SOUTHERN PACIFIC'S Lightweight streamlined cars:

More than just the Daylight, Part 4

BY V. S. ROSEMAN

Photos by V. S. Roseman unless otherwise noted

1. In the mid-1950s, Daylight parlor car passengers left their carry-on luggage on the platform for the red cap to load into the baggage elevator. This scene shows a train departing Third and Townsend streets in San Francisco, in model form. I made the car lettering shown here from computer fonts: Microscale has decals with the exactly correct style of letters.

Part 4: A modeler's chronology of detail changes to Southern Pacific's pre-war lightweight cars

Looking over

photos of the Southern Pacific lightweight passenger cars, it is often possible to approximate when the photo was taken by the various notable changes in the appearance of the car.

The list of changes to these cars is a long one, but I have chosen some of the most visible and easy to model for this article.

Modeling note: *Painting or modifying your models may void their warranty. In my case, the manufacturers provided excellent warranty service and parts for the few minor problems I had.*

Steam ejector and Waukesha air conditioning systems

Most air conditioning mechanisms were mounted beneath the cars, and during the 1950s the skirts covering these were removed, making the underbody detail much more visible. On some models, appliances under the car may be molded to the skirts and will have to be replaced. Precision Scale Co. is one of the manufacturers offering aftermarket HO scale air conditioning parts.

Southern Pacific lightweight passenger cars were all air conditioned. The Carrier-Safety Steam Ejector air conditioning

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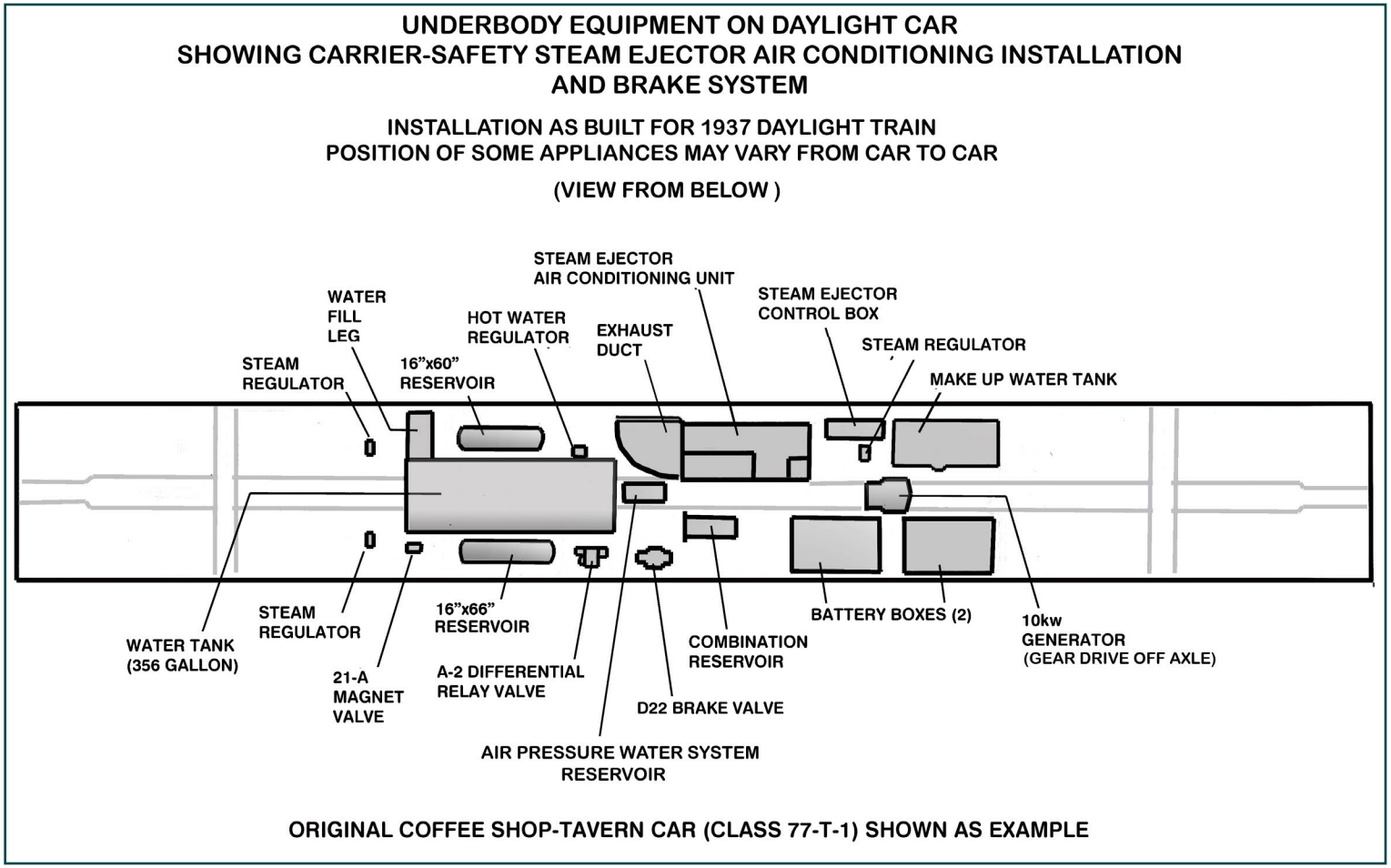
system used on the initial orders of Daylight cars delivered in 1937 was popular on a number of railroads, including Santa Fe and Erie. An attraction of this system was that it had nearly no moving parts.

