Pacific Fruit Express
R-40-23, -25 and -26
Prototypes and Models

NERPM

29-30 May 2026

Thank you

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Why talk about the R-40-23, -25 and -26?

With 10,000 total cars built, the R-40-23, -25 and -26 were a significant portion of the overall PFE fleet of the late 40s to the 70s. Given their prominence, good models of them are a must for most modelers of the late 40s to the 70s.

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

Michael Urac Collection

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

Roseville, California, 1939, John C. LaRue, Jr. Collection

R-40-10

Michael Urac Collection

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

Courtesy of Tony Thompson

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

Fort Bragg, North Carolina, October 18, 1951, Col. Chet McCoid, Bob's Photo

R-40-20

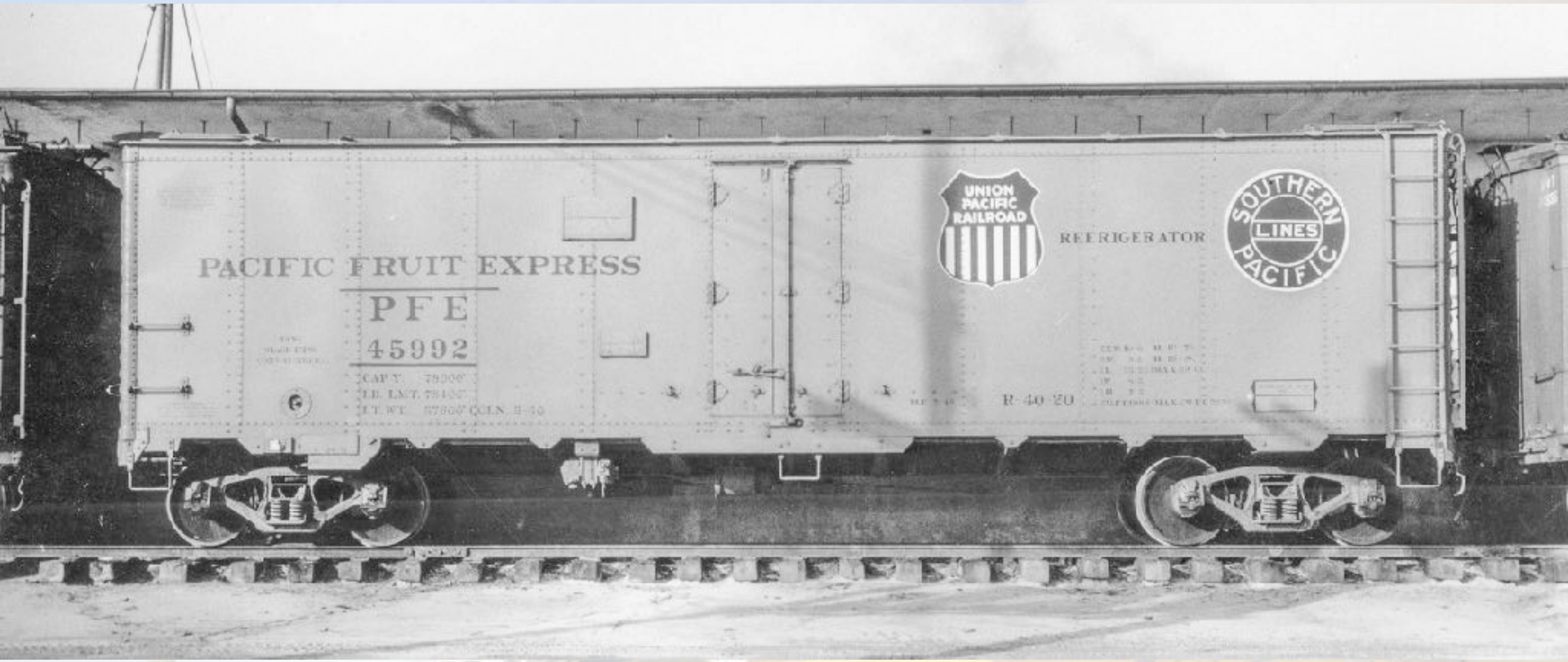
The R-40-20 class was delivered during the war, in January through April, 1945, car numbers 45701-46702*. They were nearly identical to the R-40-14 with the most visible difference being the card boards were mounted to the left of the doors. A far less discernible detail was that the -20s were 1.5 inches 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

Fort Bragg, North Carolina, December 26, 1951, Col. Chet McCoid, Bob's Photo

R-40-20

J. P. Barger Collection

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

Pullman-Standard photo

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

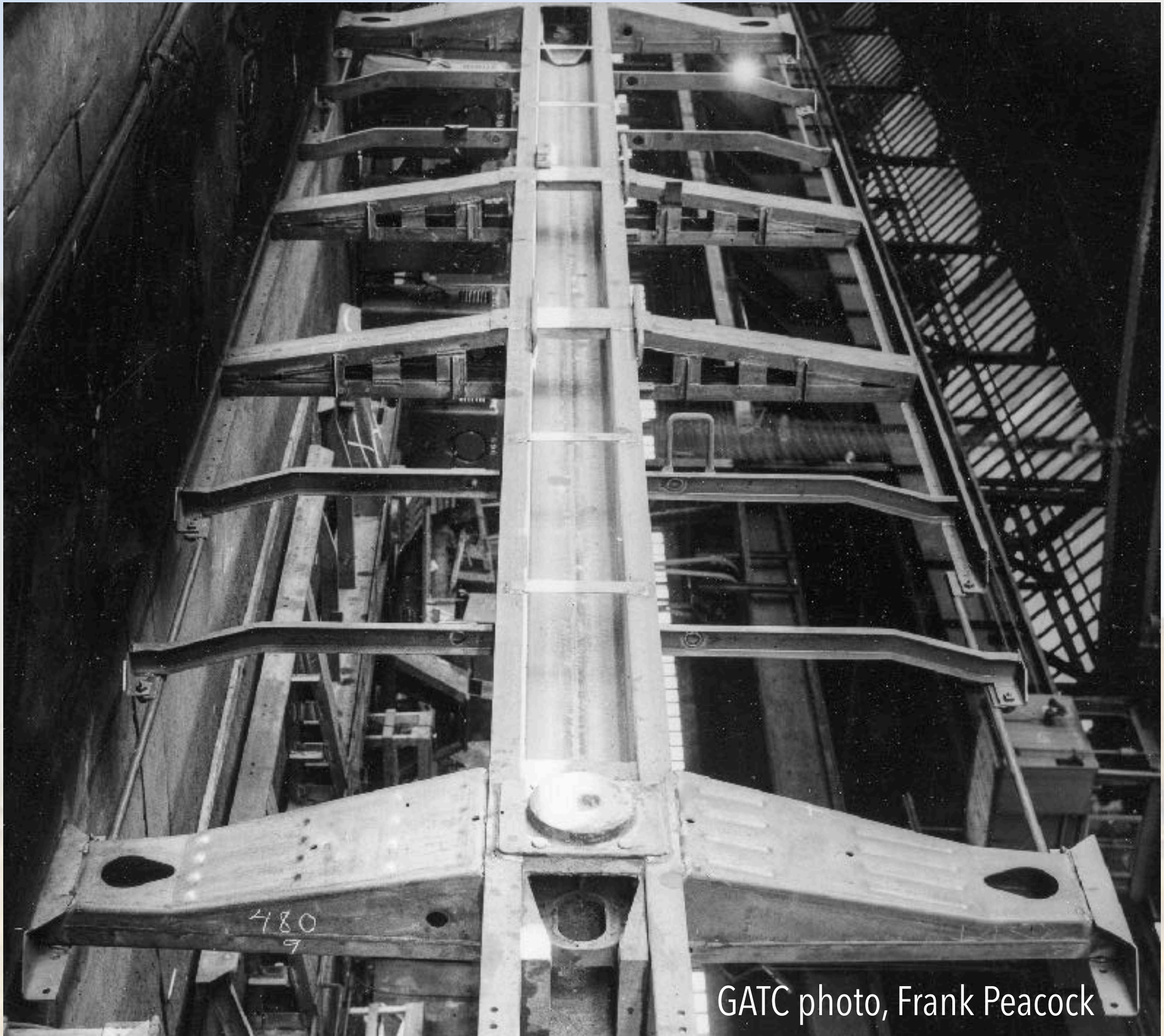
October 12, 1947, Will Whittaker photo

R-40-23

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

Union Pacific welded underframe

Dick Harley photo



GATC photo, Frank Peacock

Dick Harley photo

Dick Harley photo

Dick Harley photo

R-40-25

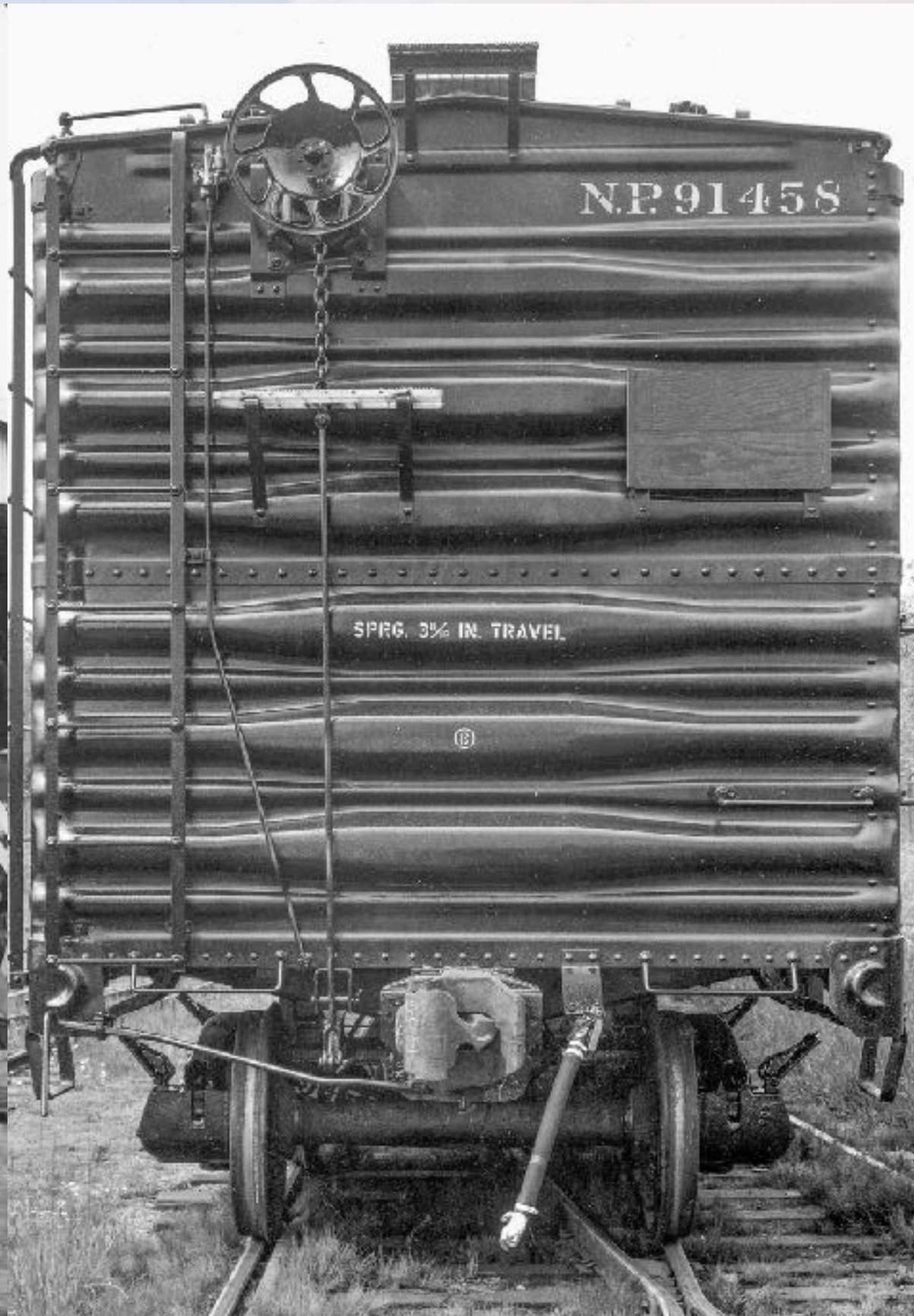
The R-40-25 class, built in 1949, was very similar in looks to the R-40-23. Major differences included diagonal panel Murphy roofs, Improved Dreadnaught ends with a narrow corrugation at the top of the ends and straight, horizontal bottom on the uppermost main end corrugation, Preco FK-6 mechanical fans, 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


