

SCRATCHBUILDING ROLLING STOCK

By

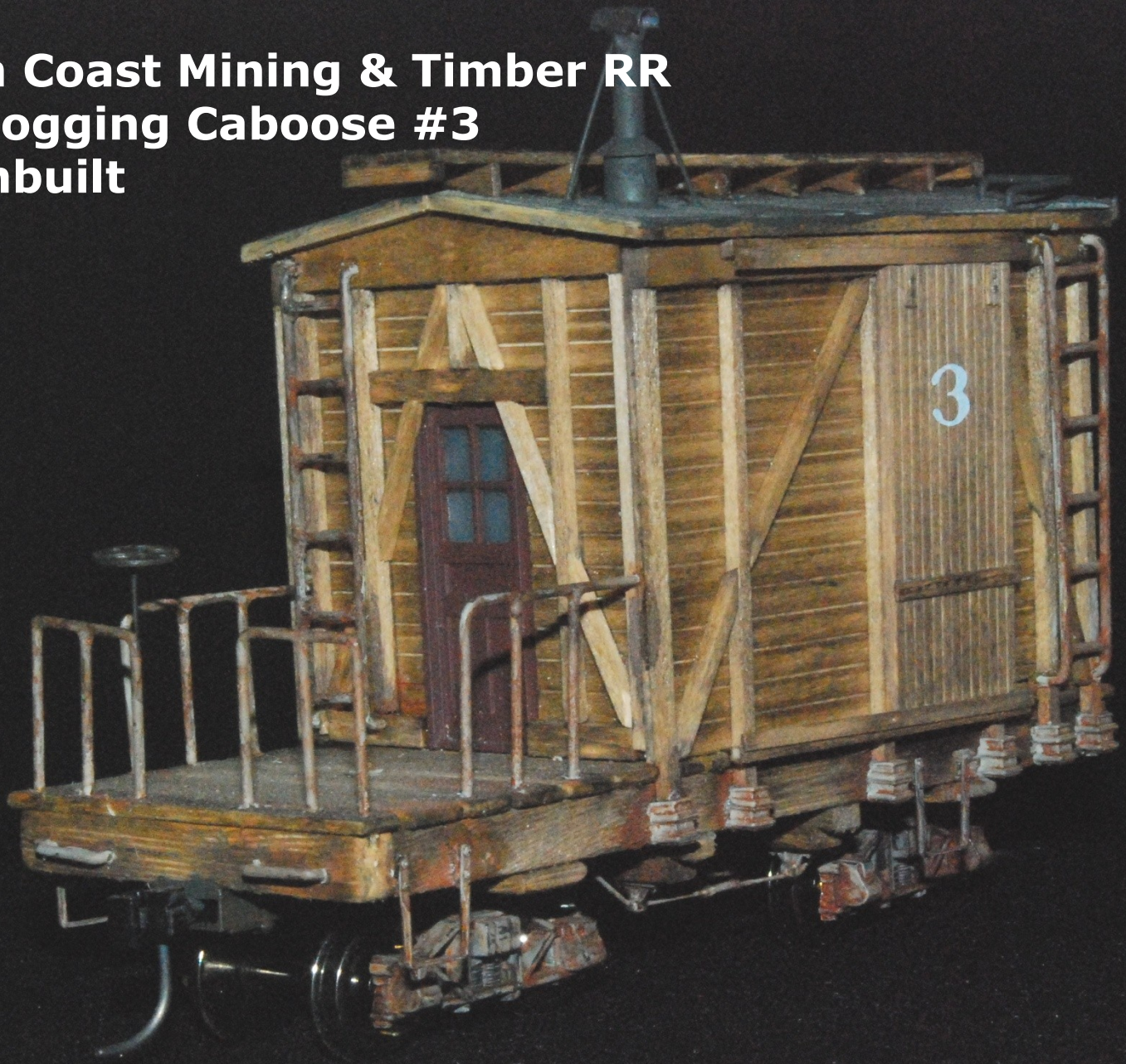
Pat Harriman, MMR, HLM

Photos by Paul Myers, MMR

WHY SCRATCHBUILD?

- The thrill of starting with nothing but an idea
- The challenge
- The research
- Collecting all the bits & pieces
- Pride of accomplishment once it's completed

