

**Pacific Fruit Express
R-40-25 and -26
Prototypes and Models**

**Mid-Atlantic RPM
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Thank you

Andy Carlson

Bob Chaparro

Dick Harley

Richard Hendrickson

Frank Peacock

Anthony Thompson

Terry Wegmann

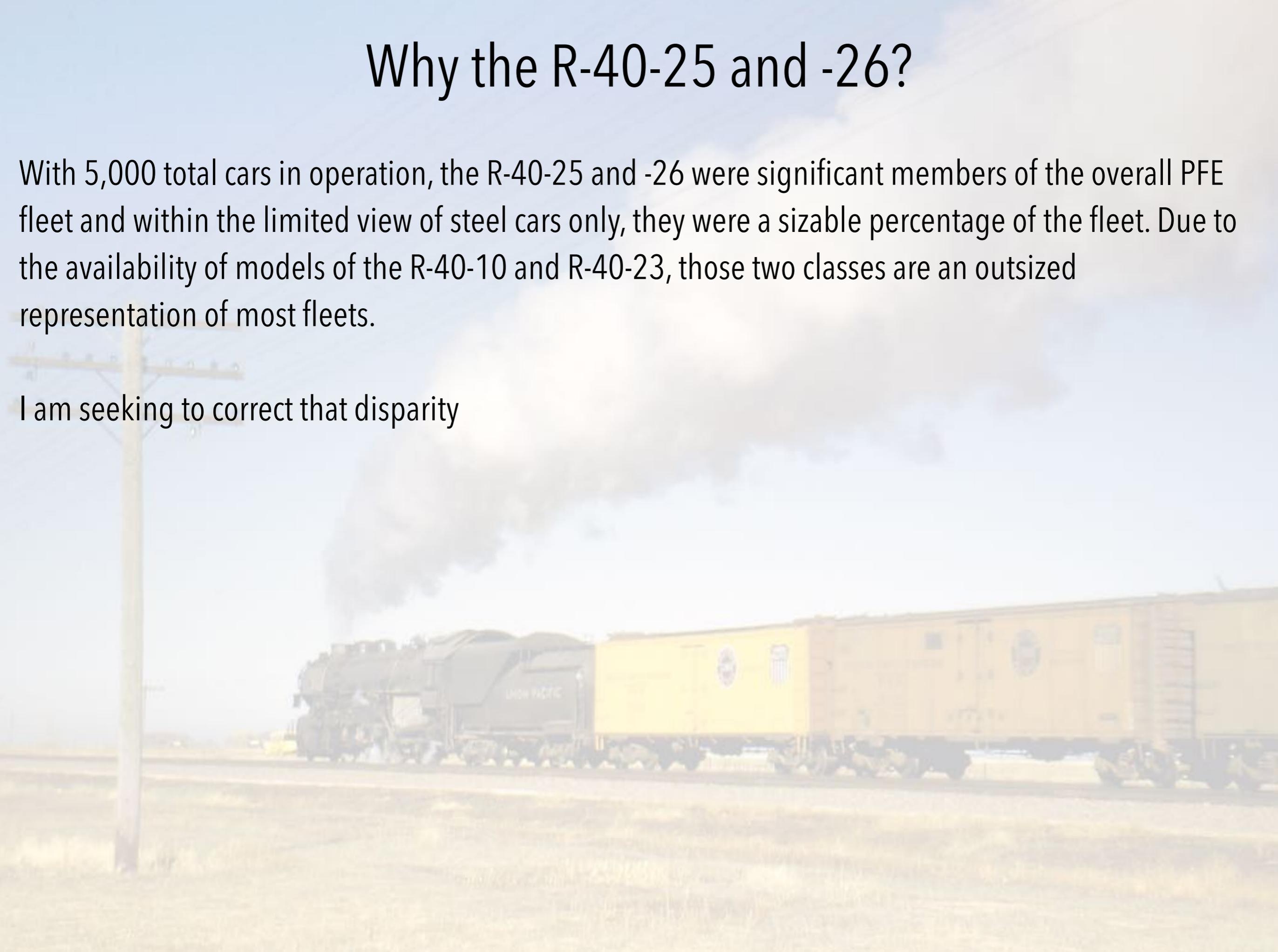
Bill Welch



Why the R-40-25 and -26?

With 5,000 total cars in operation, the R-40-25 and -26 were significant members of the overall PFE fleet and within the limited view of steel cars only, they were a sizable percentage of the fleet. Due to the availability of models of the R-40-10 and R-40-23, those two classes are an outsized representation of most fleets.

I am seeking to correct that disparity



A little history of PFE's ice-cooled steel cars



R-40-10

The R-40-10 was PFE's first major foray into all-steel cars and it jumped with both feet, building/acquiring 4,700 cars in 1936-1937. The cars closely followed the ARA box car design of 1932 with trademarks including angle side sills with "tabbed" side sill supports, square corner Dreadnaught ends, Murphy rectangular panel roofs, and AAR-design underframe members. Refrigerator car-specific details included non-integral steel hatch covers, increased insulation in both the walls (3 inches) and roof and floor (3.5 inches), fiberglass insulation in the floors and "Dry Zero" (Kapok) in the sides, ends, and roof, increased floor rack height of 6 inches, as well as many truck and power hand brake types.



R-40-10



One of the PFE-built cars right after being placed into service

R-40-10



PFE preferred U-section structural side members on steel cars, necessitating two rows of rivets where the panels overlapped. Note the "non-integral" hatch plugs and covers

R-40-10



This car was repainted in 1942 and displays the 1942 P&L scheme including updated UP medallion

R-40-10

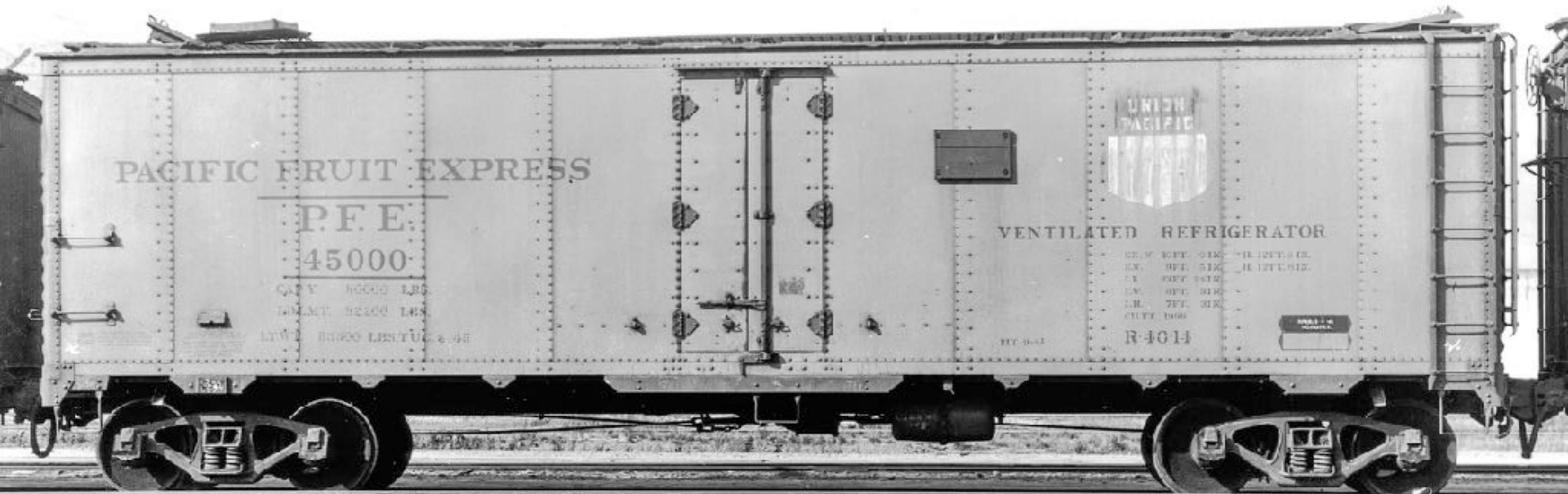


R-40-14

In 1941, Pacific Car & Foundry delivered 1,000 cars that were quite similar to the R-40-10, with several enhancements. The cars were placed in the series 44701-45700 and assigned to class R-40-14. Changes from the -10 class included round (W) corner Dreadnaught ends, Equipco integral hatch covers, convertible ice bunkers, plywood lining, and placard boards.



R-40-14



R-40-14 PFE 45000 was repainted at Tucson in 1945. Note the placard board to the right of the door. Placard and route card boards were not used on the R-40-10 class at building

R-40-14

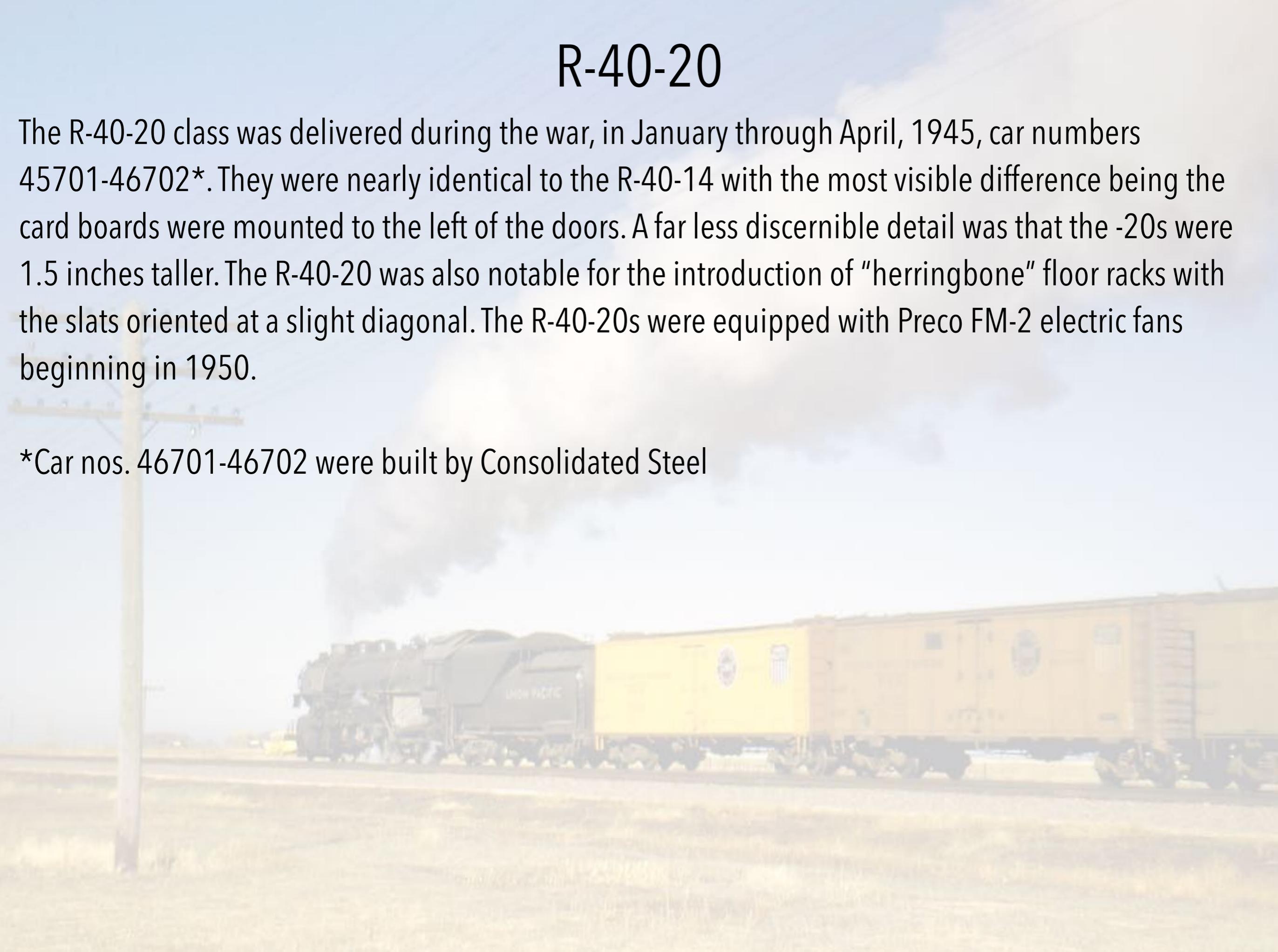


One interesting detail of dirty refrigerator cars is the stark contrast of freshly painted patches, such as the one here for the reweigh stencil

R-40-20

The R-40-20 class was delivered during the war, in January through April, 1945, car numbers 45701-46702*. They were nearly identical to the R-40-14 with the most visible difference being the card boards were mounted to the left of the doors. A far less discernible detail was that the -20s were 1.5 inches taller. The R-40-20 was also notable for the introduction of "herringbone" floor racks with the slats oriented at a slight diagonal. The R-40-20s were equipped with Preco FM-2 electric fans beginning in 1950.

*Car nos. 46701-46702 were built by Consolidated Steel

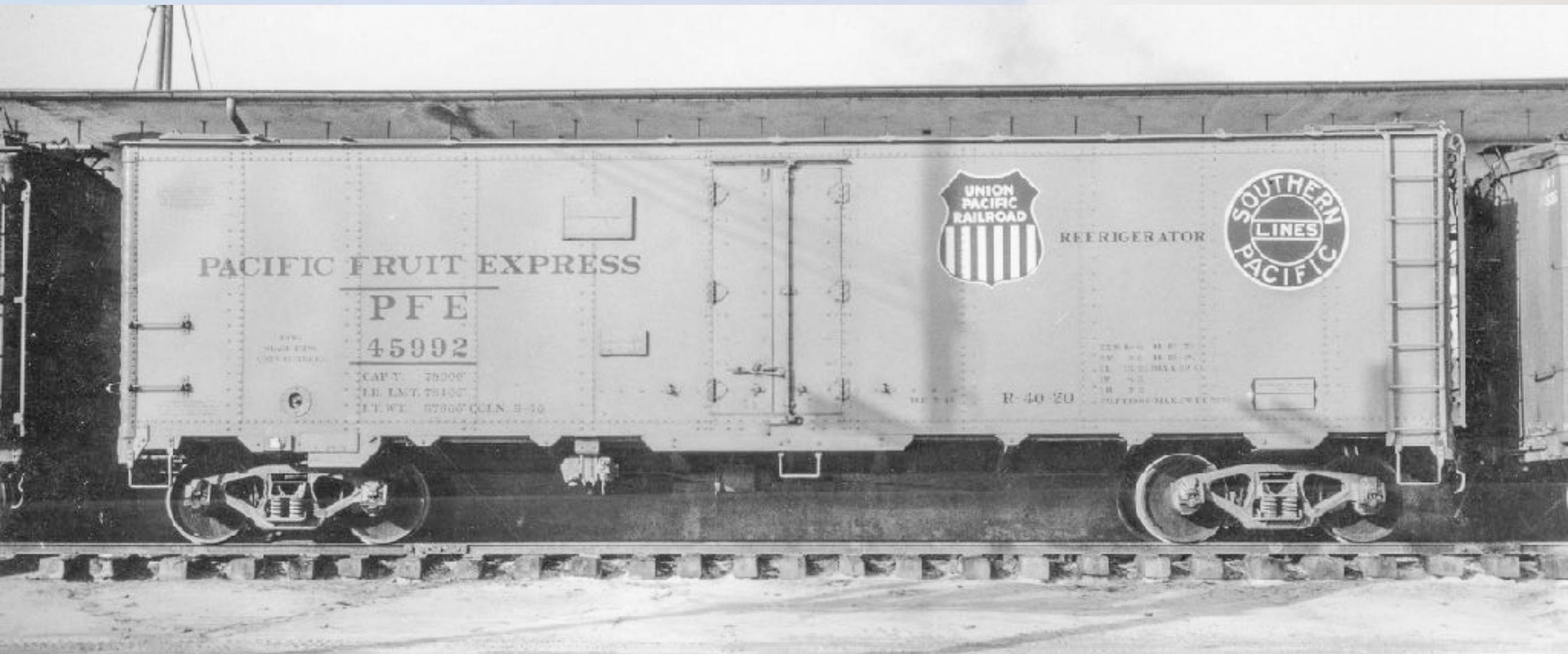


R-40-20



Builder's photo of R-40-20. Note the rounded corners on the Dreadnaught ends

R-40-20



PFE 45992 was repainted in May, 1950 and was photographed in December, 1951



R-40-20



R-40-23

The largest order of PFE steel ice-cooled cars was the 5,000 R-40-23 class delivered in 1947. The cars were assigned to two series: 46703-48702 and 5001-8000. They were the first class to be built new with fans, Preco FG-36, the first to employ welded underframes, and the first new PFE cars with Improved Dreadnaught ends. The cars were equipped with ASF A-3 Ride Control trucks that were quite favorably received by PFE. The cars were built with high-strength steel which offered benefits in weight, but were less corrosion resistant. Lastly, these cars used "blind" offset plywood walls that mitigated heat transmission and improved circulation (used on all subsequent PFE ice-cooled cars).