P.F.E.2001
SOUTHERN PACIFIC LINES
REFRIGERATOR
UNION PACIFIC
PACIFIC FRUIT EXPRESS
P.F.E.
2001
R-40-25

R-40-25


P.F.E.2001
SPRG. 3⅜ IN. TRAVEL.
I.W. WROUGHT STEEL WHEELS

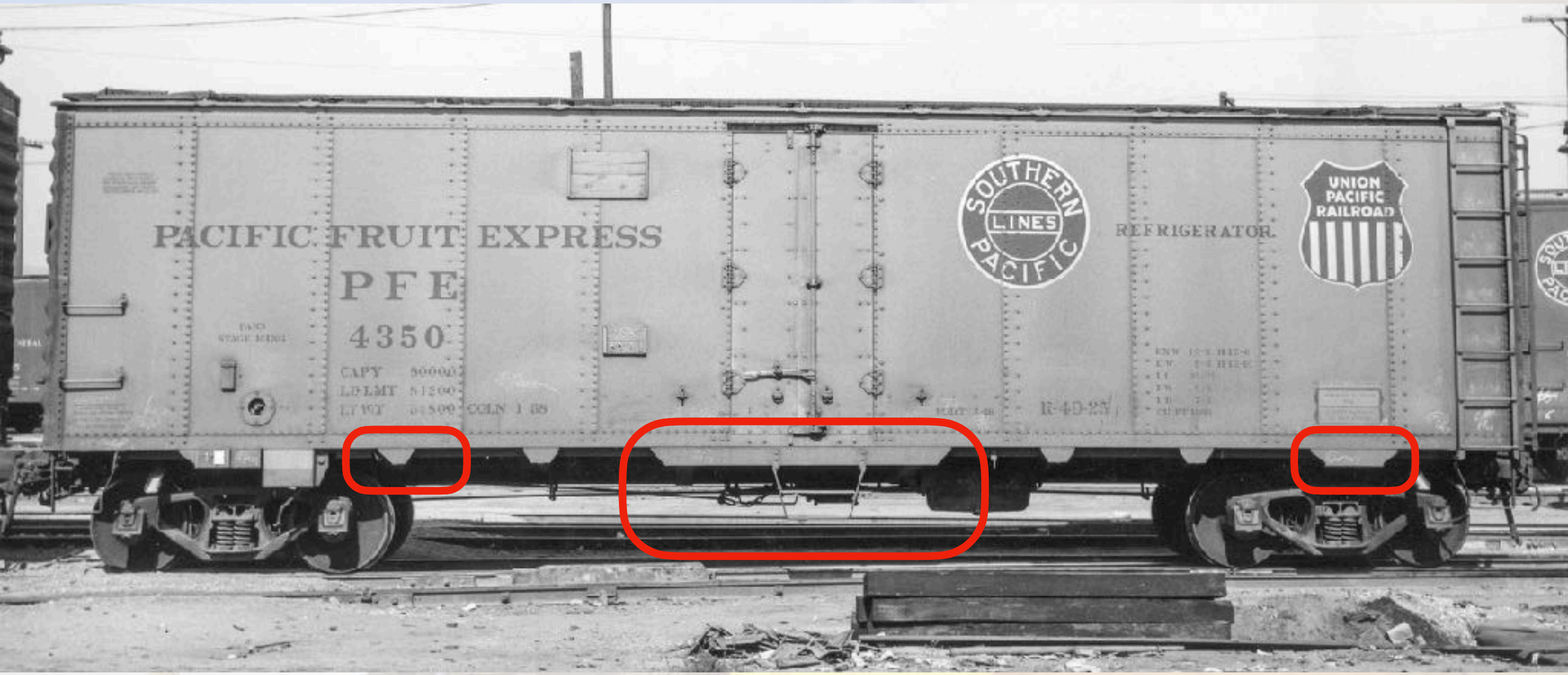

N.P.91458
SPRG. 3⅜ IN. TRAVEL

R-40-25

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

National City, California, March, 1957, Col. Chet McCoid, Bob's Photo

R-40-25

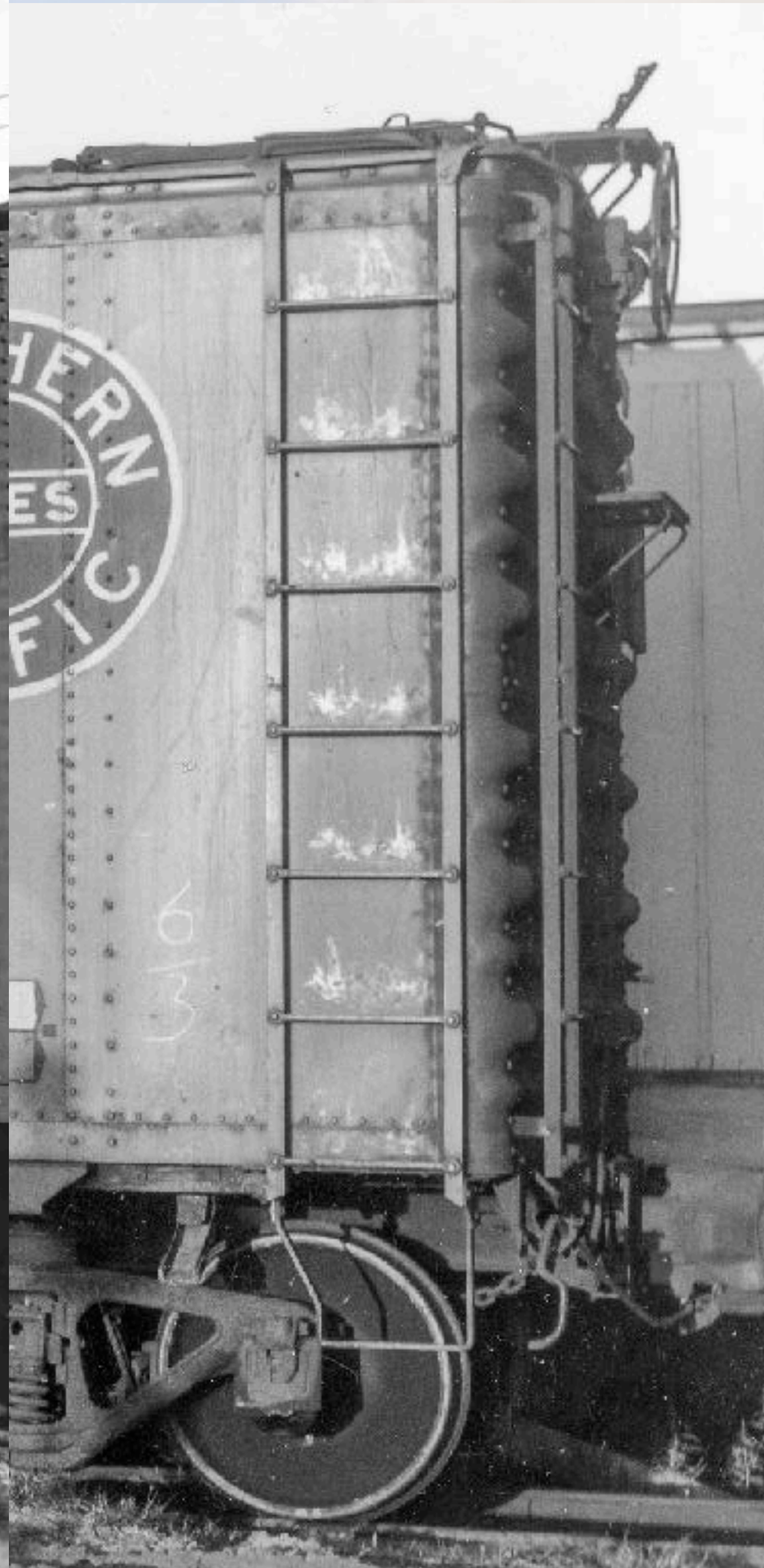


The crosstie support tab adjacent to the fan mechanism was shaped differently. The bolster tabs were notched top and bottom, but the door side sill support was only notched at top. Note that the step is not centered

J. P. Barger collection


P.F.E.2139


UNION
PACIFIC
REFRIG RATOR



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

Fort Bragg, North Carolina, December 19, 1951, Col. Chet McCoid, Bob's Photo

R-40-26

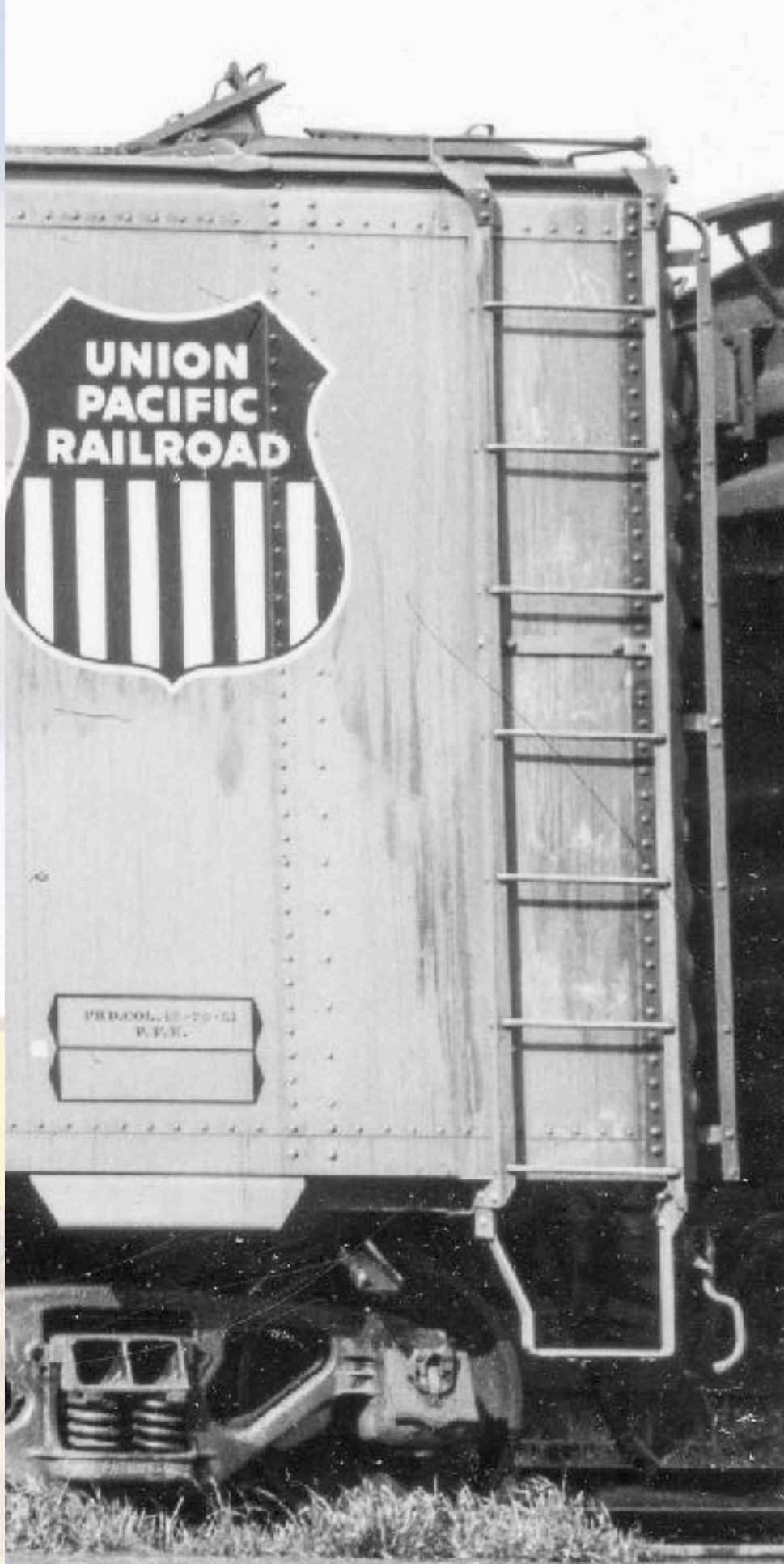
This excellent image with its low lighting highlights many of the details of the welded underframe. Note the updated paint and lettering with the lines dropped above and below the reporting marks.

National City, California, March, 1957, Col. Chet McCoid, Bob's Photo


P.F.E.8001
SPRG. 3½ IN. TRAVEL
UNION PACIFIC RAILROAD
REFRIGERATOR

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

Cedar Hill yard, New Haven,, February 28, 1954, Col. Chet McCoid, Bob's Photo

The 1948 UP Medallion

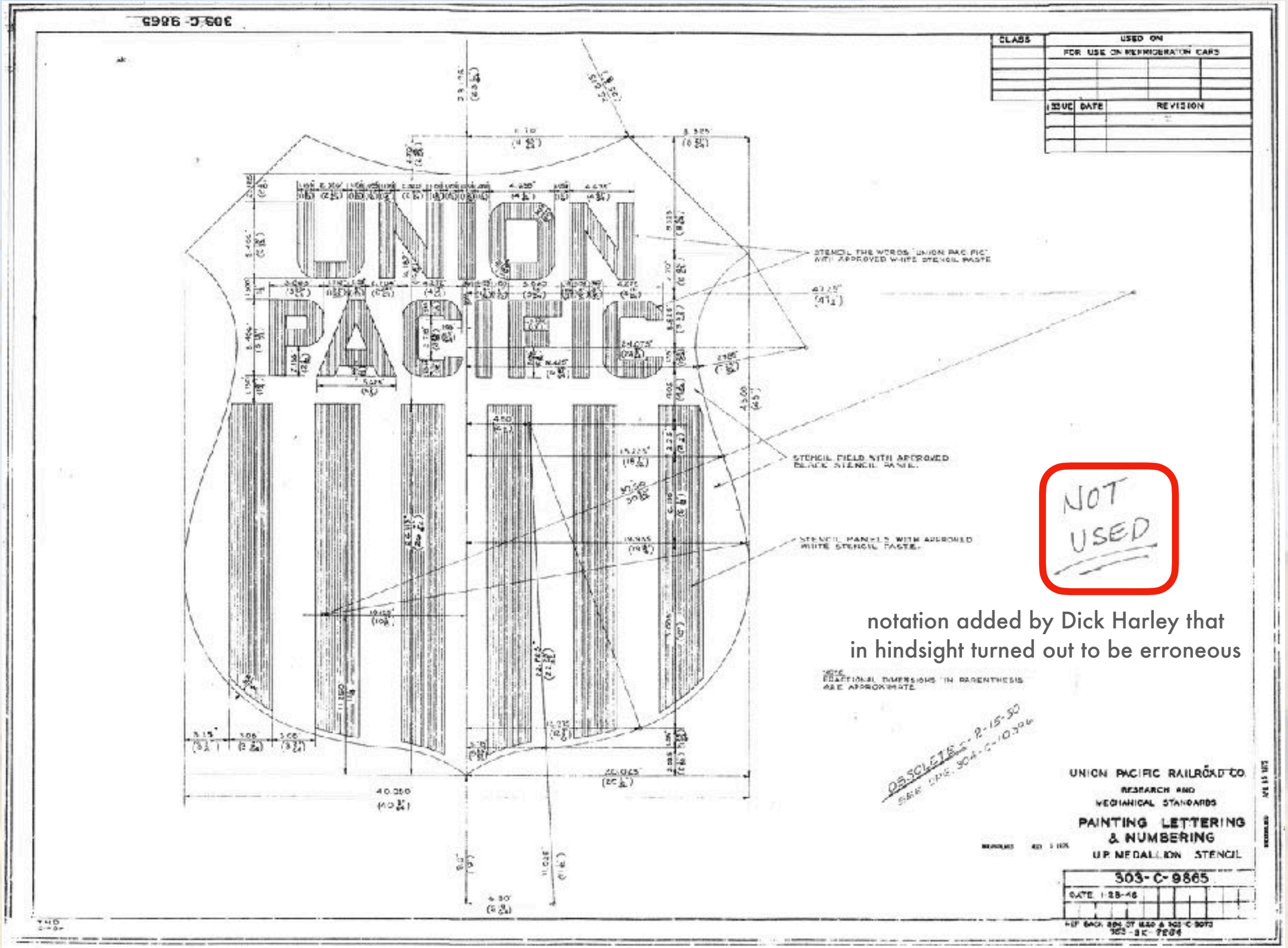
The 1948 UP Medallion

The 1948 UP Medallion

The 1948 UP Medallion

The 1948 UP Medallion

The 1948 UP Medallion



notation added by Dick Harley that in hindsight turned out to be erroneous

Detail Considerations for Modeling

Detail Considerations for Modeling

The Intermountain model of the R-40-23 is essentially a correct model of the R-40-23 class…
However, there are *many* things that could be improved…

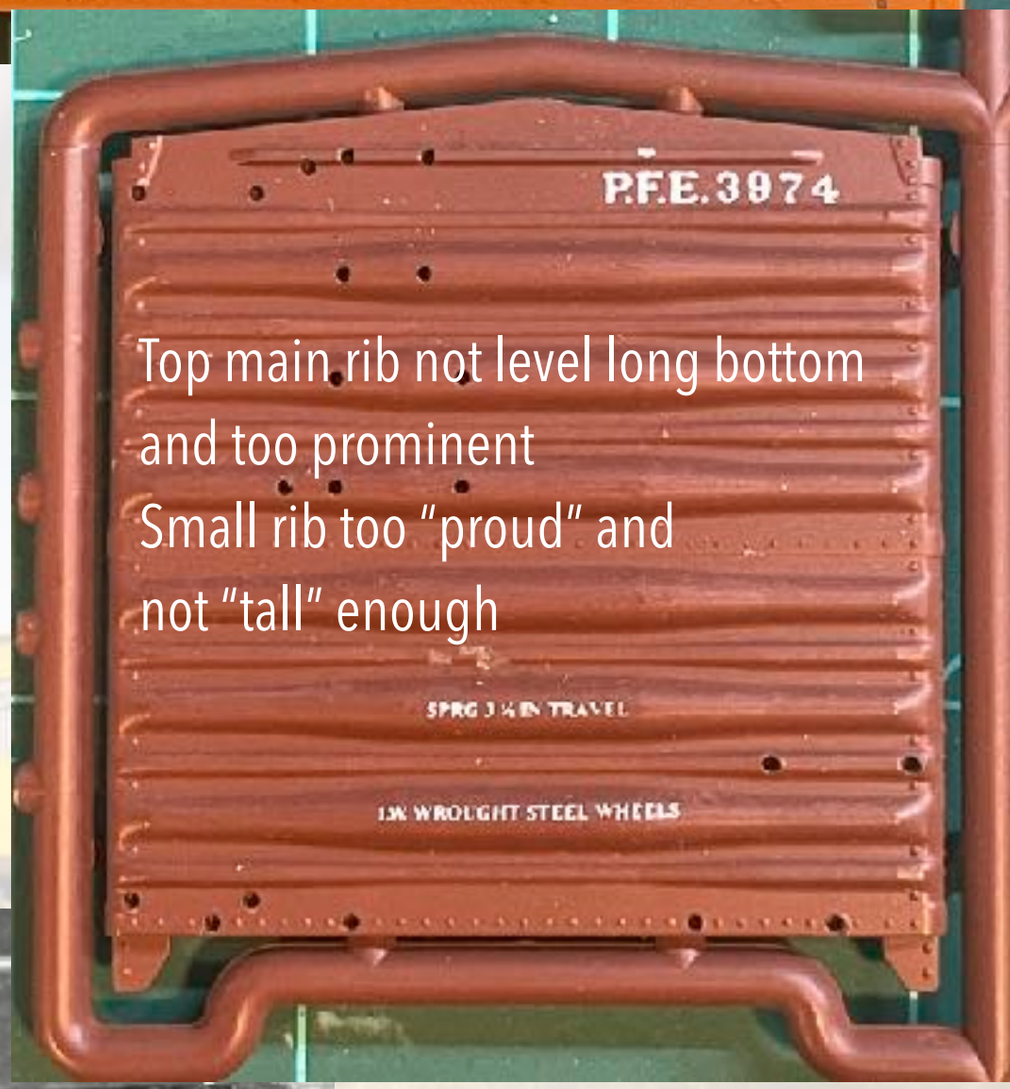
- Sill steps: oversized and ignore half of cars that had simple, single rung steps under doors
- Ladders: simple and largely "fudge" the arrangement at the top of the sides
- Sill support and bolster tabs are poorly rendered and not "flat"
- Oversized grabs
- Simple and/or hatch cover detail
- Poor rendering of Murphy rectangular panel roof
- Underframe lacking good detail of welded arrangement

