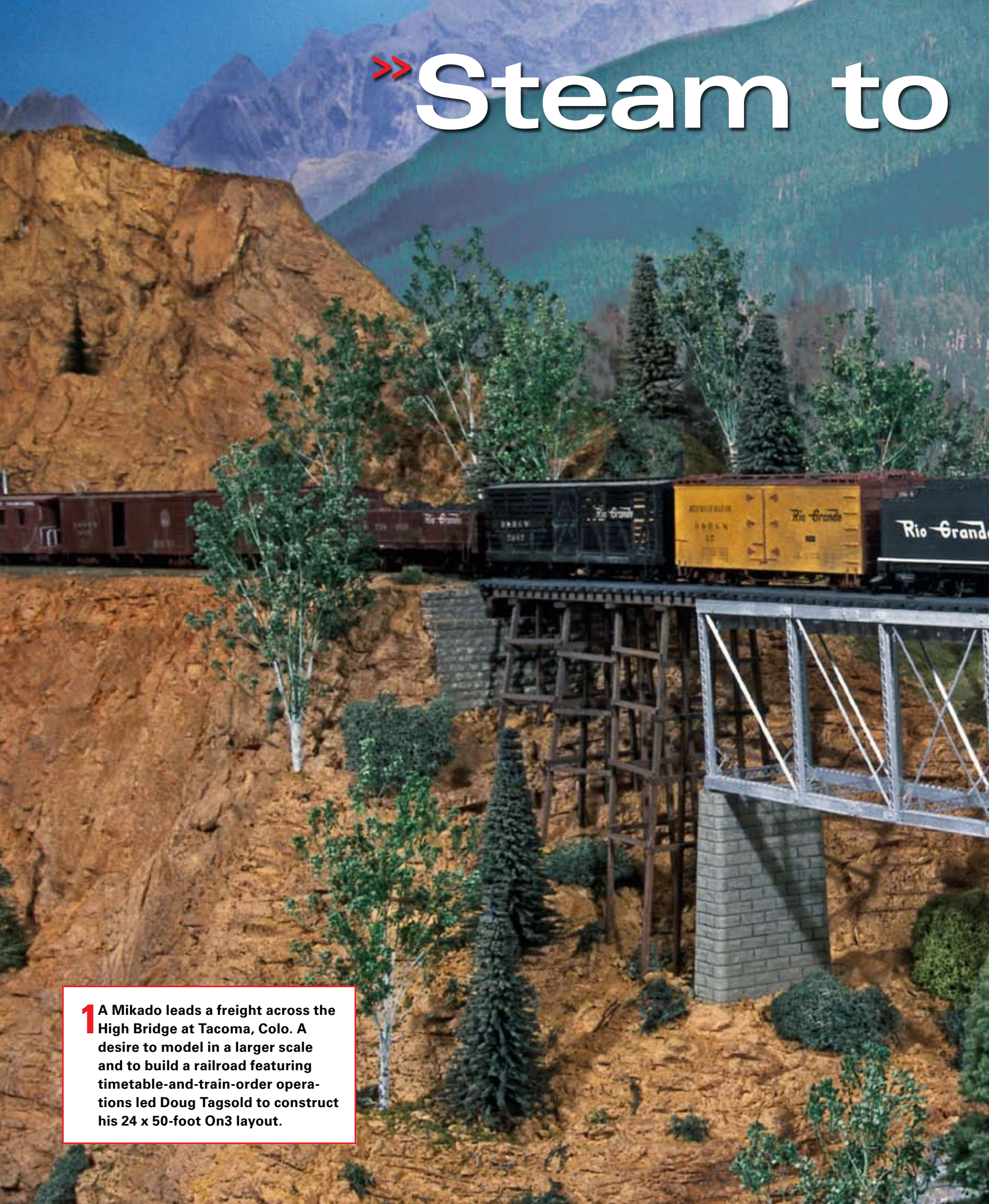


>> Steam to



1 A Mikado leads a freight across the High Bridge at Tacoma, Colo. A desire to model in a larger scale and to build a railroad featuring timetable-and-train-order operations led Doug Tagsold to construct his 24 x 50-foot On3 layout.

