

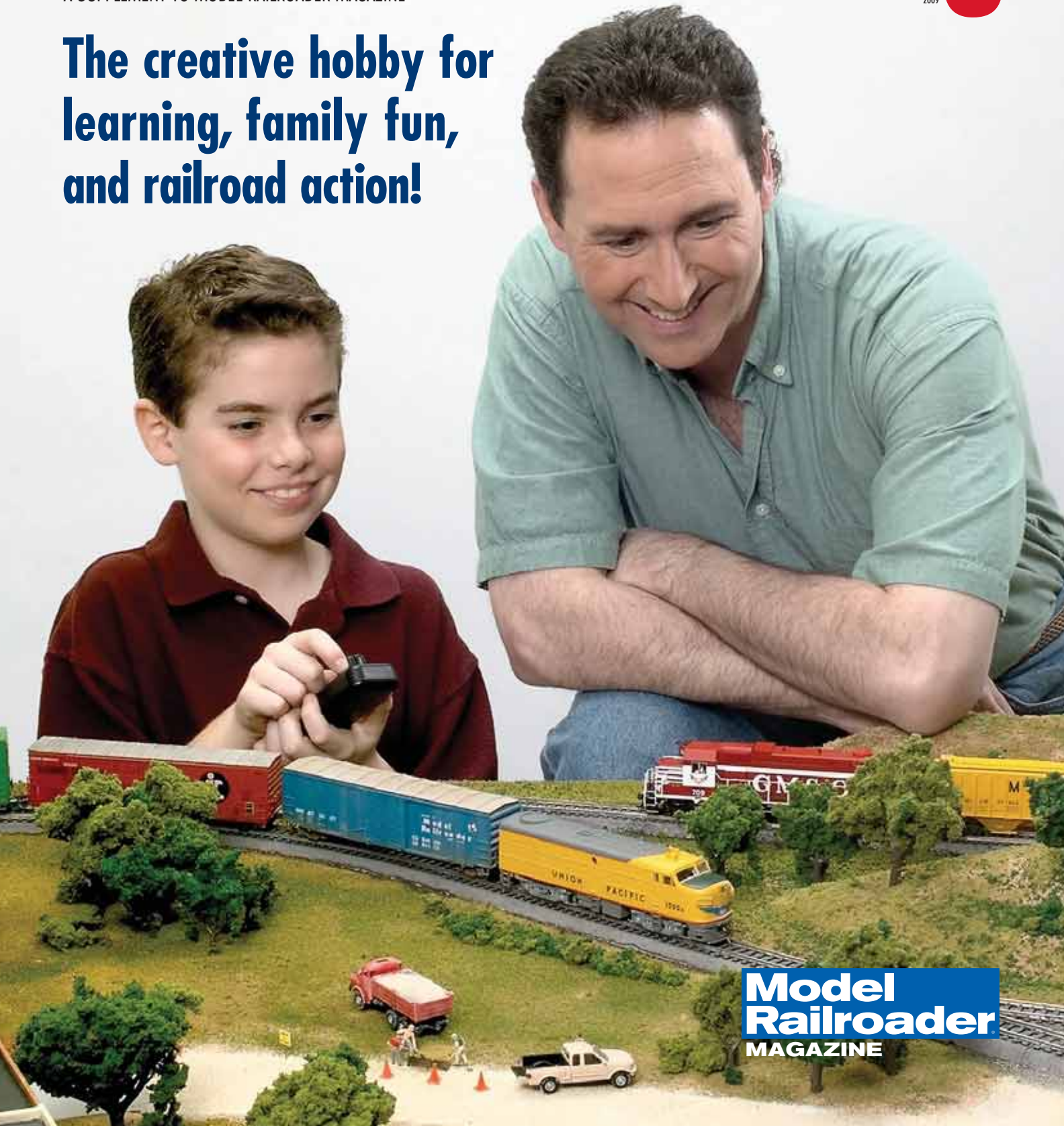
Introduction to Model Railroading

A SUPPLEMENT TO MODEL RAILROADER MAGAZINE

618214
2009

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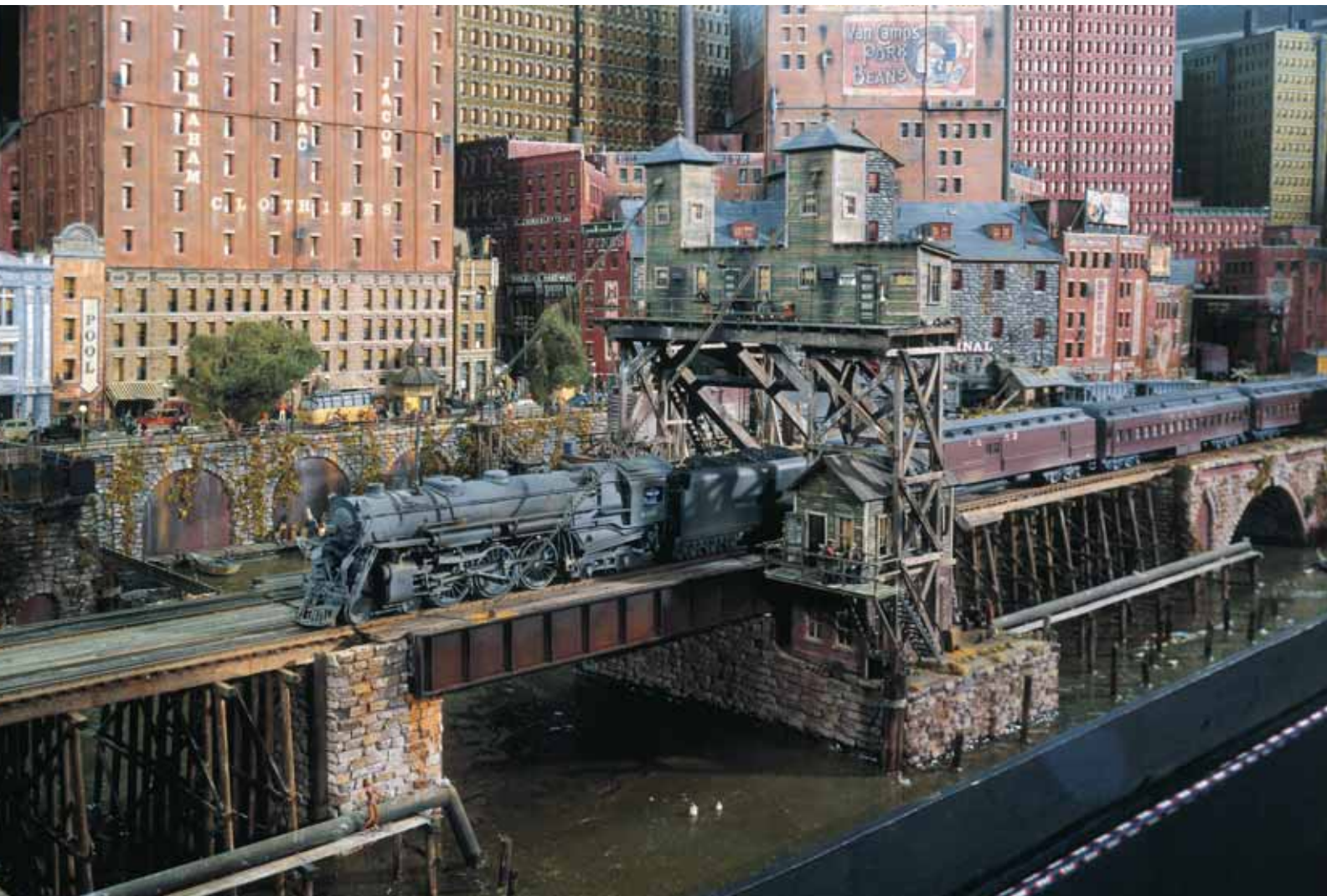
The creative hobby for
learning, family fun,
and railroad action!



