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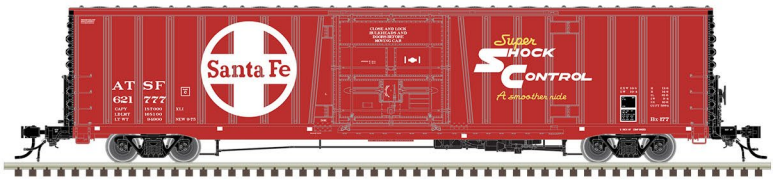

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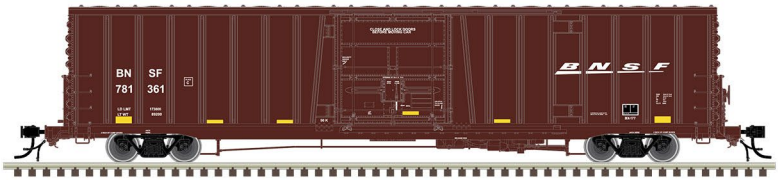

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(Updated 8/26/2017)

Front cover: Bob Rivard does not one *but two* loco upgrades in this issue's cover story! It's twice the fun: be sure to check it out ...

ISSN 2152-7423

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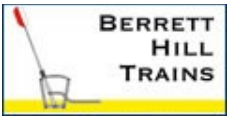

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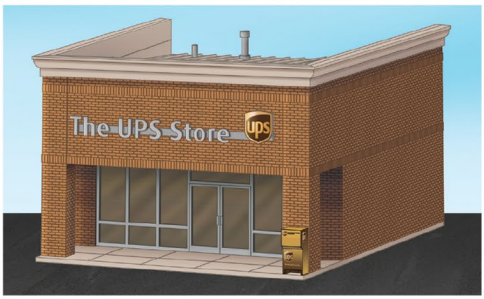

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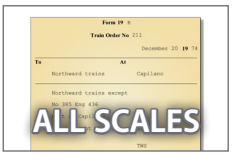

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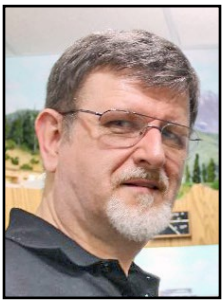

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PUBLISHER'S MUSINGS

editorial

Joe Fugate

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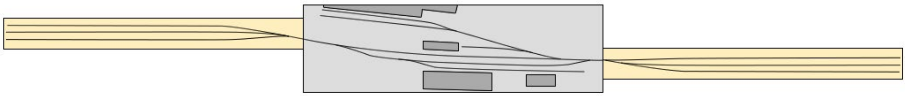
Getting outside the box with TOMA

As I originally developed the TOMA idea (The "One Module" Approach), my concept has been to build a single module section at the workbench from start to finish. Then I'll deploy the finished module in my layout space by adding some temporary stub staging on each end so I can start some basic operation across the module [1]. I call this "classic TOMA."

Using this classic TOMA approach to build a layout section "at



Classic TOMA

1. Classic finished TOMA section deployed for operation with stub-end staging on each end.

the workbench" – in a special work area, if you will – allows keeping the mess contained and having the layout space remain pristine. In addition, having a special TOMA workspace also allows conveniently using a "rotisserie" fixture for positioning

during construction [2]. We produced a tongue-in-cheek module rotisserie demo video for TMTV called the A-Frame-O-Matic; you can watch it here: mrhmag.com/node/27491#comment-254624.

2. TOMA section rotisserie built by MRH forum member SP Steve. You can rotate the module section to any orientation you need as you work on it.

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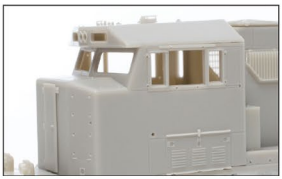
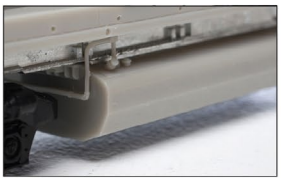


NS-designed Crescent Cab

Rebuilt inertial/clean room



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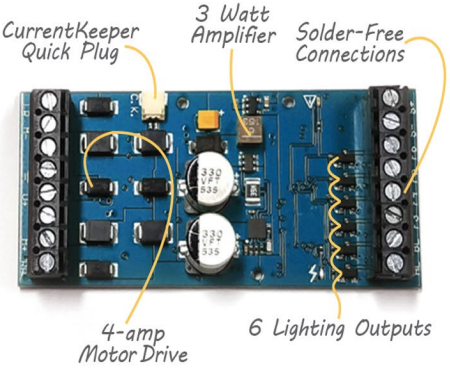

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Publisher's musings | 3

Classic TOMA also proposes that if you want something larger, you repeat the process, adding one module at a time, each one finished. Keep adding as many modules as you want for as long as you like – just move the staging out to the ends as you get more finished layout sections to run through. The deployed layout always looks finished, and you keep the mess confined to the special TOMA work area with the rotisserie.

However, TOMA is not limited to the classic approach I just described – and in fact, that's the thrust of our new "TOMA with a Twist" contest. How far out of the box do you want to go? We would like to see!

In my last editorial, I suggested some variations on staging to allow continuous running with one or more TOMA sections. But

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that's not all – here are still more out-of-the-box ideas for doing a layout using TOMA.

TOMA MEETS THE 4X8

I've never been a real fan of 4x8 layout designs because they are not very space efficient and they feel too much like the roundy-roundy operation of running on the floor around the Christmas tree.

Yet, 4x8 designs remain popular because the "sheet of plywood" concept seems like a natural evolution of the Christmas tree loop.

I maintain you get a better layout design if you think "shelf" instead of "table" – especially since real railroads are naturally linear rather than being loops. TOMA works well for shelf designs, but it can be adapted to the 4x8 concept as well. Let's look at how.

If you build two TOMA modules, put them back to back, and add temporary turnback curves for continuous running [3], you get a TOMA design that takes the same floor space as a traditional 4x8. However, once you're ready

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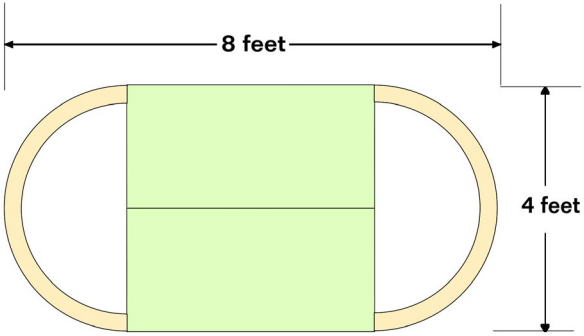
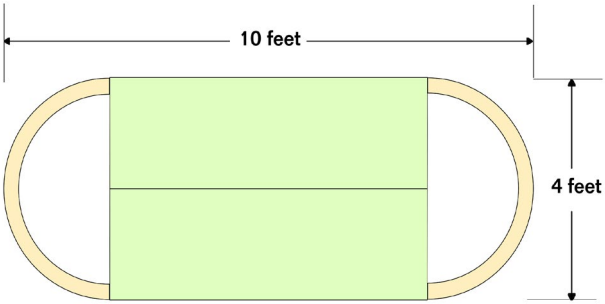
to graduate from "table" thinking to "shelf" thinking, you're all set. You have two ready-made TOMA sections you can use to start moving toward a larger shelf-style layout.

Much discussion on the MRH forum lead to recommending a 6-foot TOMA section as being a good compromise between portable yet minimal joints. So let's do a 6-foot long and 24-inch wide TOMA section version, giving us a layout that takes 4x10 instead. This is a nice next-step upgrade from the shorter TOMA sections, and it only takes an additional 8 square feet of floor space [4].



3. Build two 4 foot TOMA sections 24-inch wide back-to-back and add temporary turnback curves. Instant TOMA 4x8!

The beauty of taking this approach (4x8 or 4x10) is you're all set for growing this later into a nice shelf-style layout, but you can enjoy a nice 4x8-style continuous running layout for starters.



4. Move to more optimum 6-foot long TOMA modules and you get a 4x10!

TOMA MEETS FILL-THE-ROOM-WITH-BENCHWORK

If you prefer to build all the benchwork first, then laying and wiring all the track, and so on – you can do that too with TOMA.

Regardless, I recommend designing the entire layout up front, since this will help keep a TOMA design from turning into a patchwork quilt as to the track routing. I'm taking this approach with my Siskiyou Line 2 (SL2) replacement for my first layout.

SL2 is using TOMA methods, adapted to my situation. I'm taking the parts of classic TOMA I like and melding those with more traditional layout building methods.

I'm planning to build 3-4 sections at a time using a more traditional approach. I will build all the benchwork, then set the sections up in the layout room. Here, I will add the roadbed, but still put in roadbed joints so I can take the sections apart.

Then I will lay the track that goes between module sections so that I can reinforce and align the joints precisely using common FREE-MO methods for managing track joints.

Once that's done, I'll remove each section and take it back to the rotisserie work area to finish up the rest of the trackwork and install the wiring. I'll add staging and test the trackwork and try some ops. I'll also add the signaling and get it operational. I'll also fit any bridges needed for the section – all while in the rotisserie work area.

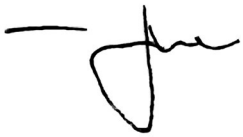
Remaining in the work area, I will next add the basic scenery terrain, determine structure locations, plus add any dirt, grass, rockwork, and any water features. I'll also add working switchstand targets.

At this point, now that the "messy" work is done, I will take the module section with basic scenery (sans bushes, trees, structures, and the final details) back into the layout space. Then repeat with the next section, and so on.

Once the 3-4 sections have reached this basic scenery stage, I will add staging, test operating it, and add the bushes, trees, structures, and final details such as signs, people, and autos.

Once this is all done, then I'll move on to the next 3-4 layout sections. I may or may not be in a big hurry to move on to building more sections if I'm having too much fun doing ops on what I've built already.

But that's one of the beauties of TOMA: build as much layout as you need to have fun. Stop and enjoy some finished layout earlier on. Don't over invest in filling the room with a Plywood Pacific that looks unfinished for a decade or more. ☑



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MRH "TOMA WITH A TWIST"

CONTEST

ENTRY DEADLINE: January 31, 2018

Goal: Design the "starting position" for a sectional home layout design using TOMA.*

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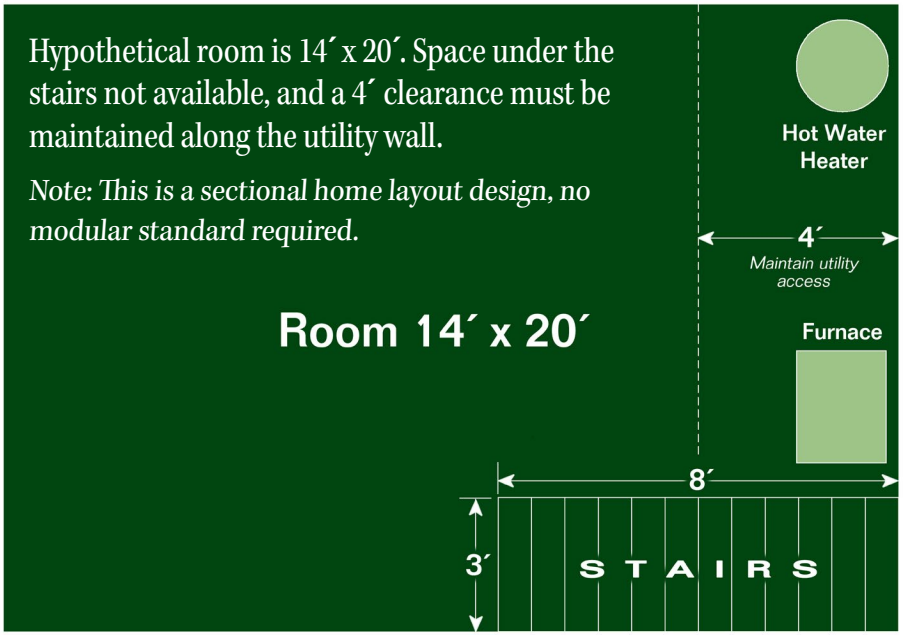
Honrable mentions: $100 each, publishing at editors' discretion.

Hypothetical room is 14′ x 20′. Space under the stairs not available, and a 4′ clearance must be maintained along the utility wall.

Note: This is a sectional home layout design, no modular standard required.



*For reference, see the July 2017 MRH Editorial, "TOMA with a twist".

CONTEST RULES

- Modules can be any size or shape but must fit up the stairs and through the door at the top of the stairs (80" tall and 30" wide) without damage or pinching your fingers.
- Scale: From Z to O, using any track gauge.
- Design the "starting position" for layout construction phase 1 – we want to see one or two TOMA module sections that can be completely finished and configured for an operating session. Show and tell how staging would work. Tell a brief backstory of the line and how it operates.
- Your TOMA modules need to have some form of temporary staging, either singled-ended staging off one/both ends, or double ended staging connected to both ends of the modules, which would also allow continuous running if desired.
- Don't waste your time drawing and describing a detailed room-filling layout. Rough in outlines of the other modules, that is, the "ending position." Just sketch simple boxes and lines to show how the modules will fit in the room. Bonus points awarded for explaining – in words, sketches or both – a phased module construction progress plan.
- Modules can follow a standard or not. Custom sections okay.
- Module support method / height up to you, but please describe.
- Innovative or creative approaches get extra points: please describe and illustrate if possible.
- Include a cost estimate for the starting position. There is no need to actually build anything, this is a design contest only.
- This contest is ***all about getting started***. People who can get that far will be able to fill in the rest with their own imagination.
- All submissions must be publishable. If the submission is not formatted to be ready for publication, it will be disqualified. Take the time to be complete, provide captions, and to describe things completely in your text. See the MRH submission guidelines for more information.

SUBMIT ENTRY (Choose "Contest Entry")

LAST ISSUE'S RATINGS

The five top-rated articles in the August 2017 issue of *Model Railroad Hobbyist* are:

4.7 Getting Real: Engine servicing details
4.7 Enhancing Jensen Concrete
4.7 Weathering a covered hopper
4.6 Illuminated kerosene lanterns
4.5 Ass't Editor's thoughts: Creativity

Issue overall: **4.7**

Please rate the articles! Click the reader comments button on each article and select the star rating you think each article deserves. Thanks! ■

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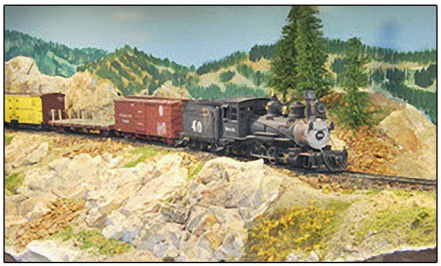

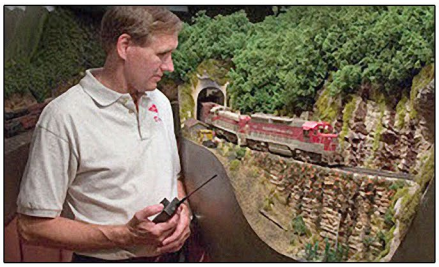

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compiled by
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Questions and Answers

Brake wheels and air brakes

Q. I have always associated K brakes with vertical staff and AB brakes with the Ajax power handbrake. After reading some assembly instructions and examining some Accurail cars, I am not sure I am right. Is it possible for a car to have AB brakes and a vertical staff?

—Papillon

A. David Husman: They can have a vertical brake staff and AB brakes. Note [1] the AB air reservoir and the pointy end of the brake cylinder and the vertical staff brake wheel just peeking over the left end of the car (above the row of rivets next to the P in PLE).

Hoghead40: About early 1971, we were switching a track at Locust Point in Baltimore (B&O). The first car into a clear track was a 40-foot box in NYC jade green that had an old stem-winder handbrake. B&O stopped issuing brake clubs several years earlier, so we had to use a board to get some leverage on the wheel.

I remember seeing a private owner-marked box with a stem-winder at about the same time. You could plainly see the fried-egg herald of previous owner L&NE through the paint. Older tank cars, and there were lots of them in the early '70s, almost universally had stem-winders with upgraded air brakes.

Ed.: Let's cover the basics. Westinghouse air brakes use air pressure to charge reservoirs (tanks) on each car. The system is generally charged, or pressurized, using a compressor on the locomotive. Full air pressure signals the brake valve on each car to release the brakes. A reduction or loss of air pressure signals each car to apply its brakes using the compressed air in its reservoirs.

The system is fail-safe. Any failure in the train line, from a leaky gasket to the cars separating, causes a loss of train line pressure. In extreme cases the brakes are fully applied and bring the train to a stop.

1. The shape of the air reservoir (below and to the right of the sliding door), and the flat brake wheel peeking over the top left side of the car, identify this Pittsburgh & Lake Erie car as having an AB brake system and a stem-winder brake wheel on a vertical shaft.

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The K brake system usually had the valve, brake cylinder, and a single reservoir all cast as a single part. Reaction times on brake applications were slow, particularly on long trains, and there was no emergency reservoir.

The AB brake system has separate main components with a cast valve and cylinder, and a single air tank containing both standard and emergency reservoirs. The AB system valves use the pressure in the reservoirs to recharge the train line, speeding the release of the brakes. The AB improved brake system was made a standard appliance on all new cars built from September of 1933, and all cars rebuilt after Aug. 1, 1937 were required to have the newer brakes. The deadline was extended several times but after Jan. 1, 1945 the newer system was compulsory. Even so, almost a fourth of the car fleet still had K systems four years later. It wasn't until the final deadline of 1953 that the K brake finally disappeared. Probably.

Catch up with the thread at mrhmag.com/node/30664.

Which loco for a train?

Q. How would a loco be selected for a train? I have available an RS-3 with 1,600 hp and 61,775 pounds of tractive effort, a GP9 (1,750hp/64,750te), and a GP30 (2,250hp/63,375te). I'm building a freight car routing system and, having generated a number of cars that need to be put on a train, I need to select a loco. Why would I choose one or the other, assuming that the load was within range?

—Long-haired David

A. Tim Garland: You ask a good question that has puzzled many folk before. Since RS stands for Road Switcher and GP stands for General Purpose, any of the three could be considered for your train at any given time. Often it comes down to whatever

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is available. In the modern era power is selected not only for the current train but for the next trip too.

The power desk looks at the type of train and its tonnage. A tonnage profile of the route the train travels will list how many tons each type of unit is capable of pulling. In mountain territory the GP9 may be able to handle only 1500 tons, but in flatland territory it could move 3000. The big difference between a GP9 and GP30 is that the latter is turbocharged with more horsepower. If the power desk has a choice between both units, with one train being a general freight and the other being a time freight, the natural choice would be to make sure the GP30s were used for the higher priority time freight train simply because they could move the train faster.

Here is something else to consider. Few RS3s have dynamic brakes, but let's say your GP9 does. If there is a choice between the two to power a road freight, I would much prefer a GP9, especially in an area with any kind of grades. Save the RS3 for the local.

Joe Atkinson: As an example of how a smaller railroad like the Iowa Interstate (IAIS) does it, here's a General Order updating their tonnage ratings, issued a few months after my era. This was just after they'd received some leased ex-OHCR, xx-UP, xxx-MP SD40-2s, but they turned out to be some very worn-out examples of the breed, and were rated the same as non-turbocharged, but better-maintained, SD38-2s.

To clarify the notations in [2], on the IAIS, the 400-class locomotives were a variety of GP7/9 rebuilds (GP8/10/11/15/16), 600s were GP38s and GP38ACs, and 700s were GP38-2s.

David Husman: A lot of this is era-based. Pre-1980s railroads often used a tonnage rating per section of track. Then they adjusted the number of cars based on the territory, adding cars

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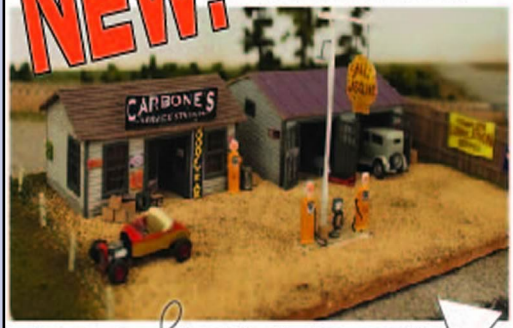

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Cedar Rapids, IA.
September 20, 2005

General Order Number 23
All Subdivisions

To all Conductors and Engineers operating on IAIS and CIC Railroads.

Effective today September 20, 2005 the following **General Orders 10, 17, and 19** are canceled in their entirety.

This General Order supersedes and replaces previous rules and instructions concerning the maximum allowable trailing tonnage per individual class of locomotives.

Effectively immediately the following will apply.

Locomotive Class/Type	**400**	**600**	**700**	**SD38-2/SD40-2**
Westward Trains	**Max. Tonnage**			
Blue Island to Bureau	2500	2500	3200	-0-
Bureau to Rock Island	2500	2500	4400	7000
*Rock Island to Iowa City	1750	2000	2000	3000
Iowa City to Council Bluffs	2000	2000	2300	3200
Eastward Trains				
Council Bluffs to Iowa City	2000	2000	2300	3800
Iowa City to Rock Island	2500	2500	3000	4300
Rock Island to Bureau	2500	2500	3500	5000
Bureau to Blue Island	2500	2500	3200	-0-
Bureau/Peoria				
Bureau to Peoria	2500	2500	3100	5000
Peoria to Bureau	2500	2500	3900	5000
Yokum/Cedar Rapids				
Yokum to Cedar Rapids	1500	1800	2000	3000
**Cedar Rapids to Yokum	1500	1500	1800	2600

***NOTE:** Due to coupler strength the maximum allowable trailing tonnage westward On Davenport hill is **10,700 tons.**

2. Iowa Interstate tonnage ratings for locomotive classes.
Joe Atkinson

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives will haul in each direction between stations named, under favorable weather conditions. Rating shown is for single unit. If more than one unit, rating of combined units will govern.

	31-45 5000 HP GE U50	72B-98B 5000 HP EMD DD35	100-129 1500 HP EMD GP7	130-349B 500-542B 1750 HP EMD GP9 EMD F9	400-448 2400 HP EMD SD24	470-499 2000 HP EMD GP20	700-739B 800-875 2250 HP EMD GP30	740-783 2500 HP EMD GP35	1400-1409 2500 HP EMD SDP35	2810-2864 3000 HP U30C	3000-3242 3000 HP EMD SD40	3600-3637 3600 HP SD45	5000-5039 5000 HP U50C	6900-6946 6600 HP DD40X
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Huntington to Durkee	4050	3980	1500	1720	2850	1750	1900	2000	2500	3455	3350	2820	2970	4040
Durkee to Encina	1910	1880	700	820	1320	850	900	950	1150	1690	1500	1270	1330	1825
Encina to North Powder	8000	8000	3100	3450	5650	3450	3800	4000	4800	6750	6450	5190	5485	7430
North Powder to Telocaset	4050	3980	1500	1720	2850	1750	1900	2000	2400	3685	3250	2820	2970	4040
Telocaset to La Grande	8400	8400	3300	3600	5950	3600	4000	4200	5050	8055	6800	6195	6550	8870
La Grande to Union Jct.	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
Union Jct. to Telocaset	2750	2750	1050	1100	1950	1200	1350	1400	1700	2495	2250	1900	1995	2720
Telocaset to Baker	5800	5800	2300	2500	4700	2500	2800	2950	3500	5805	4700	4460	4710	6385
Baker to Encina	2750	2750	1050	1100	1980	1200	1350	1450	1700	2495	2250	1900	1995	2720
Encina to Huntington	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL

3. Tonnage ratings for the First Subdivision of the Union Pacific's Oregon Division, as of July 1, 1973. The areas marked 'CL' are relatively flat and train length is governed by considerations other than tonnage.

where the tonnage rating was higher and cutting tonnage where it was lower.

After the big railroad mergers started, the runs of trains were longer, so one set of engines would operate the same train over multiple territories. That's when horsepower per ton ratings (hp/tt) became popular.

The contemporary UP uses a "tons/powered axle" (TPA) rating that varies by segment and train type. Engines have ratings of powered axles. A big 4400 AC engine might have the equivalent 10-12 powered axles (1 axle = the TE of 1 axle of an SD40-2).

A railroad either used TPA or hp/tt or it used tonnage rating charts, not a combination.

Hp/tt is based on how much it takes to move over territory based on speed and grade. It is very fast and easy to figure. And for really heavy grade territories they added helpers. You build the power

set for the territory other than the helper district. Pretty much, a train can haul hp/tt equal to the grade. 1 hp/tt can make it up a 1% grade. 2 hp/tt can make it up a 2% grade, etc.

Reality sets in. You (Long-haired David) are designing a software package for a model railroad and primarily for an industrial switching line. That makes about 95% of this discussion moot. Just have the modeler say whether there are one or two engines on the trains and you are done. That's also prototypical.

See much more information at mrhmag.com/node/29348.

TIPS

Easy way to position wheels on axles

I had an issue with one of my elderly Hornby coaches. When it was running on a curve or through a turnout, one set of wheels always derailed. When I checked the spacing of the wheelset, I found that the wheels had moved closer together.

Here is an easy way to get the wheels back into their correct positions and position them symmetrically on the axle.

Drill a 3mm diameter hole in a steel block. The size is not critical but it must be large enough to clear the axle. The depth of the hole is the critical dimension. I started with a depth of 1.5mm.

Insert one end of the axle into the hole.

If the face of the wheel does not make contact with the steel block, press the wheel with your fingers until it touches the metal block [3].

If the wheel rests on the block but the axle does not touch the bottom of the hole, tap the axle down until it hits the bottom of the hole [4].

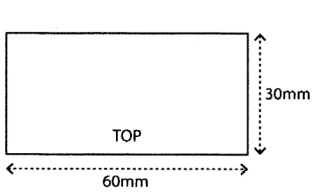

Fig. 1

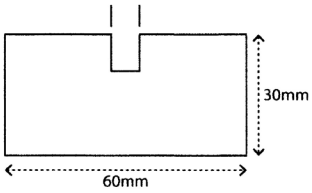

Fig. 2

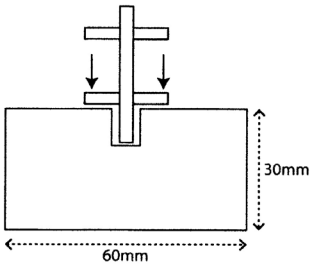

Fig. 3

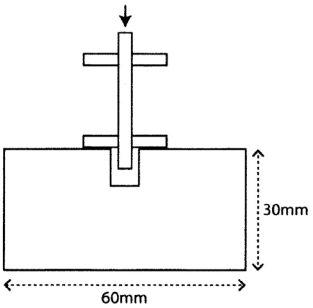

Fig. 4

4. A home-made depth gauge allows setting the proper distance from the wheel face to the end of the axle tip.

Repeat the process with the other end of the axle, then check the spacing of the wheels and compare this to the correct measurement. If the wheels are too close, drill another hole of lesser depth and repeat the measurement steps. If the wheels are too far apart, drill a deeper hole and repeat the process.

I found the right depth on the third run.

—Sunil Fernando

MRH note: This system will be most effective on wheelsets using plastic wheels on a metal axle. If working with wheelsets that are very firmly fixed to the axle, take care to protect axle tips from damage. It is particularly useful if you are working with

many sets of wheels at the same time, such as a complete train of passenger cars from one manufacturer.

Be aware that the overall length of an axle will vary from one manufacturer to another, so a fixture made for one brand may not give correct results for another. If you make more than one fixture, remember to add an identifying label.

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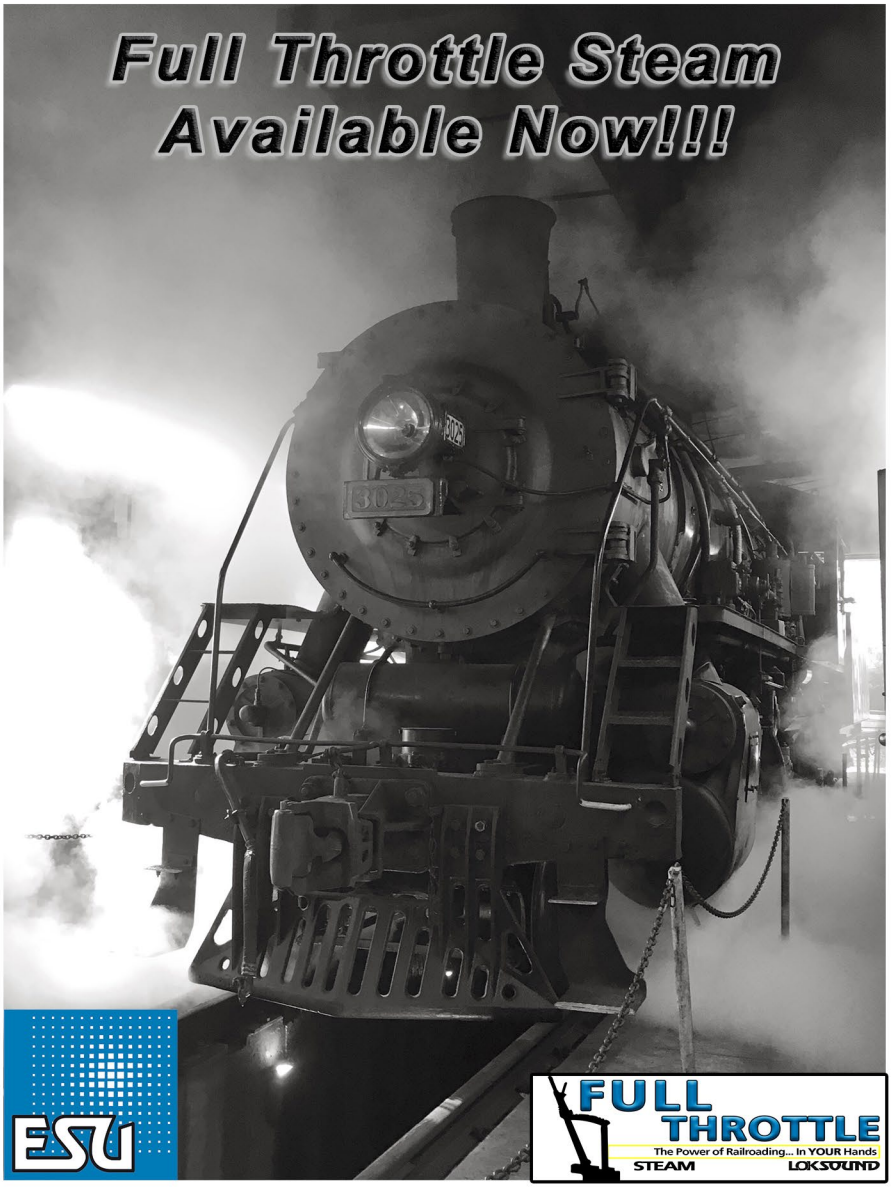

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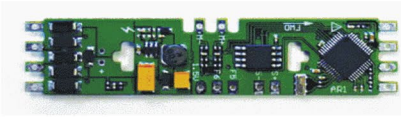

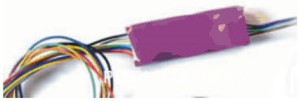

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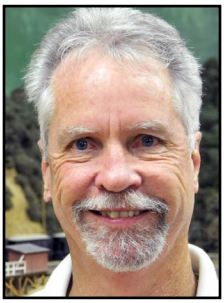

Model Railroad Hobbyist | September 2017 | #91

GETTING REAL
column

Jack Burgess

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Tour of a shortline roundhouse area

During the steam era, the roundhouse areas on both Class 1 railroads and shortline railroads – such as my Yosemite Valley Railroad prototype – would have been great places to visit. Both large and small railroads needed the same facilities, including water, fuel, and sand delivery systems; a turntable and roundhouse; and other support buildings.

While the roundhouse area on a Class 1 railroad would be designed to handle more, and possibly larger locomotives, a shortline roundhouse area can be easier to tour and understand what is going on. [1] Let's take a prototype/model tour of the roundhouse area [2] on the Yosemite Valley Railroad in Merced, CA circa 1939 to better understand what we might need to model.

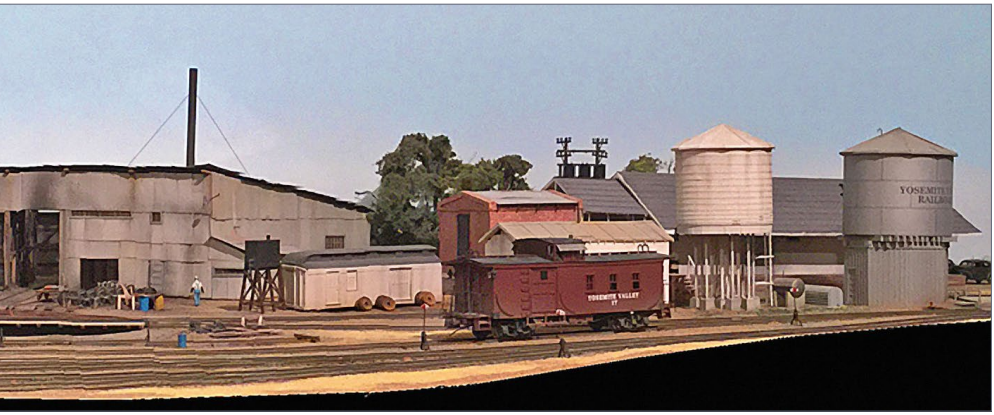
Research

When I was designing my layout, I used a number of resources including an official YVRR 1912 map, a 1922 Sanborn insurance map of a portion of the yard which identified many of the buildings and support structures, [3] a 1939 aerial photo of the

Continued on page 5 ...

1. A panorama of the Merced roundhouse area on my layout from the carpenter shop and paint house on the left, past the roundhouse in the middle, to the water and oil tanks and the stores building on the right. The sand dryer house near the roundhouse is partially hidden by the caboose.

2. A beautiful view of the YV roundhouse taken in July 1944 shows 2-6-0 No. 27 on one of the coach tracks near the turntable. To the right of the roundhouse is the sand house which had corrugated siding by this time. The small white building just beyond the locomotive pilot is the fire hose shed. The tall building on the left is a portion of the paint house. *Al Rose photo*



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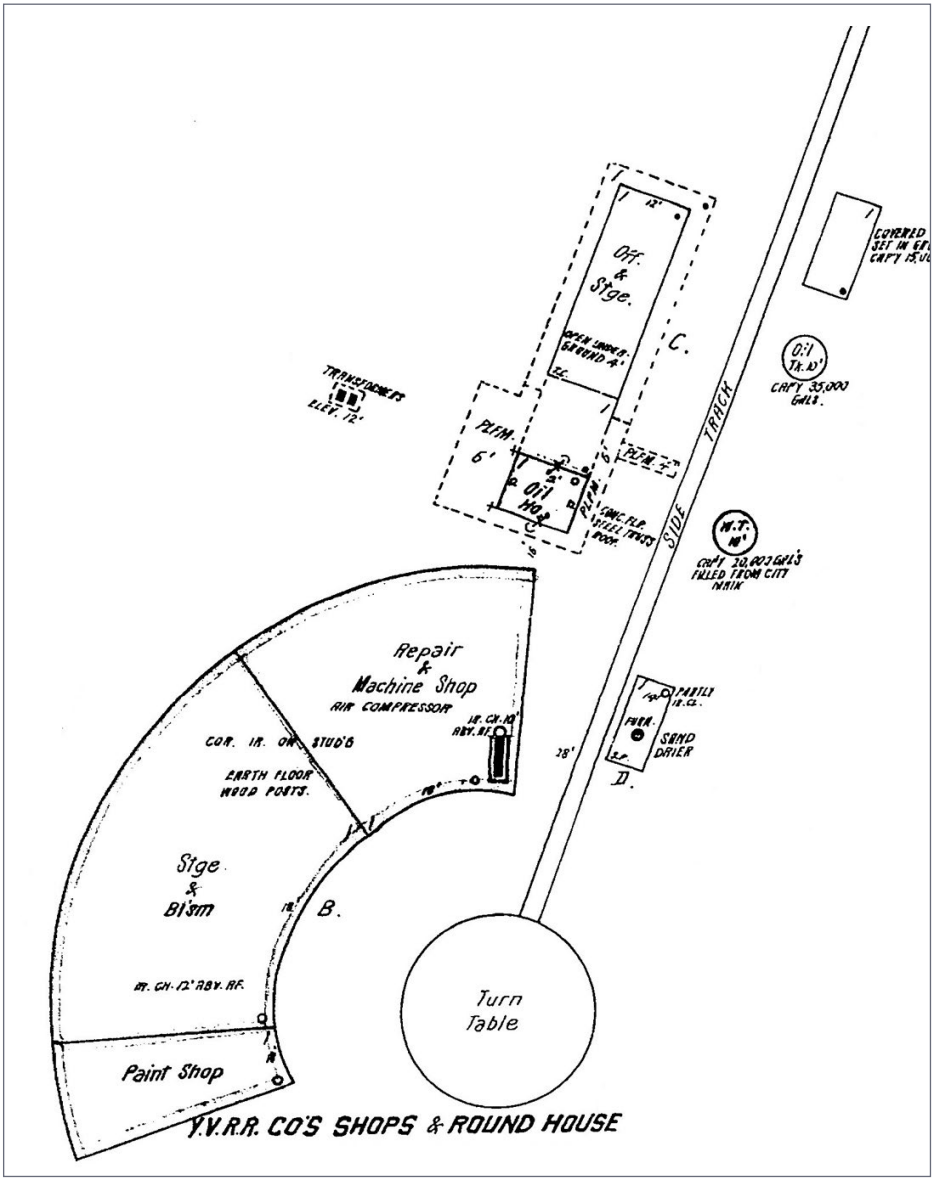

3. A portion of the 1922 Sanborn map showing the original roundhouse, the oil house and stores/office building, the sand house, the water and oil tanks, and the below-ground oil settling tank.

area, a copy of the Liquidation Notice published by the scrapper of the railroad, [4] and a 1914 California Railroad Commission inventory of all of the buildings and other improvements on the railroad. These resources were supplemented by more than 200 prototype YV photos of the various buildings.

There were about a dozen buildings and minor structures within the yard ranging from the roundhouse, turntable, water tank, and oil tank, to the shop outhouse. The larger buildings included the roundhouse, paint house, and stores building. All of the buildings were scratchbuilt without any size compression and are correctly oriented in relation to the tracks.

The roundhouse area on the layout is about 5 feet long, or about 435 feet in HO scale. The prototype yard area was about 600 feet long. That difference is due to buildings being closer together than on the prototype, and some shortening of tracks.

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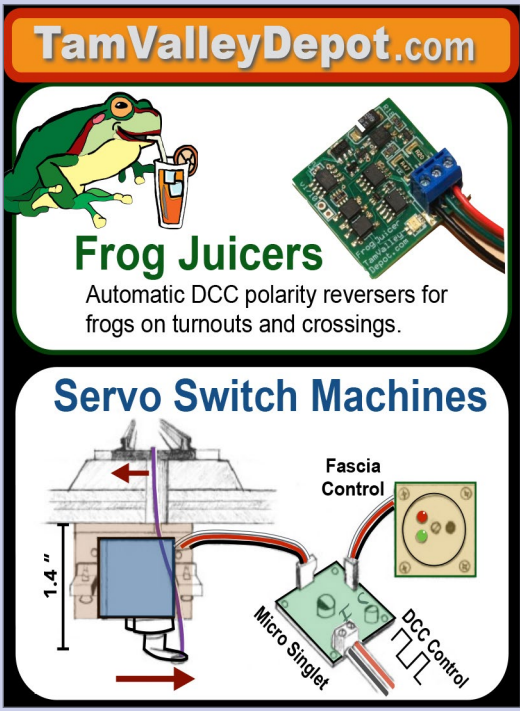

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4. A portion of the Liquidation Notice issued by the company that scrapped the YV beginning in 1945. Along with the locomotives and many of the freight cars, the scrapper listed these three buildings, hoping someone would purchase them and haul them away. The store house was sold, as was the paint house as shown by the rubber stamp on this copy of the notice.

