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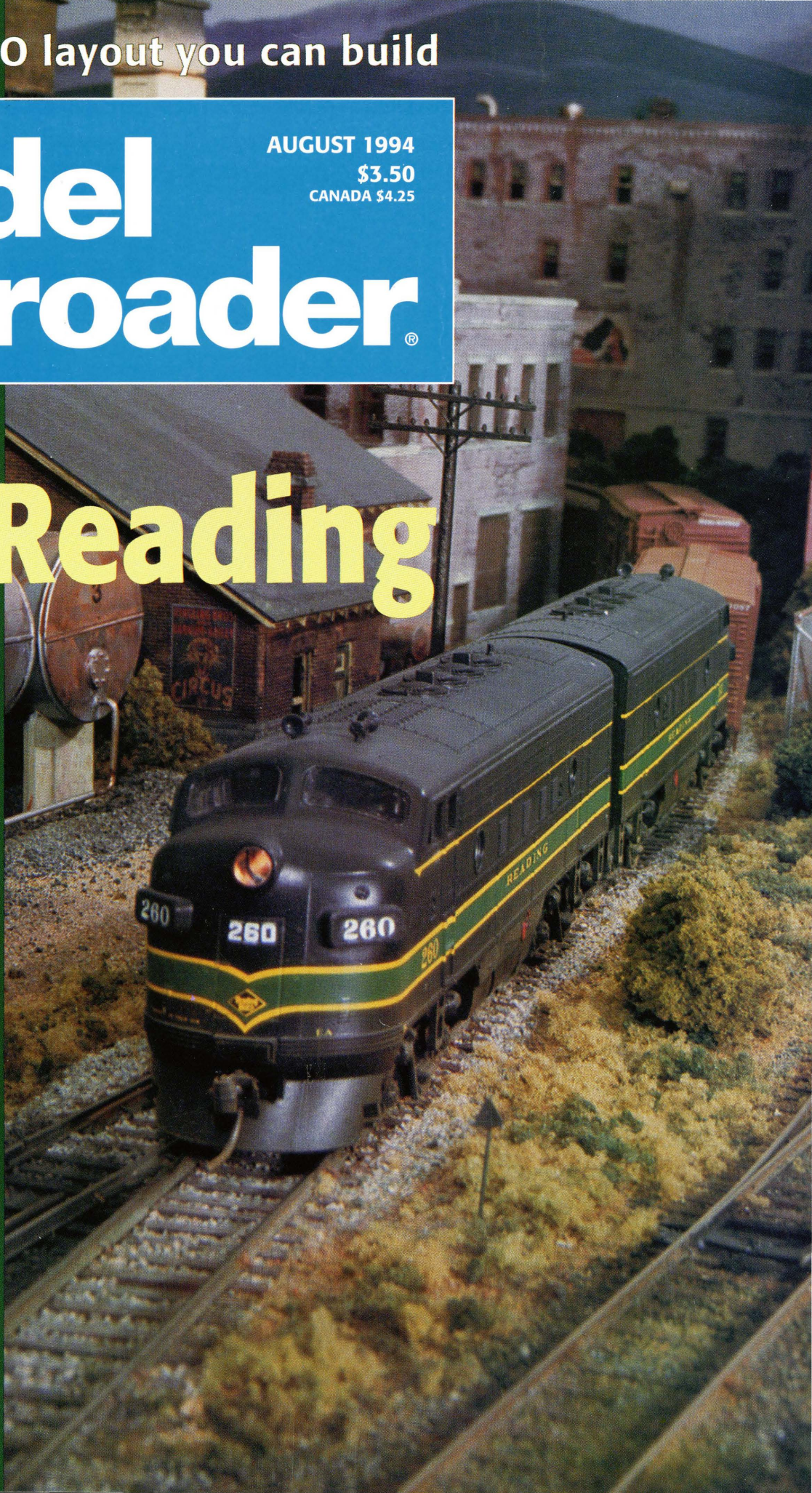
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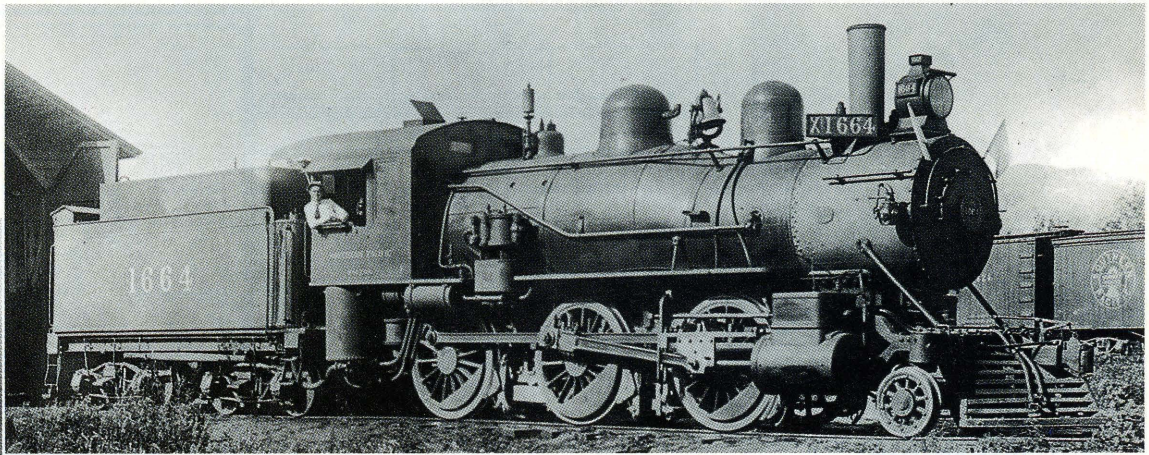
Southern Pacific and Texas &

