

# Cab-forward curtain call



On Friday, November 29, 1957, AC-11 No. 4274, the first SP cab-forward to be called for revenue service in a year's time, moves off the turntable at Roseville, Calif., for a final break-in run before the weekend farewell excursion over the Sierra Nevada.

Fifty years ago, Southern Pacific turned a 4-8-8-2 loose on Donner Pass for a glorious final run

By Tom Gildersleeve



The 4274 puts on a steamy show as it moves from the Roseville roundhouse to the break-in track on November 29, the day before its final trip east over the Sierras.

**D**ecember 1, 2007, will mark the 50th anniversary of a landmark event in the history of steam railroading. On that date in 1957, Southern Pacific killed the fire on the last cab-forward locomotive ever to move under its own power. This closed a chapter lasting almost five decades, during which the cab-forward had been the quintessential SP locomotive design, a virtual trademark for the carrier.

SP for much of its history had more mountain summits, more tunnels, and more miles of snowsheds than any other U.S. railroad. In 1908, just four years after the first U.S. Mallet was built, SP bought two 2-8-8-2's of conventional (rear-cab) design and tried them out on "The Hill," as the tough line over Donner Summit in Northern California was known. Their pulling power was indisputable, but the large volume of exhaust gas they produced made the cabs virtually unlivable in the miles of snowsheds and tunnels on the Donner line.

SP solved the problem by redesigning the locomotives to put the cab in front. Since the engines were oil-burners, there was no need to run the tender near the firebox, and the engines were also designed to run "backwards," with the tender behind the smokebox. This put the crew well forward of the exhaust, with its noise, fumes, and heat. The first group of the newly designed locomotives was built by Baldwin (which would build all subsequent cab-forwards, all for SP) in 1909.

With the smoke problem solved, SP continued to acquire cab-forward Mallets in the 2-8-8-2 wheel arrangement until it had 49 of them. As these were being delivered, SP in 1911 also received a dozen 2-6-6-2 cab-forward Mallets for passenger service, but because of unstable tracking characteristics that gave them a tendency to derail, SP almost immediately rebuilt them as 4-6-6-2's. In 1927, SP converted all its early cab-forward Mallets to simple articulateds.

**T**he real show-stoppers in the cab-forward fleet were the 4-8-8-2's, simple articulateds that began arriving in 1928. The simplified 2-8-8-2's were classified AC-1 through AC-3, and the 4-8-8-2's picked up at AC-4. Technically, the new AC's qualified as a Yellowstone wheel arrangement (2-8-8-4) designed to run backwards. The fact was,



Three photos, Tom Gildersleeve

At SP's Sacramento station on the morning of Saturday, November 30, the diesels that brought the excursion train up from Oakland have cut off and the star attraction, 4-8-8-2 No. 4274, backs down to take their place.



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Dubbed the "Sierra Daylight" by trip sponsor California-Nevada Railroad Historical Society, the train works its way up grade at Alta. Depending on where one boarded, fares for the two-day trip ranged from \$14.75 to \$17.75.

though, that the four-wheel lead truck had as much to do with maintaining stability at speed as it did with supporting a large firebox. Nonetheless, if the cab-forward 4-8-8-2 is considered a Yellowstone, then SP beat the recognized first 2-8-8-4 owner, Northern Pacific (which named the type) by a year. SP's AC-4 class, which weighed 614,600 pounds, would qualify as the lightest locomotives of the wheel arrangement. By the time SP's AC-8's arrived in 1939, their weight had increased to 657,900 pounds, making them heavier than Baltimore & Ohio's class EM-1 2-8-8-4's but still relatively light by Yellowstone standards.

The AC's were one of the most successful fleets of articulated locomotives to operate in the United States. Unlike most articulateds, which tended to be custom-designed with a specific grade in mind, the cab-forward 4-8-8-2's were planned as universal engines to work all of SP's mainline grades. SP had 195 of them, one of the largest fleets of articulated locomotives of a single wheel arrangement on any U.S. railroad.