Many of these shortcomings can be illustrated in the model of the R-40-25,
so I will jump to that

Poorly rendered lettering and incorrect UP medallion

Amarillo/Intermountain R-40-25

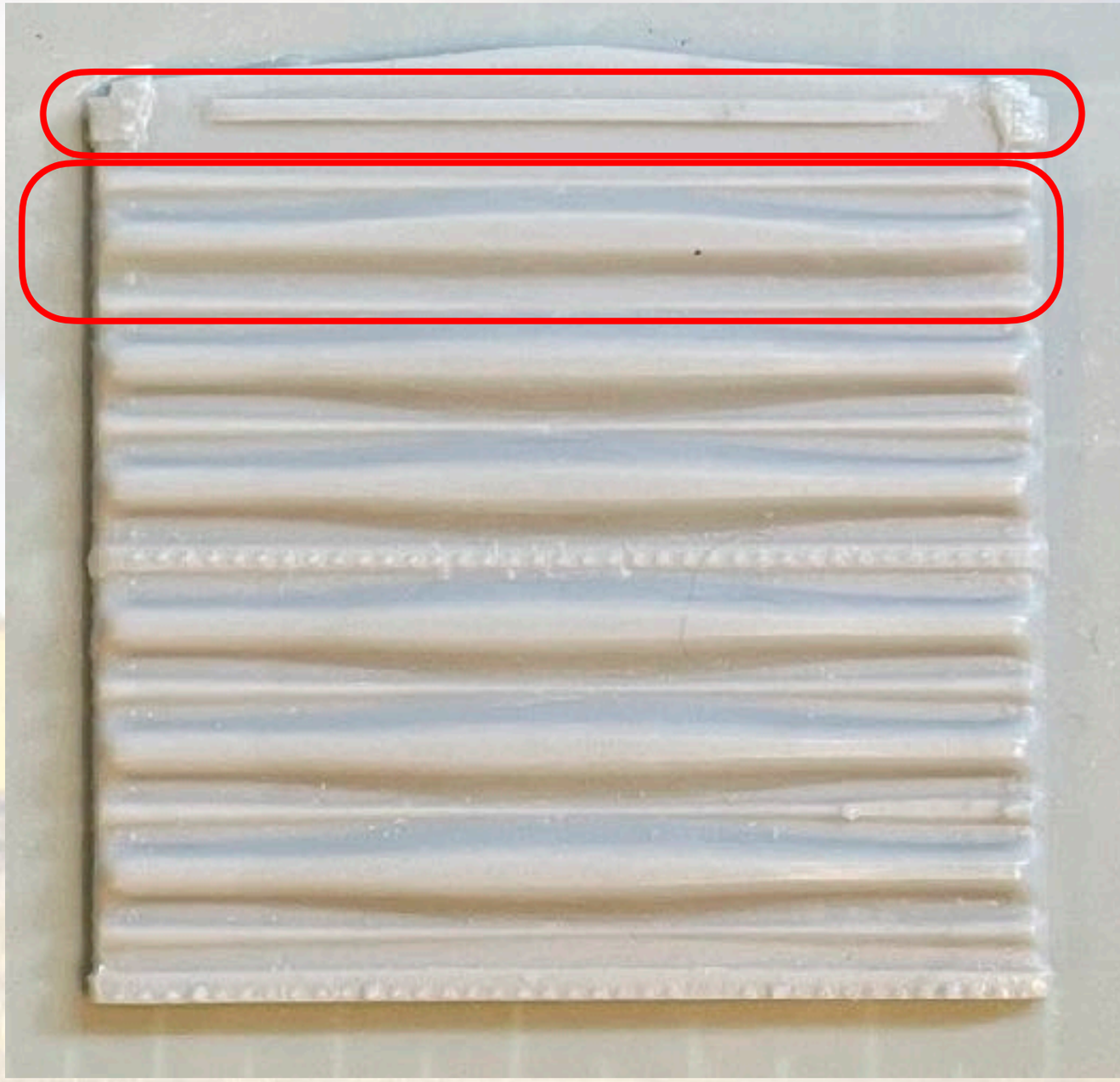
The collective effect of the various issues render the model a "stand-in" for an R-40-25



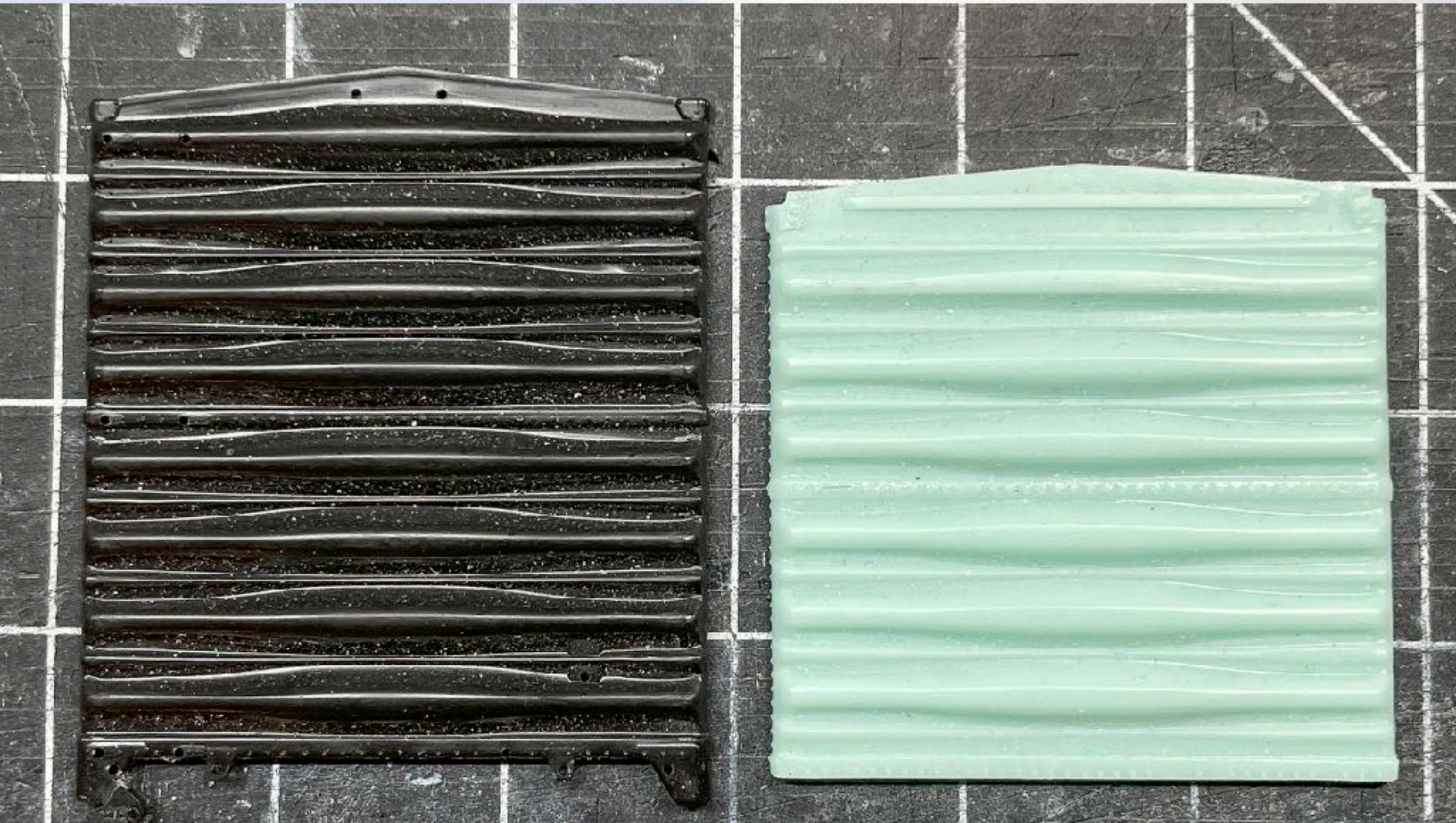
Top main rib not level long bottom and too prominent
Small rib too "proud" and not "tall" enough

Tabs have "wavy" surface

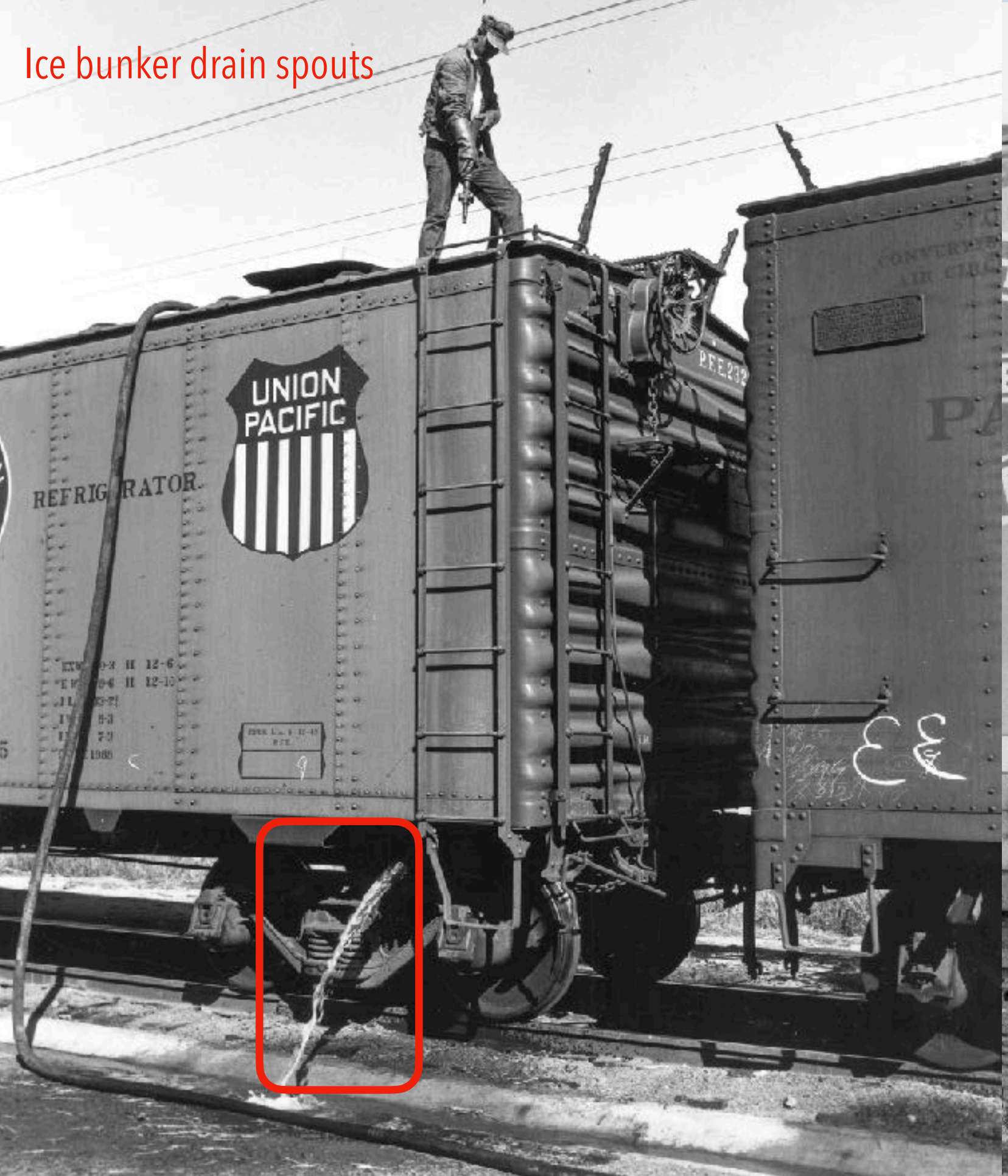
New ends were created incorporating the flat-bottomed, shallower main top rib and wider, flatter small stiffener at top

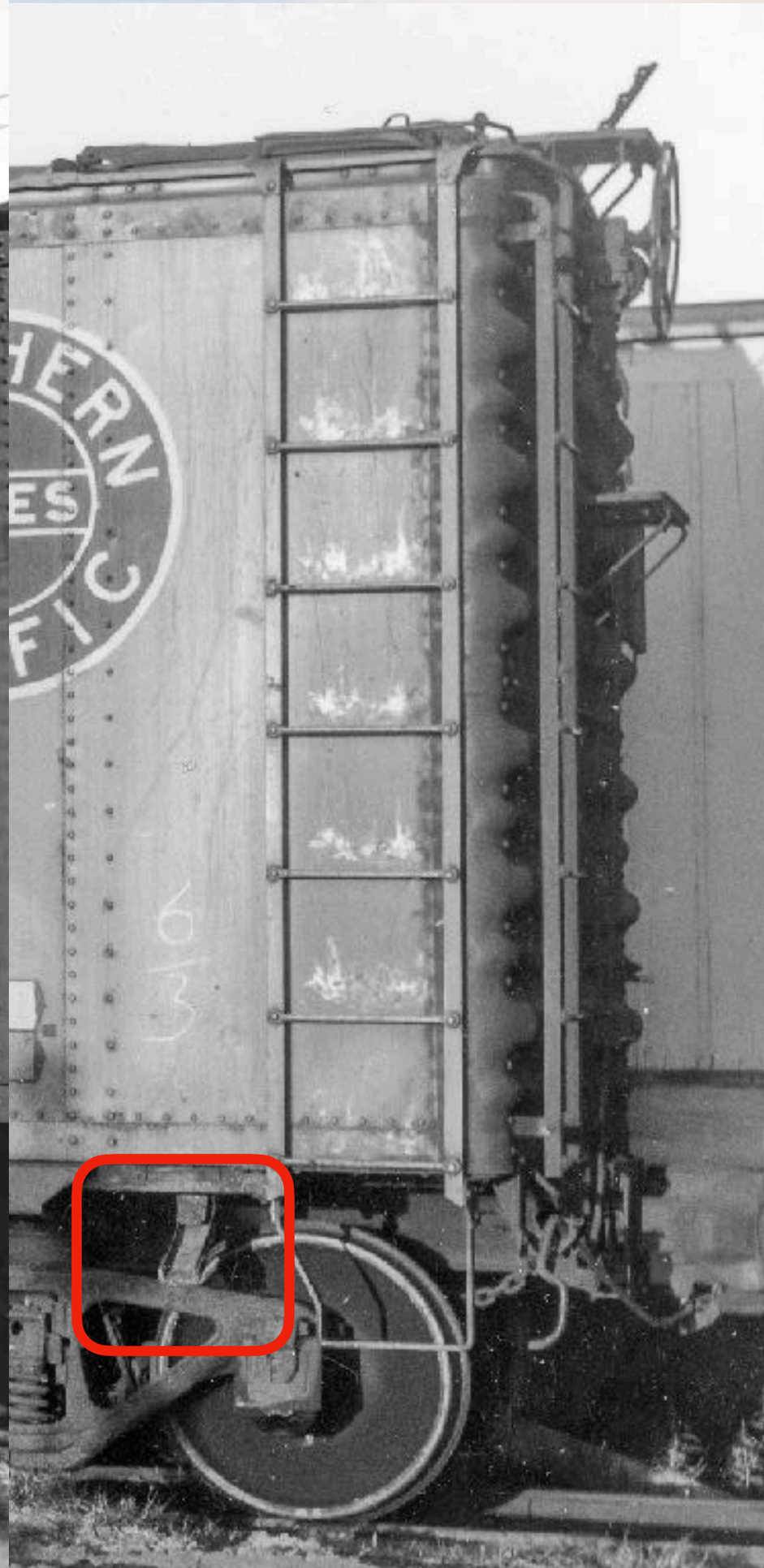


A commercial end was shortened and narrowed and a “plain top section from the Intermountain end was added. The top main rib was reshaped and a new stiffener at top was added. The new end was made from five pieces

