

REVIEW *Large Scale*  
**Old Mother  
Hubbard Sounds  
Off in the Garden**

*Piko's New Large Scale Camelback*

*Review and Photos by David Otte*

Camelback 0-6-0 steam locomotive  
with sound  
Reading No. 1399  
#38240, MSRP: \$569.99

Wood Caboose  
Reading #92488  
#38836, MSRP: \$69.99

Offset-Side Hopper Car  
Reading #83825  
#38837, MSRP: \$49.99

Steel Boxcar  
Reading #100181  
#38851, MSRP: \$52.99

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**W**HILE Piko's 2014 release of its German BR 64 2-6-2T steam locomotive (reviewed in the June 2014 issue of *Model Railroad News*) in Large Scale garnered much attention worldwide, there was yet another announcement for the current year that took many garden railroaders here in the States completely by surprise — the infamous Camelback steam locomotive.

The first of its type for the G gauge community, Piko's new offering is based on its quality 0-6-0 chassis, featured in its highly successful line of U.S. prototype Moguls and steam switchers, as well

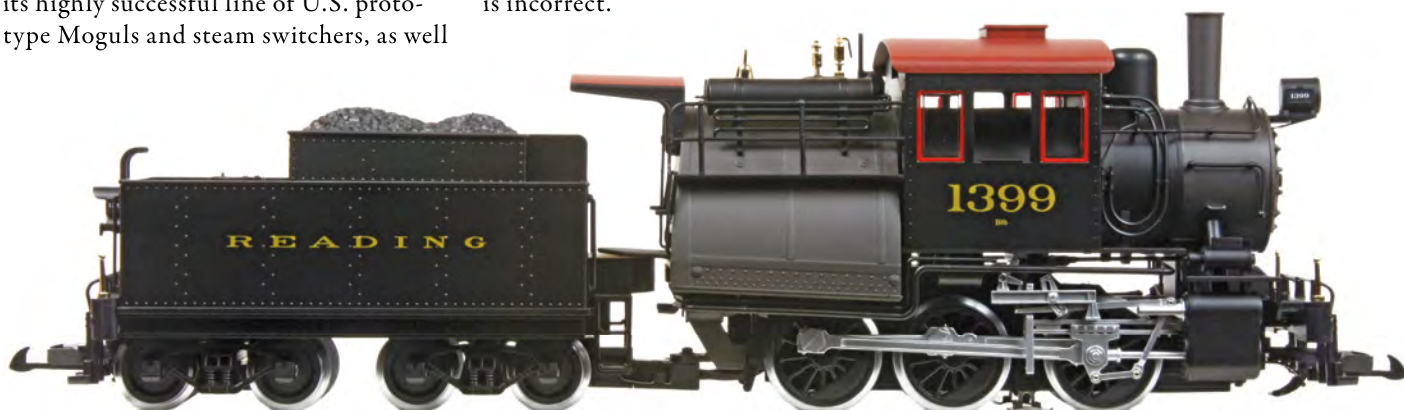
as the DCC/sound package developed by the manufacturer in cooperation with Soundtraxx. Whereas the BR 64 proved Piko's ability to produce a highly detailed steam locomotive rendering, the Camelback is a clever adaptation of existing and new tooling to create a credible U.S. prototype-based model.

### What is a Camelback?

"Camels," "Camelbacks," and "Mother Hubbards" have for years been used by railfans interchangeably when describing any steam locomotive having the ability to burn coal and its cab positioned across the boiler top, but this is incorrect.

While sharing these two particular traits, Ross Winans' "Camel" design, first delivered in 1848 to Baltimore & Ohio in the form of an 0-8-0, exhibited a long narrow firebox, which provided sufficient grate area for the slow-burning coal to produce enough steam. Due to weight restrictions and the wish to keep a low center of gravity, the engineer's compartment was placed at the middle of the boiler, while another crewmember fired the engine from the tender. Designed as nothing more than slow-drag locomotives for the purpose of hauling coal from the mines of Pennsylvania, fewer than 300 Camels were produced through the Civil War Era.