Among articulateds, they were not the biggest, heaviest, most powerful, or fastest, and did not have the highest tractive effort, but they represented a highly versatile design which enabled them to operate routinely all over SP's Pacif-

The 1943 Baldwin mimics an erupting volcano as it storms up Donner's 1.9 percent grade at Soda Springs. Three miles ahead is the summit, then the long descent to Reno.



In late-afternoon sunlight along the Truckee River near Boca, Calif., 27 miles from the special's November 30 destination of Reno, Nev., Extra 4274 East meets a set of "Black Widow" F units on a westbound freight.



C. G. Heimerdinger

The 4274 spent the night of November 30-December 1 at the SP roundhouse in Sparks, 3 miles east of Reno, as seen in author Gildersleeve's first successful night photo.



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ic lines. Each one could churn out about 7,000 horsepower, and three of them could handle just about any type of freight train on Donner or any other major SP grade. They were designed for a top speed of 75 mph, enabling routine use in passenger service on lines with mountain grades. Very few of SP's mountain main lines in the West did not see the AC's—they were the steam-age equivalent of a fleet of mass-produced, high-horsepower diesels.

I grew up in Southern California, and saw and admired cab-forwards just about any time my family made a trip. As a youth I started photographing SP and Santa Fe steam sporadically from 1948 onward, but it was not until summer 1956 that I truly realized steam was disappearing. If I wanted a photographic record, it was now or never. By that time, steam was gone from Southern California, but fortunately, I was going to college in the San Francisco Bay Area, which turned out to be the last bastion of SP steam. Between September 1956 and January '57, I spent all my free time photographing SP steam, including quite a few cab-forwards on Altamont Pass between Niles and Tracy. The AC's were my favorite locomotives, but despite my efforts, I was not satisfied with my photographic coverage of them.

AC-10 No. 4211 made what was thought to be the last revenue run of a cab-forward on November 30, 1956, and SP parked its remaining standard-gauge steam power in California in January 1957. Many railfans anticipated a resurgence of steam during the spring and summer perishable traffic rush, and the railroad itself continued to shop some engines in anticipation of a return to service. But diesel orders were filled in time to meet that need, and mainline steam never again operated in regular service on the SP.

Although regular steam was dead, the railroad did operate occasional steam excursions in 1957, mostly behind 4-8-4's and a smattering of lighter power. Later that year,

Rested and ready for her final day of work, cab-forward 4274 steams out of the Sparks engine terminal on Sunday morning, December 1. After picking up the excursion consist, she's scheduled to depart Reno at 9:00 a.m.

The 4-8-8-2 and train make a majestic entrance into Reno to pick up passengers for the trip back to Sacramento and the Bay Area. As a nod to history, the AC's train-indicator boards display "27"—the number of the fabled *San Francisco Overland*.



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Beneath a fine display of steam, the 4274 curves along the Truckee River and under U.S. highway 40 a few miles east of Truckee as it ascends the east slope of Donner Pass. For author Gildersleeve, the 1957 outing remains “the steam chase of a lifetime.”

however, the California-Nevada Railroad Historical Society announced that it would sponsor a two-day trip over Donner Pass with a 10-car train—behind a cab-forward! This news caused considerable excitement for me and my close friend Chuck Heimerdinger, who would partner with me on this adventure. It would be the first operation of an AC in a year, and probably the last ever.

**T**he trip was scheduled to operate eastbound on Saturday, November 30, returning the next day, December 1. It would originate and terminate in Oakland behind diesels, but between Sacramento and Reno, in both directions, power would be an unassisted cab-forward. This would be a spectacular trip over some of the best mountain scenery on the SP, and it was going to be my last, best opportunity to get the photographic results that had eluded me. The only minor complications would be the risks of equipment breakdown and bad weather, the latter being considerable at that time of year. This needed to be a car chase if we wanted to maximize our photographic harvest, and although the trip was sold out, Chuck and I did donate to the society to help defray their expenses. Since we did not know the Donner line at all, we would have to scout the line to find suitable photographic locations.

