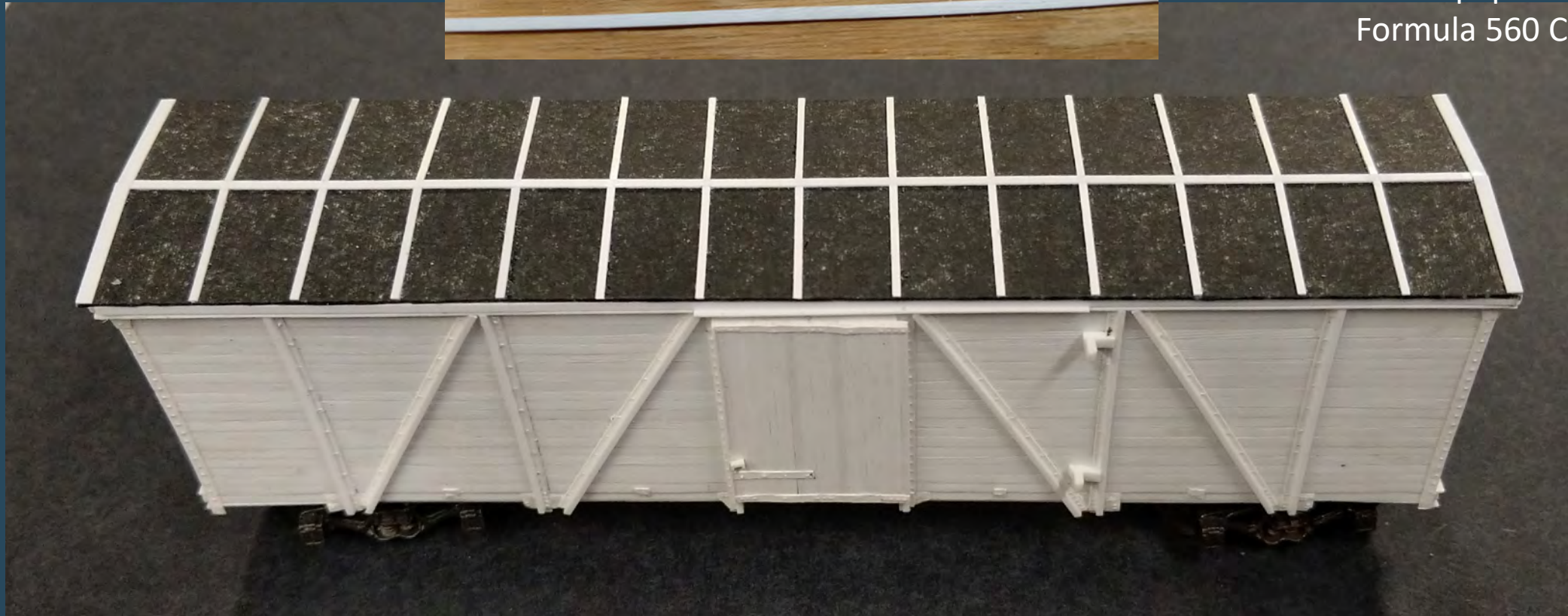
- Think of each challenge as a mini project
  - Passenger seats
  - Rivet embossing
  - Side ribs
  - Cutting windows
  - Window frames
- Talk to others for ideas
  - Tar paper roofs – David Leider, MMR™
  - Grain embossing – The late Don Cook, MMR™
  - Cutting windows – Steve Miazga
  - Adhesives & history – David Crement, MMR™



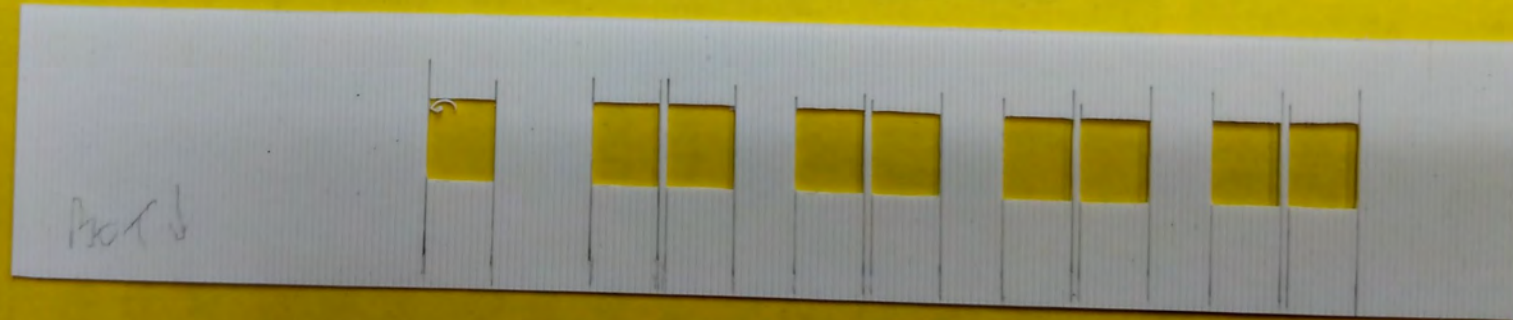
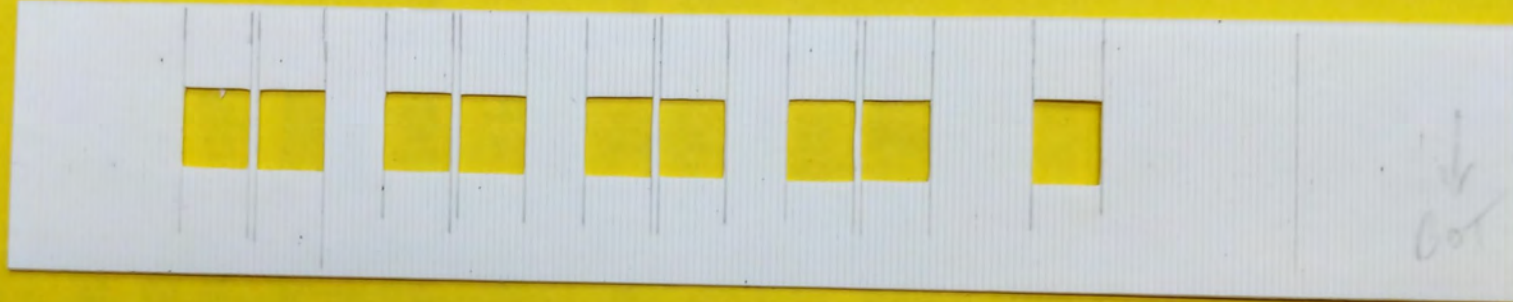
Embossing grain in styrene  
52 T.P.I razor saw blade >