Some of these turn-of-the-century Moguls served into the 1950s

BY ANDY SPERANDEO



New Orleans class M-4 2-6-0s



Cliff Moran, collection of William Bassler

Pacific Lines M-4 no. 1664 displays a near-original appearance at Whittier, Calif., in 1910. The most notable changes by this date are its conversion to oil fuel and the addition of oil-burning train indicators, the angled "number boards" next to the smokestack.

In steam days the Southern Pacific was home to unusual and distinctive locomotives. Backward-running articulateds of several wheel arrangements, for example, were unique to the SP, but it had so many Cab-Forwards, its few normal articulateds seemed out of place. As for smaller engines, no other road fielded such a variety of 2-6-0 Moguls, and kept so many working into steam's last decade.

The subject of Ed Gebhardt's drawing is class M-4, one of the smaller Moguls to serve both the Southern Pacific and its subsidiary, the Texas & New Orleans. These 130 2-6-0s were built as class ED from 1899 through 1901. Twenty-two of them came from the Schenectady Locomotive Works, later home of the American Locomotive Co., and the rest were built by Cooke, also later an Alco affiliate.

At first the engines were numbered in a variety of series, but in the system renumbering of 1901 they became 1615-1718 on the "Pacific Lines," or SP proper, and were reclassified as M-4s. At the same time the T&NO engines were renumbered 410-459, including after 1916 the M-4s assigned to the Galveston, Harrisburg & San Antonio (part of T&NO after 1927).

Those series contain more than 130 numbers. That's because 25 M-4s were transferred from Pacific to Texas Lines in 1901 and 1902, one went the other way in 1924, and several on both parts of the system were renumbered within the "1901" series.

The history of the M-4s is too convoluted for an engine-by-engine listing

here. Afficionados can find detailed rosters in the *Southern Pacific Co. Steam Locomotive Compendium*, by Timothy S. Diebert and Joseph A. Strapac. This valuable reference for students of SP power was published in 1987 by Shade Tree Books, P. O. Box 2268, Huntington Beach, CA 92647.

Demoted into longevity

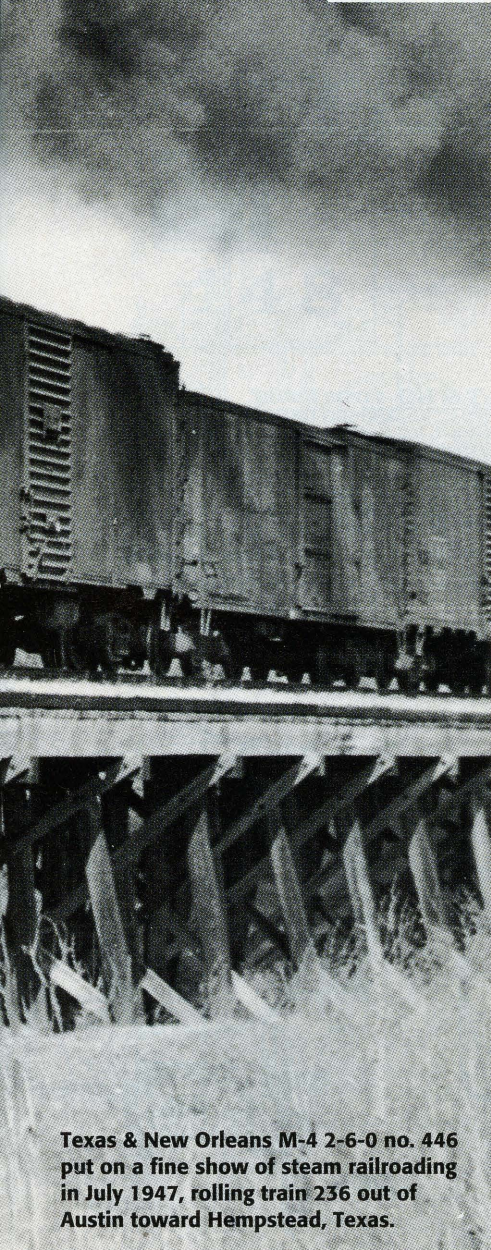
When built the M-4s were average-size fast freight engines, a role often taken by 2-6-0s at that time, but by the end of their first decade they'd been eclipsed by both larger Moguls and engines of other wheel arrangements. The SP had plenty of work for them, though, in its branchline and local feeder services. Performing tasks that would today be the domain of light road switchers, many enjoyed long lives.