**Oregon Coast Mining & Timber RR
On30 Logging Caboose #3
Scratchbuilt**



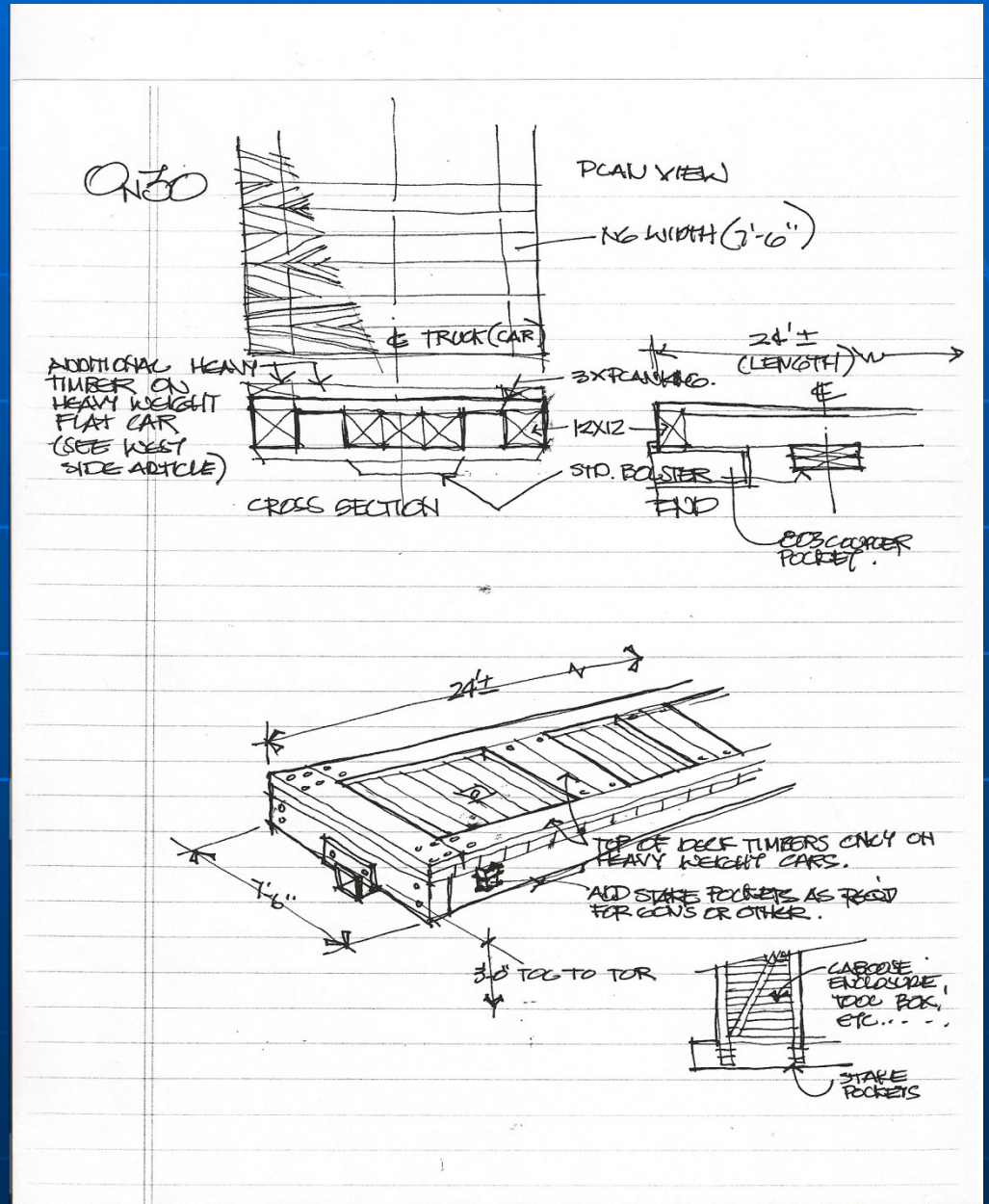
PROCESS

- The idea
- Rough sketches
- Dimensioned drawing
- Photo record of construction
- Daily notes during construction
- Actual construction

DESIGN SKETCHES

- Doodle different design ideas
- Scale & size determination
- Consider model options such as coloring and lettering
- Framing schemes
- Determine openings if any
- Special details

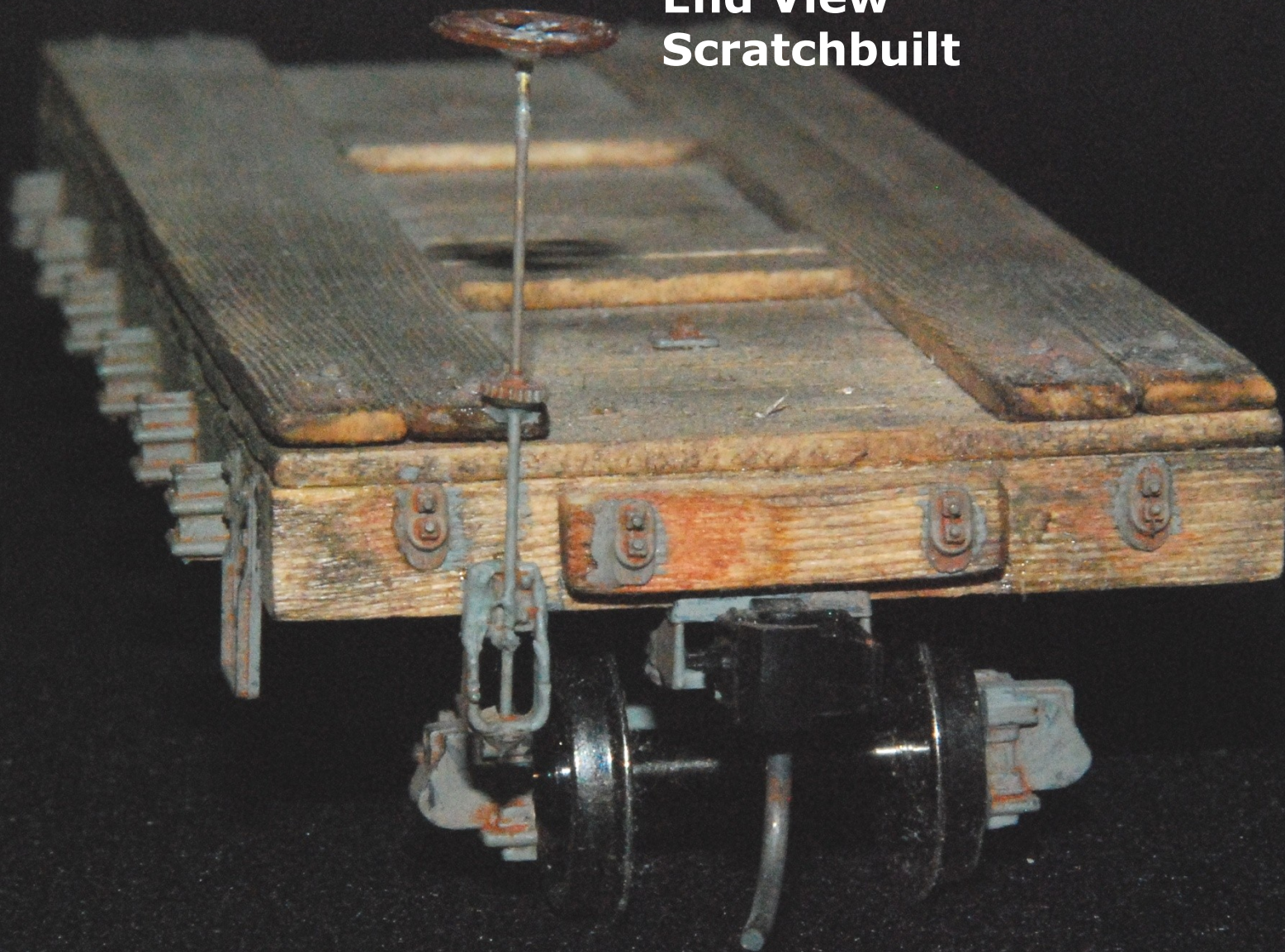
Freehand sketches or simple doodles of cars or even details found on cars real or imaginary may lead to your next contest winner.