**Model
Railroader**
MAGAZINE

Welcome to a great hobby

By Jim Kelly



Dave Frary

▲ George Sellios' HO scale Franklin & South Manchester can take your breath away. Many consider it today's ultimate model railroad.

MODEL RAILROADING is a fascinating hobby shared by a quarter-million Americans and at least a million more train lovers throughout the world.

At the heart of model railroading lies our fascination with the train models themselves. We love those delicate miniatures that reproduce every detail on the real thing, right down to the rivets and the bolt heads. A precision model of a railroad locomotive is an intriguing object in its own right, to be prized like a fine watch or a music box.

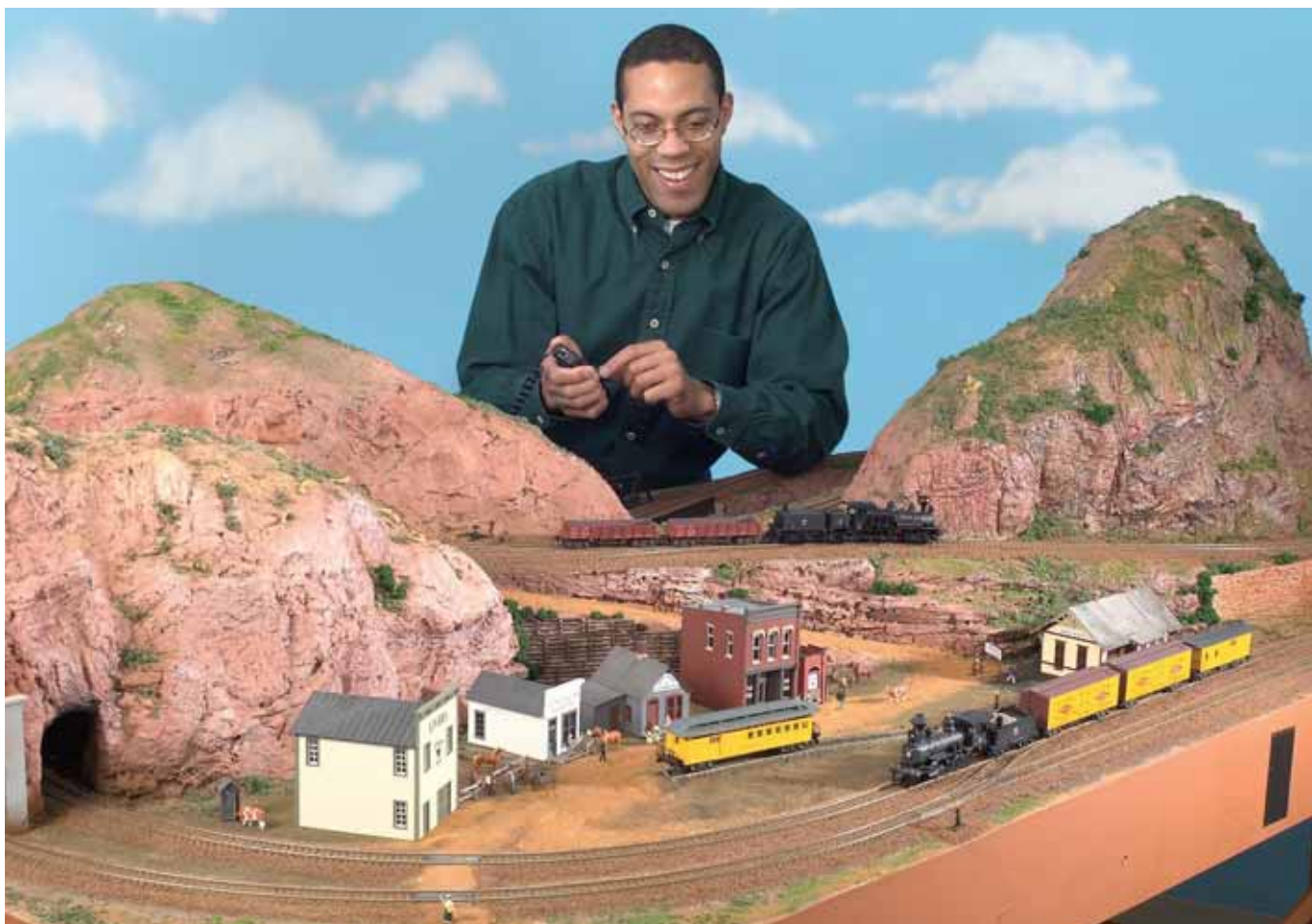
Those entering the hobby come through many doors. For those railfans among us models are mementos of the world of real railroading, which they thoroughly enjoy observing. Railroad models are souvenirs of railroading, just as aircraft models

represent the romance of flight or ship models invoke the adventure of seafaring.