Several Pacific Lines M-4s were sold or leased to SP affiliates other than lines in Texas and Louisiana. At different times these engines worked for the Arizona & Colorado, Arizona Eastern, Gila Valley, Globe & Northern, Maricopa & Phoenix, Nevada-California-Oregon, Northwestern Pacific, San Diego & Arizona Eastern, and Southern Pacific of Mexico. All these wanderings are listed by Diebert and Strapac.

Specifications

Original dimensions of the M-4 class included 63" drivers, 20" x 28" cylinders, and 190 psi boiler pressure. In working order the engine alone weighed 146,000 pounds, with 126,000 pounds carried on the driving wheels. Tractive effort was 28,710 pounds. These Moguls were built

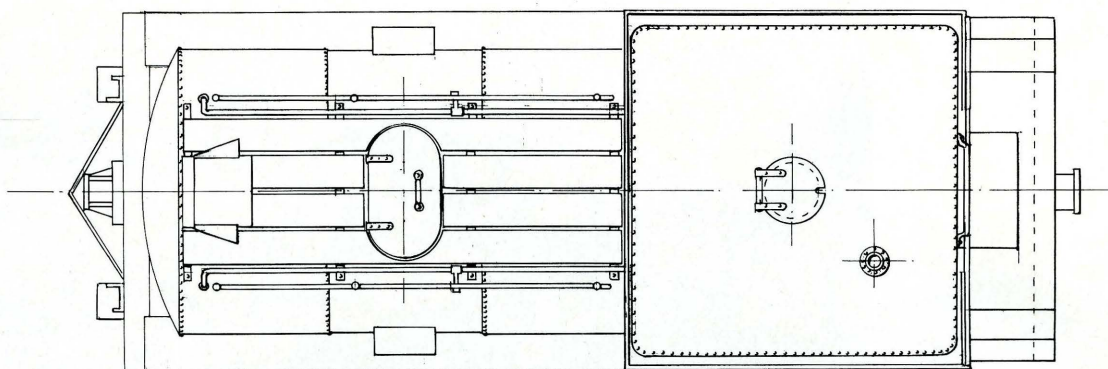
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Texas & New Orleans M-4 2-6-0 no. 446 put on a fine show of steam railroading in July 1947, rolling train 236 out of Austin toward Hempstead, Texas.