Silverton in O scale

Dramatic scenery and steam-era operations highlight
this 24 x 50-foot layout **By Doug Tagsold • Photos by the author**





My On3 version of the Denver & Rio Grande Western's Silverton Branch is set in the 1950s. On my 24 x 50-foot layout, just as on the prototype, tourists have discovered this picturesque steam-powered narrow gauge line. But in my world, freight traffic is also on the rise.

One of the larger mines near Silverton has just become a major shipper of limestone in narrow gauge D&RGW gondolas to Salida, Colo., where the limestone is transloaded into standard-gauge cars for the final movement to the steel mills in Pueblo, Colo.

In addition to these mine runs, my railroad also hosts a daily freight, and stock extras operate in the fall season as the local ranchers ship their livestock to market or winter pastures. An interesting traffic mix and Colorado scenery is an unbeatable combination.

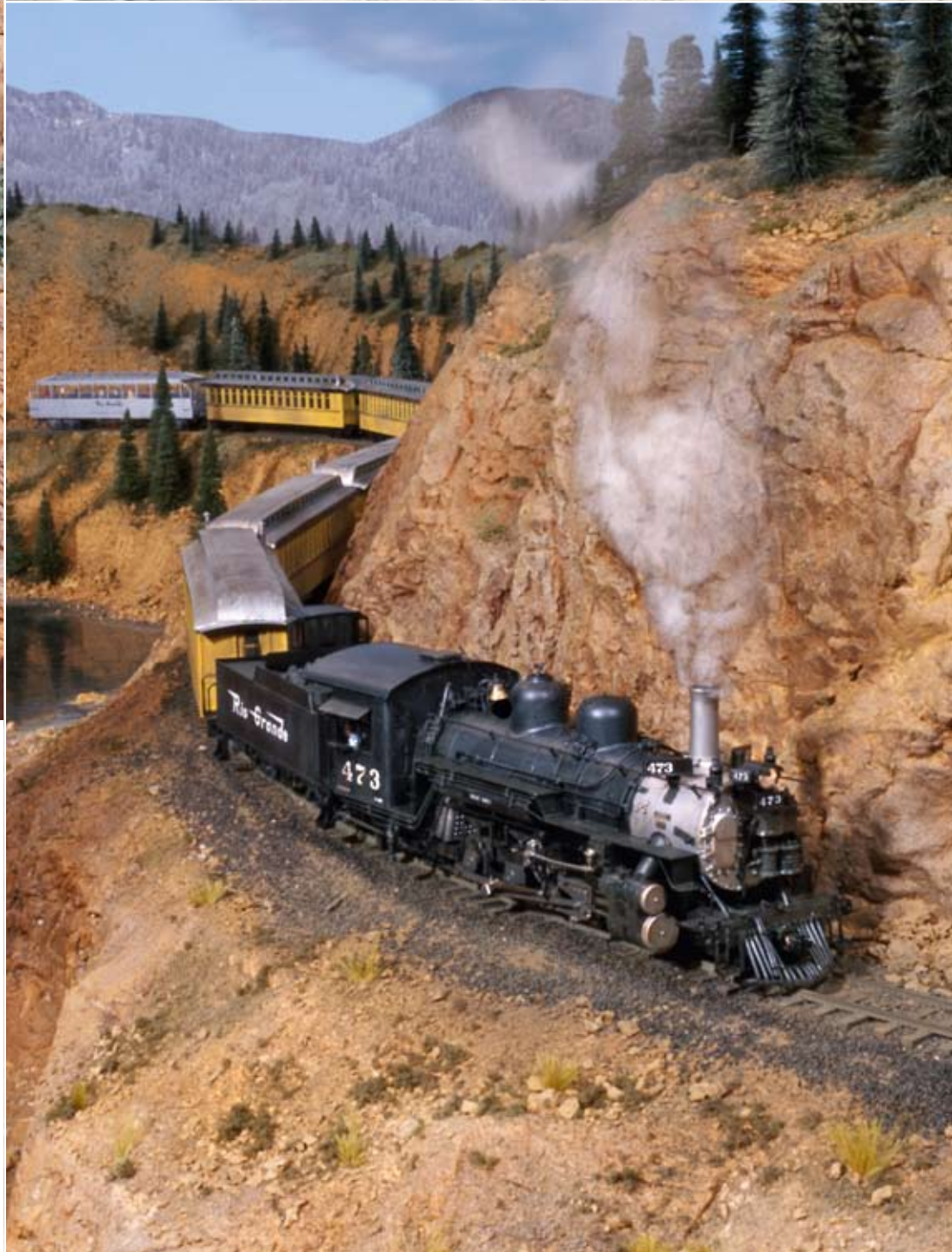
Two layouts: twice the fun

After modeling in HO scale for many years [See "Railfanning Colorado's Joint Line," *Great Model Railroads 2002*. - Ed.], I wanted to try something different when space became available for a second