In contrast, by 1876, Philadelphia & Reading Railroad General Manager



Piko's new 0-6-0 Camelback model represents just one of an estimated 3,000 locomotives constructed with John E. Wooten's famous wide Anthracite coal waste-burning firebox and a cab astride the boiler. Measuring 21.25 inches long over the pilots,

this early to mid-20th century representation of a former Philadelphia-area yard goat features directionally controlled LED lighting, a working smoke unit in the exhaust stack, and a factory-installed Soundtraxx-designed DCC/sound decoder.



John Wootten questioned the practicality of burning the thousands of tons of Anthracite waste or breakage, known as culm, piled high outside Pennsylvania mines. Too fine to be used for domestic use, Wootten began testing this potential cost-saving fuel's capabilities first in stationary steam engines and then in locomotives. His findings indicated that an even larger grate area than that of the Winans long firebox design for burning normal Anthracite was required for the still slower-burning culm to work, and the firebox had to carry a thin even fire. The result was Wootten's famous patented wide firebox, which became a reality in the form of Pennsylvania & Reading's homebuilt 4-6-0 No. 408 in January 1877. By 1883, this Reading Railroad predecessor had 171 Wootten firebox engines on its roster, which reportedly earned a savings of almost \$400,000 over a full Anthracite bill.

However, the presence of a Wootten firebox in itself did not garner the moniker "Camelback" either — these early locomotives still had their cabs spanning the rear of the firebox. The change in this arrangement came about when Pennsylvania & Reading sent a wide-firebox 4-4-0 No. 412 across the Atlantic to Europe for trials at the Paris Exhibition of 1878. Due to the tighter overseas load gauges, the cab arrangement was changed so that it sat atop the boiler and in front of the wide firebox, thereby minimizing the locomotive's overall width. Most European roads did not find the separation of fireman and engineer on locomotives that

From this vantage point, one can easily make out the clear-view-style tender frequently associated with switching engines, the backhead of the famous Wootten wide firebox with its molded-in details, the small roof affording minimal protection for the poor fireman, and the top portion of the firebox with add-on air reservoir tanks, air piping, steam dynamo, and brass-plated fittings.



had much higher speed capabilities (the 4-4-0 Woottens were some of the first engines to reach speeds of 60 to 65 miles per hour) than the old Camels to be very appealing. However, the cab modification seemed to stick with Pennsylvania & Reading management and subsequent U.S. roads that experienced similar tight clearances. Thus, the Camelback was born. As the cab location was changed on previous and newly erected engines, another nickname, "Mother Hubbard," eventually came about as crews likened the center cab location to the bonnet

of the old lady depicted in the famous nursery rhyme.

By the late 1880s, other railroads were constructing

locomotives with Wootten fireboxes too, and in most cases, preserved the center cab location. Following Pennsylvania & Reading, the most prolific users of the Camelback type were the Central of New Jersey; Delaware, Lackawanna & Western; Lehigh Valley; Delaware & Hudson; Erie; New York, Ontario & Western; and New York, Susquehanna & Western. While most of the 40 rail-

### By-The-Numbers

**0-6-0 Camelback**

**Piko**

**G 1:29 • Type: Steam Locomotive**

**Traction Tires? Yes**

#### Pull Power (Ozs @ Full Slip)

Pull ÷	Loco Wt =	Efficiency
35.1	88.0	40.0%

#### DCC

Throttle Setting	Scale MPH
Min	2.0
Mid	69.1
Top	123.9

roads that would eventually roster these engines were located in the Northeastern Anthracite coal region, a handful of Western roads, such as Southern Pacific, Katy, Union Pacific, and Rock Island, would also give the locomotive type a try at burning low-grade Bituminous coal. Just as steam locomotive designs progressed during the ensuing century, so did Camelback development. Eventually, they would be built in wheel arrangements including 4-2-2, 0-4-0, 2-4-2, 4-4-2, 0-6-0, 2-6-0, 2-6-2, 2-6-6T, 4-6-0, 4-6-2, 0-8-0, 2-8-0, 2-8-2, 4-8-0, and 2-10-0. There even existed articulated Mallet Camelbacks in the form of Erie's three gigantic 0-8-8-0s of 1906, known to railfans as the Angus type.