Bruce Wilson

SP and T&NO class M-4 2-6-0s

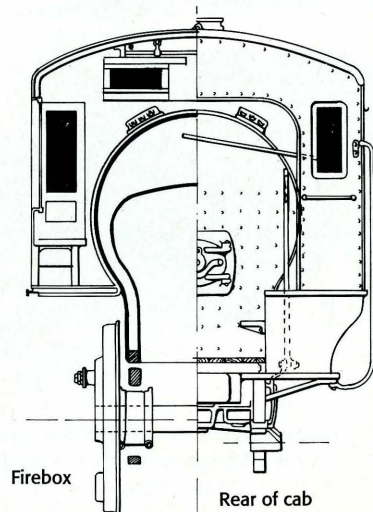
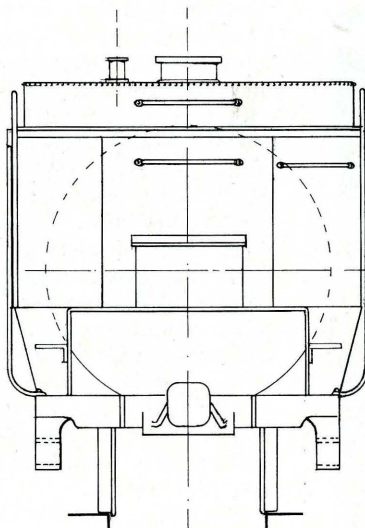
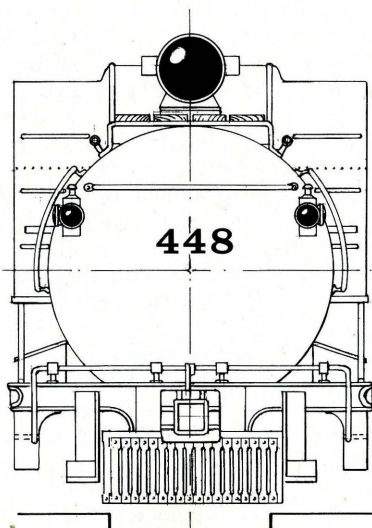
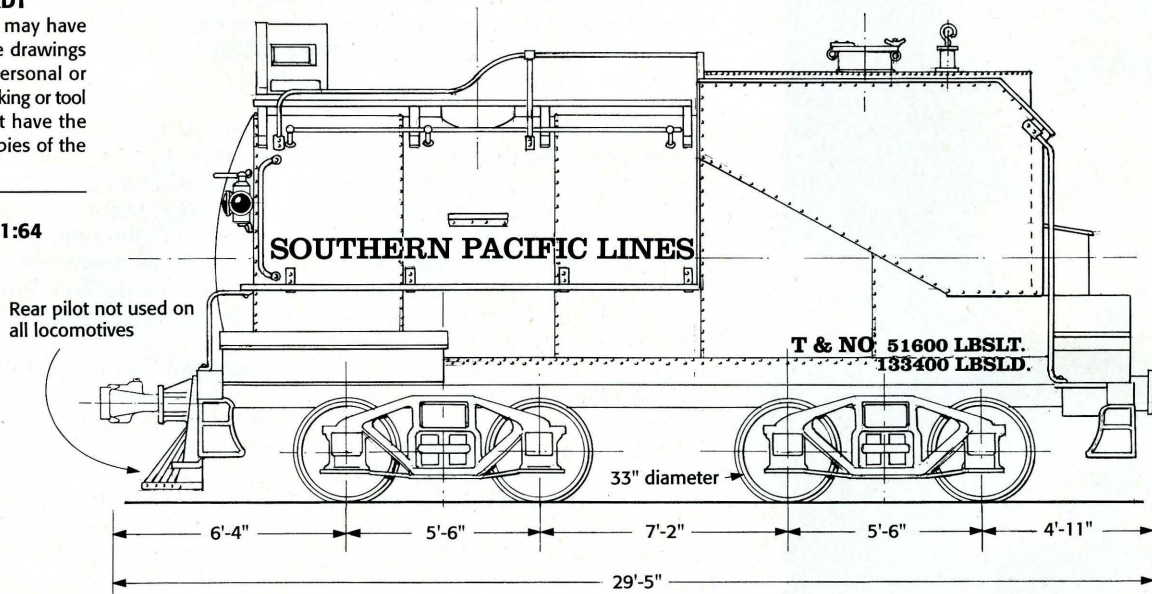