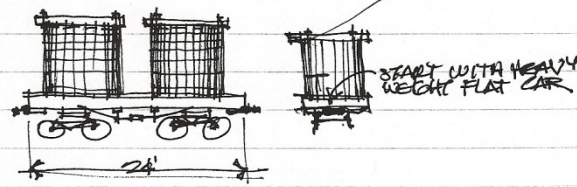
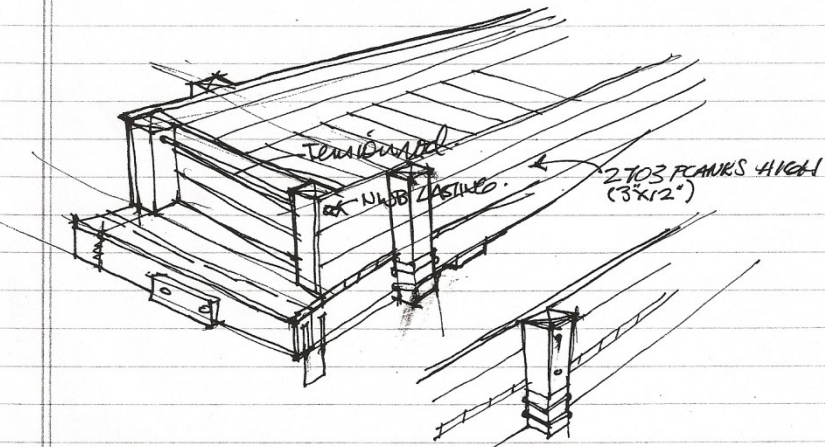
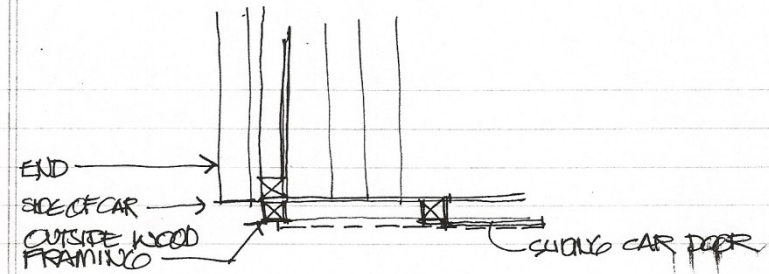


**CCR On30 Heavyweight Flatcar #16
Scratchbuilt**

**OCM&T Heavyweight Flatcar
End View
Scratchbuilt**



When an idea comes to mind, irregardless of what it is, make a note or make a little drawing just as a reminder so that when you have a bit more time, you can either refine it or toss it in the trash.



**Shelter Bay Railway Company
HO Std Gauge Water Car #7
Scratchbuilt**



**Shelter Bay Railway Company
HO Std. Gauge Low Side Gondola #78
Scratchbuilt**



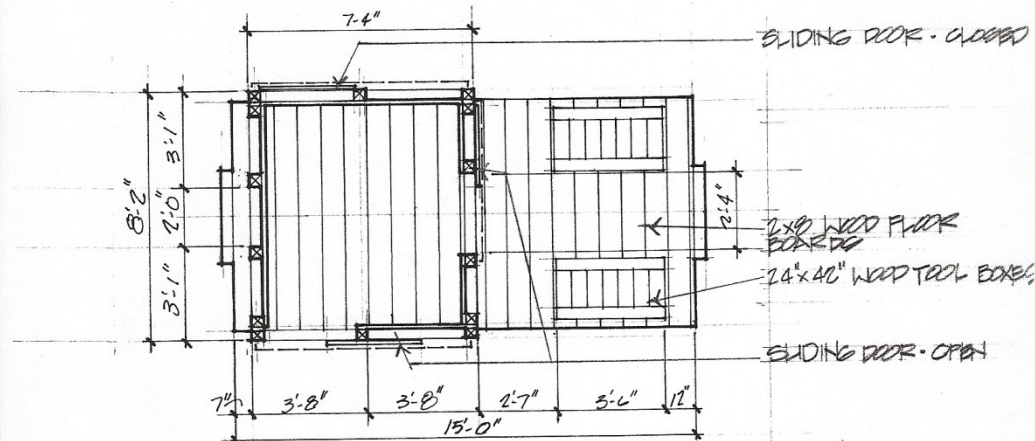
CONSTRUCTION DRAWINGS

- Scale drawing and dimensions
- Show all appropriate details by name and number
- All lettering actual size and font
- Car number
- All final design decisions
- Basis of design conformance when entering a contest

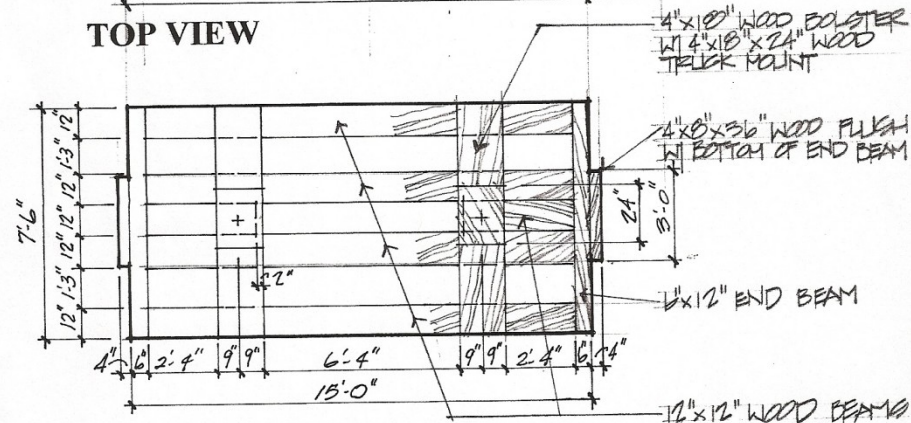
On30 - TOOL CABOOSE
PLAN VIEWS
 SCALE 1/4"=1'-0"



A construction drawing is a drawing that is to the same scale you are going to construct your model at. Some modelers find it convenient to construct the car floor directly over the reflected floor framing plan.