While widely accepted, Camelbacks were not all that favored by crews. The

**The impressive-looking Large Scale Camelback is backed by an excellent drive mechanism as proven in Piko's previously released 2-6-0 and 0-6-0 models.**





Some of the separately applied details gracing the Piko model are evident in this view. These include the coupler lift bar, pilot beam flag poles, pilot deck toolbox, handrail on the boiler as well as behind the cab, headlight, exhaust stack, injector delivery pipes with check valves, and window panes in the cab. Check out the footboard-style pilots — a prominent feature on yard engines — the molded-in sanding lines exiting the sand dome, and the tread pattern incorporated into the running boards.

fireman had the worse end of the deal, having to fire the locomotive from the tender fully exposed in most cases to the elements and with little ability to anticipate either the actions of the engineer or the tracks ahead. Of course, the engineer fared little better. The cabs offered minimal space with the controls laid out on the sides of the cabin, forcing the driver to back into his seat from the front cab door. Worse of all, he sat right above the

running gear with the constant threat of a broken side rod or cross head quickly ending his life. These conditions became serious enough that the Interstate Commerce Commission (ICC) banned new construction of this locomotive type beginning in 1918, but exceptions did occur up until 1927 when the ICC finally outlawed even rebuilt engines with the center cab design.

In the end, it is estimated that about

3,000 Mother Hubbards roamed North American rails at one time or another with the last Camelbacks in regular service, all Central of New Jersey 4-6-0 types, retired in 1954. Today, Wootten's wide-firebox design can still be appreciated at the Baltimore & Ohio Railroad Museum in Baltimore, Maryland; the Museum of Transportation in St. Louis, Missouri; and the Railroad Museum of Pennsylvania in Strasburg, Pennsylvania, where the last three examples of the Camelback type have been saved for posterity.

### Piko's Reading Camelback

I have always been intrigued by the looks of Camelback-type steam locomotives and highly anticipated this Piko release. Upon its arrival, I was not disappointed in the least! While one expects that a manufacturer will reuse its existing tooling to conjure up "new" products, Piko's Camelback is more than just a refitting of the existing Mogul cab and boiler shell on a straight 0-6-0 chassis. While the clear-view style rectangular-shaped tender has not changed in presentation from previous releases, the company has created new tooling in the form of the boiler, a true Wootten wide firebox, and steel cab along with a number of new appliance castings to offer a much more serious-looking rendering over the somewhat whimsical U.S.-style conventional steamers preceding it.

Probably the number one gripe among Large Scalars regarding Piko's 2-6-0 and 0-6-0 was its lack of detail on the boiler. The manufacturer no doubt took this criticism to heart, however, because its new Camelback shines in this area. Present are molded-in sand lines, injector delivery pipes and check valves, cooling lines for the compressed air system, single-stage air compressor, steps on the side of the smokebox, air reservoir tanks atop the boiler, brass-plated bell, pop valves, and whistle, a U.S.-style steam dynamo, power reverse mechanism, walkways and tender apron with tread pattern, and handrail both along the smokebox and boiler sides and above the boiler behind the cab — all modeled in the same UV-resistant plastic as the major body components.