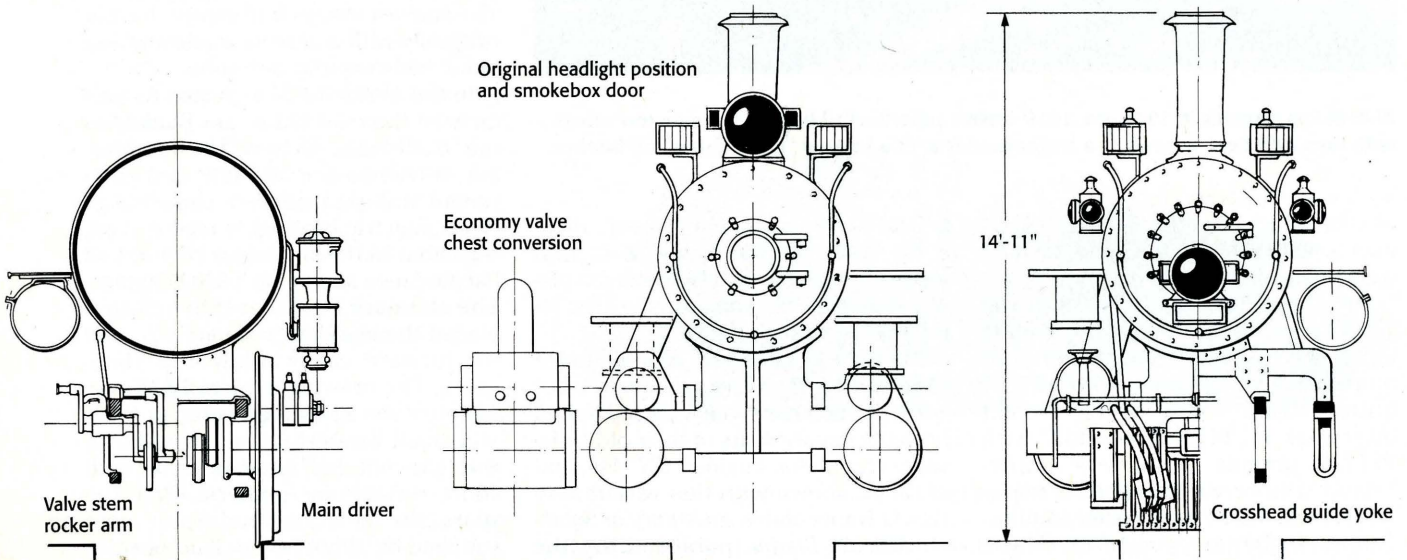
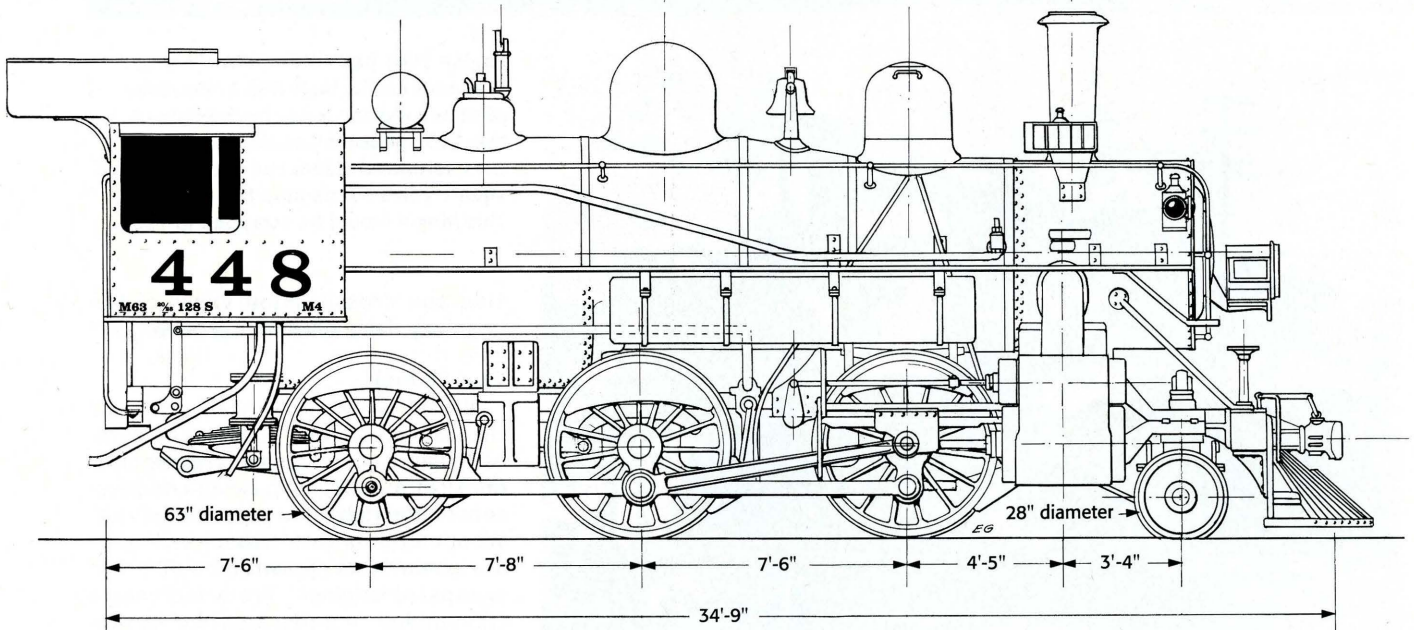
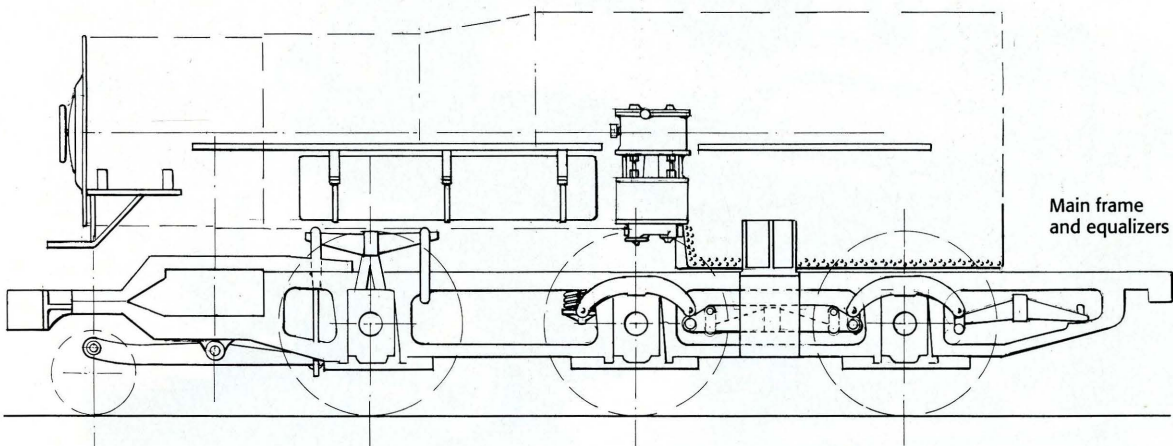
Top of tender