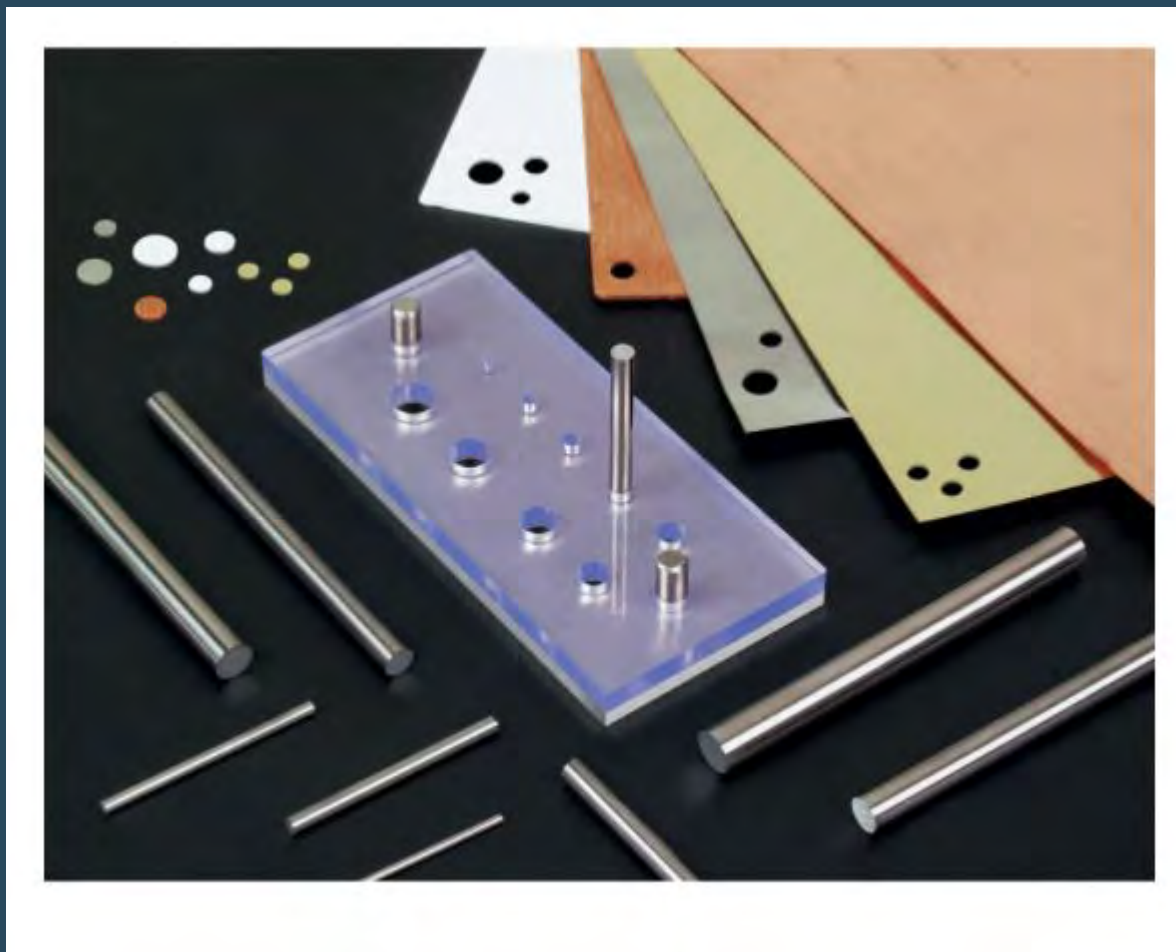
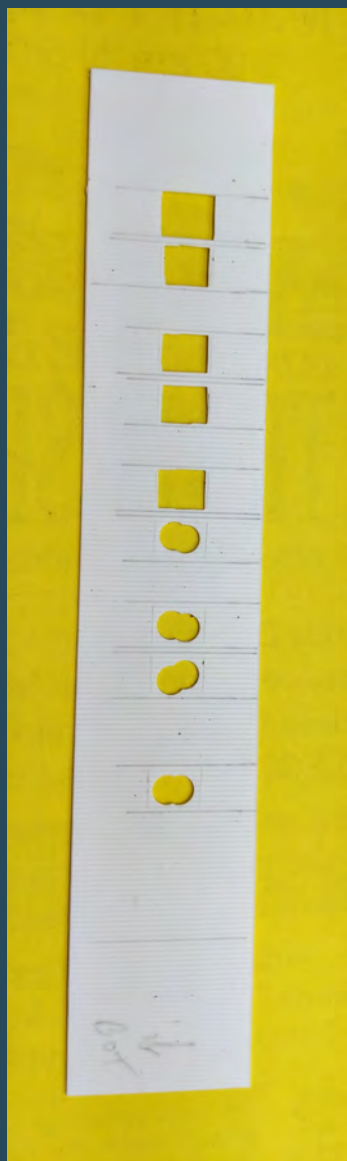
Tar paper roof:  
Tissue paper  
Formula 560 Canopy glue



**Windows: I did not have the skill to cut them square!  
Steve Miazga suggested hand carving with a small X-Acto knife.**