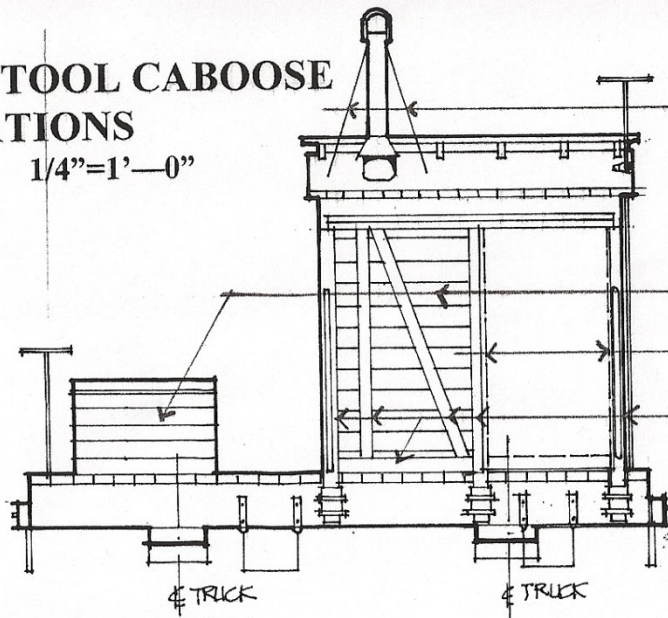
TOP VIEW



REFLECTED FLOOR FRAMING

On30 - TOOL CABOOSE ELEVATIONS

SCALE 1/4"=1'-0"