Roundhouse

The largest building on any steam-era shortline is typically the roundhouse. The corrugated metal roundhouse that I scratch-built is actually the second one built by the railroad. The original roundhouse was built of wood but it burned to the ground in 1914. As shown on the Sanborn insurance map, the paint shop originally occupied the roundhouse stall on the left. The fire was a result of improperly stored dirty rags in the paint shop area.

The replacement YV roundhouse had nine stalls [5] which included (from left to right) a blacksmith area, six storage stalls, and a two-stall machine shop [6] in the stalls to the right.

The scrapper's Liquidation Notice listed the roundhouse as 78 feet long, but I had no information on the width of the stalls or

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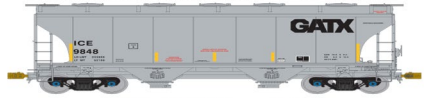
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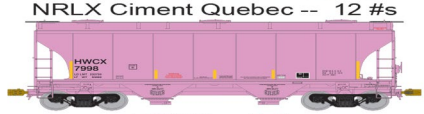
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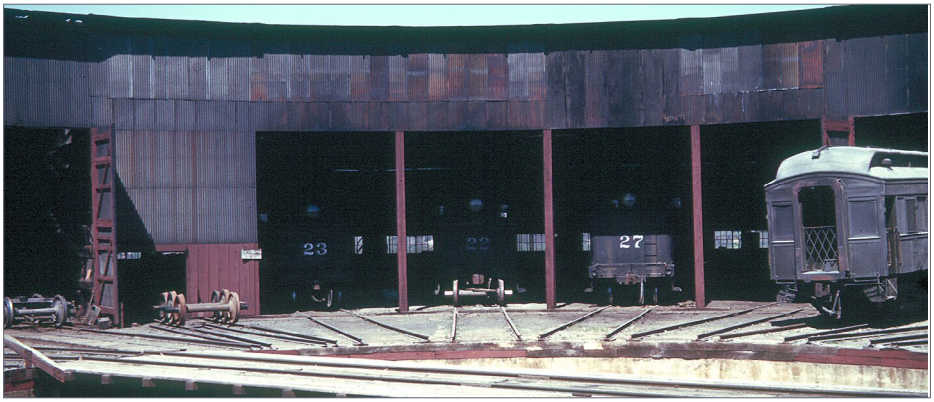

5. This March 1944 view looks across the turntable toward the roundhouse storage stalls. Note that all of the visible wood has been painted boxcar red to preserve it. Based on this photo, I painted the exposed wood on my models of the roundhouse and turntable pit. *Al Rose photo*

6. The two stalls on the right were occupied by the machine shop. Note the wheelsets stored on double sets of rails on the last turntable stall track. *Stanley Snook photo*

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the angle between the stall tracks. However I did have a poor photo looking directly into one of the stalls taken by a railfan standing between the rails. Using Adobe Photoshop Elements software, I measured the track gauge on the photo and the width of the stalls in real inches.

Dividing the measured track gauge width by the measured stall width in inches and multiplying by the actual track gauge in inches (56½") resulted in a stall width very close to 15 feet.

Knowing that architects and engineers tend to set such important dimensions to an even number, I used a stall width of 15 feet between the centerlines of the support posts.

Knowing the width of the stalls, I could compare that width on another photo to the height of the building and estimated that dimension. A side view of the roundhouse let me compare the height of at front of the building to the height at the rear height.

I then determined that the stall tracks were on 10-degree centers and that the distance from the 65-foot diameter turntable to the face of the roundhouse was 56 feet. With this information, I proceeded to draw plans and build the structure. [7 and 8]

Fortunately, the Liquidation Notice issued by the scrapper of the railroad also included a complete list of all machine shop tools and equipment in the roundhouse. Using that list and a 1900s-era illustrated tool catalog, I was able to scratchbuild all the tools in the blacksmith shop and the machine shop.

These belt-driven tools included not only the expected machine tools such as two lathes of different capacities and a milling machine, but also a power hacksaw, a 600-lb. drop hammer, and 8-foot-wide plate bending rolls. Today some of these machines are available from manufacturers such as Rio Grande Models (riograndemodels.com/index.htm). [9]

7. An overall view of my model roundhouse with the blacksmith stall on the left and the machine shop stalls on the right.

8. As with the prototype, the turntable stall track aligned with the machine shop was a place to store extra wheelsets. The wheelsets are Tichy Train Group part 3004.

9. I originally built my roundhouse as a contest model for the 1977 National Model Railroad Association model contest and I therefore included full interior details. Here is the machine shop in my model which includes all of the machine shop tools as in the prototype. I took this photo before gluing the roof in place several years ago. The annex on the right is the lunch room. Barely visible on the table is an HO scale baloney sandwich (with a bite out of it) along with an HO bottle of root beer.

The roundhouse also included a drop pit which let shop workers remove a locomotive pilot truck to be repaired, or a driver set to be turned without an overhead crane. To use the drop pit, a locomotive would be positioned with that wheel set centered over the drop pit.

After the journals and the oil cellars were removed, that wheel set could be lowered to a below-ground pit, moved on rails to an adjacent shop track, and then raised back to floor level on a second shop track. The nearby Sierra Railway, now a California State Park, [10] has a drop pit which is still being used. Drop pits may have been quite common on shortline railroads which didn't have an overhead crane.

As an example of this necessity for being self-reliant, YV engineer Melvin Williams once told me about a time when, after filling a locomotive tender with fuel oil and forgetting to swing the oil spout out of the way, he accidentally backed up and hit and cracked the pipe fitting on the oil tank spout.

As he told me, "So I went in and phoned the Old Man [the General Manager]. I knew I was fired. But instead of running off like most kids do, I waited for the Old Man. He came down 20th Street and slammed on his brakes. As soon as he got out of the car, I was there and I said 'Mr. Higgins, I tore that oil spout down and I have no excuse whatever to offer.'

We looked at it and it was a 6" tee. It was just cracked. And he said 'I wouldn't give a damn if we could get some fittings this side of San Francisco.' That was on a Saturday night and he called the blacksmith and had him sweat a band around that and put it together. That band was still there when the railroad folded up in 1945."

Turntable

The turntable serving the roundhouse was purchased secondhand in 1907 from the Northern Pacific Railroad. My turntable was scratchbuilt using a solid brass core covered with sheet

styrene and styrene shapes. For a turntable to turn smoothly and accurately, the pivot must be in the exact center of the turntable from end to end.

The pivot must also be at an exact right angle to the top of the turntable. I drew up a plan for my turntable base and took it to a local machine shop where they machined the base from brass bar stock. They also bored a ½"hole through the base for the pivot.

A piece of ½" drill rod, rotating in a ½" bearing rigidly bolted to the underside of the turntable pit keeps the turntable centered on the pit. The pivot extends about 6 inches lower to connect to the motor which is bolted to an adjustable framework to insure that the pivot is plumb and level with the turntable tracks.

10. This is the drop pit on the Sierra Railroad being used to remove the pilot truck from locomotive No. 3 in 2008. The volunteer is lowering the pilot truck via the lift. Once at the bottom of the pit, it will be rolled to the other track and raised back to floor level. *Dave Tadlock photo*

My turntable is not close enough to the edge of the layout to allow manual operation, and the approaches developed in the past seemed overly complex. At about this time I read a product review by my friend Andy Sperandeo in the December 1996 issue of *Model Railroader* for a New York Railway Supply turntable controller (nyrs.com).

Based on Andy's review I decided that I needed one to control my turntable. I therefore mentioned to my wife, Jacque, (who is also a railroad fan) that I wanted one for Christmas and that Andy had written a review on it.

I thought it was strange at the time that she didn't ask any questions about where to purchase it or even the name of the company. Instead, since she had personally known Andy for years, she emailed him to get the information she needed to purchase one for me for Christmas.

Andy responded and provided all of the information she needed. He ended his email with the note "Jack is a lucky boy!" and I received that gift a month later on Christmas Day. The turntable controller works exactly as Andy reported and with the accuracy I needed.

The lead track [11] to the turntable on the YV included the water tank, an oil tank (since YV locomotives burned fuel oil rather than coal or wood), and a sand dryer house.

Sand dryer house

The sand dryer house was quite simple. Sand (most likely delivered by gondola cars from a from a sand pit near Monterey, CA was shoveled into the building and then was dried using a Perfect Sand Dryer. [12] The wet sand was shoveled into a funnel around a stove. As the sand dried, it dropped through perforated holes into a hopper at the bottom of the dryer.

To refill the sand box on a locomotive, the dry sand was shoveled into old carbide cans that had a lip around the inside top of the

can, somewhat similar an oversize paint can. The lip made it easy to hold onto the cans as they were handed up to someone on a locomotive running board. That person then emptied the sand into the sand box on the locomotive. [13]

Water and oil tanks

A 25,000-gallon redwood tank was on the turntable lead adjacent to the sand dryer house. [14] It was supported by 12 cast iron columns on concrete piers.

Water tanks and oil tanks are generally easy structures to replicate. There are commercial kits available for many of the major

11. Looking down the turntable lead track toward the roundhouse. On the left is the oil settling tank, oil tank, water tank, and sand dryer house. On the right is the stores building, oil house, and a storage building made from retired combine 105. *Charles Givens photo*

12. A Clark Perfect Sand Dryer from a 1905 issue of *Railway Master Mechanic.*

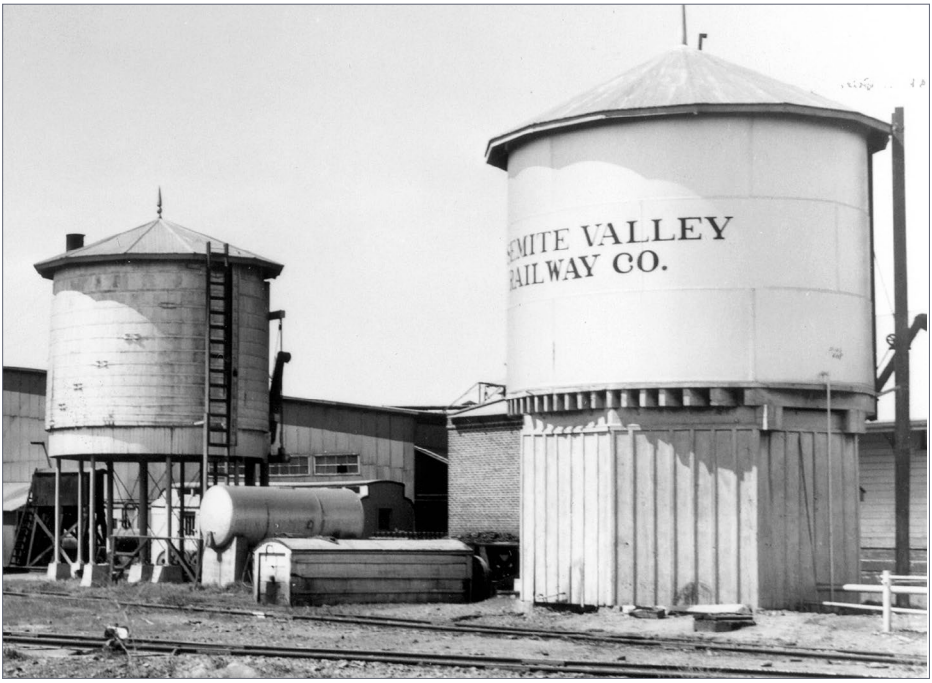
railroads. However I prefer to scratchbuild my models, and I doubted that any commercial offering would be close. For my water tank, I used Evergreen styrene, brass tubing for the legs, Grant Line Water Tank Hoop Fasteners, and footings from a long-forgotten source. [15]

The fuel oil used for firing steam locomotives was Bunker C. Bunker C is a heavy oil that must be heated to around 90 degrees F to flow freely, which made its use more complex. For example, locomotives that burned Bunker C had a steam pipe running into the oil bunker which allowed steam to be injected into the bottom of the oil bunker to mix and heat the oil as needed in cold weather. Railroad tank cars that transported Bunker C were equipped with steam coils. Once set out for unloading, steam

could be circulated through the coils to warm the Bunker C if needed to allow it to drain freely.

On the YV, the Bunker C was stored in a 30,000-gallon steel tank. [16] The tank rested on cast iron columns enclosed by an octagonal wall structure. Steam from the roundhouse boiler ran to coils in the tank that kept the Bunker C fuel oil warm enough to flow easily.

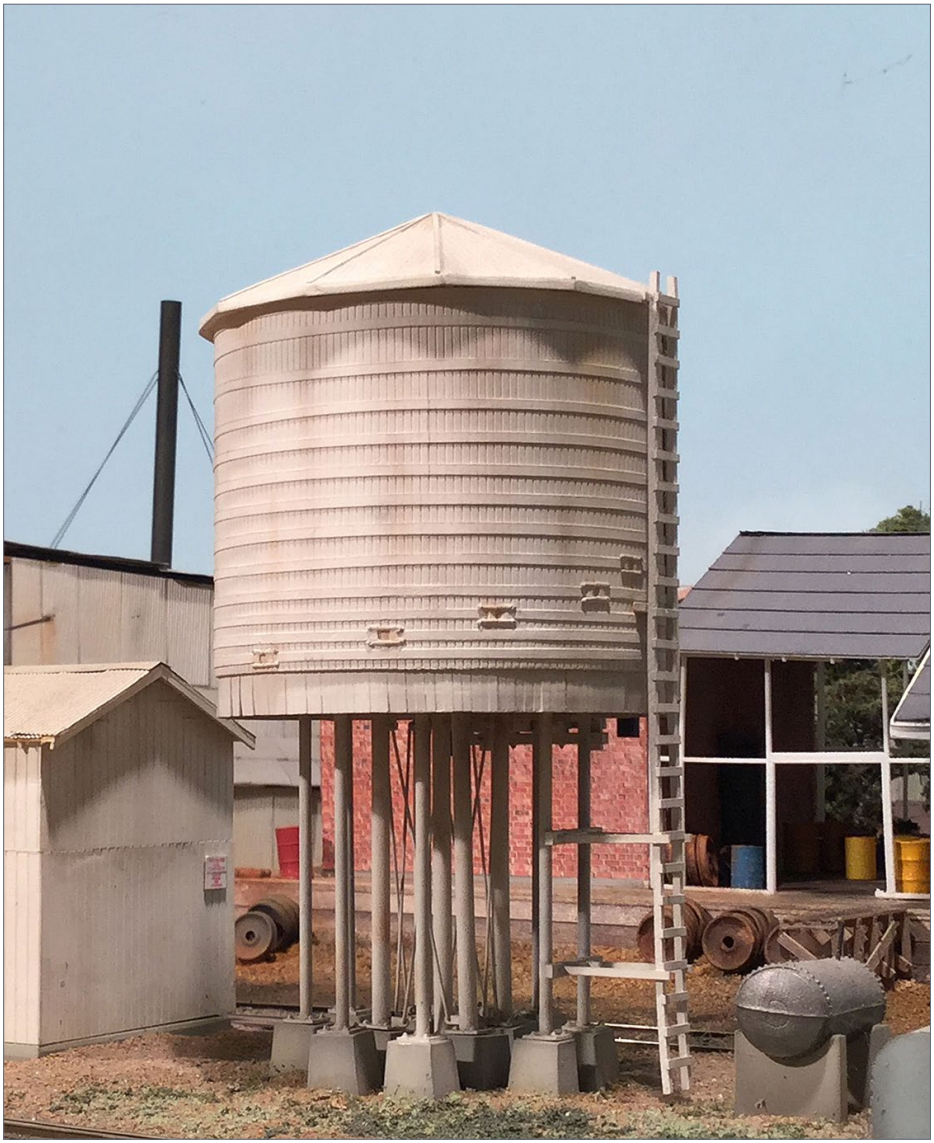
13. My model of the sand dryer house was scratchbuilt from styrene with Campbell Scale Models corrugated aluminum for the roof. Details on the end of the building are based on photos of the prototype. The fire hydrant in the photo is based on another prototype photo showing the hydrant complete with a hydrant wrench (as modeled).



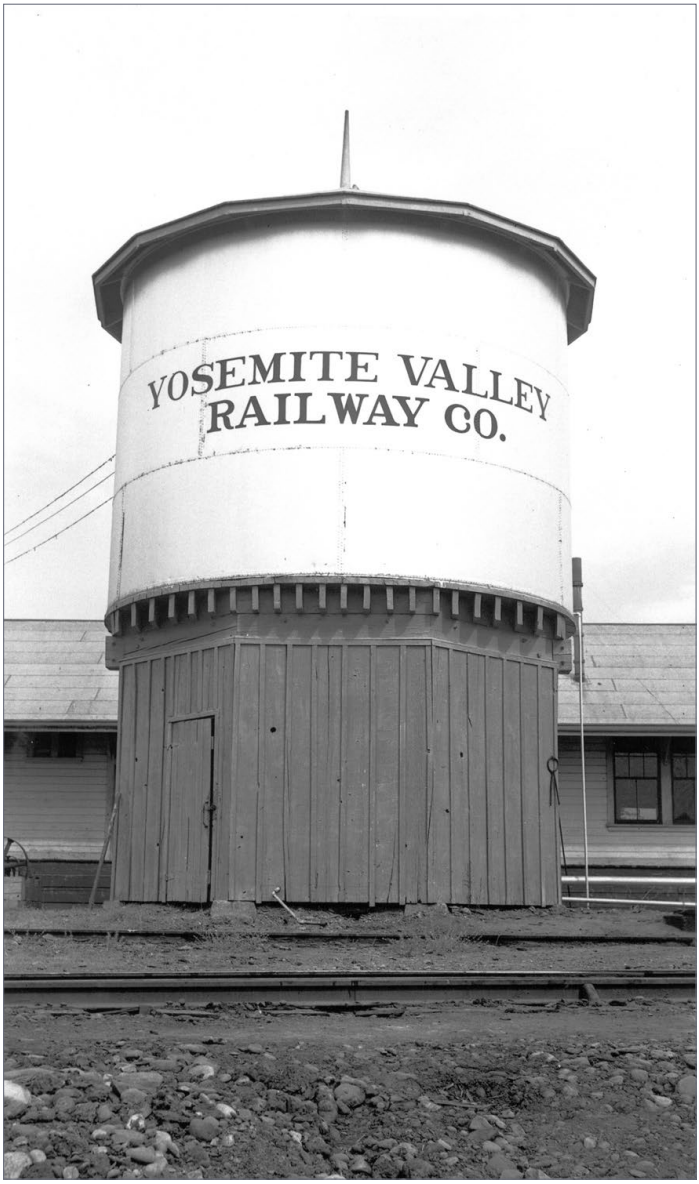
14. The back side of the water tank (left) and the oil tank (right) which were on the turntable lead track. A portion of the fence around the oil settling tank is visible in the lower right corner of the photo. *Jim Boynton photo*

The oil tank was lettered with the company name after the 1937 reorganization of the railroad as the Yosemite Valley Railway. Since I model the YV circa August 1937, I know I should actually be using the name "Yosemite Valley Railway."

However I felt it would be much easier for readers and visitors to remember the "Yosemite Valley Railroad" instead of Yosemite Valley Railway, so I chose that option. Since the engines, rolling stock, passenger cars, and cabooses were lettered with either "YOSEMITE VALLEY" or "YV," this water tank was one of the few examples of the name change.



15. My model of the 25,000 gallon water tank. A 1914 California Railroad Commission Valuation report (similar to ICC Railroad Valuation reports) provided information on the dimensions and construction details of the prototype water tank.



16. A nice view of the back side of the prototype 30,000-gallon oil tank circa July 1940. This side of the oil tank faces the railroad mainline and the street fronting the station. *Harre Demoro Collection*

Adjacent to the oil tank was a covered 16'x36' by 6'-deep settling tank [11]. The top of the settling tank was covered with a corrugated metal roof and surrounded by a pipe fence. One purpose of the settling tank was to easily transfer fuel oil from a tank car to the oil tank via the settling tank. Fuel oil in a loaded tank car can drain by gravity from the tank car to the settling tank. [17] and [18]

But the settling tank had a much more important function which was to permit the separation of water and other impurities from the oil before it was pumped to the oil tank. If not removed, those impurities could obstruct firing of the locomotive. Steam coils in the settling tank kept the oil fluid so it could be pumped into the above-ground oil tank via an electric pump. [19] and [20]

My model of the oil tank [21] is the second model of the tank I built. The first one was built in 1976 and was probably "high-tech" for the time. I used one-ply Strathmore (a high-quality artist paper) for the exterior panels of the tank, and embossed rivets where appropriate before gluing them to a wood dowel.

The lettering was added using individual decals from an alphabet set. However the thickness of the one-ply Strathmore paper was much too thick to replicate the thin steel panels, and I eventually realized I needed to replace it.

My current model was both easier and more realistic. I used sheet styrene for the base and roof, and styrene strips for the tank supports. But this time I modeled the tank itself with a piece of PVC pipe cut to length. I painted the tank gray and added a gloss coat.

I drew artwork for a single decal that would wrap around the entire tank and that included all of the panel seams, the rivets, and the lettering. It was printed on decal paper and applied it to the tank to finish the model.

Other structures on the lead track

Buildings on the main turntable lead track opposite the water and oil tanks included the oil house and stores building. [22] The oil house was a brick building which was used to store lubricating oils and other flammable items. I described building my third version of this building in the April 2017 issue of MRH.

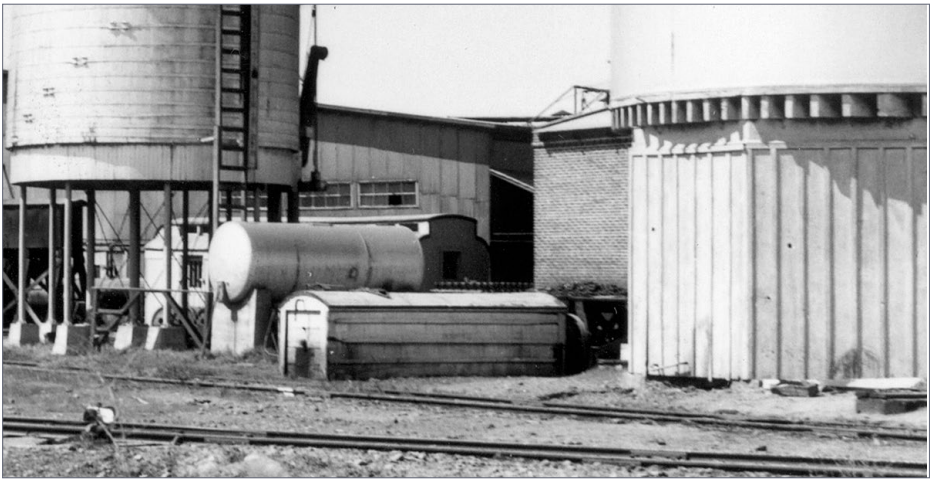
17. The wood cover between the rails and below the locomotive pilot of No. 23 is most likely the cover over the drain pipe to transfer Bunker C from a tank car to the covered oil settling tank on the right. Likewise, the box to the right of the track could be where a hose could be attached to a tank car loaded with Bunker C, and then connected to a steam pipe so that steam could flow into the tank car heating coils to warm the Bunker C during colder weather. *Charles Givens photo*

18. A pair of tank cars on the track along the back side of the oil tank. The nearest car is spotted over the drain connection. ***Ted Wurm photo***

The stores building, like most of the other buildings on my layout, was built using styrene. [23] I originally thought the building was simply a place to store everything from common hardware items to toilet paper for the passenger cars and the stations along the line.

However both the Master Mechanic (also known as the "Bull o' th' Woods" by those who worked for him), and the Superintendent of Motive Power had desks in the building. There were also clerks to type up requisitions, staff memos, and letters. In the days before photocopiers, they might also have typed up multiple copies for the same documents when carbon copies weren't good enough.

The stores building was sold during scrapping of the railroad and moved about 2.5 miles to become an office for a scrap dealer.



19. The long item on the right next to the oil tank was the electric pump that pumped Bunker C from the settling tank into the oil tank. I believe the round tank left of the pump used to store gasoline for the speeders. *Jim Boynton photo*

20. My models of the pump and tank were based on the limited photos I had at the time. I didn't have any photos of this end of the installation, and the tank should be larger. These two details would make an easy 3D-printing project!

21. My models of the oil tank and covered settling tank. The lettering, rivet detail, and individual panel lines on the oil tank are replicated by a single decal.

22. Looking along the turntable lead toward the sand dryer and water tank on the right, and the oil house and stores building on the left.

23. The crew of No. 25 has finished topping off the tender oil bunker and is about ready to leave. On the other side of the tracks is the stores building.

I was able to measure it in the early 1980s, making it one of the few buildings I was actually able to measure in person before building a model for the layout.

Another "structure" on the turntable lead was a storage building built from retired combination car 105. [24] This car was partially damaged in a 1937 fire. The damaged portion was cut off and the remains of the car repurposed.

When Beaver Creek Models was planning to import a three-car set of brass models of the three YV passenger cars built by Hicks Locomotive and Car Company (combination car 105, coach 302, and observation car 330), I asked the owner of Beaver Creek Models if I could purchase an extra model of the combination car.

My plan was to cut it in half on a table saw and enclose the end just like was done with the prototype. The result would have been a great model of the storage building. Unfortunately, they ignored me, so I scratchbuilt it instead.

Next to the storage "combine" was a small tank on a simple support structure. The structure appears in several photos but I've never been able to identify its purpose. Regardless, I modeled it anyway based on the photos. My best guess is that it was used to store kerosene, which was used in railroad lanterns and switch lanterns.

According my friend Bob Lunoe who was hired by the YV in August 1942 as an "engine wiper," kerosene also possibly was mixed with diesel fuel to make "pearl oil" which was used to wipe down the engines. He told me that "…pearl oil was what you dipped your waste in and you then could soften the grease on the drivers or whatever was in reach.

It cleaned the whole thing – the frame, the drivers, the jacket, everything. The idea of cleaning…it wasn't just cleanliness or just

24. What might be a kerosene storage tank and the storage shed adjacent to the turntable lead track. The oil house is in the background.

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for show, it was to see if there were cracks and things of that sort. You'd just sit or stand or climb and wash those buggers down from one end to the other."

Paint shop, woodworking shop, and fire hose shed

After the original roundhouse burned due to improperly stored painted-soaked rags, the YV built a new, separate paint shop. [25] It might seem unusual for a small shortline railroad to have a paint shop, but the YV always had high standards for all of its equipment.

The YV handled Pullman passenger cars heading to and from Yosemite National Park during the summer travel season and well-maintained equipment was expected. It is very likely that during the winter months when the log trains were not operating, those employees without seniority were bumped off of the Local freight trains, but stayed on the payroll and worked the winter months painting and maintaining the equipment. Even freight cars, which never went off line, were regularly repainted.

I built my model of the 26'x84' paint shop with a styrene building core covered with Campbell Scale Models corrugated aluminum siding. The multi-pane windows are Grandt Line 5210 windows (originally made by Grandt Line for the YV station in Bagby).

Another busy place was the woodworking shop. [26] The 30'x50' whitewashed, wood-frame building housed, among other tools, planing, boring, and mortising machinery; cut-off, rip, and band saws; and a turning lathe. [27] Other small buildings in the roundhouse area included the fire hose shed [28] and the shop outhouse. [29] and [30].

Those who worked in the small but well-equipped YV shops in Merced [31] were responsible for maintaining the locomotives, freight cars, and passenger cars. The employees took pride in their ability to handle every task, except for rolling new boilers or

turning wheelsets. While many other shortline railroads allowed equipment maintenance to slip during the Depression, the YV continued to uphold its high standards.

Railfans of the era, familiar with other railroads, were continually impressed with the fact that on the YV, windows in the coaches worked, the mahogany was well varnished, and it was still possible to see a shine on the locomotives. The YV always considered itself a shortline railroad in length only. ☑

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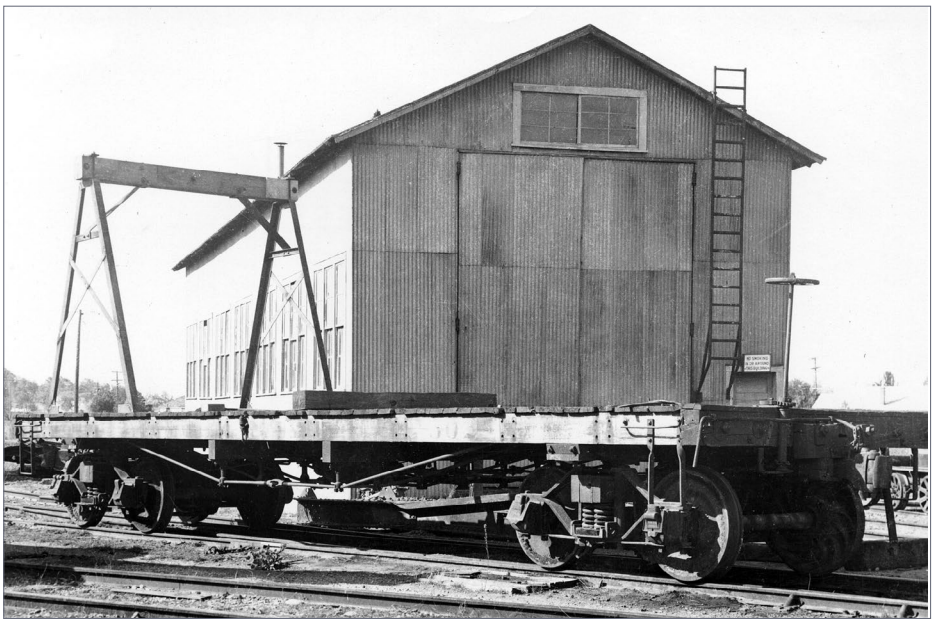

25. Although partially hidden by a flat car being outfitted for scrapping rail and ties, this prototype photo provides an otherwise good view of the 84-foot-long paint shop.
Bill Pennington photo

26. This view from the turntable (the roundhouse is out of view on the right) shows the prototype paint shop, the woodworking shop and, on the left, the fire hose shed. *Fred Stoes photo*

27. The woodworking shop and the paint shop.

28. This fire hose shed sat next to the turntable opposite the roundhouse. The fairlead in the left corner of the photo was part of a winch setup to pull dead locomotives out of the roundhouse in case of a fire.

Location, mile post or station	Name of building or structure and purpose for which used	Description	Dimensions, area, etc.	Foundation
Merced Shops	Rd.Hse.Toilet	Rgh.Frame Bldg. 12" Board Walls; 10' Board roof; 1" floor; timber found. Pit 4x4x8	9'0" x 9'0" Area 81 sq. ft.	

29. While there are no photos of the shop outhouse, this description in the California Railroad Commission Valuation report provides everything needed to build it.

30. I set my shop outhouse out of the way, but connected with a well-worn trail from the turntable area.

31. Roundhouse areas are also places where people work and put in long days to keep the railroad running. Here a shop worker heads to the roundhouse just after sunrise with his lunch pail in hand.

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Model Railroad Hobbyist | September 2017 | #91

WHAT'S NEAT WITH KEN PATTERSON

column

Ken Patterson

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1. This month we visit the St. Louis Railroad Prototype Modelers meet held in Collinsville IL, with over 25,000 square feet of models, vendors, and manufacturers. I counted 15 new to the show manufacturers displaying their products. In this month's video, we interview nine manufacturers and two model builders, and view many of the models on display. This month's video runs about 40 minutes.

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2. Also this month, we announce a monthly video podcast called "What's Neat This Week." It is a companion video podcast to the "What's Neat" show here at *Model Railroad Hobbyist* magazine. We interview guests and discuss modeling subjects and techniques, answer online questions, and talk about new products with a cast of fellow modelers. We fill in the blanks and keep you updated with the latest model railroading news. On YouTube, search for "What's Neat This Week Companion Piece" to view the podcast, or visit my Facebook business page, Ken Patterson Model Photography.

3, 4. First we talk with Gene Fusco from InterMountain Railway Co. He tells us about their new HO scale locomotive, the Tier 4 GEVO with ESU LokSound. The models are all-new tooling and should be on hobby shop shelves now. InterMountain has also introduced the N scale SD40-2 in many paint schemes. The models look crisp and have sound, no easy task in N scale. We will take a closer look at these N scale models in November. Gene also talks about his manufacturing experience with Rail Yard Models, a company he formed in 2002 and ran until 2012. He made urethane/resin kits of freight cars with etched brass

RPM Show
InterMountain's Gene Fusco

details and a CD with full instructions and the history of the model. His experience perfectly suits him to work at IM.

ExactRail Blaine Hadfield

5-7. (Above and right top and bottom) Blaine Hadfield from ExactRail talks about his eight years at the company, starting as a product manager and now as vice president overseeing the production of the 65 models presently in their line of products. He shows us three of their latest in the video, photographed in sunlight with stills and video runbys. The G100-22 Southern Pacific gondola has a wavy bar of metal welded along the top sides which really sets off the model. The Trinity 64-foot boxcar has its reporting marks raised to be out of reach of graffiti artists. He also talks about the P-S 5277 waffle box car, one of their best sellers.

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Bob Rivard

8, 9. All of us know Bob Rivard, a model railroad author of articles in the model press for more than 35 years. He displayed a table full of models in HO and G scales at the Collinsville RPM. His G-scale GP7 ran on the table with full lights and sound. It is battery powered and runs with an Air Wire radio control throttle system. He talks about his history of writing articles and the transition from paper magazines to online model magazines. He enjoys submitting articles to *Model Railroad Hobbyist* magazine.

Cannon and Company: David Hussey

10, 11. Dave Hussey shares his latest offering in laser-cut boxcars, with four new kits this year – two Burlington cars, a XML 14 and a XML 16 series in red; a Burlington Northern P-S Plate C car, and a Milwaukee Road PCF boxcar in yellow. His laser-etched wood loads are still a popular item. At 56 scale feet long in HO, they fit in many freight cars representing various sizes of dimensional lumber, 2x4s,2x6s, 6x6s, etc. Cannon also manufactures hundreds of detail parts. Find them at Cannonandco.net.

Model builder Steve Hurt

12-14. (Above, and top right) Steve Hurt creates some of the most amazing and detailed models I have ever seen, in 1/16, 1/29 and HO scale. He displayed many models, including this caboose loaded on a low-boy trailer, modeled from a photo from Boonville, MO. Steve modeled every detail. His HO scale models included Frisco power and this ex-Utah Belt SD70 which had a creativity about it that made me grin.

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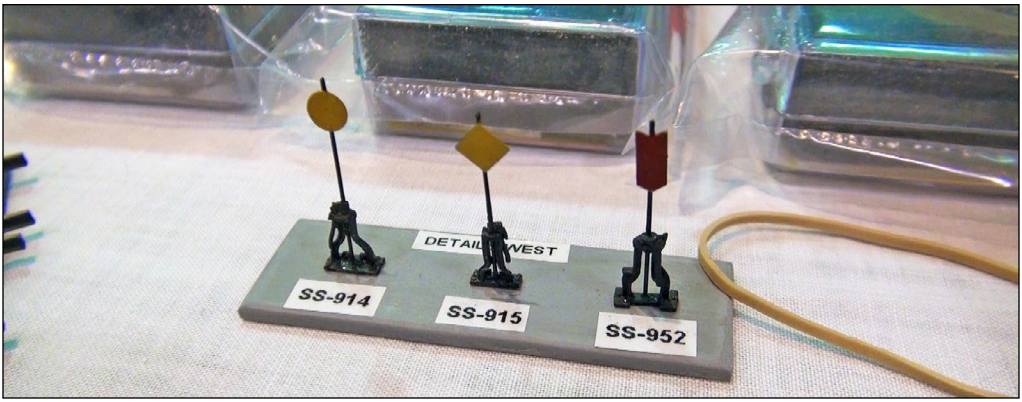
Details West: Paul Federiconi



15, 16. Paul Federiconi came all the way from California for the show. His company, Details West, is well-known to modelers using his range of detail parts for over 30 years. He said the prototype modelers meet is the perfect venue to reach his customers. He showed new track detailing parts like manganese switch frogs, plus GPS antennas, signals, switchstands, and ground throws from his line of over 300 items.

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Central Valley: Jeff Parker

17, 18. Jeff Parker also came from California to show his new line of single- and double-track camelback truss bridges in HO. In the video, he talks about preserving architectural history through the creation of model kits. He uses the latest design and manufacturing technology, and is planning an array of new bridges to include deck truss and pony truss bridge kits. We will build one of his kits in a future "What's Neat" show.

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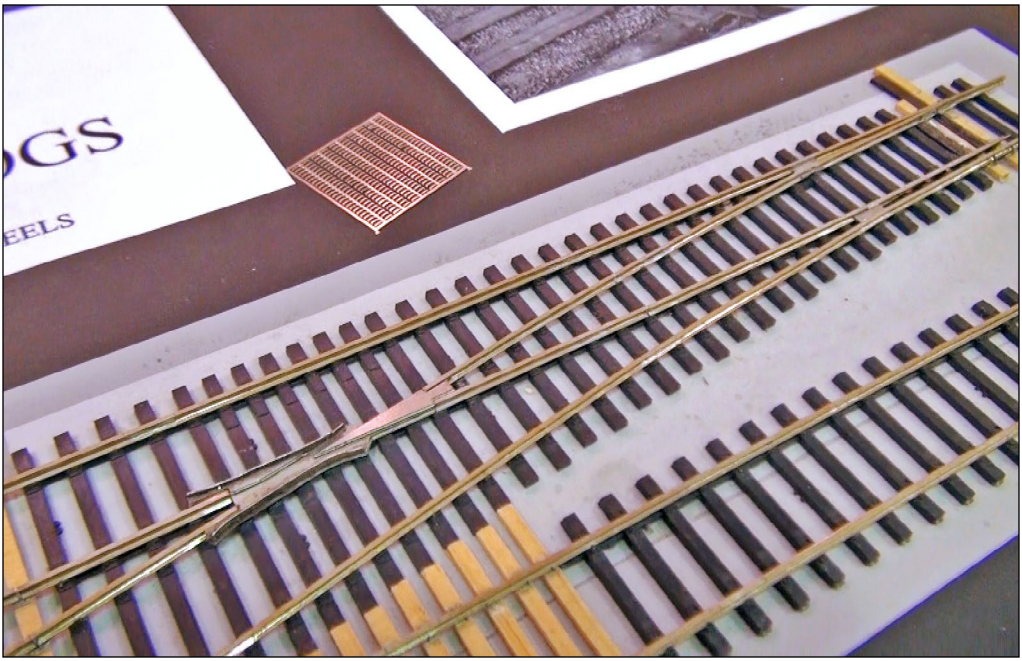
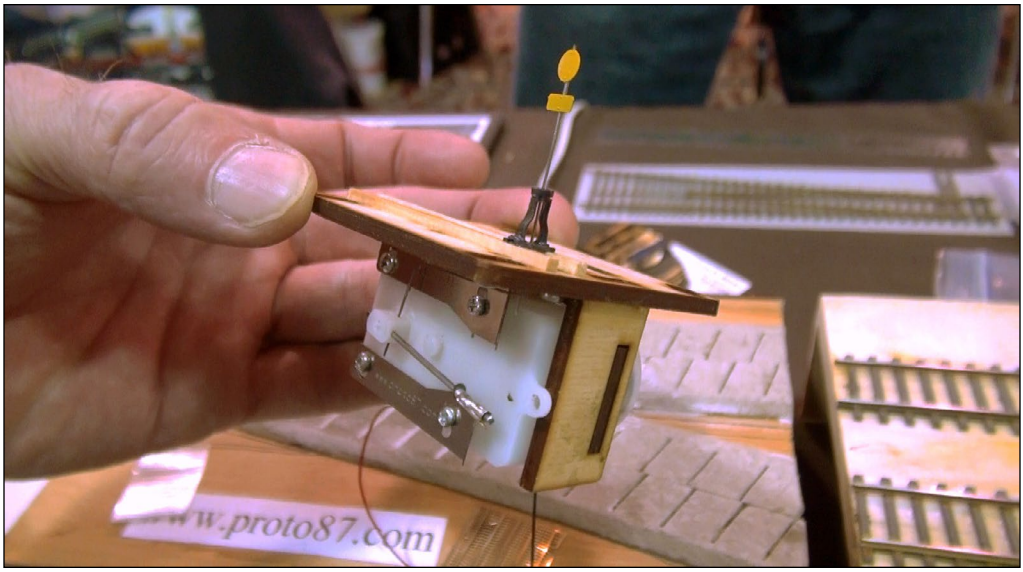
Proto:87 Stores: Tim Runels





19-21. Tim Runels gives an interview packed with modeling products geared to the Proto:87 finescale modeler. He offers track and turnout building parts for mainline trackage and street car track components, including a new self-guiding #6 turnout frog in codes 83, 70, and 55. Rail aligners, joint bars, scale tie plates are available. His motorized switch throw mechanism fits in less than a two-inch space. It throws the points and turns the switchstand target as well. He will visit with us in the "What's Neat" studio in October to film future segments as we explore the Proto:87 Stores product line by using the products on a lay-out and show the finished results.

