



On the Road

Mr. Toad's Wild Ride

By E.O. Gibson

From the cab of the lead locomotive, a 7,200-ton *MERVY* with brakes shoes smoking negotiates the bottom half of the loop at Gregory on the south slope of the Siskiyou in September 1978. —*John R. Signor*

In the latter half of 1984, I decided to give up my trainman seniority in favor of going firing at Dunsmuir, California. As it turned out, I was the last fireman ever hired there. One of my first student trips was on the head end of a southbound (railroad westbound) lumber train out of Ashland, Oregon, on Southern Pacific's steep and serpentine Siskiyou Line. It nearly ended in disaster, but I was too green to truly comprehend this until well after the fact.

The Siskiyou Line from Ashland to Hornbrook, California, is a notoriously nasty stretch of railroad, with a listed maximum grade hovering around 3.68%, depending on the source. This is incredibly steep for anyone's mainline railroad.

In the mid 1980s, westbound trains climbing out of Ashland were usually loaded up to the maximum allowable 7,200 tons almost entirely with 100+ ton lumber cars. Typically, they were powered by eight Tunnel Motors or older SD40/45s. These units were rated at 900 tons each over the hill, which equated to less than nine

cars apiece. The uphill grind taxed the units so much that some engineers ran their power in run seven, rather than full-throttle run eight, in the hope of forestalling ground faults and overheating of traction motors. The speed limit up and down each way was 20 mph, except for 10 mph within the confines of Tunnel 14, railroad east of the summit. With SP's spotty maintenance being what it was, some trains did not need to slow down for the tunnel. To keep from yanking cars apart, three units invariably were appropriated to the head end, while five ran as a mid-train helper.

Trains ran as soon as rested crews were available following the cars' arrival in Ashland via "The Brother" Medford local. The train crew, plus one of the engine crews and the head end power for the future westbound had earlier worked a train of empties up from either Dunsmuir or Black Butte. A second engine crew usually picked up the future helper set at the latter, where it had been cut out of an earlier Siskiyou westbound. They then proceeded light engine to Ashland. The

first out rested engine crew would work the head end back to Dunsmuir.

It was morning and the sun was shining when we were called for our near fatal trip west. More often, it seemed, the west trains were all-nighters, so we felt pretty lucky. Not yet possessing many applicable job skills, my role was to stay out of the way and observe. First off, a brakeman ushered our head end power into the small yard to grab onto the cut of cars that would lie between us and the helper. He then accompanied us while we dragged the cars out to "The Freeway," the Interstate 5 overpass where the lead locos would sit awaiting the helper to pull the balance of the train from the yard and make a joint. The air test was successful, and we were off.

The 17-mile long, 2,400 foot vertical grind up to Tunnel 13 was uneventful—past Steinman and its ancient highway loop over the tracks; over Wall Creek viaduct, which must have sported a spectacular view before becoming enshrouded in tree tops; through Tunnel 14 which curved a fully back upon itself; and finally past Siskiyou siding

and into infamous Tunnel 13, where the DeAutremont Brothers murdered four crew members during the course of their notorious 1923 robbery of Train No. 13.

The head end tipped over the summit at mid tunnel, and by the time it exited, our seasoned engineer, Bob Ferguson, was already applying his skill set to the esoteric qualities of the territory. His overall task was to keep the train speed pegged at 20 mph and no more, but the territory was quite adverse to the proposition. Basically, the routine was to top the hill at 10 mph and then transition from power to dynamics as the head end exited the far end of the tunnel. He would set the air at 15 mph to accomplish this, but his immediate goal was to refrain from this for as long as possible. The worry here was that the application might trigger a dynamiter, (a car with defective brakes that would throw itself, and consequently the entire train, into emergency) and strand the helper and caboose mid tunnel.

Confounding Ferguson's efforts to delay applying the air was the "Race Track," a lengthy stretch of straight rail west of the tunnel. If curves are a hill engineer's friends due to the speed-inhibiting friction that they create between rail, wheel flanges and brake shoes, then long stretches of tangent track are engineers' adversaries, race tracks that free wheels from such inhibitions

After waiting for as long as accumulated wisdom allowed, Ferguson set

the air. The brakes initially felt as if they were taking hold, but suddenly and violently, the slack ran in and gave us such a kick in the pants that near-instantaneously we were sailing downhill at 23 mph, instead of 15!

Even a neophyte like me understood that having ~1.2 million pounds of locomotive kicked down the tracks like a figurative soccer ball meant that something was wrong, but before I was able to conceptualize about what was going on, Ferguson already had dumped the air. This was another bad sign. He then called back to the helper engineer to make sure that he was OK. The latter responded that he had fully applied his independent (engine) brakes. On SP, once the air went into emergency, dynamic brakes were designed to drop out. That was all that he could do other than pray for mercy.