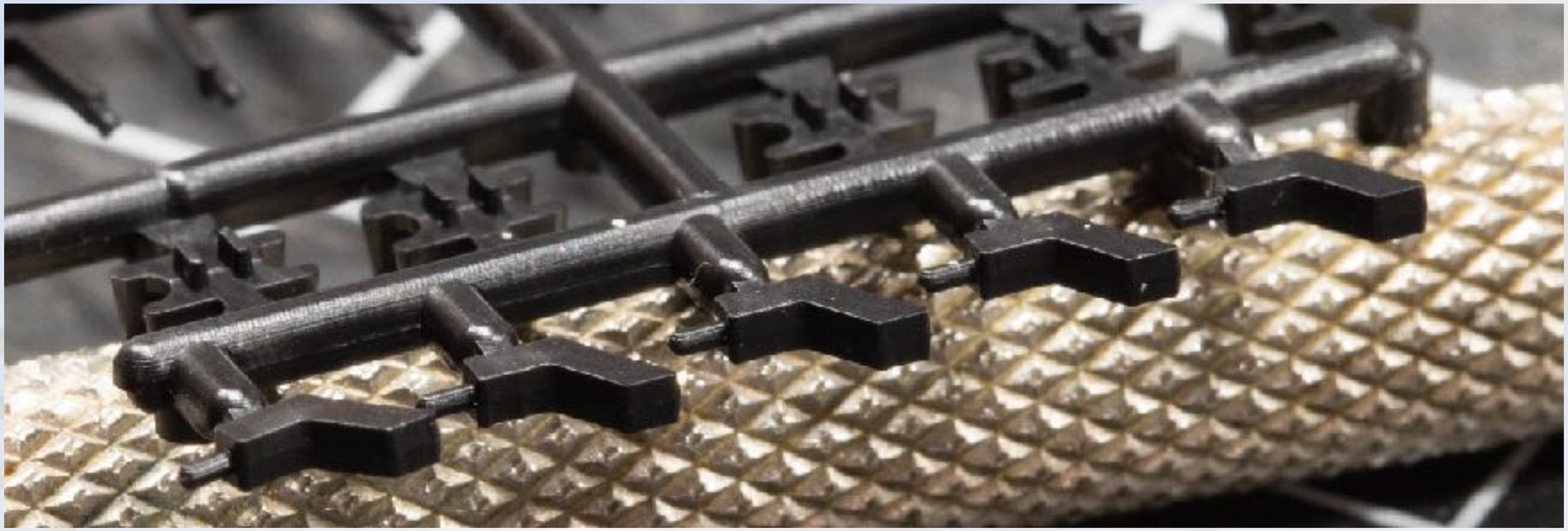


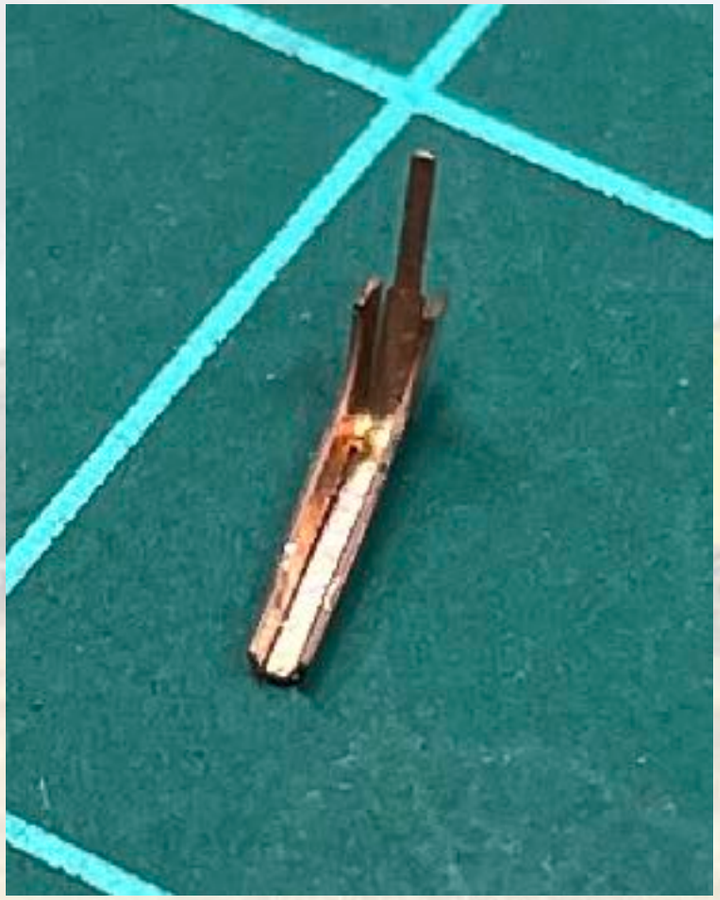
Ice bunker drain spouts



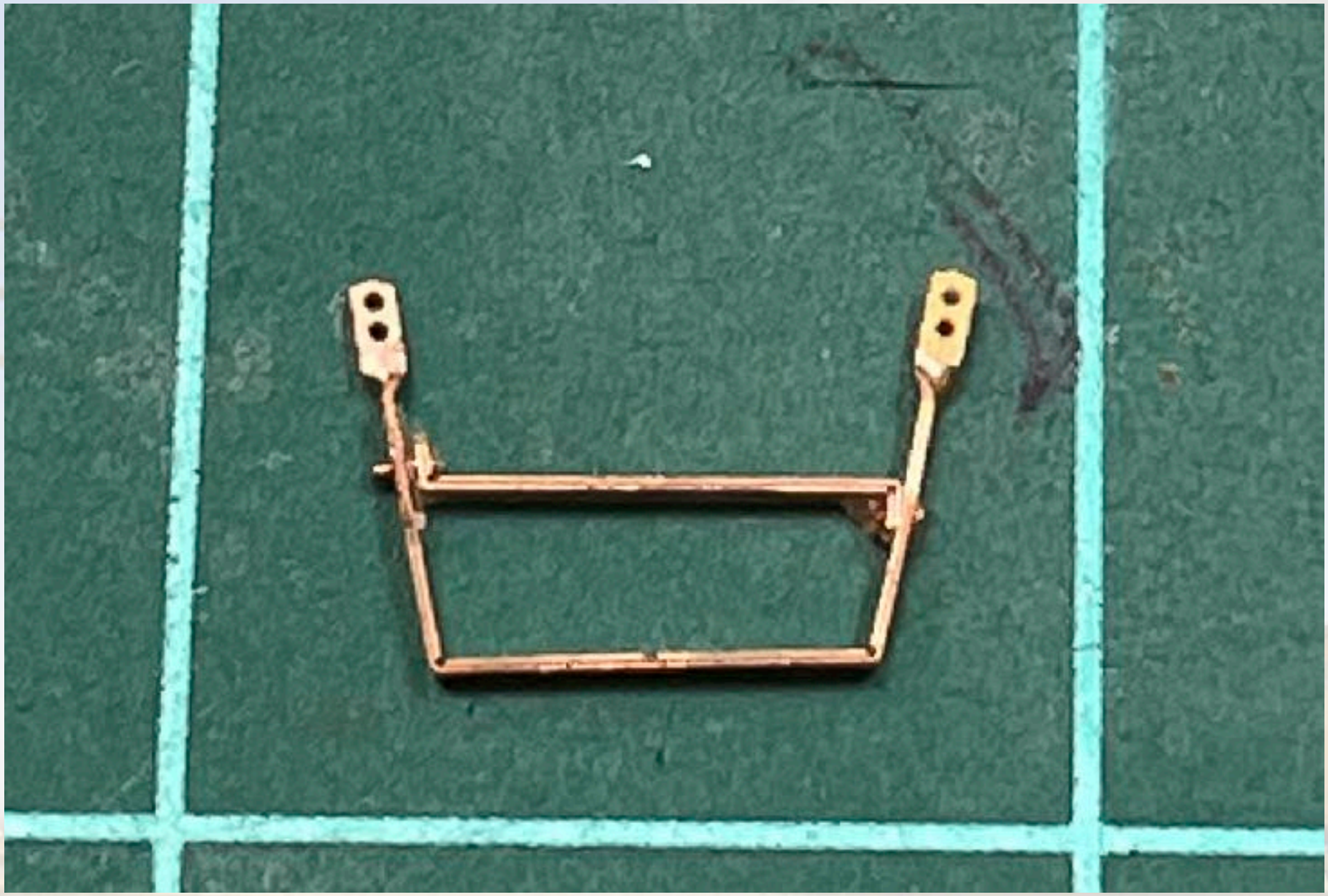


Ice bunker drain spouts have generally been poorly rendered in HO scale

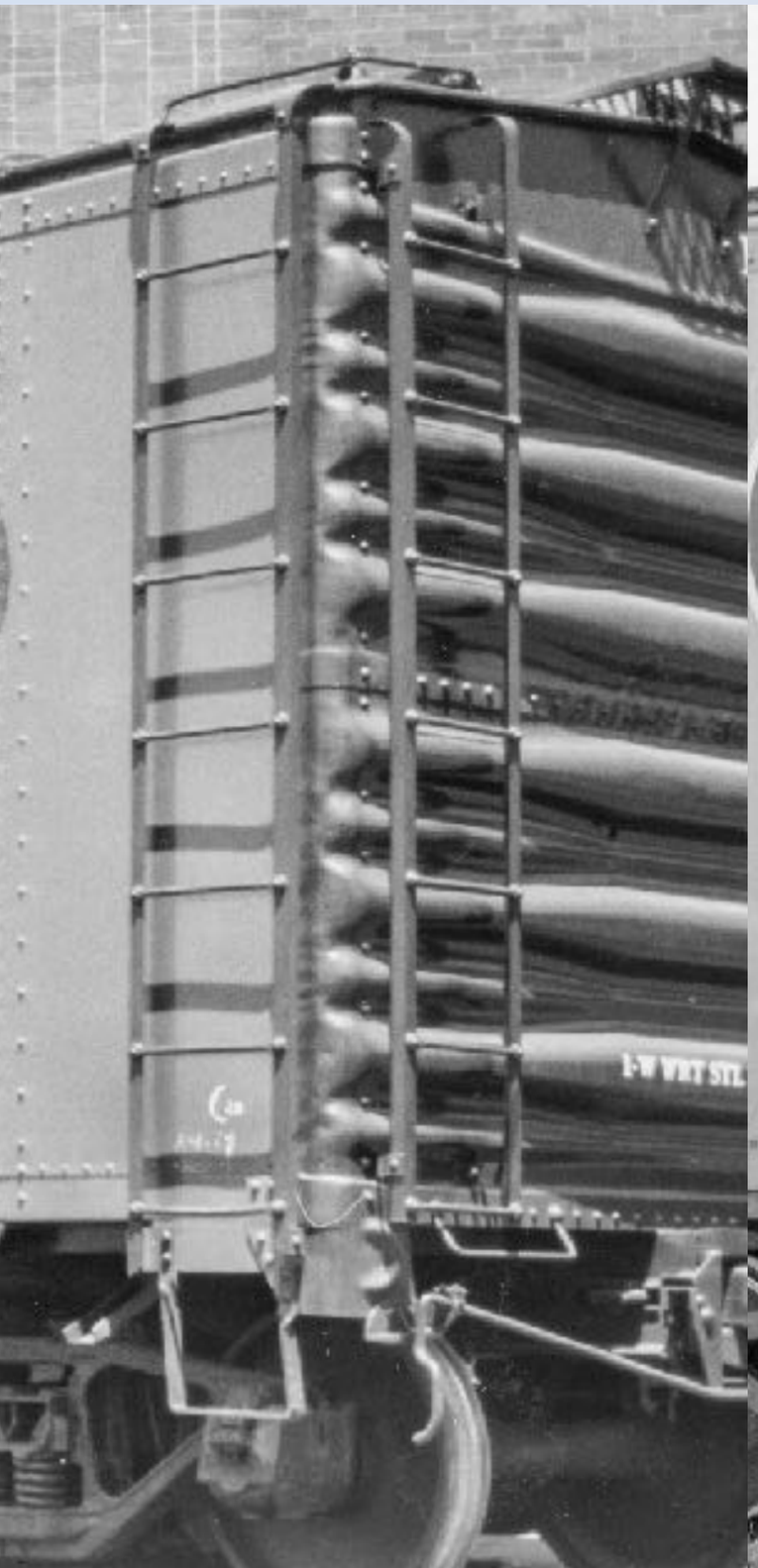




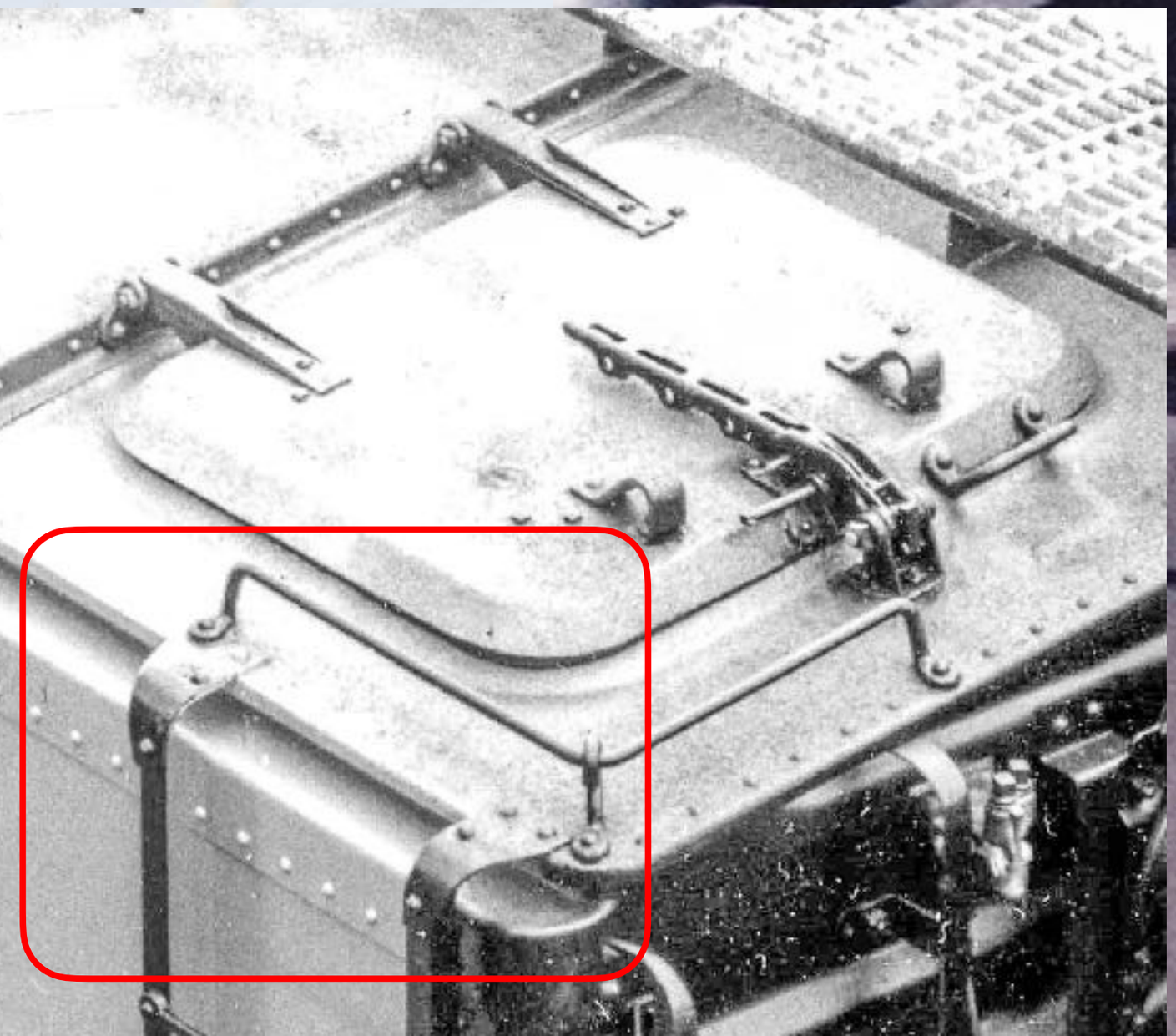
New center sill step (pilot part… actual will be slightly different)