Essentially, the system pipes steam from the locomotive through the heating lines to the cars. The steam gets funneled through venturi (precision nozzles), which lowers the temperature of the air. For a more detailed explanation of the theory and operation of the steam ejector system see these websites:

www.atsfrr.net/resources/Sandifer/SEAC/SFM.pdf

www.freepatentsonline.com/2081905.html

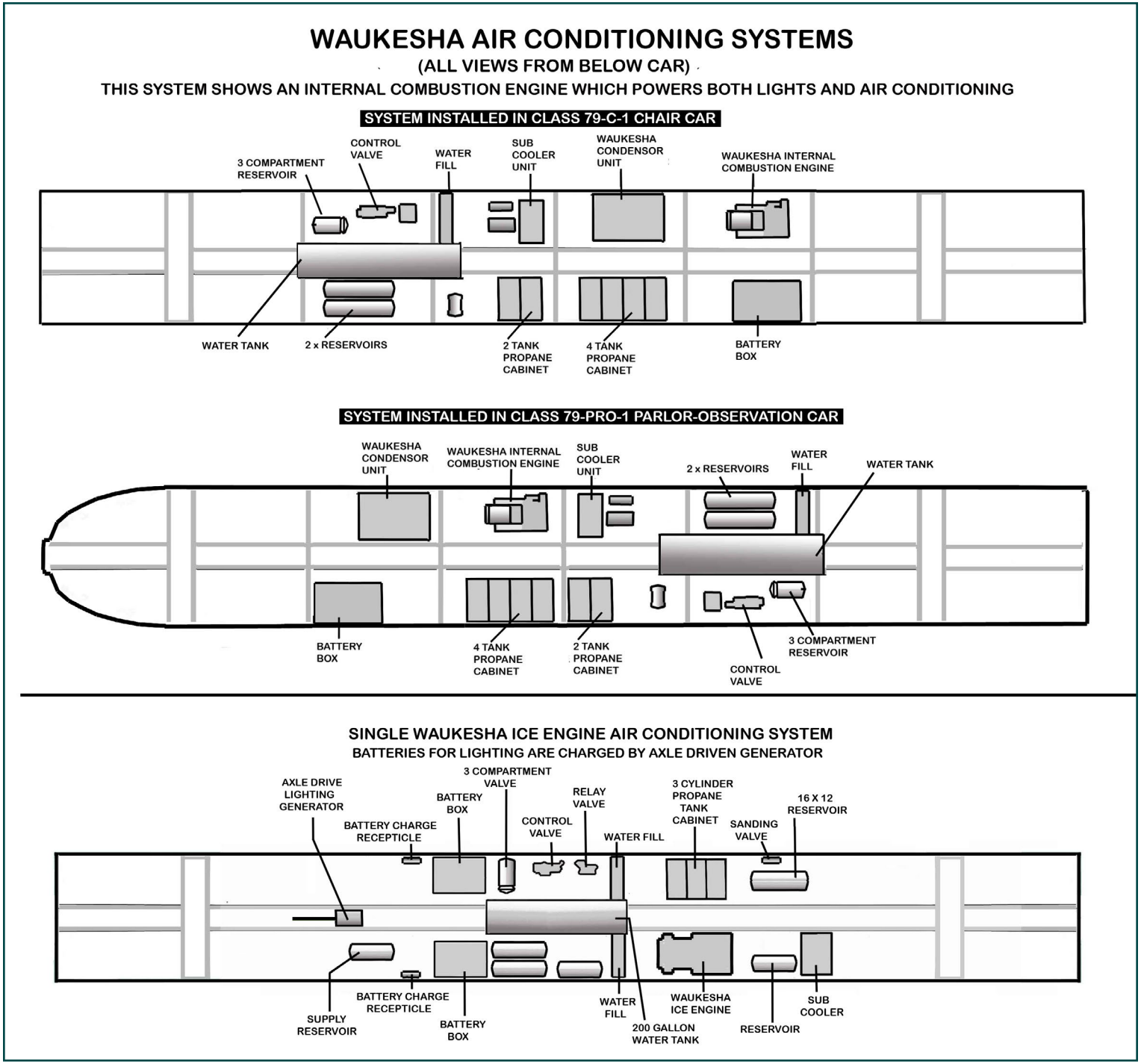


2. Steam ejector air conditioning system as applied in 1937 to a 77-foot Daylight chair car. (Note: view is looking up from below.)

The Southern Pacific operated many long trains, and it was difficult to maintain the required steam pressure all of the way to the tail end of these longer trains. There was always a small amount of leakage at each steam line connection between cars.

As a result, the railroad began specifying Waukesha air conditioning units in new cars as early as 1941. In the Waukesha system, a propane-fueled generator under each car supplies electric power to operate a conventional electromechanical type air conditioner for the car.