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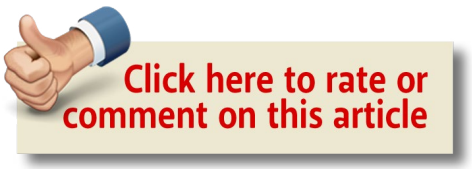
Soundtraxx

Soundtraxx showed an upgraded sound car decoder which featured livestock sounds. George Bogatiuk shares the sounds in this month's video. The latest from Soundtraxx is a new Union Pacific turbine sound decoder in the Tsunami2 line. This comes in three variations, for the verandah, standard, and super turbine locomotives. We will install and demonstrate this new sound decoder in the November "What's Neat" show.

Iowa Scaled Engineering

Scott Thorton gives an update on the progress of the Proto Throttle, his "locomotive stand" handheld radio throttle with a delivery date in the next ten months or so.

With that, we end another "What's Neat." Watch the video and be sure to listen to the podcast with Ken Patterson on YouTube. The "What's Neat" videos will appear three out of four weeks, with the fourth week's show released through *Model Railroad Hobbyist magazine.* ☑



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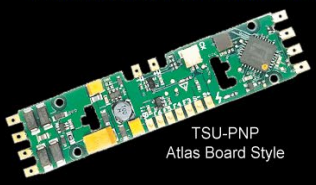

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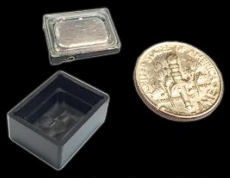

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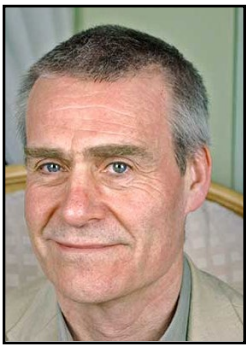

Rob Clark

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The human touch

People and model railroads ...

We all love model railroading – that's one of the reasons that you are reading *MRH* right now.

It's a many-faceted hobby and there is no doubt that the combination of skills you can employ (like woodworking, painting, model making, prototype research, wiring and electronics, and of course, operations) helps to explain the attraction. However, I have always felt there was a deeper, more emotional reason model railroading is so appealing, and it was reading that helped me find the answer. I have in my collection a very good railroad photography book titled *The spirit of steam* (Salamander Books). In the introduction, the author, William L Withun, summed up very nicely how I feel about model railroads, even though he was describing the steam-era prototype:

"The appeal of trains in the steam age was based not on the big machines but on the human beings – the people who ran the trains, the people who used the trains and their human purposes in doing so. People were the spirit, not the machines."

EXPLORING THE CREATIVE SIDES OF THE HOBBY

A railroad serves a purpose, and having a world you are familiar with, where wages are being earned and goods being moved is satisfying. When O. Winston Link was making his marvelous photo documentary of the end of steam on the Norfolk and Western, the vast majority of his pictures featured at least one person (often a railroad employee). It's all about context – who owns the truck waiting at the depot? Why is that train running from town to town? Who is driving it and how do they feel today?

A bit of model railroad philosophy

The thing that makes model railroading fascinating for me is not the locomotives or scenery, but the relationship between the railroad and the people who operate it, make use of it, and live next to it. This way of thinking is by no means obligatory, but I do think that being able to connect with the world your model railroad is attempting to represent greatly increases the overall enjoyment of the hobby.

When I first started my model railroad journey, I avoided using any model figures. I felt that they detracted from the realism of the scene by looking so obviously toy-like. But the absence of humans created an emptiness that gnawed at me until I found ways of introducing figures in a way I felt didn't detract from the scene. The first important realization was that we are not necessarily trying for photo realism, but more an illusion of realism. There may be a first "is that real?" look before we figure out it isn't real, and then start enjoying the feel of the scene on its own merits, despite the fact that it is clearly a model. Another thing that struck me was whilst researching my chosen era (1930s Depression), was the vigor and happiness of the people in the old photos. Despite a hard life, a positive and humorous outlook is evident, and that optimism and humor

1. Rick Wade has created a wonderful couple (Buck and Loretta) who have resided in model form on both his Richlawn railroad versions. Here they are outside their home in this atmospheric scene, talking to Cousin Clem. Readers of the MRH forum have enjoyed their down-to-earth outlook on life. They combine just the right amount of whimsy with reality; having inhabitants like this makes your railroad a more believable and enjoyable place to visit.

can be injected into your model world to good effect. John Allen used a number of humorous – verging on comical – vignettes on his Gorre and Daphetid railroad. I advocate a subtler approach, but a little bit of humor can go a long way [1].

The problem with model figures

Of all the visual aspects of model railroading, human figures are by far the biggest realism killer. So how is it that we can spot a model figure so easily?

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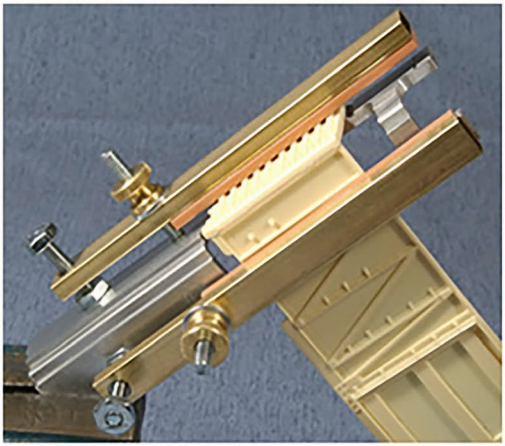

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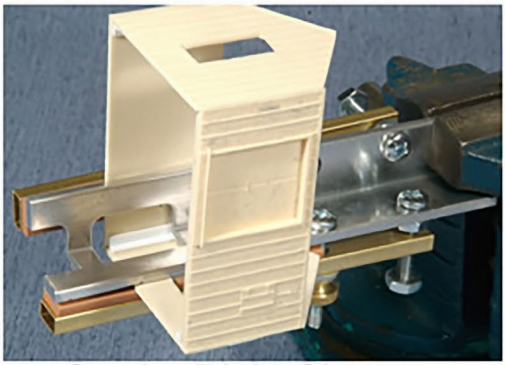

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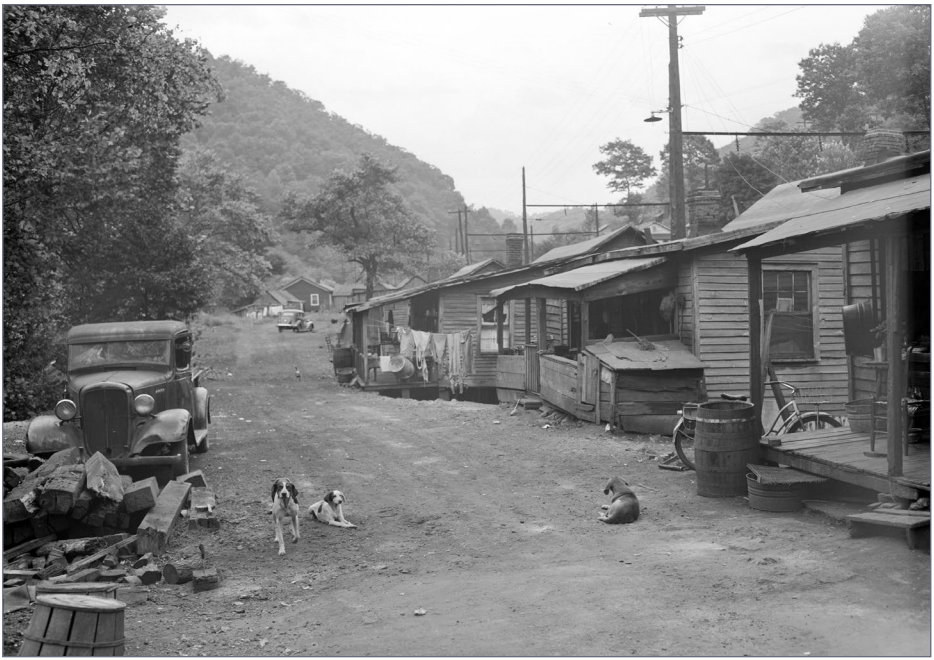
From the moment we are born, we see human faces looking at us and we develop an instinctive recognition of the features, despite the infinite variations of facial structure. We also develop recognition of body language, which helps tell us how people are feeling. Constant exposure to our own kind makes us intimately familiar with humans going about their business and interacting with us.

The result is that when looking at a model figure, if something doesn't quite fit with our instinctive human knowledge we spot it straight away. Obvious "give-aways" are flash – raised lines where the two parts of the mold didn't fit together correctly, or dimples where plastic failed to completely fill the mold. Cheaper figures sometimes have incorrect proportions, and can look flattened from front-to-back. There can be scale errors also – the figure may be too small or too big in relation to other figures.

By far, the biggest problem relates to facial detail, which may be almost non-existent or just plain weird. Eyes are one of the hardest things to reproduce well, and we will look at how to deal with this later. Poses can be poorly executed, and some figures look like shop mannequins. The innate "something's wrong here" ability we discussed flushes out with ease these misplaced arms and legs and unnaturally inclined heads. You also need to consider the appropriateness of the kind of figure you are using, and ask yourself the question: does this person belong in this scene?



2. Not a person in sight, but this scene (Pando coal company mine, Mohegan, McDowell County, WV) is bustling with energy, and there is no doubt people are close by. The dogs certainly help, and we have laundry, a bicycle, mops and brushes, and various wash tubs. This kind of scene is a great way to give life to your railroad without modeling any human figures. *Original image - Wikipedia Commons*

3. Something as simple as an open door transforms a structure into an occupied building. The same trick works with windows. It's all about anticipation of what might happen next – who went in, what are they up to, and are they about to come out? We all love a good story, and our imagination can be easily harnessed.

Human presence without model figures

Before we talk about making figures look more realistic, let's consider an alternative and very powerful approach to getting the feel of human presence without using model people. I am very much an advocate of "less is more," and this applies well in the context of little people.

You don't have to see someone to know that they may be close by [2]. People are generally a little undisciplined and messy, and even when well organized, will leave a trail of visual clues that they are about somewhere. So how do we replicate this on a railroad?

Give the human mind a few clues and it will fill in the rest based on life's experiences. One of the easiest ways is to have open windows and doors [3]. Rarely do I have a building that hasn't got

something open somewhere [4]. People are notoriously random, and "order" is not a good idea:

- Blinds at windows should be at different heights.
- Bicycles will be carelessly propped up (even just tossed on the ground) as a hungry kid runs into the home for a meal.
- Buckets, mops, and brushes will have owners who have just taken a quick break and will be back very soon to continue [5].
- Could the overflowing trash can soon be emptied, or perhaps topped-up to an even worse state?

Remember that in general people are untidy, and this means trash often doesn't find its way into a bin. So unwanted timber (pallets are good), rubble, bottles, cans, and paper should be seen in areas where people will casually toss them.

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4. This is an "almost but not quite finished" kit (KingMill Nella store), which further demonstrates the techniques of open doors, windows and blinds. In much the same way as there are no straight lines in nature, people interact with objects in random ways. So don't open all the windows to identical amounts. Let's call it "geometric texture."

5. This scene has a variety of elements that imply human habitation without seeing any figures. The door is open, and we could imagine the noise of someone cleaning pots and pans inside. Note the wood pile, and the bicycle propped up by the veranda. The laundry is made in seconds from pieces of paper cut to shape and crumpled before gluing on the nylon thread line with CA.

Clothes drying on a line is a great indication of activity. Dogs and cats can sit or sleep convincingly, and in general animal models are more forgiving when it comes to the realism effect [7], so things like dogs and chickens can be used to indicate that owners are about. It's a kind of mental trickery, but hugely effective.

Vehicles and people go together and they look better when parked, or waiting at a stop sign that is much more believable than moving along a road (they clearly aren't moving in most model scenes). Once parked, vehicles look more interesting with a door, the hood, or trunk open, and even with no one present, the implication is that someone is nearby loading, unloading, or doing some maintenance. Front wheels look much better with a slight turn, implying that an oh-so-imperfect person just casually parked up [6].

6. Note the slight turn of the front wheels on this truck, in keeping with a reverse maneuver to get to the loading dock. The dropped tailgate and planks show that someone is in the process of loading (or unloading) oil drums.

Realism using partial views of people

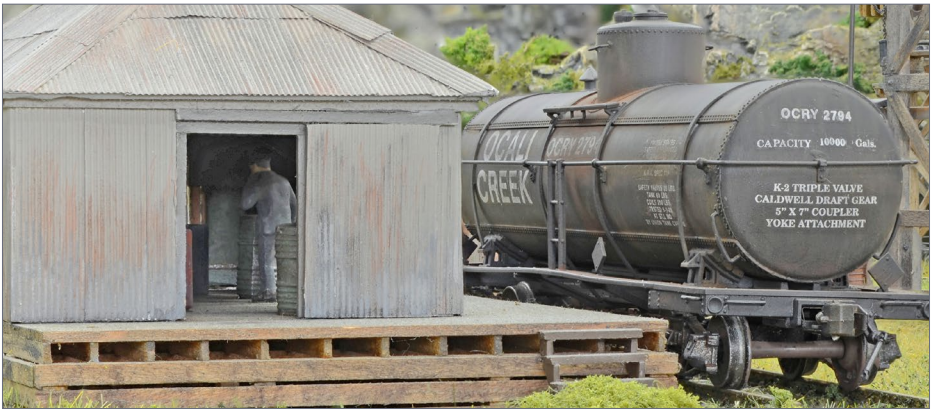
The next best thing to avoiding people completely is a partial view. Figures silhouetted inside buildings or in doorways with

7. Dogs are good because where there are dogs, people are close by. The little fella on the footplate of this Shay lends humanity and a little humor to the scene.

8. This guy is sneaking a cup of coffee in the explosives store at Vezmar mine.

their backs to the viewer can look very convincing [8], [9], [10] Even just showing an arm or hand on a window or door edge can be very convincing. Our brain fills in the gaps of the parts we

9. Mrs. O'Malley is apparently having a conversation with someone inside the house.



10. In this alternative view of [6] we see Denzil Spock working away (actually smoking a cigarette in his left hand) inside his Gas and Oil business. This is a great way of using relatively crude figures by showing them in shadow and/or with their backs to the viewer.

can't see, and our imagination is always better than any reality we can physically model.

How do we achieve realism with model figures?

Figures have improved a lot over the years. [11] to [13] show some examples of commercial figures. They have been sprayed a uniform gray to provide a good base for brush-painting, but also to remove the visual distraction between bare metal and plastic finishes so you can compare detail levels. Zoom in for a really good look.

Rejecting figures that fail the previously mentioned "OK?" test is a start to realism. If it looks totally bad then put it in the bin! If it's marginal, then it may be OK inside a building, in silhouette, or could be a candidate for modification.

It's often been said before, but it's better to have figures in a static pose rather than running, shoveling dirt, or waving. People who

11. Figures have come a long way over the years. These cast metal folks were part of an old craftsman station kit. Detail is crude, especially where faces are concerned. However these kinds of figures (and believe me, much worse are commercially available even now) can successfully be used, provided care is taken about their location and viewing angle.

12. These modern figures (Preiser) have much-improved facial detail, and also subtlety of body language. They can be used as they are, but I encourage you to mix, match, and modify body parts to create your own completely unique examples. This helps to fit them with the location and mood you are trying to create.

13. Extreme poses or unusual subjects have limited value.

are standing, looking, contemplating, leaning are all easier poses to accept in our essentially static model railroad world, where only the trains move. The rules can be bent significantly when photographing. Here we implicitly acknowledge that a moment in time has been frozen, so pretty much anything goes. Even so, I would avoid figure poses that are too dramatic [13], mainly because attention is drawn to the figure, increasing the likelihood that we spot something "amiss."

Making sure that people are facing away from the camera helps.

Things get much harder (but not impossible) when the face is visible, and some techniques that help are hiding or at least de-emphasizing the eyes. Hats are your friend. Apart from the fact that hats are just cool, they help to hide eyes by shading the face. They also help establish the figure's character (probably the reason 1:1 people wear them as well!).

14. Here is an absolutely wonderful picture when it comes to storytelling. Every figure demonstrates interesting body language, from the anxious little girl looking at the camera on the right to slightly hunched concern from the mother walking away on the left, who is being closely watched by the rest of the family as she leaves. The end of an argument or perhaps a joke at Ma's expense? I'm not advocating exact reproduction of this kind of scene, but it demonstrates well the need for meaningful interaction of your model people.

Stance and body language

How figures "hold" themselves is a vital aspect of reality, believability and storytelling. A neutral stance can be employed to avoid issues at the risk of some visual boredom. Many figures from past years have a straight up-and-down look that is probably more down to the manufacturing difficulties of the era as lack of imagination. Modern figures go the other way, and some quite outlandish poses can be found.

Both approaches have problems. A neutrally posed figure can be placed almost anywhere, but will add little to the scene. A figure with a very dynamic pose will be much more difficult to place unless the action is in keeping with the scene around it.

We mentioned earlier how an odd-looking stance (like a shop mannequin) stands out, but it's also quite possible for a naturally posed figure to look wrong just because of the figure's surroundings. So before trying to place a figure on your railroad, you need to look closely at it and try to decide what he or she might be thinking or doing. People rarely demonstrate no emotional intent, and are constantly reacting and interacting with the environment around them [14]. Our models should do the same.

The only time this doesn't happen is when they are snoozing or resting, and that alone has a very definite look. So when you place a figure in a scene there has to be a reason why they have the pose. If things don't look quite right, then either change where they are standing, add another figure or figures that explain their stance, or change the stance by re-modeling.

Placement techniques

For a fully visible figure, the preferred sequence of viewing angles (and therefore difficulty of presentation) is: from the rear, from

15. This is a Preiser figure that has nice detail and an interesting stance, but what might he be doing? The outstretched arm and upward look need to be considered. He has had weathering powder applied to add highlighting. This makes him look a little grubby in this closeup view, but at normal viewing distance, this technique works well to provide texture.

16. As a first attempt, he has been positioned next to a vehicle with an open door. This gives purpose to his arm position, but he is still looking up quite intensely, so there has to be something of significance attracting this attention.

17. This is better – our hero is in conversation and looks up while gesticulating with an open arm. "You need to make up that lost five minutes by the time you reach Glanton." However, the engineer isn't positioned correctly in this scene, because he is paying no attention. When you have multiple figures you need to consider how they are reacting to each other.

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18. So now we make sure the engineer is paying attention. But the participants are still not looking eye-to-eye, and why is that leg swinging forward like he just kicked a football? Every little detail of stance is important – here we should remodel the figure, or use a different one.

19. A better view all round. The characters are engaging each other in a meaningful way, and everything is in harmony. The guy on the footplate clearly isn't a crew member, but as a manager or superintendent, this conversation would make sense.

20, 20a. Even though this is an old and relatively crude figure with almost no facial detail, he is one of my current favorites because of his stance. He leans ever so slightly outward and demonstrates an anxious curiosity as he looks up the track. Here is someone who, through body language, is clearly interested in an event. It could be something occurring right now (a train arriving) or something he is concerned about (where have my guys got to?). Either way, he "fits" into the scene, whether viewed statically as in this photo, or dynamically when operating the model railroad.

21. Youngsters can be quite successful subjects. Here we see a side view of a couple of kids in animated conversation, and farther back in the scene a boy is closely examining a hen. Make sure everyone has some kind of purpose or focus and so they become part of the picture, rather than looking like they have just been placed in it.

22. Mr. Knox demonstrates just the right amount of professional concern as he appraises this rear wheel. This was a modern street punk figure, but with a haircut, cap and grimy white overalls, he becomes a 1930s entrepreneur.

23. A full-face view can work with a carefully chosen figure. This guy has good facial detail accentuated with a dark color wash, which also helps with the detail on the hands. His cap is pulled down over his face, and this helps shade the eyes, which often look unrealistic on smaller figures. Coaling is complete, and he is heading for the ladder, so his stance and position are logical.

the side, from the front (head down), and finally, from the front (head up) [23].

Move things around a bit – not every five minutes of course, but try different figures in different positions to maintain your own interest and keep on questioning what people are doing and where they are going and why. The world is a very dynamic place and we should try to replicate this on our model. It also keeps visitors guessing – they will soon start actively looking for what has changed, and this involves them more in the world we have created.

I would say that, as in many aspects of life, "less is more" and the best way to kill a scene is to have too many people. Every figure has to be reacting (even if it's passively) to very other figure, so each addition increases the odds that something will look out of

place, if not just plain hokey. Personality is key – a model figure should attempt to represent a real person, not a placeholder.

Locomotive engineers – the good, the bad, and the ugly

There's no option here. Unless the locomotive is resting for some reason, we must have a crew, and this is one of the cases where a lack of people screams "model." Avoid using off-the-shelf engineer figures, and make something yourself. Stylish (non-regulation) hats can give a figure some individuality and personality [24].

24. From left-to-right – the good, the bad, and the ugly. The guy in the center was fitted to a Bachmann locomotive; figures like this should be consigned to the trash with great haste. The engineer on the right (Weston) is OK, if a little crude. I have used these figures, and you will see an example later, but the problem is that all your locomotive crew can end up looking the same. The guy on the left has been assembled from a selection of other figures, and the original body has a new head, arms and one leg. This method gives us individual characters.

25. Both of the figures in number three's cab have been created by adding hats and arms from other figures. Informal dress helps give them individuality. The highlighting of the facial features gives each man a distinctive mood. Both of these gentlemen are clearly focused on the job in hand. Incidentally that's Dixie Dean on the throttle and Earl Yates is firing.

Figure-bashing

If you can't find a figure that suits your needs, then it's easy to create one using plastic surgery. I buy unpainted sets of figures that provide not only "ready to go" folks, but also a huge variety of body parts that you can mix and match. Many of these sets acknowledge the need for flexibility by having separate arms, but there is no reason you can't remove heads, arms, and legs, and reassemble them on other bodies to create not only unique characters, but ones that have the correct feel and body language for your situation.

Hats can be easily transplanted, and I have taken a hat from a female figure and grafted it onto a man with great results.

26. Try something other than the traditional sitting engineer/fireman. This guy standing with his arm hanging out the cab window exudes competence and relaxation.

27. This is an example of a "Mr. Ugly," and he doesn't look too bad here. However the angle of the arm isn't quite right, and he appears slightly uncomfortable. Cast alloy figures can be difficult to position due to the risk of the metal fracturing when bending.

28. Here is a painting-in-progress shot of our engineer. At this point only basic colors have been added, so he still looks shiny and characterless. Note the use of unpainted legs as a "handle" while painting the more important parts.

29. With some weathering powders, our engineer looks a lot more natural and quite at home in the cab of the as-yet-unweathered locomotive.

Tip: When you are painting a figure, leave the legs and feet until last so you have a "handle" that makes detail painting of the upper body much easier.

It's all about the people

I don't pretend to be an expert on figure modelling – quite the opposite. But by employing a degree of cheating and harsh analysis of a scene, then a reasonable degree of realism and interest can be obtained. This was never intended to be an article about the finer

30. I converted a fairly generic figure into a reasonably convincing welder – nothing more than a visor made from a couple of pieces of thin styrene sheet and a welding rod from wire. A simple paint job gives Arno Paxman some overalls and gloves. The key thing here was the use of some brown weathering powder to change him from slightly plastic to an industrious grimy look. It takes about five seconds, and works wonders. It may seem slightly overdone here, but when "in situ" and viewed in context, it will look just fine.

points of making and painting model figures, but more about following a holistic approach to model railroading. It's not just about running trains, but also about creating a world with purpose that feels real. So have some fun by trying to make your model railroad reflect the diligence, inventiveness, curiosity, and humor folks have always demonstrated in everyday life. ☑

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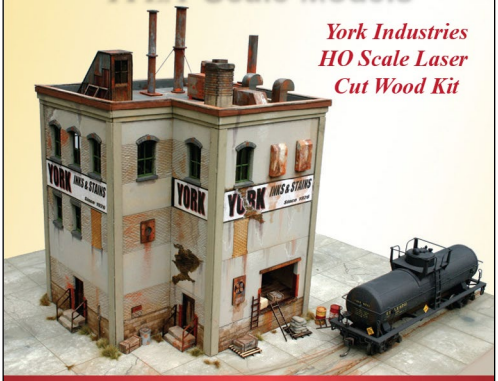

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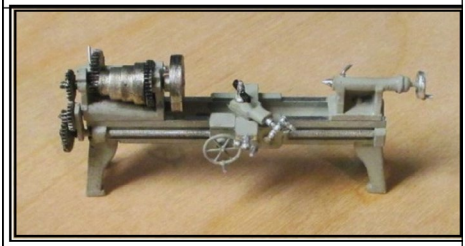

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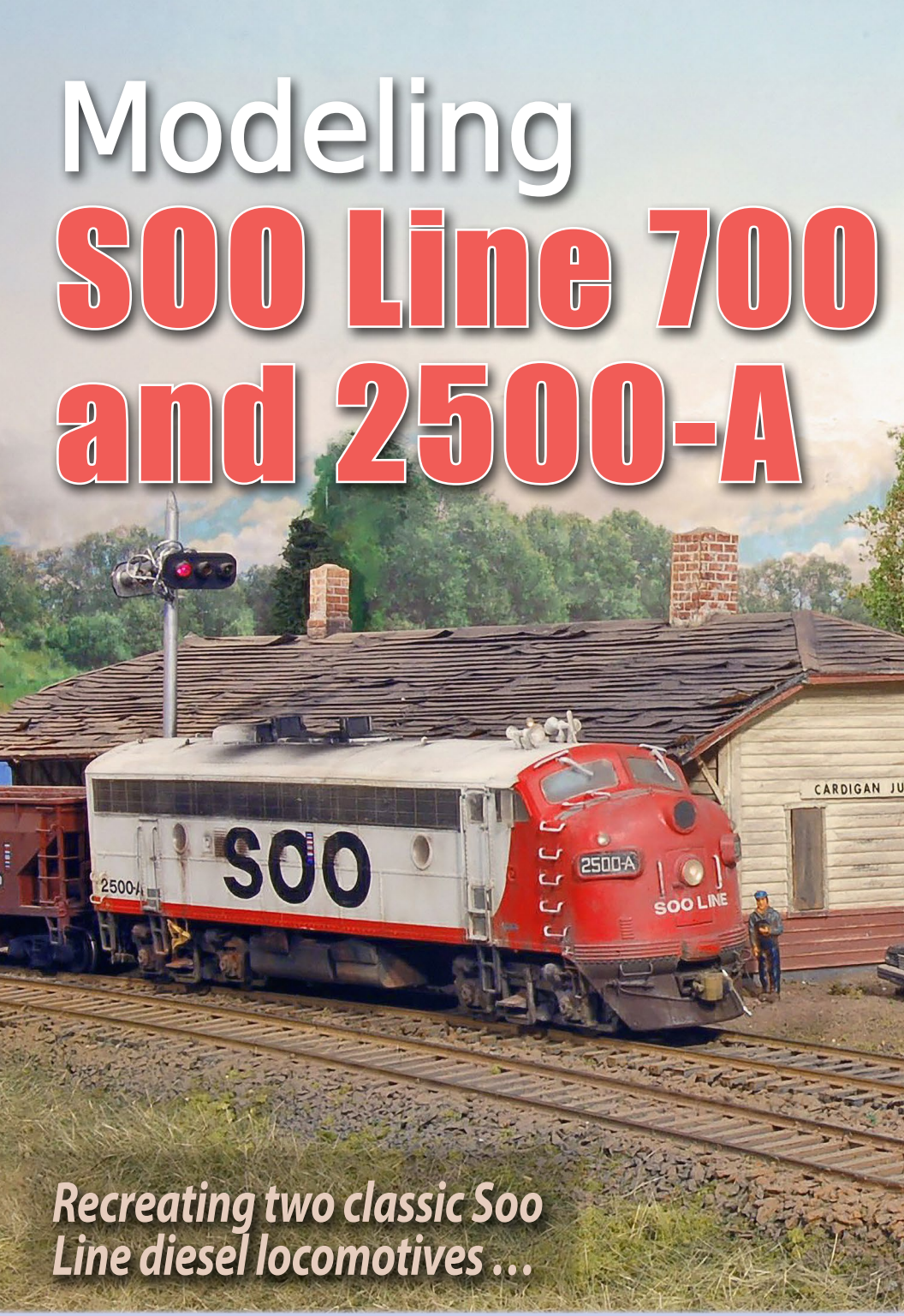

Recreating two classic Soo Line diesel locomotives ...

SOO
700
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BY BOB RIVARD

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IN THE FALL OF 1985 AS I PASSED BY THE SOO Line's Shoreham diesel shops I noticed all four of the railroad's remaining FP7 engines all lined up together. When the Soo retired their aging fleet of F units in 1980, they kept four FP7s to be used in snow plow service.

Since these historic engines were in full display, I naturally had to take a few snapshots. I had heard rumors about the FP7s being permanently retired, so I figured I'd better photograph all four units.

As I was taking my shots I could see that the F's had been stripped of their appliances such as strobe flashers, horns, and porthole glass. This surely meant these engines would be sent to Chicago any day to be turned into scrap!

Fortunately however, one of those four F units I captured on film that day would be saved from the cutter's torch: the 2500-A [3].

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1. Soo Line FP7A 2500 in as-delivered paint.

2. In 2006, the Duluth Transportation Museum restored and painted the Soo 700 in its classic 1962 paint scheme. Here, Frank Jordan is capturing the 700 at Two Harbors, MN.

Our 2016 Soo Line Historical Society's convention featured a train ride on the North Shore Scenic railroad. The train was powered with two vintage Soo diesel engines: the 700, Soo's first GP30 and the Soo 2500-A, an FP7.

The engines have been faithfully restored and painted in their original paint schemes by the Lake Superior Transportation Museum. These engines served the Soo Line for many years in freight service.

When I returned from our convention, I realized I did not have these two iconic Soo locomotives represented on my 1977-era model railroad.

Follow along as I describe how I modeled these two diesel engines..

3, 4. Prototype reference photos for Soo Line 2500-A.

STEP 1: Find prototype reference photos

The first step was to find some good photos of the prototype 700 and 2500-A. In order for me to faithfully capture the look of the prototypes on my models, the photos must be from my 1977 modeling era.

Fortunately I had a few shots from my personal collection that would aid in detailing and weathering these models. I knew that the internet also would be very helpful for this.

[1] is a shot I took of the 2500-A last May on Steve Glischinski's fan trip. It sure looks beautiful wearing that original as-delivered paint scheme! However I really needed to come up with something closer to my 1977 era.

Check out this incredible photo [4] taken by Lou Gerard in 1978 at Johnson Street in northeast Minneapolis. Wow! This was fantastic because it is a location on my model railroad.

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Step 2: Preparing to model the 700

The number 700 was the first of the Soo's roster of 22 GP30s ordered in 1962. Photo [2] shows the 700 in 2010 just after it was painted in its as-delivered scheme. I found some wonderful photos of the 700 on the RR-Fallenflags website (rr-fallenflags.org) to aid in detailing and weathering my model.

Back in the mid-1980s I modeled my GP30s using a Lionel model (yes, Lionel briefly entered the HO market) as a starting point. Back then, this was the only option available to model a GP30. I remember stripping Burlington Northern green paint off many of these Lionel shells. These models were produced to be part of train sets primarily sold to kids. Thankfully, Lionel also offered these engines separately.

The underframe and mechanism were junk, but the body had very nice detail. I needed to come up with a way to power my GP30s. Because Soo's fleet of GP30s rode on Alco trucks, I would also need

5. I made this model of the 700 some 30 years ago using a Lionel shell on an Atlas RS-11 chassis. It was now time to upgrade the details and weathering in order to reflect my 1977 modeling era.

to address this problem. Fortunately, at the time, Atlas had just released outstanding models of two Alco diesel locomotives: an RS-2 switcher and a RS-11 road switcher.

I managed to adjust the Lionel shell slightly to get it to fit onto the Atlas RS-11 underframe. Fortunately, Atlas used the same mechanism to power both the RS-11 and the RS-2, so I would eventually purchase many RS-11s and RS-2s just to obtain these great-running mechanisms.

Step 3: Remove the old weathering

6. I decided to first address the old weathering. After researching prototype photos taken in the late 1970s I realized my model simply had too much weathering. In order to remove the weathering, I used cotton swabs dipped in Turpenoid paint thinner (Turpenoid is an odorless paint thinner available at artist supply stores) and then some lacquer thinner. This is the same technique I used on my RS-2 (see September 2015 *MRH* mrhpub.com/2015-09-sep/port).

Step 3: Remove the old weathering *Continued ...*

7. The 700 is starting to look like my 1977 internet photo.

8. A cotton swab and lacquer thinner works great removing old weathering.

9. This method captures the look of a prototype Soo line loco. Dirt and grime typically gather in the door seams, door latches and intake grilles.

10. I made sure to constantly use a fresh clean swab. This project required around 30 swabs. By now, you can see one slight problem using this method: it is almost impossible to avoid destroying the original lettering.

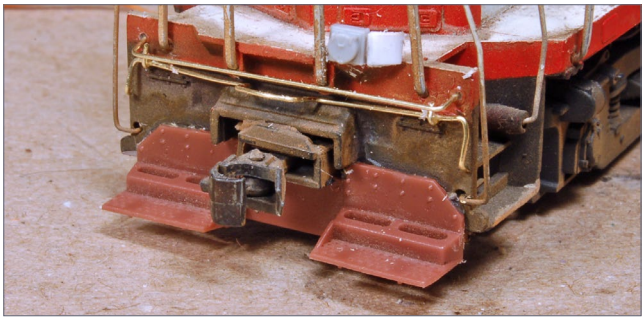
No worries, however. I have extra Soo decal sets in my decal box. Champion set EH 181 provides the most accurate big SOO and numbers. The "still available" Microscale set #117 is also a nice and very accurate set.

Step 4: Pilot, ACI plate, and nose details on 700

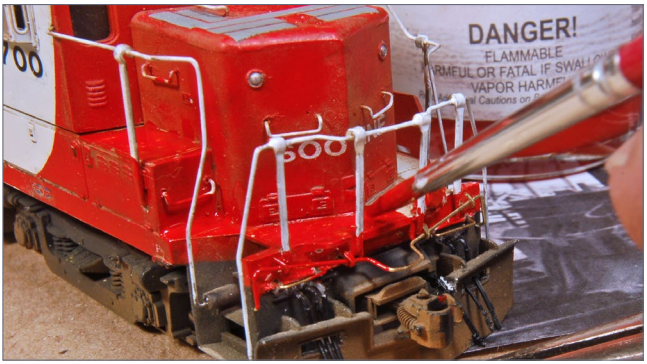
11. It's time to start adding some important details. I bent and installed coupler cut bars from .015 brass wire. My 1977 prototype photo reflects this style cut bars, which conforms to my 1977 era. At this time, I also installed Detail Associates MU hoses and a modified Proto 2K MU electrical box.

Step 4: Pilot, ACI plate, and nose details on 700

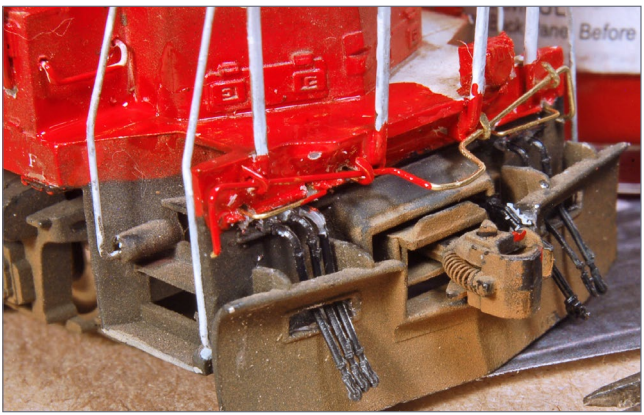
Continued ...



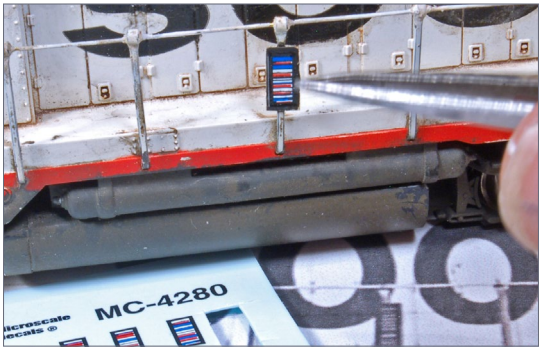
12. I installed the same details to the rear end. Note the rear step piece (maroon-colored plastic). This part came from my Life-Like Proto 2K extra parts box.



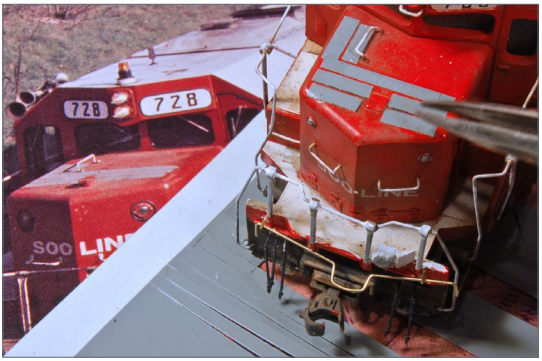
13. I looked at the prototype photo of the 700 and noticed the front walkways seem to be red. No worries: some flat red paint and a brush took care of this.



14. I also used my red paint to paint the coupler cut bars.



15. I now turned to the ACI plate. I normally glue a 0.010" piece of styrene to the stanchion to support the ACI decal. This time I did a more indestructible installation. I cut a piece of 0.005" brass sheet the same size as my decal and soldered it to the Athearn metal stanchion. I used Scalecoat II black to paint the plate. The ACI label decals came from Microscale set #4280.