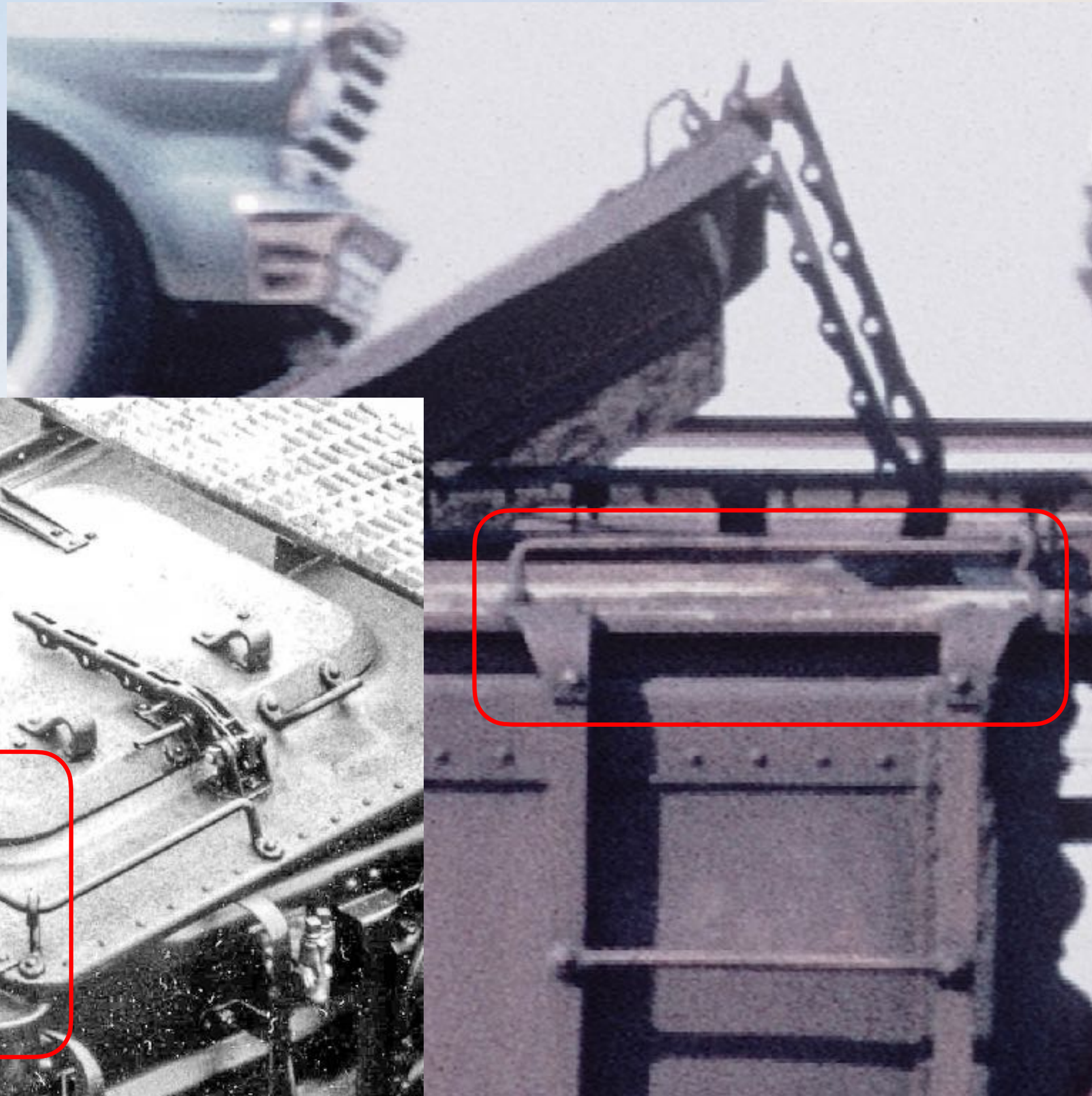


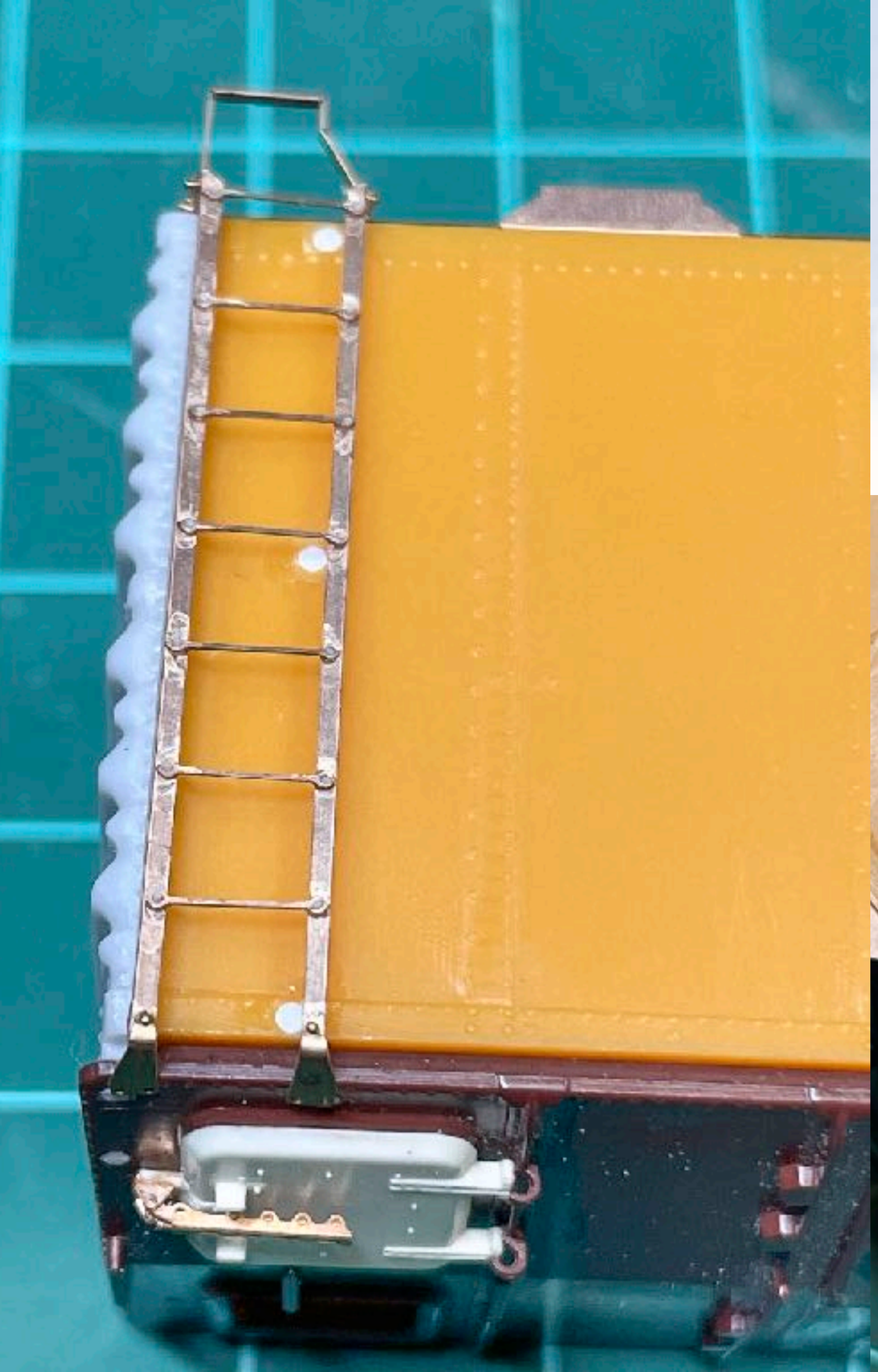
The ladders and sill steps of the R-40-23, -25, and -26 (shown L to R, respectively) represent an evolution. The bottom of the ladders and the steps on the -23 are attached to a small bulb angle below the side sill; those on the -25 and -26 are attached to the bottom of the side sill via riveted shapes, 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.



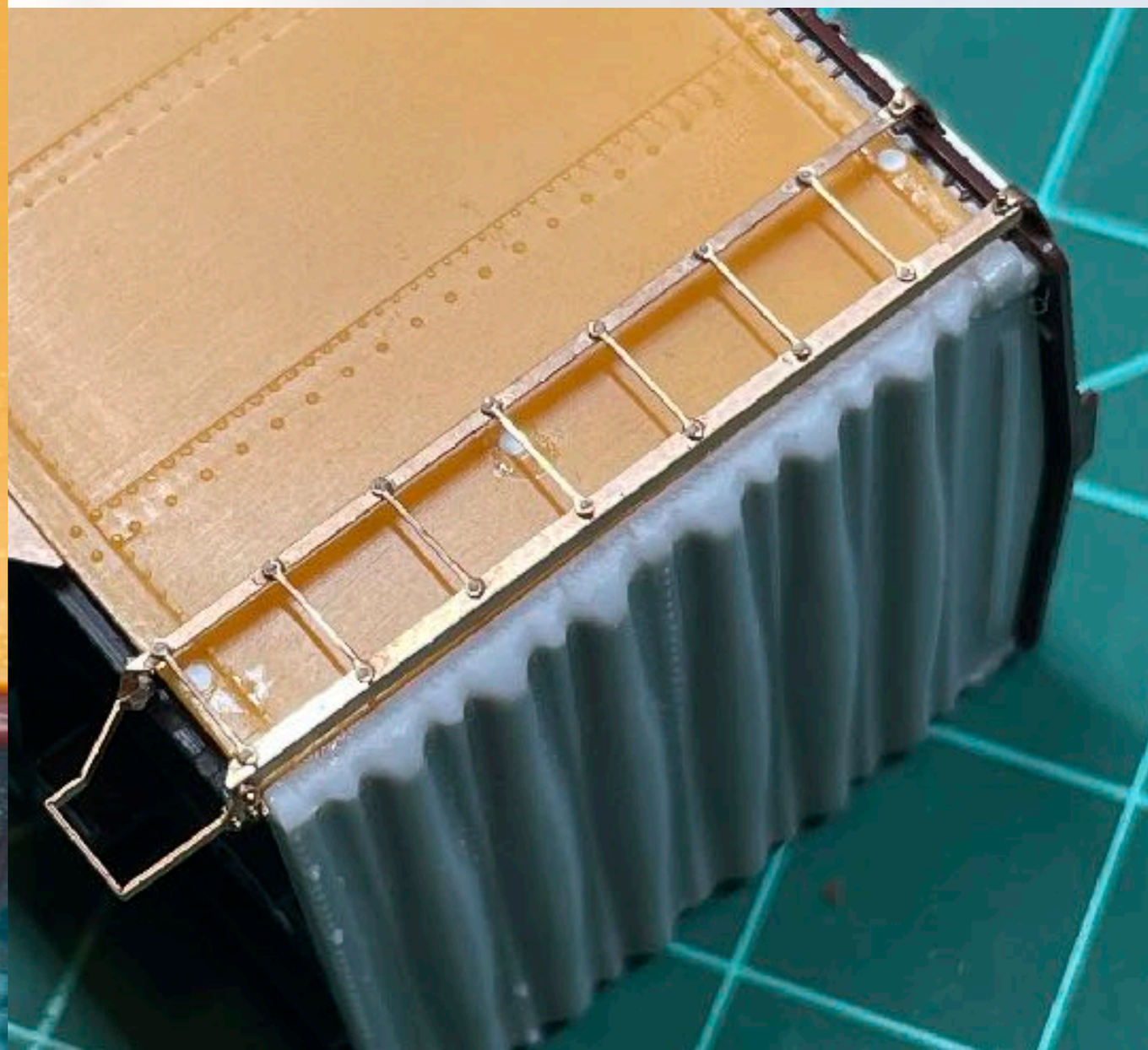
The cars had upper ladder mounts like those shown here



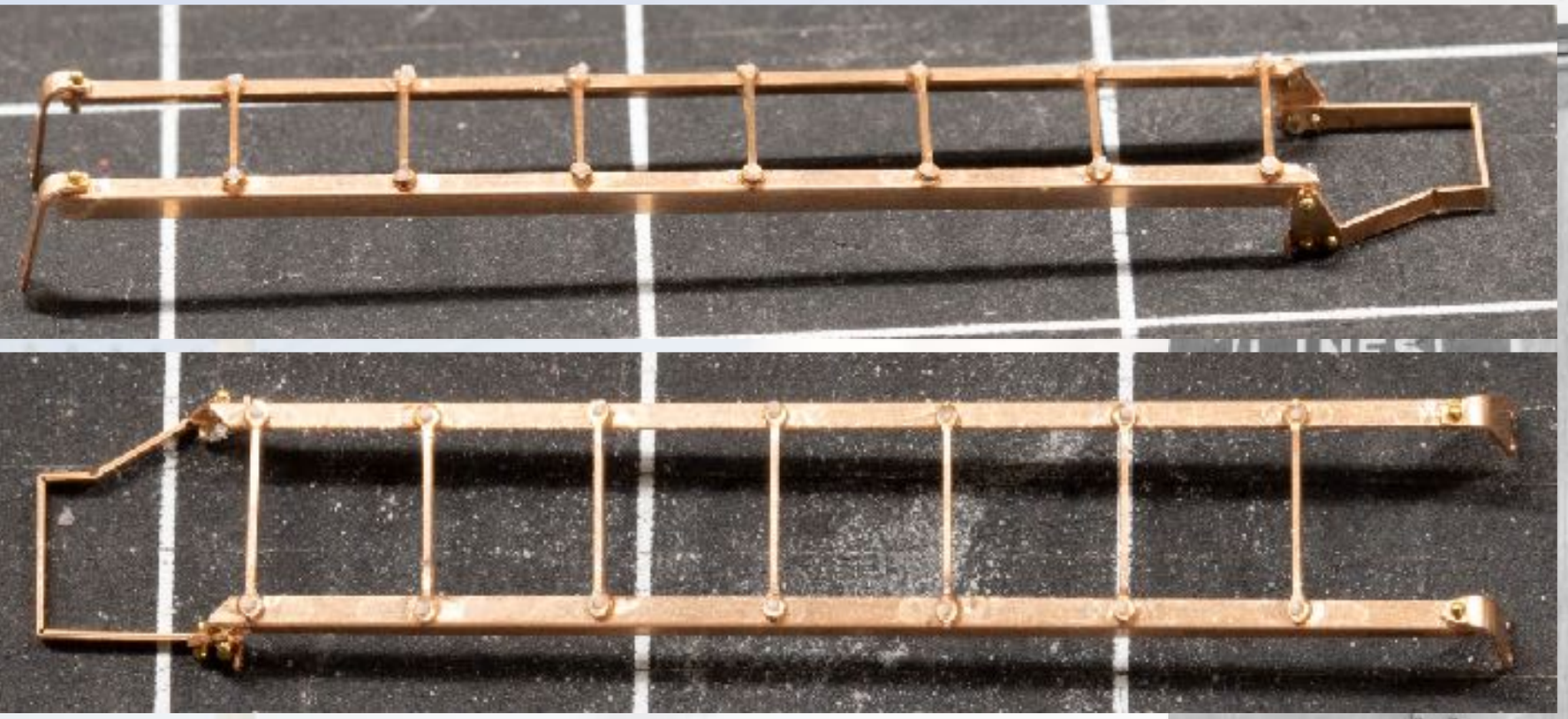


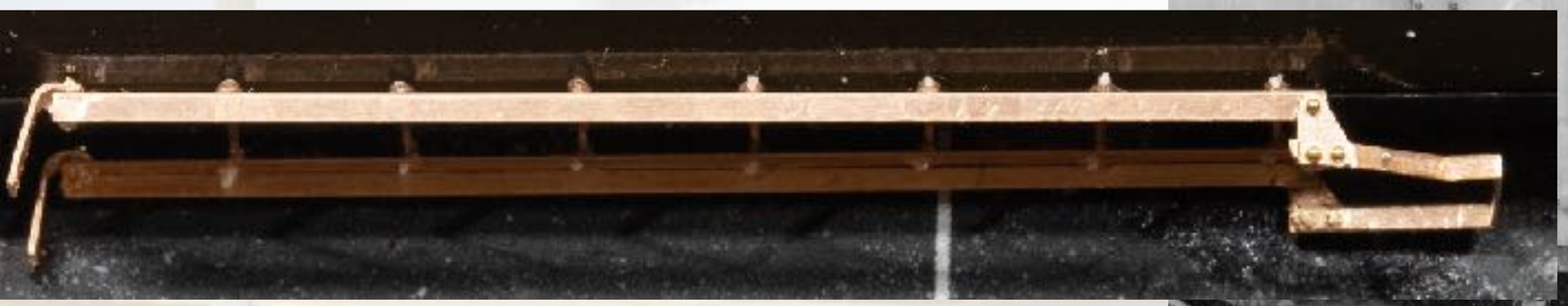


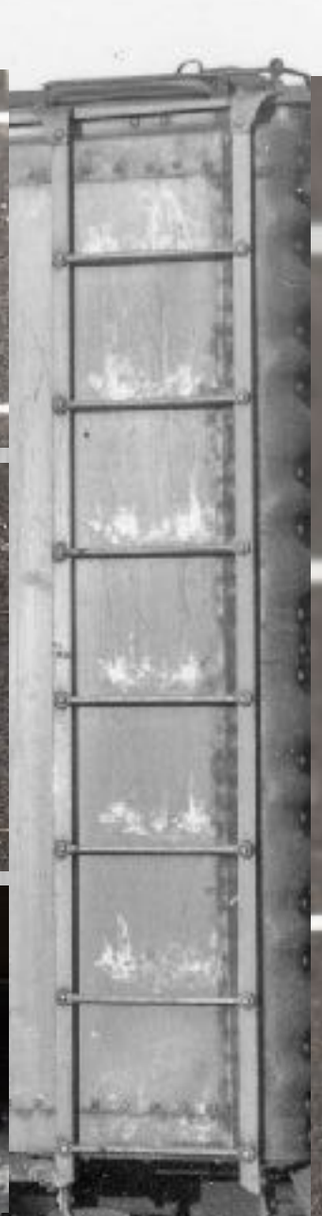
The etched ladders
replicate all of the details
of the prototype