Some cars had a second generator (Enginator) for lighting, which eliminated the drag of belt driven electric systems that worked off the axles of the cars.



3. Three applications of Waukesha air conditioning systems showing some of the variations.

A document detailing the complete operation of Waukesha systems is available through the following link:

www.erixrailcar.com/tech-pubs/Waukesha_Diesel_Enginator.pdf

This system was especially useful where there was no station power to pre-cool cars, such as when adding cars to trains in desert locations.

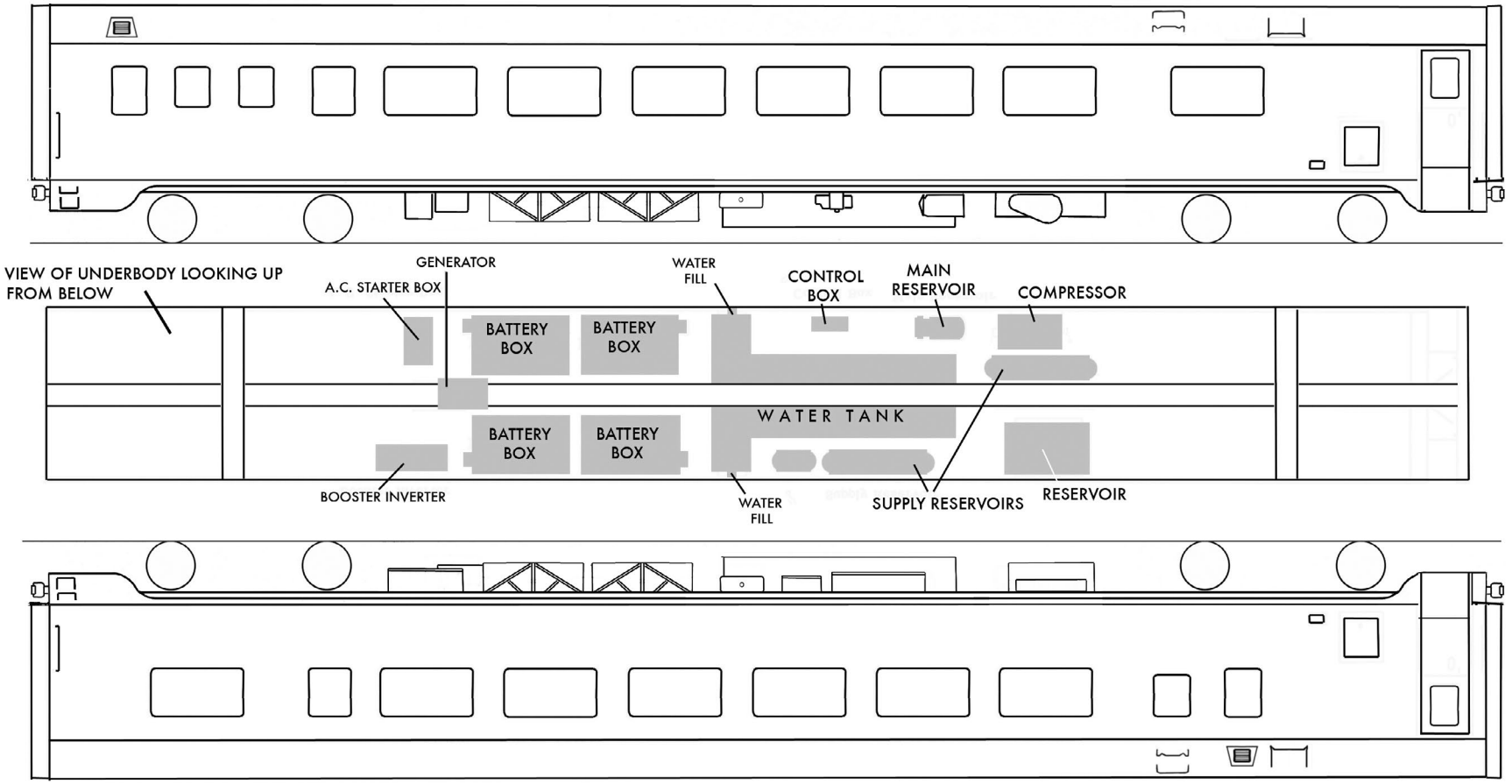
Many of the steam ejector air conditioned cars were converted to Waukesha systems by the mid-1950s. Some cars, such as prewar triple-unit food service cars, kept their original systems until they were scrapped in the 1960s.