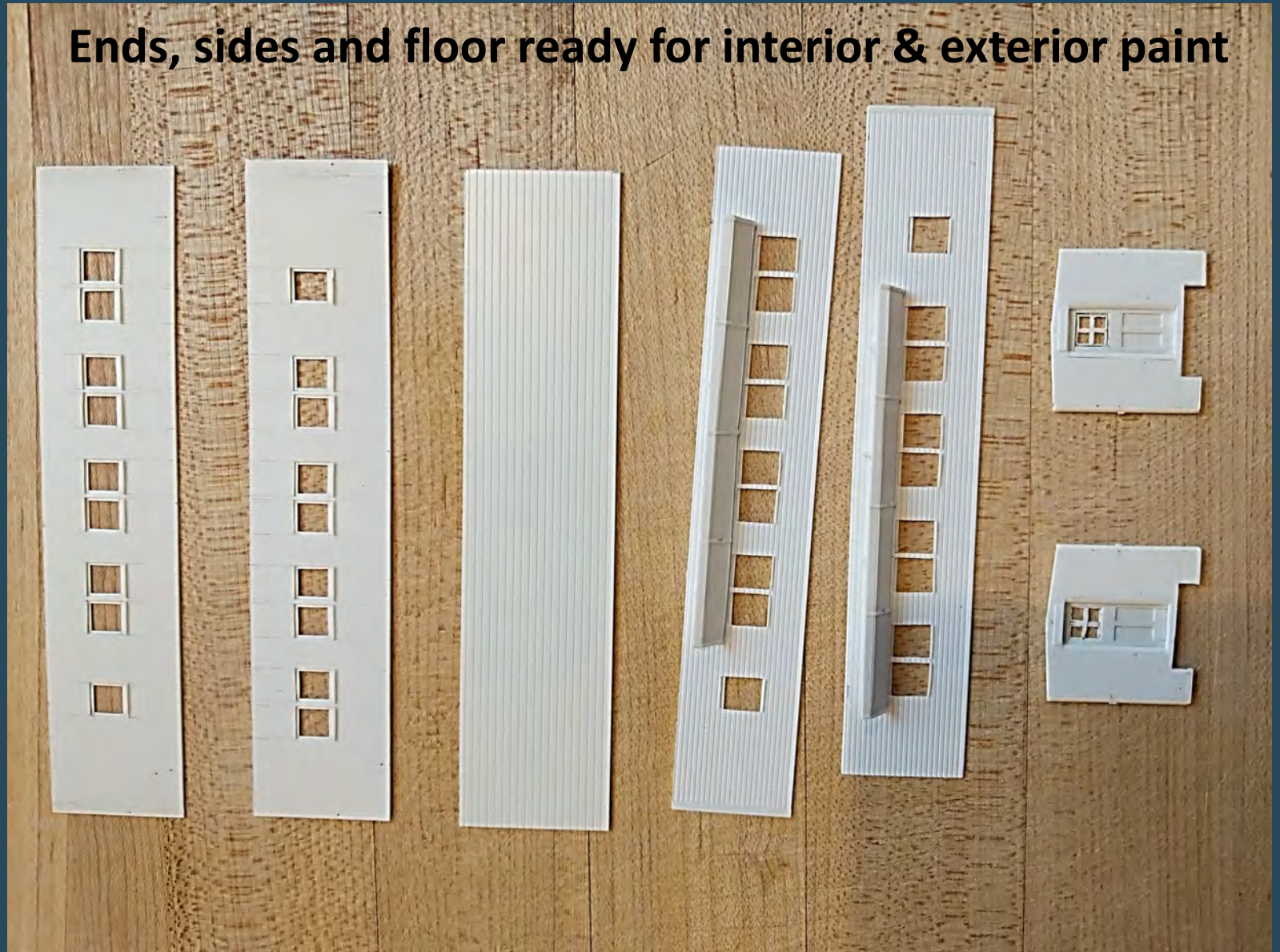






**Windows tip:**  
Sandwich .005 clear  
styrene between the  
interior & exterior  
walls.

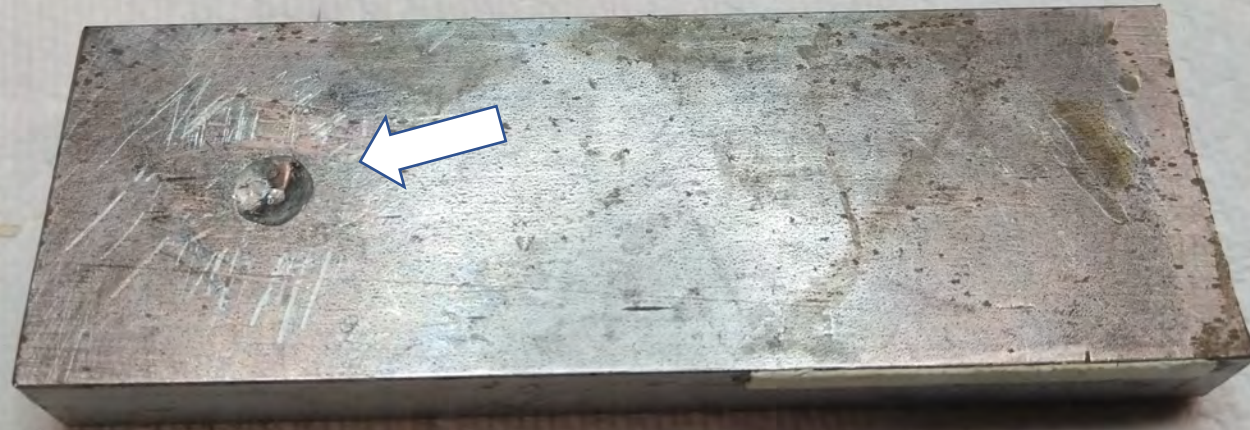
**Ends, sides and floor ready for interior & exterior paint**





**David Crement:**

- Drill a dimple in a chunk of machine steel for CA
- Clean with acetone



# Take it slow – Step by step:

- Think of each challenge as a mini project
  - Rivet embossing
  - side ribs
  - Cutting windows
  - Window frames
- Talk to others for ideas
  - tar paper roofs – David Leider
  - grain embossing – The late Don Cook
  - Cutting windows – Steve Miazga
  - Adhesives & history – David Crement
- Think outside the box



O scale 2 foot gauge 20" wheels made from HO scale 36" wheels





# Take it slow – Step by step:

- Contemplate possible solutions - No ideas? – Sleep on it!
- Construction jigs make the difference – especially repetitive pieces.
- Make drilling patterns – grab irons, etc.
- Save the fragile stuff for last – Stirrups, brake wheels, Stove Pipes, etc.....
- Measure 3 times, cut once & then sand to fit. Cut on a glass plate.