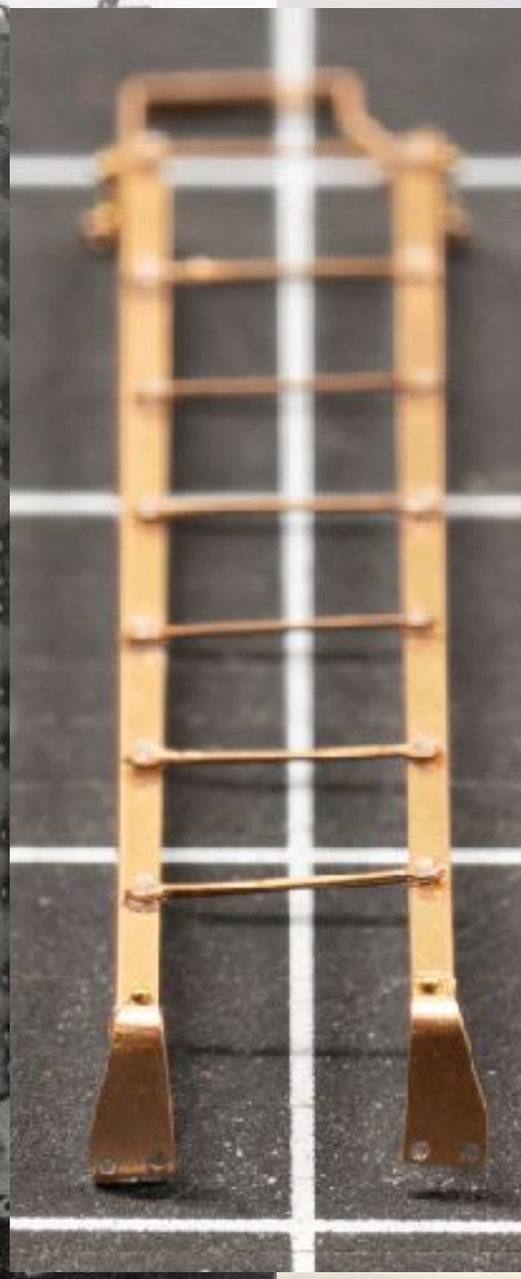


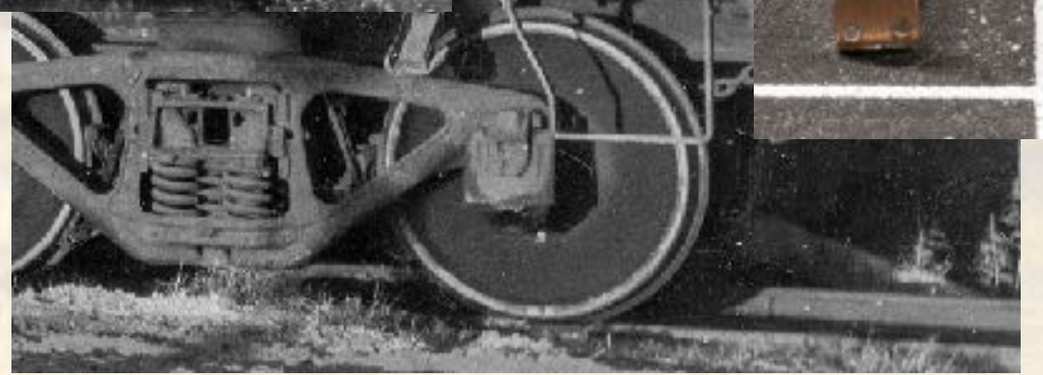
The R-40-25 and -26 ladders (as well as the -23 although they are simpler) can be effectively replicated using etched metal assemblies, as shown here. The stiles, treads ("rungs,") upper and lower mounting brackets, and steps are all separate pieces assembled to create a highly realistic and durable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



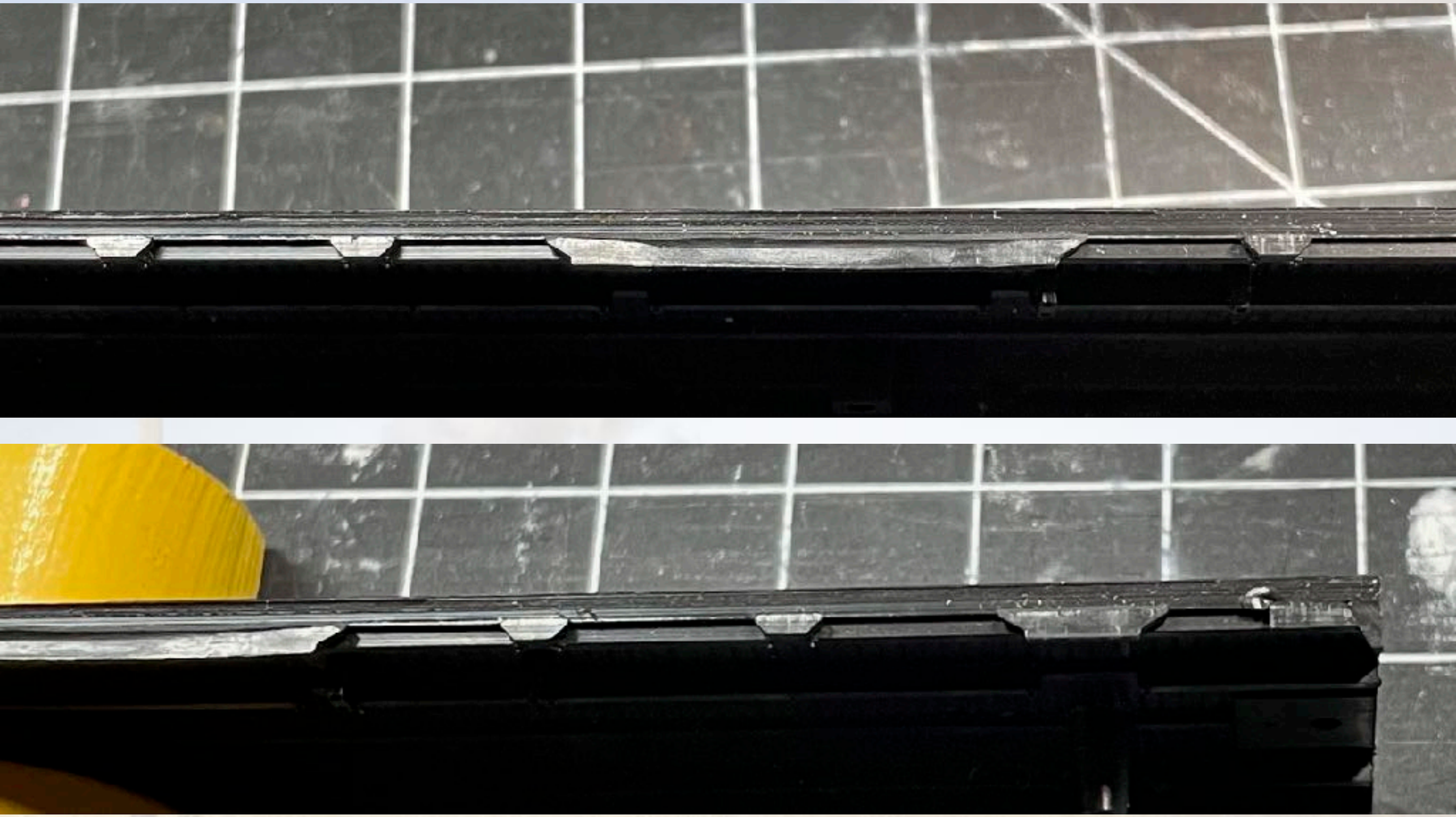








The crossbearers, crossties, and side sill tabs were all removed



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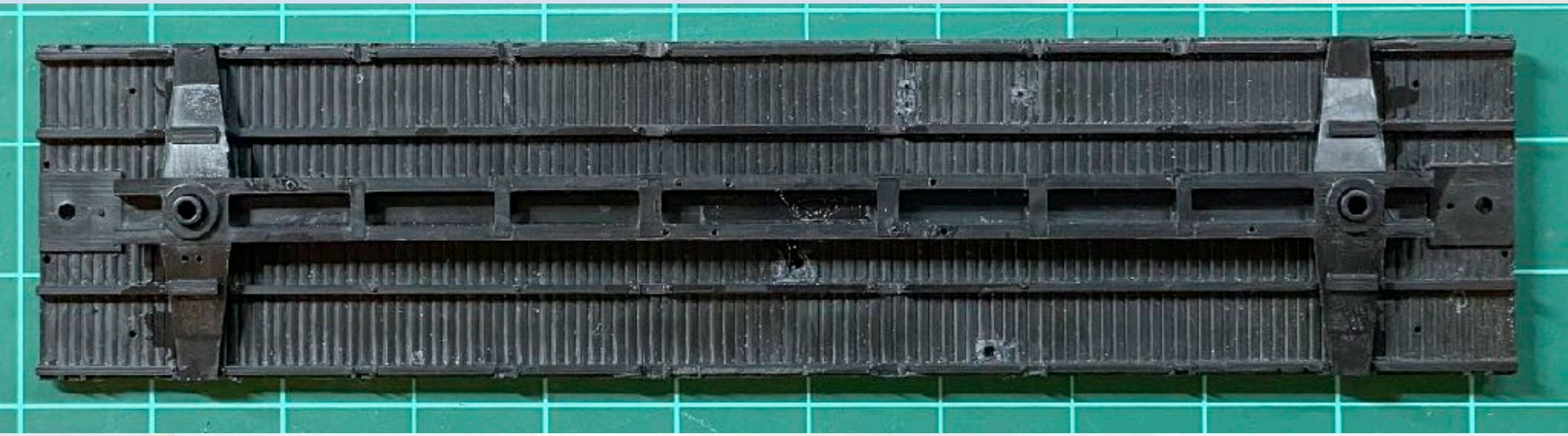
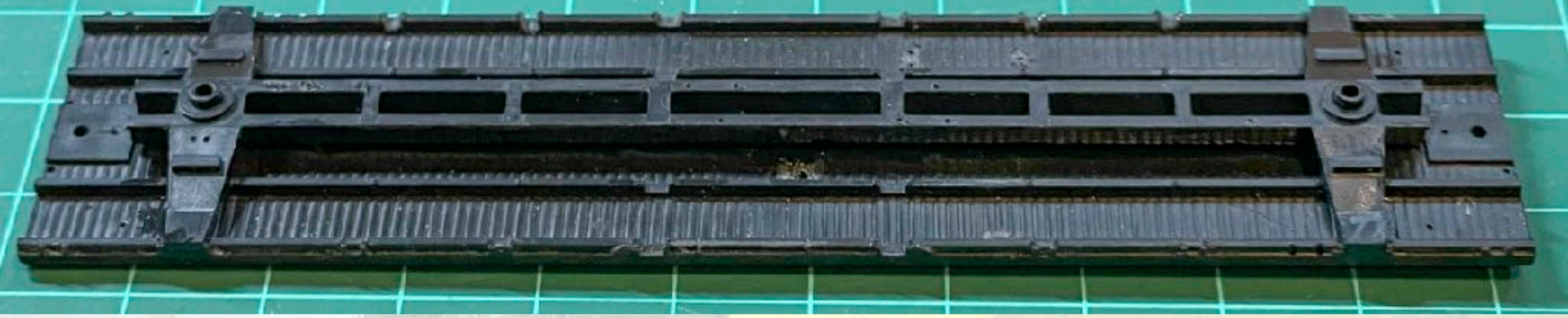
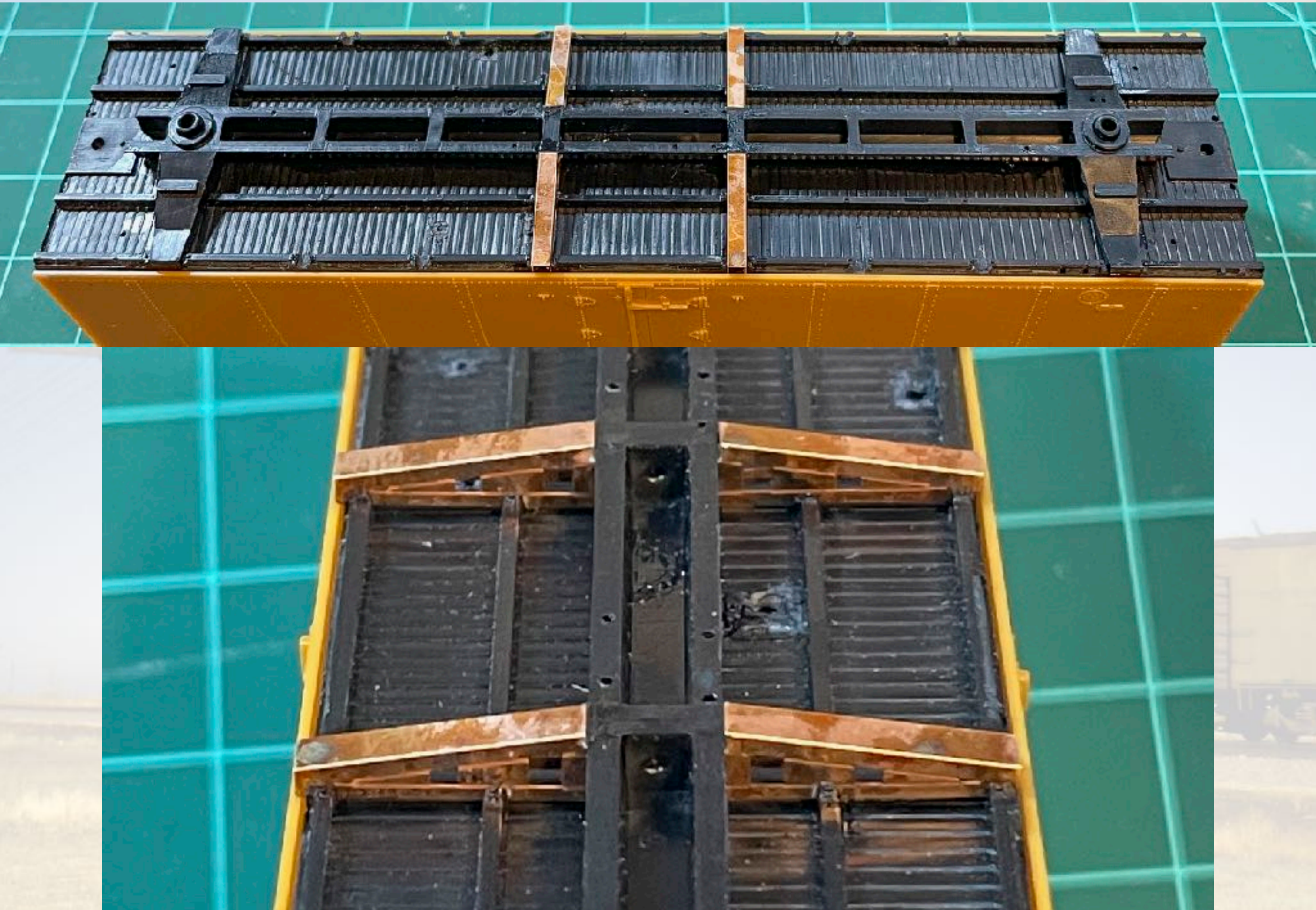
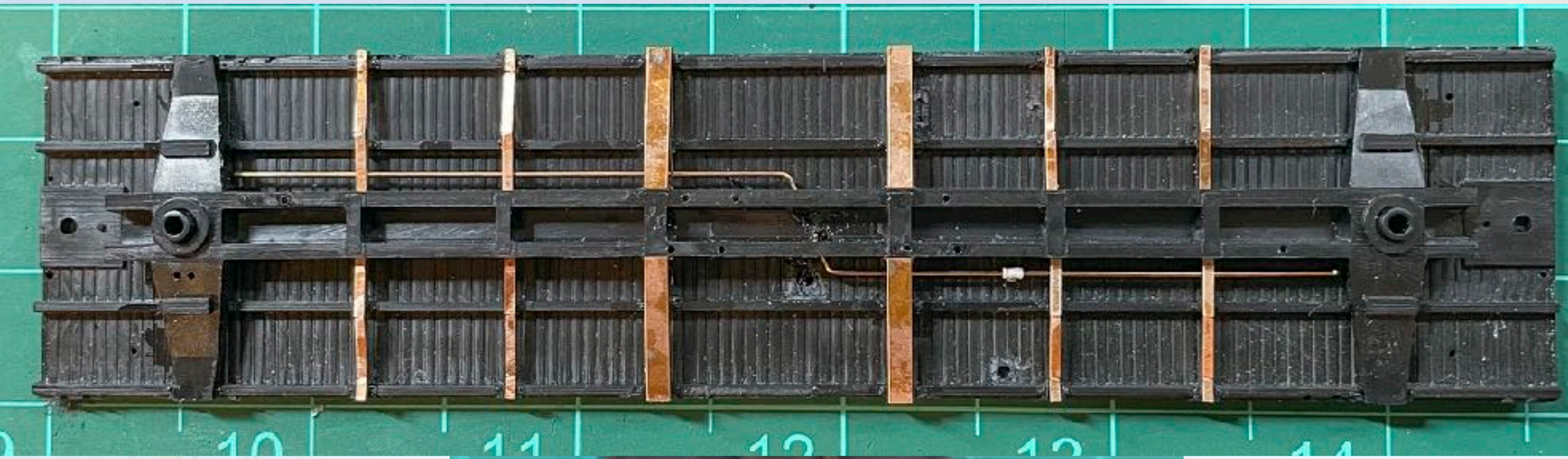