The class 83-C-5 cars built for the Daylight in 1954, along with some other cars, were built with axle generator-driven Pullman electromechanical air conditioning systems.

SOUTHERN PACIFIC RAILROAD

CHAIR CAR CLASS 83-C-5, 2352 - 2358, 2359 (2nd), 2360 (2nd) , 2352 (2nd) - BUILT 1954 FOR COAST DAYLIGHT

PULLMAN STANDARD MANUFACTURING CO.



12. Drawing of 83-C-5 chair car showing arrangement of the Pullman electromechanical air conditioning unit on these cars. Class 83-C-5 was built of welded steel construction in 1954. The configuration was the same as one of the earlier class 83-C-1 chair cars built for the Shasta Daylight, which were built of riveted aluminum. Both classes has extra tall windows. Union Station Products kit #7571A for the 83-C-1 class car can be used to simlate the 83-C-5. (NOTE: There were other window and seating arrangements of the 83-C-1 cars for the Shasta Daylight, all classed 83-C-1.)

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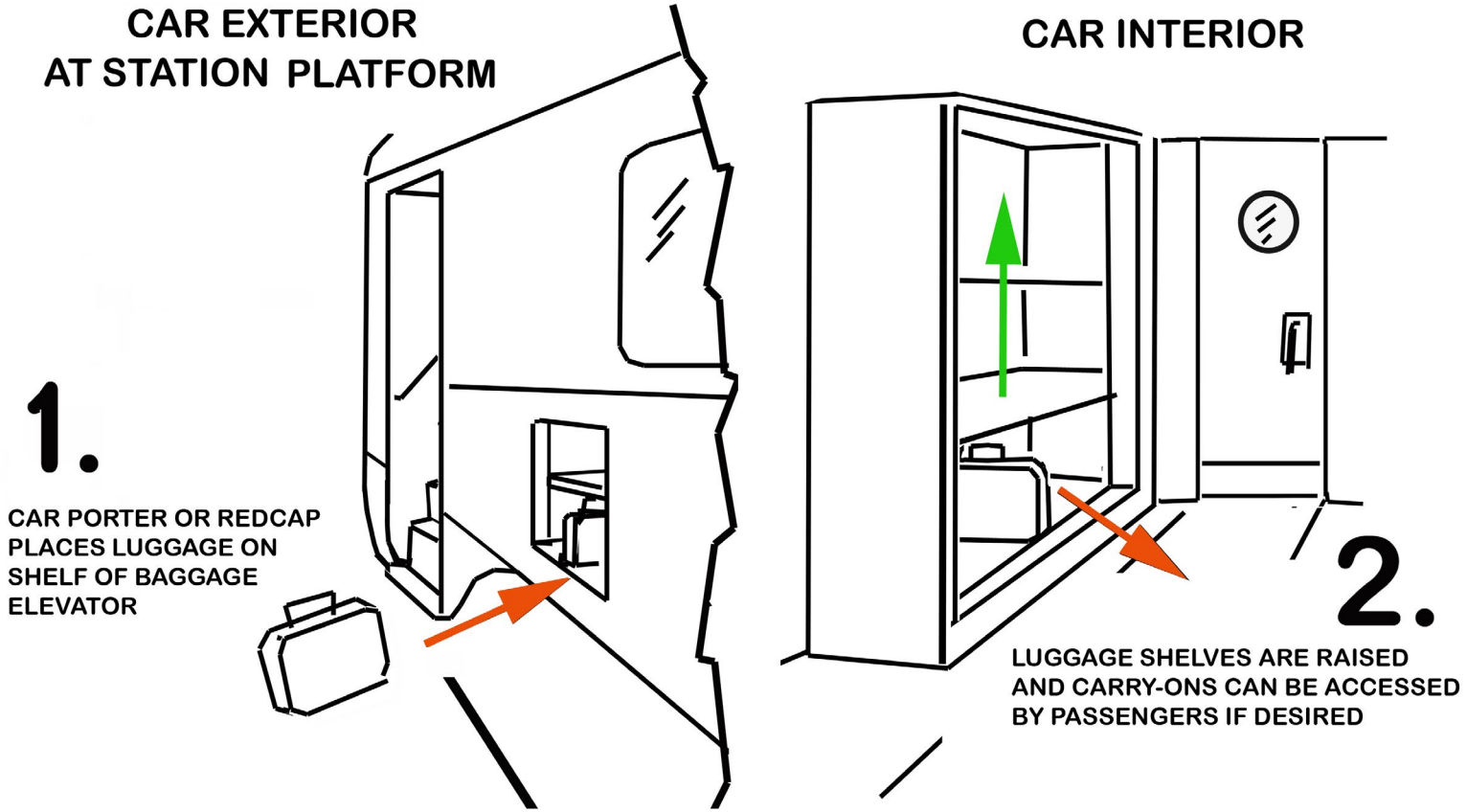
BAGGAGE ELEVATORS



13. Baggage elevators were used to prevent delays at stations. In lowered position they could be accessed from the outside sliding door, and when raised, the carry-on luggage was accessible for passengers in the car.

Baggage elevators

A problem that caused delays was that passengers boarding with bulky carry-on luggage got in the way of those trying to disembark on the narrow vestibule steps.

The railroad developed electric baggage elevators (dumbwaiters). Passengers would hand carry-on luggage to redcaps on the platform. Luggage was placed on shelves of the baggage elevator, and was raised. The shelves could then be accessed by passengers inside their car at any time. No other railroad used baggage elevators.

New Daylight cars so equipped entered service in 1940-41. These cars were each two feet longer than previous Daylight car designs to accommodate the new baggage elevators. Despite the additional car length, the new cars each held a few less seats due to the size of the baggage elevators.

The Kato N scale models, the BLI and MTH HO car sets have the baggage elevator simulated. The Athearn-Genesis 77-foot chair cars are earlier 1937 prototypes that do not have these.

Baggage elevators were also built into the 1949 Shasta Daylight cars and into 1954 class 83-C-5 cars for the Coast Daylight. In September, 1961 a maintenance directive was issued phasing out the baggage elevators, and they were sealed off.