Some model railroaders like to collect, build, and run models of the trains they saw in their youth. They build working layouts featuring the stations, the scenery, the vehicles, the sidings – in short, everything as it was during their childhood.

Others have a historical bent and enjoy reaching back into the nation's past, to the fascinating days of steam locomotives and the opening of the West.

A big attraction is simply that our models move. No other hobby combines the fascination of miniatures with movement the way that model railroading does. If we want we can make up trains in a yard, switch them in and out of industries along the way, and run our trains just like



William Zuback

the real ones. Or we can simply relax and watch them go around the layout in lazy loops. It's our railroad, run our way.

A Hobby All Your Own

Lots of model railroaders build layouts, but lots don't. Many build and paint models of railroad cars, many don't. Some prefer steam engines; some diesels. Ultimately there are so many ways to enjoy the hobby that each model railroader invents his own. No two model railroaders could build layouts that were exactly alike, even if they tried. We may buy the same models and kits, but we express our own creativity and imagination in the ways we use them.

For some, model railroading is a casual affair that involves buying a railroad model now and then and reading about the hobby. These are the armchair modelers.

Others go a little further, perhaps building a small model railroad complete with some buildings and scenery and going to local train shows and meets when the opportunity arises.

For others model railroading becomes a passion. They dedicate years to building a basement- or garage-sized layout. They join organizations, travel cross-country to attend model railroading activities, and call on friends to help them build and run their model railroads like the real thing.

Model railroading isn't hard, and there are lots of magazines, books, and videotapes to help. In



A. L. Schmidt

the course of having fun you'll also learn about woodworking, electricity (even electronics and computers if you care to), and working with plaster and art materials. You'll learn about how real railroads work and the role they've played in our culture and economy.

In becoming model railroaders we become more observant of the world around us – not just trains, but industry, nature, geography – in short, everything. Model railroading involves us in an intriguing paradox. Working on the model railroad is a great way to escape the pressures of our everyday lives, yet in so doing we find ourselves learning more and more about our world. Our daily lives are enriched and we take more pleasure in everything around us.

▲ Most model railroaders get started on a standard-size 4 x 8-foot sheet of plywood. Here's a nice example done in HO scale. The Rock Ridge Central is a fictional or "free-lanced" railroad.

◀ Our fascination with beautifully detailed miniatures dates to the beginnings of civilization. This N scale diesel-electric locomotive is made by Kato.

It's a breeze getting started

BACK IN THE DARK AGES of model railroading, the 1920s and '30s, only a few hundred model railroaders roamed the land. Very few kits and parts were available and these hardy souls had to make almost everything themselves. Much as we admire their machine tool skills and rugged individualism, we find ourselves much better off today. The engines, the cars, the track, the power pack – even the grass and the rocks – just about everything we need to build a model railroad we can buy.

And we can buy it at more than a thousand well stocked hobby shops of the sort that simply didn't exist until the modern era of model railroading began after World War II. Enter a hobby shop for the first time and you'll likely be astounded by the variety of products available. Truly it can be an adult's candy store.

And usually your hobbyshop proprietor and his staff are your model railroading pros. They can advise you on which models offer the best value and answer your questions on layout building. Many hobby shops also offer special services, such as model building, repair, and painting. The hobby shop is a model railroading outpost where you're likely to meet others who share your interests.

Model railroading has changed so much since it began. Now we've got the best of all possible worlds – we can buy a gorgeous locomotive ready to set on the track and run, we can build a locomotive from a kit, or we can build it from scratch just like the old-timers did. There are more fine craftsmen in model railroading now than ever before – the difference is that today you don't have to be one unless you want to.

Your First Layout

One excellent, time-proven way to get started is to build your first layout on a 4 x 6 or 4 x 8-foot sheet of ½" plywood mounted to a simple frame made of 1 x 4 lumber. Your hobby dealer can show you some books that include track plans for small layouts. You'll also find good basic information in *Practical Guide to HO Model Railroading* and *Beginner's Guide to N scale Model Railroading*. These two books – and many more – are published by Kalmbach Publishing Co.

Track is easy. Probably you've already seen the sectional track that comes with Christmas train sets. Typically it takes six curve sections to make a half-circle, usually 36" across in HO scale or 19½" in N. In HO scale straight sections are usually 9"



A. L. Schmidt

▲ Most hobby shops have a wide selection of model railroad products and also offer service on the lines they sell.

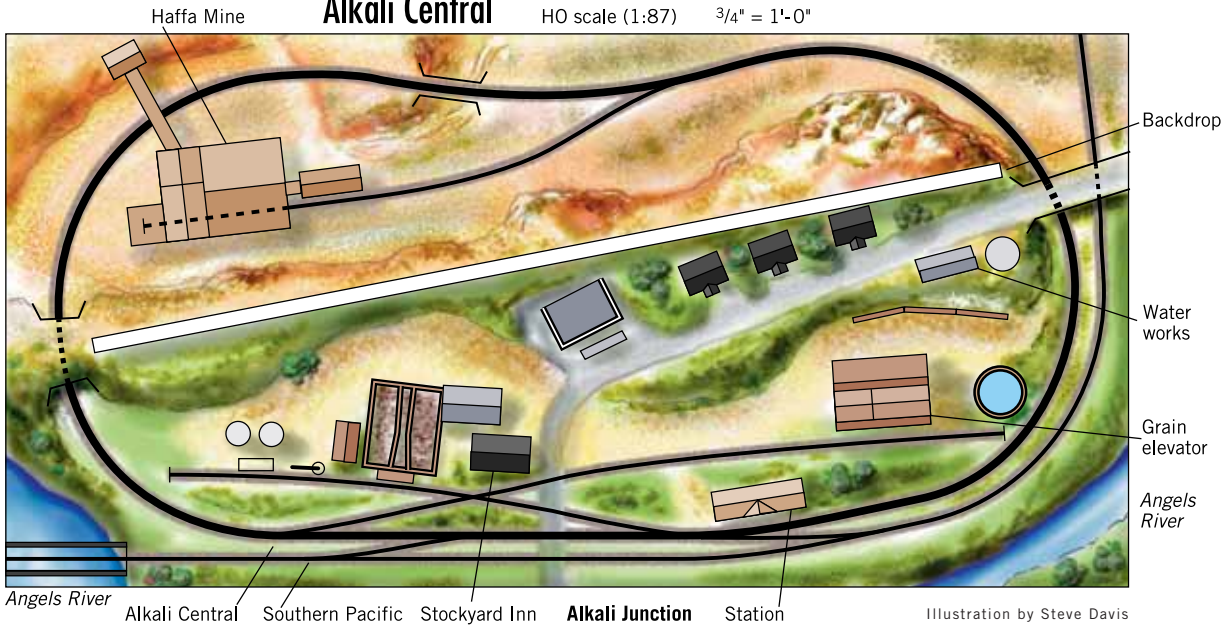
▶ This HO Life-Like diesel locomotive is representative of the fine models available today. It features both authentic paint and accurate details for the real Gulf, Mobile & Ohio RR.