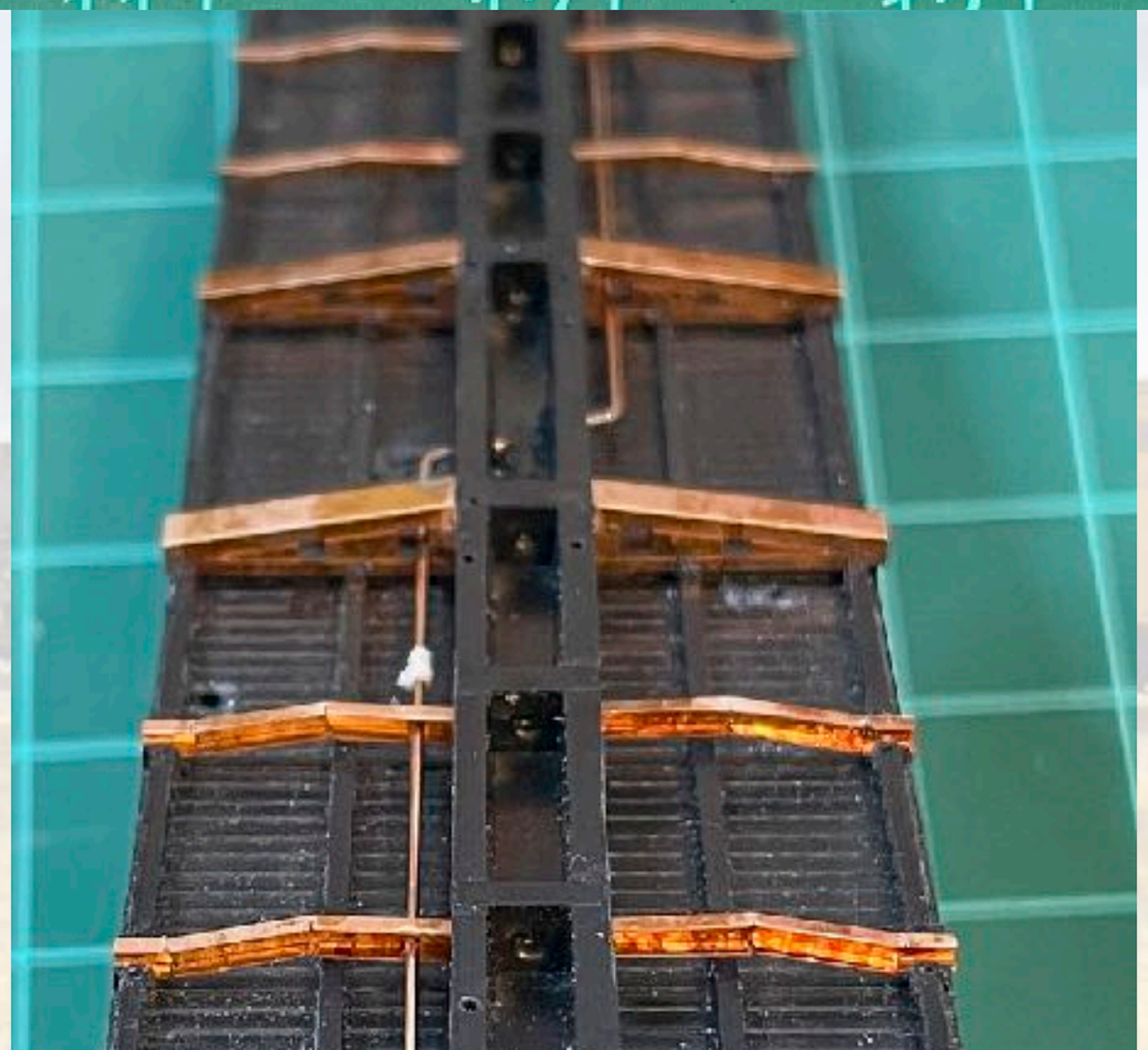


New etched and "open" crossbearers installed



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





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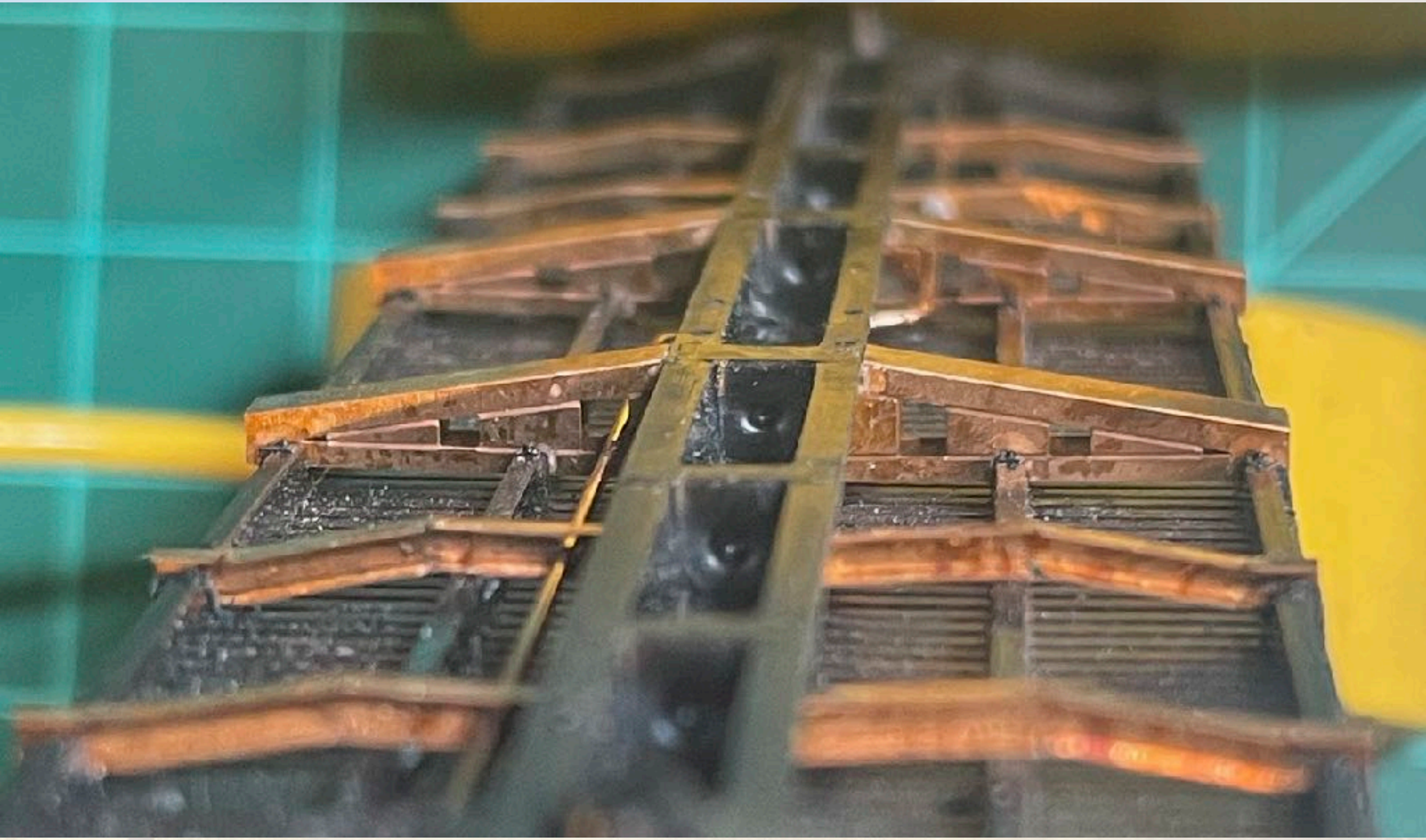
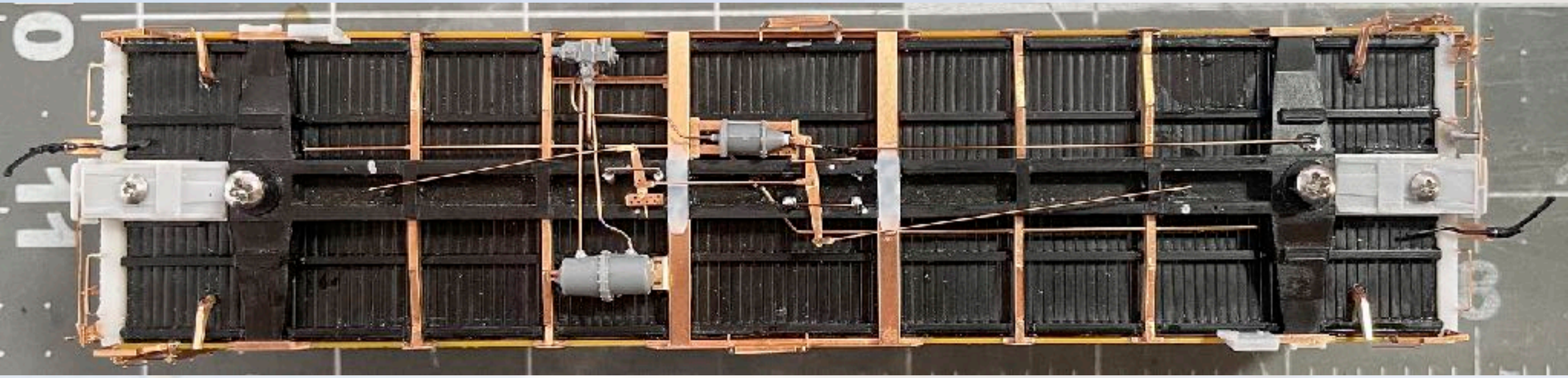
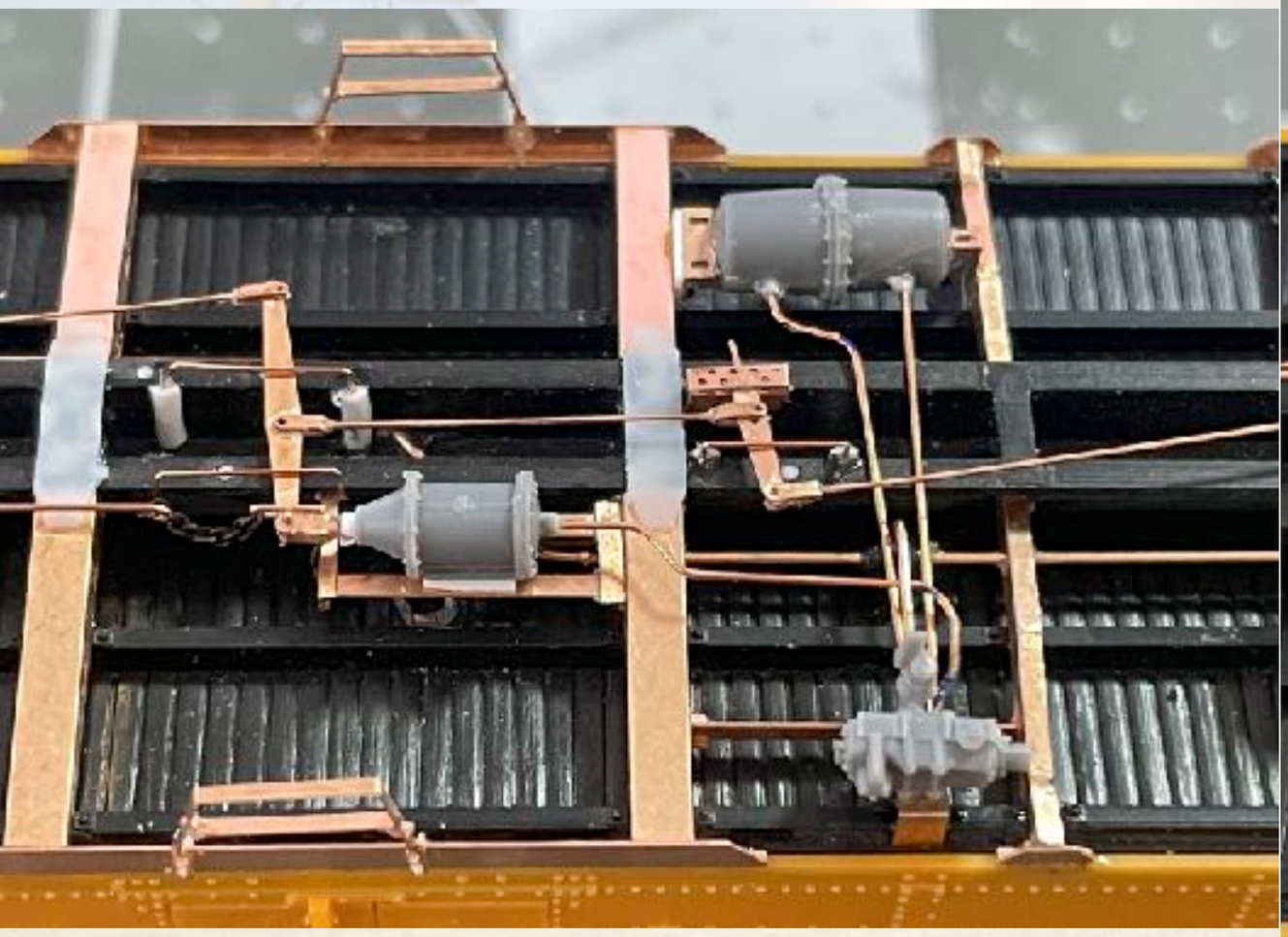
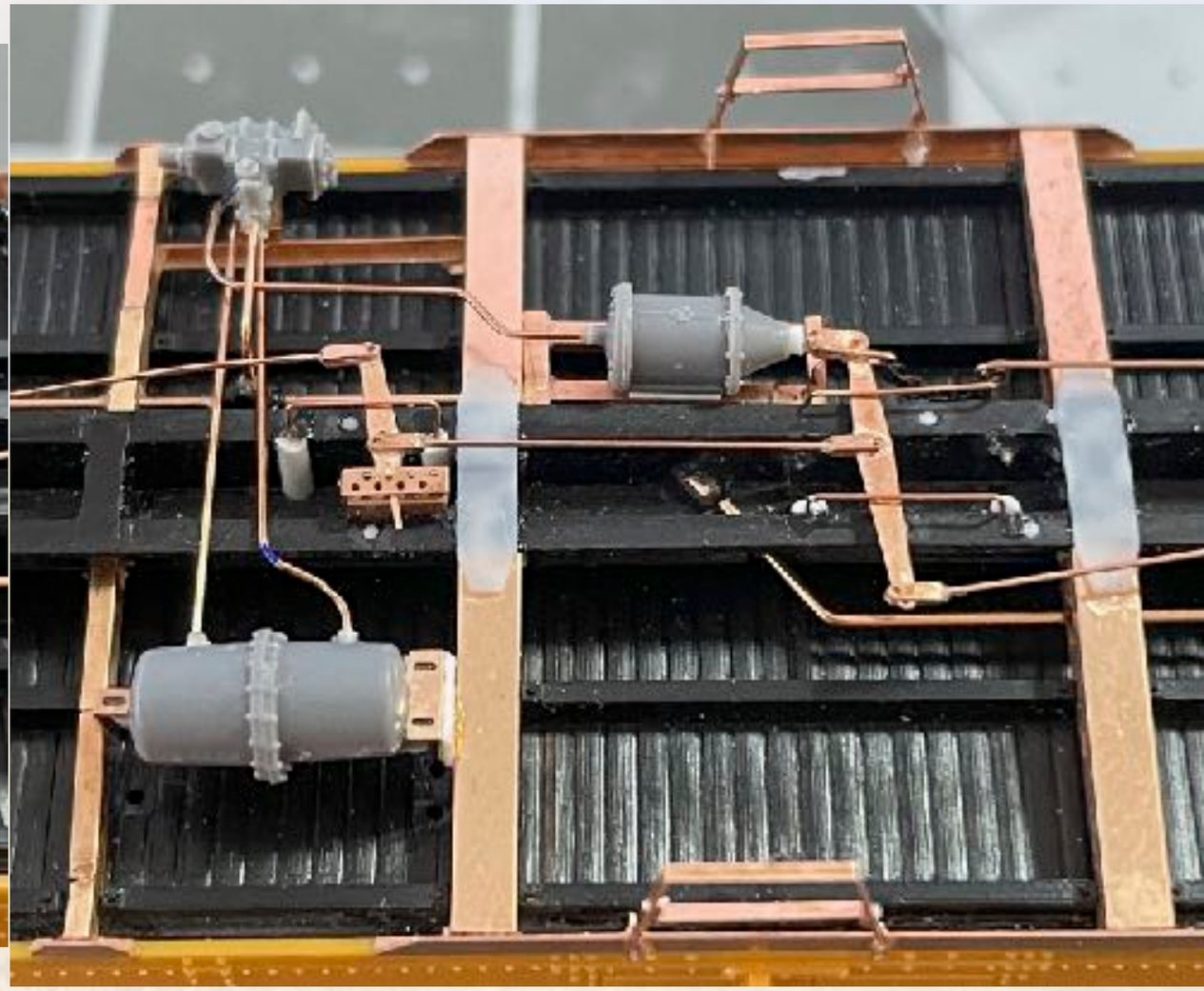