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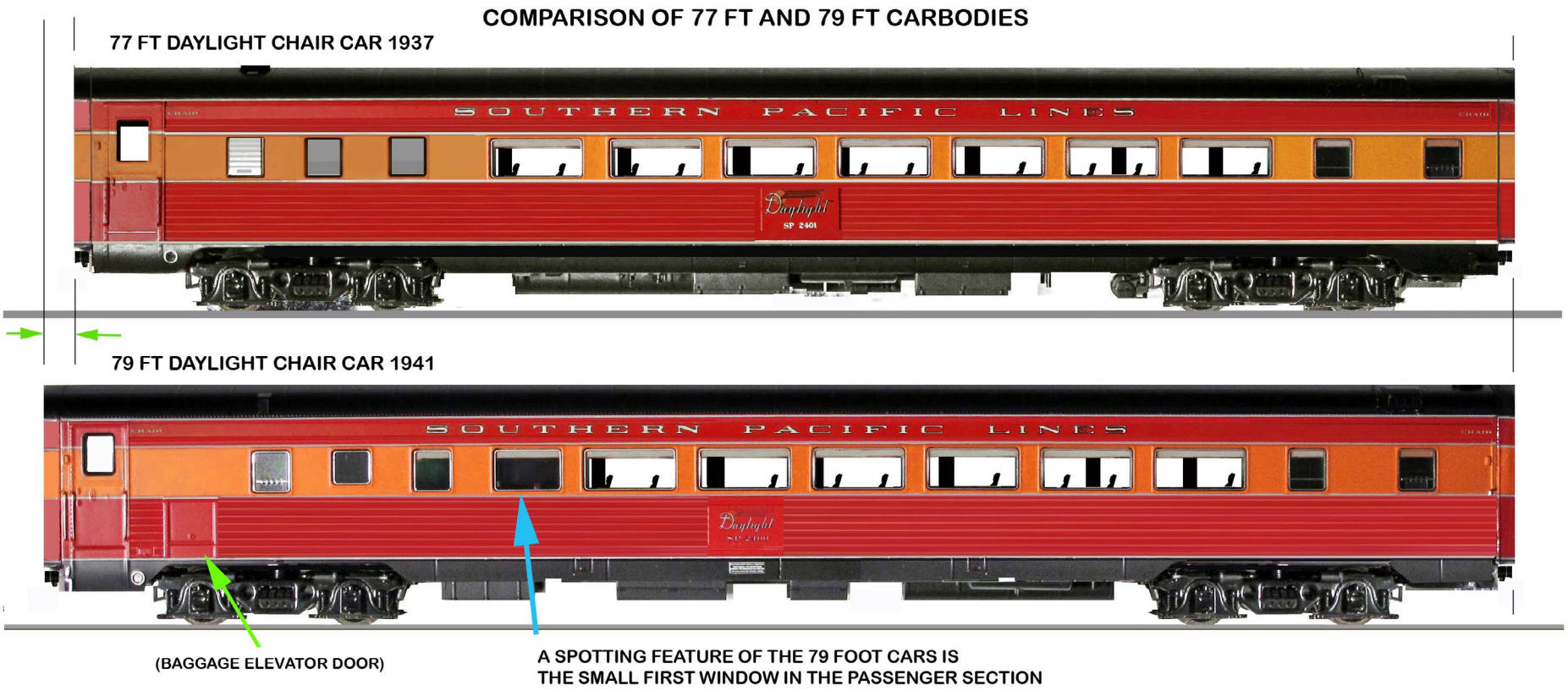

22. Comparison of 77 foot cars built 1937 and 79 foot chair cars built 1939-41. The additional length accommodated the new baggage elevators. Articulated cars were also longer when constructed with baggage elevators. Before World War II, there were no established standards for the length of lightweight cars.

SOUTHERN PACIFIC RAILROAD

CHAIR CAR CLASS 83-C-5, 2352 - 2358, 2359 (2nd), 2360 (2nd) , 2352 (2nd) - BUILT 1954 FOR COAST DAYLIGHT

PULLMAN STANDARD MANUFACTURING CO.

83-C-5 IN THE AS DELIVERED DAYLIGHT COLOR SCHEME.

83-C-5 CAR AS REPAINTED AFTER 1958 WITH IMITATION STAINLESS WITH RED STRIPE. CARS RECEIVED NEW ALUMINUM FIXED STEPS AND THE BAGGAGE ELEVATORS WERE REMOVED.

(I BUILT MY MODELS BEFORE I KNEW THAT UNION STATION PRODUCTS MADE SIDES FOR THESE CARS)

11. Models of the 83-C-5 chair cars. I built my own sides, which I added to car core kits before I knew that Union Station Products made these sides.

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