Jim Forbes

Alkali Central

HO scale (1:87) 3/4" = 1'-0"



long. Your dealer has more track sections – straights, curves, and switches in a variety of sizes – so just about any track configuration is possible, just by joining sections together.

There's no better way to learn about model railroading than just doing it. The equipment is inexpensive, the track can be re-used, and there are no model railroad laws to obey. It's a hobby, not a matter of life and death, and great layouts are built one simple step at a time. By doing you'll learn what parts of the hobby you like best. Who knows? Maybe one day you'll build a fine layout like those featured in MODEL RAILROADER Magazine.



Chris Becker

◀ Here's a 4 x 8-foot starter layout shown as both a track plan and a complete system.

▼ A scene on the Alkali Central shows that even a small layout can capture the feeling of wide-open spaces.



Chris Becker

Your guide to scales and gauges

THIS LITTLE BOOK is about scale model railroading, that is to say, about model railroading with trains that are accurate scale replicas of real trains. An HO locomotive, for example, is $\frac{1}{87}$ th the size of a real one. It's $\frac{1}{87}$ th as long, $\frac{1}{87}$ th as tall, and in every dimension its proportions are 1:87. Going a step further, everything on an HO layout is built to that same proportion.

You are also likely to see trains that are not exact scale models and don't purport to be. Lionel and K-Line are examples of trains aimed at the toy train market. They're made to be rugged, colorful, and fun to play with. Collecting and operating toy trains is a great hobby in its own right and the subject of our sister magazine, *Classic Toy Trains*.

The distinction between scale and toy trains is often blurred. Many Lionel O-27 trains are indeed scale, or close to it, and some very realistic model

railroads have been built for Lionel equipment. Scale trains aren't better than toy trains, nor vice versa. They are just two different kinds of products, intended for two different markets, and most important, just two different ways of having fun.

The Popular Scales

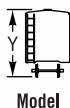
As the actual-size photo shows, scale model trains range from tiny to large. The most popular scale is HO (say aitch-oh). About 68 percent of MODEL RAILROADER Magazine's readers use this size. Because it's so popular an immense range of products is available. HO is small enough that you can build a satisfying layout in a small space, say 4 x 8 feet, but large enough to show off detail and be easy to work with.

Next in popularity and product availability is N scale, the choice of 16 percent of MR's readers.

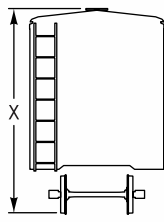
Scale/gauge designation	Proportion to prototype	Track gauge	Approximate length of 50' boxcar	Minimum radius
Z	1:220	6.5mm	2 $\frac{3}{4}$ "	5 $\frac{3}{4}$ "
N	1:160	9.0mm	3 $\frac{3}{4}$ "	7 $\frac{1}{2}$ "
HO	1:87	16.5mm	7"	15"
S	1:64	7/8"	9 $\frac{1}{4}$ "	22 $\frac{1}{2}$ "
O	1:48	1 $\frac{1}{4}$ "	12 $\frac{1}{2}$ "	24"
Gn3	1:22.5	1 $\frac{3}{4}$ "	19"	24"

SCALE AND GAUGE

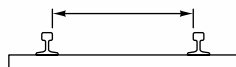
Scale is model's proportion to real thing, here Y:X