Side view of a slab of styrene

Knife Cut

Side view of a slab of styrene

Styrene cut on a soft mat produces a small projection on the bottom

Side view of a slab of styrene

Knife Cut

Side view of a slab of styrene

Styrene cut on glass produces a clean bottom

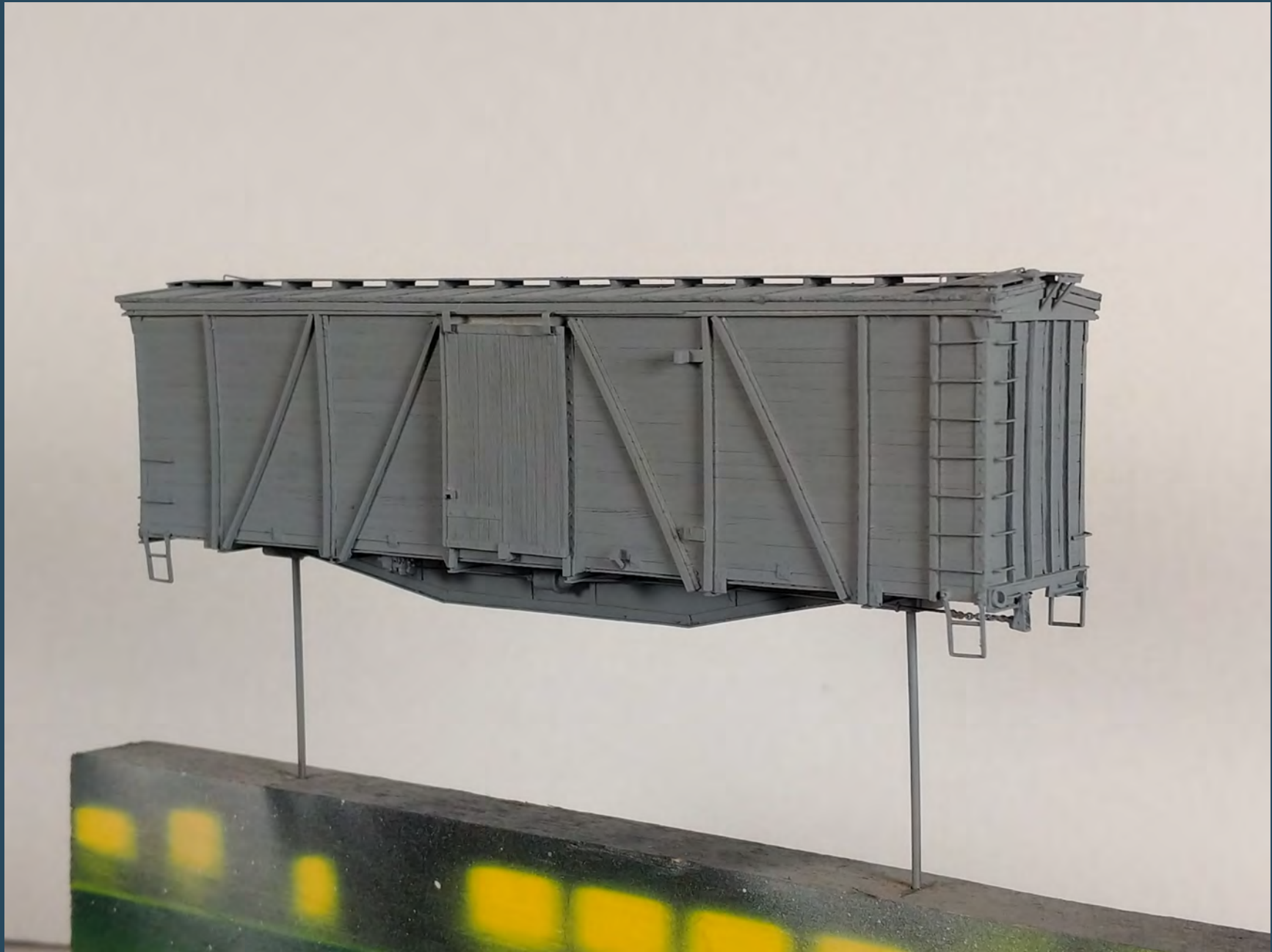
Note: Need to sand the chamfer off created by the wedge of the knife blade



# Take it slow – Step by step: Finishing

- Prime your model before painting – It makes it easier to spot defects.
  - Allow the primer to dry a week – avoid bleed through.
- Carefully patch and fill cracks, joints etc. with Dap Vinyl patch.
  - Use the tube style package – it lasts longer than the tubs.
- Allow your finish coat to dry for a week
- Prepare a smooth surface for decals
  - Pledge vinyl floor coat - Ammonia for cleaning your airbrush
  - Glosscote, Clear gloss, etc.





# Take it slow – Step by step: Finishing

- Weather your model for realism
  - Use your research photos
  - Road spray – ends and underframe – side sills
  - Faded paint – blistered paint
  - Roof dirt
- Pan pastels, airbrush, thin paints
- Small amounts – layered – don't over do it
- Air brush a top protective coat with dull cote – 50-50 diluted
  - Mask the windows!
- Photograph your masterpiece!

# Proper tool – Proper job!



- Optivisor & a good bench light
- Touch and Flow applicator
- Wine corks & needles
- Dental picks – ask your dentist!
- X-Acto knives – small, large, custom
- #2, 11, 17 & 17a blades – fine tip & chisel lots of ‘em
- Single edge razor blades
- Tweezers, fine and small tipped – also reverse tweezer clamps
- 6” metal scale with 0.01” markings
- NMRA scale ruler
- Digital caliper
- Hole punch – holes, clearing material, washers, disks, plates, etc.
- Smooth jaw needle nose pliers – bending wire
- The Chopper
- Xuron rail nipper
- Three - ½ inch sq. tool steel blanks & clamps – mini bending brake for styrene, brass, aluminum, etc.
- Glass plate – for a cutting surface – general flat surface
- Sanding wands, sticks and pads
- Sanding Fixture – right angle ends
- Various numbered drill sets, 80-60, 60-40 (extra small number drills)
- Pin vise sets (make sure the smallest pin vise tightens on a #80 drill)
- Drill and tap set - #2-56 minimum
- Clamps, rubber bands, magnets
- Airbrush system, paint booth with exhaust vent, respirator mask – N95 with a vent
- Steel weights
- Downflow airbrush
- Only to mention a few .....