SIDE VIEW

BRACE CUT WIRE SUPPORTS,
PAINTED GRIMY BLACK

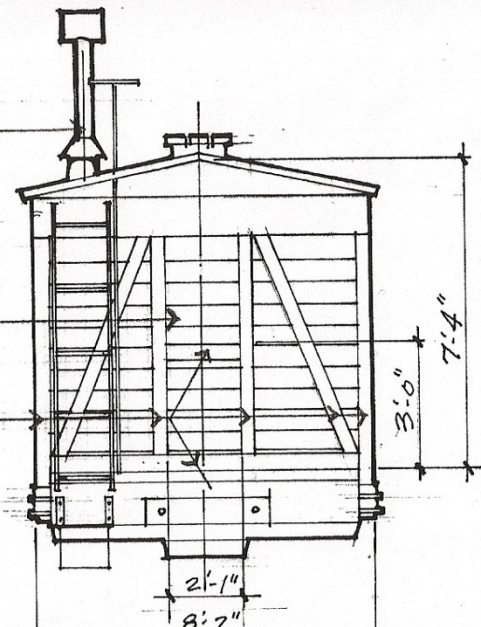
4x8 WOOD FRAMING

4x10 WOOD FRAMING

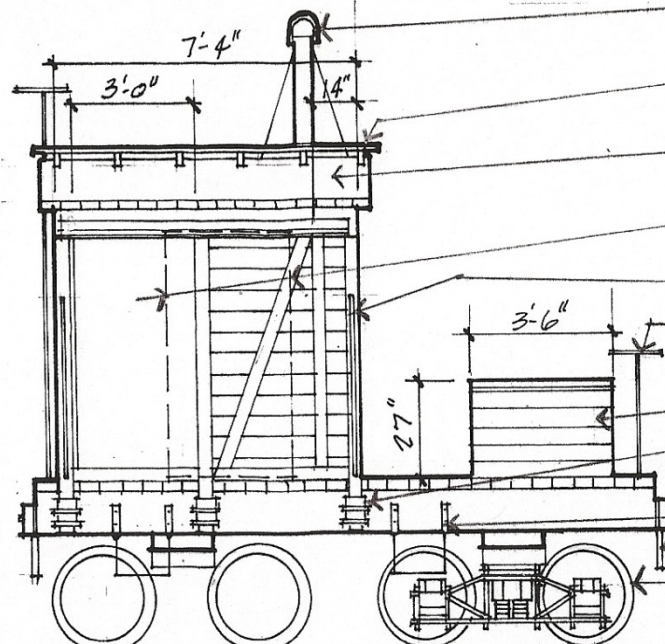
1/32" THICK SCRIBED WOOD
SIDING

CLOSED BOX CAR DOOR

4x4 WOOD FRAMING



REAR VIEW



SIDE VIEW

GRAND LINE STOVE PIPE,
#145

2x4 ROOF WALK PLANKING ON
GRAND LINE SUPPORTS, #145

TAR PAPER OVER WOOD ROOF
DECK, PAINTED GRIMY BLACK

GRAND LINE #3001 BOX CAR
HARDWARE SET

GRAB IRONS

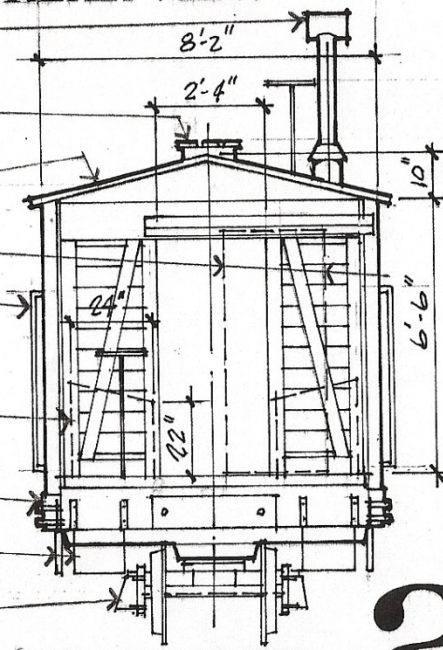
GRAND LINE BRAKE
WHEEL, #45

WOOD TOOL BOXES

GRAND LINE STAKE POCKETS,
#133

GRAND LINE STIRRUP
STEPS, #33

BACHMAN ON30 ARCH BAR
TRUCKS, NO. 29901



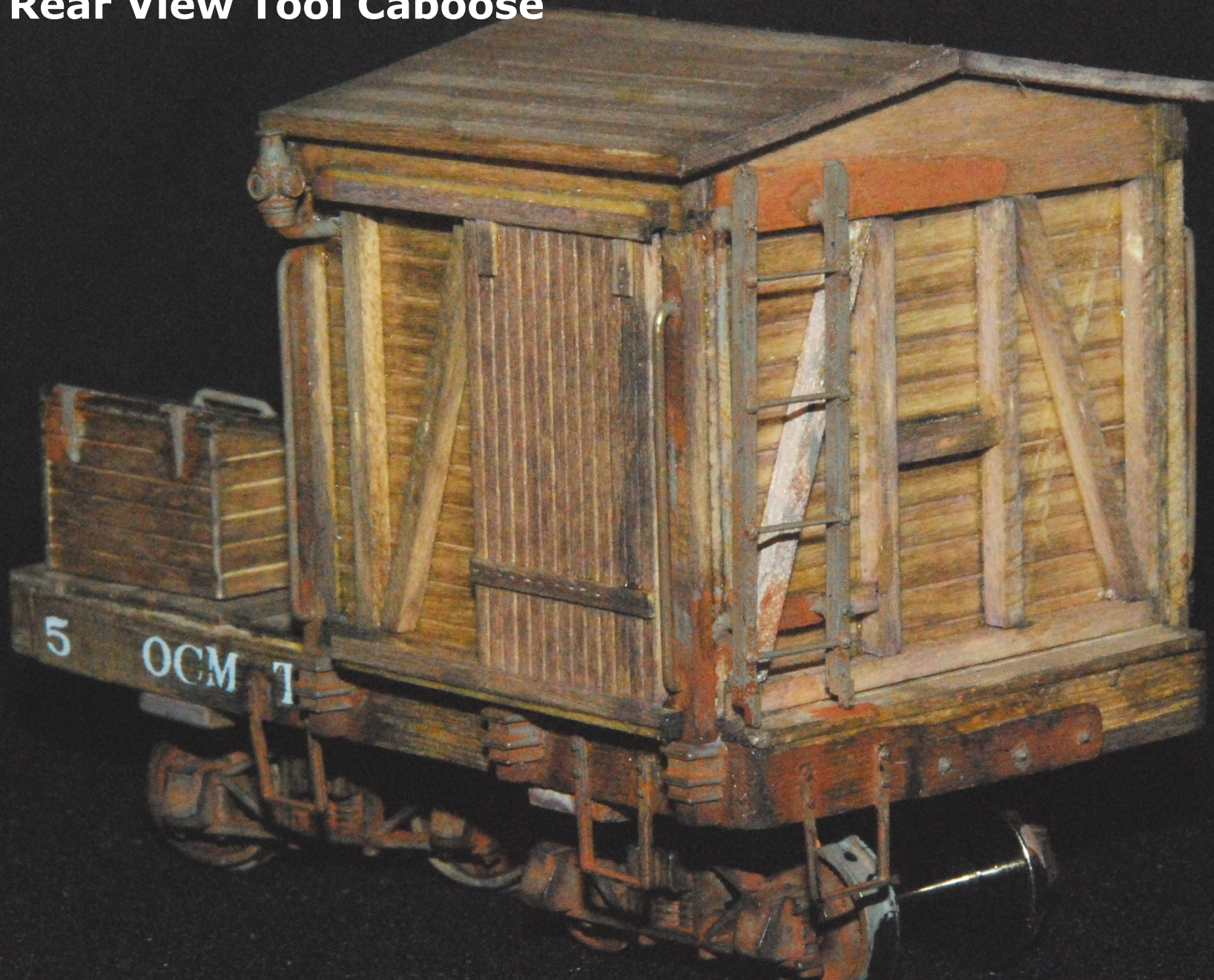
FRONT VIEW

Oregon Coast Mining & Timber Company Railroad
Design drawings prepared by the OCM&T Engineering Offices



**OCM&T On30 Tool Caboose #5
Scratchbuilt**

Rear View Tool Caboose



CONSTRUCTION STANDARDS

- On30, OCM&T NG Railroad
- Standard width-7'-6"
- Standard length-24' plus or minus
- Standard truck-Bachman, arch bar freight truck No. 29901
- Car lettering-Roman R.R. White
- Coupler height-top of coupler, 3'-0" above top of rail

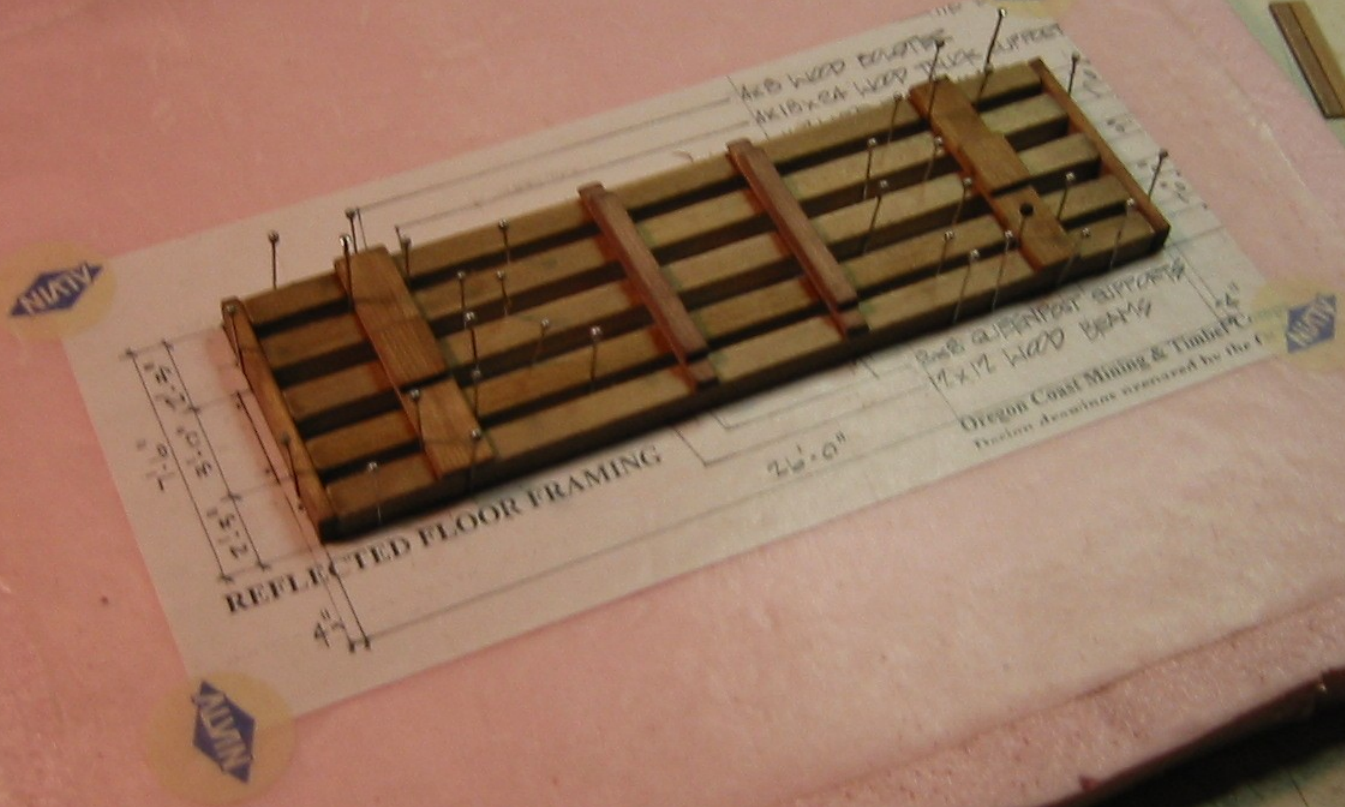
**CCR On30
Logging Caboose #2
Scratchbuilt**