Other than glazing in the major window openings and a rooftop vent hatch, the cab is void of detail, although admit-



After hoppers, house boxcars were the mainstay of Reading's rolling stock fleet. Piko's model carries the class designation "XMa" on its car sides and represents one of 500 house cars (107500–107999) built in 1948 by American Car & Foundry at a cost of \$4,267.70 each. While incorrectly numbered for the series (100181 was actually an older XMt class car), Piko's offering features an excellent paint job, separately applied brake gear, and roofwalk, plus is equipped with sliding freight doors.

tedly the interior spacing on the model, as on the prototype, is so limited that little can be seen from the outside looking in anyway. Perhaps my only remaining pet peeve with Piko's 0-6-0 chassis that has continued on with this offering is the one-piece Walschaerts valve assembly, which I was hoping might become an articulated detail like the rest of the running gear components, but the other attributes of the Camelback easily make up for this more than likely production cost-savings measure.

When assembled, the overall effects of the newly tooled components offer a well-proportioned appearing machine that is much more pleasing to the eye than the previous six-coupled driver family of stubby-boilered steam engines. In fact, it appears to me from comparisons with both locomotive diagrams and photographs that an actual Reading 0-6-0 class Camelback was the inspiration for Piko's 1:29 scale rendering. In particular, Pennsylvania & Reading built seven switchers (Nos. 1393–1399) in its own locomotive shops between 1913 and 1921 referred to as the B-8b class. Unlike its previous B-8a class of six-coupled Camelbacks, the newer engines featured piston valves with 20x26-inch cylinders, Walschaerts valve gear, 210-pound boiler pressure, 142,000 pounds on the drivers, and about a 30,000-pound tractive effort with both rectangular and sloped-back tenders utilized. While the model's uneven driver spacing is a departure from this prototype, the rest of the running gear is a good match, including the appropriate scale 50-inch diameter see-through spoked drivers. Depending on the tender style used, the B-8bs measured just under 52 feet in length over the pilot steps and 10 feet wide over the cab walls, while the 21.25-inch long G gauge Camelback scales out to be 51 feet, 4 inches long and the correct width. Furthermore, the layout of the appliances, piping details, cab window arrangement, smokebox-mounted headlight, the fireman's roof over the backhead, and footboard-style pilots also closely follow Pennsylvania & Reading Mother Hubbards. While Piko's supplied tender is not a very good match with those used behind the B-8b class as far as specific details and trucks go, its overall stature does balance out the duo and provides a convincing substitute.



Lettered up as Reading No. 1399, Piko's initial release represents Pennsylvania & Reading's last Camelback built new for the road. Erected at the Reading locomotive shops in Philadelphia in 1921, No. 1399 performed switching duties for the next three decades throughout the general Philadelphia area. By the late 1940s, with their heydays behind them and the diesel switcher starting to enter the scene, the B-8b class would be off the active roster by the early 1950s and eventually succumb to the scrapper's torch. Simple in execution, the Piko model mimics old Mother Hubbard No. 1399 with a quality paint and lettering application, including the appropriate "B-8b" class designation on the cab sides.

The impressive-looking Large Scale Camelback is backed by an excellent drive mechanism as proven in Piko's previously released 2-6-0 and 0-6-0 models. The drive train is completely housed in a sealed power brick or gearbox making up the chassis. As such, the motor, gears, axles, and electrical pickups are all

completely protected from the elements while still offering the prototypical clear view between the boiler and frame.

Removing the gearbox cover, one will find a precision Bühler can motor with brass worm gears mounted to its shafts, which in turn powers the outer drive axles through a series of plastic reduction gears. Both drive axles feature roller bearings with some lateral motion permitted; the center drive axle is allowed to float more or less within its housing. In this way, the Camelback can negotiate G gauge R1 or 600-millimeter radius curves (23.25 inches) with ease. Internal sprung copper pickups allow all six drive wheels to act as electrical pickups along with the slider shoes located between the first and second drive axles. The tender trucks are also outfitted with metal wheels further improving current pickup for the onboard electronics. Piko continues to use its nifty combination mechanical and electrical connector between engine and tender as well, which provides an easy to align and sturdy drawbar connection that allows even the



As "America's Largest Anthracite Carrier," hopper cars were the most abundant car type in the Reading freight car fleet. The Piko model represents and is accurately decorated for a 55-ton, two-bay HTV class car (numbers 83000–86699 and 87000–87999) as erected by Bethlehem Steel in 1950. Number 83825 would later be rebuilt at the Reading car shops and leased to Baltimore & Ohio in 1964. The modeler just needs to add a coal load!