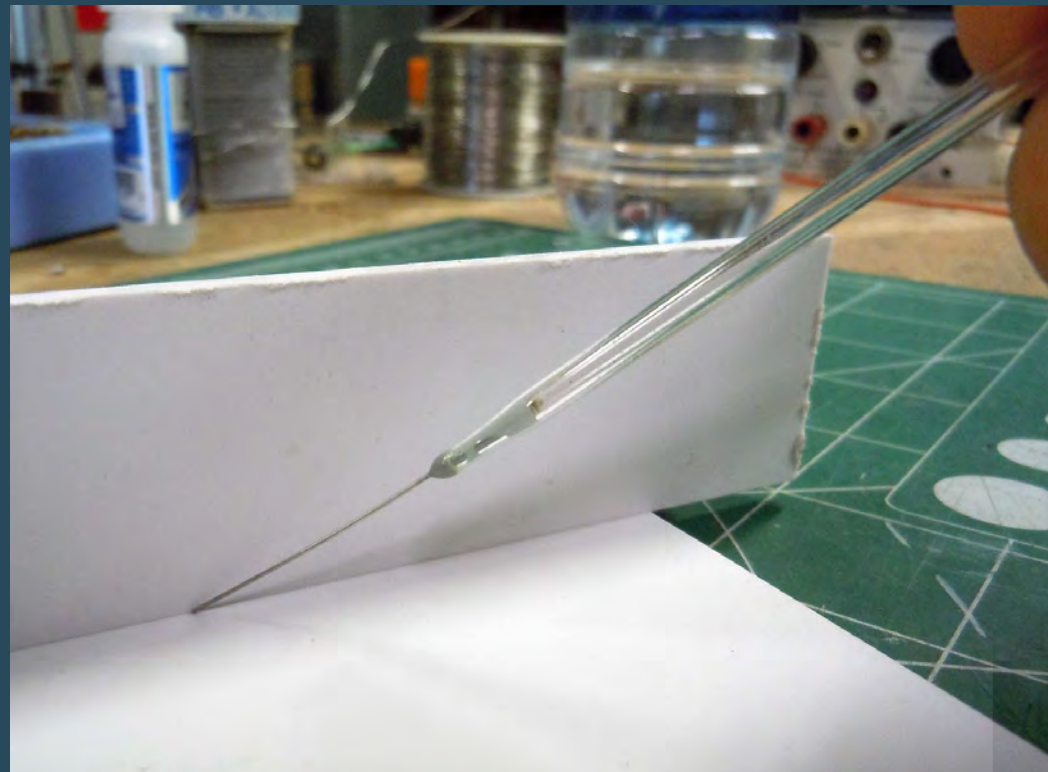




## Touch 'n Flow

Don't fill it too  
much – ½ inch

Don't push it  
backwards



# Proper tool – Proper job!

- Optivisor
- Touch and Flow
- ➔ • Wine corks & needles for CA
- Dental pick tools – ask your dentist!
- X-Acto knives – small, large, custom
- #2, 11, 17 & 17a blades – fine tip & chisel lots of ‘em
- Single edge razor blades
- Tweezers, fine and small tipped – also reverse tweezers
- 6” metal scale with 0.01” markings
- NMRA scale ruler
- Digital caliper
- Hole punch – holes, clearing material, washers, disks, plates, etc.
- Smooth jaw needle nose pliers – bending wire
- The Chopper
- Xuron rail nipper
- Three - ½ inch sq. tool steel blanks & clamps – mini bending brake for styrene, brass, aluminum, etc.
- Glass plate – for a cutting surface – general flat surface
- Sanding wands, sticks and pads
- Sanding Fixture – right angle ends
- Various numbered drill sets, 80-60, 60-40 (extra small number drills)
- Pin vise sets (make sure the smallest pin vise tightens on a #80 drill)
- Drill and tap set - #2-56 minimum
- Clamps, rubber bands, magnets
- Airbrush system, paint booth with exhaust vent, respirator mask – N95 with a vent
- Steel weights
- Downflow airbrush
- Only to mention a few .....

## CA applicator

Various needles  
stuck in corks  
with the eyes  
ground or cut  
off



## CA puddle

Drill a dimple  
in some tool  
steel to hold  
CA – clean  
with acetone.



# Proper tool – Proper job!

- Optivisor
  - Touch and Flow
  - Wine corks & needles
  - Dental picks – ask your dentist!
  - X-Acto knives – small, large, custom
  - #2, 11, 17 & 17a blades – fine tip & chisel lots of 'em
  - Single edge razor blades
  - Tweezers, fine and small tipped – also reverse tweezers
  - 6" metal scale with 0.01" markings
  - NMRA scale ruler
  - • Digital caliper
  - Hole punch – holes, clearing material, washers, disks, plates, etc.
  - Smooth jaw needle nose pliers – bending wire
  - The Chopper
  - Xuron rail nipper
- 
- Three - ½ inch sq. tool steel blanks & clamps – mini bending brake for styrene, brass, aluminum, etc.
  - Glass plate – for a cutting surface – general flat surface
  - Sanding wands, sticks and pads
  - Sanding Fixture – right angle ends
  - Various numbered drill sets, 80-60, 60-40 (extra small number drills)
  - Pin vise sets (make sure the smallest pin vise tightens on a #80 drill)
  - Drill and tap set - #2-56 minimum
  - Clamps, rubber bands, magnets
  - Airbrush system, paint booth with exhaust vent, respirator mask – N95 with a vent
  - Steel weights
  - Downflow airbrush
  - Only to mention a few .....



## Bending Brake

Clamp .005 styrene, Brass or Aluminum between 2 tool steel blanks. Use the third to bend the material.



