

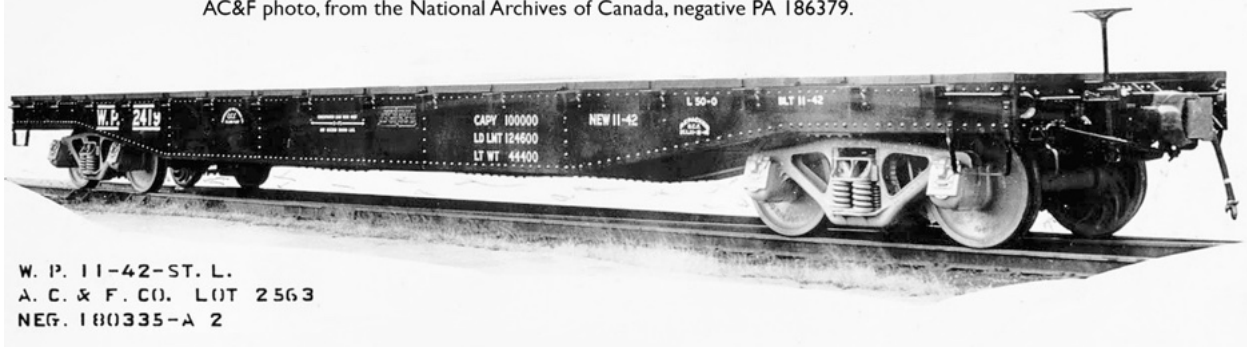
## KIT INSTRUCTIONS

V.1



## PROTOTYPE HISTORY

AC&F photo, from the National Archives of Canada, negative PA 186379.



### PC&F

In 1937 the WP took delivery of fifty 50' flatcars of WP Engineering Dept design from Pacific Car & Foundry and were placed in the 2351-2400 series. These deep center and side sill flats were 9' wide and rode on cast ASF plankless trucks and came with AB brakes. In 1943-1944 the cars were equipped with 30" high sideboards and reclassified as "GB" gondolas to haul plate and structural steel to the Bay Area shipyards to support the huge wartime Defense Plant Corporation iron and steel plant being built in Vineyard, Utah (later US Steel Geneva). 25 cars had their sideboards removed in 1955 and the remaining in 1967. Many ended up in MoW starting in the mid 1970's.

### AC&F

As war approached, the WP wanted to order more of their same WP Engineering design from WP favorite Mt. Vernon Car Works, but the order was instead routed by the War Resources Board to American Car & Foundry. The width was increased to 9'-6", but in all other aspects the cars were the same as the preceding 1937 PC&F 2351-2400 series. These 300 cars were placed in the 2401-2700 series and were delivered in late (Nov-Dec) 1942. The cars rode on cast Scullin plankless trucks.

In 1950-1953, 75 cars were equipped with steel bulkheads, resulting in a 42' loading area and renumbered 2851-2925 and reequipped with Barber S-2 trucks and many were stencilled for dedicated service from USG in Gerlach, Nevada. This turned out to be 2 feet too long for wallboard movements from the USG gypsum plant but found their niche hauling lumber. Many cars had their bulkheads moved down to 40'-6" starting in 1956, which was perfect for 8' wallboard.

In 1954, 24 cars were stretched to 53'6" and the side sill deck widened and were initially equipped with auto frame racks and renumbered 2201-2224.

In the mid 1970's 20 additional cars were coupled together into 10 mated pairs with bulkheads for dedicated lumber hauling use and renumbered 1881-1890.

These flatcars could be found in service well into the 1980's and the merger with UP.

I would like to thank Fred Jansz for the prototype measurements, Bill Kennedy for the decal design and Todd Jones for the 3D Printing and kits. CAD design and history research is by me, RJ Dial.