2 High above the Animas River, train no. 215 crawls along a narrow ledge chiseled into the mountainside. This part of the Silverton Branch was known as the High Line. Here the layout's scenery extends all the way to the floor.

layout. My goal was to build a steam railroad that would feature timetable- and-train-order operation. I also wanted to try modeling in a larger scale.

The choice of prototype was an easy one for me. Several family vacations to



3 Above right: The crew of the Silverton freight, today led by K-28 no. 478, waits at the Silverton depot for clearance to return to Durango. The engine is fitted with a plow in preparation for the snow that will soon shut down the line.

4 Right: Train No. 215 climbs the grade between Hermosa and Rockwood. In the 1950s, freight trains still operated, and increasing numbers of tourists were buying tickets for the narrow gauge.



>>The layout at a glance_

- Name:** D&RGW Silverton Branch
- Scale:** On3 (1:48)
- Size:** 24 x 50 feet
- Prototype:** Denver & Rio Grande Western Ry.
- Locale:** southwest Colorado
- Era:** 1950s
- Style:** linear walkaround
- Mainline run:** 175 feet
- Minimum radius:** 40"
- Minimum turnout:** no. 8
- Maximum grade:** 1 percent
- Benchwork:** open grid
- Height:** 54" to 60"
- Roadbed:** Homasote over plywood
- Track:** code 100 flextrack
- Scenery:** plaster impregnated gauze over screen wire
- Backdrop:** photos and painted walls
- Control:** CVP Easy DCC Digital Command Control (DCC)