16.Here is an often overlooked detail. Note the top of the nose on Soo 728 (left). The anti-skid material takes on a faded gray as it weathers. For this, I cut out pieces of Microscale TF21 NYC gray trim film decal paper and applied it.

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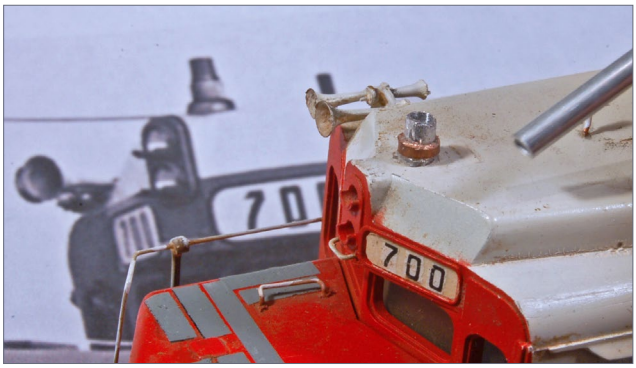
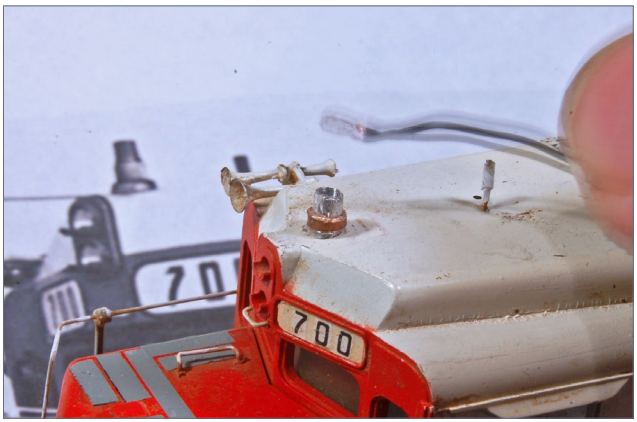
Step 5: Lighting and decoder on 700

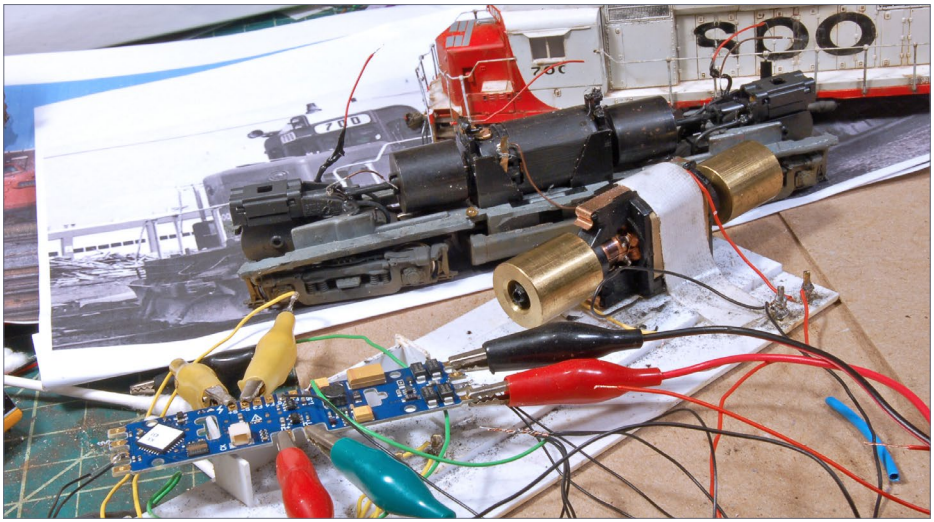


17. I used the prototype photo as a guide and cut a small piece of 3/32" aluminum tube to model the strobe flasher.

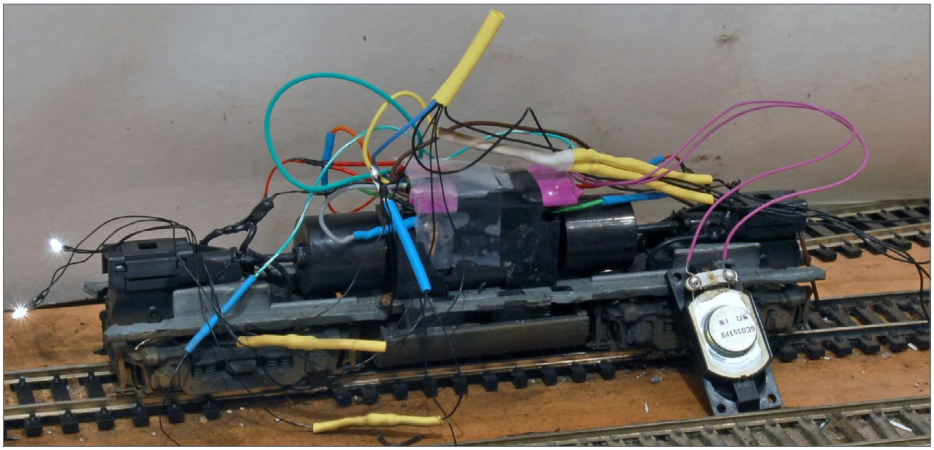
18. The aluminum rod is easily cut to length by using a #11 X-Acto knife. I rolled the tube back and forth with the blade until the blade sliced through the tube.



19. Note how this 3/32" diameter is the perfect size to accommodate a 1.5 volt micro bulb.



20. Here I am preparing a SoundTraxx Tsunami 2 circuit board on my decoder tester. With my tester, I can pre-wire and program the CV values, including the correct Soo strobe flasher, all at the workbench.



21. I put the loco on the track to test my newly-installed decoder. So far everything looks and sounds great including the forward, reverse, and strobe flasher functions.

Step 6: Correcting the lettering on 700

22. I turned my attention to my missing decal lettering. After decaling many Soo diesels (possibly hundreds), I have found the Champion EH-181 decal set is truly the most accurate for the big SOO lettering. The set also provides very accurate cab numbers.

Champion has gone out of business, but eBay could provide a source for this set. Fortunately for me, my local hobby shop here in the Twin Cities purchased the remaining inventory of Champ decals.

To get the proper placement of the cab numbers,I referenced the prototype photo of the 700.

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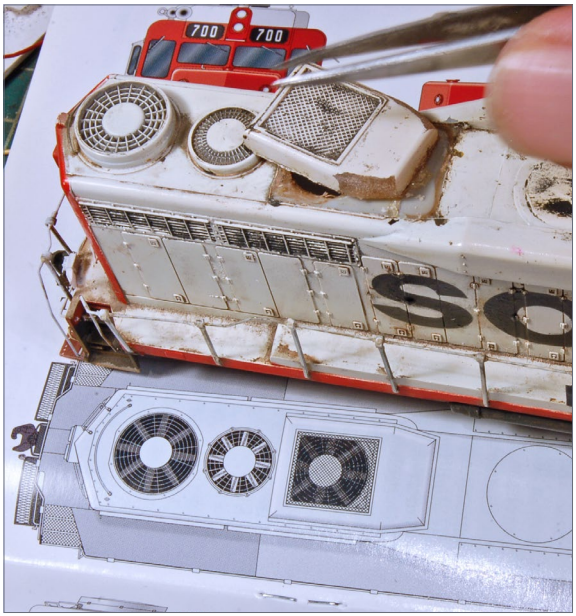
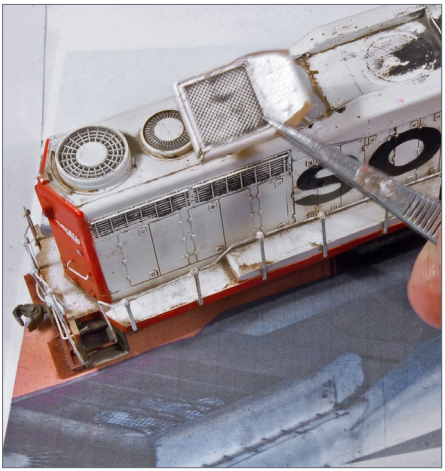
Step 7: Correcting the winterization hatch on 700

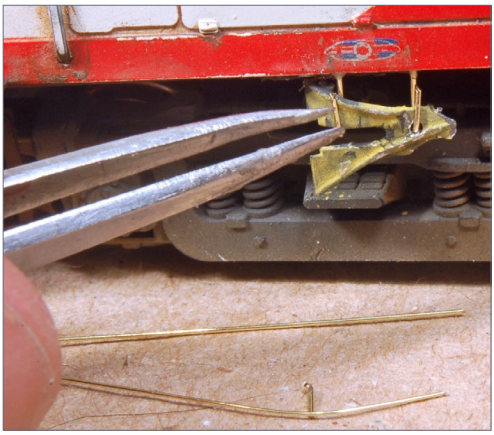


23. I turned my attention to a small detail item on the winterization hatch. Note on Rick Johnson's wonderful drawing how the ends of the hatch taper inward. I modeled this by using a #17 X-Acto blade to pry off the hatch and used a file to bevel the sides.



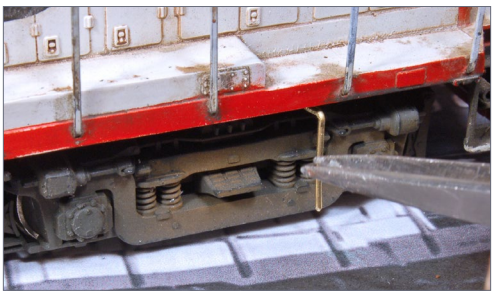
24-25. The modified Detail Associates hatch is ready to be reinstalled on my model.

Step 8: Rerail frog, wipers, drain pipe, chain and kick plate on 700



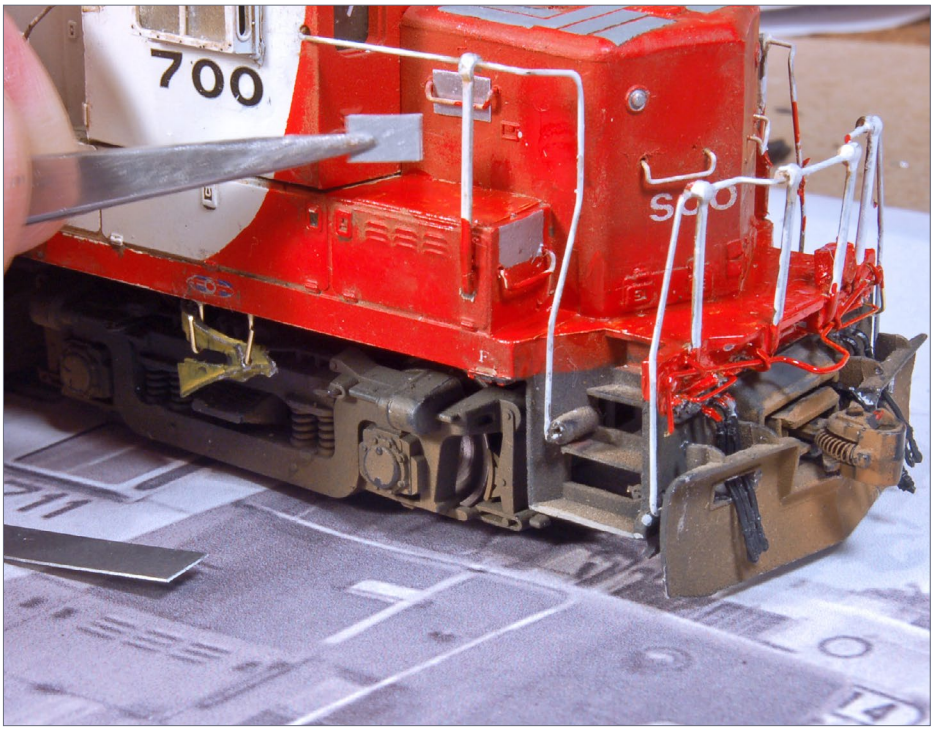
26. Next, I installed Details West #119 rerail frogs. Thankfully this part has been produced by Details West for years. This is an important detail almost every Soo diesel wore. I hung my frogs from two pieces of 0.015" brass wire glued in #76 holes drilled into the bottom of the side sill.

27. I next installed my wind-shield wipers. These are produced by a number of manufacturers.



28. I installed a drain pipe per the prototype photo using a piece of 0.019" brass wire.

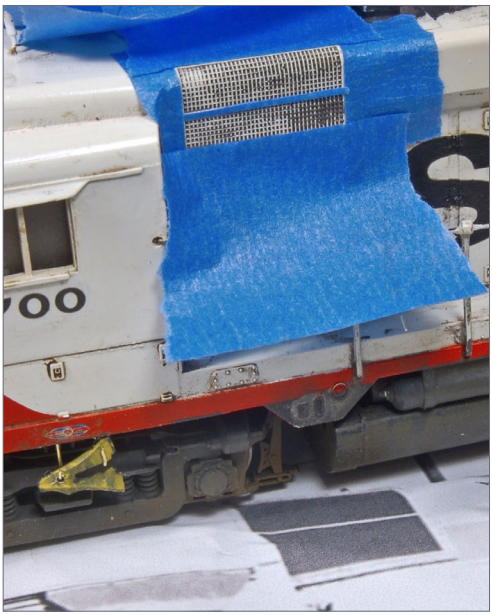
29. Using the same method I used to hang the re-rail frogs, I cut some scale chain and draped it over three hook-shaped brass wire hangers. This chain is located over the right side of the rear truck.



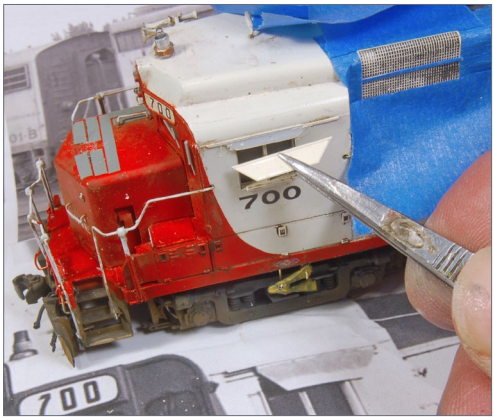
30. Next, I used the prototype photos as a guide and installed kick plates. These plates are cut from pieces of 0.010" styrene, which I painted silver.

Step 9: Painting, weathering, and finishing 700

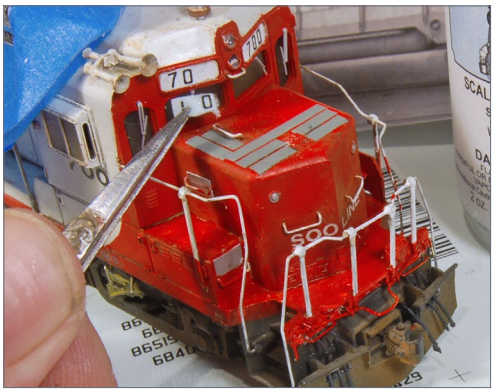
31. Because my model is some 30 years old, the Scalecoat paint has taken on a very slight beige hue. I decided to paint my newly modified winterization hatch to capture this hood paint color shift and match it. For this I mixed up a small batch of ScaleCoat II #2011 white and added a few drops of boxcar red. I can't remember the ratio but it actually turned out to be an almost exact match [30].



32. I masked around the front grilles located behind the cab. I cut out and applied my tape around the grille. Note the horizontal thin tape in the middle of the grille. Taking the time to perform this step is really important to capture the prototype look.



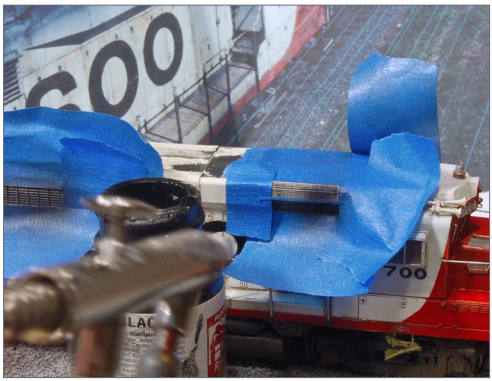
33. Now was a good time to install the cab sunshade on the fireman's side of the cab. I simply glued a Detail Associates sunshade onto the original cast-on shade.



34. Next, I decided I could improve the look of my model if I gave the number boards a facelift. For this I re-painted the boards and re-applied numbers from Microscale set MC-4131.

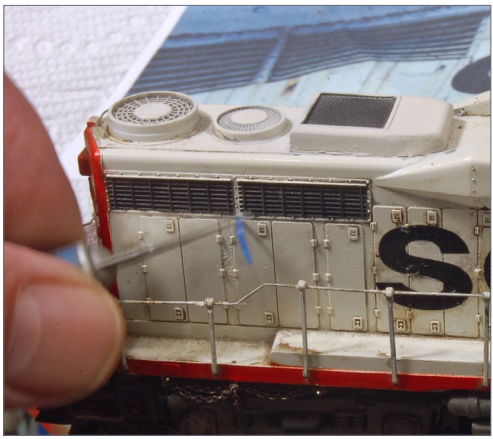
35. I headed to the spray booth and used my airbrush to apply some engine black paint to the rear intake grilles.

Step 9: Painting, weathering, and finishing 700 *Continued ...*



36. I repeated this step on the front grilles behind the cab.

37. I removed the masking tape from the front grilles.



38. I removed the tape from the rear grilles.

39. Now I applied one last coat of Testors Dullcote to give the model a dead-flat finish.

40. Next, I used my airbrush to apply some exhaust effects on the roof. Note how the roof in my 1980 photo of Soo 711 is completely black. I think I'll back off quite a bit on my weathering!

41. I used a small brush to paint the ends of the handrail stanchions with red Testors paint.

Step 9: Painting, weathering, and finishing 700 *Continued ...*

44. My model is almost complete. I view a photo of a Soo GP30 and simulate the weathering effects of the 708 by airbrushing some grimy black paint onto the trucks and underframe.

45. My model of the Soo 700 is basically finished and ready for service on the railroad – one last step is in order, however. Floquil Mud seems a good choice for the final weathering colors seen in my prototype photo of Soo 708, a great example of typical weathering seen on a Soo GP30 in service.

46. Here the finished 700 gets fueled and sanded at the Shoreham sand tower on my layout modeling August 1977.

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MODELING THE SOO 2500-A

Step 1: Prepare the 2500-A shell

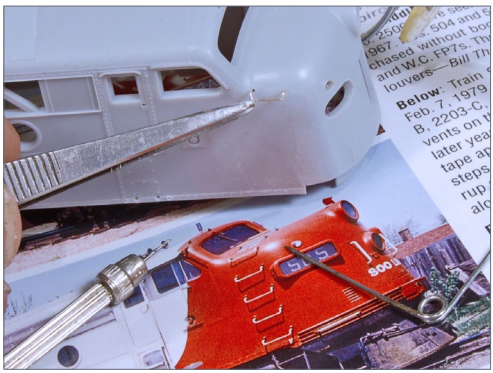
47. Fortunately, InterMountain produces a fantastic model of the EMD FP7. It is available as an undecorated kit (#4993). This kit contains the drive mechanism and phase 1 body, with the correct horizontal side louvers.

48. Note this mold line on the side of the nose: it has got to go.

49. I used 400-grit wet-dry sandpaper to remove the mold line.

Step 2: Add grab irons to the 2500-A shell

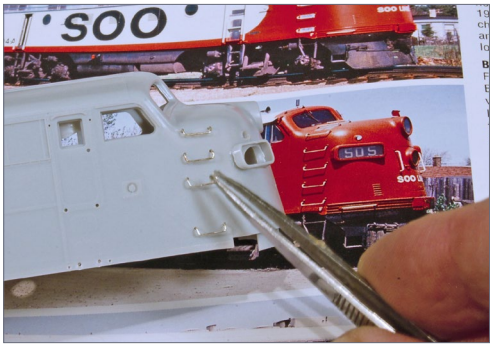
50. I prepared these nine grab irons (seven for the engineer's side and two for the fireman's side) by using a rail nipper to remove most of the material before I attached them to the body.



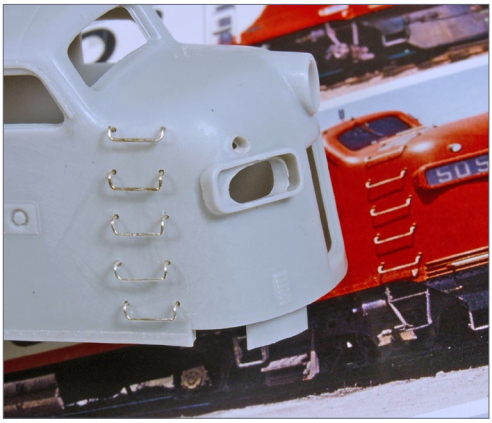
51. I found a nice prototype photo in a back issue of a Soo Line Historical & Technical Society magazine to aid in the correct placement of the grab irons. I used the photo as a guide, and marked with a safety pin the location of the top or #5 grab iron and the first bottom grab iron.

Step 2: Add grab irons to the 2500-A shell *Continued ...*

52. A nice feature of the InterMountain kit is the number boards are separate parts. I temporarily mounted the number board housings to the correct locations using a dab of tacky water-based glue. Performing this step helps in locating the remainder of the grab irons.

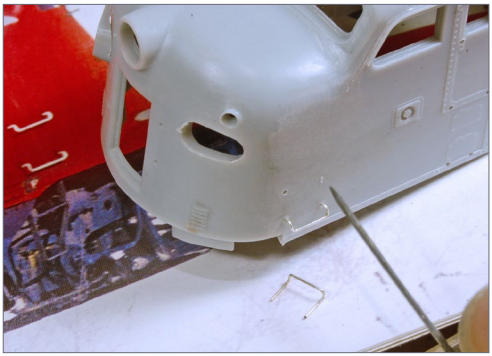


53. I made some final adjustments using a tweezers before gluing the grab irons in place.



54. Here are the first five grab irons permanently installed.

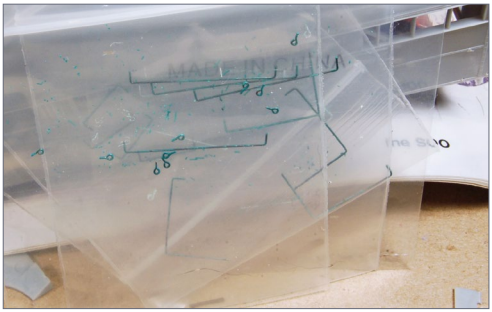
55. I next installed the last two grab irons on the roof. Once again, I turned to a wonderful photo of a prototype showing the top of the nose of a Soo F-unit.



56. I installed the remaining nose grab irons on the fireman's side.

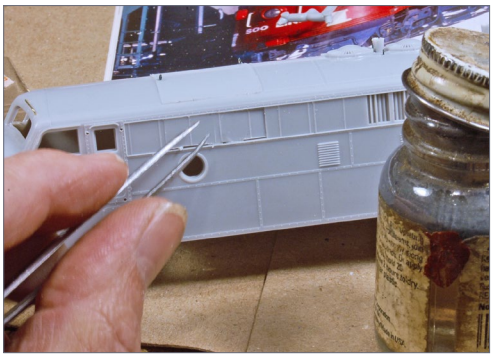
57. I focused next on the two grab irons on the roof just above the windshield. I formed these from 0.015" brass wire.

Step 2: Add grab irons to the 2500-A shell *Continued ...*



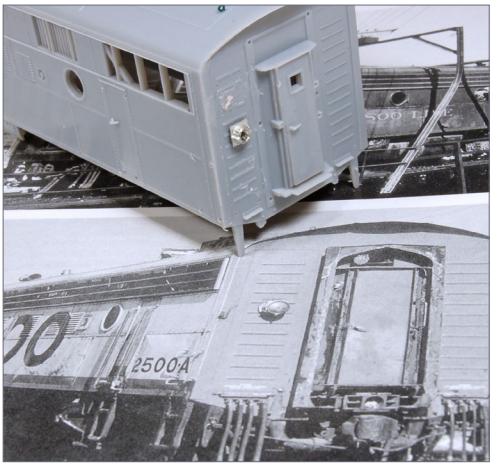
58. Another nice feature of this kit is that all essential door grab irons are supplied. Wire lift rings are also included.

Step 3: Add grilles, dynamic brake, backup light, and pilot steps to the 2500-A shell



59. The InterMountain kit provides correct grille plugs, which are to be placed in prototypically correct locations before installing the horizontal metal grille.

60. The InterMountain kit includes the option for a non-dynamic brake hatch. This is important for us Soo modelers. I use liquid styrene cement to attach the square non-dynamic brake insert.



61. The kit has a nicely detailed molded backup light. Unfortunately, it was in the wrong location. I found a photo of the rear of the 2500-A and decided to relocate the backup light using a Details West casting.

62. All Soo F units were retrofitted with a unique pilot step. For this I used 0.010" x 0.030" flat brass bar stock.

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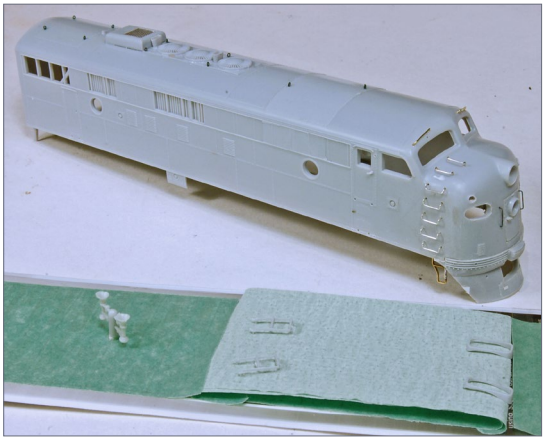
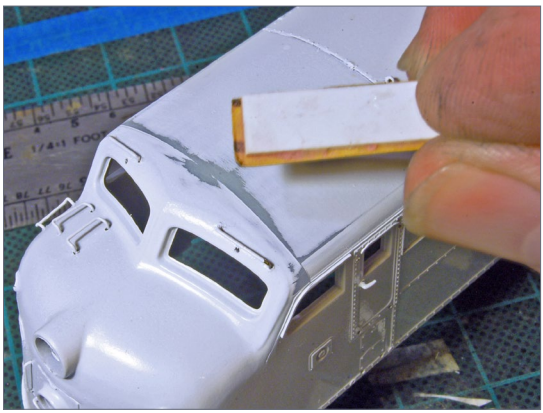
Step 4: Paint the 2500-A shell



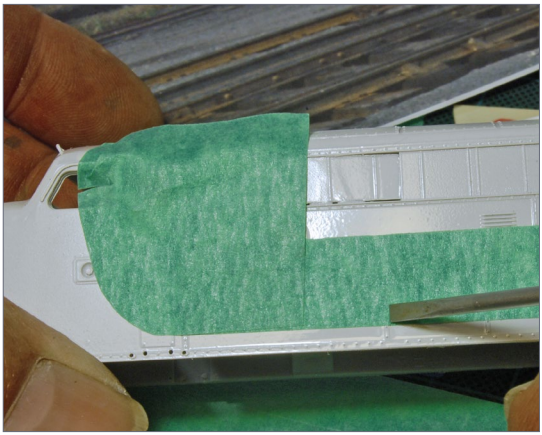
63. I prepared my model for the paint shop. I painted the steps, horns, and number boards as separate pieces. This made the task of masking for the red much easier.

64. My model was ready to receive a coat of Scalecoat II 2011 white paint. I applied this using my Badger 150 airbrush.



65. Before masking for Soo Line red, I noticed an unslightly seam line on the roof. There is nothing like a coat of white paint to reveal imperfections! I used 400-grit wet-dry sandpaper to remove this seam, then went back and applied another coat of white.

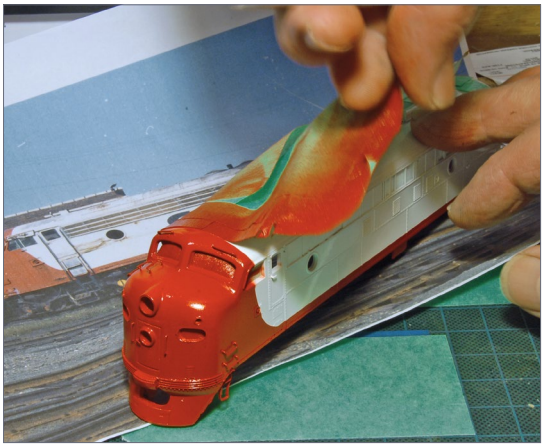
66. I allowed the white to dry and prepared the model for a coat of red. My photo of the 2500-A was very helpful when it came time to mask my model: note my trusty Soo curve template. This styrene template allows me to cut my tape to duplicate the correct separation curve.



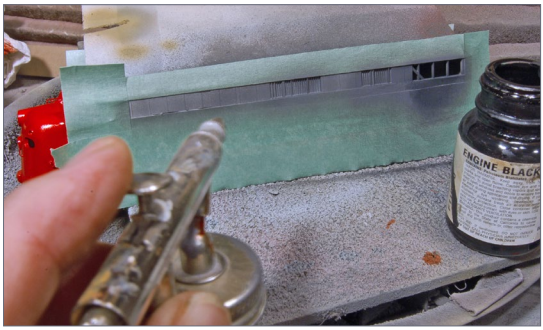
67. The blade of a small screwdriver is helpful to make sure the tape conforms to the rivet strips. I found this green Painter's Mate brand masking tape at my local Menard's. The tape has the perfect "stickiness" without leaving any glue residue. A sharp X-Acto knife blade is best for cutting the tape.

68. I headed back to the paint booth and applied a coat of Scalecoat II Santa Fe red paint. I also painted the number board castings.

Step 4: Paint the 2500-A shell *Continued ...*



69. I carefully removed the masking tape. It is always exciting for me when I see no evidence of red paint bleeding onto the white!



70. I masked the horizontal grille area and painted the area black: I used Floquil Engine Black.

71. I removed the masking tape, revealing the blackened area which will receive the metal intake grille.

Step 5: Decaling the 2500-A

72. I installed the number boards. I first painted the clear boards black then assembled and installed them onto the nose using a few drops of CA glue. The perfect numbers for this project came from ShellScale decal set #105. No letters are supplied in this set, so I simply hodge-podged a few digits together to make a letter A.

73. My photo of the 2500-A was invaluable to correctly place the big SOO lettering. Champ set EH-181 is the perfect set for decaling a Soo locomotive. Microscale set 87-117 is still available, and is also a fine choice for decaling most Soo diesels.

74. I looked at my photo of the 2500-A and applied the numbers to the rear using the numbers from the Champ EH-181 set.

Step 5: Decaling the 2500-A *Continued ...*

75. I used MV set LS-19 lenses for modeling the class lights.

76. I fabricated the coupler pin lifters using 0.012" brass wire. At this time I also install two drop-style grab irons on the pilot.

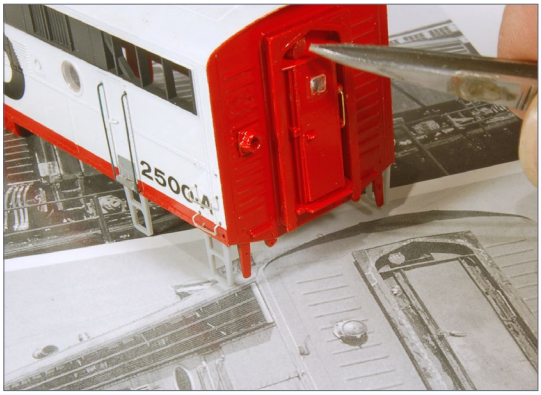
77. I used Microscale TF-21 NYC gray trim film to model the anti-skid nose strips.

Step 6: Adding some final details to the 2500-A

78. I installed an MV L173 lens to the lower headlight housing. I used a #60 bit to drill out a small hole in the back of the lamp housing before I glued it in place. I then glued a bulb to the back of the lens, simulating a very prototypical effect. I also installed the top Mars light lens. During the 1960s, the Soo stopped using the Mars lights on most of their F unit fleet. This lens was in most cases merely painted over. I duplicated this by painting this piece black before gluing it in place.

79. I replaced the stock EMD vertical end grab irons at the rear end with 2 short horizontal grab irons, as seen in this photo of the 2230-A.

Step 6: Adding some final details to the 2500-A *Continued ...*



80. I noticed an MU receptacle mounted over the rear door on the prototype photo of the 2500. I decided to add this interesting detail to my model.

81. The InterMountain kit includes a wonderful etched-metal horizontal intake grille. I attached this part using a sticky water-based glue. Woodland Scenics Accent glue works great for this.

82. I allowed a few minutes for the glue to dry, and then applied the grilles.

83. Note how you can still see the white glue behind the metal grilles. No worries because the glue will become clear when it completely dries.

84. The prototype photo taken by Lou Gerard indicates that the 2500-A had spark arrestors. Fortunately Details West makes this exact part, DW-124.

85. Before proceeding with weathering, I added a nice cab deflector. Detail Associates makes this nice detail item.

Step 7: Weathering the 2500-A

86. I performed an important detail step before weathering the model. Note the windshield at the bottom of this photo. The pattern of the windshield wiper is clearly visible. This effect can be duplicated by using tape to mask this area before adding weathering.

87. I headed to the spray booth to start the weathering process by first giving my model a coat of Testors Dullcote. Next, I temporarily masked the body with a piece of paper and airbrushed some black onto the underframe, fuel tank, and trucks.

88. I simulated rust patches on the roof by dabbing on some Burnt Umber artist oil paint. I used a dry fan brush to feather out these blotches.

89. I used my airbrush to add some black on the exhaust stacks.

90. I gave my model a quick overspray of thinned grimy black.

91. I next applied some rust by airbrushing orange paint onto the underframe.

Step 7: Weathering the 2500-A *Continued ...*

92. Before installing the windshield wipers, I removed the wiper masks from the windshield.

93. At this point my model could be considered finished, but I decided to go back over the model and remove some of the weathering. For this I used cotton swabs and Turpenoid paint thinner.

94. Using the swab and Turpenoid thinner technique really captures the effect seen in the prototype roof photo of the 502-A. Note how weathering remains in the seams and crevasses just as on the photo.

95. Next I addressed a few lettering issues by adding an ACI label and a small F.

96. I headed back to the spray booth one last time togive my model a final application of Dullcote to hide the decal edges and give the model a dead-flat finish.

97. I used my airbrush to enhance the exhaust soot effect around the exhaust stacks.

Step 7: Weathering the 2500-A *Continued ...*

98. My model is basically finished. I added one final touch and applied silver paint to the tips of the MU hoses. This step really enhances the intricate detail on the hoses.

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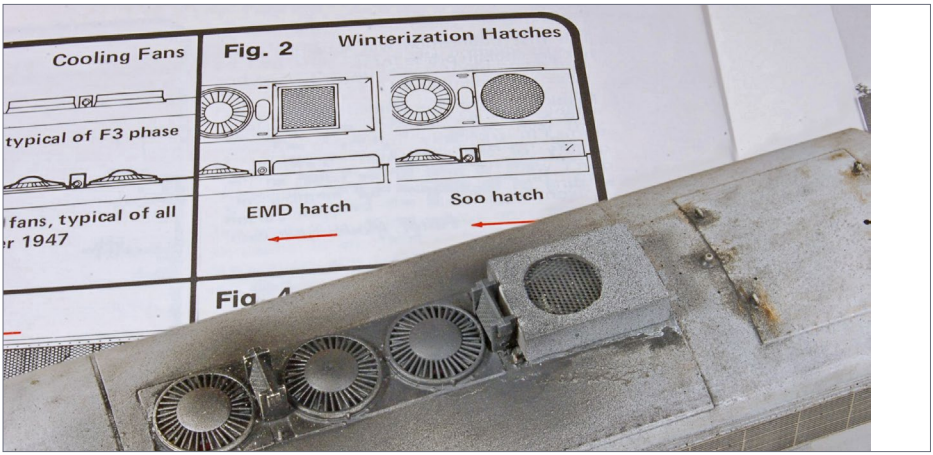
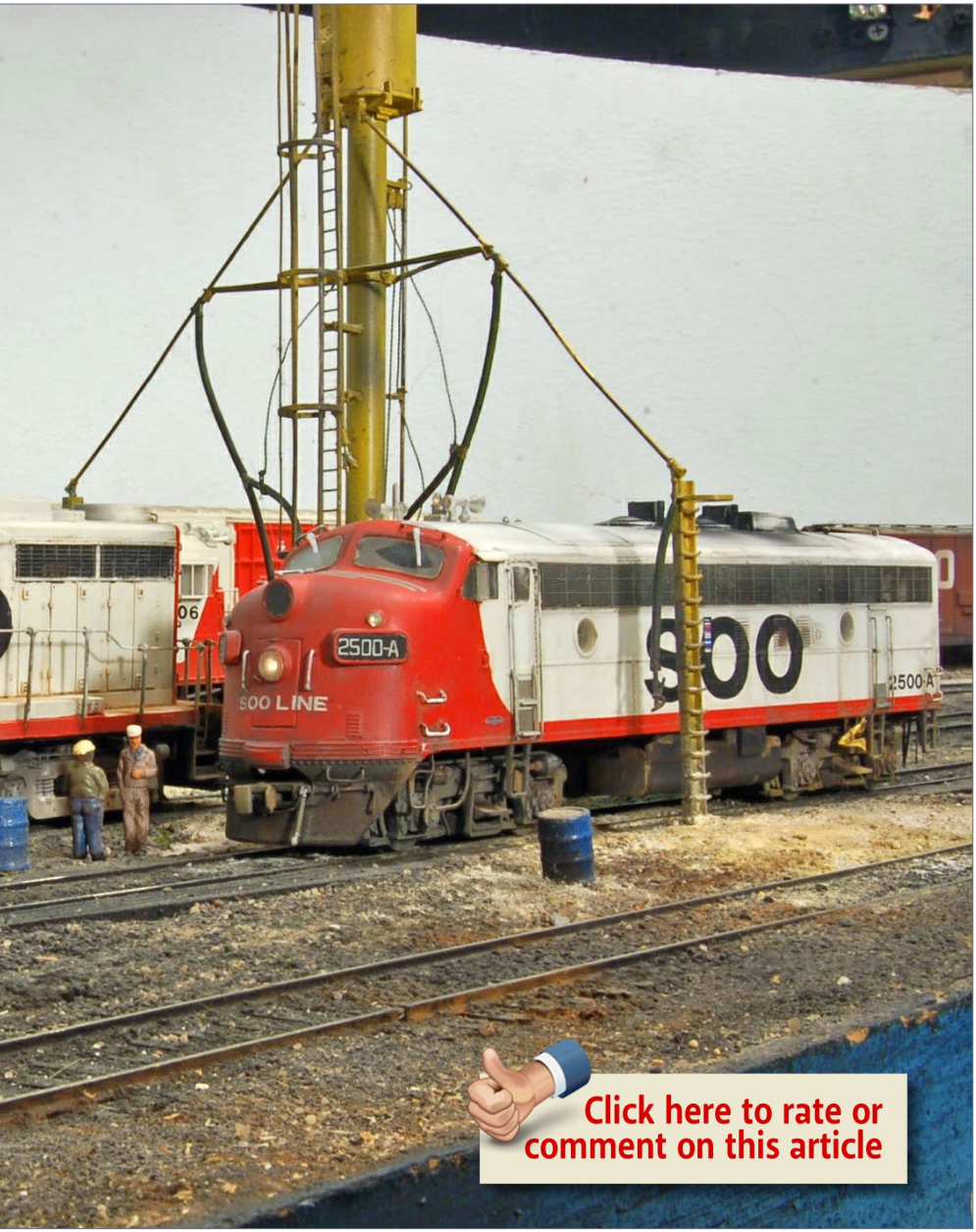


99. Just when I was ready to head to the basement with my finished model, my friend Douglas Hildebrandt pointed out a small but important detail item I had completely overlooked. It turned out I had used the supplied InterMountain EMD stock winterization fan hatch. Although it would be correct for some Soo F units, the 2500-A had a Soo-built hatch. These Soo hatches were basically a box with a hole, so I scratchbuilt one and added it.

