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VOLUME 18 NO. 2 GARLAND LANDMARK SOCIETY NEWSLETTER APRIL MAY JUNE 2021

I've Been Working on the Railroad

FRED is a far cry from the beloved little caboose

A casual observer might not see it today, but even without a large rail yard or operational hub, Garland was a railroad town. Garland grew up at the junction of two main rail lines and required a switch tower to direct traffic where they crossed over each other. Both the Missouri-Kansas-Texas (MKT) and the Atchison, Topeka and Santa Fe Railway (ATSF) had passenger stations in town, and railroads brought many industries to Garland built around access to numerous industrial spur lines. The Garland Landmark Society is all about Garland history, so let's examine a bit of the history of our railroads.

Photographed is the interior of a wooden caboose in January of 1943, according to close examination of the calendar on the wall. Another wall displays decorative images of attractive females, some in various stages of undress. The conductor works at his desk, while a brakeman, wearing his ubiquitous bib-front overalls, sits on a bunk nearby. Also, note the coffee pot on the pot-belly stove, the galvanized container beside it holding coal for its fuel, the coal stains on the floor, another bunk bed beside the stove, and the edge of the seat up in the cupola close to the top of the photo. A caboose was not always as clean, neat, or entertaining as this one, which created its common nickname as the "crummy." *Garland Landmark Society Archives*

BRAKEMEN, CABOOSES AND FRED

During the time of steam and early diesel locomotives, the crew on a freight train passing through Garland on the Katy or Santa Fe tracks included an engineer to drive the train, a fireman to maintain pressure in the boiler of a steam locomotive, a conductor to route car deliveries, and one or more brakemen to accomplish several other jobs. When diesel locomotives arrived, firemen had no functional job, but that's a story for another time.

Brakemen for many years had the most dangerous job on the railroad. Their work became much safer with much better odds of retaining their fingers and lives after introduction of knuckle couplers, which eliminated requirements for brakemen to step between railcars to place or remove pins connecting the coupler links. The new couplers engaged automatically and disengaged by pulling a lever that was not between the coupled cars.

Prior to effective air brakes, brakemen climbed to the top of railcars, walked across their roofs on catwalks, and turned handwheels to set mechanical brakes on enough railcars to prevent trains from running away when going downhill. When a train reached level ground or started uphill, all these brake settings had to be undone. This was the task that gave them their name and kept brakemen in the number one hazardous job slot. They also set switches, made repairs, and watched and serviced journal boxes on the trucks.

The truck is the framework under the rail car that holds the axles and wheels. Journal boxes encased the sites on a truck where the entire weight of the rail car rested on the turning axles. The box had a door that opened from the outside into a chamber where packed grease-soaked rags and other stuffing kept the primitive bearing surfaces lubricated. Without lubrication, bearings inside the journal boxes overheated creating the possibility of catching fire or possibly destroying the railcar. Watching for hotboxes was a primary responsibility for brakemen. They sat in the cupola, a raised housing generally on top but sometimes on the sides, of the caboose watching the train in front of them for glowing or smoking hotboxes. By the mid-20th century, roller bearings quickly replaced journal boxes, greatly reducing the need for constant observation and maintenance.

GOING BACK; GOING WAY BACK…

A caboose was almost always the last car on the train. The train crew with the exception of the engineer and fireman rode in and worked out of a caboose. The conductor had a desk there, and some conductors even had their own personal caboose assigned only to them. In addition to providing a traveling office, it provided bunk beds, shelter, rest and eating areas, and the inspection venue for brakemen sitting in the cupola to watch for problems. Also, outside by its back door was a place to hang a red-globed kerosene lantern, a warning to traffic approaching from behind.

Personnel and their distribution also evolved. Modern diesel locomotive cabs have ample room to seat everyone in the crew. The engineer still drives the train, but firemen, with no fire to stoke or steam pressure to gauge, departed many years before, despite long and contentious objections from their union. The conductor, or train manager, rides beside the engineer. Brakemen, now often called trainmen or assistant conductors, also ride in the locomotive. They set local switches, inspect for problems, aid in coupling and uncoupling cars, and ride the end of the train if it's backing up, keeping close contact with the engineer by radio.