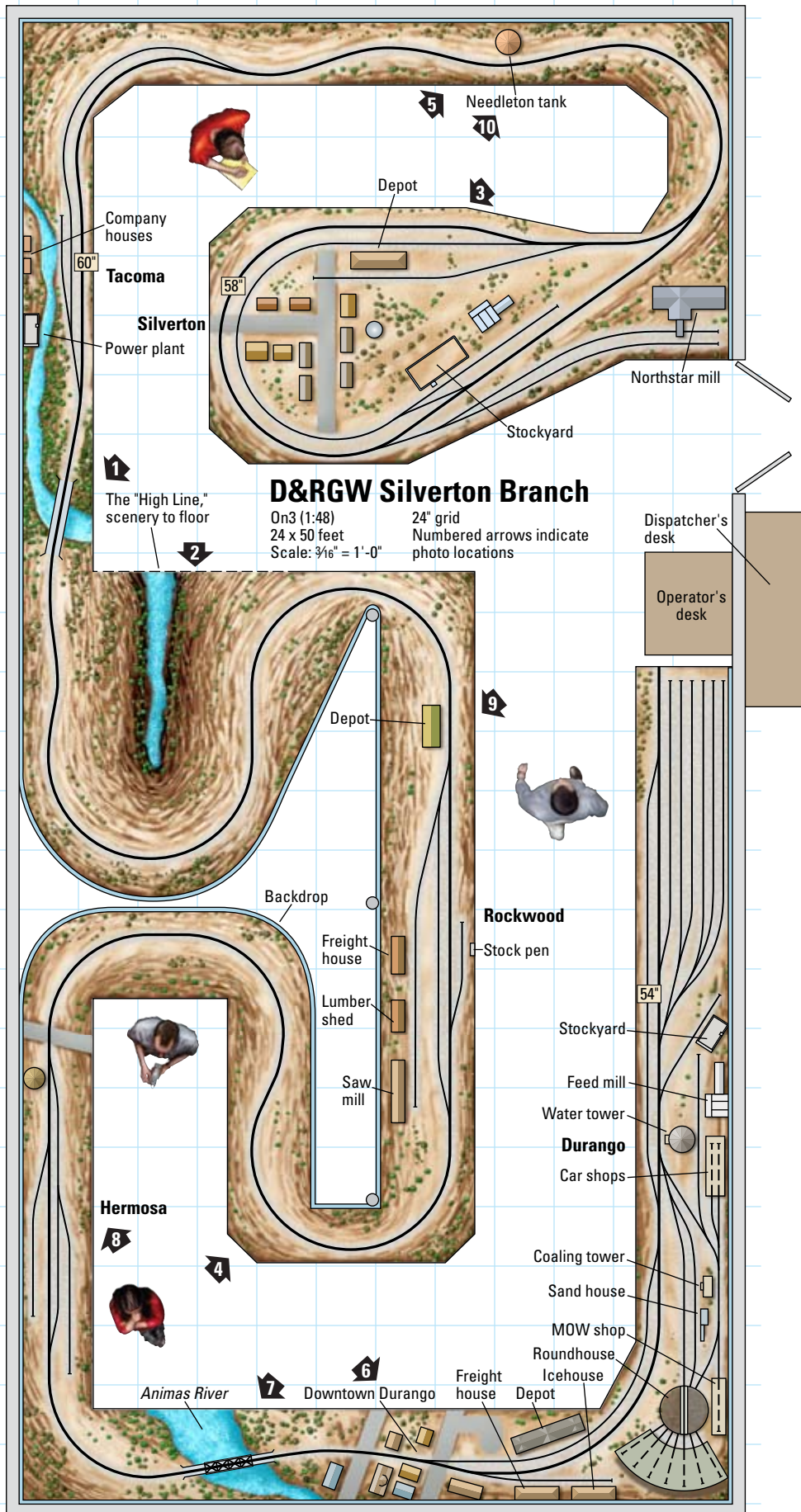


Illustration by Theo Cobb

Colorado had included rides on the Durango & Silverton Narrow Gauge RR. I believe it's much easier to model what we can see, and riding the D&SNG is like going back in time and experiencing railroading as it was years ago. Besides, the scenery that line travels through is simply spectacular.

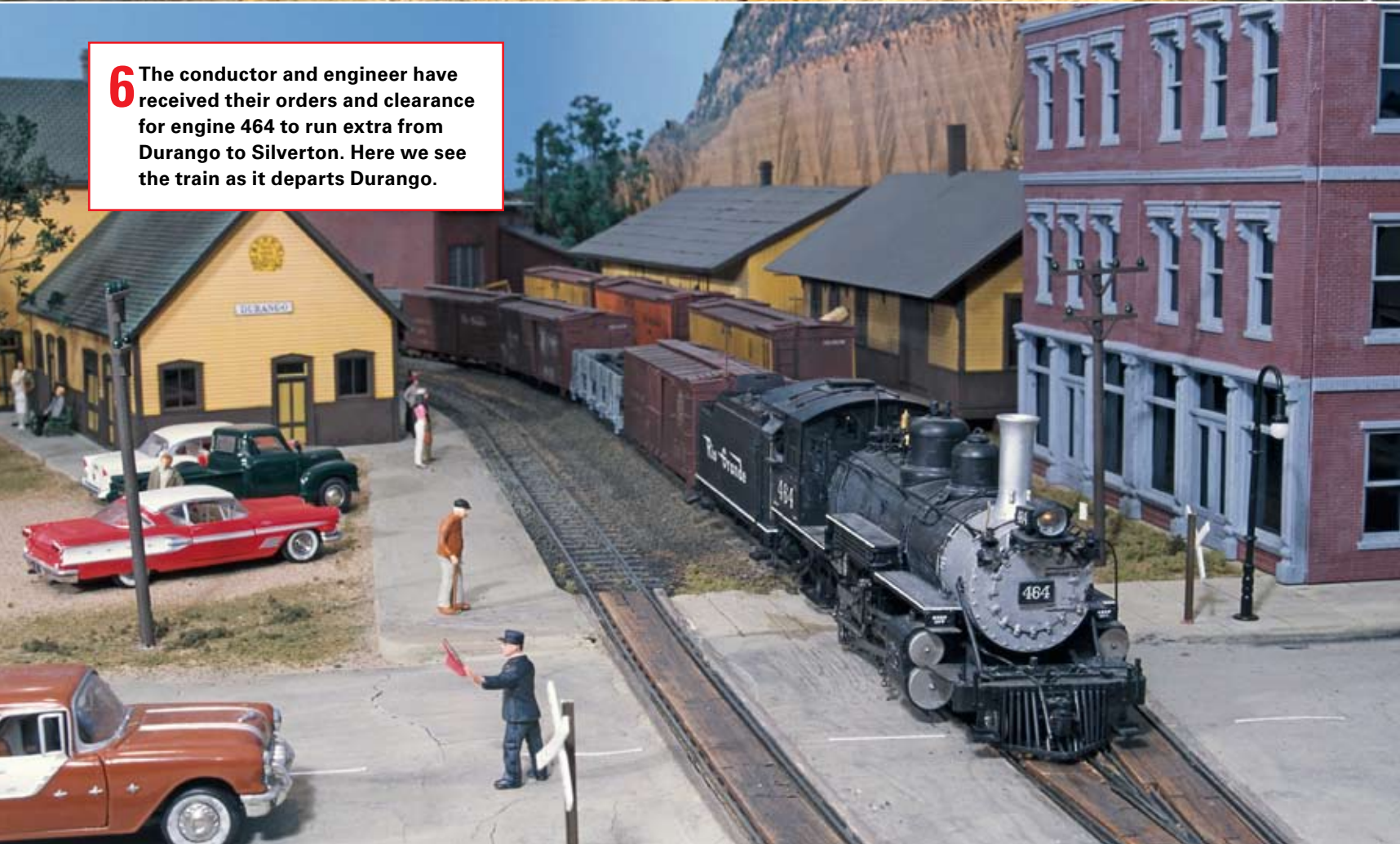
I decided to fill my available layout space with the D&RGW's 45-mile Silverton Branch from Durango. Even with the large space available, and modeling a relatively short line, I still had to leave out a significant portion of the prototype. However, I was able to include the better-known locations along the route, such as the High Line, where the railroad hangs on a narrow shelf carved into the cliffs 400 feet above the Animas River.