100. Here we see the finished Soo 2500-A at Cardigan Junction on my layout modeling the summer of 1977.

101. Finished - Here are the completed models of 700 and 2500-A at the Shoreham fuel tower on my layout.



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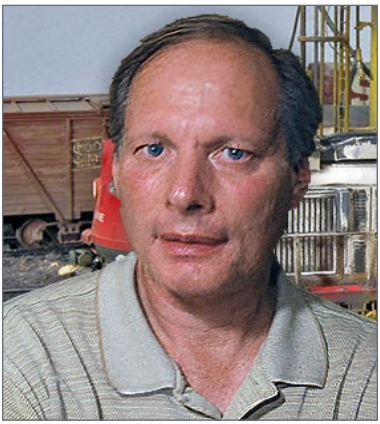
Bob Rivard



Bob Rivard has been fascinated with trains since the age of 5 when he received his first train set, the proverbial Lionel.

He really enjoys his job at KARE TV and has worked there for 34 years as a broadcast technician. He runs the robotic cameras during the 10 p.m. news. ▪

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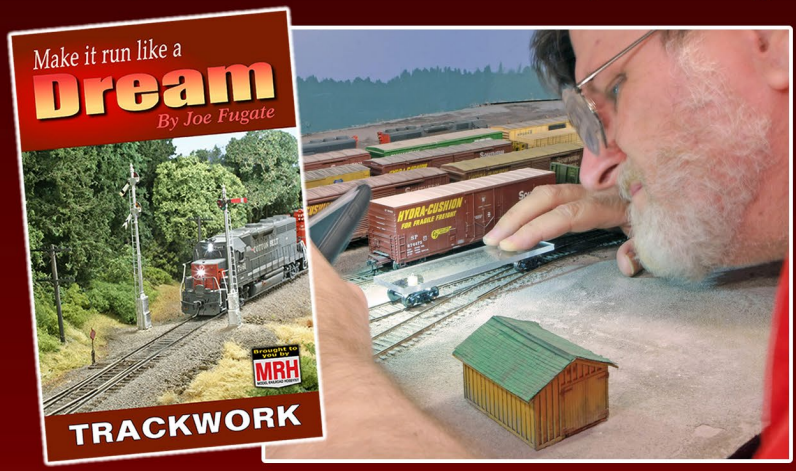

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YES, IT'S A MODEL

compiled by
Don Hanley

1. (Left top) Ralph Renzetti sent us these realistic photos, and said this about them: "The weathering on this model shows what we affectionately, up here in Canada, call BBQ'd Beaver/Toaster. The Canadian Pacific has has reinstated the Beaver Herald on their locos. However, this is what it looks like after a turbo blows out!" The model is an Athearn RTR GE AC4400 loco off the shelf.

2. (Left bottom) This second photo shows the same loco from the other side. Ralph took photos of the burn on CP9682 and used them as a guide to finish this loco. In his weathering, Ralph uses a combination of products: gouaches, oil paints, acrylics, ending with a light dusting of Dullcote. Ralph has a weathering page on Facebook called 'Weathering – A Touch of Yesterday' (facebook.com/WeatheringbyRalph).

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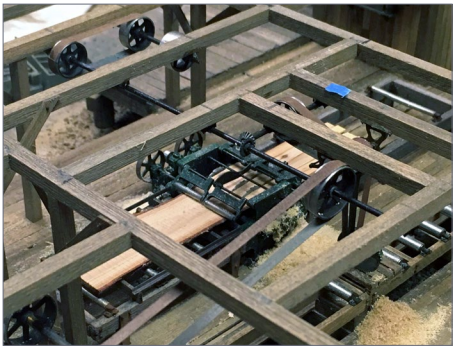

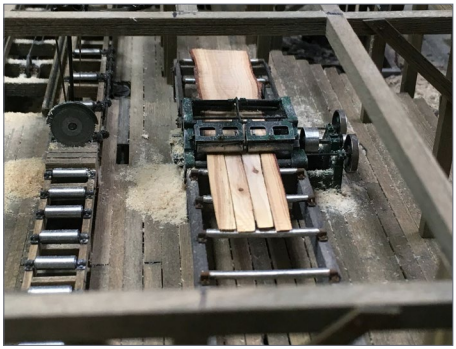

3. This is an O scale edger designed by Charlie Brommer and now available through Sierra West Scale Models. Powered by an overhead belt system, a rough sawn board moves down the feed table and into the edger. Parallel blades rip the board to width yielding five individual boards. Bill Michaels used a Douglas fir bird perch from Pet Smart for the boards. Cutting the perch on a band saw gave the wood a rough-sawn look. Bill made the "leather" drive belts from a FedEx tear-resistant mailing envelope, stained brown and cut to width.

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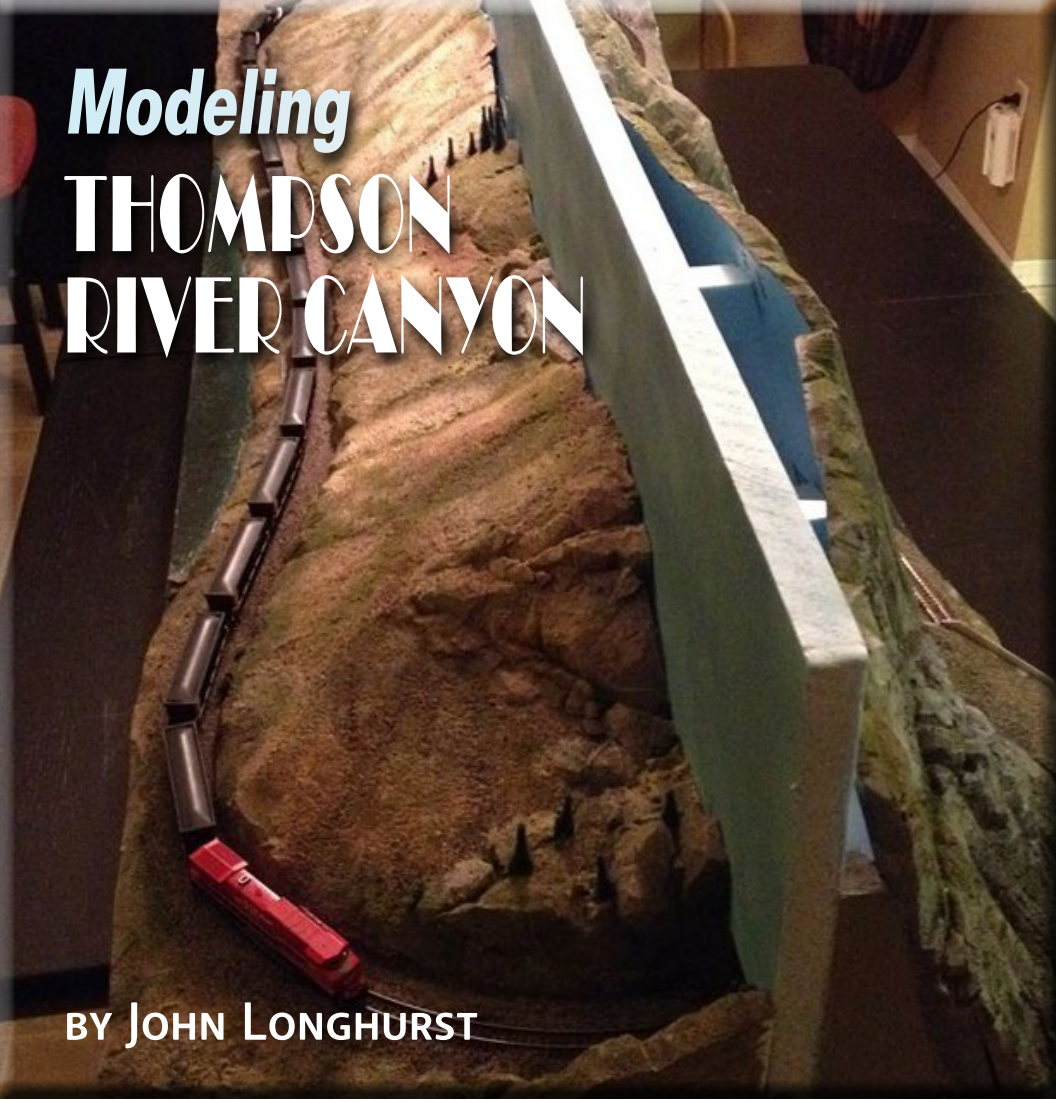
Modeling THOMPSON RIVER CANYON



BY JOHN LONGHURST

Creating a favorite scene in memory of a modeling friend ...

1. John built this 2x7-foot display layout in N scale to commemorate Ken Epp, his brother-in-law and fellow model railroader. Ken loved the Thompson River Canyon and had hoped to model it some day.

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My brother-in-law, Ken Epp, was a well-known HO scale model railroader in Winnipeg, Manitoba. Ken passed away in October, 2014. He had dismantled his HO scale layout and was planning to build an N scale layout that included his favorite railfan location – the Thompson River Canyon.

Ken was also a good model railroad friend and collaborator. We worked on each other's layouts, and we took railfan trips together. I decided to build this N scale scene in Ken's memory.

2. See the real Canadian National rolling through Thompson River Canyon in this dramatic YouTube video: Railway World video: youtube.com/watch?v=lEz1K7x4BgQ.

The prototype

In addition to being a location of great natural beauty, the Thompson River Canyon is a main artery for both of Canada's major railways — the Canadian Pacific is on one side of the river, and Canadian National is on the other.

Because the CPR was the first through the canyon, in 1885, it got to choose the easier route along the river. CN, being second, had to carve its path through some extremely difficult sections of the canyon and had to build a number of tunnels and avalanche sheds. The section I am modeling is on the CN side, although both railways use it today due to directional running.

Building the layout

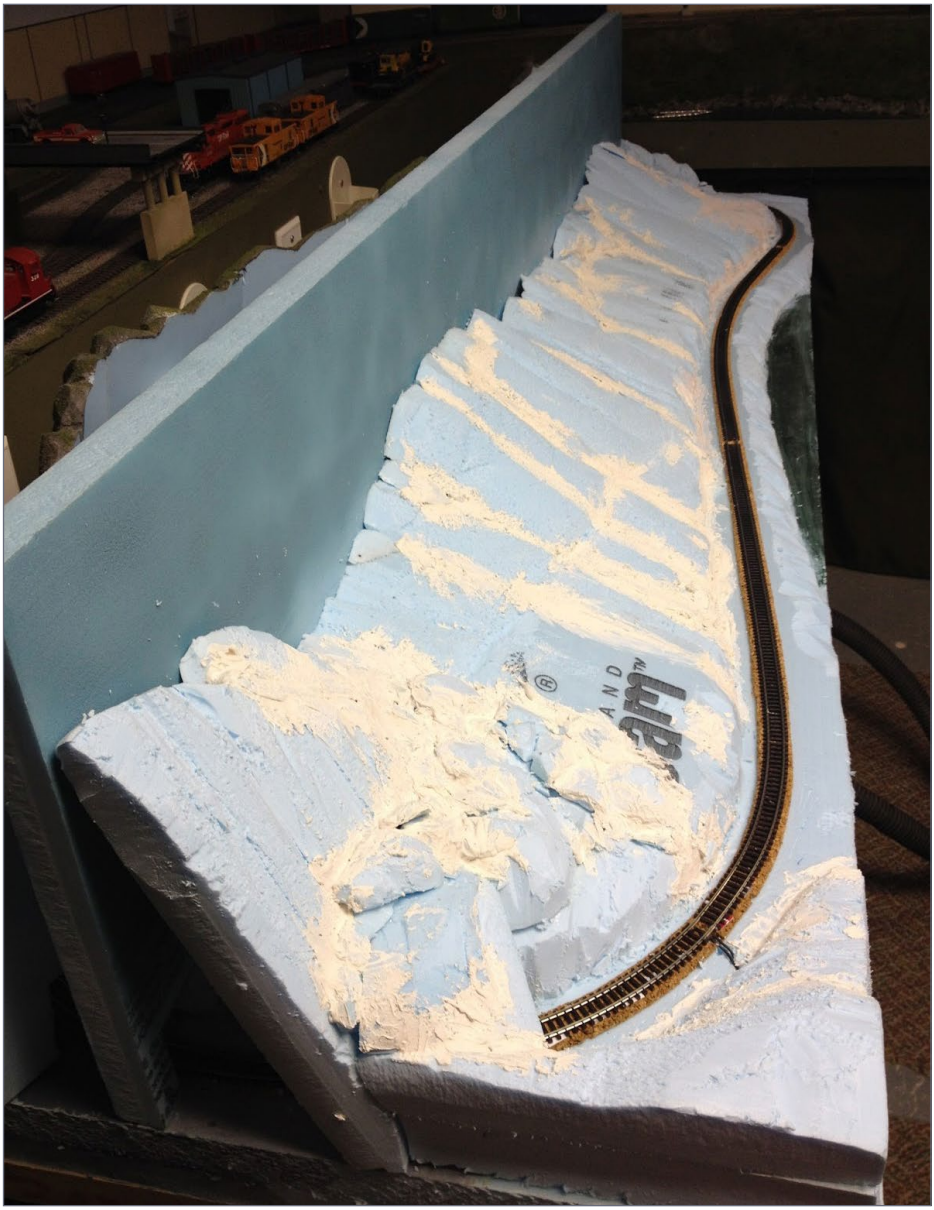
Since I already have a large HO scale layout in my basement, I decided to build a portable N scale layout on a 2×7-foot hollow core door. This way I could also take it to a train show where others could stop to reminisce about Ken.

To keep the weight down, I used extruded Styrofoam for the base and for the scenery. The scenic divider is also a piece of one-inch-thick extruded Styrofoam.

The layout is a simple loop of track, without any switches. The roadbed is ¼-inch cork, cut in strips.

Scenery

It's more accurate to say that the layout is *inspired* by the Thompson River Canyon; it is not an exact depiction of any one scene. One side of the layout features the steeper Skoonka Tunnels section between Ashcroft and Lytton, with a steep drop-off to the Thompson River. The other side is the more hilly and arid eastern end, with the tracks closer to the river.



3. John built two Thompson River scenes on a hollow-core door. He uses extruded blue foam to form scenery contours. Here is the less steep side of the layout.

For the steeper side, I sculpted the canyon from extruded Styrofoam with an old serrated kitchen knife, a box cutter and a Stanley Surform planer. I then leaned the pieces vertically against the divider before gluing them in place with white glue. When the glue was dry, I filled the cracks between the pieces with spackling paste.

For the tunnel section, I glued three pieces of Styrofoam together vertically, then cut them to shape and glued to the layout.

On the less steep side, I laid pieces of sculpted Styrofoam against the divider, carving it to be more rolling with some rock outcroppings. On one side there is a tunnel, but on the other the tracks disappear into a rock cut.

Rocks are made from chunks and pieces of Styrofoam that were cut out during the carving process. [3-4]

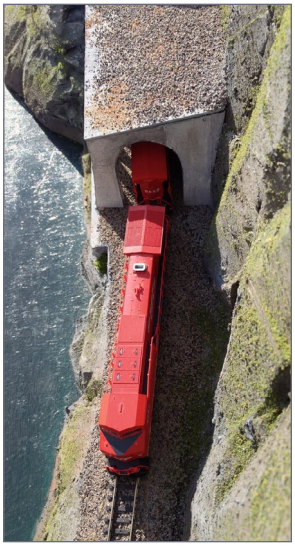
Avalanche sheds and tunnel portals

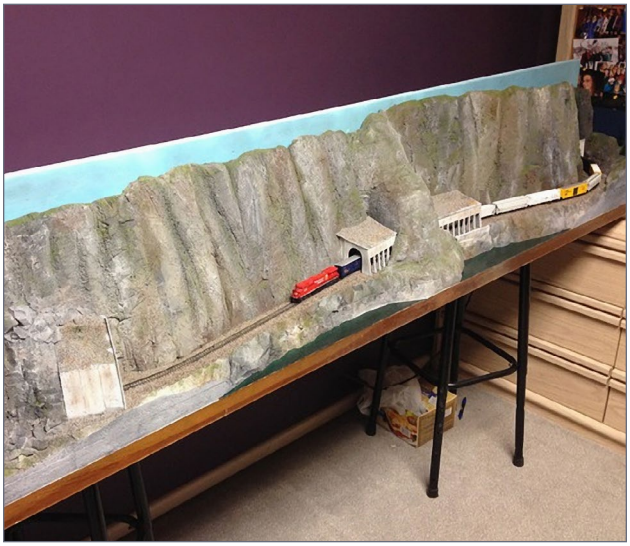
I made the avalanche sheds out of cardstock, cut to shape with an X-Acto knife. To present the illusion that the supports are thicker than they really are, I cut another piece of cardstock at an angle and glued it to each support inside the sheds. The two tunnel portals are also made from cardstock.

When done forming the scenery, I spray-painted the sheds and portals with gray primer and then painted them with a mixture of white, tan, and gray. I added ballast to the roofs to simulate rock falls.

Painting the scenery

Depending on what time of day or in what area a photo of the canyon was taken, the colors can vary. Some photos make the rock look very light gray, others are more multi-hued. I decided to go for the latter.





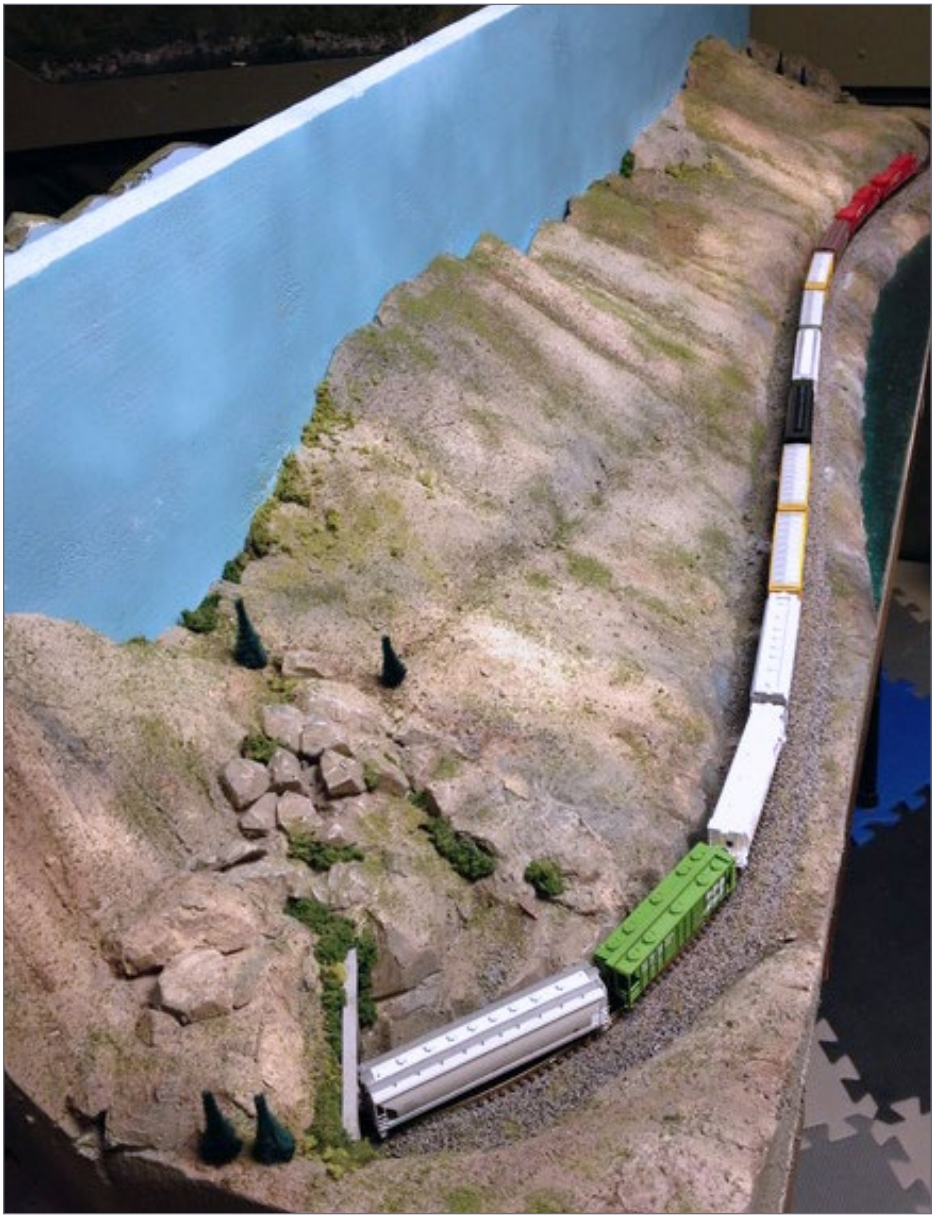
4, 5. This side of the layout represents the steeper CN side of the canyon between Ashcroft and Lytton. The rock walls here are almost straight down into the river, making for a dramatic view of the train.

I found a liter of gray paint in the mistake section at a local home improvement center; I used that as a base coat. For the steeper side, I used white, brown, and black acrylic paints to create different gray and brown colors and shades. On the more arid side, I used colors such as espresso, cinnamon, burnt umber, and tan to achieve the right shades.

When the paint was wet, I sprinkled on a bit of green ground foam. When the paint was dry, I dry-brushed on some white and light gray to highlight the rock features in the canyon wall.

For the river, I used a mix of Ceramcoat black green and deep river green. I used the deep river green along the shore to suggest it isn't as deep, then painted black green out to the edges of the layout. When dry, I put on a coat of gloss medium to make the river look wet and shiny.

CP Rail
9567
CP



6, 7. A train winds along the river's edge on the less steep side of the layout, representing the more hilly and arid eastern end of the line.

Completing the layout

I completed the layout by painting the track and adding ballast. I used a mixture of gray, black (cinders), and brown for my ballast. After the track was painted and ballasted, I glued the sheds and tunnel portals to the layout.

The first side of the layout was finished in time for the 2015 Winnipeg Mega-Train Show; the second side was completed for the 2016 show. On both occasions, it proved a real hit for old and young alike – younger kids especially like it, since I made it low, putting it right at their eye-level.

Conclusion

In July last year, Ken's ashes were scattered near the railroad tracks in the Thompson River Canyon by his family per his

8. I made this video documenting the construction of my Thompson River Canyon commemorative layout: youtube.com/watch?v=HHfbTK_xLzo.

wishes. In the meantime, his memory lives on in my little layout. You can read and see more photos of Thompson River Canyon layout on my blog at cprailmmsub.blogspot.ca/search/label/Thompson%20River%20Canyon. ☑

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Ken Epp (left) and John Longhurst (right)

John started in model trains with Lionel on the floor of his bedroom in the 1960s. After this, John modeled in HO and N scale before taking a hiatus from the hobby from 1976-87 while studying, traveling, volunteering, and establishing his career. He got back into the hobby in 1987 and built his first "real" layout in 1988.

John has a blog about model railroading and trains, the Manitoba & Minnesota Subdivision, taken from the name of his current layout. See: cprailmmsub.blogspot.com/2009/08/overview-of-cp-rail-manitoba-minnesota.html.

Articles or photos about John's layout have appeared in *Railroad Model Craftsman, Model Railroader, Canadian Railway Modeller* and in two books from Kalmbach: *Model Railroading from Prototype to Layout* and *Designing & Building Multi-Deck Model Railroads.*

In addition to building two layouts, for about 10 years John was Associate Editor of *Canadian Railway Modeller.* He has also been involved with his local club, the Winnipeg Model Railroad Club (facebook.com/WinnipegModelRailroadClub). For a number of years, John also organized the annual fall train show for the club together with his brother-in-law, Ken.

John is a communications professional with a journalistic background. He is married to a university professor, and has two grown children in their 20s.

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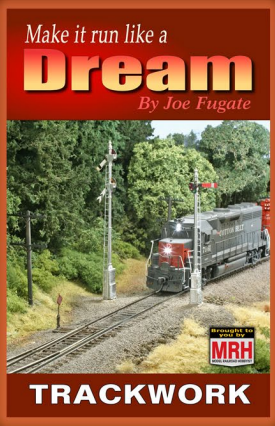

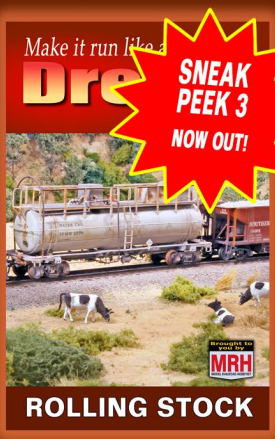

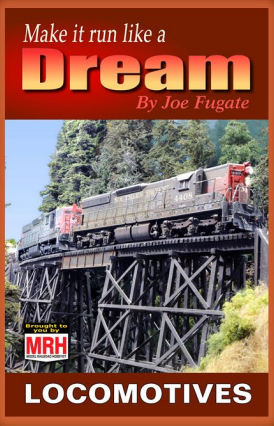

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Minimalist WEATHERING

By Joe Fugate

PART 1

Follow along, step-by-step!

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1. Weathering nearly-new to moderately-used rolling stock isn't as dramatic as "rust bucket" weathering, but you need cars like these running on your rails if your line isn't going to look like it's about to go bankrupt. I cover how to do this type of weathering on these two cars in this article.

As seen on TrainMasters TV
click to learn more ...

Creating nearly-new to moderately-used rolling stock for TMTV's TOMA project layout ...

RUST BUCKET WEATHERING SEEMS TO HAVE GOTTEN more than its share of hobby press in recent years, and MRH has been no exception – see the August 2014 cover story by

The Weathering Shop's Gary Christensen [link: mrhmag.com/magazine/mrh-2014-08-aug/rustbucket-weathering]. Gary's Soo Line box car really looks like it has been through the wringer weathering-wise.

2. The Weathering Shop's Gary Christensen did this "rust bucket" weathering job. We featured it as the MRH August 2014 cover story. As you can see, this extreme weathering is amazingly realistic. In this article, we focus on the other end of the spectrum – nearly-new to moderately-used rolling stock weathering methods. *Gary Christensen photo*

While such weathering projects are impressive and dramatic, there is also plenty of rolling stock on the rails that is nearly new to moderately used – modeling that kind of weathering isn't as dramatic, so it's not been covered as frequently.

On a side note, weathering can also suggest location and age. For example, older cars that ran mostly on western railroads will

exhibit a far more dusty and bleached look than cars running mostly east of the Mississippi.

But if you're going to run a balanced car fleet on your layout and not make it look like your line is on its last legs, you need a fair share of cars weathered more on the lighter end of the spectrum too. That's the subject of this article.

I will show how to work with two very different color schemes here: light cars (light gray and yellow). In Part 2 we will weather black cars. From other weathering projects we've done, it's clear modelers want to know how to handle both ends of the color spectrum. Black and very dark-colored cars require a bit different approach, so I'll go over that in Part 2 next month.

These cars are all modern equipment which Atlas donated to the TrainMasters TV TOMA layout project. Since the TOMA project layout models the modern Vermont Railway of 2017, I got to try my hand at modeling some modern stuff – a fun change from my 1980s era Southern Pacific Siskiyou Line.

One very important weathering concept needs to be mentioned here: apply weathering in multiple layers. The most realistic weathering it is built up slowly in layers. Slathering on your weathering in one single layer – even on a minimally-weathered car – generally does not yield a very realistic result.

The multiple-layer concept for weathering is one of the great secrets The Weathering Shop (TWS) guys will teach you, and it's true. You can see how realistic the TWS rolling stock [2] is – if you want more realistic weathering on your fleet, think multiple layers!

OK, let's get started!

THE FIRST CAR: USLX 5851

STEP 1: START WITH REFERENCE PHOTOS

3. This HO Atlas light gray USLX covered hopper is my first weathering candidate. I looked online to find a reference photo of a nearly-new looking light gray covered hopper to use to guide for weathering this car.

If you want realistic results, I always recommend getting some photo reference when you're weathering anything. I find if I don't get a photo reference, I tend to overdo it and make up weathering patterns that are not natural. Realism suffers.

The Weathering Shop guys call weathering without photo reference "fantasy weathering." If you're into prototype-style modeling, then don't do fantasy modeling! Get photo references!

My first car is a light gray covered hopper, so I went online looking for some prototype photos to use for reference. I wanted a car in the same general category as the Atlas USLX covered hopper model, but I did not need to find this exact car.

4. I found this CNW light-gray covered hopper photo online and it is exactly what I was looking for. I want to weather the Atlas USLX light gray covered hopper to look like it's nearly new, just as you see here. *John Pluta photo*

I found exactly what I was looking for [4] with this CNW covered hopper photo by John Pluta. You can find this photo at (scroll down to CNW 490789): railroadstrains.blogspot.com/2012/06/cnw-chicago-and-north-western-system.html

Before I start weathering, I study the photo a bit. Notice the car side seams exhibit a subtle dirty black line – but that's about it. The rest of the car is pretty clean, but the bottom of the car is somewhat grungy from road grime and there is a bit of dirt on the bottom end of the car flung up by the wheels. But that's it.

The top of the bottom side sill exhibits no grime buildup. I want to make sure and get this right on my car. Also note the dirty brown-gray trucks and wheels with only a hint of rust.

STEP 2: ~~COAT WITH A FLAT SPRAY?~~ *NOPE!*

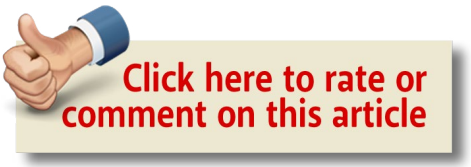
A common recommended starting step for weathering is to first coat the car with a dulling spray such as Testor's Dullcote. But when I do minimalist weathering, I often do not start with a flat spray.

Most nearly-new cars have just a few spots that need a light weathering treatment, and I find easier to keep the weathering effect pinpoint accurate if the car side is smooth. A dulling spray roughens the surface of the car ever so slightly, making the weathering effect more likely to spread beyond exactly where want it.

On a more grungy car, that's not a big deal, but on a minimally-weathered car, working on a rougher surface can lead to accidentally over-done weathering.

Regardless of the weathering project, I prefer to apply a shadow wash first, then give the car its first coat of flat spray to fix the shadow wash in place. Even on more heavily weathered cars, I prefer to apply a shadow wash first, before the first coat of flat spray.

Once I'm done applying all of my minimalist weathering, that's when I'll give the car a final flat spray to protect the weathering and fix it in place.



STEP 2: ADD SHADOW HIGHLIGHTING (THE *REAL* STEP 2)

Because our models are so much smaller than the prototype and they are viewed under indoor lighting rather than bright outdoor sunlight, details do not "pop" like they do on outdoor photos of the real thing.

5. I make my black "shadow wash" by putting 1 drop of black model paint per 1 milliliter of HP thinner.

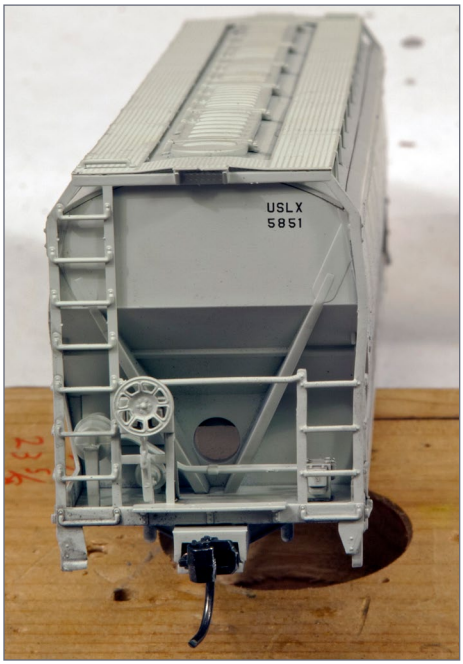
On light-colored cars and locos, even nearly new ones, I add a dark shadow highlighting wash to bring out details and to darken shadows to the model. With lighter cars such as this one, I like to use a straight black wash.

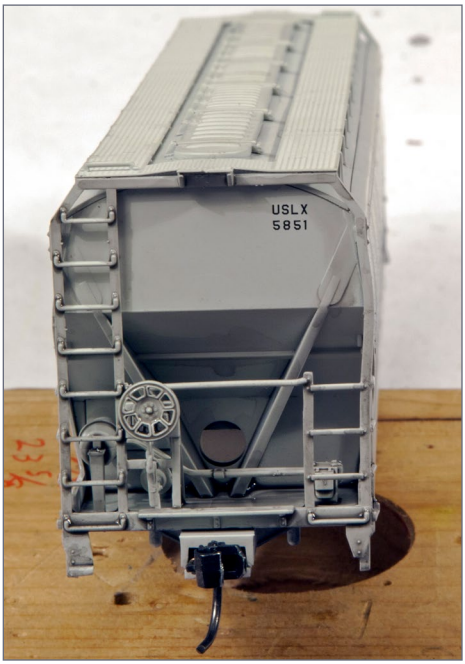
To make the wash, I use Createx High Performance Reducer (reducer is automotive painter terminology for thinner). I like the HP thinner because it makes acrylic paint act a lot more like solvent paint.

Note: You can buy this thinner at Blick Art Supply [dickblick.com/items/25334-1506] but you can also make your own very economically by following the high-performance thinner formula in the MRH Acrylic Painting Guide, which is free to MRH subscribers at mrhmag.com/subscribers-only/painting/acrylics.

To make a black wash, I add one drop of black model paint (Vallejo Model Air 71.057 Black in this case) to 1 milliliter (ml) of H-P thinner.

STEP 2: ADD SHADOW HIGHLIGHTING *CONTINUED...*





6, 7. On the left, before applying the shadow highlighting wash. On the right, after applying the shadow highlighting wash. All light-colored cars (even nearly-new cars) benefit from the application of a black shadow wash to make the details "pop" without making the car look dirty.

I mix up 10-20ml of wash at a time and store it in a small dropper bottle [5].

I then go around the car dabbing on the shadow wash using a small brush and let it seep into areas with capillary action. If I want a more subtle effect with the wash, I have found it helps to first coat the area I'm working on with HP thinner using a broad ½" brush.

Note: By *not applying* a flat spray to the car first, the shadow wash will flow better.

In this case on the light gray hopper, I used the wash straight without pre-applying thinner. You can see the details on the car end really "pop" much better once you apply the black wash [6, 7]. The shadows look the way they appear on a real car when it's outdoors in much stronger light.

If you learn nothing else from this article, this shadow wash technique is one of those great tips that can add realism to all your models. The shadow wash trick can be applied just about anywhere – on locomotives, structures, figures, automobiles, and even on scenic details like trash cans or 55 gallon drums.

On cars that are moderately weathered or worse, once the black wash is dry, before moving on I'll generally spray the car with a flat finish to protect the shadow highlighting. But for this car, I held off on the flat spray until I finished it because the weathering is so minimal.

Working on smooth plastic makes it easier to keep what weathering there is on this car fairly minimal, giving me a lot of control.

STEP 3: WEATHERING THE CAR SIDE

8. I used a black Prismacolor pencil to lightly mark the raised seams on the side of the hopper. The black pencil provides a lot of control as compared to other darkening techniques such as the shadow wash mentioned earlier [7].

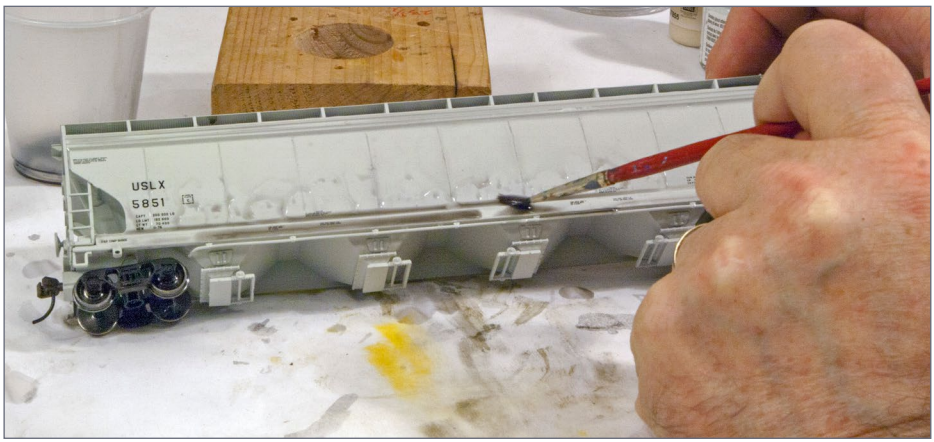
Even though the black shadow wash trick works great for generally bringing out details over a wide area, it is hard to control when just a single very fine line is all you want. The fine black seams on the prototype demand a different technique to duplicate. I chose a method that gives me more control; using a black colored pencil [8].

The Prismacolor pencils come in sets and I recommend you get a complete set. Railcars, locos and other models come in every imaginable color, so having a complete set of colored pencils comes in handy for weathering and highlighting all sorts of details.

Here is the set of 48 Primacolor pencils I purchased from Amazon: a.co/gOUyXq1 ... I like this particular set because it has a lot of great earth tones, making it ideal for weathering. These are "soft core" colored pencils, meaning they have rich creamy colors that are ideal for weathering.

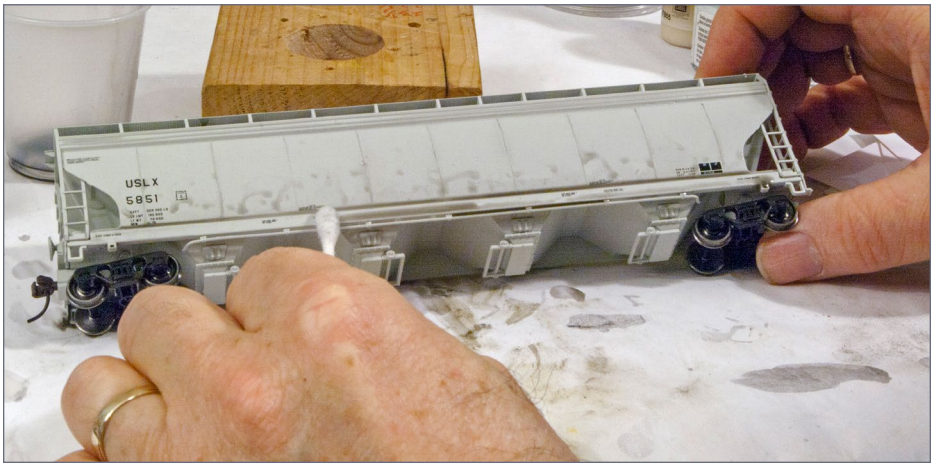
9. I dip a ¾" brush in HP thinner and carefully wash it onto the car side, allowing the black colored pencil lines on the seams to feather out just a bit.

Once I am done lightly marking the seams with the black pencil, I take a ¾" inch brush dipped in HP thinner and gently wash it over the car sides. This feathers the black lines out a bit and removes any obvious "hand-drawn pencil line" look to the seams [9].



10. While the car side is still wet with thinner, I apply a shadow highlight wash to the sill area.

STEP 3: WEATHERING THE CAR SIDE CONTINUED...



11. While the shadow highlighting wash is still wet, I use a Q-tip dipped in thinner to remove the wash from the top and side faces of the sill and from the car body panels, consistent with how the sill appears in the prototype reference photo.