Alarming, the emergency application seemed to have no effect, and the speed continued to climb—25 mph...28 mph...31 mph... Those 100-ton boxcars apparently had adopted alternative plans. Our speed was now sufficiently over the proscribed to provoke significant lateral buffeting as we entered tight curves. For some inexplicable reason, amid all of the turmoil, the jostling consciously reminded me of similar treatment that I recently received on Disneyland's Mr. Toad's Wild Ride.

Finally, at about 32 mph the rate of acceleration seemed to be slowing a bit, causing me to think that the situation was under control. However,

I glanced at our fellow cab occupant, Road Foreman of Engines Bob Miller, for reassurance of this, only to find that his wide open eyes were still transfixed on the speedometer. OK, so maybe we were in worse trouble than I thought, but it was far too late to jump with reasonable expectation of a favorable landing. Miller continued fixating on the speedometer until we hit about 36 mph, when the needle almost imperceptibly began to inch down. It seemed like forever until we finally ceased our plunge with the caboose situated mid-curve at the old time stage stop of Colestin. It had taken five miles to stop.

Once the brakemen had tied it down, Ferguson began feeding air into the train so that they could search for leaks. Nothing was found, so after performing an air test and knocking off the hand brakes, Ferguson gingerly resumed movement down the hill. As we passed through Hilt, where the grade flattens out and soon begins a brief attack on the summit of Bailey Hill, a palpable air of relief overcame us. We experienced a moment of uncertainty, however, when Ferguson set the air for the descent down Bailey Hill, but this time the brakes functioned per specs.

Obviously something dire had happened—exactly what, nobody had determined—but during a later trip with Ferguson, he related that Miller had come up with a plausible theory.

What one should keep in mind is that, due to leaks from air hose couplings etc., air pressure in a train's brake pipe often differs (tapers) from front to rear, particularly when brakes are setting up or releasing. This commonly comes from leaks at air hose couplings. To compensate for leakage, the engineer's automatic (train) air brake valve is fitted with a "pressure maintaining feature." Augmented by dynamic braking, it revolutionized the way engineers handled downhill trains by virtually eliminating the need for trainmen to set retainers—"pops"—on the cars. In a rare cases such as ours, however, pressure maintaining could have undesired consequences.

Miller figured that our train developed a sizable leak during the slow slog uphill out of Ashland, possibly



White City Terminal 100-ton boxcars, frequently found in Siskiyou Line trains, were notorious for "slip joints." —Bruce Petty

on a boxcar owned Medford's White City Terminal & Utilities Co. Railway. WCTR boxcars were well known for occasionally developing leaks at a rather shoddy slip joint coupling between air hoses and under-car brake pipe.

The stretched slack in between cars during the uphill journey may have caused a slip joint to leak. When the WCTR car tipped over the summit, the leak suddenly stopped, and well, the situation went downhill from there. Once the brakes were set, the pressure maintaining feature began feeding air into the brake pipe attempting to keep the reduction at the proper pressure. Despite this, air pressure at the leak and beyond towards the rear was significantly less than ahead of it.

When the leak ceased, a sudden rush of pressure maintaining-augmented air flowed into the lower pressure rear of the train. Sensing this, the

WCTR car brakes released. All that it takes is about a 2.5 pound increase for this to happen, but worse, a "quick release" feature in the cars dumps air from their emergency air reservoirs into the brake pipe to speed the build-up of pressure. This signaled surrounding cars, and soon caused most, or all of the train to release. So, when Ferguson reacted to the release of the train's brakes by dumping the air, the car's emergency reservoirs were depleted, meaning that the brakes went to full (service), but not into emergency. This is why it took our train five L-O-N-G miles to come to rest.

This is speculation, but the frightening bottom line was that our train topped out at 36 mph, and Miller computed that had we achieved 38 mph, the rolling friction of brakes upon wheels likely would have been insufficient to stop the train. That I am in

one piece today to tell the story of Mr. Toad's Wild Ride may be due to that measly two miles per hour. ☞

-A disclaimer: I spent only two years at Dunsmuir as a young fireman, mostly force-assigned to helper service on the Cascade Line, four decades ago. I made no more than a dozen round trips on the Siskiyou Line. Thus, to augment my gaps in experience and recall, as well as to mitigate personal blame over inaccuracies, I have relied up the kind expertise of two retired veterans of the territory, Engineer George Faithorn, who went firing at Dunsmuir a few weeks ahead of me, and Conductor/Editor John Signor, better known to his peers as "40%."

-E.O. Gibson



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