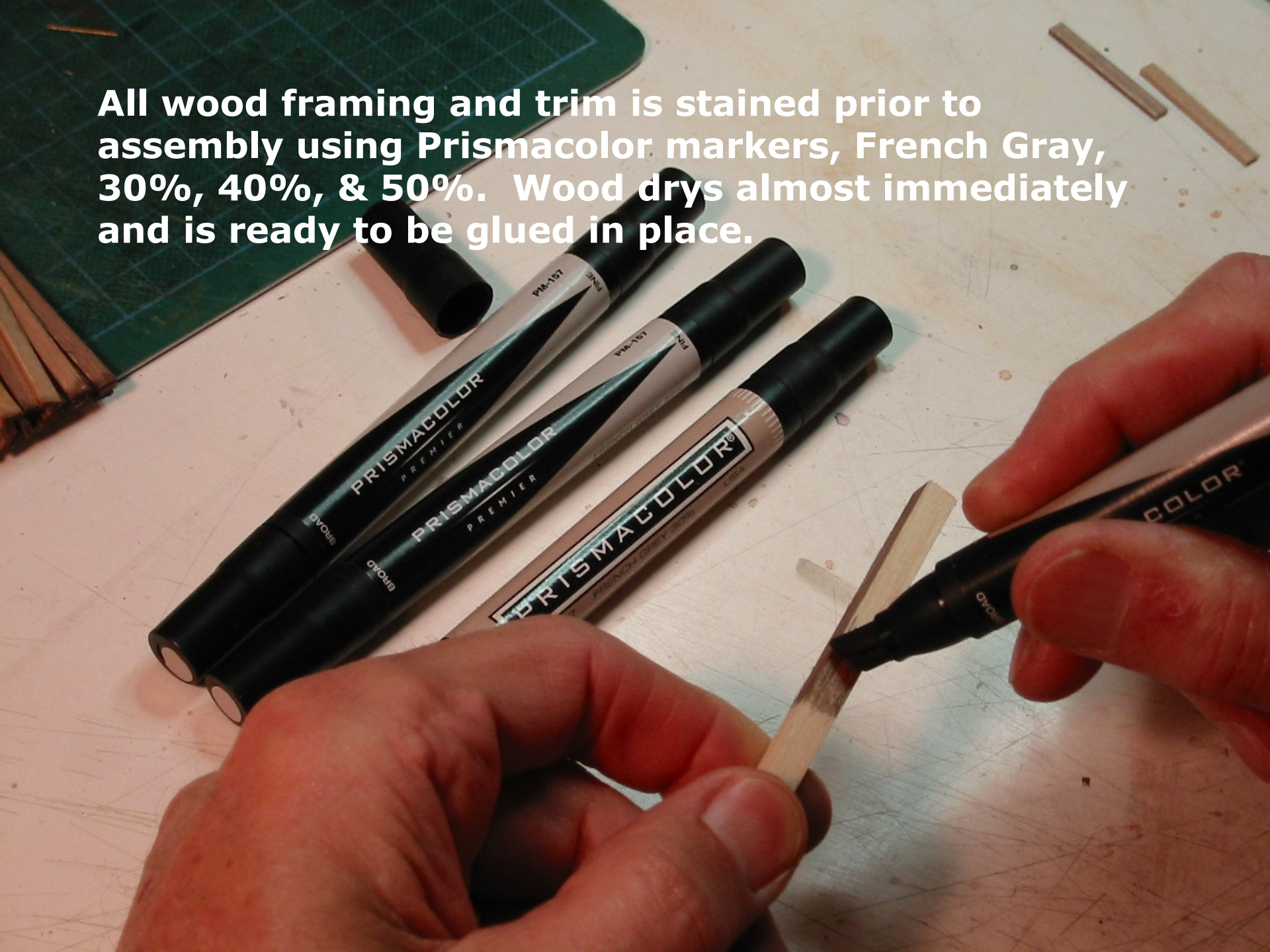
CONSTRUCTION PHOTOS

- Take lots of photographs during the model construction
- Showing steps in assemblies
- Special jigs
- Methods of assembly
- Modeling tricks
- Photos can lead to some outstanding modeling articles and clinics