Next, while the car side was still wet with thinner, I apply some shadow wash highlighting to the sill [10]. I only want this to bring out any sill shadow details, particularly the piping along the bottom of the sill.

Remember, per the prototype photo, the face and top of the sill should remain clean, so I use a Q-tip dipped in HP thinner to wipe those areas clean [11]. I also remove most shadow highlighting wash from the car sides. I left just a tiny haze of shadow wash on the bottom part of the car side panels to create a hint of a shadow there.

I also did more shadow wash highlighting, just around the ladders [12]. This finishes the car side. I duplicated all these steps on the other car side.

12. I add shadow wash highlighting to the ladders.

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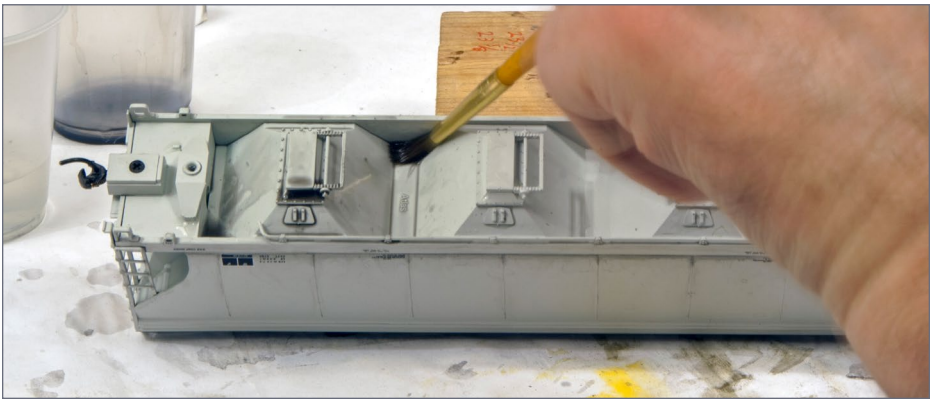
STEP 4: WEATHERING THE CAR BOTTOM



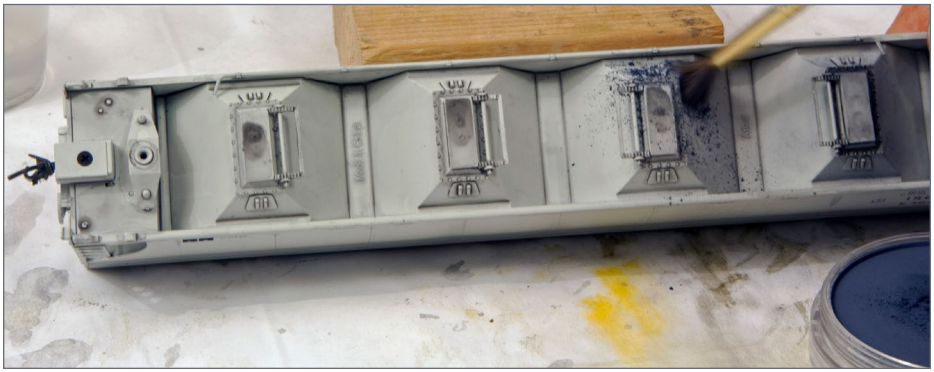
13. I liberally apply some black shadow wash to the bottom of the car. This is the dirtiest part of the car, plus it's in deep shadow.

In the prototype photo, the dirtiest part of this nearly-new car is the bottom. That should come as no surprise because the wheels kick up a lot of roadbed grime and dust as the cars roll down the track.

I use a two-layer approach to weather the car bottom. First, I liberally apply shadow highlighting wash to the car bottom to bring out all the great chute-bottom details [13].

Then I apply some Phthalo Blue Extra Dark PanPastel to the car bottom with a small round brush. Because this color is a dark blue-gray, it helps the car bottom look a bit grungy without making it look like it's covered in brown road dirt. Remember, I want the car to stay on the minimally-weathered side of in-service and exhibit very little grime.

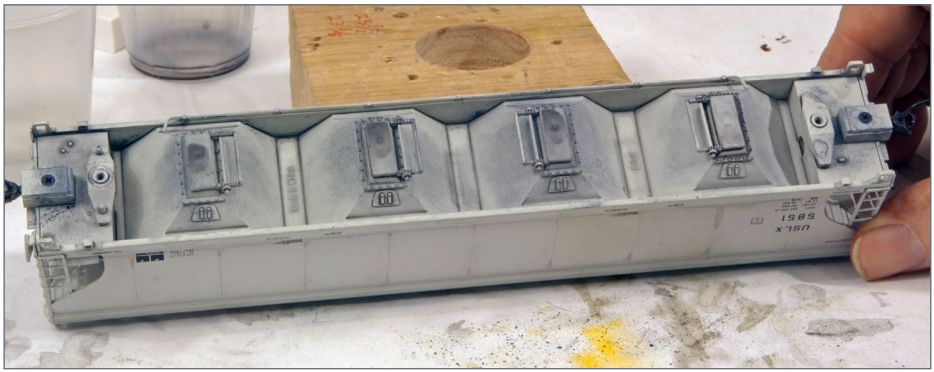
I have become sold on PanPastels for adding subtle layers of grime when weathering. Dry pastel chalks aren't the same as PanPastels – the PanPastels have a creamy texture and include a sticky binder, unlike dry chalk powder.



14. Next, I brush on some Phthalo Blue Extra Dark PanPastel to add subtle blending to the shadow highlighting, and to add some soft grunge to the hopper chutes.

When a flat spray is applied, PanPastels won't float off the surface into the wet spray like dry chalk does. Because dry chalk has no sticky binder like PanPastels, a coat of flat spray dissolves much of the dry chalk coating, floating it off the surface and making it fade considerably. PanPastels are barely affected by a coat of flat spray.

See the sidebar **PanPastels** (next page) for more details.



15. This is the finished underside weathering. The underside is darkened with a moderate amount of grime and shows off the great chute detail.

PANPASTELS

For the best price, buy Pan Pastels in the multi-color stacks. You can get a 5-pack for about $20-$25 or a 10-pack for $35 - $40.

Here is a good weathering starter 5-pack on Amazon for $21 (Prime members get free 2-day shipping):

- PanPastel Set, Earthtones, 5-Pack, a.co/hsvoHi0

This is just over $4 per color. Unfortunately, these stack sets come with one pastel container forming the lid for the next, which I find rather inconvenient. I solved this by also getting a set of lids for $5.00:

- PanPastel lids, 8-pack: a.co/gXHVVBT which is about 60 cents per lid. An 8-pack of lids is enough for two 5-pack stacks.

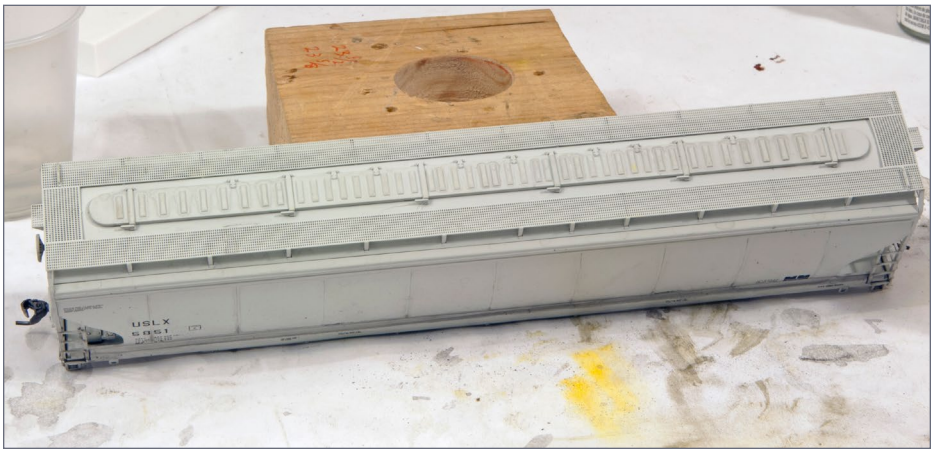
In a 5-pack, the top color has a lid, but you need to unscrew the stack and add lids to the other 4, adding $2.40 to the cost of the 5-pack. You're still right around $5 per color this way.

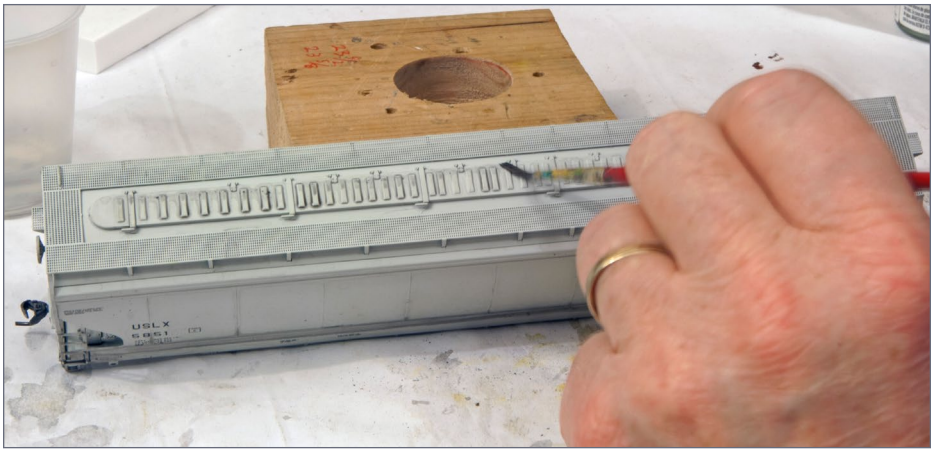
Other good weathering sets in affordable stacks (remember to buy some extra lids):

- PanPastel Set, Grays, 5-pack, a.co/6inLANt
- PanPastel Set, Extra Dark Shades, 5-Pack, a.co/0TlRqo3
- PanPastel Set, Pastel Tint, 5-pack, a.co/00NvhXR

I'm really sold on PanPastels for weathering. Give them a try, and see if you don't agree. ■

STEP 5: WEATHERING THE CAR TOP





16, 17. This is the car top before I applied shadow wash highlighting to the roof (top), and as I'm applying the highlighting. This is all I did to "weather" the roof.

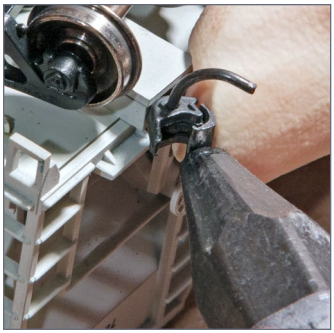
I can't really see the top of the car in the prototype photo, so I only apply some shadow wash highlighting to the hatches and call it good. I did nothing to the etched metal walkways, I left them untouched.

STEP 6: WEATHERING THE COUPLERS

Even on brand new cars, couplers are almost always rusty, so I painted the couplers on this car with some dirty rust-colored paint. I chose Vallejo Model Air IJA Earth 71.136 in this case.

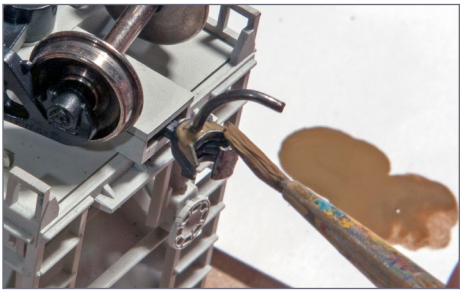
18. For weathering the couplers on this car, I chose Vallejo Model Air 71.136, IJA Earth.

But before I weather the couplers, I make sure to coat all the working joints with powdered graphite [19]. I also like to coat the coupler jaw face and open edge with graphite by rubbing it briskly with a 6B graphite stick [20]. You can find these big graphite sticks at art supply stores or online at Blick Art Supplies [dickblick.com/products/lyra-graphite-crayons].



19 [left]. Before painting the couplers, I coat the working faces of the coupler with graphite powder.

20 [right]. I rub the coupler jaw face and edge briskly with a 6B graphite pencil.

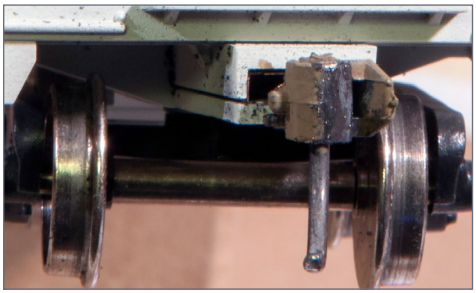


21, 22. I carefully dab the paint onto the coupler one face at a time, striving to color the coupler faces sparingly rather than flooding the coupler with paint.

I put a few drops of paint on a palette (back of an old business card works well) so I have more precise control when it comes to loading the brush. I wet the brush with thinner and then dab the brush tip into the paint to load it, and paint the coupler one face at a time. I aim to apply the paint lightly with small dabbing motions rather than flooding the coupler face with lots of paint [21, 22].

Once the paint has dried, I work the coupler, making sure the paint does not hinder coupler action, and I apply more graphite powder to the working faces. I also rub the coupler jaw face again with the 6B graphite pencil [23].

Finally, I wrap the couplers loosely with a little masking tape to protect them, give the car body a light coat of flat dulling spray, and then set it aside to dry.



23. Once the paint is dry, I apply more graphite powder to the working joints and test the coupler. Finally, I rub the coupler jaw face again with the 6B graphite pencil. Here is how the final weathered coupler looks with this treatment.

STEP 7: WEATHERING THE TRUCKS AND WHEELS

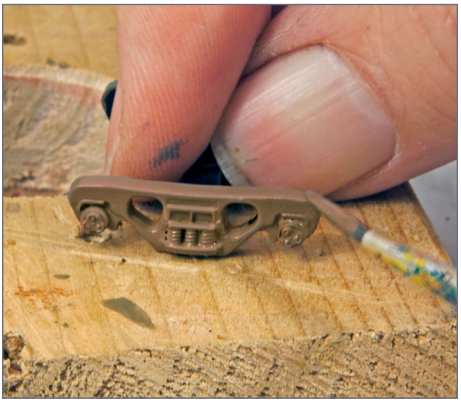
24, 25. I spray the bare plastic truck sideframes with a coat of Rustoleum Dead Flat spray to give the Delrin plastic some tooth prior to painting.

To weather the trucks, I remove them from the car and take out the wheelsets. After looking at the prototype photo, I elected to go with the Vallejo Model Air IJA Earth 71.136 on the trucks as well.

I first spray the Delrin plastic truck sideframes with some flat spray to give the faces some tooth [25]. I have used Testor's Dullcote in the past, but I've since moved to using Rustoleum Dead Flat [24], which is available from Home Depot for less than $7 for an 11 oz. can.

Dullcote comes in 3 oz. cans for about the same price, making the Rustoleum Dead Flat only about 60 cents per ounce compared to over $2.25 per ounce for Dullcote. The finish is virtually identical to my eyes, and the price is certainly right.

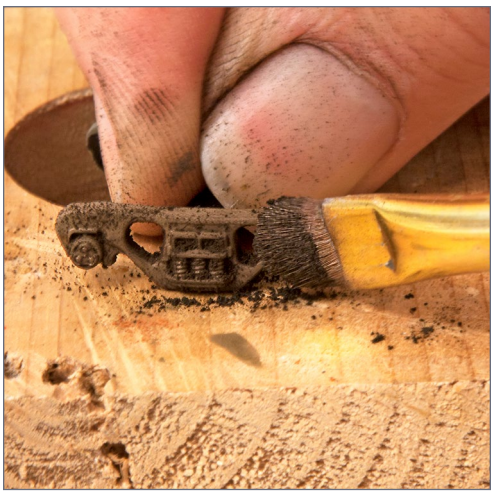
I paint the truck faces thoroughly with the IJA Earth color [26]. I typically don't bother painting the back of the truck faces or the truck crossbeam. I find it typically takes two coats to cover the truck faces well.



26, 27. I liberally paint the truck faces with the Vallejo Model Air IJA Earth color. It took two coats to get good coverage.

Once the paint is dry on the truck faces, I give them another coat of dead flat spray. Then I scrub in some Raw Umber Extra Dark PanPastels. A final coat of dead flat finishes up the trucks.

The wheels I paint with Vallejo Model Air Rust 71.080. I then apply some Burnt Sienna PanPastel powder to the wheel face while the paint was still damp, to give it a rough rusty texture [29, 30]. Once the paint is completely dry, I use a Q-tip dipped in some HP thinner to clean the wheel faces and axle tips of any paint or PanPastel powder.



28. After paint dries and I give the trucks another coat of dead flat, I scrub some Raw Umber Extra Dark PanPastel powder on to the truck sideframes.

STEP 7: WEATHERING THE ... WHEELS *CONTINUED...*

29, 30. I paint the wheel faces with Vallejo Model Air Rust [*Microbrushes also work great for painting wheels – MRH Staff comment*]. While the paint is still damp, I liberally brush on some Burnt Sienna PanPastel powder.

The finished USLX hopper car

At this point, I put the wheelsets back into the trucks, screwed the trucks back onto the car, and put it on my layout to take some photos [31].

I am happy that this car looks quite lightly weathered and appears similar to the prototype reference photo.

On to the next car!

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31 [below]. Here is the finished USLX hopper, lightly weathered and ready for service.

THE SECOND CAR: DEPX 1053

32. I found this yellow CNW covered hopper photo online to use as my weathering guide. It's a bit dirtier than the gray hopper, but only slightly. *John Pluta photo*

I followed the same steps for the next car, the yellow covered hopper, DEPX 1053.

Rather than repeat steps here that are very similar, I am just outlining the differences between this car and the first car.

For my prototype reference, I found a photo of CNW 490040, also by John Pluta [32]. See: railroadstrains.blogspot.com/2012/06/cnw-chicago-and-north-western-system.html.

This car is a little dirtier than the first car, and it has some light graffiti tagging on it. I chose to weather my car without the graffiti. The trucks appear to be a cool dirty dark gray rather than the warmer brownish-gray color on the first car.

33. I apply my black shadow wash to this car as a base.

34. Next, I make sure to get a nice dark wash on the top edge of the car's bottom sill, to match the prototype photo.

Finally, the top edge of the bottom sill has a lot of dirt built up, unlike the first car. The overall tone of the dirt on this car is blackish, which suggests my black shadow wash is a good starting point.

I apply the black shadow wash to the car sides straight, without first wetting the car side with thinner [33]. I skip the pre-wetting because I want a less subtle effect. After applying the shadow wash, I go over the car with a Q-tip soaked in thinner to clean up any unwanted streaks from my shadow wash.

35. I also apply shadow wash to the ridges on the top of the car side.

36. I liberally apply shadow wash to the underside of the car.

Next, I come back in with the shadow wash and make sure to get the top edge of the bottom sill nice and dark with the wash [34].

Unlike the more lightly weathered first car, I also apply shadow wash to the ridges at the top of the car side [35]. I also apply the shadow wash to the hatches on the top of the car. In the prototype photo, I can't see the top of the car very well. It looks pretty clean, so the shadow wash around the hatches is all I do.

The yellow car shows a dirtier underside than the first car, so I apply a liberal amount of shadow wash to the underside [36]. Once

37, 38. Once the shadow wash is dry, I rub on some Yellow Ochre Extra Dark PanPastel to dirty up the underside chutes.

that dries, I get out some Yellow Ochre Extra Dark PanPastel and rub a good amount of the powder on the underside of the hopper chutes [37, 38].

While I was working on the underside of the car, I decided to reduce the bright yellow area around the draft gear box and truck "saddle" on the car. I wanted to dirty them up and kill that toy-like bright yellow, so I decided to paint the area with some Vallejo Model Air US Sand 71.138 paint [39].

39. To kill the bright yellow around the car's underside at the end, I apply some Vallejo Model Air US Sand paint.

40. Using a ½" brush, I apply some Yellow Ochre Extra Dark PanPastel to the car side, focusing mostly on the top of the side sheets per the prototype photo.

To finish weathering the car side, I apply some Yellow Ochre Extra Dark PanPastel with a ½" brush [40]. Per the prototype photo, I concentrate on the upper part of the car side sheets just below the top ridges.

After applying the weathering powder, I came back with a Q-tip soaked in thinner and cleaned up some of the weathering to make it more closely match what I was seeing in the prototype photo.

41. After dusting on the PanPastel, I use a Q-tip dipped in thinner to remove some of the weathering so it isn't overdone.

42. After using the damp Q-tip to remove the excess PanPastel powder, I soften the edges of the weathering using a dry ¾" brush.

Once the car side is done, I use a dry ¾" brush to briskly brush the side of the car and soften the edges of the dirty spots [42] after cleaning off some of the excess with the wet Q-tip.

I apply some black shadow wash to the car ends and call it good. In the prototype photo, the car ends look pretty clean. To finish up, I give the car a spray of Rustoleum Dead Flat to fix everything in place.

Trucks and couplers are weathered just as on the first car, but I used a more neutral gray paint to match the color I was seeing in the prototype photo: Vallejo Model Air IDF Sinai Grey (71.142). I then set the finished car on my Siskiyou Line layout and took some photos [43, 44].

That finishes the weathering on these first two lighter-colored cars – once I was done with them, they went off to the TrainMasters TV studio for inclusion into the rolling stock on the TOMA project layout.

43. Here is the finished DEPX 1053 Dependable Feed Services car. I think the weathering is a reasonable match to the prototype reference photo, minus the tagging.

In Part 2 next month, I will tackle a couple of light to moderately weathered black tank cars to show how to do minimalist weathering on darker-colored cars. ☑

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44. Here is an end-on view of both cars. The Dependable Feed Services car is dirtier than the light gray USLX car, but only slightly more so. Also note the trucks on the DEPX car are a more neutral gray color as per the prototype reference photo. These cars do not look fresh out of the box: they're weathered just enough to look like they're early in their service life. Most layouts need many of these more lightly weathered cars to balance out the more heavily weathered cars.

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BY JOSEPH K. LEAL

MAKING MORE REALISTIC SIGNS

Use actual online pictures to make signs that pop ...

SIGNS ARE ONE OF THE MOST IMPORTANT ASPECTS when looking to add layers of realism to your layout. Signs can tell stories, set the stage, put names to locations, and bring about fond memories of having "been there." From the stop sign on a country

road with the bullet holes in it, to the busy city intersection filled with turn signs, street labels, bus stops, and tow zones, signs give subtle clues to the miniature world we view.

Finding model signs that look real can be challenging. Premade signs in HO scale can appear oversized, the lettering jumbled and unrealistic. Even well-made signs on styrene can appear thick and toy-like when viewed from different angles or can warp and curl over time. In the real world signs are thin and typically printed on metal. They get dirty, beat up, vandalized, and knocked over and replanted. How we can represent that quickly and accurately in the easiest, most cost effective way is the technique I'll be discussing here.

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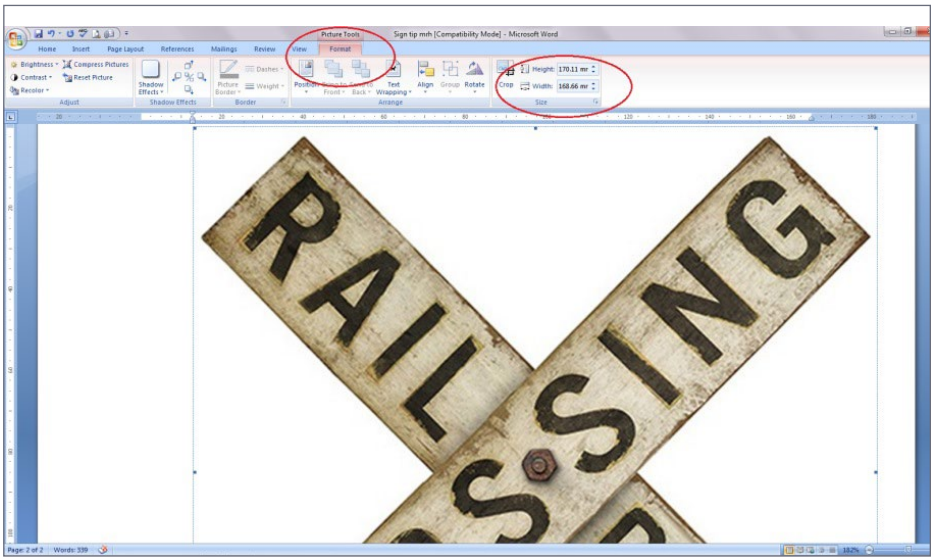
STEP 1: SELECT AND MAKE YOUR SIGN

I like to print my own signs. That is, I prefer to look online for pictures of actual signs and print those in scale. Alternately, I take walks around the city snapping pictures of signs and billboards I'd like to model. Others I clip directly from a magazine for use as billboards or window ads. Either way you choose, use the highest quality photos possible.

Everyone has their own preference for editing and printing photos. I prefer using Windows Photo and Microsoft Word. Using Windows Photo I can crop and adjust my sign pictures. After finding a suitable photo, I'll edit it, then copy and paste the final image onto a Word document.

1. You can use the Scale Chart on MRH to make quick work of converting measurements to scale. These "RR" signs typically measure 48 inches diagonally in the US.

After I paste to Word, I'll select the photo, and using the picture formatting tool to input the final measurements, resize the image to scale. As an example in HO scale, a typical "STOP" sign measuring 30 inches across in the real world would be resized to 9mm or about 0.345 inches.



2. Select your photo, click "format", and enter your final measurements.

With that completed, I'll continue to load up my Word document with as many signs as needed for my project, adjusting measurements as necessary. In HO or O scale that could mean dozens of signs on a single sheet of printer paper, ready to be printed on demand!

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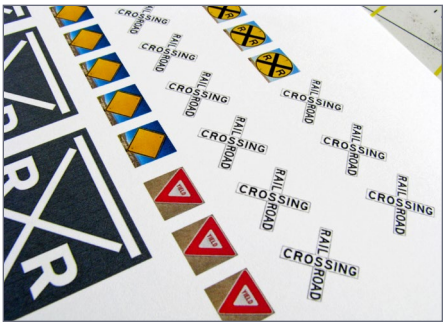
STEP 2: ADD THE SIGN BACKING

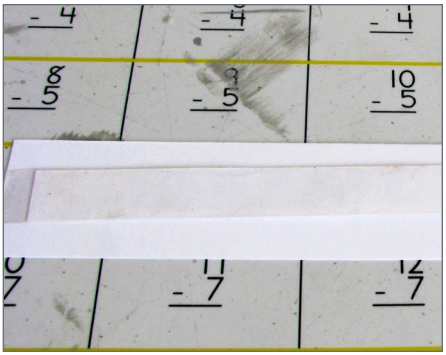
Now that I've printed a group of signs, I want to make them as realistic and sturdy as possible. First, I'll start by cutting a strip of signs from my printed sheet. Be sure to start with a fresh blade, a straight edge, and a protected work surface.



3a, 3b. Here we have a strip of signs ready to cut. Printing multiples of the same signs helps in case of mistakes or for future use. I use an old placemat to protect my work surface.

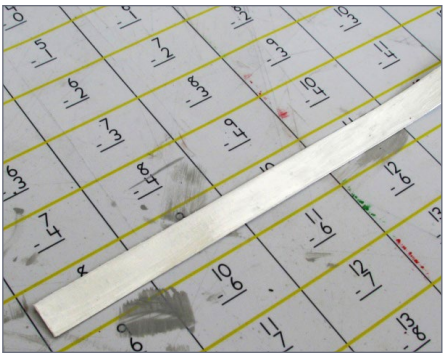
Once cut, the strip of signs gets placed face down and a strip of Scotch Double Sided Tape gets placed across. Stretch the tape taut and get the middle down first before placing the ends. Working in smaller strips can be easier. Depending on your scale or the size of your signs, you may need wider tape or multiple strips. Of course, any type of tape will work for this, but I find the permanent tape to be the best. It's extremely thin, yet strong and rigid when finished.

After taping the backs of the signs, place a strip of aluminum foil over the tape, again working from the middle out to the edges. Any brand of foil will do, the important thing to remember is



4a, 4b. I like to place a clean sheet of paper down to protect the sign faces. Then roll the tape across the back. Larger signs will need more tape, but try not to overlap. Think thin!

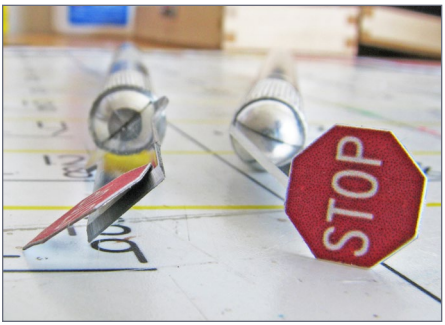
keeping the foil smooth and flat! If you prefer to do one sign at a time, just cut and tape directly to the foil, however, we can quickly make up bunches of signs while relaxing in front of the TV, saving them to be cut out later.



5a, 5b. After placing the foil, burnish it down and trim. Viola, here is our finished strip! You can now cut out the individual signs or save the strips for use at a later time. The foil gives a dull shine that's realistic and rigid!

STEP 3: PLACING THE FINISHED SIGNS

Signs can be placed in a variety of ways depending on what era you model or your prototype. Wooden 4x4 posts, round or square metal posts or poles, even hung from gates or nailed to fences. Any way you choose, your signs can be mounted with a small drop of glue or a tiny piece of double side tape for easy removal.



6a, 6b. Here we can see just how thin these signs are ... quite thin!

7a, 7b. The aluminum backing gives the signs a dull shine and a realistic appearance on your layout.

Signs in the real world tend to appear in multiples. For a more realistic experience, try to add two signs per post. At intersections, street signs, no turn signs, one way or many others, can often be mounted on the same pole. Telephone poles are great places to put a speed limit and a no stopping zone sign, or if located in an urban area, place a bus stop sign on a small post next to the pole.

Next time you're out, snap some pictures of the local bus stop signs. You can place those on sidewalks with a tow zone sign. Just remember to place another directly across the street!

Businesses use tons of signs, literally! No trespassing and tow zone signs, private parking or CCTV surveillance signs, even stop signs in blue or yellow. All these can be modeled. Next time you find yourself at the local shopping area, snap some photos of all the unique signs, and add another layer of realism to your layout! ☑

8. These signs denote a truck entrance to the bakery on my HO scale switching layout, the Southern Pacific Burbank Branch.

9. Of course these are actual signs, from photos, scaled down and easy to read!

Joseph Leal

Joseph has enjoyed the hobby of model railroading from a young age. Introduced by his grandparents to HO scale, he has cultivated a lifelong passion since his first layout on a 4 foot square sheet of plywood. He grew up trackside to the now defunct Southern Pacific Burbank Branch, which is the theme of his current HO scale switching layout, and his previous N scale shelf layout.

He and his wife recently moved back to Los Angeles with their children, all of whom are fascinated by trains, and have spent many afternoons railfanning. His son, the eldest, has taken a keen interest to the hobby, and enjoys building Athearn kits and operating the layout.

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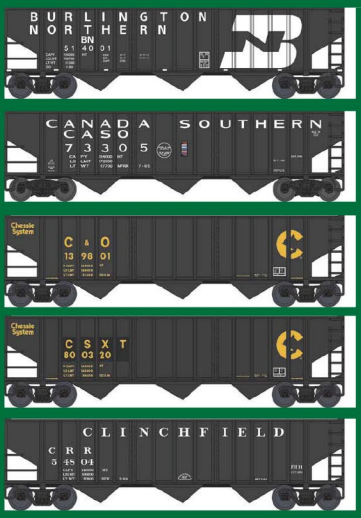

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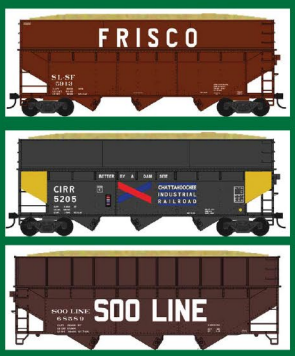

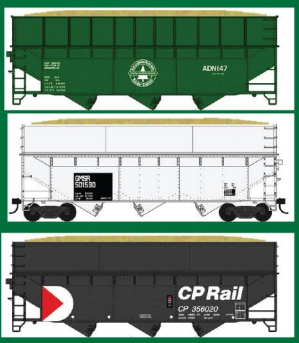

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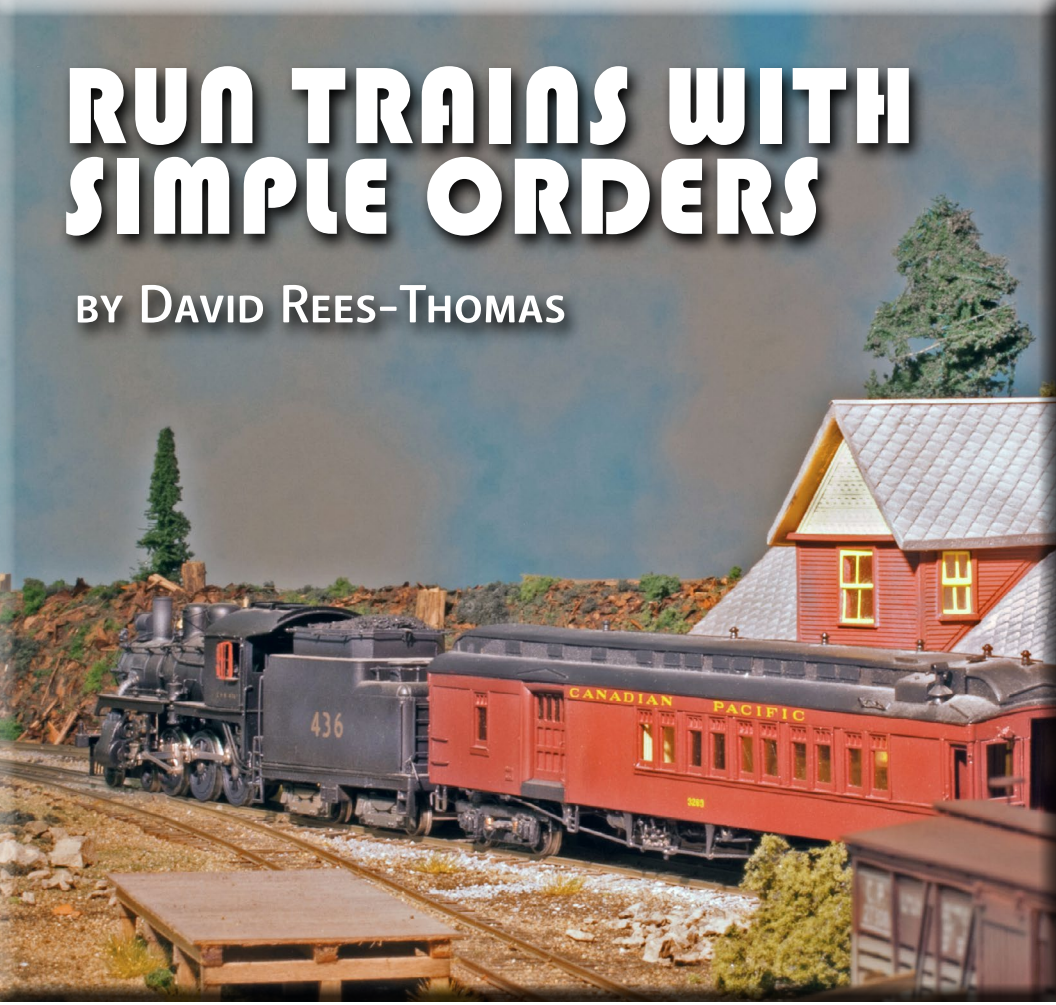
RUN TRAINS WITH SIMPLE ORDERS

BY DAVID REES-THOMAS



1. With rear-end and Form W orders and clearance OK'd, train 385, the Cap local, is ready to depart Capilano on time. *David Rees-Thomas photo*

Examples show how to move traffic efficiently ...

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Talking about time tables

David Rees-Thomas, a former operator on the Ontario Northland, has written about his experiences getting trains over the road using the time table and train order dispatching system. His experiences are rooted in Canadian railroading, but the basic principles apply to most North American TT&TO systems.

"The Basics of Time Tables and Train Orders" at the end of the story, was heavily condensed by contributing editor Joe Brugger from an instruction sheet *MRH* copy editor Mike Dodd wrote to help out crews on his former Virginian Railway.

Each of Mr. Rees-Thomas's scenarios sets up a real-life situation, and then shows the rules and orders that were applied. A page from an Ontario Northland Timetable from 1974 is included as a reference.

"A timetable is published, and train crews are required to follow the schedule exactly. This works well, but a fixed schedule doesn't allow for unusual occurrences ... in response, railroads developed train orders."

ACCURATE REPRESENTATION OF TIMETABLE AND train order operation is becoming increasingly popular on model railroads. Mark Dance recently had a two-part article published in *Railroad Model Craftsman* and posted an excellent video on the *Model Railroad Hobbyist* forum at mrhmag.com/node/17490.

The orders modeled most often seem to be meets (Form A) and run extras (Form G), followed by time orders (run lates and waits) in Form E. And deservedly so. These orders involve interaction with other crews and require careful attention to timetable and superiority of trains.

But let's look at some lesser-known orders that, outside of signaled territory, could turn out to be at least as common in real life.

1. Form U - Relief of flag protection

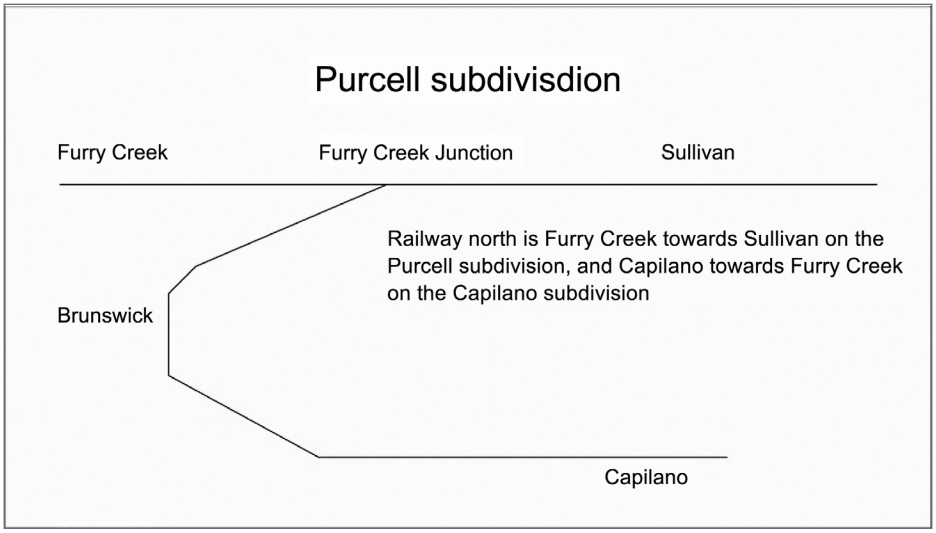
You've probably heard reference to Rule 99, the flagging rule. It's a long rule that takes up two and a half pages in my 1962 Canadian UCOR (Uniform Code of Operating Rules) but the gist of it is this:

"When a train stops under circumstances in which it might be overtaken by another train, a flagman must immediately go back a sufficient distance to ensure full protection ..."

"A sufficient distance" can turn out to be a fair hike, more than a mile if there's a downgrade behind you. Not very tempting early on a cold snowy morning. Even less tempting if you know there's no possibility of another train for hours, but you still have to do it.

You're conductor on #385, the Cap local, which leaves the town of Capilano at 0515 every weekday to meet the southbound passenger, #46, at Sullivan on the Purcell Subdivision (all mythical - see [2]). Let's see what the dispatcher can do to make life a bit easier for you and your crew.

Sometime before 0500 the dispatcher phone rings at Capilano, rousing the operator out of a brief nap.