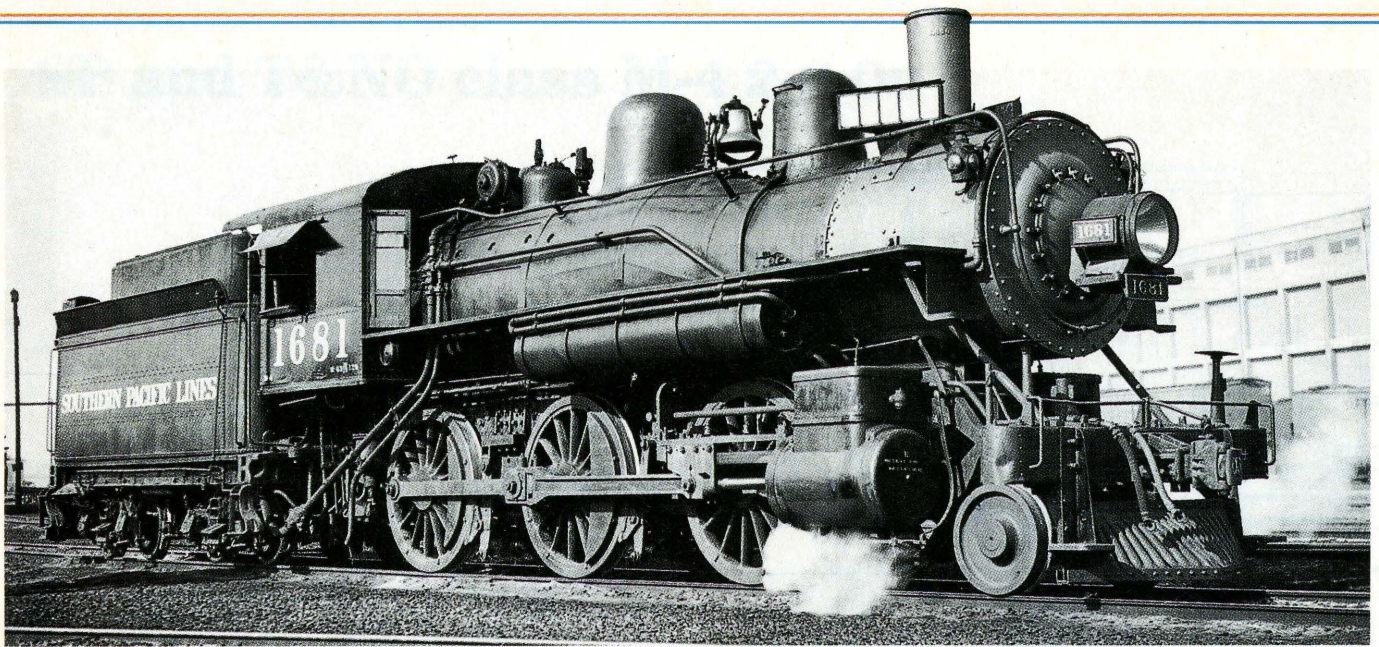
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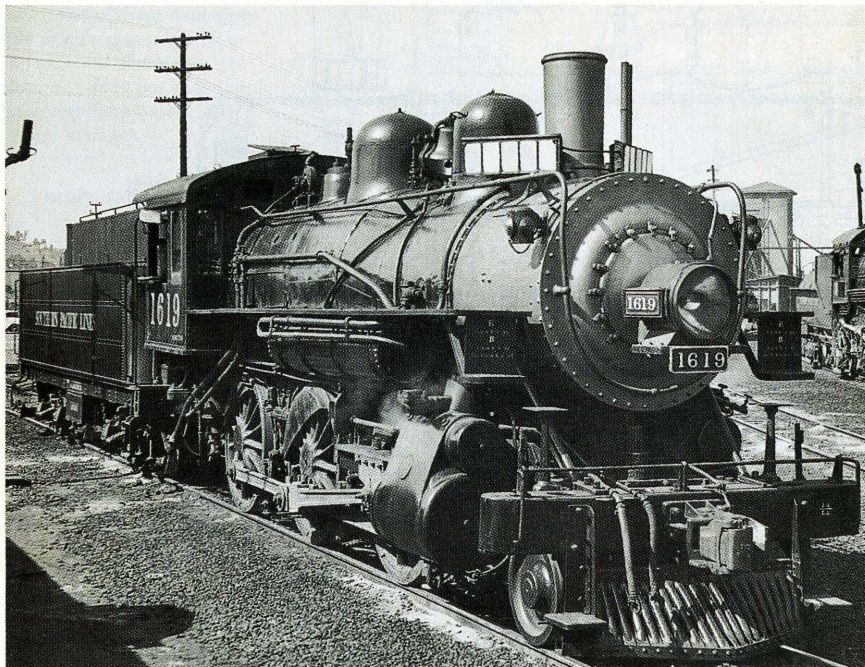






Gerald M. Best

Engine 1681 has acquired the "typical" Southern Pacific look with boiler-tube pilot and electric lights by the time of this 1932 photo in Los Angeles. It still uses saturated steam and has its original square valve chests atop the cylinders. This Mogul would be scrapped in 1935.