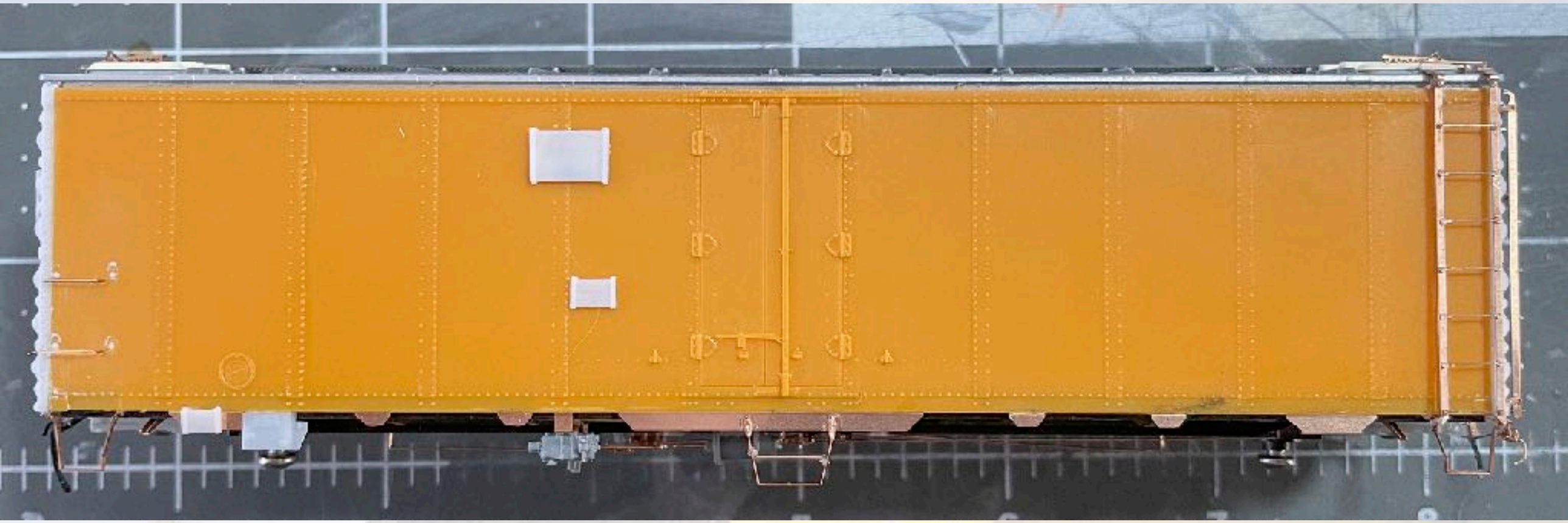
The arrangement closely matches that of the prototype



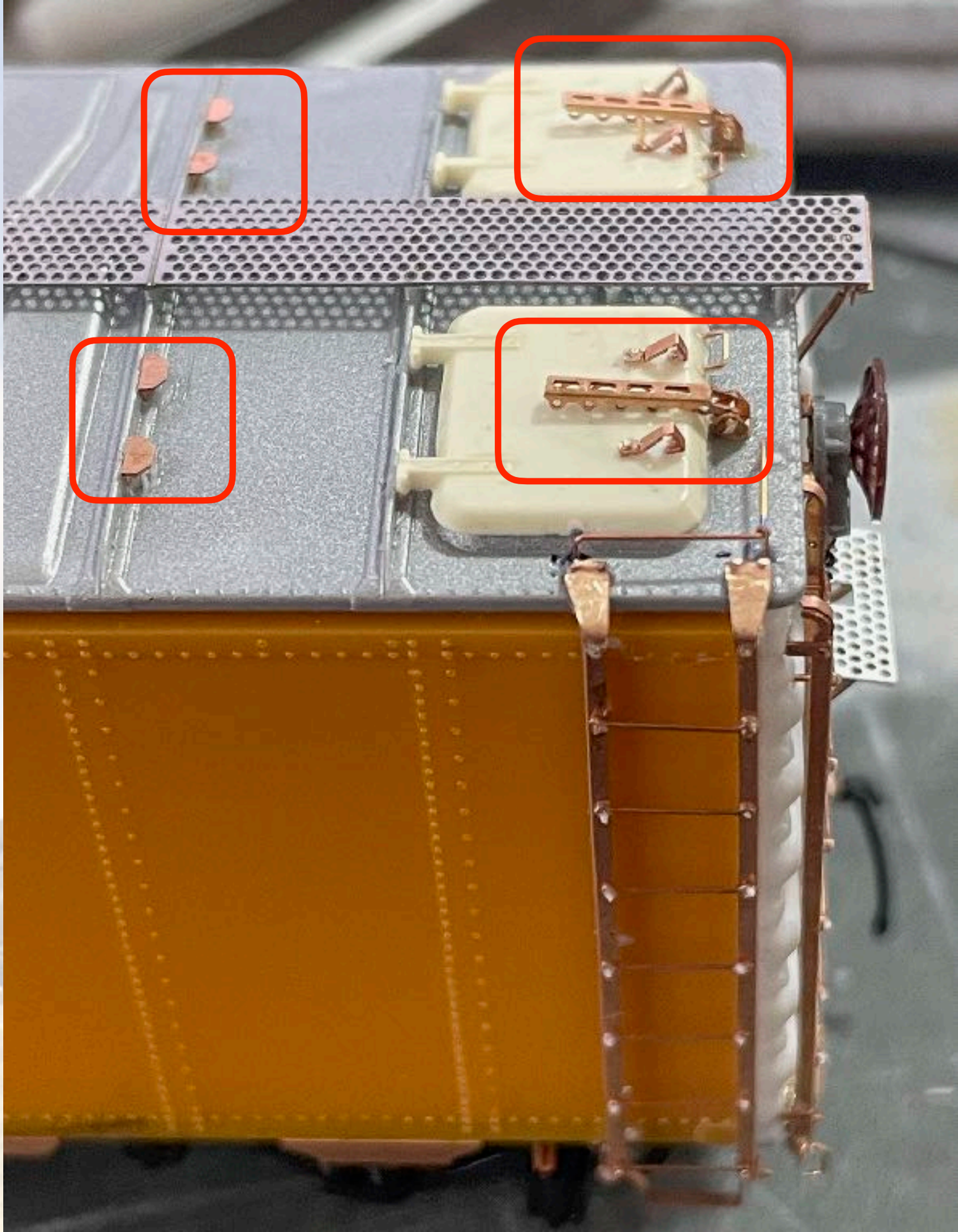




The overall level of detail is a contemporary treatment of 30-year old tooling



Equipco hatch cover detail is as good as ever rendered in HO scale (and perhaps any scale.) The hatch rests are fully perforated and "see through," the pieces that rest on the brackets are open and have proper bends, and the rests for those pieces are rendered as angles



The “finished” model midway through weathering

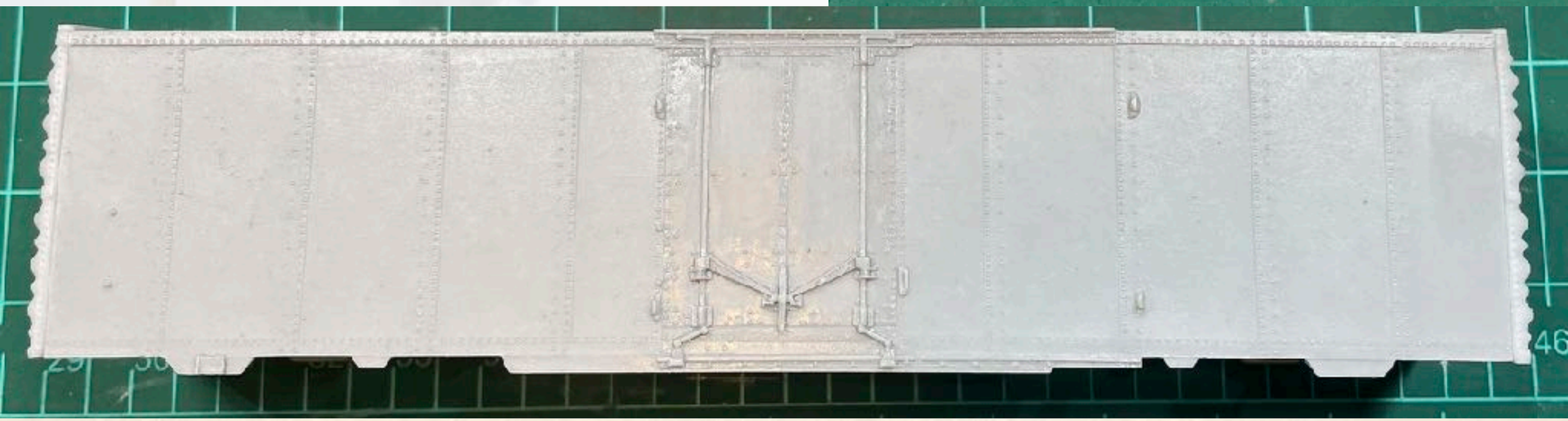
The “finished” model midway through weathering


UNION
PACIFIC

R-40-26

Side and ends for Sunshine R-40-26

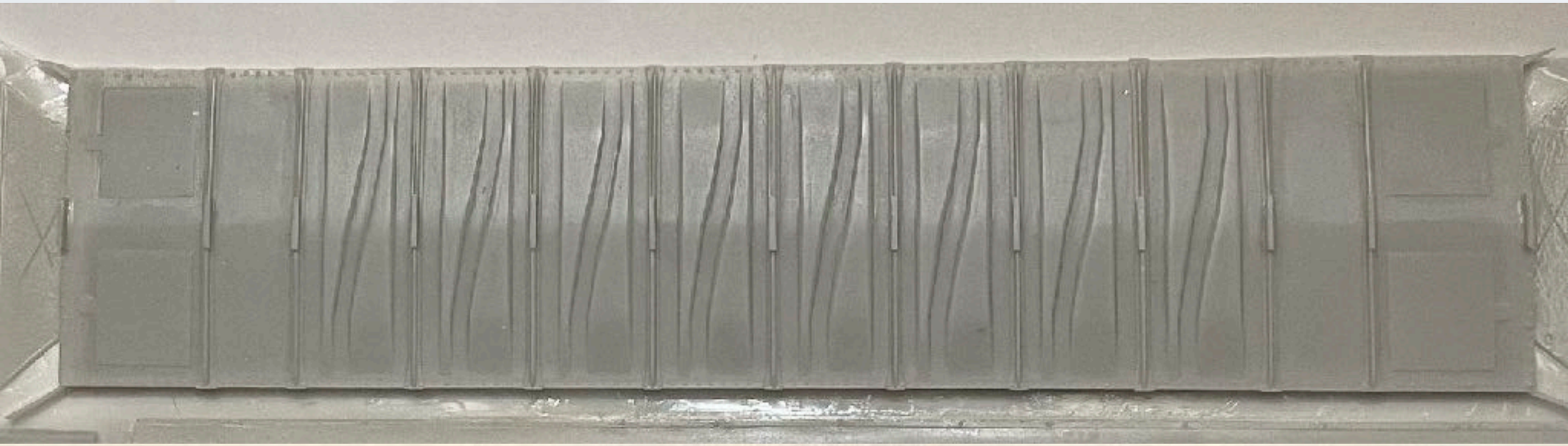
- End is not correct iteration of IDE and details are incorrect
- Side is overall good, although tabbed supports are rough



New end, left and old, right

Modified roof for my project

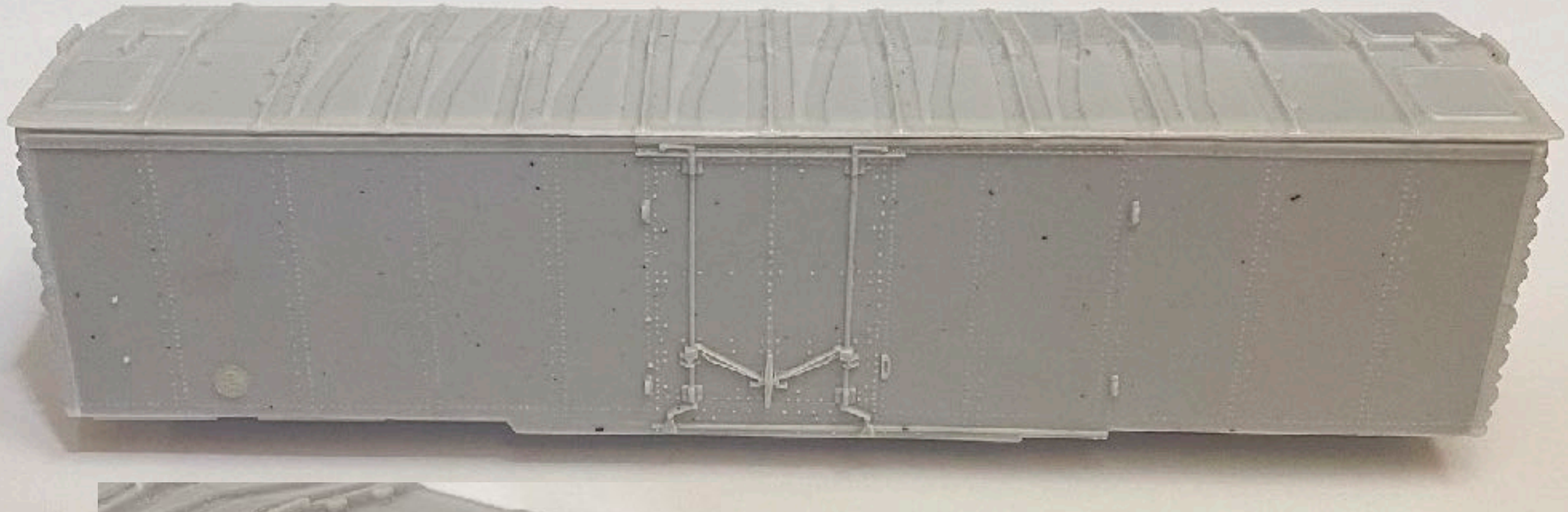
Sunshine roof



New underframe pattern that incorporates all the various etchings for crossbearers, crossties, brake arrangement, etc…

… and Sunshine underframe for comparison

Body assembled from Sunshine sides, new ends and roof



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

UP 2-10-2 5015 westbound in Nebraska, ca. 1950, Linn Westcott