Model

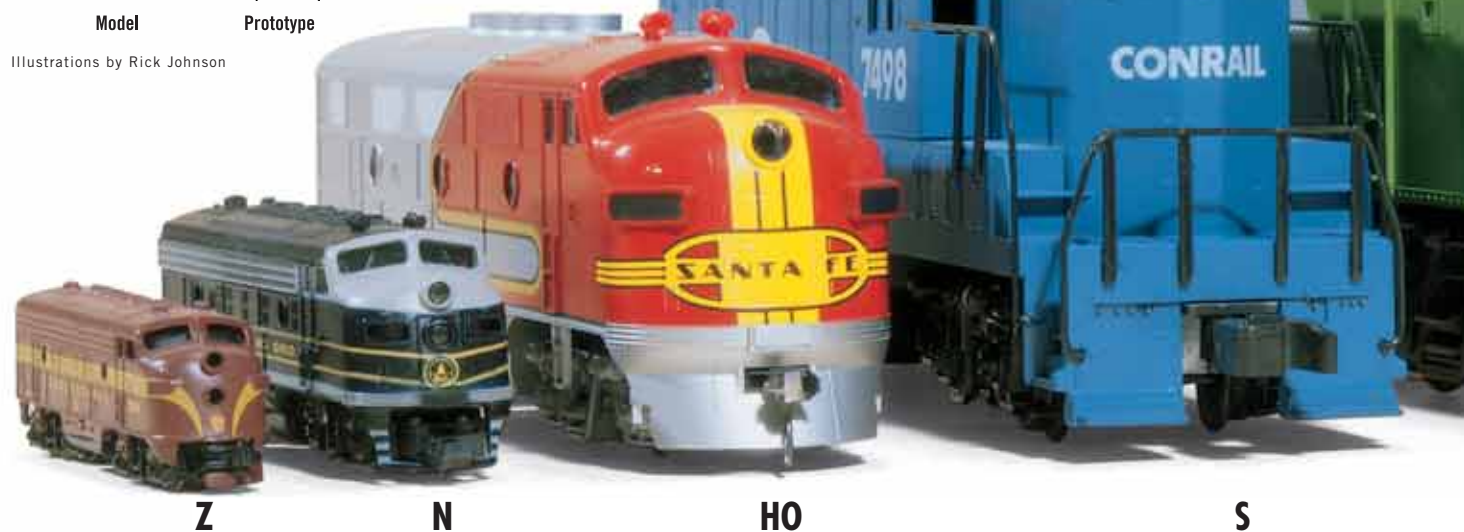


Prototype



Gauge is the distance between railheads, measured inside running edge to inside running edge.

Illustrations by Rick Johnson



Z

N

HO

S

This scale is popular with modelers such as apartment dwellers who don't have much space, and with modelers who want to run long trains behind multiple engines through wide expanses of scenery.

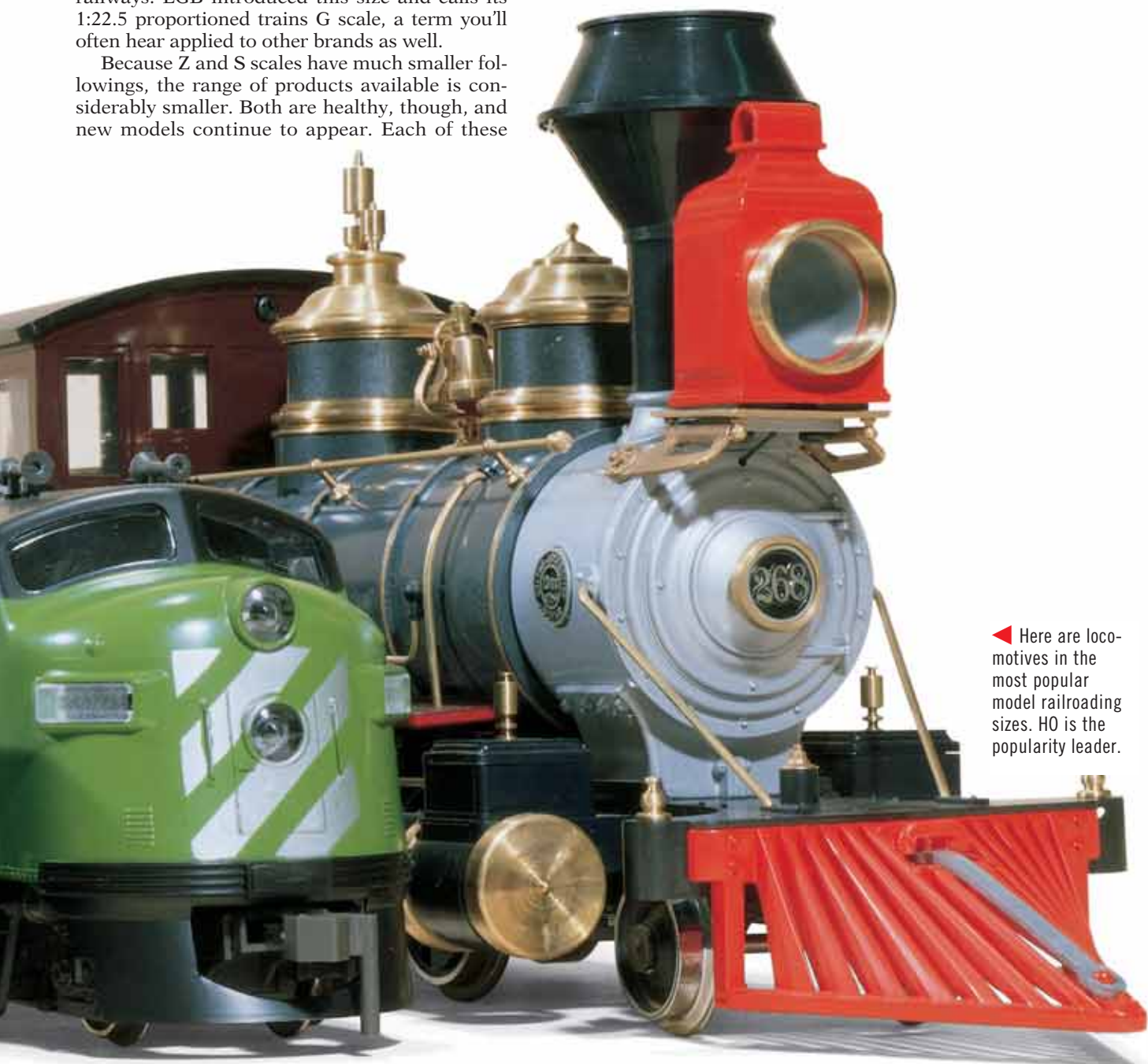
O scale (pronounced like the letter, not the number zero) was the most popular until HO took off like a rocket after World War II. Now O is used by 8.5 percent of MR's readers. These large trains are great to watch run but require a lot of space, generally a good-sized basement.

Next comes large scale. Manufacturers make these trains in several different proportions but all are designed to run on 1 $\frac{3}{4}$ " gauge track. Most are rugged and designed to be run outdoors on garden railways. LGB introduced this size and calls its 1:22.5 proportioned trains G scale, a term you'll often hear applied to other brands as well.

Because Z and S scales have much smaller followings, the range of products available is considerably smaller. Both are healthy, though, and new models continue to appear. Each of these

minority scales has its advantages and staunch supporters, and who knows, one day you might be among them.

Most models are standard gauge, that is, they have wheels spaced to run on rails a scale 4'-8 $\frac{1}{2}$ " apart. This track gauge is common throughout North America and much of the rest of the world and goes all the way back to the spacing between wheels on Roman chariots. Other gauges exist, though, and in America narrower gauges, three-foot in particular, were widespread before 1900. We represent models built to these sizes by stating the scale followed by a lower case "n" then the track gauge in feet – HOn3 for example.