2. The Purcell Subdivision covers the line from Furry Creek to Sullivan. The Capilano sub meets it at Furry Creek Junction.

"Capilano"

"Morning, Cap - guess we can fix up the local - R north 5"

"NS".

The operator rolls five sheets of Form 19 into the typewriter, types the letter 'R' in the space after the words "Form 19," and quickly puts in today's date [3]. He responds "NS" (no signal) because Capilano is the originating station for train 385, so no train-order signal is displayed. As a terminal, Capilano doesn't even have a train order signal.

Order No 211 is addressed to "Northward trains." The familiar U.S. "C&E" doesn't appear in any of my Canadian rulebooks, but they all contain wording like: "Train orders addressed to trains and engines must be regarded as addressed to conductors, engine-men, and pilots ..." Train orders could be addressed to operators (Opr) and yardmasters as well as trains and engines.

Looking at the body of order 211, it doesn't seem all that different from an ordinary Wait At, but it is. Look at a Form E, train order No. 227 in [4]. One way to look at it is to ask who really benefits from each order. In the case of the Form E (TO 227), it isn't train 225, the train being restricted, is it? His scheduled leaving time is 1510, but his train isn't going to be ready until 1600 today. Order 227 might benefit an *opposing extra train,* however, by giving it a bit more time to get into town.

Form 19 R

Train Order No 211

December 20 **19** 74

To	**At**
Northward trains	Capilano

Northward trains except

No 385 Eng 436

Wait at Capilano

Until Nought nine ten 0910

TWS

Repeated at 0442

Made COM **Time** 0442 **Opr** Thomen

3. Completed train order No. 211 looks like this.

Looking again at order No 211, the rear-end order, we see the train that really benefits from the order is #385. The conductor of #385 knows that *if he has to stop* for some unexpected reason he doesn't need his trainman to flag the rear of his train, at least not for a few hours.

Another rear-end order is No 231 [5]. The dispatcher might well add a couple more lines to order No 231 [5] to save having to issue yet another order when 231 is fulfilled:

Form 19 R

Train Order No 227

December 20 **19** 74

To **At**

No 225 Capilano

No 225 Eng 3107

Wait at Capilano

Until Sixteen ten 1610

MCC

Repeated at 1435

Made COM **Time** 1436 **Opr** Petrin

4. Order 227 holds 225 to open a window of opportunity for an opposing train at Capilano.

This order is annulled
At Nineteen twenty 1920.

Form W - Train order check of trains

Ok, we have rear-end protection for #385. Does he need anything else before the dispatcher gives him his clearance? Yes, he does.

Form 19 R

Train Order No 231

December 20 **19** 74

To	**At**
Northward trains	Capilano

Northward trains except

No 225 Eng 3107

Wait at Capilano

Until No 225 Eng 3107

Arrives at Furry Creek Jct

MCC

Repeated at 1540

Made COM **Time** 1541 **Opr** Petrin

5. The body of the rear-end order can be written another way, as this order shows.

#385 originates at Capilano, on the Capilano sub. He terminates at Sullivan, on the Purcell sub. Time table and special instructions give us a local version of Rule 83A.

"All trains from the Capilano Sub, before fouling main track Purcell Sub, must know that all overdue superior trains have arrived and left."

Train 385 is a first class train, so we only have to look for first class schedules on the Purcell. Last night's 386 is OK, because he's in the register at Capilano. Yesterday's 385 is long since dead (i.e., his schedule is more than 12 hours old). What about the 46 and 47, the southward and northward passenger runs on the Purcell sub?

The 385 can't leave Furry Creek Jct. before 0540. Number 46 isn't due out of Sullivan before 0620. The two are due to meet at Sullivan anyway, so if we're on time he's not a problem. But what about the 47 of last night, due to leave Furry Creek at 2030? 47 is a problem: his schedule isn't dead for another three hours.

But surely we know 47 fulfilled his schedule last night? Train 386 met 47 at Sullivan. The crew on 386 is the same crew bringing 385 back this morning. Don't they know 47 is past Furry Creek Jct.?

Well, no, they don't. No one at Capilano could "know" about 47 unless (a) they actually saw 47 arrive at Capilano (which of course it can't), or (b) they read it in the train register at Capilano (where it isn't), or (c) they got the information from somebody who does know. The person who knows is the train dispatcher, who has the information ont he train sheet. Let's see how the dispatcher can tell 385 he's clear to enter the Purcell Sub.

Before 385 can proceed north toward Sullivan, he needs a clearance on the Purcell Sub. Here's what the timetable echoing Rule 83D, has to say about that:

"Unless otherwise instructed, all trains from Capilano Sub proceeding to the Purcell Sub may leave Furry Creek Jct without obtaining clearance, but must obtain clearance at Furry Creek."

Order No 212, a Form W, [6]. gives 385 that information. Given the yard limits at Furry Creek Jct, and knowing there are no superior schedules in effect, the 385 can enter the Purcell Sub at Furry Creek Jct., back down on Furry Creek station to obtain

Form 19 Y

Train Order No 212

December 20 **19** 74

To **At**

No 385 Capilano

No 47

due to leave Furry Creek Jct

Thursday December 19th

has left Furry Creek Jct

TWS

Repeated at 0443

Made COM **Time** 0443 **Opr** Thomen

6. Order 212 clarifies the status of train 47.

his clearance, and pick up any passengers for Sullivan before proceeding northward on the Purcell sub.

Now we're ready to go!

"Capilano clear No 385 on orders 211 rear-end, 212 Form W, no more." "OK 0444 TWS, and 46 is on time."

With that the Capilano operator makes up two sets of orders, staples a clearance to them, and hands them to the conductor so 385 can depart on time for Furry Creek Jct and Sullivan.

At this point it may have occurred to you that 385 might just be delayed. It wouldn't take much before the whole thing would fall apart. train 46 would be waiting in Sullivan to transfer passengers from 385, but 385, inferior by direction, wouldn't be able to obtain clearance to travel on the Purcell Sub. Most likely, the dispatcher would give 385 a Right Over Form C [7] to get him into Sullivan.

A meet order, Form A, is not allowed because Sullivan is 385's terminating station. If 385 was *really* delayed, he'd have to wait on the Capilano sub while the conductor walked over to Furry Creek to pick up the order and clearance.

The corresponding order at Sullivan would be issued as a 19R addressed to both No 46 and the operator (Opr). The order would be given to Sullivan and repeated by the operator first, because that is where the superior train is being restricted. The last line *("This order to No 46 at Sullivan")* alerts No 385 to approach Sullivan at restricted speed.

Can we get a train from the Capilano sub onto the Purcell sub without always having to get a clearance at Furry Creek? The words *"unless otherwise instructed"* suggest we can. Recall that such trains *"must know that all overdue superior trains have arrived and left."* The dispatcher provides that information with another Form W - Train Order Check of Trains. If we're setting

up No 225, the Fourth Class northward half of the Cap turn from Capilano to Sullivan, what trains concern us?

No 224, the southward half of the Cap turn, also Fourth Class, will be in the register at Capilano. Note that even though it's the same engine and van and same crew and it's the only train in town, the conductor of 225 doesn't "know" 224 has arrived without checking the register.

Form 19 Y

Train Order No 214

December 20 **19** 74

To	**At**
No 385	Furry Creek

No 385 Eng 436

Has right over No 46 Eng 3602

Furry Creek Jct to Sullivan

This order to No 46 at Sullivan

TWS

Repeated at 0536

Made COM **Time** 0537 **Opr** Thomen

7. A Right Over order supersedes timetable superiority of trains.

No 385, the northward passenger to Sullivan, shows in the register as having departed Capilano, but that's all we "know" about 385.

Of No 46, the southward passenger on the Purcell sub, we know nothing, even though he's in the register at Furry Creek.

Form 19 Y

Train Order No 229

December 20 **19** 74

To No 225

At Capilano

All first and third class trains
Due to leave Furry Creek Jct
Before Fourteen Twenty 1420
Friday Dec 20th have arrived and left
No 223 may leave Furry Creek Jct
Without obtaining clearance

MCC

Repeated at 14 33

Made COM **Time** 1433 **Opr** Petrin

8. Train order 229 gives #225 the last bit of authority it needs to depart from Capilano.

Similarly, we have no knowledge of No 325, a northward Third Class due out of Furry Creek at 0714. Here's one version of the Form W that No 225 needs before he can go on the Purcell sub [8].

Order No 229 actually combines two examples of Form W. The first satisfies the "all overdue superior trains" condition. The second deals with "unless otherwise instructed," allowing No 225 to proceed directly from Furry Creek Jct to Sullivan on the Purcell sub. With this order, a rear-end, and a clearance, No 225 is on his way to Furry Creek Jct and Sullivan.

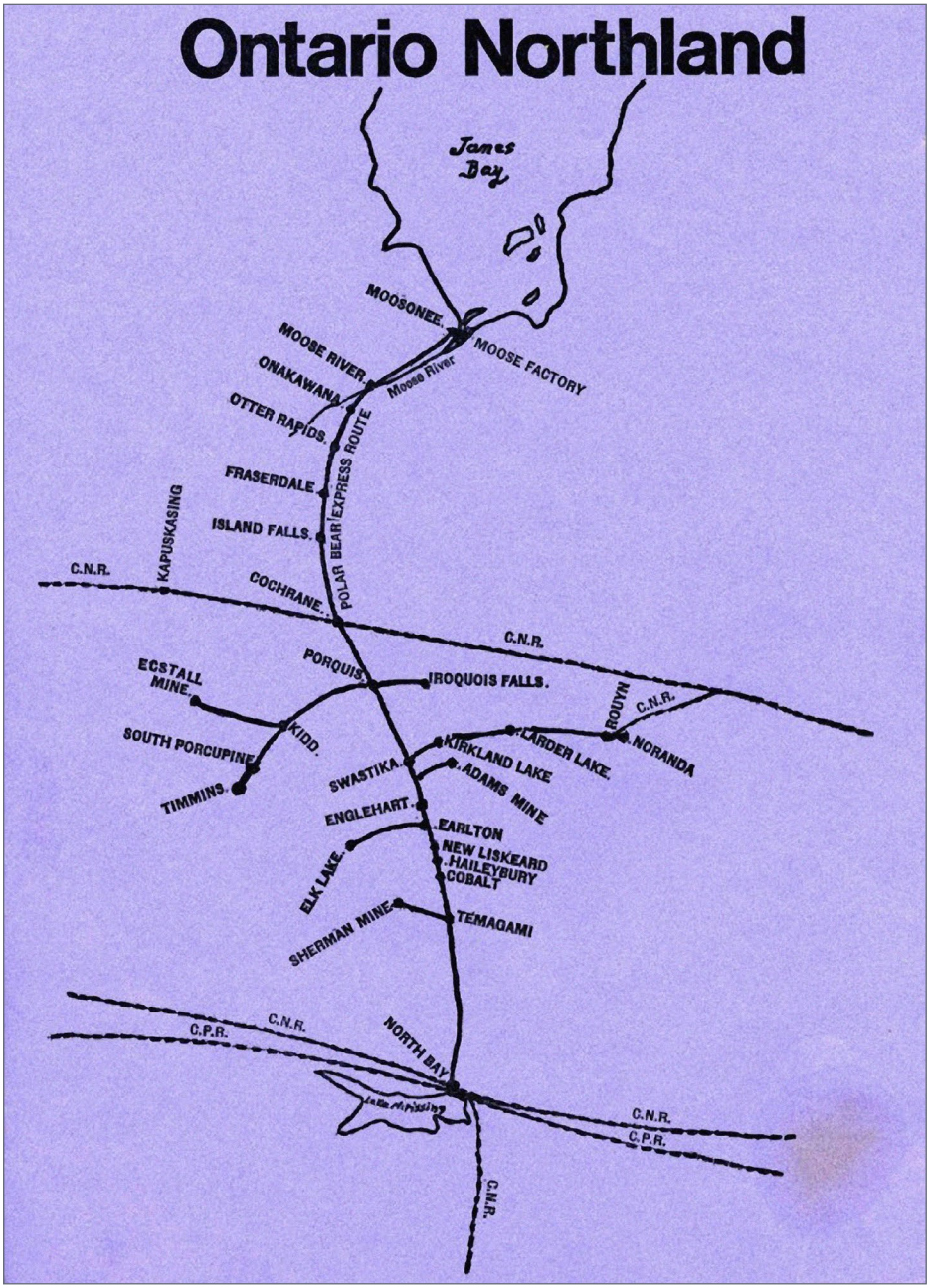
Other Form W examples provide for exceptions:

All regular trains...
...have arrived and left
Except No 325

or an extra which has superiority by virtue of a meet, wait, or right-over:

Extra 436 South
Has arrived Capilano
On train order No Two Ten 210

Why the last line? There could be more than one Extra 436 South on a given day, each created on a separate train order. That line ensures that we're talking about one specific Extra 436 South. Other Form Ws require a train to register at a station, allow it to leave a station without registering, or to check a register for arrival of an extra train under certain conditions. And finally



9. The Ontario Northland Railway.

there is a Form W that permits a train to register without stopping at a register station.

> Extra 3628 South
> May register at Furry Creek
> By register ticket

The register ticket is about the size of a clearance form, and is printed on pink paper. It lists the station, date, train and engine, the names of conductor and engineman, and signals displayed (green or nil). The times of arrival and departure are shown, along with loads, empties, and tons – all of the information required to register the train. The conductor fills out the register ticket and hands it to the operator as he rolls by. The operator completes the register when he does the OS.

RULE 83A REMINDS US: *A TRAIN MUST NOT LEAVE its initial station on any subdivision ...until it has been ascertained whether all trains due which are superior have arrived or left.* Normally the conductor will find this information in the train register. Where there is no register it must be conveyed by train order. Form W – Train Order Check of Trains – does the job. The rear-end order (Form U) saves the crew from flagging unnecessarily should they be delayed en route.

Form G and Form F - Bring 'em home early

Train order Forms F (sections) and G (extra trains) are much better known, but you may not have thought of using them this way. Have you ever been in the situation where you wanted to run a regular train *ahead* of schedule? It happens on the prototype occasionally. Here are a couple of tricks I learned on the ONR.

NORTHWARD TRAINS INFERIOR DIRECTION						Station Numbers	Miles from Elsewhere	Yard Limits	PURCELL SUBDIVISION
FOURTH CLASS	THIRD CLASS		SECOND CLASS	FIRST CLASS					
225 Freight Daily ex Sat & Sun	325 Freight Daily ex. Sat			47 Psgr Daily	385 Psgr Daily ex.Sun				STATIONS
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	5.34		.....	**19.08**	From Capilano Sub				.....GIBBONS.....P.....
From Capilano Sub	6.02			19.38					.....MORLEY.....P.....
	6.45			20.14					.....PURCELL.....P.....
	7.14			20.30	5.40				.....FURRY CREEK....PR.....
15.37	.....	.....		.....	.....				.....FURRY CREEK JCT.....PZ..... Junction with Capilano Sub.
16.00	7.27			**s2044 20.47**	**6.00**				.....SULLIVAN.....CKPWZ.....
.....	8.21		.....	21.12	.....				.....TALLIS.....P.....
.....	**8.52**		.....	21.35	.....				.....TAVERNER.....P.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

PURCELL SUBDIVISION NOTES

:
:

FURRY CREEK JCT
The normal position of the junction switch is for Purcell Subdivision.

FURRY CREEK
All northward trains from Capilano Subdivision may leave Furry Creek Jct without obtaining clearance but must obtain clearance at Furry Creek unless otherwise instructed. Unless otherwise instructed, southward trains to Capilano Subdivision must obtain clearance at Furry Creek but may leave Furry Creek Jct without obtaining clearance.
Conductors on No 46, 47, 325, and 326 may register by register ticket.

10. A page from Ontario Northland Timetable #63 (1974) shows schedules and special instructions.

Back in the day, Ontario Northland used to run two freights daily except Sunday between Timmins and Englehart, Ontario [9, 10]. No 308's job was to handle traffic from the Texas Gulf Sulphur mine at Kidd Creek: copper concentrate for Noranda, lead-zinc concentrate for Sudbury, and the occasional unit train of sulphuric acid. No 326 was more of a way freight, handling various local jobs between Timmins and Porquis, then disappearing into Iroquois Falls for a couple of hours to work the Abitibi Paper mill.

Now from time to time there might be very little work for 326 in Iroquois Falls, or even no work at all. No 326 could be ordered late out of Timmins, but that would get him home to Englehart at the usual time. The dispatcher could make the crew a lot happier by bringing them home early, especially when there's a Stanley Cup game on TV to look forward to. What tools does the dispatcher have that would do the job?

11. No 385, in Furry Creek yard limits, backs down to the station to pick up his clearance.

If you said, "run him as an Extra Train," you have one answer [12]. What else does the dispatcher need to do to make that work? Giving him right over opposing extra trains is one step.

There are two opposing northward schedules, No 223 and No 225. 223 is superior to No 326 by class, but No 225 is inferior by

Form 19 Y

Train Order No 231

December 19 **19** 74

To	**At**
Eng 1601	Porquis

Eng 1601 run extra

Porquis to Englehart

with right over northward extra trains

HJP

Repeated at 14 33

Made COM **Time** 1433 **Opr** Clancy

12. Order 231 helps to move #225's train ahead of its regular schedule.

direction. We need to knock down No 326`s schedule [13] so 225 won't being expecting to meet a train that isn't there.

That`s one way to get No 326 home early. It still leaves the dispatcher with the possible need to arrange meets, and it doesn't give track workers and other trains any schedule information.

Form 19 Y

Train Order No 232

December 19 **19** 74

To No 326 opr

At Porquis

No 326

Due to leave Porquis

Thursday Devember 19th is annulled

Porquis to Englehart

HJP

Repeated at 14 33

Made COM **Time** 1433 **Opr** Clancy

13. Order 232 allows opposing traffic to ignore the regular schedule for train 326.

There's another way to do it *if* there's a suitable schedule available. In this case there is: No 308.

Let's say No 326's train is ready to leave Porquis before No 308. We`ll make him First 308, green flags and all [14], and the "real" 308 will become Second 308.

Form 19 Y

Train Order No 237

December 19 **19** 74

To **At**

Eng 1601 Porquis

Eng 1601 display signals

and run as First 308

Porquis to Englehart

HJP

Repeated at 1433

Made COM **Time** 1433 **Opr** Clancy

14. The train will now run on an earlier schedule as First 308.

As the final section Second 308 does not display signals [15].

Ultimately this is less work for the dispatcher as both trains will be operating on timetable schedules. The annulling order is still required, and the dispatcher may decide to put a run-late on Second 308.

Form 19 Y

Train Order No 238

December 19 **19** 74

To	**At**
Eng 1734	Porquis

Eng 1734 run as Second 308

Porquis to Englehart

HJP

Repeated at 14 33

Made COM **Time** 1433 **Opr** Clancy

15. As the final section, Second 308 does not need to display signals.

It doesn't really matter which actual train runs as the first section of 308 and which the second. It is essential that whichever runs as First be available to receive its assignment and clearance before any later section is cleared.

There you have two possible ways to run a regular train "ahead of schedule". You can annul the original schedule and treat the train as an extra, paying due respect to the fact that, in the absence of further orders, he has no right or superiority.

Alternatively, *if* you have the time to set it up, you can run your train as a section of another schedule and take advantage of the superiority already granted by the timetable.

In my experience, Ontario Northland tended to run multiple sections if they could, particularly for movements such as CNR detour trains. Find the method that works for you, but in any event, you've added some more tools to your train-order toolbox.

And if you really want to know what timetable and train-order operation is all about, your best source is Dave Sprau and Steve King's *19 East, Copy 3,* published by OPSIG, the Operations Special Interest Group.

19Y, 19R, and 31, eh?

Form 19R? What's this all about ? Don't we have just Form 19 and Form 31? In the earlier days that was indeed true. Form 31 was used to restrict right or schedule "in every case where a train carrying passengers is concerned" (and in a few other cases all of which required the signatures of conductor and engineman.) Form 19 was used for most other purposes, some of which required the train be brought to a stop (Red signal). Others allowed the order to be collected on the fly (Yellow signal). In the latter case, a two-indication train-order signal would be set to Stop, supplemented by a yellow flag or lantern.

Under Canadian rulebooks prior to 1962, before transmitting an order the dispatcher was required to "send the symbol" '31', '19R', or '19Y' followed by the direction to each office addressed, as in "19R north copy 3". By the time the 1962 Uniform Code of Operating Rules (UCOR) was published, Form 31 had disappeared, with 19R taking over most of its applications. An order restricting a train carrying passengers no longer needed signatures before it could be repeated, although an order annulling a work extra still did The operator now wrote or typed the letter 'R' or 'Y' after the words "Form 19", responding with "SD (Signal Displayed) R North", "SDY South", or "NS" (No Signal) as appropriate.

I have based this article on the Canadian UCOR 1962, because that was the rulebook in effect when I was actually getting paid to copy train orders. Your prototype or period may differ in details, but the basic ideas will be the same. ☑

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THE BASICS OF TIMETABLES & TRAIN ORDERS

The goal of every railroad is to move traffic over the line efficiently and safely. There are several ways to control train movement, but the most basic is a fixed schedule of trains. A timetable is published, and train crews are required to follow the schedule exactly. This works well, with two exceptions: A fixed schedule doesn't allow for unusual occurrences such as breakdowns or bad weather; and some seasonal or expedited freight movements aren't very compatible with regularly-scheduled trains.

In response, railroads developed train orders. A train order contains direct instructions from the railroad dispatcher to a train crew. It might grant the crew authority to run an extra train not listed in the schedule, might direct the crew to meet another train at a designated station, or cancel (annul) a scheduled train entirely.

In addition, train crews need a clearance when leaving their initial station and at any station where they receive a train order. A clearance verifies that the crew has received all the orders it is supposed to receive.

A train order conveys authority upon a train crew to perform a movement that is not covered by the timetable. Train orders are used to create extra trains, annul scheduled trains or change their times, arrange meets between trains, and so forth.

If every train were listed in the timetable, and nothing unusual ever occurred, train orders would be unnecessary. But that's not how things work. Train orders give the dispatcher the flexibility to react to current circumstances, and keep the railroad running smoothly.

Train crews learned this system by experience, often working the same routes and jobs day after day. New crew members would

learn from experienced railroaders in the days of five-man crews. Modelers are handicapped by operating less frequently.

How does this all work? Each crew member must carry a copy of the timetable and the rule book. The rules are written to answer questions raised by operating situations and are designed to make the railroader's work safe and efficient.

Crews of trains listed in the timetable run the train according to the published schedule. Crews of trains not listed in the schedule (extras) run their trains according to train orders they receive. When any train passes a station, its crew looks at the train order signal. If the signal indicates "Stop," they stop the train to pick up orders and a clearance.

The dispatcher controls the railroad. If a situation arises that can't be safely handled by following the timetable schedule, the dispatcher dictates a train order to an operator at a station. The station operator sets the train order signal to "Stop," then writes the order. When the train arrives, the operator gives copies of the train order and a clearance to the appropriate crew members.

DAVID REES-THOMAS

David was born in Vancouver, British Columbia, Canada in 1945. He was hooked on wind-up trains by age the age of 4. David attended Queen's and University of Waterloo in Ontario in the 1960s, and met and married Judith, who also enjoys riding passenger trains.

In 1974 they moved to northeastern Ontario where he walked into a job as a spare operator – "telegrapher" officially, although the key and sounder were long gone – with the Ontario Northland. He remained with the ONR for four years, mostly staying on the spare, or extra, board for the variety it offered. Then, prompted by a newly-acquired amateur radio license, he went back to school in electronics technology.

In 1981, David and Judith moved to Canada's west coast where he wound up teaching embedded systems at BC Institute of Technology for 20 years. In 2005 they retired to Saturna Island (pop. 325), not far from Victoria, with their Coast 34 sailboat. Apart from model railroading and sailing, he operates a small water taxi and serves as an attendant with his local volunteer ambulance service.

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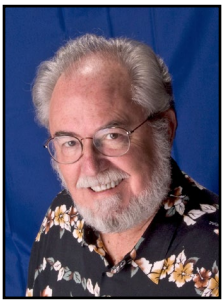


SEPTEMBER NEWS
column

Richard Bale *and* Jeff Shultz

Rob Pisani leaves Atlas

Rob Pisani, vice president of product development for both Atlas Model Railroad and Atlas O, has resigned. The announcement was made by Atlas CEO Tom Haedrich who said Rob joined Atlas as an R&D specialist 10 years ago. Haedrich credited Pisani with *"bringing a wealth of experience, knowledge, and passion to Atlas."* Before joining Atlas, Pisani worked in the rail fleet planning department of Union Carbide-Dow Chemical. He had previously held a position in the eastern sales office of American Car & Foundry. Pisani's future plans have not been disclosed ...

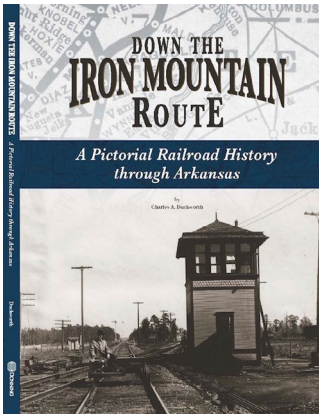
Bowser sells Selley

Bowser has sold its Selley Finishing Touches line to an undisclosed buyer. The Selley product line consists of hundreds of HO and O scale small scenic detail items. They are cast in pewter and produced by spin casting. In addition to finished inventory,

the sale included all of the masters, tooling, and spin casting machinery. Selley was established more than 50 years ago in Winter Haven, FL. Bowser acquired Selley in the 1970s and successfully blended the products into its other line of intricate details which included CalScale lost wax castings. The new owner of Selley is not expected to reveal details until finished products are organized and ready for shipment

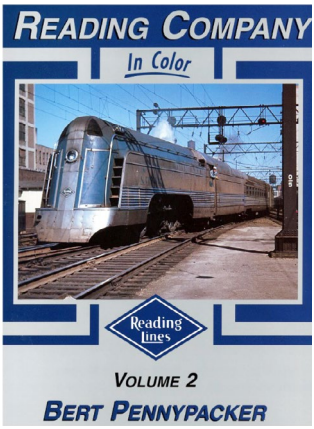
NEW PRODUCTS FOR ALL SCALES

Evergreen Scale Models has added "T" shapes to its line of opaque white polystyrene shapes. The new T shapes are available in .035, .056, .073, .092, .123, .141, .198, .257, and .321-inches. The dimensions are identical for the height and width of the T. All sizes are 14-inches in length. For information on all Evergreen products contact a dealer or visit evergreenscalemodels.com.



The Missouri Pacific Historical Society has released *Down the Iron Mountain Route* by Charles A. Duckworth. Containing 152 pages and 255 illustrations, including 240 period photographs from prior to 1925, this book is a pictorial history of the Iron Mountain railroad in Arkansas. Photos were sourced from the Missouri Pacific Historical Society archives, the National Museum of Transportation, Bill Pollard, and other

private collections. Photos are in geographical order, following the route as if the reader were on a train. Reservations are being taken, with society member pricing at $49.95 and non-member pricing $54.95 until Sept. 1, 2017, $59.95 after. Email orders to marketing@mopac.org or mail Missouri Pacific Historical Society 16318 Valley St Omaha, NE. 68130 . No money is due until books are available (forecasted to be October). For more information email omahaduck@gmail.com.



Morning Sun Books has issued a digital reprint of volume 2 of Bert Pennypacker's *Reading Company in Color.* Additional digital reprints recently released include *Maine Central in Color,* and *The Milwaukee Road, Volume 2 The City of Milwaukee.* For complete details contact a dealer or visit morningsunbooks.com.

Speedwitch Media has released volume four of Prototype Railroad Modeling, a 96-page publication that features articles with extensive prototype information about superdetailing models. Subjects include kitbashing a Pacific Fruit Express R-40-14 from either an old Athearn reefer or the newer InterMountain model; detailing three HO scale models: a New York Central System 50-foot AAR boxcar from the 1939-1946 era,

a Baltimore & Ohio M-15K wagon-top boxcar, and a 50-ton AAR flat car; and a pictorial review of Jim Dufour's finely detailed layout depicting the Cheshire Branch of the Boston & Maine. For more information visit speedwitchmedia.com.

Team Track Models is a newly formed company specializing in inexpensive downloadable paper models. The models include buildings, vehicles, and detail parts in HO, OO, N, UK N, and Z scale.

In addition the company offers more than 150 downloadable textures for scratch builders. For additional information visit teamtrackmodels.com.

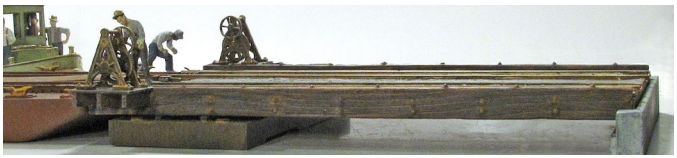
Woodland Scenics is selling Grillin' & Chillin', a trailer scene available in N, HO, and O scales. The Built-&-Ready model features a front deck with an awning, trash can, a TV antenna, and a window A/C unit. A printed interior is included along with two LED lights suitable for use with Woodland Scenics Just Plug Lighting System (sold separately). For additional information contact a dealer or visit woodlandscenics.com.

O SCALE PRODUCT NEWS

Atlas O will start 2018 with the release of a new Master Series pulpwood flat car. The O scale model is based on a V-deck design with bulkheads, as built in the early 1950s by General Steel Casting. Two road numbers each will be available for Gulf, Mobile & Ohio; Western Maryland, Illinois Central Gulf, Delaware & Hudson, Maine Central, and Atlantic Coast Line. The ready-to-run model comes with a removable simulated pulpwood load.

Also scheduled for release early next year is a Trainman series 40-foot hi-cube steel boxcar. The model will come with roller bearing trucks with rotating caps. Additional features include separately applied ladders, brake wheel, and brake line detail. In addition to the Southern Pacific scheme shown here, road names will be Chessie System, Erie Lackawanna, Great Northern, and Southern Railway.

Atlas O rolling stock is available with appropriate trucks for either 2-rail or 3-rail operation. For additional information on all Atlas O products contact a dealer or visit atlaso.com.



Frenchman River Model Works has introduced an On30 Pontoon Float Bridge kit. Designed to be used with the On30 Carfloat (see below), the bridge includes two hand winch kits. The

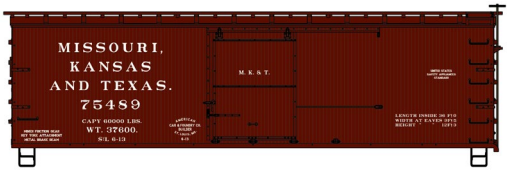
major structure of the bridge consists of five resin castings, including a single piece float bridge. Dimensions of the finished kit are 9 inches long, 4.85 inches wide, and .915 inches high from the "water" to the rail top, not including the winch towers.

Also introduced is an On30 2-track car float. Using Micro Engineering code 100 rail cast into the deck, the kit features resin castings with weld lines, scuttle hatches, cleat bases and toggle pockets cast in place. Two cast resin track bumpers are included. The carfloat is designed to complement the Frenchman River Model Works On30 Pontoon Fload Bridge kit (see above). Dimensions of the finished model are 23.125 inches long, 5.375 inches wide, and .75 inches high.

Walt's Model Company sells a craftsman-style kit for On2/On30 version of the Kingfield Maine Car Shop. The kit includes an extra set of foundation timbers to raise the height of the structure for additional door clearance for taller On30 equipment. The kit includes a Grandt Line stove. Walt Griffin has recently announced the availability of a kit for the Kingfield Maine 2nd station. For additional information visit waltsmodelsco.com.

HO SCALE PRODUCT NEWS

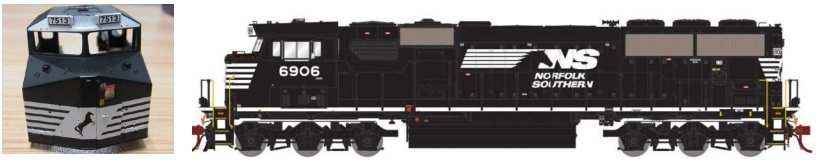
New HO scale kits released by **Accurail** include this Norfolk Southern 50-ton twin-bay open hopper car with offset sides. The HO scale model represents a prototype built in 1957.



Accurail has released two versions of its 36-foot double-sheathed wood boxcar. The models follow a prototype that had National sliding doors, a metal roof, and a steel fish belly underframe. The MK&T car shown above has wood ends.

The Boston & Albany car is similar with the exception that it has steel ends. All Accurail kits include appropriate trucks and Accumate knuckle couplers. For additional information on all Accurail products contact a dealer or visit accurail.com.

Athearn has announced plans to produce a Genesis series EMD SD60E. Tooling is already underway with delivery of the HO scale Ready-to-Roll model planned for March 2018. Three road numbers will be available for the locomotive in standard NS black with the horsehead scheme.



The March release will also include Norfolk Southern's colorful No. 9-1-1 .The model will adhere to the prototype 9-1-1 which has a slightly smaller fuel tank (3,900 vs. 4,000 gallon) and different louver arrangements on the cab panels.

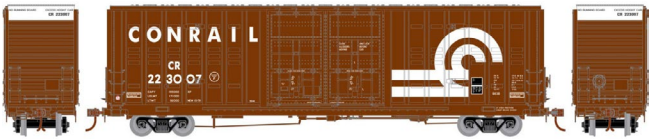
A new production run of Athearn Genesis F-units is scheduled for release next July. F3A units with Farr stainless steel side grilles will be available decorated for Gulf, Mobile & Ohio; and Illinois Central Gulf.

F2A and matching F2B units with Farr grilles will be available for Western Pacific, and Boston & Maine schemes. A second B&M scheme will come with chicken wire grilles.

Athearn has added five additional road names to its previously announced 2018 production run of RTR SD38 diesel locomotives. The new schemes will be Duluth, Missabe & Iron Range; Detroit, Toledo & Ironton; McCloud River Railroad, CIT Leasing, and Rail Logix. Road names announced last month

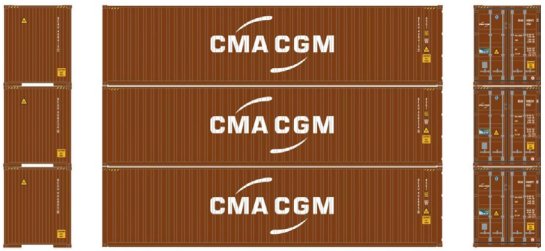
include Penn Central, Rock Island, St. Louis-San Francisco, Burlington Northern, Southern Pacific, and Illinois Central.

All Athearn Genesis sound-equipped locomotives feature a DCC decoder with SoundTraxx Tsunami2 sound. The sound unit will operate in both DC and DCC. Models with DC only are DCC-ready with both 8- and 9- pin connectors for an aftermarket decoder.



Also coming from Athearn next July is a 60-foot Berwick hi-cube boxcar. The HO scale model is based on a prototype built in the early 1970s by Berwick Forge & Fabrication. Road names will be Conrail, Norfolk Southern, CSX, Denver & Rio Grande Western, Santa Fe, Southern Pacific, and Western Pacific.

New intermodal equipment on Athearn's July schedule includes a group of 53-foot Wabash Plate trailers. In addition to the Schneider National scheme shown here, other carrier names will be Burlington, Dart Advantage, Heartland, and XTRA. The model will be produced from upgraded A-Line tooling. Features include a sliding rear bogie, rubber tires, separately applied landing gear assembly, and realistic mud flaps.



Three-packs of 40-foot hi-cube containers finished in Athearn's Primed-for-Grime paint scheme are scheduled for release next July. Carrier names will be CMA CGM, COSCO, China Shipping, CAI, Tropical, and SM Lines. A three-pack of assorted names will also be available.

Athearn's 40-foot trailer chassis is specifically designed to handle their 40-foot hi-cube containers. The trailers will be available next July decorated for American President Lines, China Shipping, Direct Chassis Link, Flex-Van, Matson, Mediterranean Shipping, and TRAC Intermodal. They will be in two-packs with each trailer individually numbered.

The final item on Athearn's July 2018 schedule is a Ford C box van. The HO scale model will have clear window glazing and rubber tires. All of the boxes will be white with the cab available in white, red, blue, green, black, orange, and yellow.

Roundhouse branded models scheduled for release next July will be limited to a 50-foot plug-door boxcar decorated for Santa Fe, CSX, Great Northern, New York Central, Union

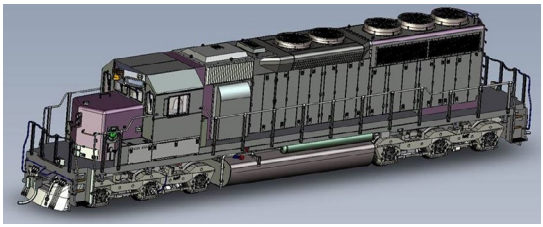
Pacific, and Northern Pacific. For additional information on all Athearn and Roundhouse products contact a dealer or visit athearn.com.

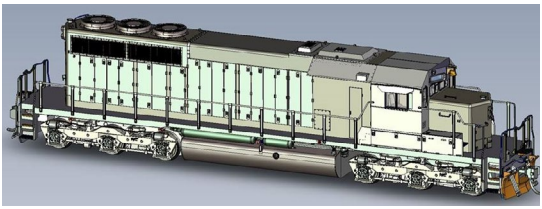
Atlas is working on a new HO scale version of an ATSF class BX-177 boxcar. In addition to Santa Fe the model will be available decorated for BNSF. This pre-production sample was shown at the National Train Show. Pricing and a release date are pending.

Atlas plans to release a 50-foot insulated boxcar during the first quarter of next year. The HO scale ready-to-run model is based on an insulated bunkerless prototype developed jointly by General American and Evans Products. Spotting features include 7-foot 7-inch plug doors, straight side sills, Improved Dreadnaught ends, and an overhanging diagonal panel roof. The model will come with or without running boards depending on the practice of the road being modeled. Three numbers each will be available for MODX-American Refrigerator Transit, Monon-Fruit Growers Express, N&W-Fruit Growers Express, CRDX-Georgia Pacific, RBWX-Great Northern, and Southern Pacific.

Atlas's first quarter schedule includes a new Master Series pulpwood flat car. The HO scale model is based on a V-deck

design with bulkheads as built in the early 1950s by General Steel Casting. Two road numbers each will be available for Gulf, Mobile & Ohio; Western Maryland, Illinois Central Gulf, Delaware & Hudson, Maine Central, and Atlantic Coast Line. The ready-to-run model comes with a removable simulated pulpwood load. For additional information on all Atlas products contact a dealer or visit atlasrr.com.

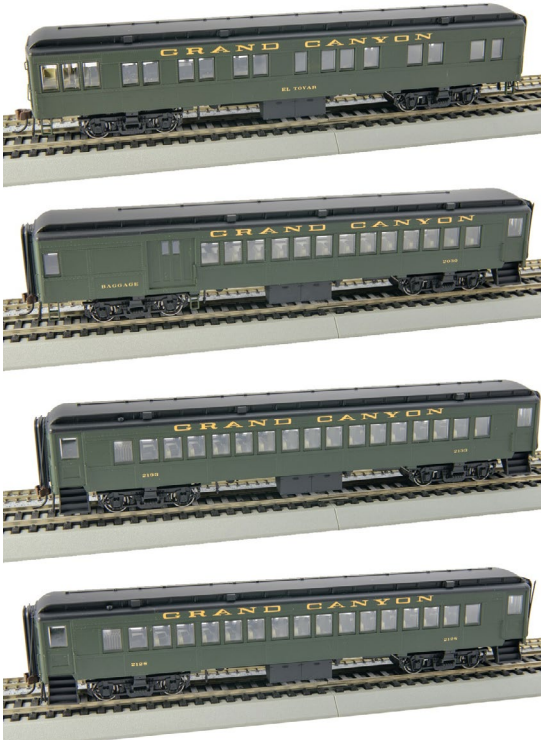




Bowser will produce the GMD and EMD SD40 locomotives in HO scale. These computer design files provide an indication of the detail going into the model. Preparing the production tooling for the GMD and EMD SD40 is scheduled to get under way soon. For additional information contact a dealer or visit bowser-trains.com.