Gerald M. Best

Also at Los Angeles in 1932, no. 1619 wasn't superheated but did have piston valves with new cylinders, as well as a larger tender with a narrow "clear vision" oil bunker.

Story continued from page 73

as coal burners, but the SP began experiments with oil fuel in 1895, and the M-4s were soon converted to oil.

Between 1919 and 1929, all of the T&NO engines and 24 on the Pacific Lines were given superheaters for more efficient operation with "drier," hotter steam. Their engine weight increased to 147,910 pounds, with 127,650 pounds on drivers. Superheated M-4s were re-equipped with piston valves, which were easier to lubricate at higher temperatures. These were still activated by the original

inside Stephenson valve gear. However, some Pacific Lines M-4s that weren't superheated also received piston valves, so the valves alone aren't a reliable "spotting feature."

Most M-4s received new cylinder saddles with the valve conversion, but a few got Economy valve chests bolted onto the square seats of their old slide-valve chambers. Engines 427, 446, and 1713 are shown with this variation in Guy L. Dunscomb's *A Century of Southern Pacific Steam*, published by the author in 1963. Our drawings include

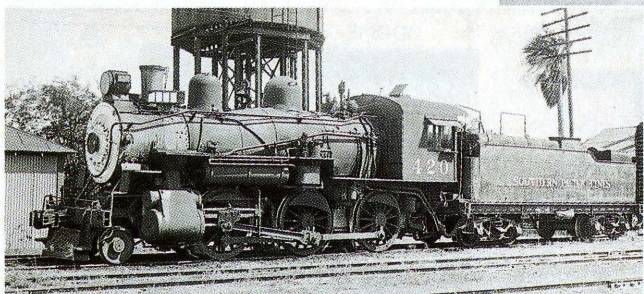
side and cross-section views of the Economy valve chest conversion.

That SP look

New M-4s carried oil headlights atop the smokebox, box types on the earliest engines and cylindrical ones later on. Most had single-phase air compressors on the right side ahead of the cab. Wooden pilots with either vertical or horizontal slats appeared on different groups of engines. Train indicators (the angled "number boards" beside the smokestack) were early additions. The engines always had steel cabs, but originally with a narrow window ahead of the wide one on each side.

In the 1920s the M-4s began to take on what the road's fans now think of as the "traditional" SP look. The compressor moved to the left side and compound pumps replaced single-stage types. Electric headlights replaced oil, relocated to the smokebox door on all Pacific Lines and some T&NO engines. The standard SP boiler-tube pilot replaced the wooden "cowcatcher," and the forward cab window was eliminated. The drawing depicts T&NO no. 448 after she was superheated in 1923.

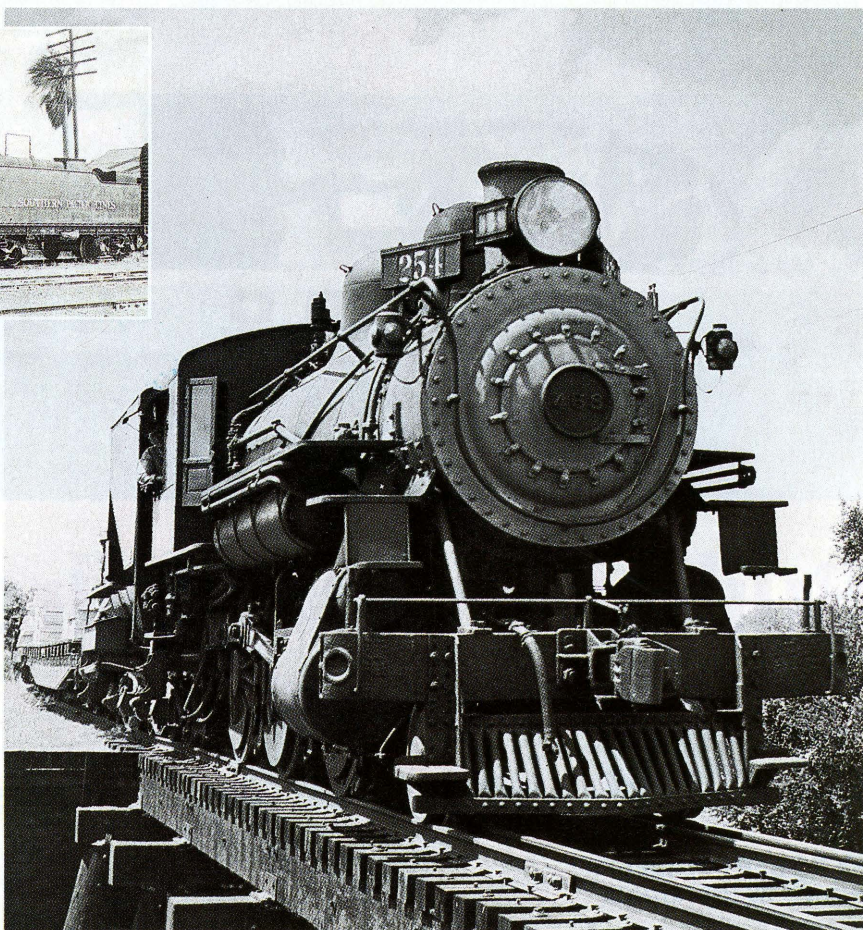
A small Vanderbilt tender is shown with the 448, but all M-4s came with short rectangular tenders. Over the years, the M-4s' fuel and water were supplied by almost every kind of small SP road tender, including "haystack" or