I designed the layout to have as long a mainline run as possible without doubling back through a scene. I also gave a lot of thought to visually separating the different parts of the layout. A train crew

5 Observation car no. 313, the *Silver Vista* was built in the D&RGW Burnham shops in Denver in 1947. This brass On3 model was made by Berlyn Locomotive Works.



6 The conductor and engineer have received their orders and clearance for engine 464 to run extra from Durango to Silverton. Here we see the train as it departs Durango.





7 Extra 463 East crosses the Animas River just west of Durango, Colo. Doug models the 1950s, when the narrow gauge line hosted both freight and passenger trains.

at Rockwood cannot see if there are opposing trains at Hermosa or Tacoma. The crew must rely on their orders and timetable to know if have authority to proceed to the next town.

Scenery and structures

I constructed the scenery using methods I had learned while building my HO scale layout. I shaped the mountains using plaster gauze over window-screen wire. For ground cover, I spread on products from Woodland Scenics and Scenic Express, along with real dirt and rocks I'd brought back from Colorado. At first I used rubber rock molds to fashion the rockwork, but soon discovered that carving the plaster rocks by hand was much quicker and that the finished rocks looked just as good.

Making rocks quickly was important because this part of Colorado has so many of them, and the High Line area of my layout features scenery all the way

down to the Animas River – just 3" above the floor! I used commercial bottle-brush type pine trees but I handmade all of the layout's many aspen trees.

I made the backdrops in the Durango and Hermosa areas of the layout from poster-size enlargements of photographs I'd taken of the real areas of Colorado. For the remainder of the backdrops, I used commercially available prints from Backdrop Warehouse.

The Durango coaling tower on my On3 layout is a San Juan Engineering kit. I used water tanks from Crystal River Products. I added Tortoise switch machines inside the tanks at Durango and Needleton to raise and lower the spout at the push of a button.