While the well-detailed Piko crummy does not come close to matching a Reading hack, the manufacturer has done a good job of decorating its car with some eye-catching road-specific paint and lettering. Displaying class "NMn" on its sides (albeit the wrong car number), the caboose represents in spirit one of 50 cars (92930–92979) built at Reading's car shops in 1942. Following the road's well-known all-steel, center cupola, four-side window design, Reading was forced to construct this group of cars with wood-sheathed siding due to wartime shortages.

youngest of engineers to easily get this locomotive up and running in no time. Finally, the lead pair of drivers is outfitted with traction tires to supplement the 5.5-pound engine's excellent adhesion, which is a marked improvement over *MRN's* 0-6-0 sample (reviewed in the December 2013 issue of *Model Railroad News*) despite the two models' nearly identical weights. My guess is that the Camelback's cab arrangement allows its interior metal weight, which is housed in the boiler/firebox assembly, to be positioned more effectively over the drivers.

Due to Soundtraxx's collaboration with Piko during the design of the on-board electronics, DCC operation of the G gauge Mother Hubbard is pretty straightforward and follows standard NMRA recommended practices. While the model may be operated and the sounds enjoyed, both automatically or triggered by the included track magnet with a standard DC analog controller,

command control mode will provide the most operational capabilities.

All my testing this time around was done using Piko's Navigator digital control system and, as with past experiences, I encountered no anomalies with this new offering. Function keys F0 – F11 have the usual assignments with a short and long whistle, smoke unit control, brake squeal, and half speed or switching mode functions of special note. Steam chuff, the air compressor, and coal-shoveling sounds are automatic. Control Variables (CVs) can be fully adjusted too including, but not limited to the locomotive address, speed steps (14, 28, 128), volume control of the individual sound effects, and three different whistle tones from which to choose. Furthermore, the built-in motor decoder provided smooth performance during my testing with speed steps set at 128. Out of the box, a constant low speed of two miles per hour was achieved while

the prototype's operational top speed (approximately 50 miles per hour) was already surpassed at the mid-throttle settings; an easy fix though by adjusting the throttle CVs. The bright directionally controlled LED headlight and backup light on the tender were quite effective, and the Seuthe smoke generator, once properly primed with the included smoke fluid, puffed out an abundance of fluffy white smoke.

If the new Reading Camelback were not enough, Piko is also making available a matching freight consist for the 0-6-0 to shift around the yards. Sold separately, each piece of rolling stock features durable weather-resistant plastic constructed carbodies, standard hook and loop couplers, and plastic trucks and wheelsets. The rolling stock ensemble includes a 40-foot steel boxcar, offset-side two-bay steel hopper, and a center cupola wood caboose. While the hopper is simplicity at its best, the boxcar and caboose offer numerous separately applied plastic detail parts that further authentically augment their appearance. The freight cars are actually closer to 1:32 in scale but still look convincing coupled behind the 0-6-0 and have no problem negotiating minimum R1 curves. Together, they make a very colorful consist with the Piko cars all displaying the company's usual excellent finish and sharp graphics.

### Camelbacks for All

I think it is safe to say that Piko has a big hit on its hands with its new Camelback. With so many railroads, both east and some west, that operated these old Mother Hubbards, just think of all the road names that can be produced as well as the additional wheel arrangements concocted with the manufacturer's six-coupled power brick. As a matter fact, in an uncataloged announcement recently made for a surprise fall 2014 release, the manufacturer will be offering a 2-6-0 Camelback lettered up for the Central of New Jersey's famous *Blue Comet* with matching passenger cars available to boot! Piko really deserves a pat on the back from Larger Scalpers here in the U.S. for going out on a limb and providing us with something new and a bit exotic to run and sound off in the garden. Kudos to Piko for a job well done!