# Proper tool – Proper job!

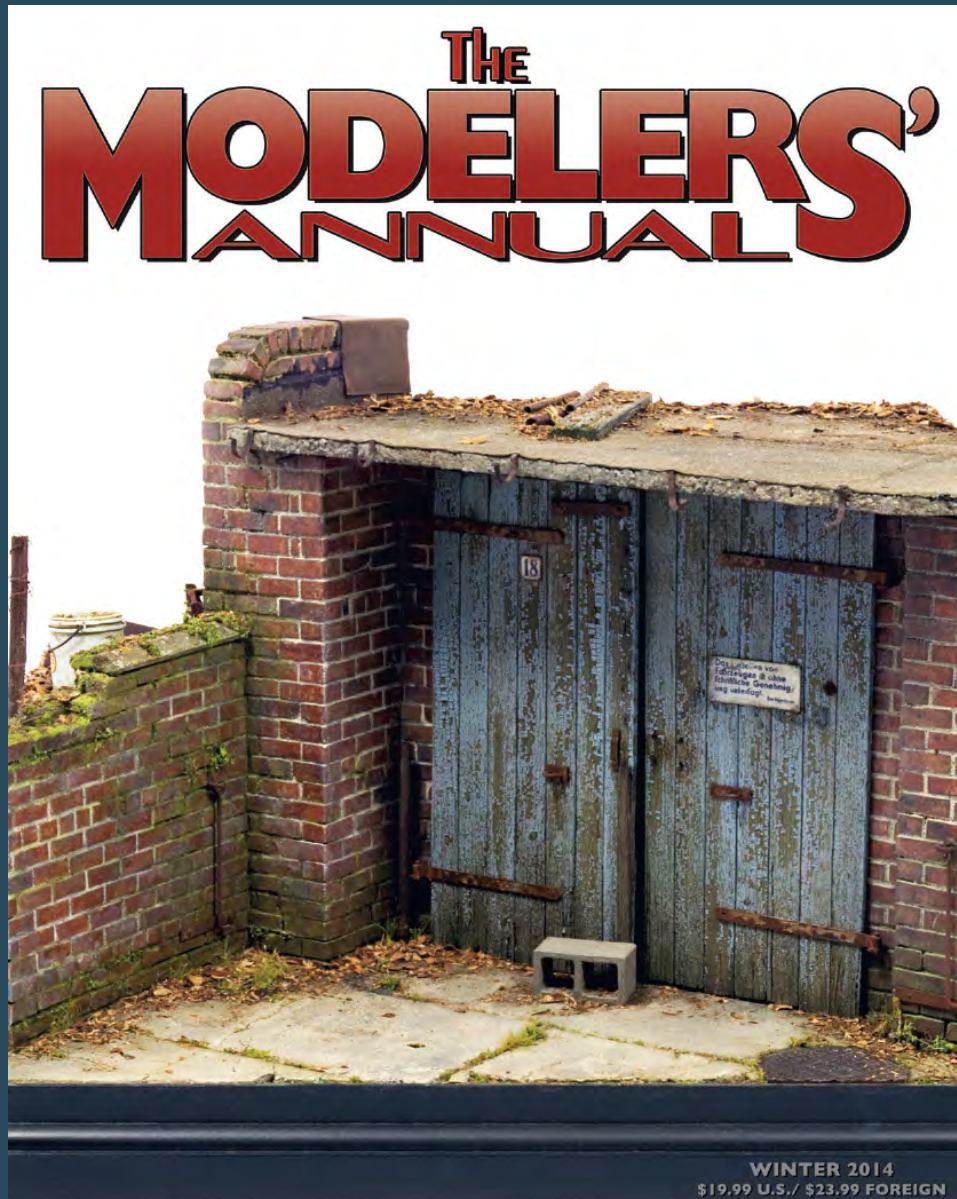
- Optivisor
- Touch and Flow
- Wine corks & needles
- Dental picks – ask your dentist!
- X-Acto knives – small, large, custom
- #2, 11, 17 & 17a blades – fine tip & chisel lots of 'em
- Single edge razor blades
- Tweezers, fine and small tipped – also reverse tweezers
- 6" metal scale with 0.01" markings
- NMRA scale ruler
- Digital caliper
- Hole punch – holes, clearing material, washers, disks, plates, etc.
- Smooth jaw needle nose pliers – bending wire
- The Chopper
- Xuron rail nipper
- Three - ½ inch sq. tool steel blanks & clamps – mini bending brake for styrene, brass, aluminum, etc.
- Glass plate – for a cutting surface – general flat surface
- Sanding wands, sticks and pads
- Sanding Fixture – right angle ends
- Various numbered drill sets, 80-60, 60-40 (extra small number drills)
- Pin vise sets (make sure the smallest pin vise tightens on a #80 drill)
- Drill and tap set - #2-56 minimum
- Clamps, rubber bands, magnets
- Airbrush system, paint booth with exhaust vent, respirator mask – N95 with a vent
- Steel weights
- Downflow airbrush
- Only to mention a few .....

# Adhesives:

- MEK – Plastics
- 10x or equivalent – very aggressive – do not use on .005 styrene
- CA – super glue – thin and thick – sand styrene before using
- Formula 560 – canopy cement – dries crystal clear
- Scotch transfer tape – attaching dissimilar materials – wood/plastic/metal etc
- Arlene's tacky glue - attaching dissimilar materials – wood/plastic/metal etc
- Plastruct Plastic Weld – Acrylics & styrene – DO NOT USE WITH THE TOUCH 'N FLOW
- Woodland Scenics Accent Cement – attaching dissimilar materials – wood/plastic/nylon/metal etc
- Plybond – Contact cement
- Carpenter's yellow glue – wood
- Dap vinyl wall patch for filling and repair – get the tube style container



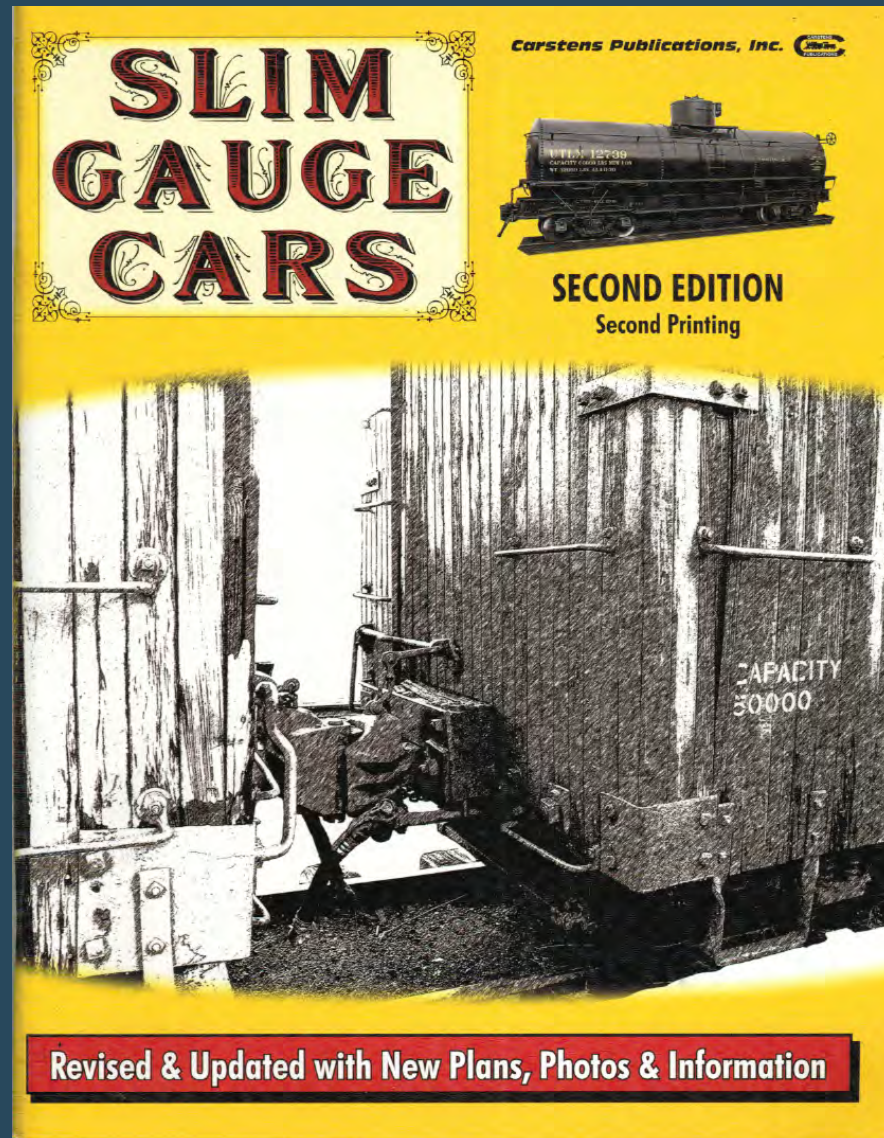
References: *Modeler's Annual* – back issues available – timeless! <https://www.finescalerr.com/>