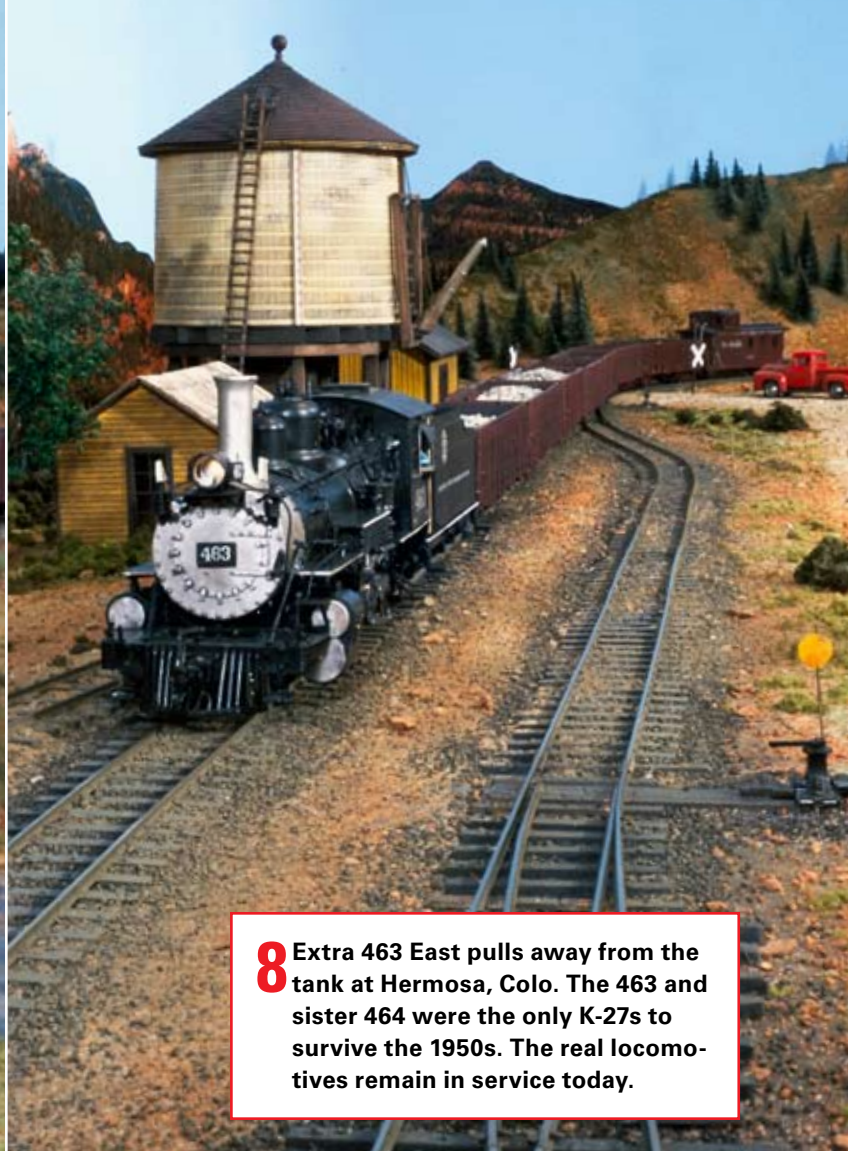
While I was at it, I added sound units and speakers from Miller Models to give the sound of the spout lowering and water flowing when a locomotive stops at the tank. I also used many kits from American Models, Design Preservation

Models, and Walthers; however, I scratchbuilt the Durango and Silverton depots using blueprints of the original buildings, which I obtained from the Colorado Railroad Museum in Golden, Colo.. I also referred to photographs I'd taken of the surviving buildings.

Locomotives and rolling stock

As on the prototype in the 1950s, class K-27 and K-28 2-8-2 Mikados are the main motive power on my Silverton Branch. I also have a class C-16 2-8-0, which I use as my Durango yard switcher. Most of my locomotives are brass models made by Berlyn Locomotive Works. The latest addition to my roster was a die-cast metal K-27 from Mountain Models, a division of Precision Scale. I've installed SoundTraxx sound and Lenz decoders in all my locomotives.

I built all of the freight cars on the layout from plastic kits by San Juan or Grandt Line. I kitbashed the passenger



8 Extra 463 East pulls away from the tank at Hermosa, Colo. The 463 and sister 464 were the only K-27s to survive the 1950s. The real locomotives remain in service today.

>>D&RGW's narrow gauge Silverton Branch_

The Denver & Rio Grande began construction in Denver in 1870. By 1882 the company operated trains on 1,000 miles of 3-foot-gauge track, which was cheaper to construct but complicated interchange with standard gauge carriers. Following the discovery of silver and gold in the San Juan Mountains of southwest Colorado, tracks were pushed west into that region, reaching Durango in 1881. Construction of the 45-mile Silverton Branch was completed in 1882. Immediately following the driving of the final spike, shipping of ore from the numerous mines around Silverton began. Though there was little gold found in the area, miners were soon shipping silver by the ton.

