SCRATCHBUILDING ROLLING STOCK WITH STYRENE

By Gene Deimling
GETTING STARTED

- Documentation
- Design Sketch
- Core Construction
  - Boxcars and Reefers
  - Caboose
- Exterior Surfaces
- Details
  - Tips on how to add finishing touches
  - List of suppliers for the “parts”
Your model starts with inspiration
- Pick project that interests you and within reach
- Make your first project easy
- Look at kits like San Juan Car Company for ideas

Gather information/ materials
- You will need photos, plans and details to build your model
- Obtain the decals, trucks and detail parts needed
  - Stopping to find sources for things have a way of killing projects
  - Decals make the project possible!
Prototype drawings
- Historical societies offer drawings
- Museums like California State Railroad Museum
- eBay
- Official Railway Equipment Register (ORER)

Plans in model magazines
- Model Railroader, Mainline Modeler and RMC
  - Check photos for errors in drawings

Photo sources
- Bob’s Photos, John La Rue, M.D. McCarter, Arnold Menke, California State Railroad Museum and many railroad historical societies
EXAMPLES: Prototype Plans and Photos

Example of a general arrangement drawing obtained from the Pullman Collection at Union, IL and car diagram taken from a Yahoo Group on the Soo Line
DATA: Books and Online Sources

- **Books**
  - Car Builders Cyclopedia
    - Reprints sold by Gregg years ago
    - Digital versions sold by Rail Driver
  - Railway Prototype Cyclopedia
  - Speedwitch Media books
  - Historical Society publications

- **Online sources**
  - Yahoo Groups for a particular railroad
  - Steam Era Freight Car Group on Yahoo
  - Google scans of early CBC
  - Historical Society websites
DESIGN: Simple Sketch

- Start with a sketch and use actual dimensions
  - Simple sketch of basic sides, roof, ends with location of floor
- Scale Print application for PCs
  - Allows you to convert published drawing or photo to your modeling scale
- Prepare cutting list of basic parts needed to form the core body
SCALE PRINT - Software Application for PC
DESIGN: House Car Core Shape

- Define the core shape
  - Build inner core
  - Subtract outer layers from size
  - Cut accurately
- Exterior layers
  - Wood sheathed cars
    - Evergreen 3 ¼” for double sheathed
    - Individual strips for single sheathed
      - Simulate tongue and groove siding
      - No “V” grooves on siding
  - Steel sheathed cars
    - Lapped plates with rivets

House Car Construction
Sides and Floor = .040”
Inner Roof = .020” or .030”
Scribed Siding .020” thick
Add weight inside
EXAMPLES OF HOUSE CARS

Double sheathed construction simulated with Evergreen 3 ¼” scribed sheet over inner core

Steel sheathed cars are built with inner core and thin overlay. Lapped plates simulated with .015” by .040” strips inserted between side sheets of .010” styrene

Rivets can now be done using the Archer Transfer decals
Example of construction technique for steel cars. This model is a urethane kit done from my patterns using the techniques described on the previous page.
SINGLE SHEATHED BOXCARS

- Two ways to build sides
  - Build inner core and sheath with thin strips
  - Build up sides like prototype with .030” thick strips
- Side posts formed from styrene strip and angle

Robert Leners built this model of a T&NO A-50-4 using strips of styrene bonded edge-to-edge to create the tongue and groove siding of the prototype. Evergreen custom cut the material to prototype width of 5 1/8”
Robert Leners built this model using strip styrene, ends from IM reefer and Grandt Line #9 nut and bolt castings. Tichy rivets were also used to simulate rivets on side.
DETAILS OF SINGLE SHEATHED CAR
Reducing the model down to a series of simple steps
Start by cutting out windows from scribed styrene, brace the back and form the window frame back and front. Curved roofs formed by laminating over a form to proper radius.
CABOOSE DETAILS
CABOOSE FINISHING TOUCHES

The basic styrene structure is augmented with details such as NBW, rivets, wire grab irons, railing and ladders. Take your time and add the details in layers. Grab irons on car ends should be added before railings are installed.

Weathering is done with Kuras alcohol washes over Testors Dullcoat flat lacquer.
DETAILS- Parts

- Archer Transfers
  - Decals for surface details- rivets, weld lines, safety tread
  - Rivets are pre-spaced for typical car construction

- Chooch Enterprises
  - Plastic detail parts for rolling stock
  - Important source for door hardware, reefer details, brake levers, passenger car windows and doors

- Des Plaines Hobbies
  - Detail parts in brass and plastic parts
  - Old Plano line of etched running boards

- Foothill Model Works
  - Details useful on rolling stock

- Grandt Line
  - NBW and lots of detail parts

- Hi-Tech Details
  - Air hoses with brackets

- MacLeod Western
  - Plastic parts for rolling stock details

- Mullet River Model Works
  - Etched and machined brass detail parts

- P-B-L
  - Excellent source for details

- Precision Scale Company
  - Plastic and brass detail castings and trucks

- Protocraft
  - Brass details for cars and P48 trucks/wheels

- San Juan Car Company
  - Limited number of key details like brake parts and trucks

- Scale Hardware
  - Machined metal rivets and bolt heads

- Tichy
  - Plastic rivets and NBW along with wire
DETAILS- Lettering Suppliers

- **Black Cat Publishing**
  - Large line of ALPS produced decals in HO but will print in O scale

- **Champ Decals**
  - Closing out large line- look on eBay

- **Chooch Enterprises**
  - Custom decals for car projects

- **Clover House**
  - Dry transfer line
    - Extensive list of roads and private reefers

- **Jerry Glow**
  - Large list of HO decals that can be printed in O for a nominal fee

- **Greg Komar**
  - Dry transfer line

- **Microscale**
  - Large variety of decals but phasing out O line

- **Mullet River Model Works**
  - Custom decals for own product line available separately

- **Nickel Plate Models**
  - Large number of NKP Road decals

- **Prime Mover Decals**
  - Limited number of DL&W decals in O scale

- **Protocraft**
  - Large line of decals with original artwork and licensed art from Speedwitch Media

- **Rails Unlimited**
  - Selection of custom decals for kit line

- **RL Design**
  - Large line of ALPS printed decals
    - Very accurately done

- **San Juan Decals**
  - Limited number of set but will custom print based upon your artwork

Extensive list of suppliers can be found on [http://www.proto48.org](http://www.proto48.org)
QUESTIONS?