SP took no chances on equipment failure with the chosen locomotive, AC-11 No. 4274, operating it on test runs for several days prior to the trip. Chuck and I arrived in SP’s big yard at Roseville, 17 miles east of Sacramento, on Friday, November 29, in time to see the engine under steam in the roundhouse and photograph it being turned on the turntable and moved to yard trackage for its final break-in run.

After we had our fill of photography there, we headed out to scout the line to Donner Summit, armed with USGS maps to show the location of the railroad with respect to parallel U.S. 40 (no Interstate 80 yet back then!). Since 40 was not a freeway and even had considerable two-lane mile-



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age, we carefully selected locations that offered the promise of a good angle on the engine in good light where we thought we could arrive ahead of the train. It is 70 miles or so from Roseville to Norden (just west of the summit), and it took us the better part of the remainder of the day to explore the area, select photo locations, and return to Sacramento.

Saturday dawned bright and sunny, and the weather held for the entire weekend. We photographed the train at several of our pre-scouted points, catching our last action in late-afternoon light near Boca, about 10 miles west of the Nevada state line. Sunday’s westward trip was another spectacular run, completing one of the best steam shows I’ve ever seen. The train arrived back in Sacramento around



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Having crested the summit, the westbound excursion rolls around the horseshoe curve at Blue Canyon on December 1. Sand deposits on the upgrade track tell of the difficulties faced by eastbounds on "The Hill."



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4:30 p.m., close to sunset. After the train left for Oakland behind diesels, I spent a little time at dusk just admiring the 4274, which looked a bit forlorn as it quietly sat there oozing steam. I realized that it would likely be the last time I would ever see a cab-forward under steam. It was, although SP continued to run occasional excursions into 1958 with a variety of other types. The official farewell to steam trip was behind 4-8-4 No. 4460 on October 18-19, 1958, retracing the itinerary of the 4274 outing the year before.

Despite the “official” status of that farewell run, the system continued to operate steam in regular service in two locations. Steam lasted on the Nacozari line into Mexico out of Douglas, Ariz., into early 1959, and SP also kept narrow-gauge 4-6-0 No. 9 as a standby engine for a GE diesel until the Owens Valley (Calif.) 3-foot-gauge was abandoned in 1960. In a twist of fate, No. 9 was called into service while the diesel was shopped in 1959, and, when it made its final run on August 25, closed out the steam era on SP.

**E**ngine 4274 did turn out to be the last cab-forward to operate, and was among the last 4-8-8-2's to survive on SP; it was vacated from the roster in February 1958, only about two and a half months after its landmark trip, and scrapped in 1959. AC-12 No. 4294, the last steam locomotive purchased new by SP, is the only surviving example of the type. It was placed on the lawn in front of the Sacramento depot in 1958, where it was on display until 1967, when it was removed to facilitate freeway construction. It was then kept in storage for a number of years, and eventually ended up in the California State Railroad Museum in the capital, where it constitutes a prominent display, perhaps the museum's most impressive one.

Since that weekend, I've had a half-century of train-chasing to improve my photographic skills, together with a bevy of far superior cameras, lenses, and films for most of that time. Yet for me, that last run of a cab-forward still ranks as the steam chase of a lifetime! ■

In the days before diesels and their dynamic braking, a train's descent of a mountain could be as visually dramatic as its ascent. Brakeshoe smoke swirling around the cab-forward's special attests to the severity of the 2.4 percent grade at Blue Canyon, Calif.



C. G. Heimerdinger

Southern Pacific 4274 heads toward the setting sun—and into the history books—as she nears Roseville on December 1, 1957. Within the hour, diesels will be forwarding her train to Oakland and she, like all her cab-forward sisters, will be out of work forever.