The 1880s and '90s were years of great prosperity for the Silverton branch, but by the turn of the century, the U.S. government was no longer purchasing silver for currency, and revenues slowly declined. By the 1950s, traffic on the branch was down to a few trains a week. However, a new source of revenue was beginning. The spectacular scenery of the San Juan Mountains was becoming well known, and the demand for tickets to ride the three-times-weekly mixed freight to

Silverton began to grow. By the mid-1950s, extra coaches were added to the train, but customers were still often turned away as the trains were sold out. By the 1960s, the passenger train operated daily, often with more than one section.

The D&RGW wasn't interested in operating a tourist railroad, and it filed to abandon the branch in 1962. In 1968, approval was finally granted for the Antonito-to-Durango main line to be abandoned, but businesses in Durango and Silverton were able to convince the state that the branch was a viable operation and vital to the local economy. The D&RGW was required to continue operating the Silverton Branch. The D&RGW sent several narrow gauge locomotives and most of its remaining narrow gauge passenger cars to Durango before the Antonito-Durango main line was removed.

The D&RGW continued to operate the Silverton Branch until 1981. Since that time, the line has operated as a privately owned tourist railroad, and today the Durango & Silverton Narrow Gauge RR is easily the most famous tourist train in North America, with annual passenger counts on the D&SNG exceeding 200,000 in some years. – D.T.

>>Meet Doug Tagsold_



Doug has been a model railroader for most of his 49 years. Originally a New York Central modeler, his interest changed after a family vacation to Colorado in 1989. In addition to operating his On3 Silverton Branch layout, Doug also continues to work on and operate his HO scale Denver, Front Range & Western layout, which has appeared numerous times in *Model Railroader* and *GMR*, and is in Vol. 33 of Allen Keller's *Great Model Railroads* video series. Doug manages the family funeral home business in Blissfield, Mich., with his wife Diane and children Steven and Jennifer. Doug and his family enjoy traveling (mostly to Colorado) and spending summers at their cottage.



cars from Bachmann's On2½ plastic coaches. I combined two of the short Bachmann coaches to make one 48-foot coach. As a finishing touch, I also add Kadee couplers and NorthWest Short Line wheelsets to all my rolling stock.

Built to run

As I said earlier, my major goal in building this layout was my desire to have a railroad that was ideally suited for timetable-and-train-order operations. The layout operates using either a 3:1 or 4:1 fast clock, depending on the capabilities of the operators.

The crew for an operating session consists of a dispatcher who is positioned outside of the layout room, an operator who copies the orders from the dispatcher and hangs them on clips at the stations, a Durango yardmaster who builds the trains and hostles the engines, and

three train crews. Communications are handled by telephones located at the Durango, Rockwood, and Silverton stations, and at the dispatcher's and operator's desks.

When called for service, all train crews go on duty in Durango. Once they receive their orders and clearance forms, they head for Silverton, performing any needed work along the way.

After completing their assignments in Silverton, each crew receives orders and clearance to return to Durango where they go off duty. There's also a train-order station located at Rockwood if additional orders are required.