<h1>The MODELERS' ANNUAL</h1>		
DECEMBER 2013 RUSS REINBERG, EDITOR AND PUBLISHER		
<u>CONTENTS</u>		
CHAPTER 1	FROM MOGADISHU, WITH LOVE	4
CHAPTER 2	FROM STYRENE TO WOOD	11
CHAPTER 3	A TOZER PORTABLE STEAM ENGINE	22
CHAPTER 4	BIGELOW STREET	29
CHAPTER 5	AMBIANCE	40
CHAPTER 6	THE PLETTENBERG NARROW GAUGE LIGHT RAILWAY	49
CHAPTER 7	STONE WALLS	72
CHAPTER 8	AN ABANDONED SOUTHERN COUNTRY STORE	79
CHAPTER 9	A GAS STATION DIORAMA	91
CHAPTER 10	CARDBOARD BRICK, PLASTER CONCRETE, AND PAINTED MOSS	98
CHAPTER 11	A POWELL PLANER	106
<b>OUR COVER:</b>		
MARC REUSSER'S 1:35 SCALE BRICK STORAGE SHED DIORAMA. THE ARTICLE BEGINS ON PAGE 98. (PHOTO BY MARC REUSSER)		



# References: Slim Gauge Cars, 2<sup>nd</sup> Edition by Carstens Publications



SLIM GAUGE CARS	
Second Edition	
Edited by Chris Lane	
ISBN No. 978-1-59073-021-8	
Copyright ©2011 Carstens Publications, Inc., 108 Phil Hardin Road, Newton, New Jersey 07860. All rights reserved. This book may not be reproduced in whole or in part except in the case of brief quotations embodied in critical reviews or articles. Printed in the United States of America.	
First Printing - March 2011 Second Printing - July 2011	
Front Cover - Vintage wood freight cars rest in the yard at Chama, New Mexico. Some of these cars are over one hundred years old, yet still function as they did a century ago. Chris Lane photo & digital artwork	
Carstens Publications, Inc. 108 Phil Hardin Road, Newton NJ 07860	
We offer many fine publications of interest to the narrow gauge enthusiast including Railroad Model Craftsman, Railfan & Railroad, the On30 Annual and the HO3 Annual. Please visit our website: www.carstens-publications.com	
TABLE OF CONTENTS	
An Introduction to the Slim Gauges	2
Where to See Preserved Slim Gauge Cars	5
East Broad Top Boxcar	6
Southern Pacific 10 Ton Boxcar No. 5	7
Cairo & Kanawha Boxcar	11
Southern Pacific Perille Boxcar No. 72	13
Southern Pacific Boxcar No. 132	14
Southern Pacific Boxcar No. 74	15
Florence & Cripple Creek Boxcar	16
East Tennessee & Western North Carolina Boxcar	17
Sandy River 28' Boxcar No. 48	19
Sandy River Freight Car-Photos	20
Oahu Railway Car Car No. 329	22
Denver & Intermountain Hopper	23
Victor Gold Mining Company Ore Car	24
Southern Pacific Low Side Gondola No. 258	25
Rio Grande Drop Bottom Gondola	26
East Broad Top 3-Bay Hopper Car	28
East Tennessee & Western North Carolina Hopper	30
Southern Pacific A-Frame Gondola No. 339	32
Southern Pacific Stock Car No. 66	34
Southern Pacific Stock Car 154	35
Southern Pacific Open Top Stock Car No. 218	37
Southern Pacific Stock Car 174	38
Bellevue & Cascade Stock Cars	39
Rio Grande Stock Car No. 5500	40
Rio Grande Stock Cars	41
Southern Pacific Tank Car No. 353	48
UTLX Van Dyke Tank Car	49
UTLX Narrow Frame Tank Car	50
CONX Tank Car No. 8	51
Rio Grande Idler Flats	52
Sandy River Flat Car	57
Southern Pacific Flat Car No. 259	58
Rio Grande 6500 Series Flat Car No. 6532	59
Rio Grande Rotary Snow Plow OM	60
Rio Grande Tender OM	68
Rio Grande Auxiliary Water Car No. 0471	72
Sandy River & Rangeley Lakes Flanger No. 502	74
Rio Grande Water Car W462	76
D&RGW Short Reefer No. 55	79
C&S 30' Reefer No. 1103	80
Wiscasset Waterville & Farmington Reefer No. 65	81
Tionesta Valley Railway Caboose No. 111	82
Florence & Cripple Creek Caboose No. 05	83
West Side Lumber Caboose No. 6	84
Colorado & Southern Caboose No. 1006	85
East Tennessee & Western North Carolina Caboose No. 205	86
East Tennessee & Western North Carolina Caboose No. 503	87
Carson & Colorado Caboose-Combine No. 2	88
Southern Pacific Caboose-Combine No. 401 Original	90
Southern Pacific Caboose-Combine No. 401 Post-1954	92
Rio Grande Caboose Round Up Photos/Text	94
D&RGW Peaked-Roof Long Caboose No. 0585	95
D&RGW Short Caboose No. 0524	96
D&RGW Round-Roof Long Caboose No. 0574	97
Rio Grande RPO No. 51, Work Car 051	98
Rio Grande Baggage Cars Nos. 125-129	100
Carson & Colorado Baggage-Malt Car No. 12	102
Rio Grande RPO-Baggage Cars 53, 61-63	104
Southern Pacific Combine No. 17	106
Boston Revere Beach & Lynn/East Broad Top Coaches	106
Denver, South Park & Pacific Coach Nos. 16, 17, 22-25	110
Sumpter Valley Ry. No. 20/C&S No. 58 Coach	112
Rio Grande Open Platform Coach No. 256-321	114
Rio Grande San Juan Vestibule Coach	116
Rio Grande Parlor Cars Alamosa, Chama, Durango	118
Sandy River Parlor Car No. 9	120
D&RGW Excursion Car Silver Vista	122
White Pass & Yukon Private Car Fraser Nos. 200-209	124
White Pass & Yukon Open Platform Coach No. 214/216	125
White Pass & Yukon Baggage Nos. 201-203	125
Colorado & Southern Observation Nos. 200-209	126
Colorado & Southern RPO No. 13	127
Narrow Gauge Rolling Stock Colors	128

