



Modeling a steam-era milk train

A first-class train that provides a special service

By Edward Loizeaux • Photos by Greg Reiter

Milk trains operated as specialized first-class trains that followed passenger speed limits on schedules that weren't always published in public timetables. Stops were frequent, often at remote, small milk platforms spaced only a few miles apart throughout much of the nation – especially in New England and the Midwest. Even in the far West, railroads such as Southern Pacific had milk operations. Some stops were also made at regular passenger stations where the milk cans were lined up on baggage carts for pickup.

The railroads were truly indispensable to the dairy industry in the early 20th century. Creameries were generally located in rural areas near the dairy farms that produced the milk. Prompt pasteurization was crucial, so milk trains were fast and precisely scheduled. Returning the empty milk cans to the local creamery was also an important part of the railroad's service since high-speed roads and intercity trucking were just getting started.

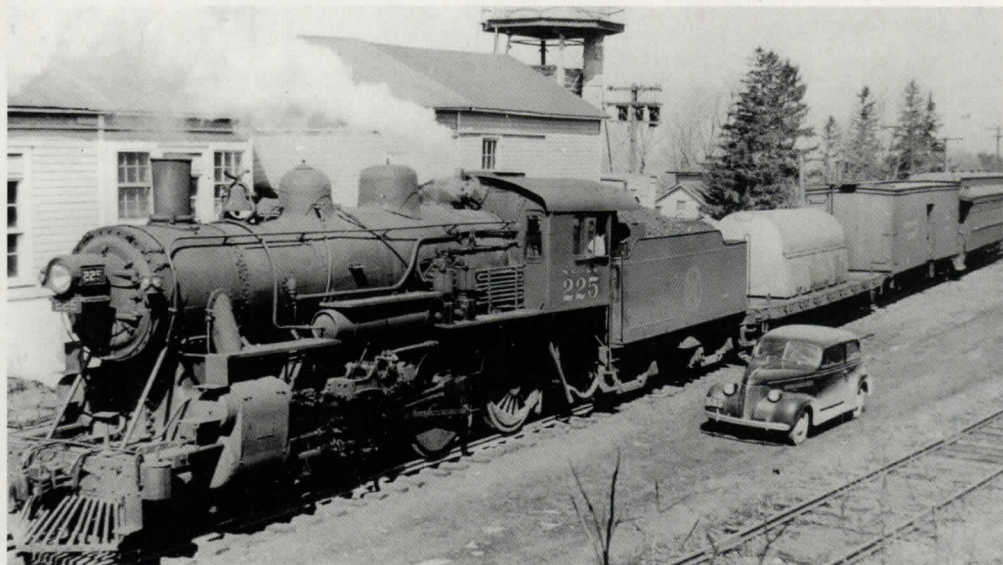


The early morning milk train is arriving just as farmer John and his wife deliver their milk cans to the transfer platform on Ed Loizeaux's S scale layout. The first car is insulated to carry the cans of raw milk to the local creamery.

Between stops, milk trains operated as fast as possible to deliver the raw milk before its bacteria began to multiply. The business management of milk trains was commonly handled by the railroad's passenger department. Many trains used a combine instead of a caboose so it could carry cold cans of raw milk, the train crew, and occasional paying passengers.

Specialized rolling stock

Railroad milk cars can be categorized into two types: can cars and bulk cars. A can car was normally owned by the railroad and was used to pick up cans of raw milk from small trackside loading platforms. Most milk platforms were located alongside the main line to eliminate the delays caused by sidings. Milk stops didn't last long, so they seldom delayed other trains.



New York, Ontario & Western milk train No. 10 is northbound at Summitville, N.Y., in the late 1940s. It has the classic milk train consist, including bulk and can cars in the same train with a combine to carry the crew. Walter Kierkowski collection

Raw milk was rushed from the farm to a nearby local creamery for pasteurization. Most farmers and creameries used 40-quart metal cans that were relatively easy to handle and transport. These cans of raw milk were cooled in nearby streams or in the night air and trucked to milk platforms in the early morning hours.

Can cars looked a lot like boxcars, but they were insulated, not refrigerated, so ice hatches were omitted. Some milk cars had rounded roof contours so they would cosmetically blend in with passenger equipment. Running boards were sometimes omitted, but numerous vents were needed on the roof and along the lower sides to maintain good air circulation to combat mold and rot within the carbody. Moisture damage from condensation running off the cooled cans was a constant problem inside wooden cars.

Bulk milk cars

Local creameries provided the initial pasteurization to arrest the growth of bacteria. Then the milk was shipped to larger plants for homogenization, bottling, and further processing into cheese, evaporated or condensed milk, powdered milk, butter, and ice cream. Since the milk was processed in large vats, it made sense to transport it in similar bulk tanks.

Most bulk milk cars were privately owned and leased to dairy processors. Bulk cars had large glass-lined internal tanks to carry the pasteurized milk to its next processing stage. The well-known "butter dish" bulk milk car was so named because it closely resembled the dish found on our dinner tables.

Bulk milk cars also came in other shapes and sizes. Some were converted baggage cars fitted with internal tanks; others looked like conventional boxcars or refrigerator cars. Some bulk milk cars were little more than flat cars with tanks sitting on the deck. One specialized car was an intermodal design that carried milk tanks that were transferred from trucks to a flatcar.

These bulk milk cars were all insulated, but not refrigerated, so the milk had to be cooled at the creamery before loading. Little temperature change occurred during transit, thanks to the milk car's insulation.

Milk train consists

Milk train consists varied depending upon the run's purpose and character. Trains of mostly can cars traveled in rural areas and commonly carried a few passengers who weren't in a hurry. Hence the term "milk run" that railroaders applied to almost any busy job with many stops.