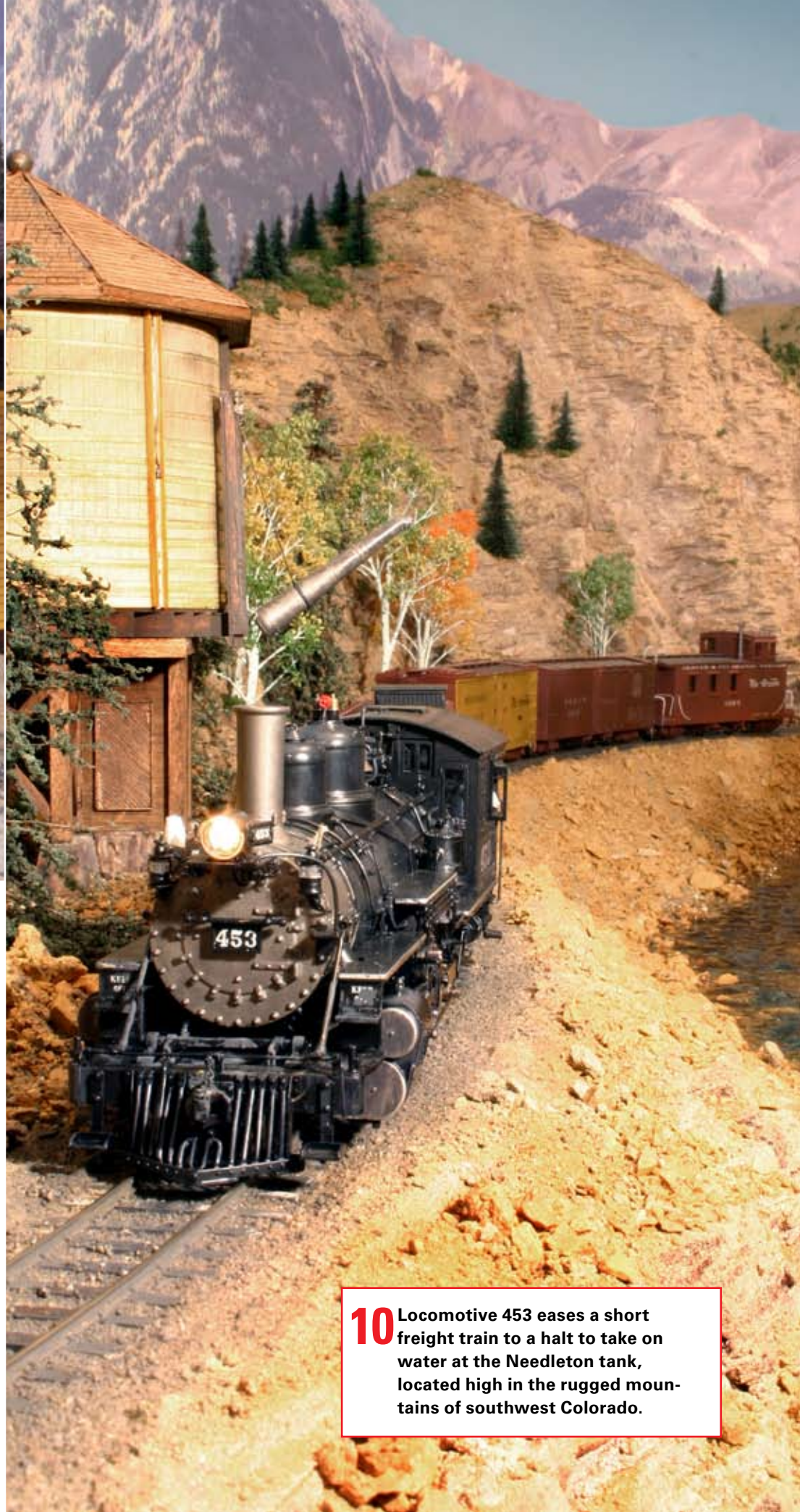
During a normal session, we'll run two scheduled passenger trains and three to five extra freights. We like to maintain the slow pace that typifies Colorado narrow gauge railroading, and our sessions usually last about 12 hours

9 The station order board is displaying red for Extra 464 West at Rockwood, Colo. The train crew will pick up additional orders and clearance to proceed from the station agent at Rockwood.

on the fast clock, which is about three to four actual hours.

Though the mainline run is only 175 feet from Durango to Silverton, the slow speed of the narrow gauge locomotives, mandatory water stops at Needleton tank, plus the fact that the trains must return to Durango before the crew goes off duty, really make the distance seem much greater than it is.

Flagman figures are located at each town for use by the train crews when required by Rule 99. With sound in all of the locomotives, the use of whistle signals is also encouraged.



I printed timetables on my computer, as well as miniature versions of D&RGW's train order and clearance forms. I included many of the standard "Rules of Train Movements" on the back cover of my timetables, copied from prototype rule books, for quick reference.

To me, timetable-and-train-order operation is like running trains and playing chess at the same time. The train crews must be aware of the time, scheduled trains, their orders, and the operating rules. It adds a whole new dimension to the fun of model railroading.

My On3 Silverton Branch layout continues to be an enjoyable adventure. Working in the larger scale has been a nice change, and the timetable-and-train-order operation on a steam-era railroad really gives me the feeling of going back in time and an appreciation of railroading as it was years ago. GMR

10 Locomotive 453 eases a short freight train to a halt to take on water at the Needleton tank, located high in the rugged mountains of southwest Colorado.