C. W. Witbeck

Texas & New Orleans no. 420 at Schreiver, La., in 1948 is supplied by a long, low tender with a round-topped oil bunker.

Number 458 arrives in Austin with train 254 in 1947, sporting a cut-down smokestack and a short Vanderbilt tender.



Bruce Wilson

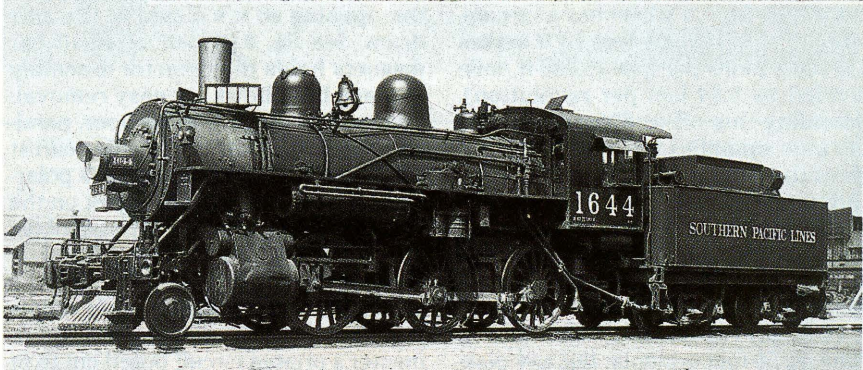
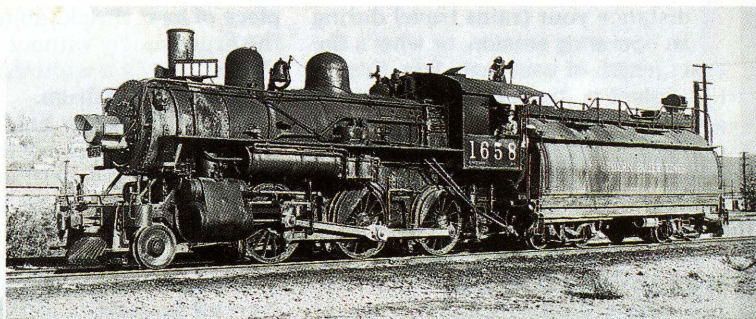
“whaleback” types. The 428 was photographed in 1948 with a “clear-vision” Vanderbilt tank of the sort usually seen with 0-6-0 switchers (Diebert and Strapac, page 369).

A lingering demise

Few M-4s left the roster before 1929, but depression and newer power led to many of the class being scrapped in the 1930s. World War II brought a stay of execution, as the SP needed every locomotive that could turn a wheel. Scrapings resumed after the war, and by 1950 there were only 18 M-4s on the SP roster, and only 23 still serving the T&NO. All but two of the Pacific Lines engines were gone by 1954, as were the last T&NO engines a year later. Number 1673 was donated to Tucson, Ariz., for display in 1955, and Gene Autry purchased no. 1629 in 1957. That engine was placed on display in Saugus, Calif., in 1981. With over a half-century’s service from almost a third of the number built, the M-4s repaid the Southern Pacific’s long faith in the 2-6-0 Mogul type.

M-4 models

Pacific Fast Mail imported HO brass models of the M-4 2-6-0 between 1966 and 1977. Currently IHC offers a plastic HO scale M-4, reviewed in the June MR. It’s a very credible replica, and could be reequipped with Model Die Casting’s SP Vanderbilt tender. ☛



Both photos, F. J. Peterson

Two M-4s at Los Angeles, the 1644 in 1939 and the 1658 in 1940. The latter’s “haystack” or “whaleback” tender is an obvious difference between them, but also notice the variations in piping on two essentially similar engines. Both Moguls were among the two dozen Pacific Lines M-4s to be superheated.