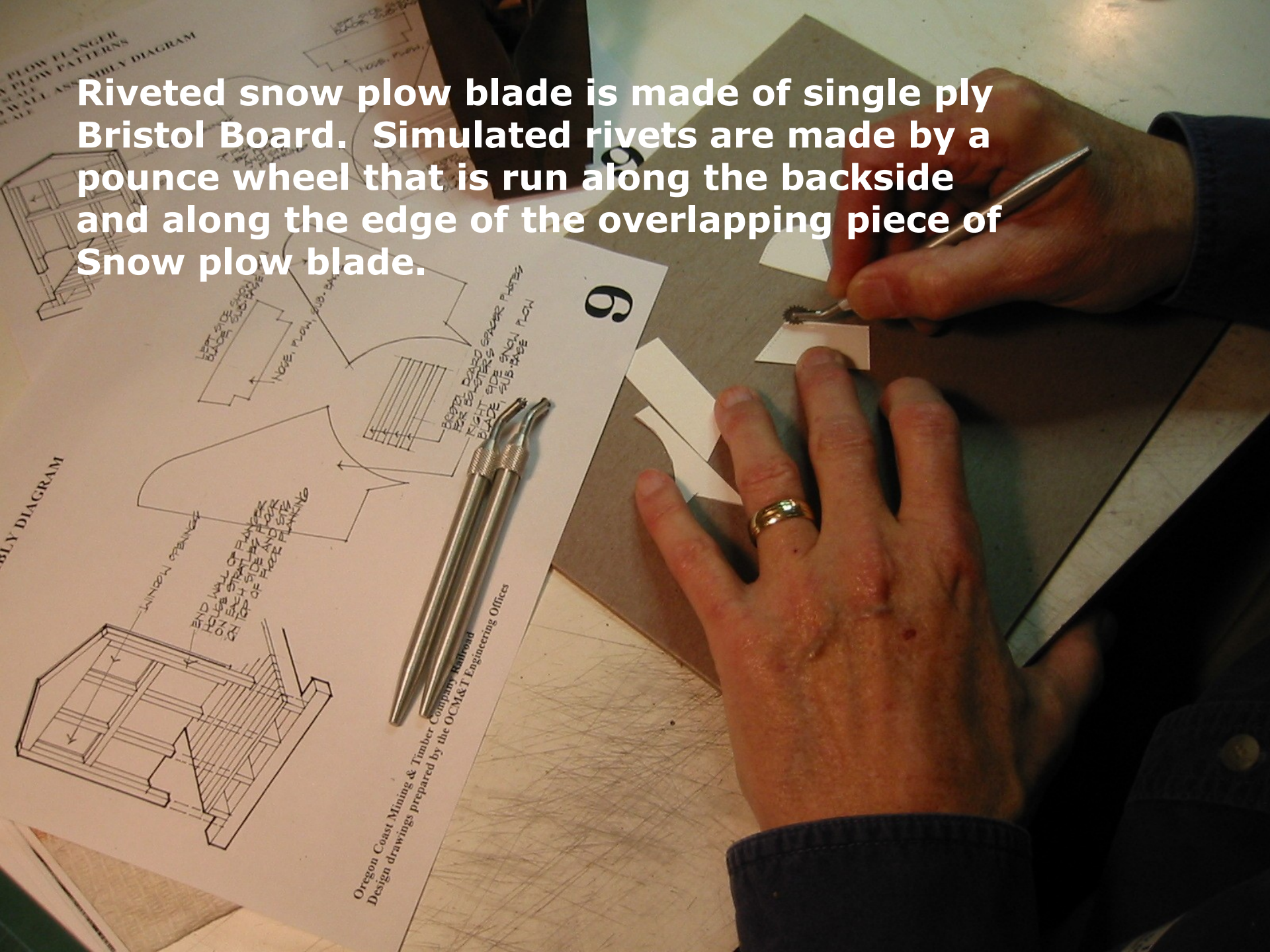
Floor Framing pinned and glued over top of construction drawing and wax paper taped to scrap of polystyrene.



All wood framing and trim is stained prior to assembly using Prismacolor markers, French Gray, 30%, 40%, & 50%. Wood dries almost immediately and is ready to be glued in place.



Riveted snow plow blade is made of single ply Bristol Board. Simulated rivets are made by a pounce wheel that is run along the backside and along the edge of the overlapping piece of Snow plow blade.



**Oregon Coast Mining & Timber (OCM&T)
On30 Plow Flanger # 09
Scratchbuilt**



**OCM&T On30 Plow Flanger
Scratchbuilt**



TAKE NOTES

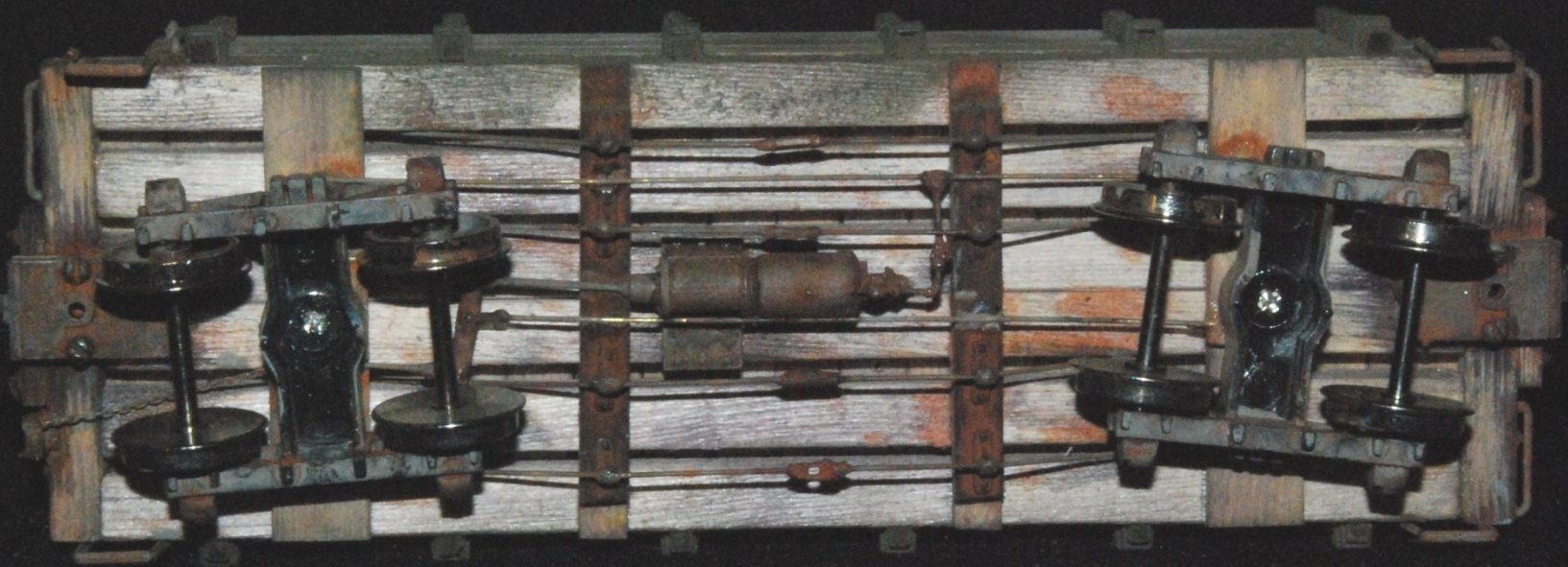
- Personal reminders
- Time frames to accomplish certain tasks
- Thoughts about other projects
- Detail parts lists for contest paperwork or possible modeling articles
- Information for car file
- Model story (all cars should have one)