R-40-23

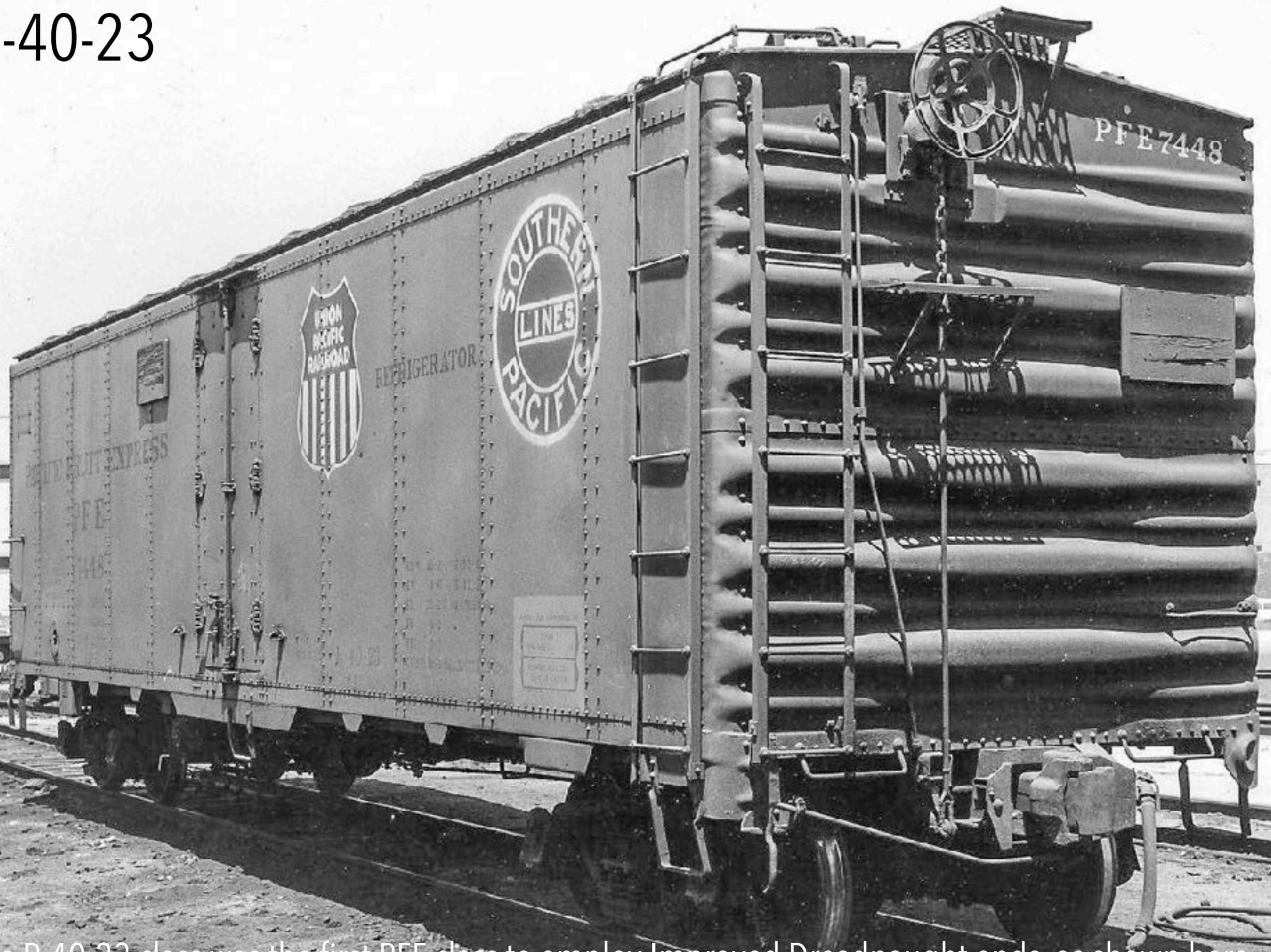


R-40-23



R-40-23 PFE 47612 shown soon after building. Note the locations of the placard board and route card board (at the left body bolster) as well as the ASF A-3 Ride Control trucks. These cars were the first built new to employ the 1946 P&L scheme with both medallions on each side of the car body

R-40-23



The R-40-23 class was the first PFE class to employ Improved Dreadnaught ends, as shown here



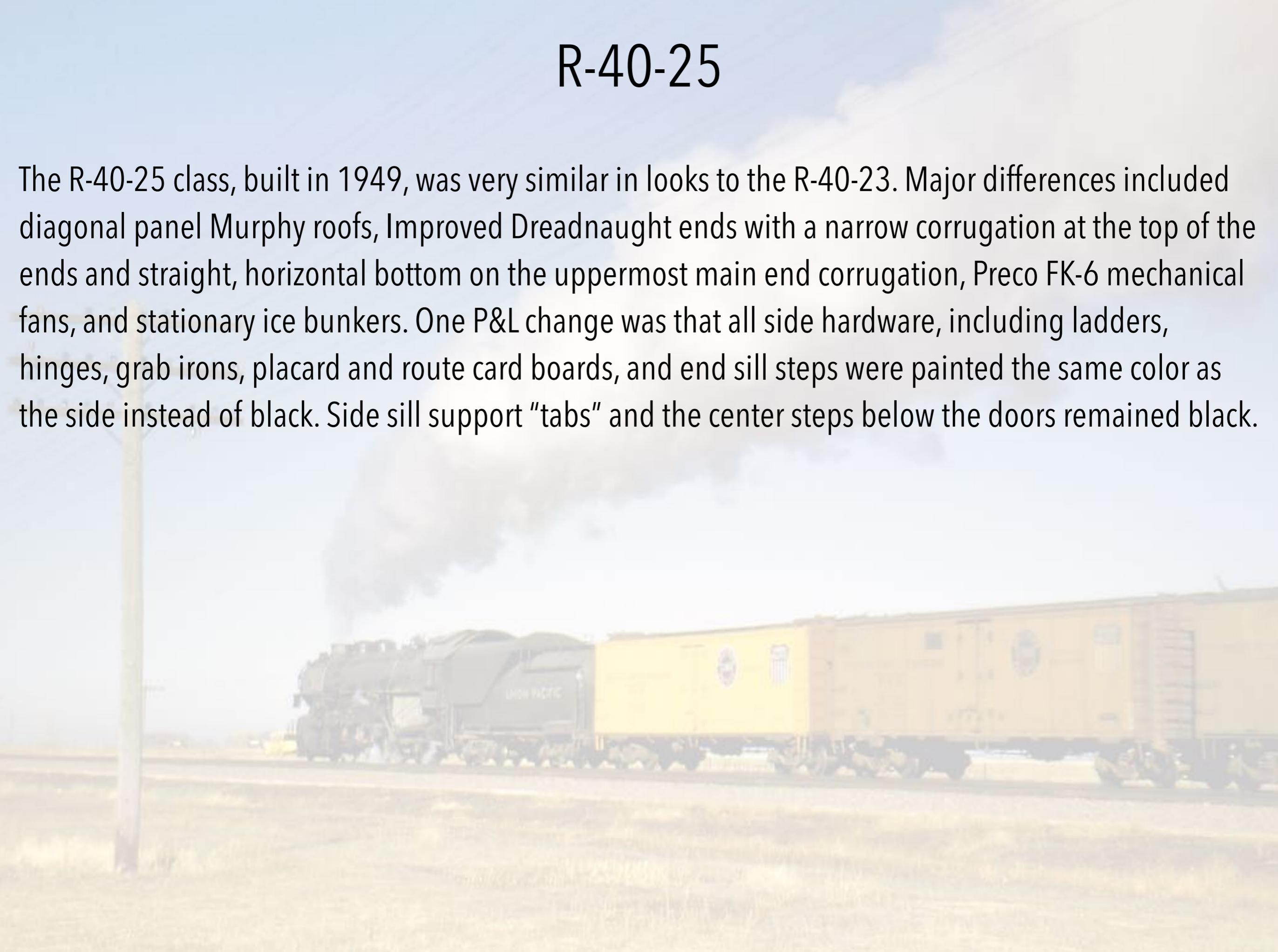


Dick Harley photo



R-40-25

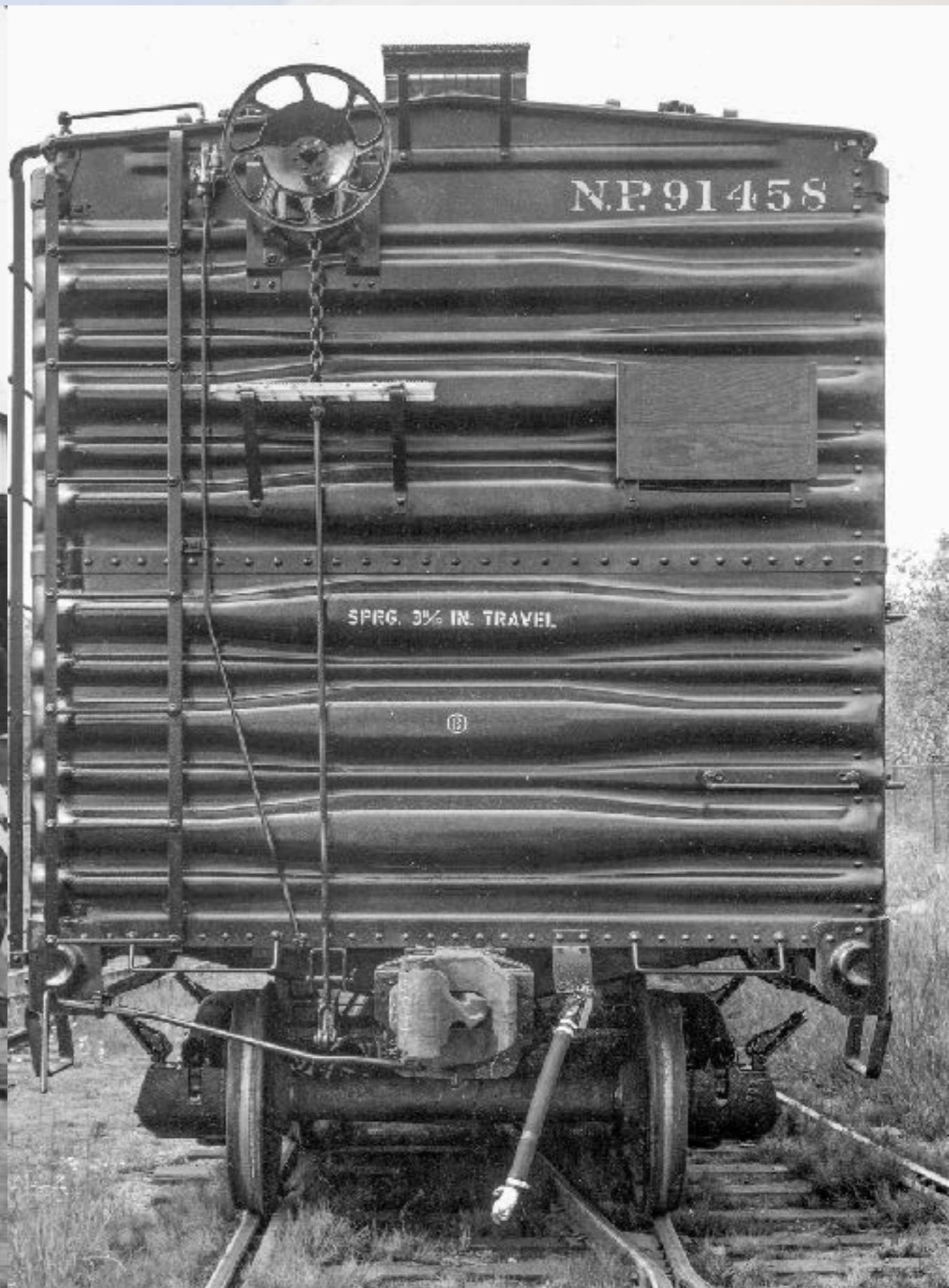
The R-40-25 class, built in 1949, was very similar in looks to the R-40-23. Major differences included diagonal panel Murphy roofs, Improved Dreadnaught ends with a narrow corrugation at the top of the ends and straight, horizontal bottom on the uppermost main end corrugation, Preco FK-6 mechanical fans, and stationary ice bunkers. One P&L change was that all side hardware, including ladders, hinges, grab irons, placard and route card boards, and end sill steps were painted the same color as the side instead of black. Side sill support "tabs" and the center steps below the doors remained black.



R-40-25



R-40-25

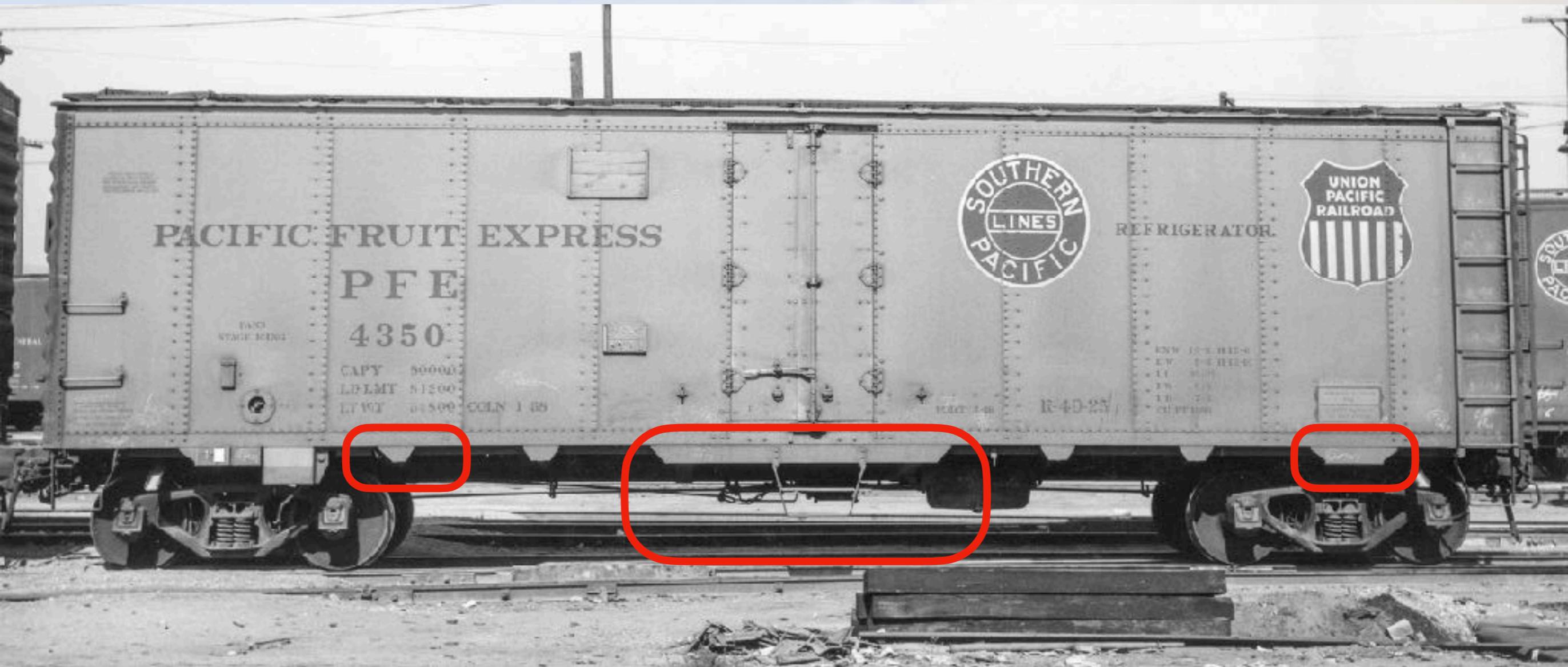


R-40-25



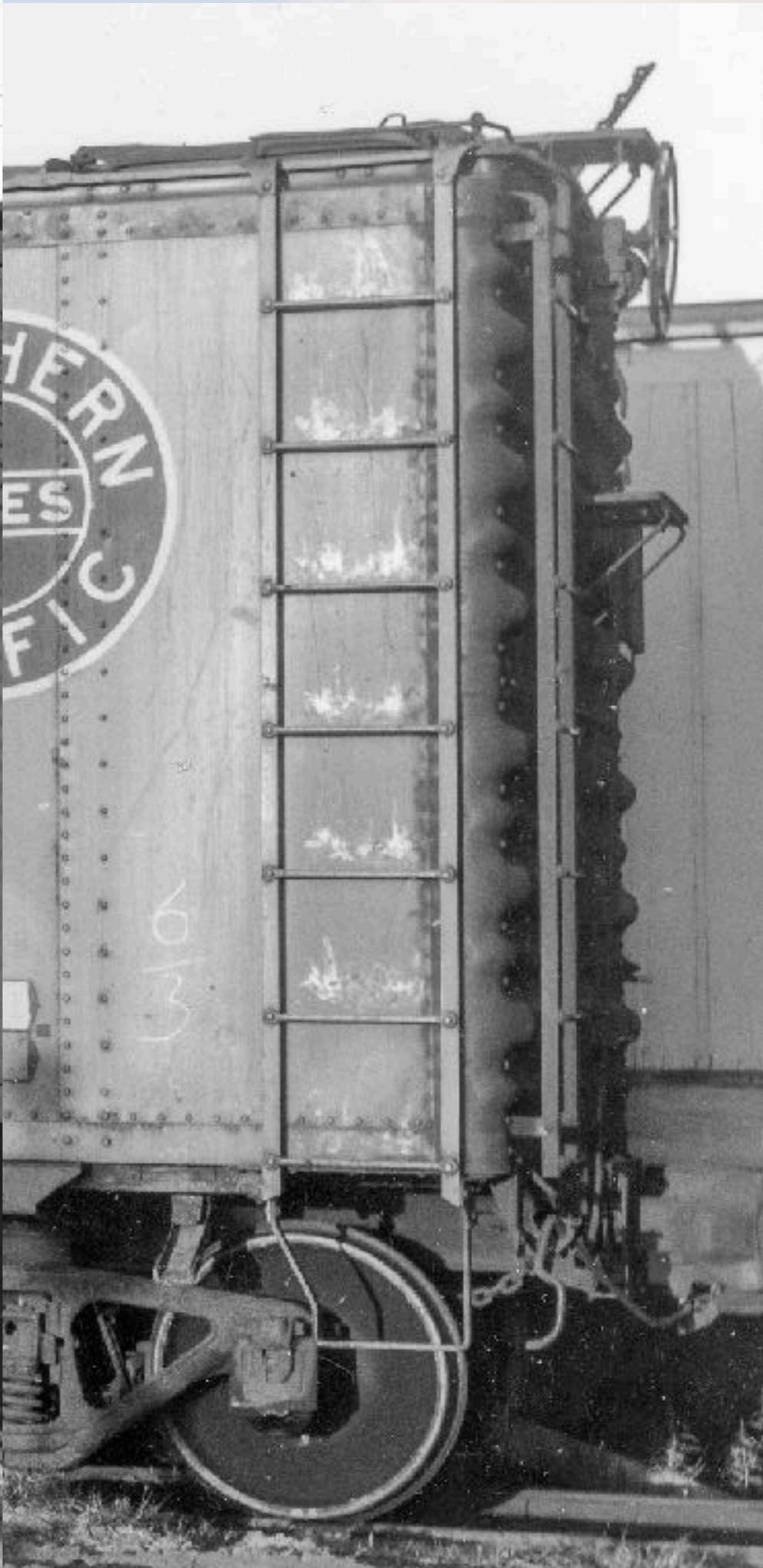
The low light provides an excellent view of the underframe and its details