◀ Here are locomotives in the most popular model railroading sizes. HO is the popularity leader.

O

Gn3

A. L. Schmidt

Building your own model railroad

OFTEN FOLKS look at photos of beautiful model railroads and assume right away that it's just too hard, they could never do it. Well, that just isn't so.

Take buildings for example. Today you can buy easy-to-assemble kits for everything from a humble lineside shack to a grand factory or station. And if you do decide to build from scratch you have a wealth of materials and parts to choose from. You can buy plastic sheeting to represent brick, stone, sheet metal, or wood clapboards. No longer do you have to scratchbuild such details as doors and windows. There are dozens of plastic and metal castings to choose from.

Scenery is yet another area where hobbyshop products make the job easier. Grass is usually rep-

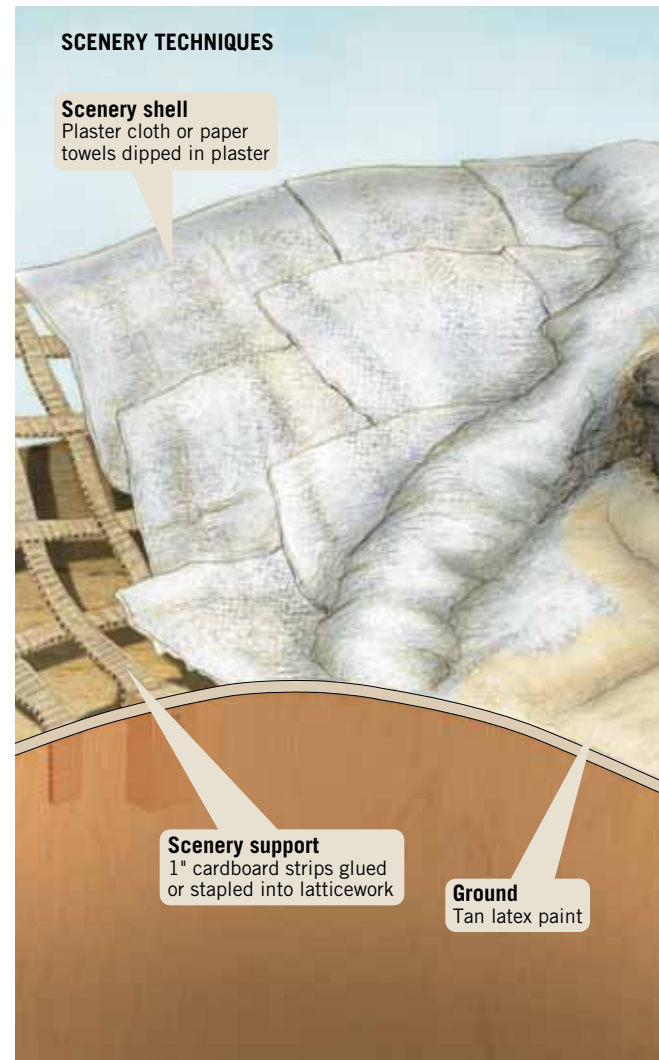
resented with ground-up and dyed foam rubber that you can buy in a wide range of colors and textures. If you're so inclined you can carve a rock in plaster, but you'll probably get even better results by casting plaster rocks in rubber molds you can buy or make yourself.

You can get great results without much skill just by substituting know-how. And the know-how is easy to come by in books like *How to Build Realistic Model Railroad Scenery* and *Scenery Tips and Techniques*, both published by Kalmbach Publishing Co.

Certainly model railroading is a creative hobby and great model railroads approach works of art, but with today's materials and techniques you don't have to be an artist to be a model railroader.



LAYING TRACK
Sectional track and cork, rubber or foam roadbed make laying track fun and easy.