**Shelter Bay Railway Company (SBR)
HO Std Gauge Combine #12
Kitbash**



CAR FILE

- Manila folder with car name on tab
- Insert all notes on model
- Photos
- Original ideas & thoughts
- Lessons learned during construction
- All drawings
- File can be shared with friends and a source for future projects and clinics



**Oregon Coast Mining & Timber RR
On30 Low Side Gondola
Bottom View Brake Rigging**

FREELANCE CARS

- One of a kind cars
- Based on an original idea
- Based on a photo or drawing of an existing railroad car
- My railroad, my design
- My drawings reflect any changes I make to the model and are usually done after I build the model
- Model conforms to documentation 100%

**Oregon Coast Mining & Timber RR (OCM&T)
On30 Logging Caboose #3
Scratchbuilt**



**Shelter Bay Railway Company (SBR)
HO Std. Gauge Crane Car #6
Scratchbuilt**



FINISHED MODEL

- Modify construction drawing to match model
- Contest paperwork includes final drawing
- Absolute conformance
- If the model feels good, it's probably right.
- If the finished model does not feel good, it is probably wrong

**OCM&T On30 Low Side Gondola # 41
Scratchbuilt**



OCM&T On30 Low Side Gondola # 41
Birdseye view
Scratchbuilt



**Shelter Bay Railway Company
HO Std. Gauge High Side Gondola #52
Scratchbuilt**





**SBR HO Std. Gauge Heavyweight Flatcar #1
Scratchbuilt**

**SBR HO Std. Gauge Reefer #42
Scratchbuilt**





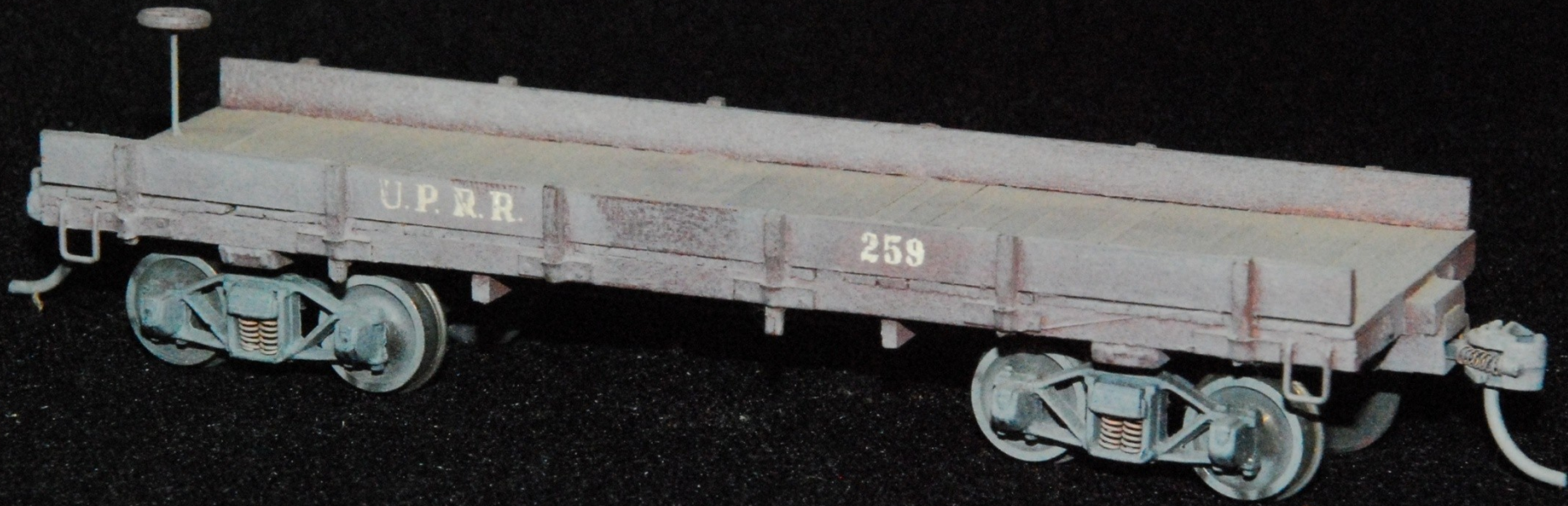
**Missouri Valley Railroad
HO Std Gauge High Side Gondola #746
Scratchbuilt by Larry Long, MMR**



**Denver & Rio Grande RR
HO Std. Gauge Flatcar (Open Ends)
Scratchbuilt by Larry Long, MMR**



**Shelter Bay Railway Company
HO Std Gauge, 4 Door Reefer #1203
Scratchbuilt**



**Union Pacific Railroad flatcar with
one foot tall sides & open ends, #259,
scratchbuilt by Larry Long, MMR**

SBR Reefer #42
HO Std Gauge
Scratchbuilt



**Shelter Bay Railway Company
HO Std Gauge Tank car #5
Scratchbuilt**



The End