R-40-25



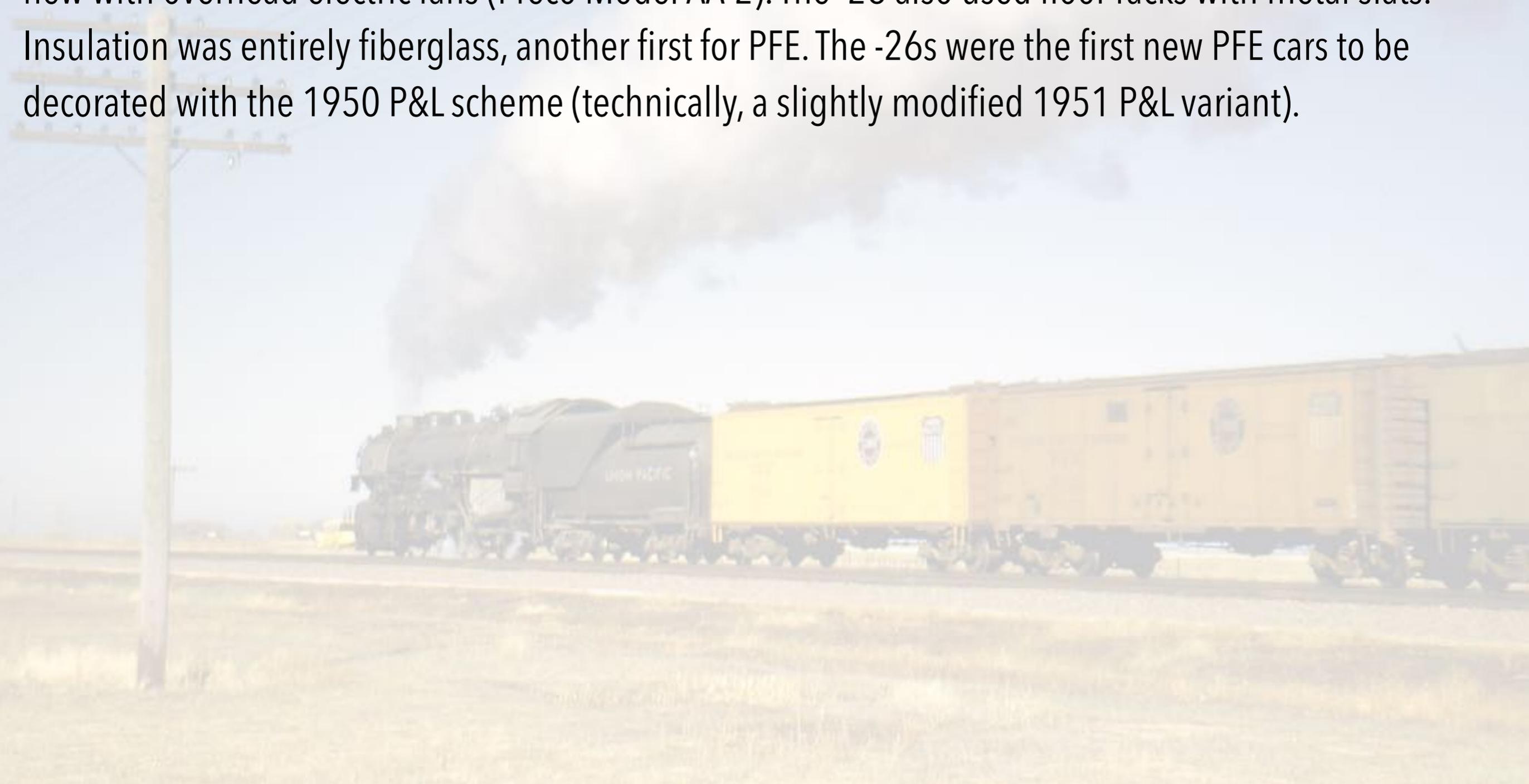
The crosstie support tab adjacent to the fan mechanism was shaped differently. The bolster tabs were notched top and bottom, but the door side sill support was only notched at top. Note that the step is not centered



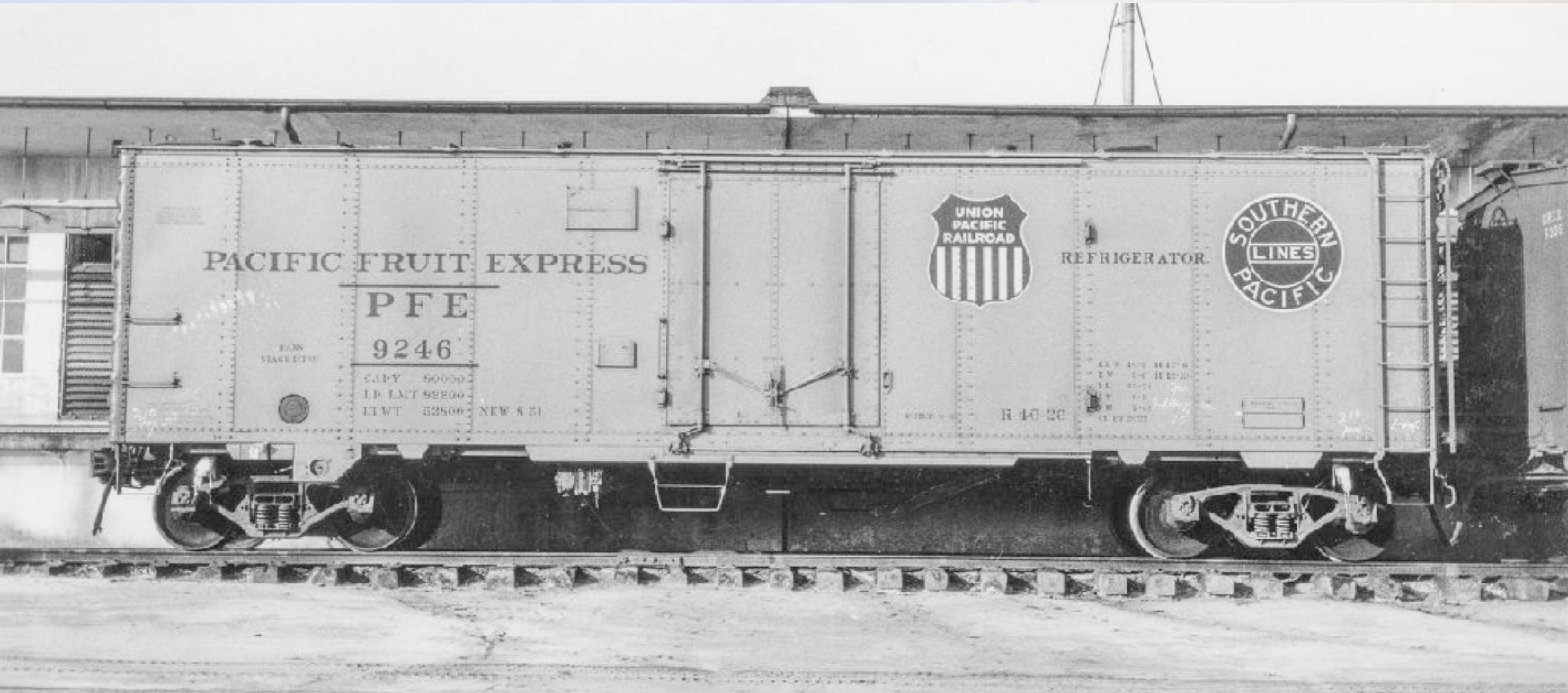


R-40-26

The R-40-26 class represented a significant nod to the future. While they were dimensionally similar to the previous couple classes of new cars, they departed in some significant ways. They incorporated Youngstown flush-closing "plug doors" with six-foot door openings. They were the first PFE cars built new with overhead electric fans (Preco Model AA-2). The -26 also used floor racks with metal slats. Insulation was entirely fiberglass, another first for PFE. The -26s were the first new PFE cars to be decorated with the 1950 P&L scheme (technically, a slightly modified 1951 P&L variant).



R-40-26



The most obvious difference in this image is the wide, flush-closing door. Also, note the updated P&L scheme with the new UP medallion and the 1951 update where the periods were dropped from the reporting marks

R-40-26



This excellent image with its low lighting highlights many of the details of the welded underframe. Note the updated paint and lettering with the lines dropped above and below the reporting marks.

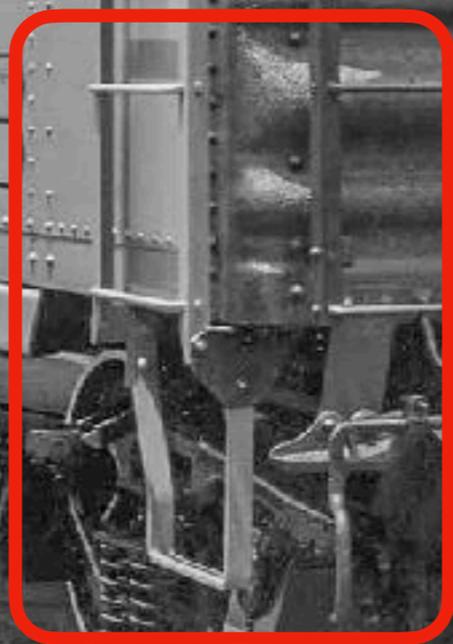


P.F.E. 8001



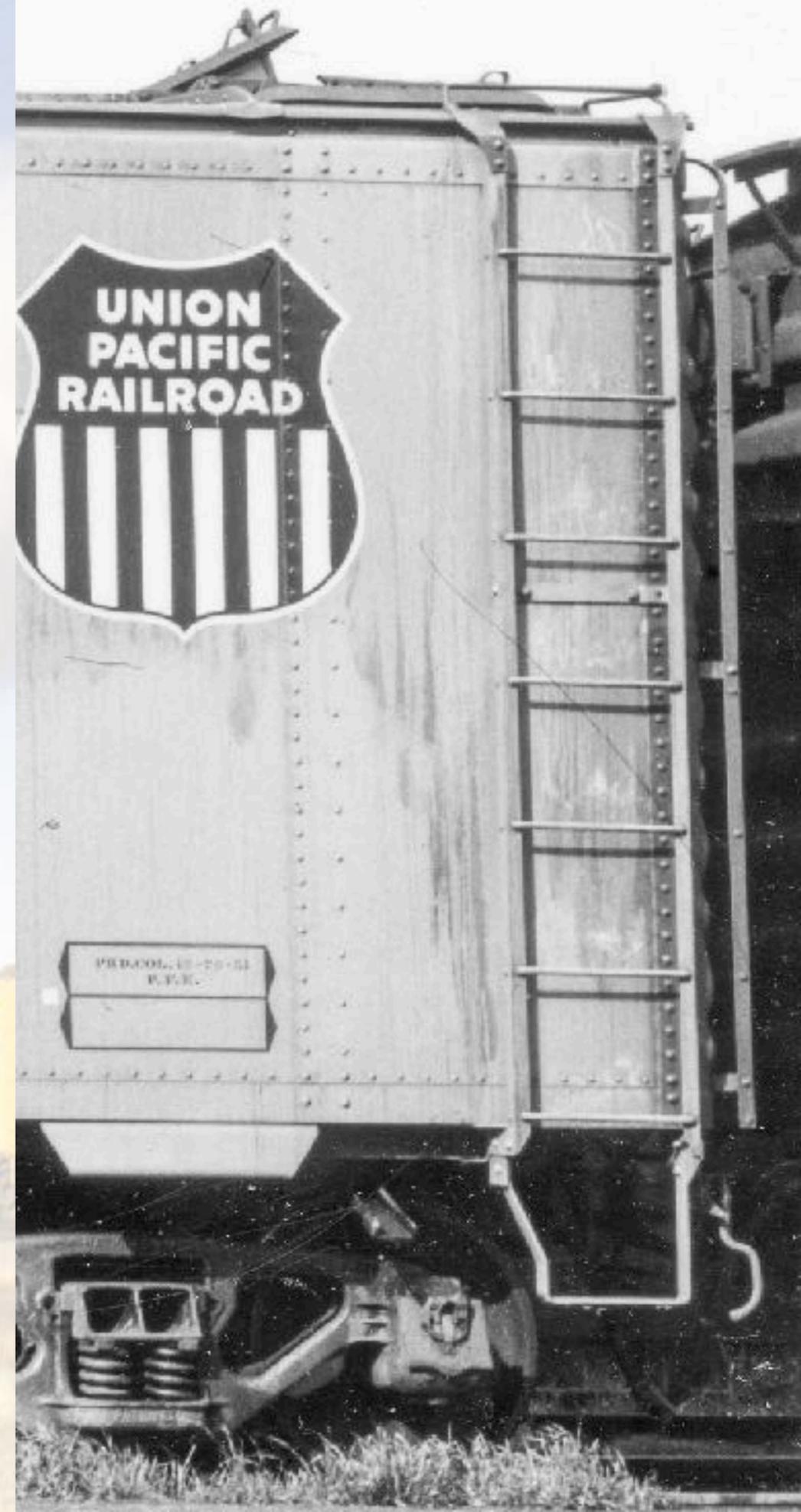
SPRG. 3 11/16 IN. TRAVEL

L.V. WROT. STEEL WHEELS



R-40-26

The ladders and integral sill steps are like those on the R-40-25 except they incorporated Wine-style treads that are not riveted into the stiles, but rather use bends and are secured once the ladder is assembled and attached to the car body. The mount at top also uses two rivets per stile instead of one.



R-40-26

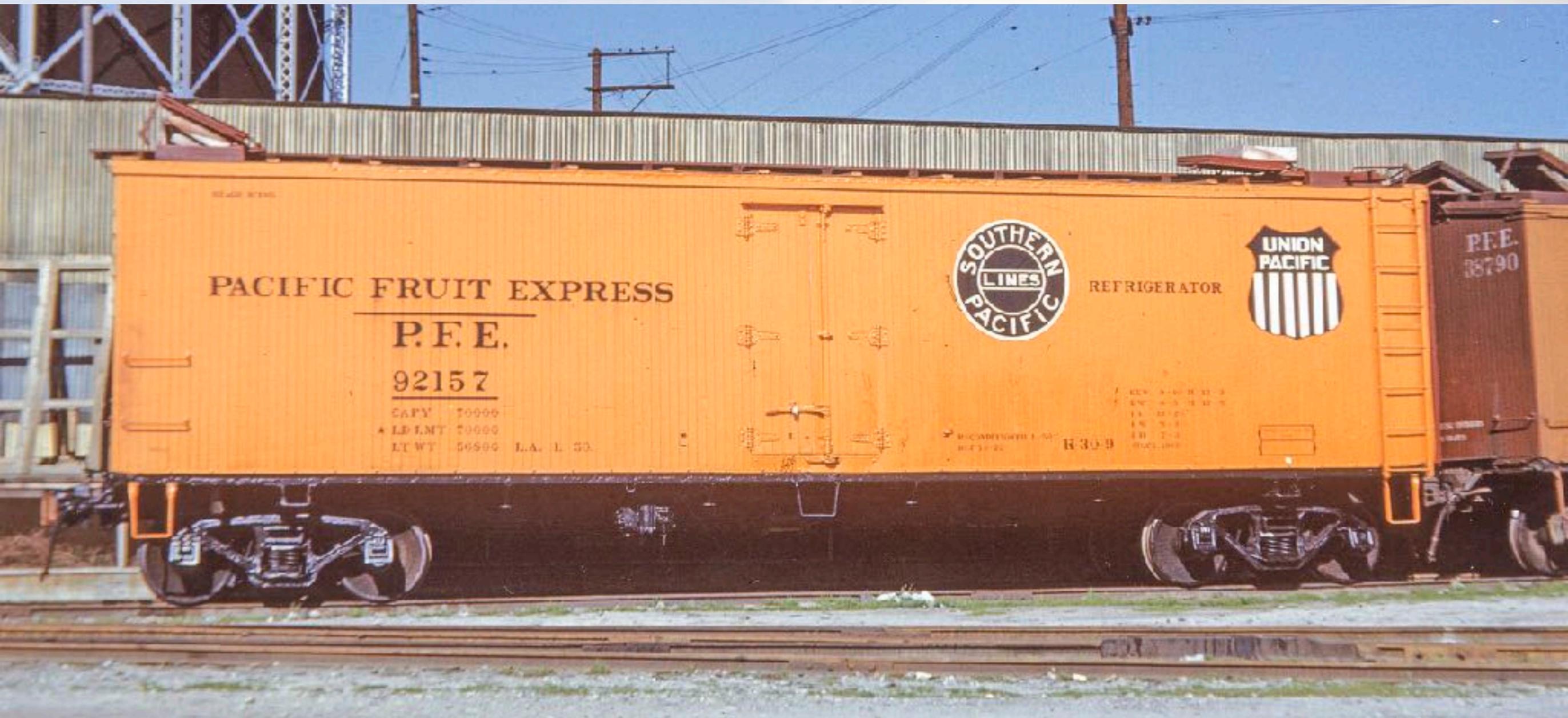


The Bangor and Aroostook had reefers that were duplicates of the PFE R-40-26, but built by Pacific Car & Foundry