SCENERY TECHNIQUES

Scenery shell
Plaster cloth or paper towels dipped in plaster

Scenery support
1" cardboard strips glued or stapled into latticework

Ground
Tan latex paint



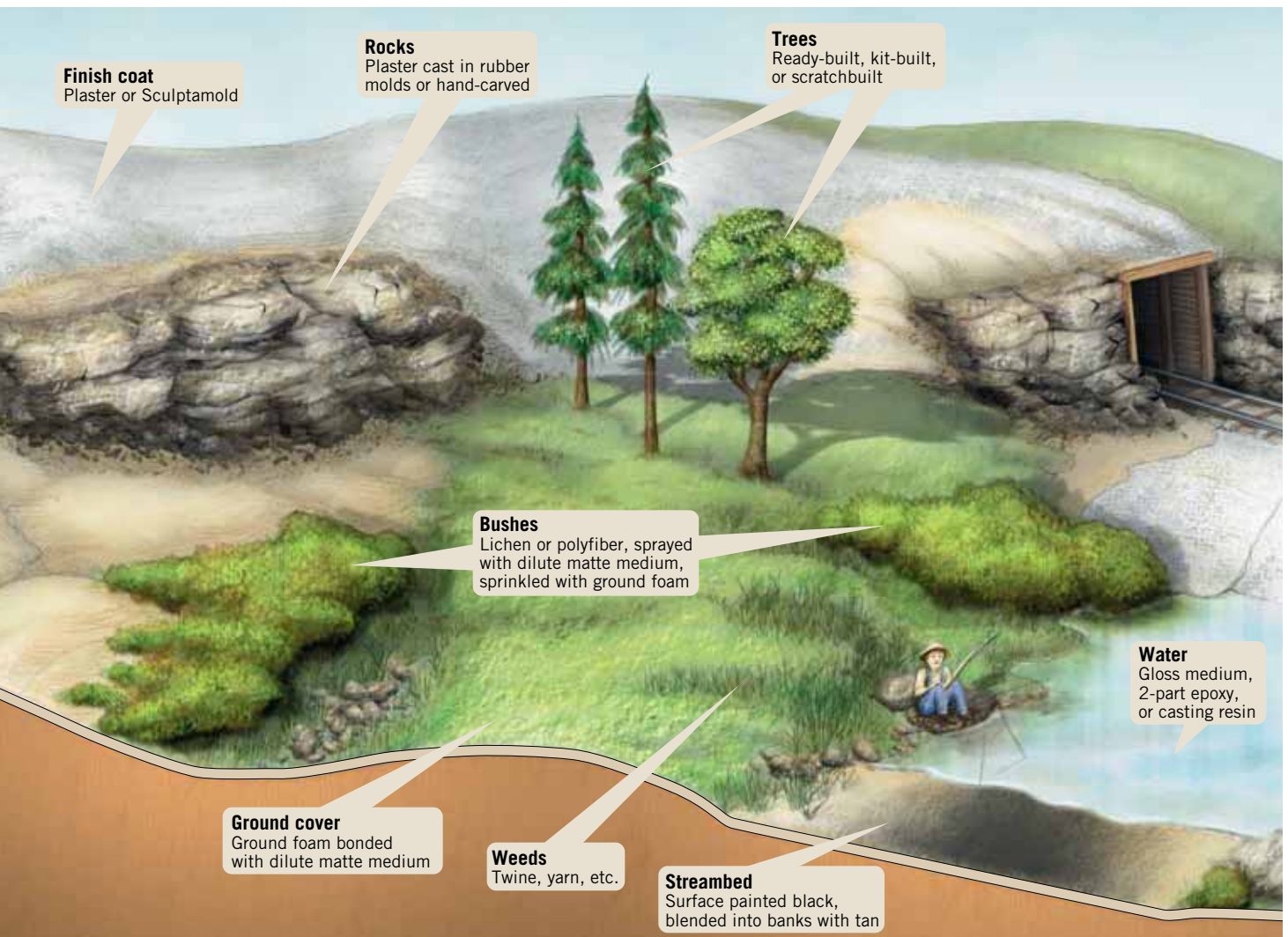
MR Staff photo

▲ The rock outcropping was cast in a rubber mold and painted, and now it's being highlighted by drybrushing, using a brush dipped in white paint and then wiped almost clean of color.



A. L. Schmidt

▲ These two HO stations were built from International Hobby Corp. kits that snap together in only a few minutes. What a difference a little painting and weathering can make!



Finish coat
Plaster or Sculptamold

Rocks
Plaster cast in rubber molds or hand-carved

Trees
Ready-built, kit-built, or scratchbuilt

Bushes
Lichen or polyfiber, sprayed with dilute matte medium, sprinkled with ground foam

Water
Gloss medium, 2-part epoxy, or casting resin

Ground cover
Ground foam bonded with dilute matte medium

Weeds
Twine, yarn, etc.

Streambed
Surface painted black, blended into banks with tan

Illustrations by Kellie Jaeger

The wide world of model railroading

Over the next five pages you'll tour a gallery of model railroad photos. Model railroading is such a rich hobby that we can only hint at its variety. Old-time steam, powerful new diesels, rugged mountains, colorful deserts – any railroad possibility you can think of is the special interest of some modeler, somewhere.





Al Kalbfleisch

The Glory of Steam

◀ No other machine has been so loved as the railroad steam locomotive. Seeming to live and breathe, it was king of the rails for more than a hundred years. One of the last of the breed was the Union Pacific's Challenger. Here its spirit is captured in a beautiful Rivarossi HO scale model superdetailed by Al Kalbfleisch.



Tony Koester

Appalachian Street Scene

◀ One of the places where the world looks most like a model railroad is the coal-mining country of Virginia and West Virginia, with roads, towns, and railroads competing for scarce flat ground in the V-shaped valleys cut by rushing rivers. MODEL RAILROADER columnist Tony Koester has replicated that look at Sunrise, Va., on his HO scale Allegheny Midland RR.

The Wild West

◀ When the booming mining camps of Colorado played out, the narrow gauge railroads that served them fell into a state of genteel decay. That made those mountain streaks of rust even more attractive to later generations of modelers like Malcolm Furlow, creator and photographer of this large scale scene.



Through the Rockies

▲ A westbound freight on the Denver & Rio Grande Western is about to live up to its corporate slogan by diving into the six-mile-long Moffat Tunnel in this HO scale winter scene by Rand Hood.

2000-mile Dash

► Modern railroads are part of a global transportation system, carrying goods manufactured in the Far East to the American heartland. Here a Burlington Northern double-stack container train dashes along the Mississippi River on an N scale layout built by a Madison, Wis., club.





Rand Hood



Jim Forbes



Andy Sperandeo



A. L. Schmidt



Jim Palm



Jim Forbes

High Technology

◀ Today's model railroaders can enjoy flexible, independent operation of trains and accessories using the latest in electronics. This wireless EasyDCC Digital Command Control system is just one of several that are compatible with the standards of the National Model Railroad Association.

'Neath the Wires

◀ Traction modelers re-create the era when all major American cities (and many smaller ones) had electrically powered street and interurban railways. Bill Everett modeled this O scale Pasadena street scene after California's pre-freeway Pacific Electric Ry.