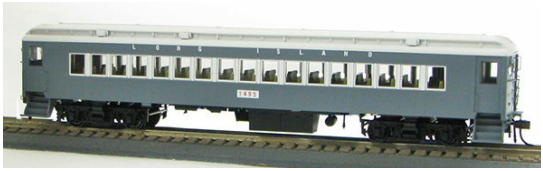
Con-Cor International has announced plans to produce an HO/HOn3 model of the D&RGW OY rotary snow plow and matching tender. Built for standard gauge use in 1923, OY received narrow gauge trucks early in its long life. It was last used in the 1990s

on a special winter excursion train. According to Jim Conway, Con-Cor's goal is to produce a museum quality model with a working blade. It will be offered as a DC/DCC dual mode unit with optional sound.



Con-Cor has also announced a special limited run collectors set of Grand Canyon heavyweight passenger cars intended to be paired with the previously released BLI Grand Canyon 2-8-0. Cars in the collection are a combine car, two coach cars, and the solarium observation car. The run is limited to less than 50 sets.

Con-Cor has released another production run of MP-54 commuter cars.

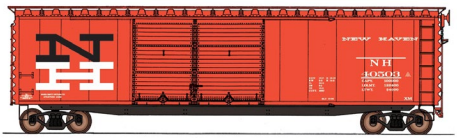


Both coaches and coach-baggage combines are available.

Decorating schemes include Long Island, Penn-Reading, and Pennsylvania Railroad in various combinations of gray and tuscan red with black, white, and Brunswick green roofs.

For more information contact a dealer or visit con-cor.com.

To celebrate its 15th anniversary, **Fos Scale Models** has released a limited run of Bandit's Roost, a complex scene consisting of eight separate buildings. Each structure can be positioned individually or arranged as shown in the illustration. According to Doug Fos, the idea for the model came from a 19th century photograph of a seedy New York City alley named ... Bandit's Roost. For complete details on this challenging, craftsman kit, visit fosscalemodels.com.



InterMountain Railway plans to release a 50-foot PS-1 boxcar with double Youngstown sliding doors next February. Road names for the HO scale ready-to-run model will be New Haven, Southern Pacific, Erie, Frisco (SLSF), Kansas City Southern, Rock Island, Denver & Rio Grande Western, Detroit & Toledo Shore Line, and Western Maryland.

Two different schemes will be available for Akron, Canton & Youngstown; Norfolk & Western, Southern Railway, and Union Pacific.

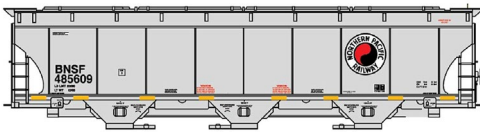
InterMountain has scheduled the release of a 52-foot 6-inch gondola with corrugated sides for next April.

Road names for the HO scale Value Line model will be Union Pacific (two schemes), Missouri Pacific, (two schemes), Missouri Pacific/Union Pacific, Norfolk Southern, Ferromex, and Burlington Northern.

As shown at the NMRA National Convention and the National Train Show in Orlando, InterMountain is developing a 4785 cu ft PS2-CD covered hopper in the late-end-frame version. An early test shot of the main body was present at the show (above). Expected in the first quarter of 2018, roadnames will be Penn Central (H54 – PCB green), CSX Repaint, Conrail (3 schemes), Milwaukee Road, Central Soya (PTLX), MKT, Norfolk Southern (HCP33), Lauhoff Grain (PTLX - round hatch), and undecorated. The models will feature etched metal roofwalks, Kadee couplers, and prototype-specific roof hatches or troughs.

InterMountain is developing new tooling for a Trinity 5161 cu.ft. triple-bay covered hopper. The first release is planned for May 2018. Road names will be Dakota, Minnesota

& Eastern; Canadian Pacific/Soo, ADM, Potash, Union Pacific/CMO, CSX, Norfolk Southern, TILX, and Kansas City Southern, as shown.



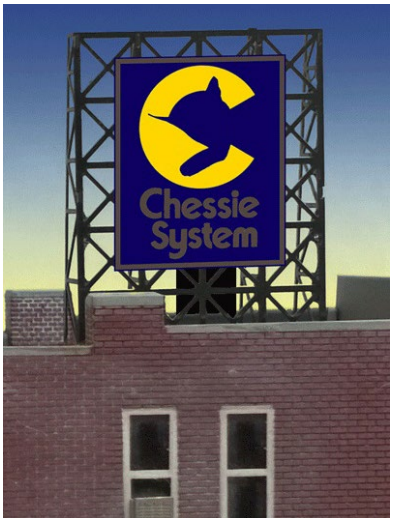
Several cars will be decorated in the BNSF heritage series such as the Northern Pacific version shown. Additional BNSF heritage cars include Spokane, Portland & Seattle; Great Northern, Frisco, The Denver Road, Burlington Route, Colorado Southern, and Santa Fe. For more information on all InterMountain Railway products contact a dealer of visit intermountain-railway.com.

Kadee is quoting an October release date for a new FCX-Fuelane Corp. tank car. The HO scale model is based on a 11,000-gallon prototype built in 1947 by American Car & Foundry. Like the real car, the ready-to-run model displays a Happy Cooking slogan on the side of the silver tank.

Kadee is promising two new HO scale cars in November. First is a Santa Fe 40-foot PS-1 boxcar with 6-foot Youngstown sliding doors. The car has narrow side tabs and is equipped with full height ladders and an Apex metal running board.

The second new model coming from Kadee in November is a 50-foot boxcar with 10-foot Youngstown sliding door. The Great Northern car was built in 1966 by Pullman Standard. In

a subsequent rebuild the running board was removed and the ladders shortened in accordance with updated AAR safety standards, For more information on all Kadee products contact a dealer or visit kadee.com.



Recent flashing electric signs announced by **Miller Engineering** include the Chessie System and Baltimore & Ohio roof top signs shown here. For information on additional HO scale signs visit milleren@microstru.com.

MTH showed production samples of its new 4-8-8-2 AC-6 cab forward steam locomotives at the National Train Show.

The famous Southern Pacific steam locomotive is available in two versions (original flat face and modern curved cab) and in three decorating schemes.

The HO scale ready-to-run model comes equipped with a 28 Function DCC/ DCS decoder that can be controlled with any DCC controller as well as with MTH DCS Digital Command System. Features include digital sound, LED lighting, and synchronized puffing smoke timed to driver revolutions. For additional information contact a dealer or visit mthtrains.com.

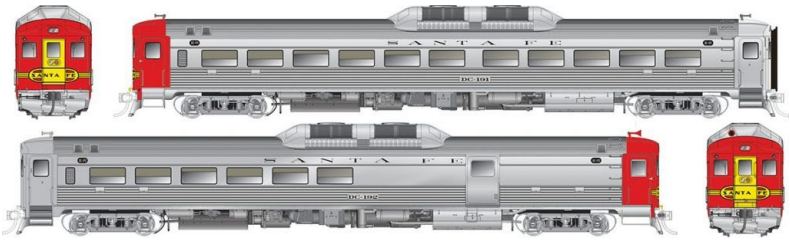
North American Railcar Corporation displayed versions 6 and 7 of their HO scale National Steel Car Potash Service 4275/4300 cu. ft. covered hopper cars at the National Train Show.

Spotting features of version 6 are the short sill and nine, rather than eight, side panels. Version 7 also has nine side panels but it has a long sill. For additional information visit northamericancarcorporation.com.

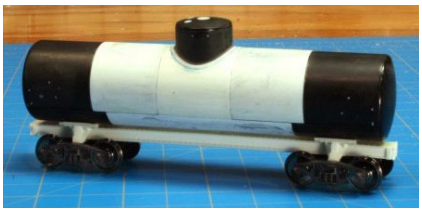
Following the success of its HO scale all-coach RDC-1, **Rapido Trains** has announced plans to produce the RDC-2 and RDC-3 versions of the Budd-built Rail Diesel Cars. The RDC-2 is a baggage/coach combine, while the RDC-3 (above) is an RPO/baggage/coach combine. The new production run will include more RDC-1s (below). All versions including the RPO section will have full interior details

Although Rapido is committed to producing both the RDC-2 and RDC-3, the final selection of road names and paint schemes will depend on advance orders. The following schemes are being considered: Alaska Railroad, Baltimore & Ohio (including ex-ATSF RDC-2), Boston & Maine (Minuteman), Boston & Maine (McGinnis), BC Rail, Chesapeake & Ohio, Chicago & North Western, Chicago, Rock Island & Pacific; Great Northern, Lehigh Valley, Long Island Railroad, New Haven (script), New Haven (McGinnis), New York Central, Northern Pacific, Reading, VIA Rail, and Western Pacific. Painted but unlettered versions will also be offered. The pre-order process will close next February with delivery expected in late 2018.

Subsequent to a major derailment in Anaheim, CA in 1956, Santa Fe's RDC-1 and RDC-2 received an extensive rebuild. Rapido's two ATSF models accurately reflect the unique post -1957 appearance



of the cars including the Warbonnet paint scheme. Santa Fe's DC-191 (RDC-1) is currently being restored at the Orange Empire Railway Museum. Rapido has pledged to donate 5% of the retail sales price of the Santa Fe units to the OERM project. For additional information on all Rapido Trains products contact a dealer or visit rapidotrains.com.



Resin Car Works is working on 6,500- and 10,000-gallon versions of a UTLX class X tank car that it hopes to have ready in October for release at the Chicagoland RPM conference (formerly Naperville meet). The prototypically accurate HO scale models will have tanks and domes cast in resin. The car's frame, bolsters, and running board supports will be 3D printed. Brass stanchions and ladders are being produced by Precision Scale Company.

Also under development at RCW is an SFRD rebuilt refrigerator car. The kit is an upgrade of a resin model issued several years ago by Sunshine Models. The new kit will have a one-piece body that mounts on an Accurail USRA underframe. Features

include photo-etched running boards from Plano Models, photo-etched detail parts from Yarmouth Model Works, and decals from Speedwitch Media. The model represents Rr35/36/39/40 class cars that were rebuilt with reinforced eaves and doors that differ from the popular SFRD model sold by InterMountain. RCW plans to release the SFRD reefer and a new Great Northern double-sheathed boxcar late this year. For additional information visit resincarworks.com.

At the National Train Show, German-based **Roco** showed a working model of a Norwegian State Railways Beilhack rotary snow plow. The animated HO scale model attracted a large crowd as the rotary blades spun, the plow head moved up and down, and the entire unit turned 180 degrees on its trucks. It is also emitted appropriate rotary snow plow sounds. For additional information contact a dealer or visit roco.cc/en/productsearch/0-0-0-3-1-0-0-002003/products.html.

Summit USA has released kits for two new HO scale structures that assemble into familiar Domino's Pizza and Dollar General stores. Each kit includes all building parts and window frames milled in black and white styrene, clear acrylic window glazing,

street sign, and self-adhesive logo signs. The step-by-step assembly instructions include photos to aid in construction. For additional information visit summit-customcuts.com.

Among the many new items **Walthers** displayed at the National Train Show was this pre-production sample of an HO scale Trinity 3281 cu.ft. twin-bay covered hopper. The finished model will ride on modern roller-bearing trucks with 36-inch machined metal wheelsets. In addition to Trinity Leasing, road names are expected to include WSOX-First Union Rail, CSX, General American, Norfolk Southern, and Union Pacific. Availability is planned for late this year.

Also on display at the National Train Show was this Proto series 50-foot bulkhead flat car. The HO scale ready-to-run model is scheduled for release in October. It follows a prototype built by Canadian Car & Foundry in the late 1970s. Road names will be Duluth, Winnipeg & Pacific; British Columbia Railway, Canadian National, Ontario Northland.

A new run of HO scale 50-foot ACF exterior post boxcars with sliding Youngstown doors is also set for release next month. The Mainline series models will be available in two numbers each for Nacionales de Mexico, BNSF, Escanaba & Lake Superior, Illinois Central Gulf, Railbox, and Vermont Northern.

The prototype of this 50-foot RD-4 coal hopper car was introduced in the 1990s. They were equipped with rotary couplers and five RD (rapid discharge) bays. Walthers plans to sell its HO scale Mainline models in three-packs of cars in the same scheme with three different numbers. Two of the three cars will be equipped with a metal knuckle coupler for the outside end with dummy knuckle couplers on intermediate cars. Road names will be BNSF, Flex Leasing Corporation, Norfolk Southern, and Trinity Industries Leasing. Availability is scheduled for November.

Walthers will release another production run of 72-foot center beam flat cars in late January 2018. The ready-to-run Proto series model features a series of oval windows in the center beam. Road names will be British Columbia Railway, Canadian National, Northwestern Oklahoma Railroad, TTX Corporation, and Union Pacific.

In 2003, Thrall began rebuilding older well cars so they could carry 20- and 40-foot containers in the well and 53-foot containers on top. Walthers is quoting a February 2018 delivery date for a group of HO scale Mainline models representing TTX series 53000 and DTTX 745000 rebuilt well-cars.

Walthers presentation of UPS items attracted considerable attention at the National Train Show. On display were two UPS structures including the hub distribution center. It is scheduled

for release in November. The structure features licensed UPS shield and bow tie logo signs, and bellows weather seals on the truck loading doors.

This UPS storefront structure is scheduled for release in February 2018. It includes UPS signs and two after-hours drop stands.

Complimenting both UPS structures is a group of 20 UPS vehicles including single-axle semi-tractors, single-axle box trucks (above left), package delivery vans (above right), and five different size trailers including 26-foot drop-floor types. The updated delivery van will come with windows. Availability of the trucks will be staggered over the next six months. For additional information on all Walthers products contact a dealer or visit walthers.com.

Westerfield Models has released craftsman-style resin kits for 36-foot 6-inch Southern Pacific and Union Pacific stock cars with steel underframes. The prototypically accurate models

replicate a series of single and double-deck cars built by Pressed Steel Car Co. beginning in 1906.

Westerfield has produced several versions of the model that reflect four distinct periods of the stock cars as used by Southern Pacific and Union Pacific and their subsidiaries. The SP version covers Galveston, Houston & San Antonio, Iberia & Vermillion, Morgan Louisiana & Texas, Central Pacific, and Texas & New Orleans. The UP version is also correct for Oregon Railway & Navigation, Oregon & Western, Oregon Short Line, and Oregon-Washington Railway & Navigation.

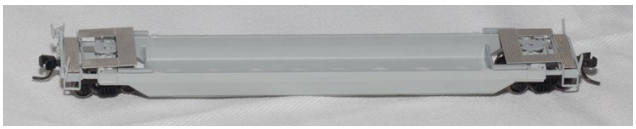
The kits feature cast urethane body parts, a one piece cast roof, Yarmouth etched bronze Carmer uncoupling levers and side sill steps, appropriate decals with several car numbers, weights, and dates. The extensive assembly instructions include a detailed history of the prototype. For additional details including ordering instructions visit westerfieldmodels.com.

N SCALE PRODUCT NEWS

Athearn has scheduled the release of a group of 50-foot Santa Fe ice reefers for next July. The cars are decorated for the Super Chief on one side with the Santa Fe straight line system map on the opposite side. A gray Santa Fe MOW version will also be available. The N scale

models have Santa Fe-style reversed ice hatches, separate brake rigging, and screw-mounted trucks.

Although these ice reefers are distinctly of Santa Fe/SFRD design, they are being offered for several other road names including North Western Refrigerator Line (C&NW), Railway Express Agency, Milwaukee Road, and Western Fruit Express (Burlington Northern). For more information on all Athearn products contact a dealer or visit athearn.com.



Atlas is developing a new N scale 40-foot rebuilt well car for release early next year. As the preference for 53-containers increased rapidly in the late 1990s, carriers with well cars designed for 48-foot containers scrambled to acquire new equipment. The problem became acute with thousands of 48-foot well-cars being largely unusable. One solution to the shortage of suitable well-cars was the Husky-Stack, an all-purpose a conversion program developed by Trenton Works. The Atlas ready-to-run version of the rebuilt car is designed to handle their 40-foot containers. The car will have a diecast body, separately applied grab irons, and etched metal walkways. Road names include NOKL, and

three versions of TTX. The first test shot of the diecast body and etched detail parts was on display at the National Train Show.

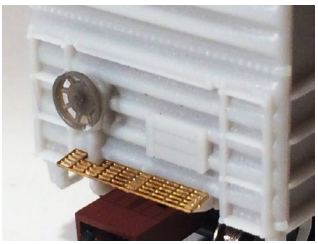
As a suitable load for the new rebuilt well cars, Atlas will release a group of 40-foot ISO corrugated steel containers. Features include beveled corrugated sides, corrugated ends, and 1-1 door style with OTI handles. Three-packs will be available for containers decorated for EMCU-Evergreen, EISU-Evergreen, Uniglory, Genstar, and Wan Hai.

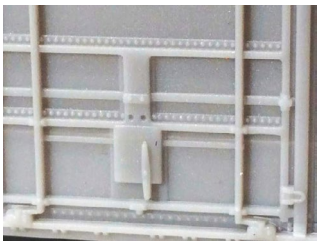
Also coming from Atlas during the first quarter is a new N scale pulpwood flat car. The Master series model is based on a V-deck design with bulkheads, as built in the early 1950s by General Steel Casting. Two road numbers each will be available for Gulf, Mobile & Ohio; Western Maryland, Illinois Central Gulf, Delaware & Hudson, Maine Central, and Atlantic Coast Line. The N scale ready-to-run model comes with a removable simulated pulpwood load. For more information on all Atlas products contact a dealer or visit atlasrr.com.

Work continues at **Eastern Seaboard Models** on developing an N scale version of the Portec Tri-level auto rack. Shown here is a test sample of applying decoration to the etched

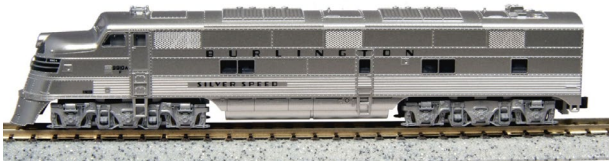
nickel-silver body wrap. The final kit will consist of the etched wrapper, pewter flat car body, and a styrene deck.

Also nearing completion at ESM is an X65 boxcar with a Keystone-cushioned underframe and Atlas/BLMA ASF 70-ton Ride Control roller bearing trucks with metal wheelsets. Road names will be New York Central, Pittsburgh & Lake Erie, and Lehigh Valley.





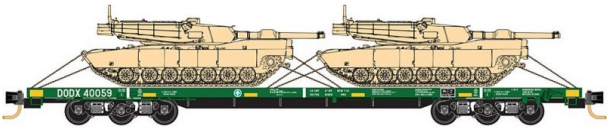
Availability is planned for the fourth quarter of this year. For additional information contact a dealer or visit esmc.com.



KatoUSA is selling two versions of Chicago Burlington & Quincy EMD E5A diesels to accompany its N scale California Zephyr train set. At the National Train Show, Kato announced that it will also release Western Pacific F3A and F3B units as well as Denver & Rio Grande Western Alco PA1 and PB1 locomotives beginning this December.

The F3s will be available decorated in Western Pacific orange and silver scheme.

The Alco units will wear the D&RGW four-stripe Aspen scheme. All of the N scale locomotives will be available equipped for DC or DCC operation. A special unit with DCC and sound must be preordered through a participating dealer. For more information on all Kato products contact a dealer or visit katousa.com.



Micro-Trains Line is selling DODX 69-foot flat cars, a multi-purpose flat car designed to handle the weight of two M1 Abrams tanks. The prototype was built in 1981 by FGE. This all-new Micro-Trains N scale model features a detailed deck with vehicle tie-down channels, mounting points for containers, and Buckeye six-wheel roller bearing trucks. Each model comes with a plastic injection molded kit of the M1 Abrams tank and chain tie-downs.

New releases from Micro-Trains include this Western Pacific 50-foot boxcar with

8-foot plug doors. The N scale model is based on a prototype that had its running board removed in the late 1970s.

Micro-Trains was also displaying a version of the 50-foot boxcar with two Youngstown doors at the National Train Show.

Two heavyweight passenger cars have recently been released by Micro-Trains. Shown above is a 12-1 sleeper decorated for Norfolk & Western with buff lettering and striping on a maroon body.

The prototype of this 78-foot Denver & Rio Grande Western paired-window coach served on the Royal Gorge Train before being retired to MOW service.

Bethlehem Steel began building 89-foot tri-level closed autorack cars in 1969. The Micro-Trains ready-to-run N scale version is decorated for Chicago & North Western. For more information on all Micro-Trains Line products contact a dealer or visit micro-trains.com.

Model Rectifier Corporation has upgraded the old Model Power N scale 4-4-0 American type steam locomotive with an improved flywheel drive and a 5-pole Mashima motor. Additional improvements include a traction tire driver, golden white LED, increased weight in the tender, knuckle couplers, and a redesigned driver wiper pick-up.

Road names include Chicago, Burlington & Quincy; Atlantic Coast Line, Baltimore & Ohio, Boston & Maine, Chicago & North Western, Louisville & Nashville, Long Island Railroad, Minneapolis & St. Louis, Milwaukee Road, MKT, Northern Pacific, New York Central, Pennsylvania Railroad, Santa Fe, Southern Railway, and Southern Pacific.

Several road name-specific details are added to the models, including different headlight positions, two styles of pilot, Andrews or arch bar tender trucks, and square or arched cab windows.

An undecorated version comes with all of the optional components. The N scale models are available with MRC's dual mode control system that operates on DC and DCC. modelrectifier.com.

During the National Train Show **ScaleTrains.com** announced plans to produce two versions of the Union Pacific water and fuel tenders. Each of the N scale Rivet Counter tenders will feature different piping, water fills, welding seams, and access plates. The

pre-2006 water tender set (above) operated with UP FEF-3 No. 844 and No. 8444 from the early 1980s through the early 2000s. It was also used on the Freedom train with SP No. 4449.

The post-2006 rebuilt water tender set features a large American flag. It was used with UP FEF-3 No. 844 and Challenger No. 3985. Both versions of the tender include front and rear LED lighting that is programmable using DCC.

ScaleTrains.com also plans to offer un-numbered versions of the Big Blow turbine fuel tenders. For additional information on all ScaleTrains.com products visit scaletrains.com.

Z SCALE PRODUCT NEWS

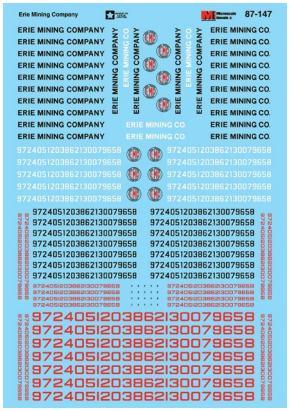
American Z Line showed pre-production samples of Z scale Krauss-Maffei

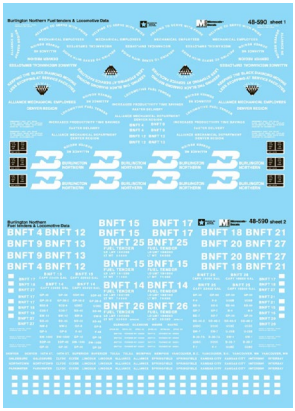
diesel-hydraulics at the National Train Show. No information was available on a release date.

Current Z scale products on display at the show included an Iowa Interstate ES44AC diesel locomotive, and a Greenville 60-foot boxcar decorated for Union Pacific.

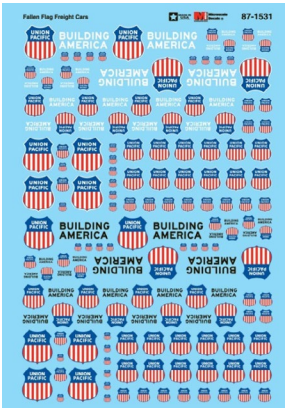
For additional information on all AZL products visit americanzline.com.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

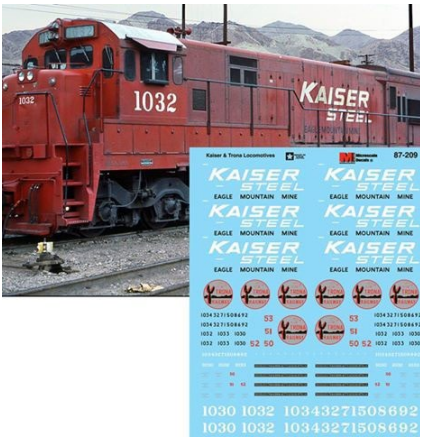




Microscale Industries latest releases include N, HO, and O scale decals for 20 and 40 foot Orient Overseas Container Line (OCCL) containers from the 1970s to 1985. Also available in N and HO scale are decals of colorful Train and Street Graffiti.

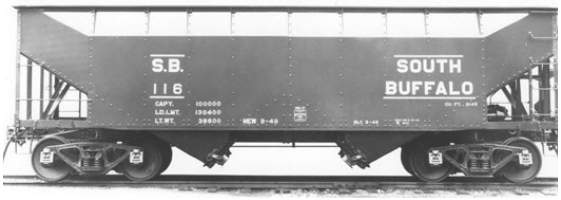


Also new are lettering sets for Union Pacific "fallen flag" freight cars and Boston & Maine passenger equipment. The B&M lettering is in Dulux gold.

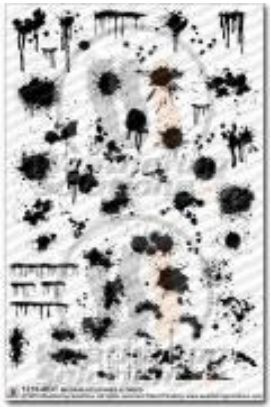


Microscale also has HO and N scale lettering sets for hood diesels of the Kaiser / Trona Eagle Mountain Railroad. EMRR was a private railroad in California, owned by the Kaiser Steel Corporation. For more information on all Microscale products contact a dealer or visit microscale.com.

Precision Vintage Classics is selling decals for reefers serving the Alaskan Brewery. The lettering sets are available for O, S and HO narrow gauge, and for S and HO scale standard gauge. For complete details including ordering instructions visit pvc-sn3.com.



New O scale lettering sets available from **Protocraft Decals** include this South Buffalo 70-ton open hopper. Also new are prototypically accurate lettering sets for Western Pacific drop-end Greenville gondolas, and Union Pacific class G-50-11 general service gondolas. For additional information visit protocraft.com.



Weathering Solutions has developed a unique selection of water-slide decals for weathering railroad equipment. The decals simplify the application of realistic rust, damage, graffiti, and general grunge to a model. Samples shown above are, from the left: Rust Leaches, Boxcar Roof Rust, and Splashes & Drips. Additional decals replicate Lime & Flour Residue, Oil Spots & Streaks, Rust Scratches, and Graffiti. For more information visit store.weatheringsolutions.com/products/all?per_page=50.

MRH author Tony Thompson posted a helpful discussion about the use of these decals in his blog. It can be accessed at modelingthesp.blogspot.com/2017/07/using-weathering-solutions-decals.html.

DISCLAIMER .....

The opinions expressed in this column are those of the writer and do not necessarily reflect the opinion of *Model Railroad Hobbyist* or its sponsors. Every effort is made to provide our readers with accurate and responsible news and information, however, neither *Model Railroad Hobbyist* or the writer of this column can be held responsible for any inaccuracies or typographical errors that may inadvertently appear in this column.

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Briefly noted at press time ...

American Limited is developing an HO scale model of a 16,000 gallon welded tank car with open grid platforms and walkways. The model replicates Santa Fe classes TK-N and TK-O cars from the late 1940s. Delivery is expected late next year. Info at americanlimitedmodels.com.

Imperial Hobby has released an HO scale hybrid kit for a Toronto CLRV. The body shell and end windscreens are resin castings. The underframe and other detail parts are 3D printed. The car is designed to use a Bowser drive unit. Info at ihphobby.tripod.com.

InterMountain Railway is taking reservations for HO and N scale SFRD Class Rr21, Rr23, Rr27 and Rr32 refrigerator cars decorated with Santa Fe name trains and system maps. Availability is planned for next spring. Info at intermountain-railway.com.

Mount Vernon Shops has released HO scale decals for "Moonshine Hoppers", a group of cars banned from interchange but operated on-line by the Chessie System in the late 1970s. More info at mountvermonshops.com.

San Juan Car Company has acquired San Juan Decals from the estate of the late Dan Peterson. The announcement was made by Bob Staat, president of SJCC. The existing line of Nn3, Hon3, Sn3, On3 and Fn3 narrow gauge decals is being reorganized and will be produced under the direction of SJCC general manager John Engstrom. Info at sanjuancarco.com.

SoundTraxx will soon release GenSet sounds for its Tsunami2 line of digital sound decoders. Info at soundtraxx.com.

SELECTED EVENTS

September 2017

(Please note that many events charge a fee. Check individual info website for details.)

AUSTRALIA, ADELAIDE, September 16-17, NMRA Australasian Region Convention, Torrens Valley Christian School, 1227 Grand Junction Road, Hope Valley. Info at nmra.org.au/Convention2017/convention17.html.

AUSTRALIA, QUEENSLAND, TOOWOOMBA, September 24, Carnival of Trains, sponsored by Toowoomba Model Railway Club, at Model Railway Museum & Display Centre, Towoomba Showgrounds, Glenvale Road. Request info at tcof.com.au/events/carnival-of-trains.

AUSTRALIA, SOUTH ADELAIDE, OLD REYNELLA, September 7-10, 15th National N Scale Convention, at St. Francis Winery Function Centre, 14 Bridge Street. Info at convention2017.nscale.org.au.

CANADA, ONTARIO, BRAMPTON, September 30-October 1, Brampton Model Railway Show, at Brampton Fairgrounds, 12942 Heart Lake Road. Info at bramptonmodelrailwayshow.com.

CANADA, QUEBEC, MONTREAL, September 30-October 1, Montreal Model Train Exposition, at Sun Youth Organization Centre, 4251 St. Urbain Street. Info at montrealmodeltrainexposition.com.

CALIFORNIA, ONTARIO, September 13-16, NMRA Pacific Southwest Region Convention, at Ontario Convention & Airport Hotel, 2200 East Holt Boulevard. Info at psrconvention.org/ontariomanifest.

CALIFORNIA, PERRIS, September 9, Fall Railroadiana Swap Meet, sponsored by Orange Empire Railway Museum, 2201 South A Street. Into at oerm.org.

COLORADO, DENVER, August 30-September 2, National Narrow Gauge Convention, at Marriott Denver Tech Center Hotel. Info at 37nngc.com.

INDIANA, INDIANAPOLIS, September 8-9, Hoosier Traction Meet and Midwest Interurban & Streetcar Society, at Clarion Waterfront Plaza Hotel, 2930 Waterfront Parkway West. Info at hoosiertractionmeet.com.

INDIANA, NOTRE DAME, September 22-23, Modeling like a PROtotype, presented by NMRA Michiana Division, at McKenna Hall, University of Notre Dame, 1399 North Notre Dame Avenue. Info at michiana-nmra.org/conferences.html.

MARYLAND, SHARPSBURG, September 9, Model Train Sale, sponsored by Hagerstown Model Railroad Museum, at Washington County Agricultural Education Center, 7313 Sharpsburg Pike. Info at antietamstation.com.

MICHIGAN, GRAND RAPIDS, September 14-17, NMRA North Central Region Convention, at Delta by Marriott, 3333 28th St. SE and East Beltline. Info at ncr-nmra.org/event/runnin-rails-grand-rails-2017.

TEXAS, TEMPLE, September 16-17, Annual Temple Model Train Show, at Frank Mayborn Convention Center 3303 North Third Street.

VIRGINIA, VIRGINIA BEACH, September 30-October 1, 28th Annual Train Show & Sale, sponsored by Tidewater Division Model Railroaders, at Virginia Beach Convention Center, 1000 19th Street. Info at nmra-mer-tidewater.org.

October 2017, by location

ILLINOIS, LISLE, October 26-28, Chicagoland RPM (formerly known as Naperville RPM), at Sheraton Hotel and Conference Center. Event hosted by Mike Skibbe and co-sponsored by NMRA. Info at rpmconference.com.

MASSACHUSETTS, BOXBORO, October 14-15, 53rd Annual Railfair sponsored by Nashua Valley Model Railroad Association, at Boxboro Regency Hotel, 242 Adams Place. More info at nvrra.com.

MICHIGAN, WYOMING, October 14, Grand River Valley Railroad Club Fall Train Show, at Home School Building, 5625 Burlingame Ave. Info at grandrivervalleyrrc.org/shows.html.

MISSOURI, KIRKWOOD, October 7-8, 27th Annual Greater St. Louis Metro Area Train Show, at Kirkwood Community Center, 111 S. Geyer Road. Info at seetrains.com.

NORTH CAROLINA, WINSTON-SALEM, October 20-21, RPM Carolinas School of Railway Prototype Modeling, 1450 Fairchild Road. Info at sissonstony.wixsite.com/rpm-carolina.

OHIO, SPRINGFIELD, November 4-5, 42nd Annual Dayton Train show sponsored by NMRA Division 3 at Upper Valley Mall, 1475 Upper Valley Pike. Info at daytontrainshow.com.

SOUTH CAROLINA, COLUMBIA, October 14, Model Train Show, at Jamil Shrine Temple, 206 Jamil Road. Info at southcarolinatradeshows.com.

UTAH, SANDY, November 11-12, Intermountain Train Expo, at South Towne Expo Center, 9575 South State Street. Info at intermountaintrainexpo.com.

WASHINGTON, CHEHALIS, October 14-15, Fall Swap Meet & Train Show, sponsored by Lewis County Model Railroad Club, at Southwest Washington Fair Grounds, Blue Pavilion Building, 2555 North National Avenue. Request info from tedstrains@lewiscounty.com.

Future 2017, by location

CALIFORNIA, SIMI VALLEY, November 4, Swap Meet, sponsored by Santa Susana Railroad Historical Society, at 6503 Katherine Road. Info at santasusannadepot.org/Clubhome.html.

MICHIGAN, EAST LANSING, November 5, Lansing Model Railroad Club Show & Sale, at Michigan State University Pavilion, 4301 Farm Lane. Info at lmrc.org.

NEW JERSEY, EGG HARBOR TOWNSHIP, December 9-10, Train Show sponsored by Shoreline Model Railroad Club, at Atlantic Christian School, 391 Zion Road. Request info from Dennis Weiss at trains1971@comcast.net.

NEW YORK, ALBANY, December 3, Annual Great Train Extravaganza, at Empire State Convention Center. Info at gtealbany.com.

PENNSYLVANIA, ALTOONA, November 2-3, Fine Scale Model Railroad Expo, at Blair County Convention Center. Details at facebook.com/railroadexpo.

SOUTH CAROLINA, NORTH CHARLESTON, November 18-19, 6th Annual Train Show, sponsored by the Charleston Area Model Railroad Club, at Danny Jones Armory Park, 5000 Lackawanna Blvd. Info at chamrc.com.

TEXAS, BULVERDE, November 11-12, The Enjoyment of Model Railroading, presented by San Antonio N-Trak Association at Bulverde Spring Branch Library, 131 Bulverde Crossing. Info at santrak.org.

WISCONSIN, MILWAUKEE, November 11-12, Trainfest, sponsored by NMRA WISE Division, at Wisconsin State Fair Park, Info at Trainfest.com.

Future 2018, and beyond by location

SOUTH CAROLINA, EASLEY, February 10-11, Annual Train Show, sponsored by Central Railway Model & Historical Association at (new location) Impact Center, Rock Springs Church 207 Rock Springs Road. Info at crmha.org. ■

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Model Railroad Hobbyist | Sep 2017 | #91
REVERSE RUNNING
commentary

Paul Schmidt

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Trains on an island

I love islands. Seeing as how I live in the island-rich Puget Sound region, that's a bonus. There's another kind of island for which I've long had an affinity: the island-style model railroad.

Photo from Forzanu.com

Long regarded as less than best practice, island-style layouts are generally held to be for the beginner's first layout. Later endeavors by the newcomer are expected to conform to conventional wisdom, i.e., the around-the-walls, linear concept of "good model railroad design."

The island design gets a bad rap, I say.

While musing on this recently, I realized island-style model railroads have been the ones I've most enjoyed. For example, John

Armstrong's now-classic Creative Layout Design featured a large HO scale island design depicting the Milwaukee Road through the Bitterroot Mountains.

My current N scale layout, the Southern Railway's Slate Fork Branch, is built atop a 36 x 80-inch hollow-core door. I'm planning an expansion, and will maintain its island-style functionality.

"What functionality, Schmidt? Island layouts eat space, are impractical, and are just for roundy-roundy operations," critics would posit.

Yes, not really, and no. True, island layouts don't use available space as well as around-the-walls designs.

But neither do island layouts necessarily require a backdrop (high ridges can serve as view blocks), nor valances with lighting (overhead LEDs or fluorescent lights serve well), nor lots of extensive carpentry in many cases. With thoughtful scenic planning, an island layout can provide several distinct, isolated viewing areas akin to an around-the-walls design. For example, my Slate Fork Branch has four of these viewpoints.

I like that the Slate Fork is essentially self-contained. I haven't smothered every available wall in the bonus room with attached layout nor added a polyp-like peninsula. Those can make a layout room cramped and uninviting to me.

Island layouts can also host prototypic point-to-point operations while retaining a continuous-running option (as my Slate Fork Branch does). Check out Byron Henderson's "Switchman's Dream" and Iain Rice's plans, among other noted designers, for ideas.

Don't overlook island layouts when pondering your next layout project. They're fun, can be operated prototypically, and can be a lot easier to move if designed well. Island-style model railroads aren't just for beginners. Aloha! ☑

DERAILMENTS

Real head-on loco crash staged as movie stunt

Back in 1952, Paramount Pictures filmed the movie "Denver and Rio Grande" on the actual Denver & Rio Grande narrow gauge railroad in Colorado.

The movie featured a head-on train crash between 2-8-0 locomotives 268 and 319. Both locomotives were donated by the D&RG because they were destined to be scrapped. ■

BIZARRE FACTS AND HUMOR (SUPPOSEDLY)

Off the rails ...

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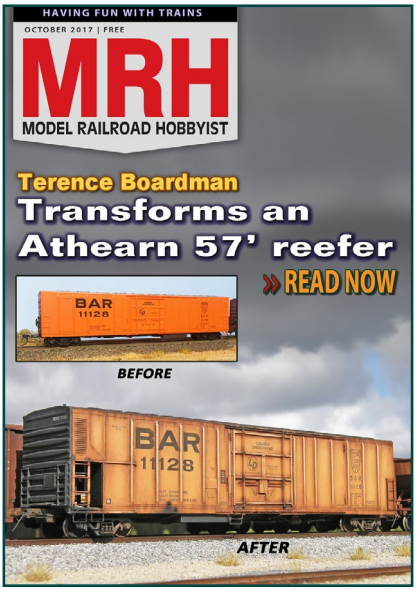
Coming next issue ...

- Terence Boardman transforms an out-of-the-box Athearn reefer into a super-realistic model.
- An album of Mike Confalone's latest rolling stock projects
- More minimalist weathering insights from Joe Fugate
- And lots, *lots* more!



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