The 1948 UP Medallion



The 1948 UP Medallion



The 1948 UP Medallion



The 1948 UP Medallion



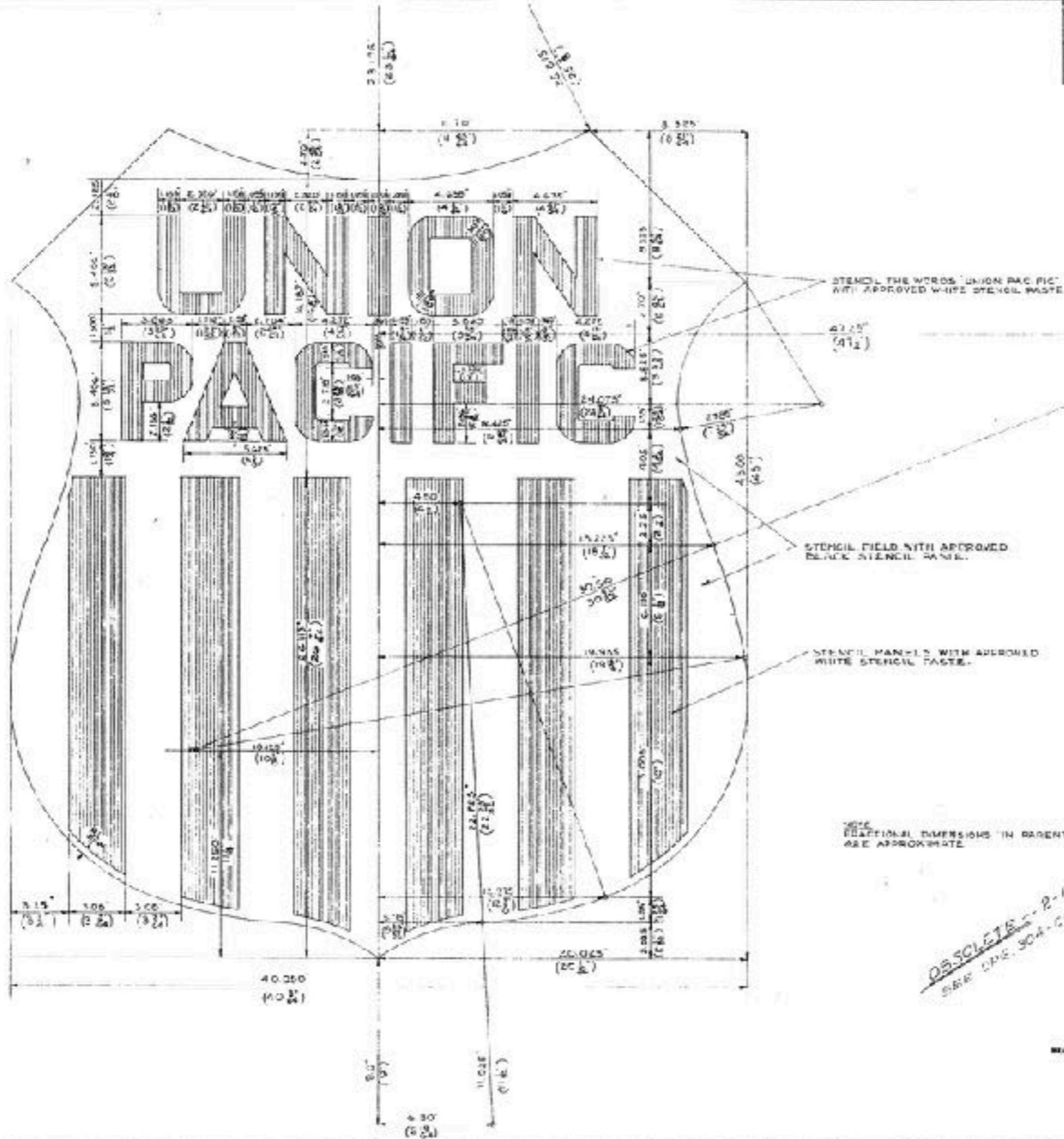
The 1948 UP Medallion



The 1948 UP Medallion

303-C-9865

| CLASS | | USED ON | |
|------------|----------|-------------------------------|--|
| | | FOR USE ON REFRIGERATION CARS | |
| | | | |
| | | | |
| ISSUE DATE | REVISION | | |
| | | | |
| | | | |



NOT
USED

*OBSCLETE 2-15-50
SEE SPEC. 304-C-10306*

SCALE 1/8" = 1"

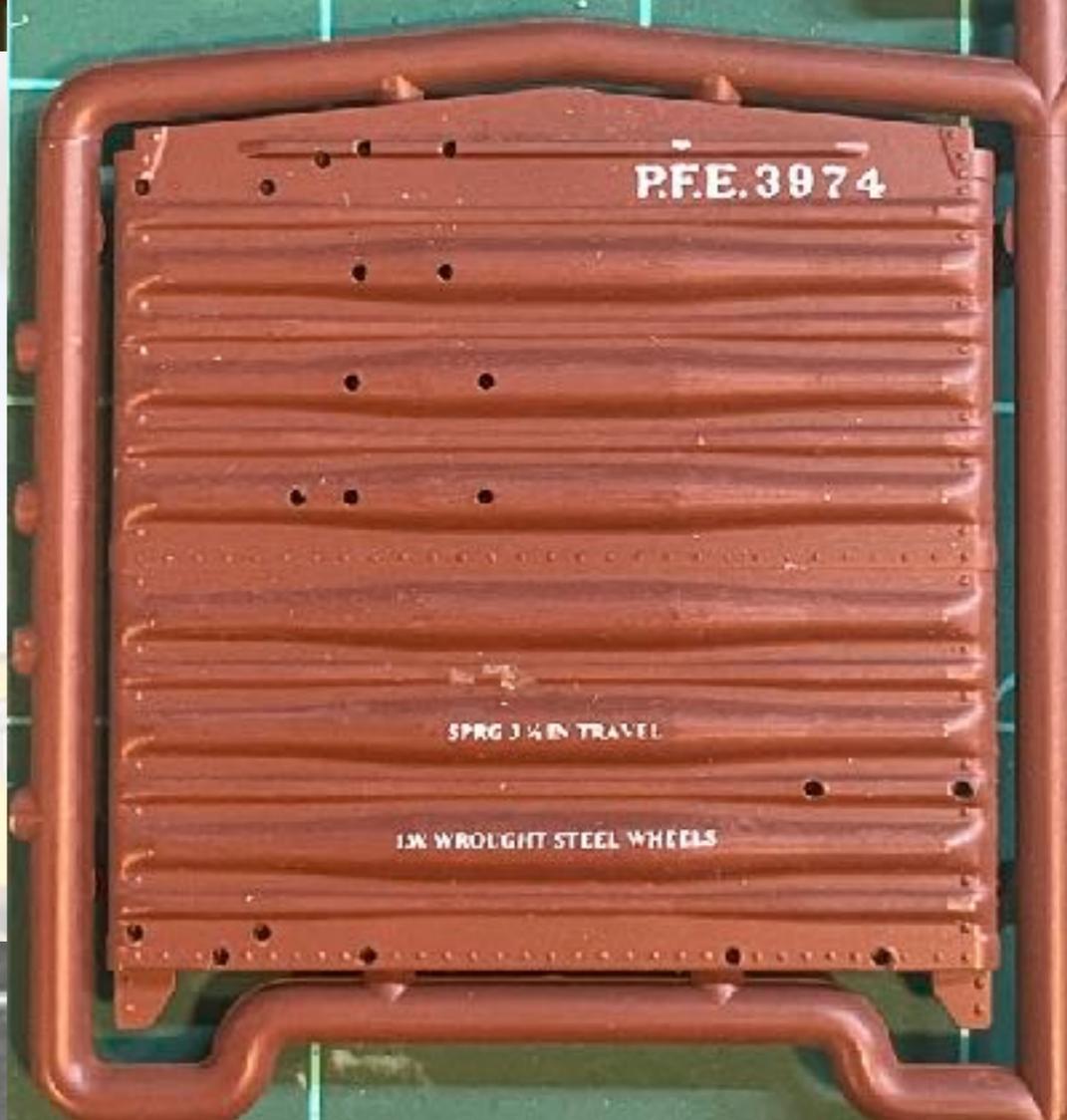
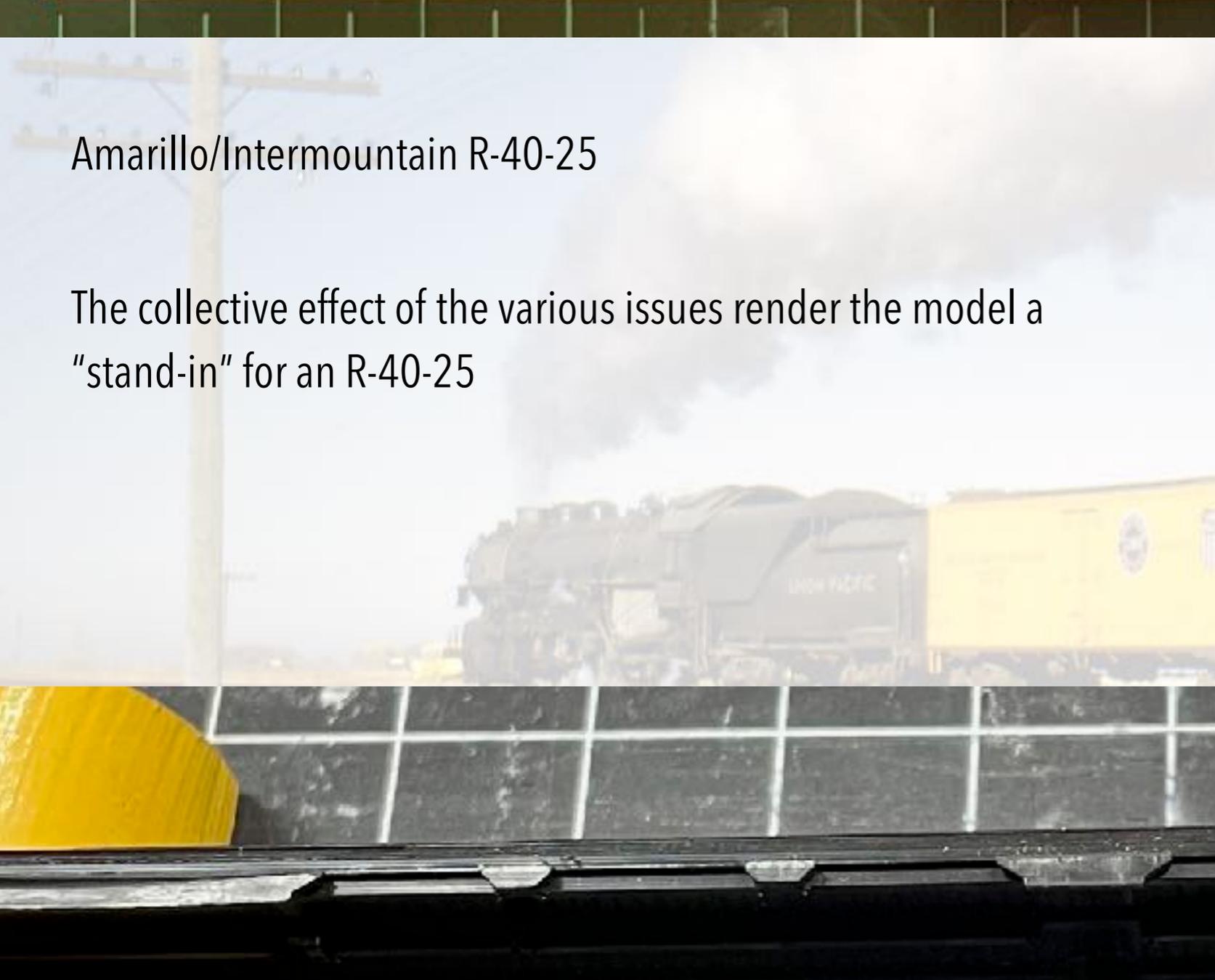
Detail Considerations for Modeling



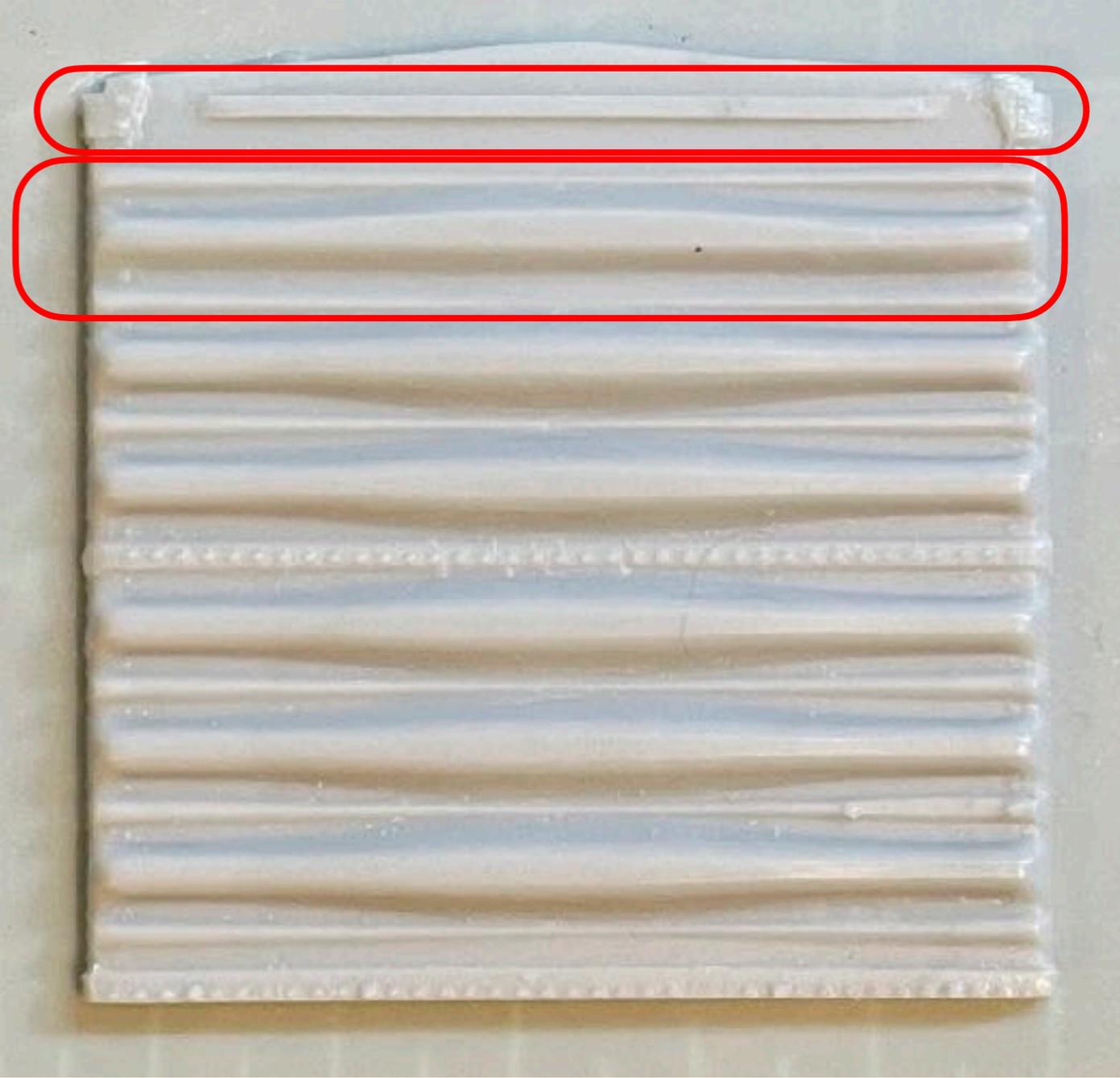


Amarillo/Intermountain R-40-25

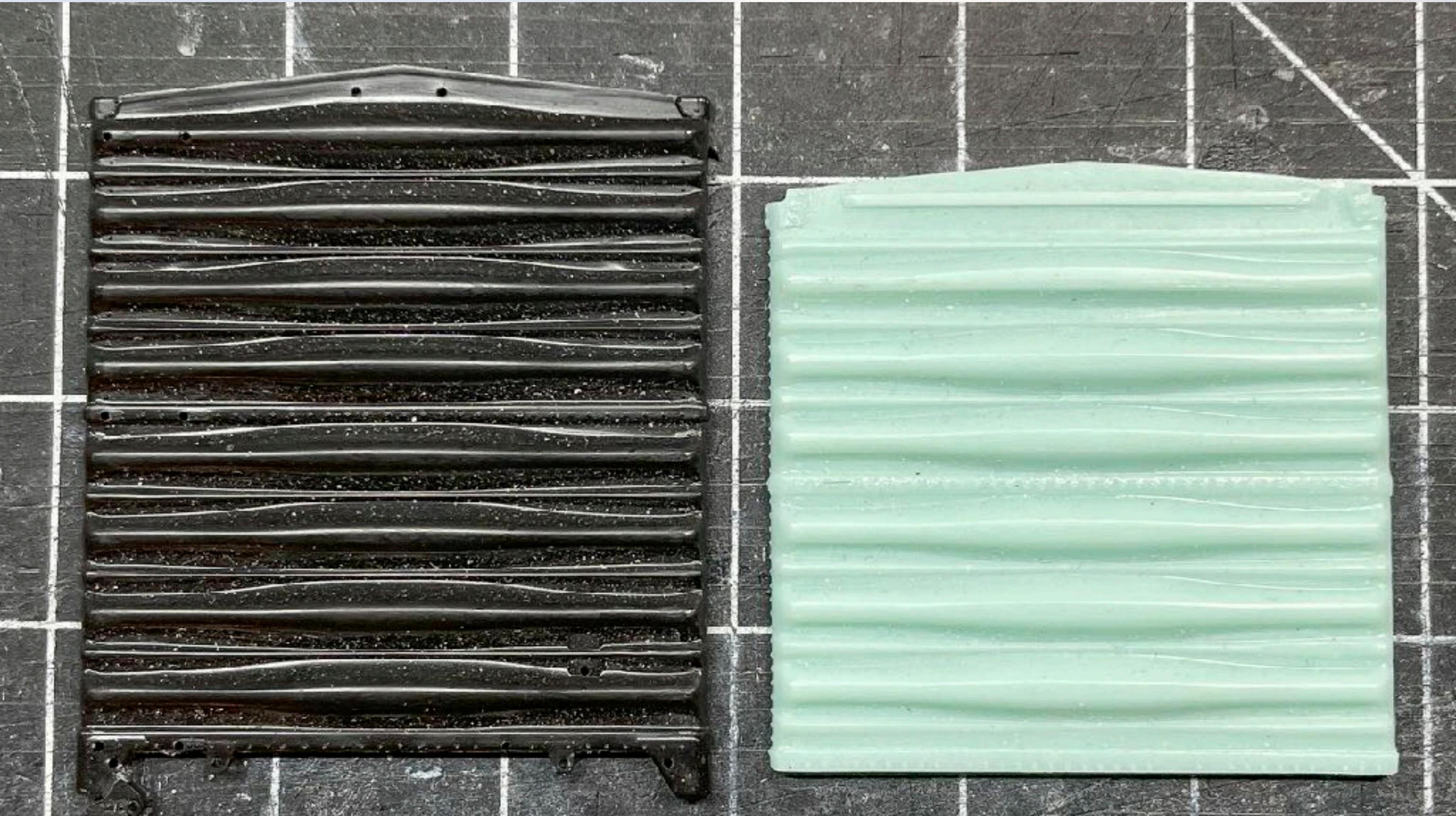
The collective effect of the various issues render the model a "stand-in" for an R-40-25