Most classic operating functions relegated to and from the caboose diminished with time, displaced by enhanced technology, better equipment, and adherence to economic realities. Inevitably, and a joyful example for corporate bean counters everywhere, almost all railroads phased out cabooses in the mid 1980's creating disappointed train watchers and kids everywhere. Almost all cabooses ended their lives in a scrap yard, and only a very few operate today as working railcars.

Better FRED than dead….

A caboose no longer adorns the end of a train, but because stopping distances of a heavy train traveling at moderate speed uses miles as units of measurement instead of feet, monitoring braking efficiency remains vital. Also, there is a continuing need to advertise the presence of the end of the train, so a red warning light remains, blinking for attention like a turn indicator on a car. This light is attached to a small module that monitors the end of the train line just like the Westinghouse gauge previously pictured. Because no one is back there to read it, the device sends a telemetry reading to the locomotive that keeps the engineer instantly apprised of the train line air pressure.

These monitor-red light units come in different configurations, but most fit in something about the size of a shoebox. The coupler on the last car provides a stable attachment and a connection to the train line, but there is still no electrical outlet to power the red light or send telemetry readings to the engineer. Early models use batteries, which are problematic to maintain and replace. Later models make their own electrical power by bleeding off a bit of air from the train line to spin a turbine to power a small generator.

The invention of this multitasker came with the acronym "FRED," for "Flashing Rear-End Device." FRED performs many functions very well and does so at little expense, but it will never attain the nostalgia, the popularity, or the romantic attachment attributed to the little caboose it replaced at the end of the train.

- Jim Barnes

This faded red caboose, date of photo undetermined, is an example of a late model ATSF unit at or near its maximum technical evolution and in its last stand to remain part of a freight train. *Garland Landmark Society Archives*

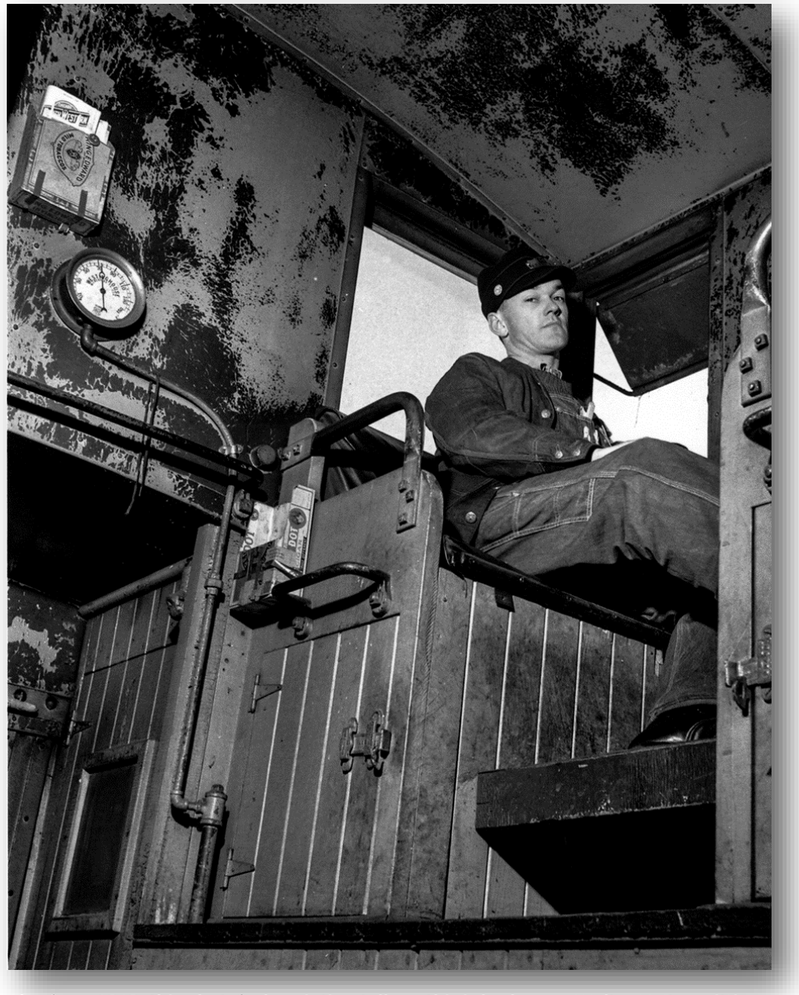
Visible features on more modern cabooses like the one above include all steel construction, roller bearings on each axle, an extended-vision cupola (hanging out over its sides), padded chairs for the brakeman, windshield wipers on the front and back windows of the cupola, and the usual chimney for its stove. Most ATSF steam locomotives several years before exchanged oil for coal to fire their boilers, and the stoves in cabooses switched fuels at the same time. There is a shiny wheel flange visible on the right truck indicating this caboose is probably in active operation.