Solid trains of bulk milk cars linked rural creameries to major population centers. New York Central's powerful 4-8-4 Niagaras often raced along the Hudson River hauling long, fast trains of bulk milk cars. These trains seldom carried paying passengers, since they didn't stop at passenger stations to pick up cans. Their job was to rush the pasteurized milk from creameries to city processing plants as fast as possible.

Other trains returned the empty cans to rural milk platforms so they could be used again. Some of these trains hauled both empty can and bulk cars in the same consist to facilitate their return to a creamery.



Ed's entire milk train is shown making a stop at a small passenger depot. The New York Central 4-6-2 heads up a can car, a bulk milk car, a "butter dish" bulk milk car, and a combine.



Cans of raw milk are being loaded into the combine's baggage compartment at this suburban passenger station. This scene is typical of the daily activity that took place nationwide to deliver fresh milk to consumers for many decades.

Modeling a milk train

My model captures the look and feel of a typical short milk train. I used commercial products and didn't spend much time on superdetailing. Only one car needed some moderate kitbashing.

I model in S scale (1:64 proportion), but it should be even easier for modelers in the more common scales to assemble a similar train. For example, almost any baggage-coach combine can be used,

along with a number of assorted bulk milk and can cars.

Keep in mind that bulk milk cars were sometimes made from converted baggage cars and reefers. Changes to the carbody, like adding vents or eliminating roof hatches, are easy modeling projects. Researching your favorite railroad's specific practices isn't difficult, and it'll enable you to achieve the degree of authenticity you desire.

The can cars, combine, and locomotive would typically be lettered for the same railroad, but there were certainly exceptions to that general practice. Bulk milk cars can be lettered for dairy companies with processing plants in the area served by your railroad.

Large and small steam locomotives, Electro-Motive Division F units, and all sorts of road switchers hauled milk trains at one time or another. The Pacific I use fits right in, but there's nothing that says an early Geep couldn't pinch-hit from time to time.

Kits for creameries, ice houses, and milk platforms are readily available in most scales. Some cows in a field near a barn could be used to represent the beginning of the milk producing process. In HO and N scale, Walthers offers a complex of dairy processing structures to receive the milk trains.

The S scale consist

My locomotive is a generic brass United States Railroad Administration (USRA) light Pacific imported by Overland Models. A friend modified some of its details and added a scratchbuilt cab to make the locomotive more like a New York Central class K-11 Pacific.

The can car is an imported brass model from SouthWind Models. It's a



The bulk milk car has been spotted at a local creamery with an adjacent ice house. Pumps and large hoses were used to quickly transfer the raw milk from the bulk car into the creamery.

NYC prototype car that only needed painting and decaling – an easy modeling task since it had a simple color scheme. I used Pullman Green for the sides and ends with a black roof and underbody. The decal lettering is available from Des Plaines Hobbies.

The first bulk milk car represents a double-tank style of intermodal flatcar made by the National Car Co. This special car allowed bulk milk containers to be transferred sideways between the flatcar and a flatbed truck.

Since there's nothing really close to this model in S scale, I kitbashed mine from a flatcar made by S-Helper Service. I scratchbuilt end railings from strip styrene following a prototype photo and made the tanks from HO tank car bodies with added skirts and manway doors (used to enter and steam clean the tank interior). The side latches are modified Grandt Line reefer hinges. These latches held the tanks on the deck and prevented them from slipping sideways in transit.

The second bulk milk car is a well known "butter dish" car. It's a brass import from SouthWind Models. Paint and decals were all that I needed to finish it for use.

The combine is another brass model from SouthWind Models. It's also a

NYC prototype car, so all I had to do is apply the finish. On milk trains, the combine typically is operated baggage end toward the rear, so I plan to add illuminated marker lights on that end.

Milk train operations

Running short milk trains on a layout adds interesting operation with a minimal investment in new rolling stock and structures. Milk platforms were often located along the main line, usually near a grade crossing or driveway to make the can transfers easier, but milk cans were also picked up at regular passenger stations.

Additional turnouts or sidings aren't needed to begin milk operations. However, you will need to allow extra time in the morning milk train's schedule so it can stop at each platform and wait while the crew loads the cans of raw milk. Later in the day, similar time allowances will also be required by the other milk trains or way freights that return the empty milk cans to their original shipping points.

Creameries were typically located on sidings, but some weren't. If not, cans and bulk tanks were transferred onto trucks for local delivery. A team track could be used for this transfer.

Local creameries ranged in size from small businesses with only one short siding to immense structures with numerous sidings. Pasteurization required steam heat, and therefore a coal-fired boiler plant was a standard

characteristic. Hopper cars of coal were commonly spotted over a conveyor system under the end of the siding nearest the boiler, which was always marked by a tall smokestack.

Urban processing plants received boxcar loads of boxes, bottles, labels, caps, small machinery, and other supplies. Large vats and processing machinery arrived on flatcars. Reefers were used to transport outbound butter, cheese, ice cream, and other dairy products. Boxcars were also used to ship powdered milk in sacks and evaporated milk in small cans. All of these items were in addition to the wide variety of bulk milk cars that came and went every single day. After all, dairy cows never get a vacation.

A starting point

I hope this article will stimulate your interest in modeling the dairy industry or a milk train. It need not be a major undertaking and will add a lot of enjoyment to the operation of almost any model railroad. Additional information can easily be obtained from the friendly modelers on the Yahoo group's Milk Train List at: groups.yahoo.com/group/milktrains. **MR**

Ed Loizeaux is a long time S scale enthusiast, layout builder, and author who especially enjoys realistic operation. His 20 x 30-foot S scale New York Central Valley Division layout was featured in Great Model Railroads 2005.