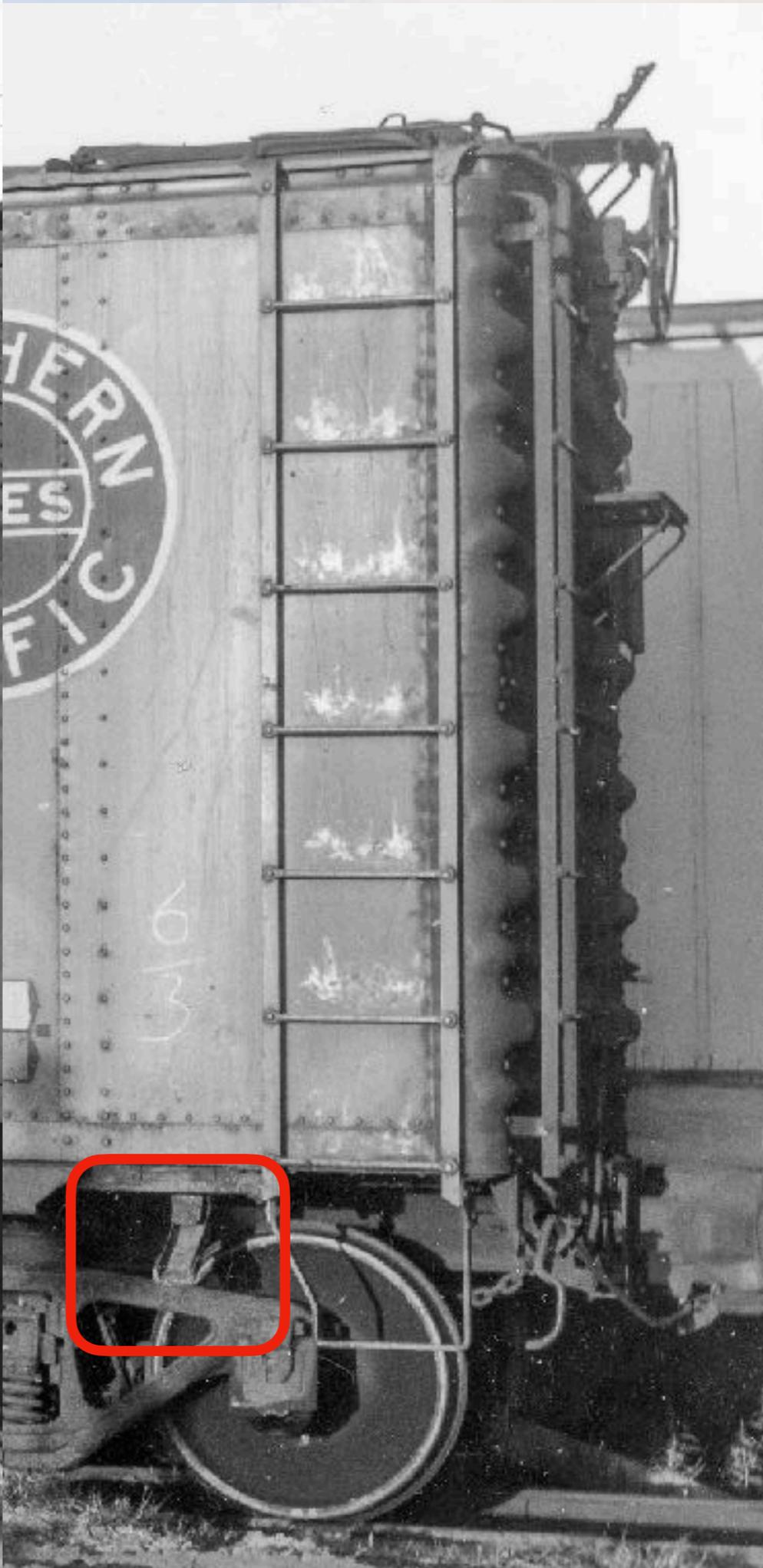
New ends were created incorporating the flat-bottomed, shallower main top rib and wider, flatter small stiffener at top



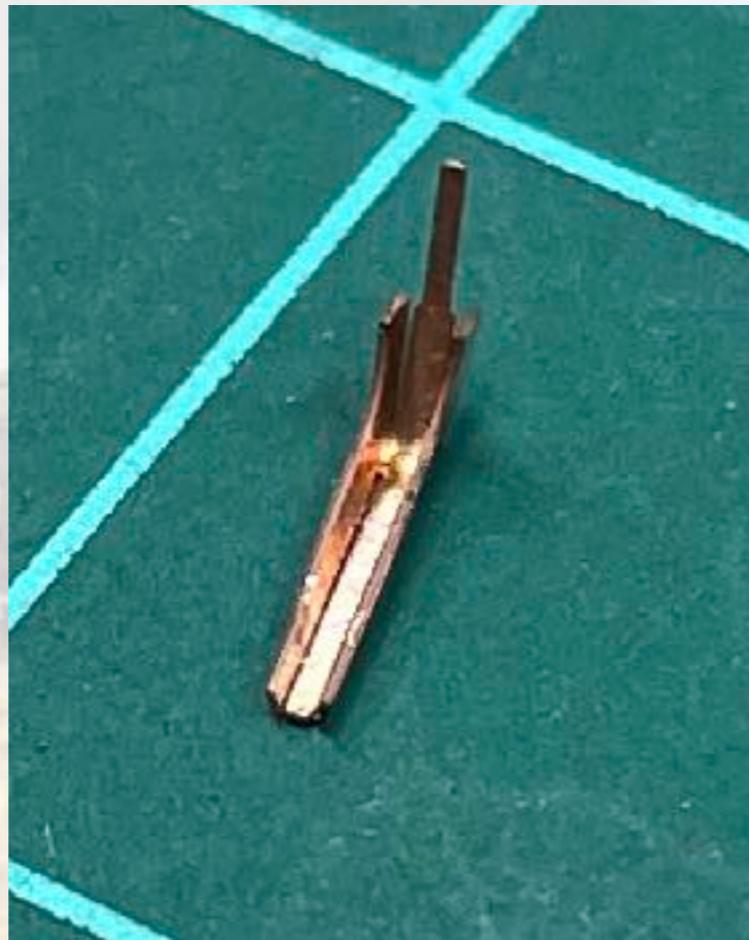
A commercial end was shortened and narrowed and a "plain top section from the Intermountain end was added. The top main rib was reshaped and a new stiffener at top was added. The new end was made from five pieces



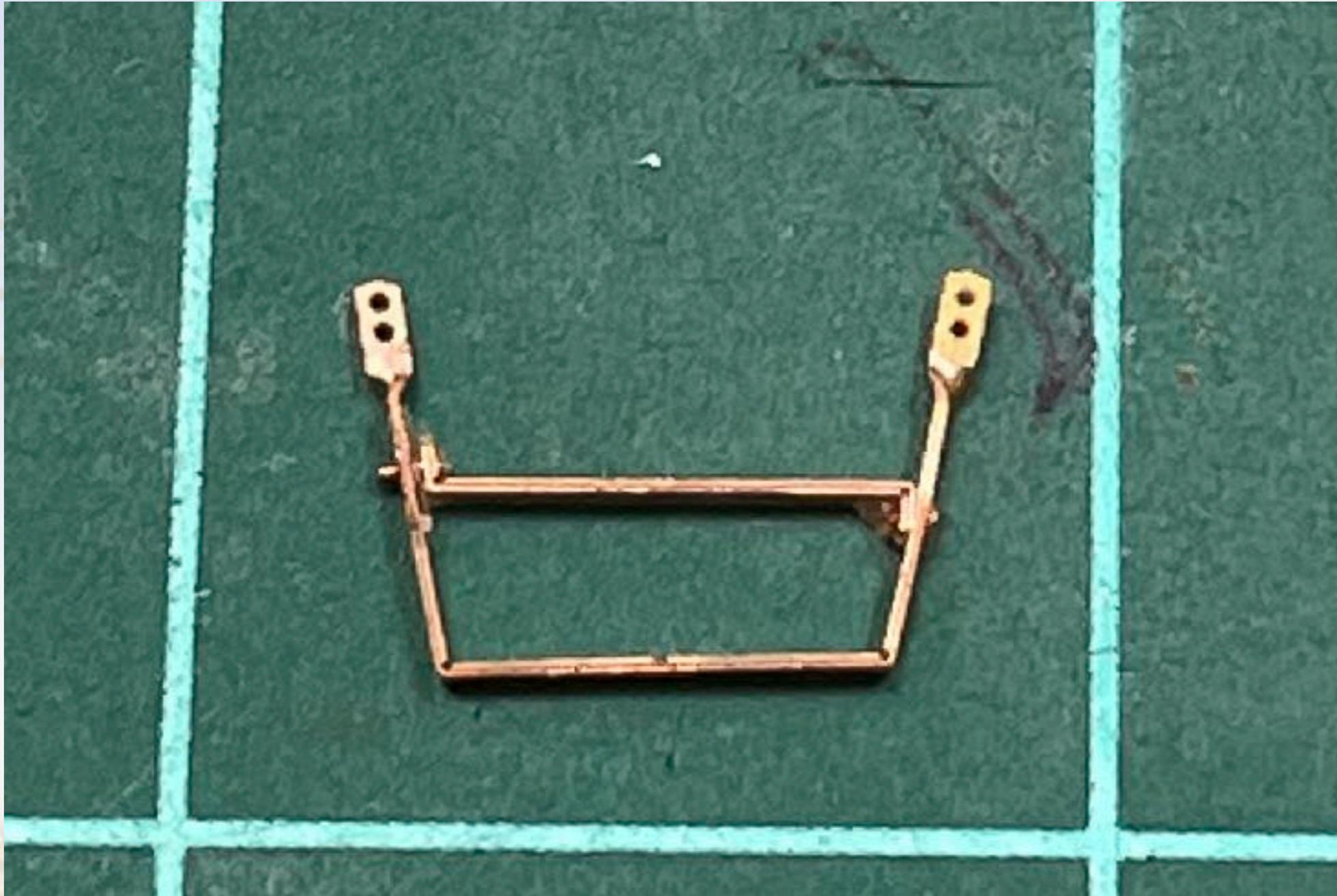
Ice bunker drain spouts



Ice bunker drain spouts have generally been poorly rendered in HO scale



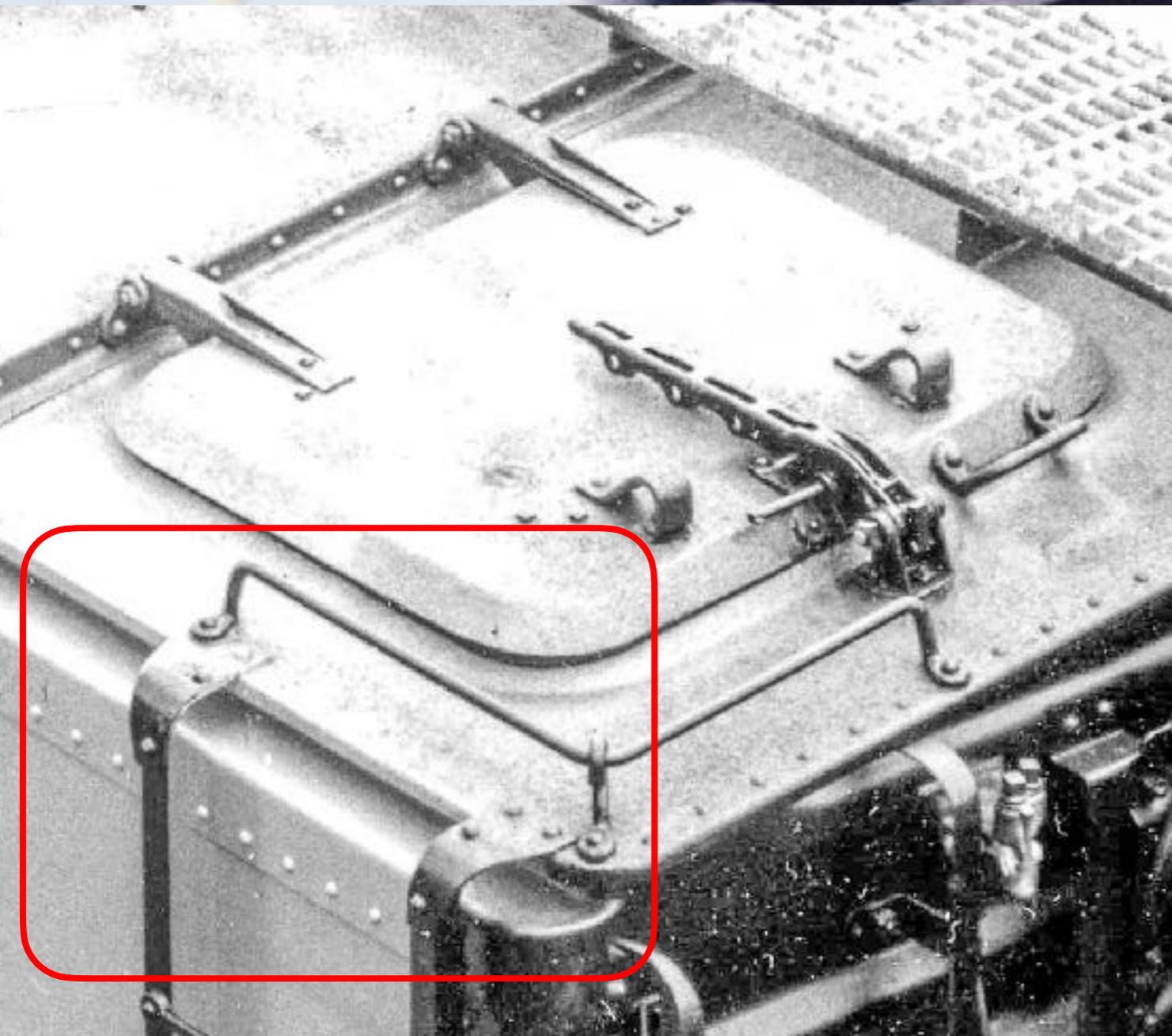
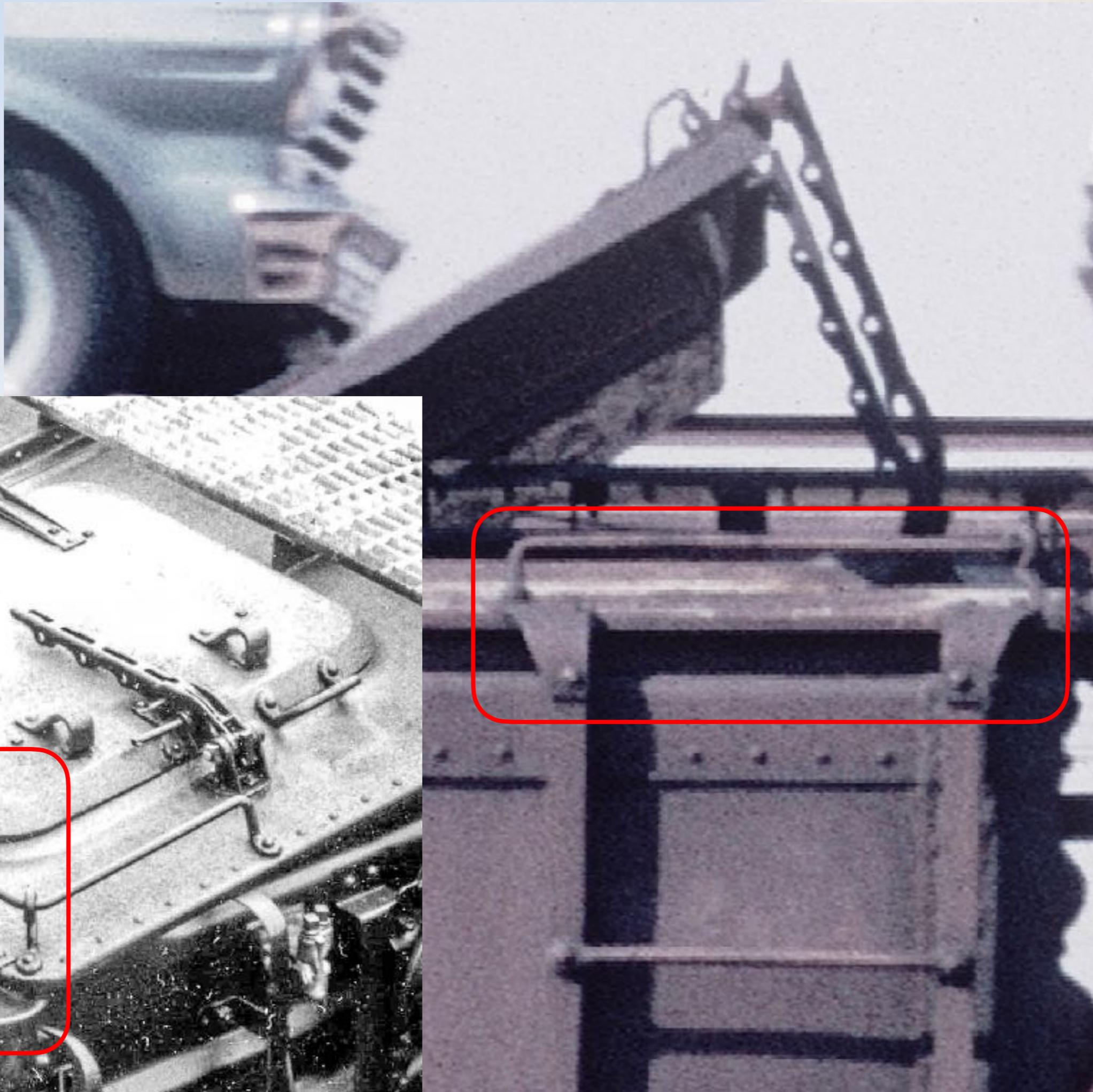
New center sill step (pilot part... actual will be slightly different)



