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INTRODUCTION

From evolution to revolution

This freelanced engine facility on Jeff Kraker's HO Roanoke & Southern has all the basics: a coal dock scratchbuilt from an article in the October 1951 *Model Railroader*; Walther's Steel 933-3043 water tank; 933-3181 cinder conveyor and ash pit; 933-3182 sand towers and drying house; diesel fuel tanks from 933-2913 McGraw Oil Co.; 933-2849 90-foot motorized turntable; and scratchbuilt diesel fueling cranes and engine house.
Jeff Kraker

In the beginning ... steam locomotive boilers were heated with wood. Over time, the machinery got more complex, but until the game-changing advent of internal combustion, the basic needs for fuel, water, lubrication, traction sand, and maintenance remained the same. Except for boiler water, the basics haven't changed much since, although how these needs were and are met has changed dramatically, as we'll discuss in the next 90-odd pages.



A four-unit set (5,400 total horsepower) of Electro-Motive FTs takes on diesel fuel at the fueling rack at Santa Fe's Barstow, Calif., shops. The tall tanks in the rear at right hold traction sand. Several locomotives can be fueled at once. *Santa Fe Railway*

Maximizing the potential

A locomotive servicing facility, often called an engine terminal, need not occupy a lot of real estate on a model railroad. But it typically comprises some of the most interesting and attention-getting structures on the railroad. And it also offers considerable operating potential.

We will see engine terminals as both visually and operationally important to achieve the full potential of our model railroads. Given our limitations of time, money, and space, every single element on a model railroad has to earn its keep. Something that looks good but simply occupies space isn't doing enough to justify including it in our master plans. Consider, for example, a roundhouse, which often has a large footprint. How we can reduce that footprint while ensuring that the associated turntable is readily accessible is an important layout planning decision we'll review in detail in Chapter 2. (Hint: The larger the scale, the bigger the potential problems.)

Decades ago, Doug Gurin, founder of the highly regarded and most helpful Layout Design Special Interest Group (ldsig.org), coined a term that is too seldom applied to our engine terminals: "modeling jobs." We'll spend time in Chapter 7 reviewing what happened within the boundaries of a typical engine terminal, noting who did what, what limitations were placed on various jobs, and how that can enhance our modeling experience. Too often over the years I have heard someone say, "You can't expect a model railroader to do that." Sure you can! The test isn't whether it's too difficult, but rather whether it's interesting to do.

This has a dual meaning on a model railroad, as we need to understand not only how and why a railroad did certain things but also how we can emulate them in miniature. "Consisting" locomotives comes to mind: There are challenges to running two or more locomotives in a consist, whether you're doing so in 1:160, 1:87, or even 1:1.

As modelers, we often fail to consider why certain types of diesel-electric locomotives couldn't be put into a consist with units of another make or model—locomotives that were controlled while in consist with air pressure rather than electrical signals are an example. Ignoring this on our model locomotives as we assemble consists is akin to ignoring how they are detailed or even painted.

In short, there's a lot more to discuss about servicing steam, diesel, and/or electric locomotives than what structures we need to consider and how to orient them to allow an efficient sequence of steps to replenish supplies as a locomotive is readied for another run.

Like many of my Kalmbach books, this is not so much a how-to guide with step-by-step instructions, as that would greatly limit its scope to a handful of examples. Rather, from these 90-odd pages, I hope you glean ideas that will help you create or enhance an engine terminal for your own railroad.



CHAPTER THREE

Out on the main line

One of the Union Pacific's massive 4-12-2s eases to stop for a refreshing drink of water at Buford, Wyo., near famous Sherman Hill on Mike Brock's HO railroad. *Mike Brock*

Before the advent of diesel-electrics, the needs of thirsty steam locomotives en route between terminals had to be met with judiciously spaced water tanks, **1**, and coal docks, **2**. Running out of coal was bad, as it meant stopping on the busy main line. Running out of water, however, was a much more serious offense. Ignored, a boiler explosion would result; at best, the fire had to be dumped and the engine towed into the terminal.



2

Identified only as a photo taken in 1960 on the Soo Line, this photo shows a classic wood water tank (left) with a water column and coal dock. The Walthers 933-2922 wood coaling tower would make a reasonable stand-in. *Gordon Odegard*



3

The Nickel Plate ordered 0-8-0s with Berkshire-style tenders, which were quickly swapped with tenders for USRA light Mikados to extend the latter's range. Ray Breyer detailed this old HOBBYline tender and kitbashed the caboose; Ken Dasaro did the weathering.