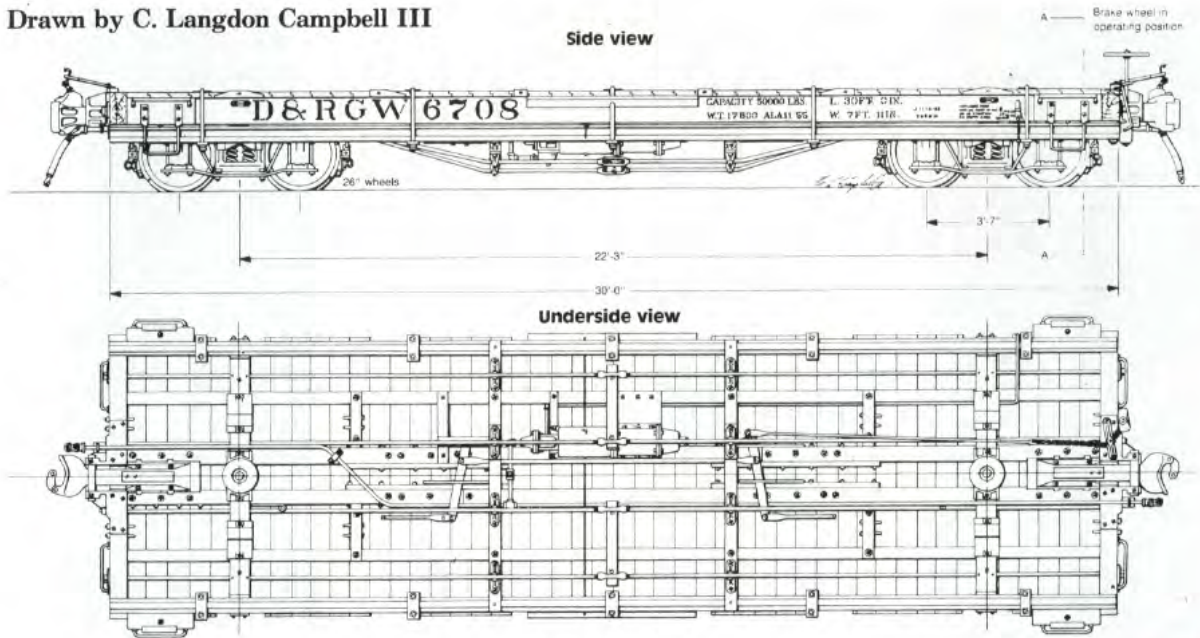


# References: *Slim Gauge Cars, 2<sup>nd</sup> Edition* by Carstens Publications

## Rio Grande idler flats

Drawn by C. Langdon Campbell III

54



in existence before that group was thought to have been converted and numbered in 1957? When I examined the remaining idler cars, I found the conversions to follow two slightly different patterns in the workmanship. That makes sense at first, except that some of the low-numbered idler boxcars, presumably converted in 1957, resemble the craftsmanship done on the first 25 stock car idlers, while the rest of the second series of cars (6725-6774) that exist are clearly the work of a different crew of car men.

Each car is unique in its details. Some cars have features that are lost or removed on others. The serious modeler should try to find photographs of both sides of the particular car being modeled to supply him with the details unique to that car. Points to pay special attention to are the deck and its condition, type of retainer valve used, cut off stubs of boards on boxcar idlers, beam pockets for the side and end trusses and the position and condition of the clamps holding the rail to the side sill. Many of these plates slipped out and the clamp has worked its way into the wooden sill.

The idlers were painted a bright iron oxide red with white lettering. John Maxwell noted that the D&RCW called this color "Freight Car Red" and that he matched it with a 50-50 mixture of Floquil Caboose Red and Boxcar Red. Keep in mind that the red tended to darken with age except where the weathering processes caused the paint surface to chalk. In these areas, the paint turned flat and a light brown iron oxide shade on undisturbed surfaces. Most of the cars are without any paint at all today, it having flaked off and left the silvered wood surface unprotected.

# Useful References:

- Modeler's Annual – back issues available – timeless! <https://www.finescalerr.com/>
- *Slim Gauge Cars, 2<sup>nd</sup> Edition* by Carstens Publications
- *Railroad Model Craftsman – Essential Freight Car* series by Ted Culotta – over 30
- <http://www.steamerafreightcars.com/modeling/models/culotta/culottamain.html>
- <http://www.steamerafreightcars.com/modeling/parts/partsmain.html>
- [Tichy and https://sanjuandetails.com/](https://sanjuandetails.com/) – Grantline details
- Your favorite railroad Car Roster books
- Historical societies
- Various photo journals
- The INTERNET
- Other modelers..... Don't be afraid to ask.





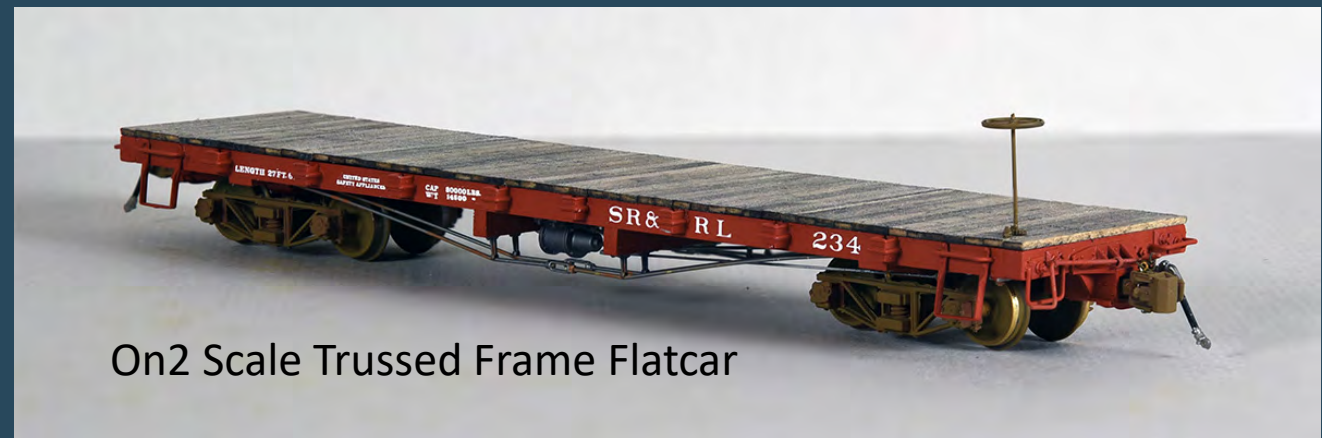
HO Scale Drover's waycar



HO Scale Peek-a-Boo Gondola



HO Scale Outside Braced Boxcar



On2 Scale Trussed Frame Flatcar





HO Scale Double door Boxcar



HO Scale Express Boxcar



HO Scale Steam Era Caboose



HO Scale Wagon Top Boxcar



We are artists – give it a try!  
You will get hooked!

Always remember.....

Model Railroading is FUN!

That's my story,  
the rest is up to you!