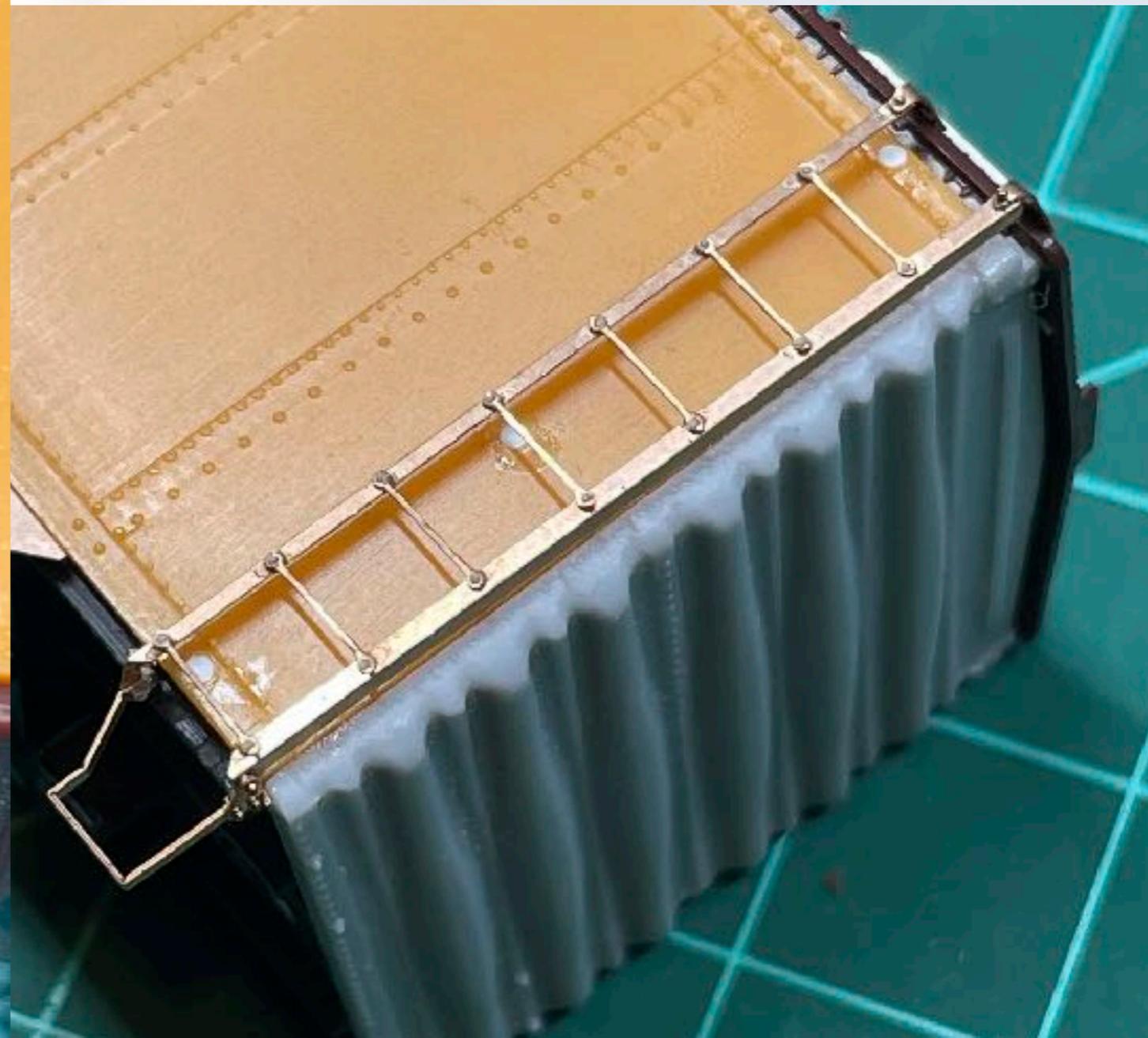
The ladders and sill steps of the R-40-23, -25, and -26 (shown L to R, respectively) represent an evolution. The bottom of the ladders and the steps on the -23 are attached to a small bulb angle below the side sill; those on the -25 and -26 are attached to the bottom of the side sill via riveted shapes, similar to a PS-1 box car. The ladders on the -26 are of a Wine design, with the rungs secured into holes in the stiles, as opposed to using treads that are riveted to the stiles.



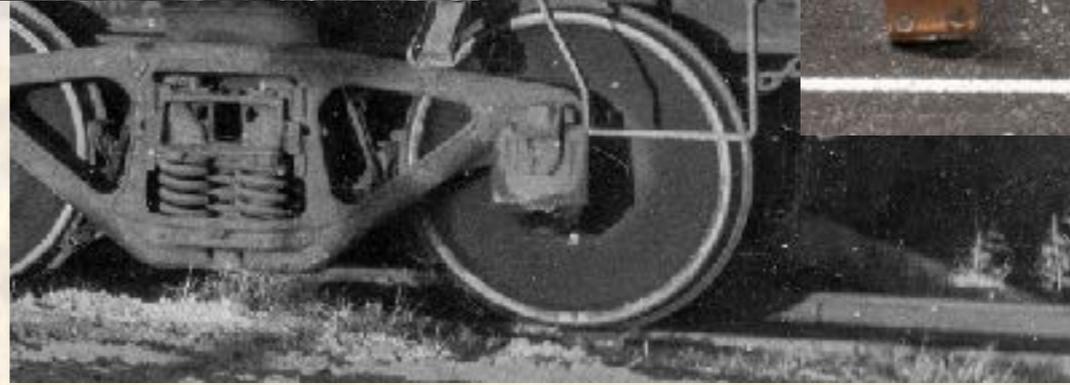
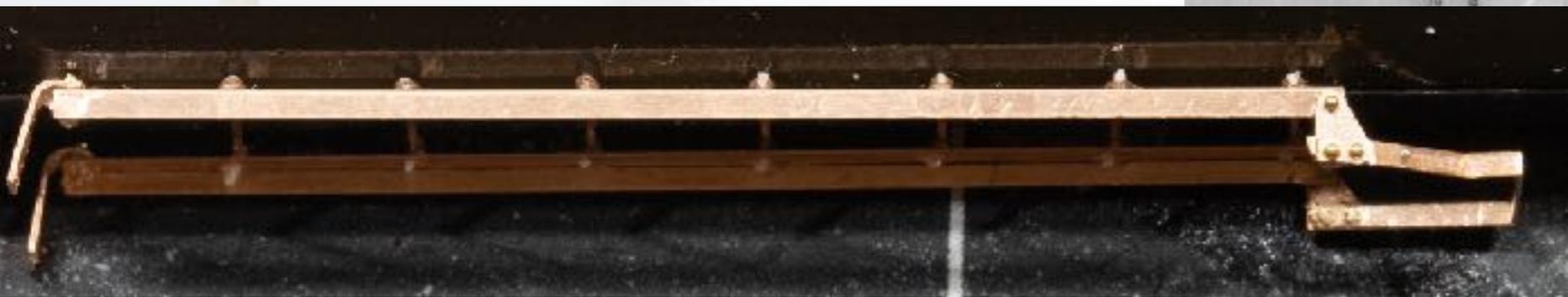
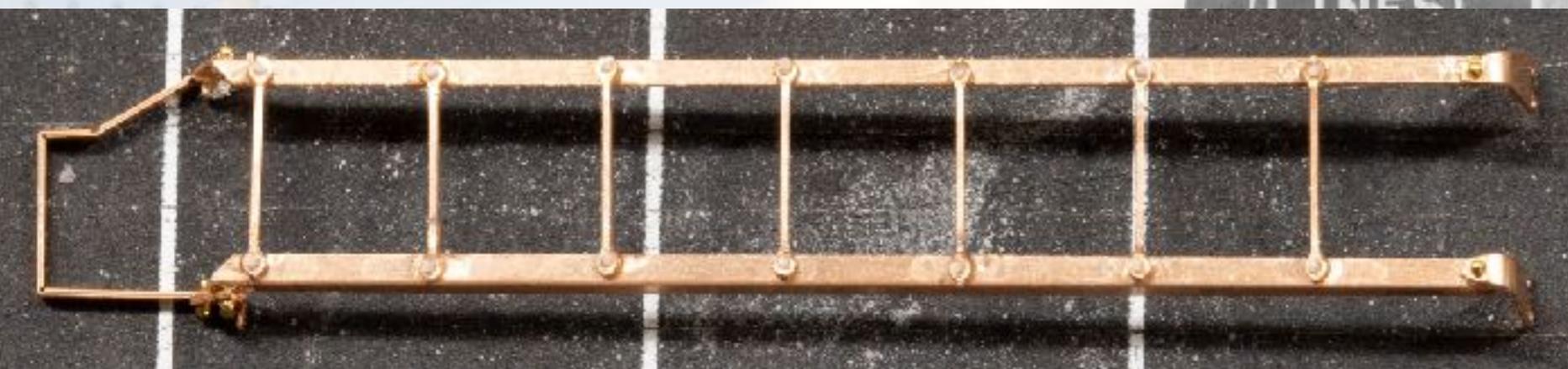
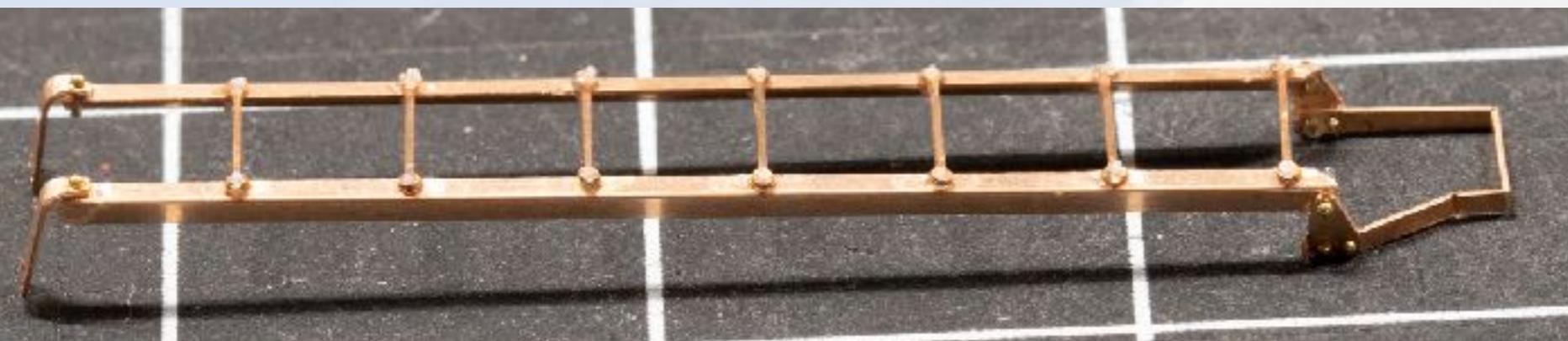
The cars had upper ladder mounts like those shown here



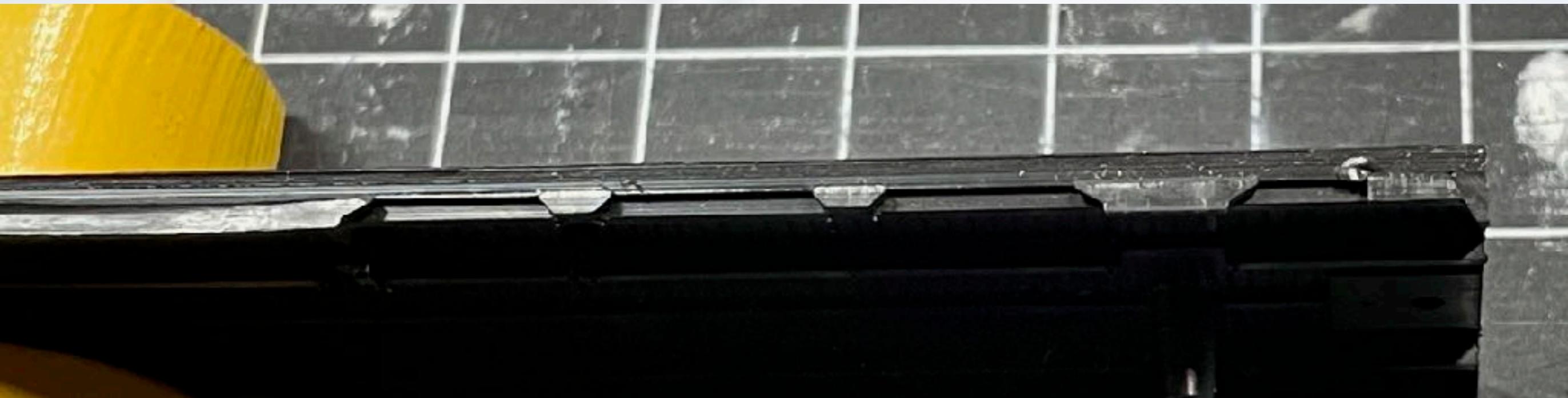
The etched ladders replicate all of the details of the prototype



The R-40-25 and -26 ladders (as well as the -23 although they are simpler) can be effectively replicated using etched metal assemblies, as shown here. The stiles, treads ("rungs,") upper and lower mounting brackets, and steps are all separate pieces assembled to create a highly realistic and durable ladder assembly



The crossbearers, crossties, and side sill tabs were all removed



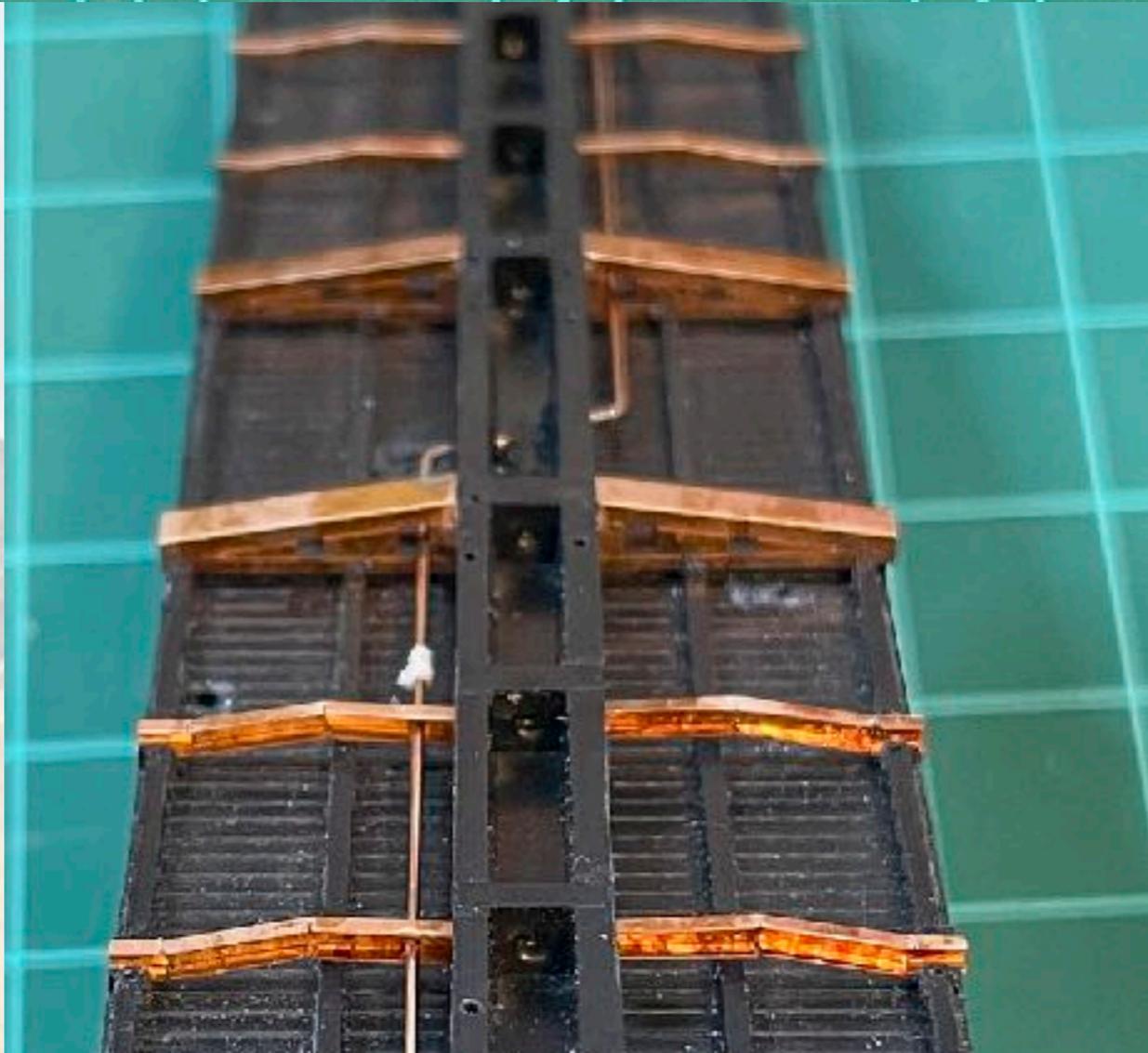
The crossbearers, crossties, and side sill tabs were all removed