Longer runs between terminals

As modern steam and then diesel locomotives filled out rosters, they could manage extended runs between stops for major servicing. Older locomotives were often equipped with larger new or stretched tenders to increase their water capacity, 3. This

meant engine and crew terminals could be spaced farther apart, although this was also a function of work agreements, which in the past had often regarded a 100-mile run as a workday.

A good example of how changing times and mergers could affect locomotive utilization was found on the Nickel Plate Road's Frankfort, Ind.,

to Peoria, Ill., Peoria Division. Prior to 1922, this line had been part of the Lake Erie & Western, which passed through Frankfort with only a stop for passengers in downtown Frankfort.

Following the merger of the LE&W into the NKP, the LE&W division point east of Frankfort at Tipton, Ind., was consolidated at Frankfort with



CHAPTER FIVE

The short, the narrow, and the regional

The Rio Grande Southern's rudimentary and eminently model-worthy engine terminal at Ridgway, Colo., marked the north end of the line that began in the southwestern Colorado boomtown of Durango. It connected with the larger Rio Grande narrow gauge system at both ends. Several depots and water tanks remained the last time I toured the right-of-way. *Mallory Hope Ferrell*

Among the more model-worthy engine servicing facilities are those found on branch, short, and narrow-gauge lines, **1**, and what we now call regional railroads, **2**. As with most model railroads, they often were and are space- and budget-constrained. In many cases, almost no selective compression is required, and the entire roster of hand-me-down locomotives can be accommodated, even in a larger scale. Moreover, the opportunities are not confined to one golden era, **3**.



2 The Lake State Ry. uses the former C&O (Pere Marquette) roundhouse and turntable in Saginaw, Mich. It has replaced the classic swinging (and drafty) double doors with overhead garage-type doors. The Y-shaped 300-mile railroad operates between Flint, Saginaw, Bay City, Midland, Alpena, and Gaylord using a roster of second-generation EMD four- and six-axle power as well as new gensets. *Chris Guss*

Narrow gauge facilities

The well-documented and very modelable engine terminal shown in Mal Ferrell’s lead photo served the Rio Grande Southern at its north end, Ridgway, Colo., where it connected with the Denver & Rio Grande’s extensive three-foot-gauge network in Colorado and New Mexico. (See my *Guide to Narrow Gauge Modeling*, Kalmbach, 2014).

The facilities included a roundhouse and turntable, **1, 4**, but—according to veteran RGS modeler Bob Walker—coaling at Ridgway was about as rudimentary as you can get. “There was a track on a dirt ramp that stopped just short of the turntable,” Bob said. “It rose just high enough to spot a gondola even with the top of the tender. Coal was hand-shoveled out of the gon and dumped into the tender using a wheelbarrow pushed over a couple of stout planks.”

A perennial favorite among narrow-gauge modelers is one of the Denver & Rio Grande Western’s narrow-gauge lines. Two surviving remnants—the Durango & Silverton between the

two named locations in southwestern Colorado, and the Cumbres & Toltec Scenic Ry., which runs between Chama, N.M., and Antonito, Colo.—have become world famous among modelers, railfans, and tourists alike. Access to the locomotive servicing facilities on both railroads remains good, **5**, but this will continue only as long as there are no problems with overzealous fans and modelers. Safety first!

Dual-gauge facilities offer the modeler a chance to have his or her cake and eat it too, **6**. Alamosa, Colo., was the location of dual-gauge D&RGW tracks, as this is where the standard-gauge line from Walsenburg to Creede crossed the narrow-gauge line from Salida on its way to Antonito and then west to Durango or south to Santa Fe.

The descriptively named East Tennessee & Western North Carolina is also an ideal modeling candidate. ET&WNC authority Johnny Graybeal reports that, “When first built in 1882, ET engines burned wood. They were converted to coal in 1890. Operations

were based out of Cranberry, N.C. In 1903, a coaling facility was built at what became known as Coal Chute east of Elizabethton. It was a fairly large facility that after 1906 was able to take standard-gauge hoppers loaded with coal via dual-gauge tracks. It was built on a hillside, and the coal was delivered to a trestle above a concrete slab significantly above the level of the track. Coal was dumped into tenders via half-ton buggies and chutes.

“This facility was officially closed in 1941,” Johnny adds, “although I feel it fell out of use after the 1940 flood. Coal was taken on occasion at the transfer in Johnson City, Tenn., **7**, which was there from 1924 to 1947. Once heavier rail was laid to Elizabethton in 1946 and the inside rail taken up to that point, engines were coaled by a conveyor.”

The East Broad Top was not above doing what many coal-hauling railroads did: take on a load of coal directly from an online mine. The railroad’s engine facilities at Rockhill Furnace/Orbisonia, Pa., included a

(continued on page 58)