Modular Railroading

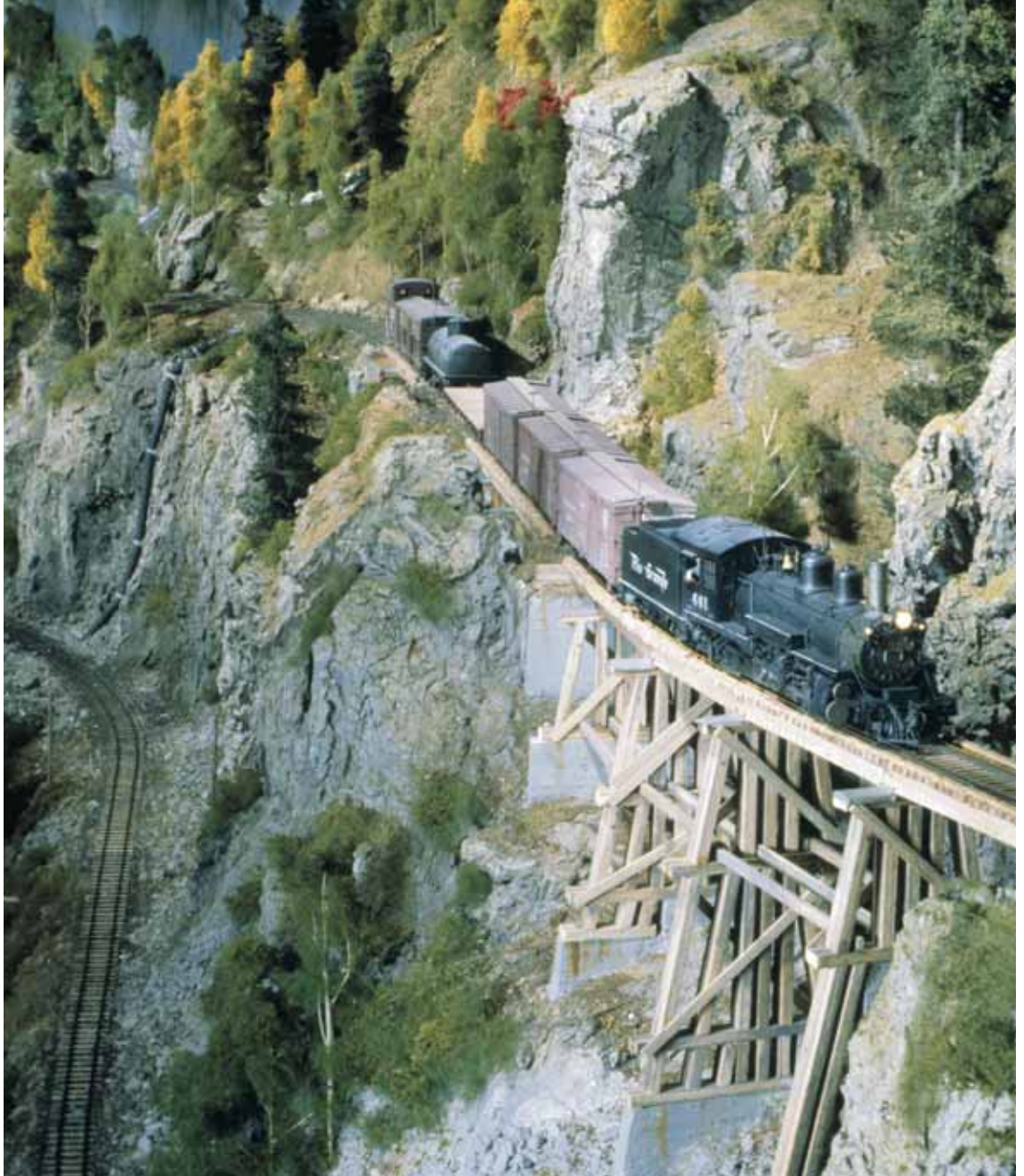
◀ Members of the Lauderdale Shore Line RR Club enjoy the fun and sociability of modular model railroading. Small, interchangeable modules built by individuals are assembled into large working layouts at model railroad conventions and public shows all across the country.

Preservation

◀ Jim and Marlene Korb collect and operate colorful toy trains from the Twenties and Thirties. These standard gauge giants ran on rails spaced 2 1/8" apart. Thousands of hobbyists share an interest in the vintage toy trains and accessories made by Lionel and others.

Vertical Scenery

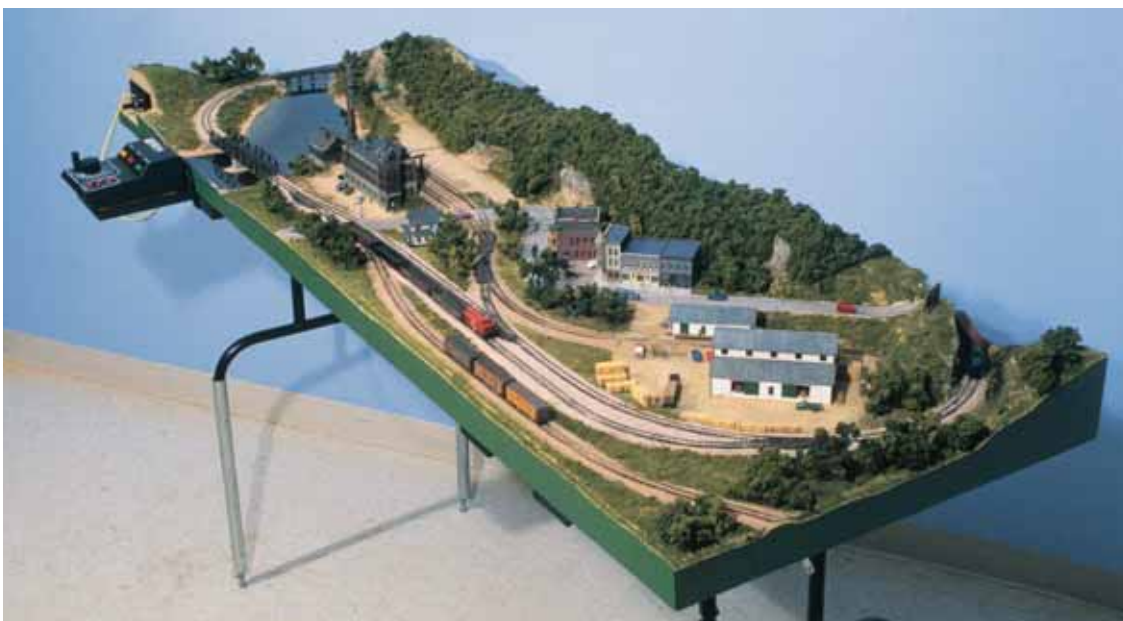
► Like many other hobbyists, Dennis Ferguson is under the spell of the narrow gauge railroads that steamed through the remote corners of Colorado and New Mexico. Their steep slopes and dramatic bridges offer modelers the chance to achieve a high degree of drama in relatively little space, as seen here on Dennis' On3 layout.



Dennis Ferguson

Tabletop World

◀ The staff of MODEL RAILROADER Magazine built the N scale Carolina Central RR on a 28" x 80" hollow-core door to show that almost everyone has room to build their own model railroad.



Marty McGuirk