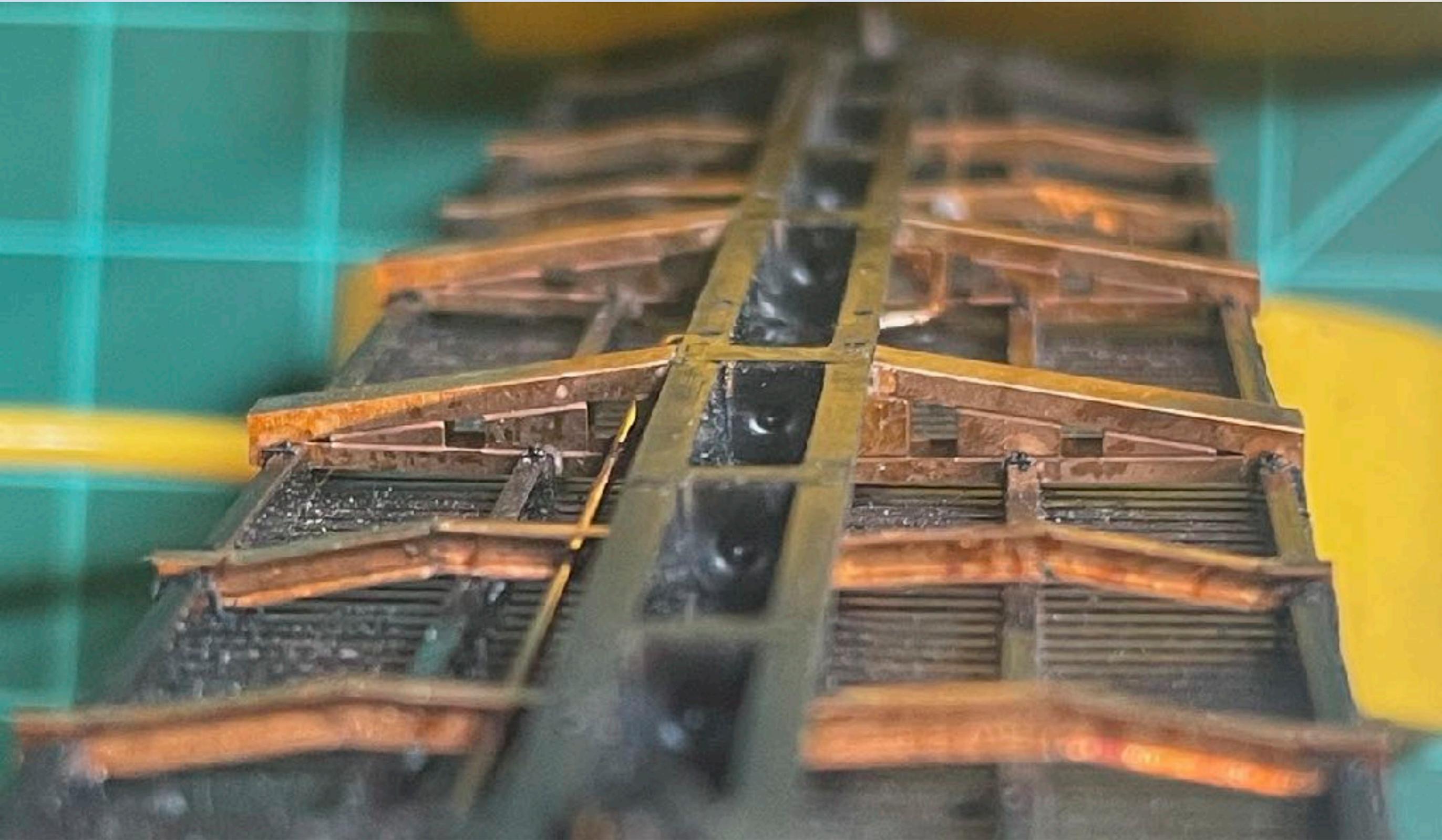
New etched and "open" crossbearers installed



New etched crossties installed as well, nesting into the notches in the stringers, as on the prototype



New etched crossties installed as well, nesting into the notches in the stringers, as on the prototype



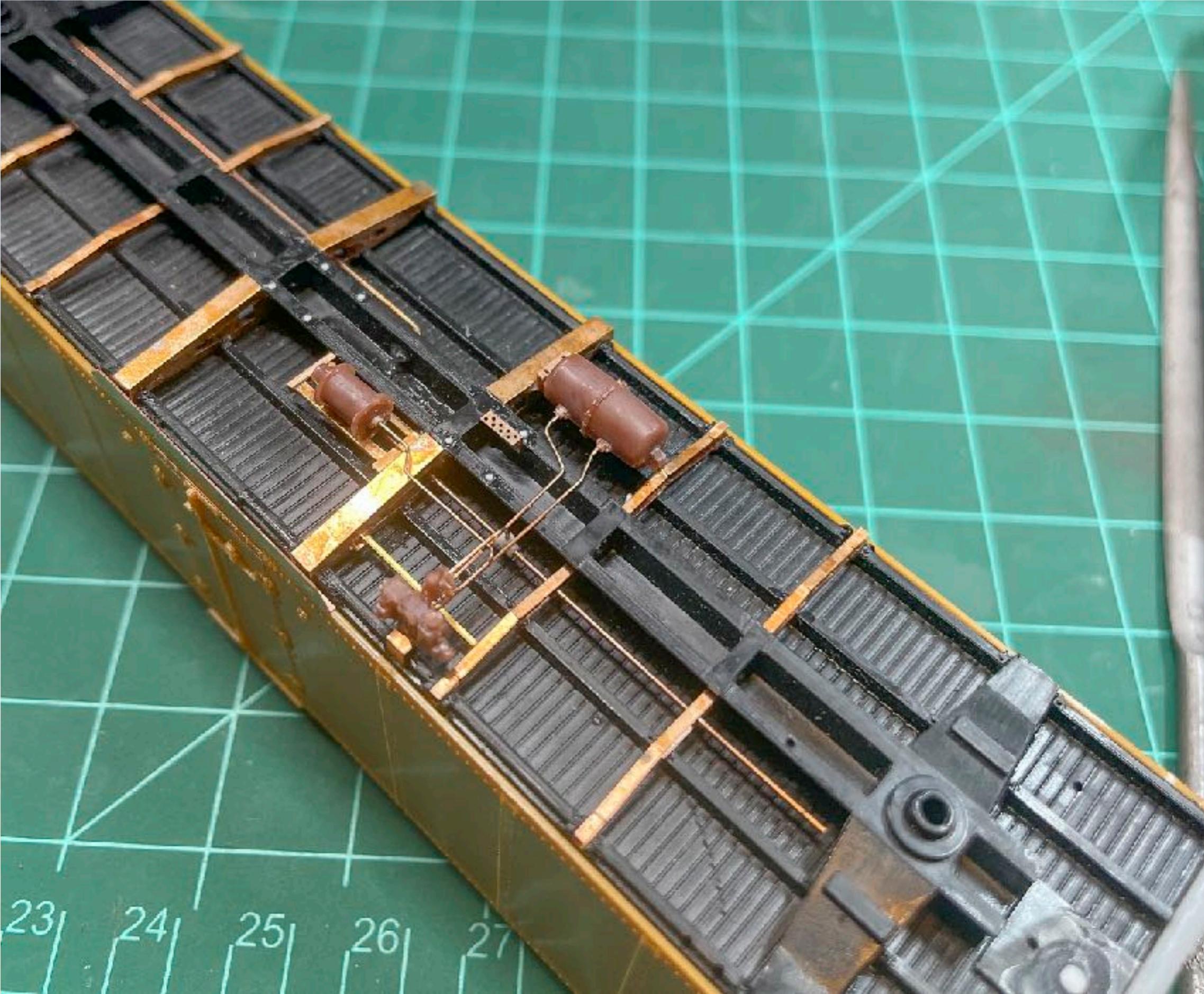
Etched brake gear mounting hardware replicates that of the prototype



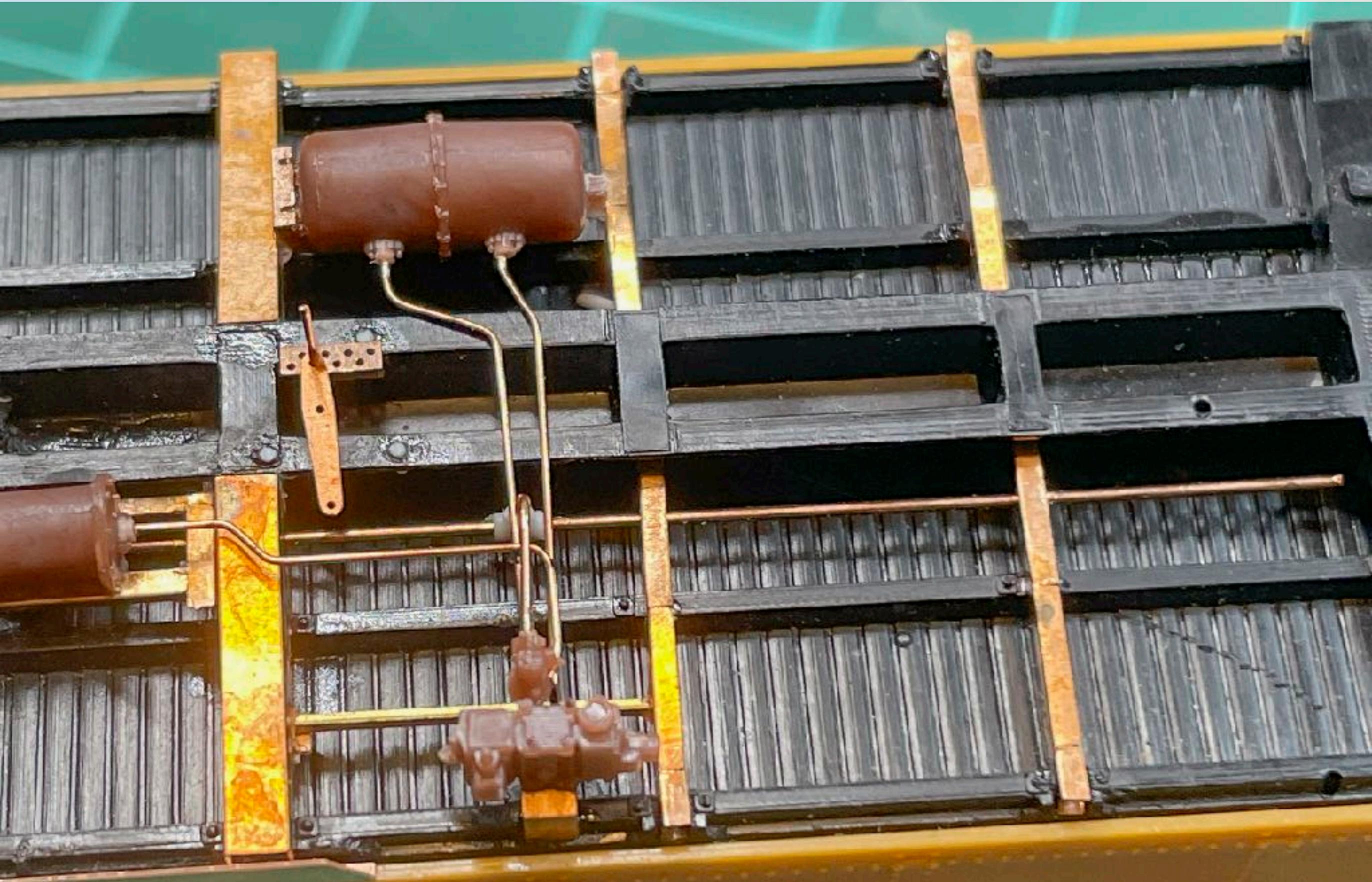
Etched brake gear mounting hardware replicates that of the prototype



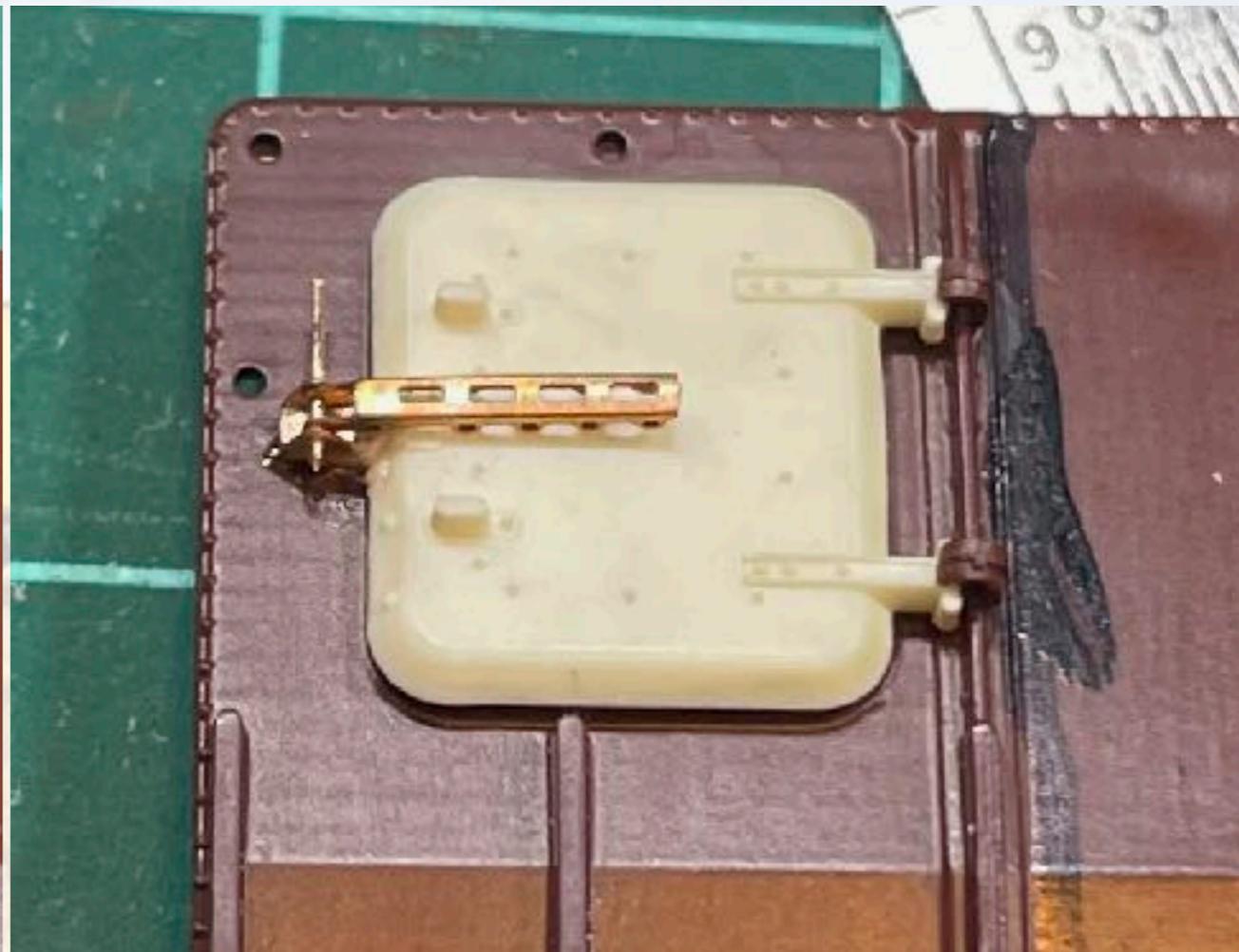
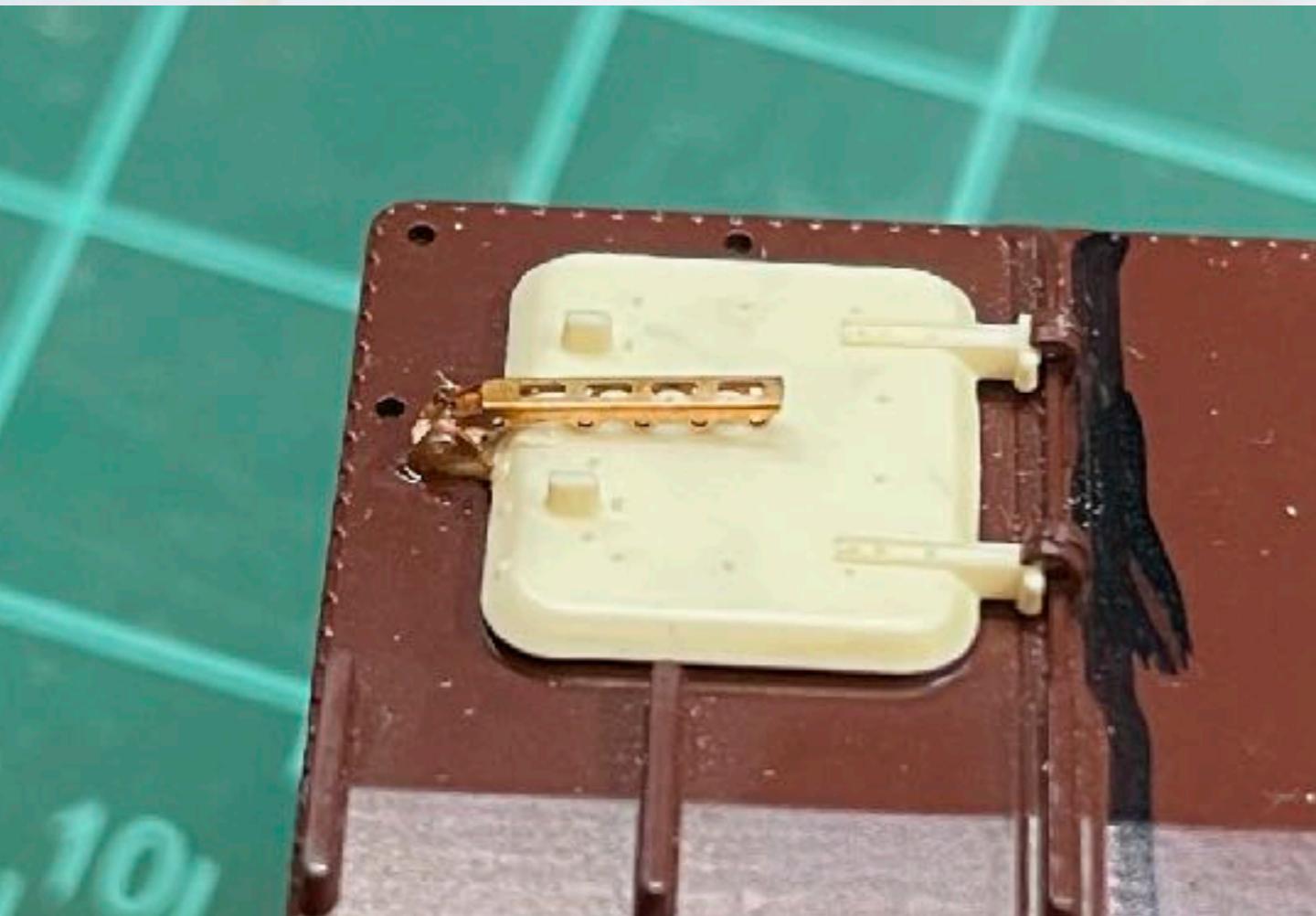
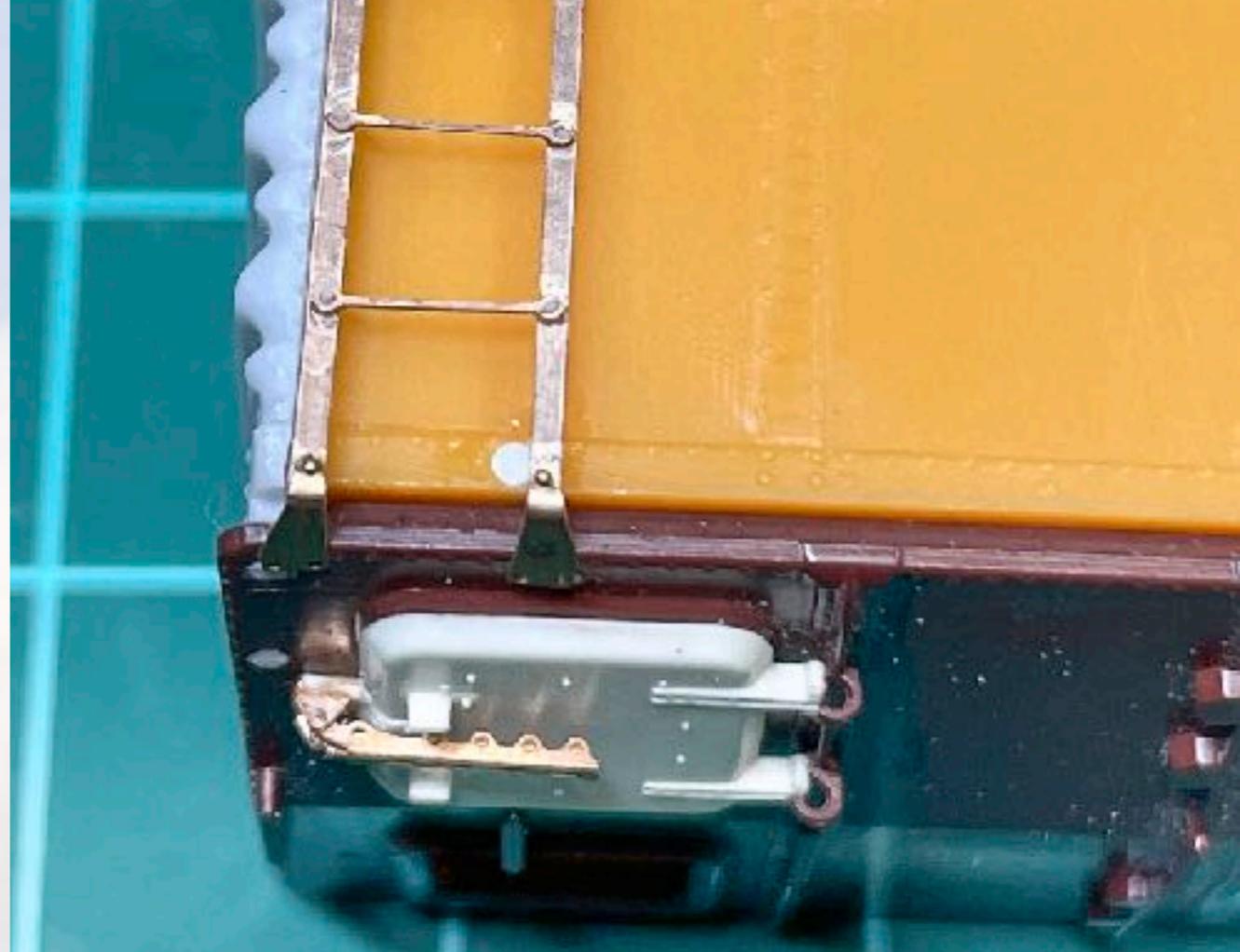
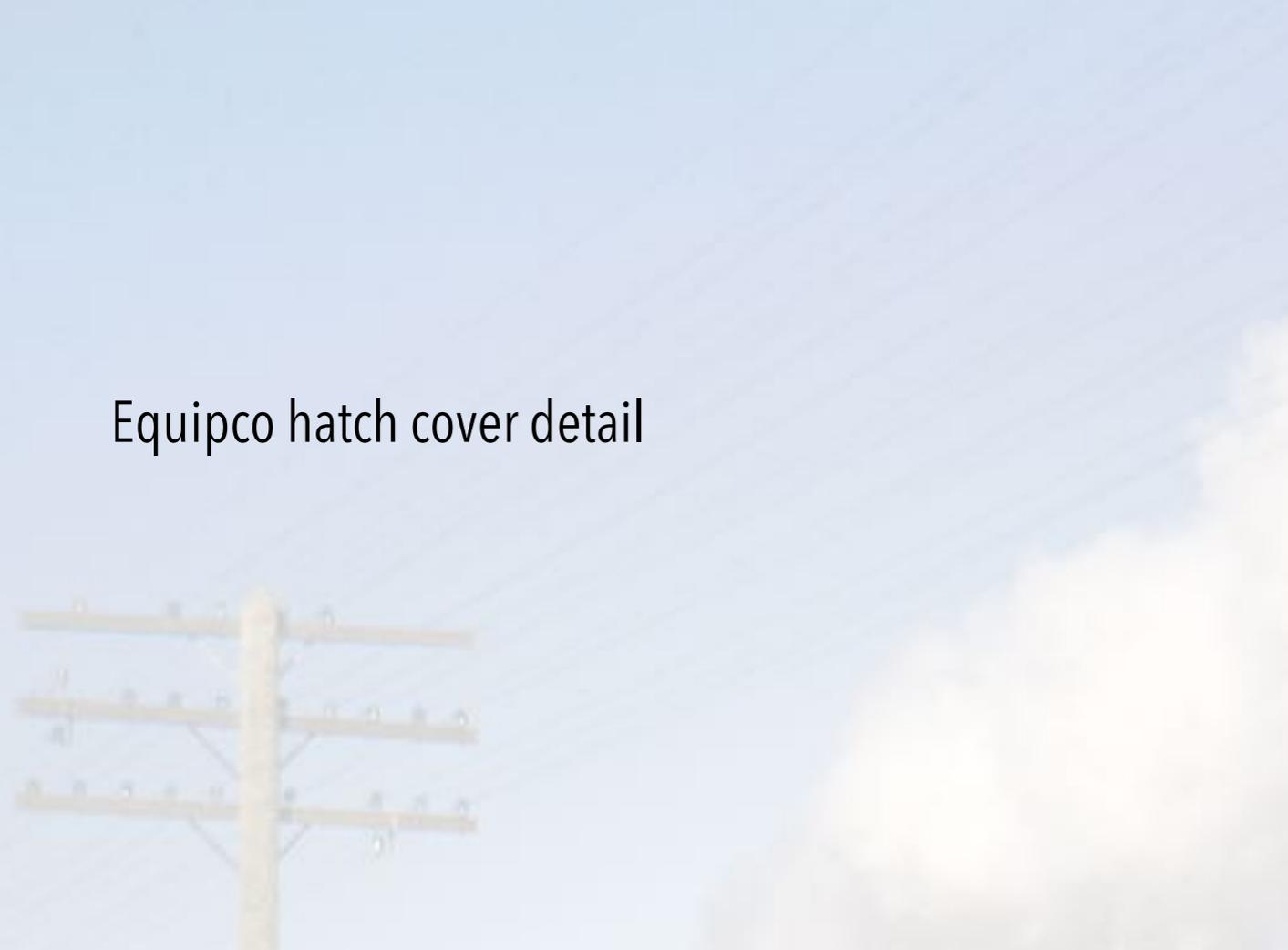
Wire brake piping and etched metal dead lever