The caboose has rungs on its mid-section to facilitate climbing on to its roof, but it lacks ladders on either of its ends and a catwalk down the middle, necessary features of older cabooses in past times to facilitate roof access from the caboose to other cars. It is no longer a requirement or even a possibility for brakemen to traipse around atop a train. The pully and belt to drive its generator are visible on the inner axle of the truck on the left. Modern cabooses had effective two-way radio communications with the locomotive and dispatchers along the way.

Railroads are the most proficient overland movers of bulk cargo, but they must maintain an efficient operation to compete with road traffic. Today, computers control the power to each wheel of a locomotive to maximize traction and improve fuel economy. Automatic air brakes and dynamic braking systems control train speed infinitely better than men on top of railcars turning handwheels. Central locations remotely set switches and signals to speed traffic flow. Though expensive compared to journal boxes, roller bearings rarely fail, eliminating the need for constant monitoring. Furthermore, automatic sensors on the tracks detect any overheating. Roller bearings are so adept at reducing rolling friction that they allow for longer and more efficient trains.

A caboose had no access to electricity, so kerosene or oil lamps also lit its interior. Electricity eventually made it to the caboose by way of a generator similar to one in an automobile. A belt on a pully attached to one of its axles turned the generator to produce power for interior and exterior lights while charging a battery for lighting when the train stopped. For heat in the winter, a caboose had a pot-belly stove bolted to the floor to keep it from tipping over. The stove surface also provided heat to warm food and make coffee. Other amenities included an ice box (using real ice) and a toilet (often described as “bottomless”). Journal boxes constantly needed service and couplers occasionally broke, so a caboose carried tools and replacement parts.

In a scene well before reliable two-way radios, men working in the caboose might be as far as three quarters of a mile behind the engineer operating the locomotive. Communication between personnel at opposite ends of the train varied from highly problematic to impossible, so railroads developed whistle codes allowing the engineer to signal other personnel on the train about various actions. Especially important was a two-toot signal indicating to the caboose that the brakes are off, and the train is about to move forward possibly presaging a hard jolt when the coupler slack pulls out.



Also from 1943, this photo’s description tells us this is brakeman Walter V. Dew sitting up in the cupola of a later model steel-body ATSF caboose, momentarily glancing away from his inspection duty while sporting a denim jacket over his bib-fronts.
Garland Landmark Society Archives

The train pictured on this page has air brakes, evidenced by the Westinghouse gauge on the wall beside Walter indicating a pressure of 74 psi measured at the very end of the train line. The train line supplies compressed air from the locomotive to the brakes on all the cars. Most of the train line is metal pipe like that pictured coming out of the floor to the gauge. Flexible hoses with glad -hand connectors are the part of the train line that run between cars. There are many reservoir tanks, pistons, valves, and other opportunities for leakage under each car, so measurements indicating adequate air pressure here at the last car on the train was, and still is, a vital indicator of safe braking performance.