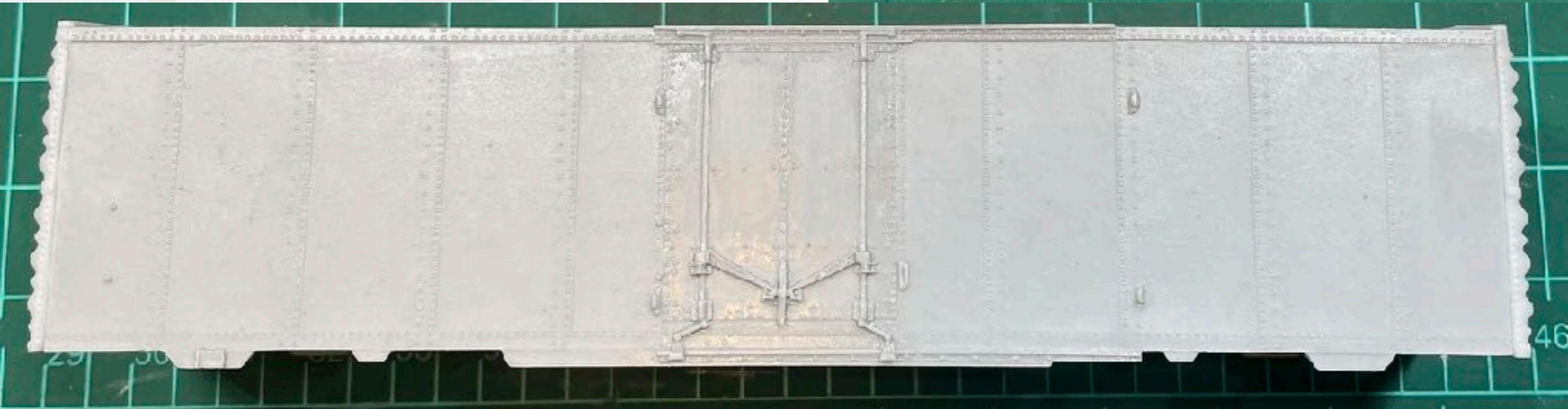
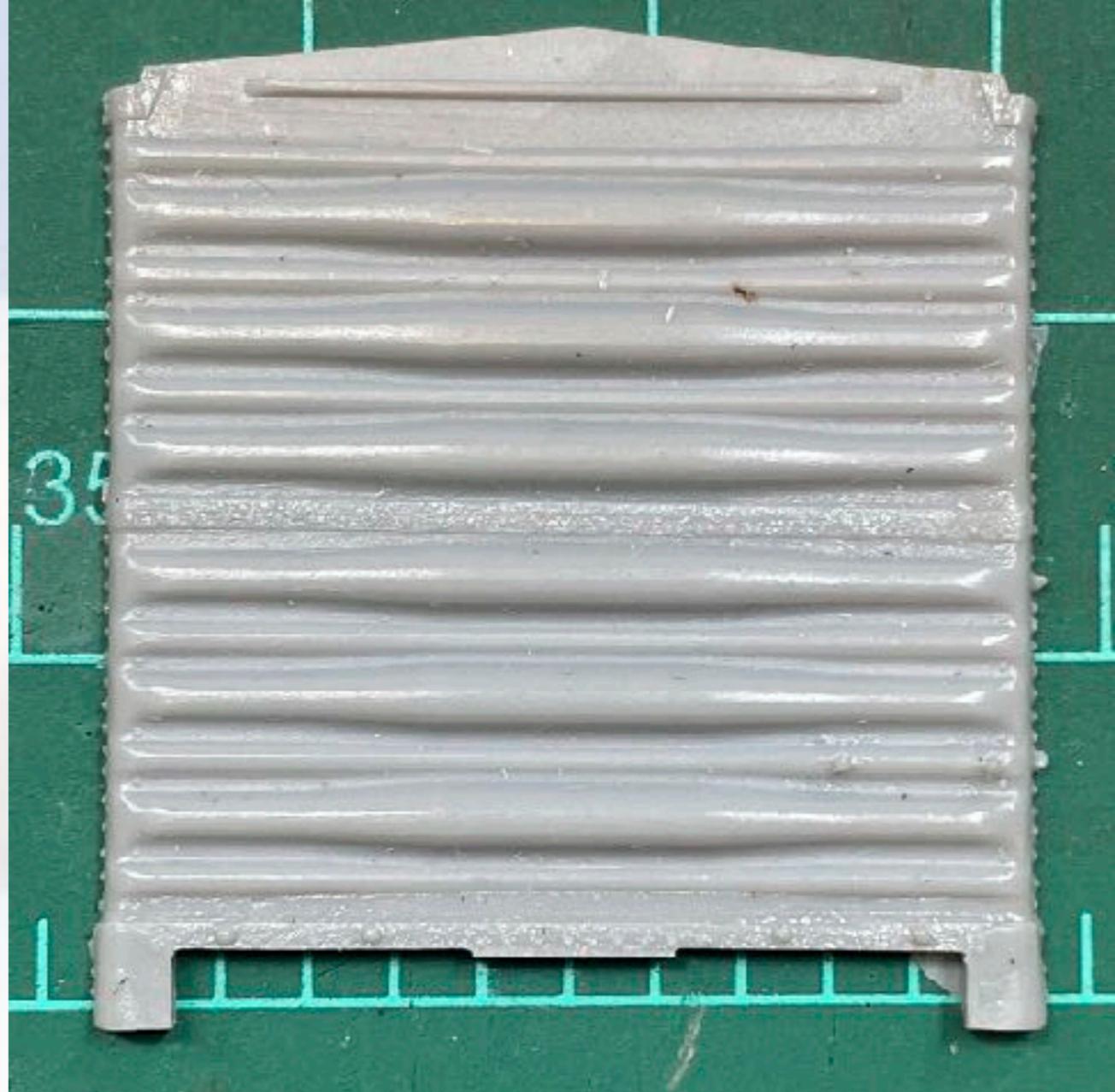
Wire brake piping and etched metal dead lever



Equipco hatch cover detail



Side and ends for Sunshine R-40-26



New end, left and old, right



Modified roof



New floor/underframe



New floor/underframe



New underframe pattern that will also incorporate all the various etchings for crossbearers, crossties, brake arrangement, etc...



... and Sunshine underframe for comparison



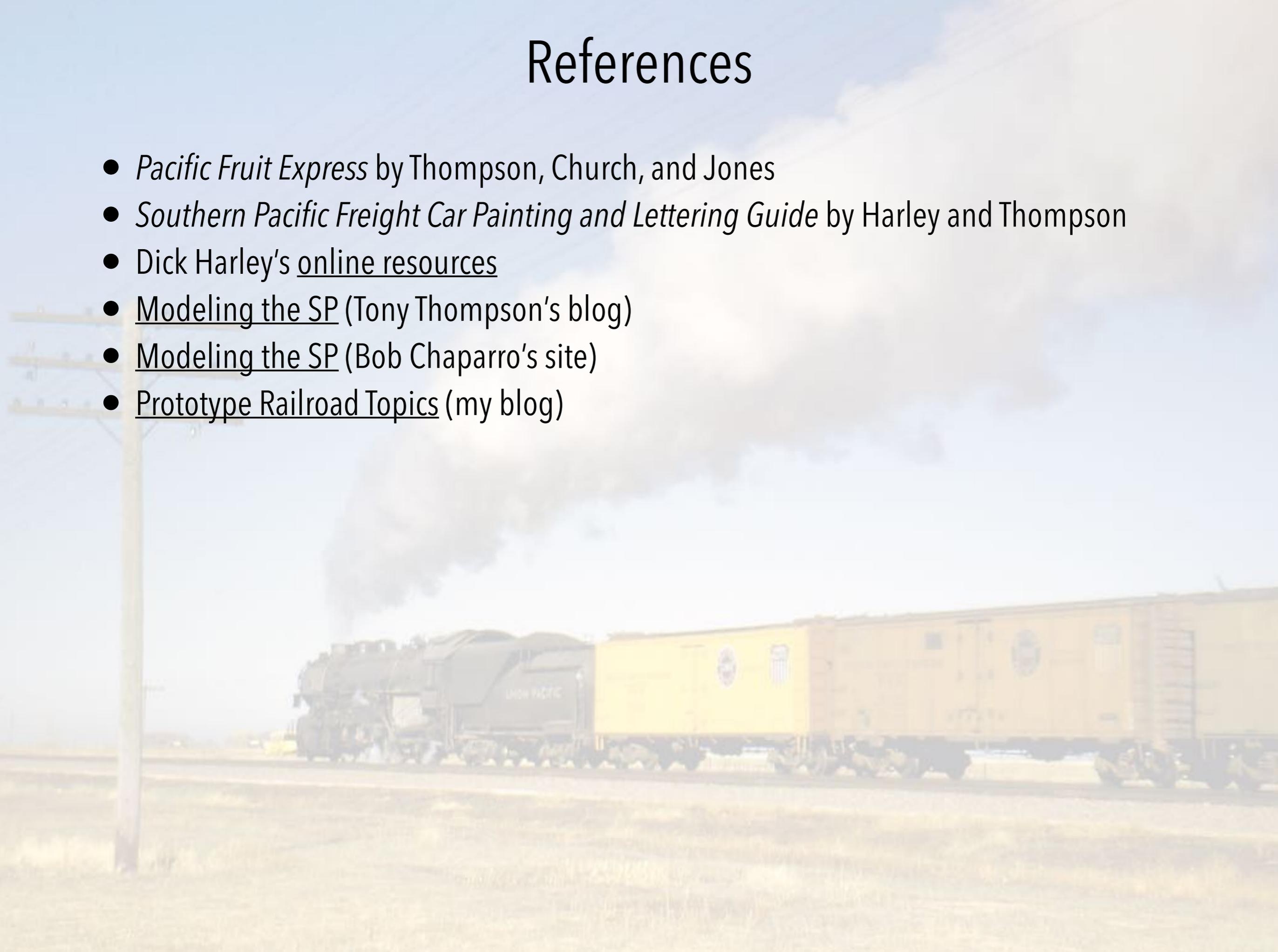
Accurail 8500-series "plug door" steel reefer could be 'bashed into a credible R-40-26



- Alternate center rivets
- Modified side sill
- Replacement ends and underframe
- Integral ladders/sill steps

References

- *Pacific Fruit Express* by Thompson, Church, and Jones
- *Southern Pacific Freight Car Painting and Lettering Guide* by Harley and Thompson
- Dick Harley's online resources
- Modeling the SP (Tony Thompson's blog)
- Modeling the SP (Bob Chaparro's site)
- Prototype Railroad Topics (my blog)



Thank you

Andy Carlson
Bob Chaparro
Dick Harley
Richard Hendrickson
Frank Peacock
Anthony Thompson
Terry Wegmann
Bill Welch

This will be posted to prototopics.blogspot.com