## ASSEMBLY

- Install the included inserts into the top side of the underframe for the truck bolsters.
- Coupler boxes. Attach to the coupler pad using supplied countersunk 2-56 screws and a nut on the underside.
- Sill steps. Drill starts are provided on the underside of the sill. #74 drill and suggest using a standard desk staple. Bend with small flat nosed pliers to correct width and cut to length.
- Grabs. 2 ea on ends, 1 ea at the side sill corners. All are under the cast grab rivet. Use #77 drill and install straight 18" Tichy grab. Tip: for side grabs, clip the leg shorter that goes into the end sill. Spacing from the grab to the side is about 0.025"
- Royal F Brake Adjuster lever hanger. Drill two #77 holes in the drill starts provided on the underside of the side sill and bend a piece of 0.010 wire to the correct width. Spacing to the sill is about 0.02".
- Air hoses. Insert into the hole in the end sill and glue tail alongside the train pipe. Recommend Hi-Tech rubber style with valve cock to avoid breakage during handling.
- \*Brake lever rods. Drill #77 holes in ends of brake levers. Bend a small "L" on the end of 0.012" wire and feed through holes in the underframe from the lever towards the end sill. CA wire into lever. Snip the extra wire length protruding past the brake lever. Snip the other end so that it will just tuck under the lower flange of the centersill and glue in place. Alternately, you can use Tichy turnbuckles as clevis ends to attach to the brake lever ends.
- \*Hand brake linkage. Make a J-hook in the end of 0.012 wire and attach a short (1/4") piece of small link chain and crimp. Insert from the sill end into the holes provided in the crossbeams. CA the chain into the hand brake lower housing and cut the wire where it meets the brake cylinder lever. CA a clevis (shortened Tichy turnbuckle) to the end of the wire and then to the brake lever. CA the brake rod to the bolster at the base of the bolster pivot pad to provide clearance for the wheelsets.
- \*Air release handles/linkage. Open the drill starts provided in the face of the side sills and feed a piece of 0.008 wire from one side to the other. Routing is over the top of the air reservoir, through the centersills and under the controller. Bend both ends to form a handle 0.125mm long after they protrude from the side sills. Optionally to drilling the centersills, you can terminate the wire at the centersills and glue in place.
- \*Uncoupling levers. Open the holes in the lever pivot rollers on the end sills with a #77 drill. Bend a short piece of 0.010 wire to form the undermount uncoupling lever. Use the photo as an example. The lever is basically a vertical handle just below the poling pocket, then a short horizontal section through the pivot roller followed by a downward diagonal section, levelling off horizontally with the bottom of the coupler box and then secured up into the bottom the coupler box at the centerline. The B-end has a slight forward facing U bend around the handbrake housing. Getting the shape of the levers is not critical as photos show that they were frequently bent from being hit (but still functional).
- Handbrake. Drill a #76 hole through the center of the gear and pawl mechanism and then just into (but not through) the bottom housing. Install a short piece of 0.015 wire and cut 0.25" above the top of the end sill. Glue on the included brake wheel or substitute any 16-20" brakewheel of your choice, as flatcar brakewheels were routinely damaged and replaced.

- Optional Trust Plate. Used from New to ~7 years later. Some plate removals got missed and lasted longer. Glue to the side sills after the 7<sup>th</sup> stake pocket from the B-end on both sides with the centerline level with the bottom of the stake pockets. This will result in them being directly across from each other.
- Install the weight. Max 0.6mm thick. 1" wide or 2 rows of 14mm lead tape is perfect (Amazon is one source).
- Paint the body and the deck. After painting, remove the deck from the supports, remove any nubs on the backside and glue the deck to the top of the body and weight, making sure to be evenly spaced all the around and the openings are centered on the stake pockets. There should be a slight overhang on the sides. A good adhesive to use is 5 minute epoxy spread thinly over the surface of the weight and coupler boxes. Other people swear by Canopy Glue. A small clamp or clothespin at the bolster pads will hold it in place as it cures.
- Trucks. The prototype were ASF and Scullin (cast sides) plankless style. No exact model exists, but the Kadee Bettendorf plankless come very close, as do some generic Walthers and Branchline trucks.

\* Indicates optional underside details

## PAINTING

- Gently wash the deck and the body with warm soapy water with a soft brush and rinse and pat dry and allow to fully dry.
- Prime. Gray Tamiya Fine Surface or Mr Surfacer spray cans are good choices.
- Spray the body weathered black. Tru-Color TCP-171 is a good choice. Avoid pure blacks as they can hide detail and are difficult to weather.
- Decal. If a flat finish paint is used, apply a light coat of gloss finish. Cut and apply decals per the photos. The underframe numbers go on the LH end when facing the sides. Use decal setting solution to hold decal in place, and then after drying apply a coat of decal softening solution. Do not brush the decal, just dab on the solution. Once dried, apply coat of gloss finish to make the decal film edges disappear.
- Finish painting the deck using your favorite method. If looking for a suggestion, try this (also see photos):
  1. After the gray primer has dried, brush on a coat of Tru-Color TCP-833 Foundation (or other tan color) paint.
  2. After the Foundation has dried, brush on any Charcoal Gray cheap craft paint, thinned with water and applied with a flat brush. Avoid an even coat, but use some lighter and heavier strokes.
  3. Apply a black thin wash. Artist oil thinned with Gamsol works well and will not attack the other paints.
  4. A few smudges of black PanPastel or other weathering powders and some rust on the deck straps, and you are done!
- After assembling the deck onto the body, apply a few light coats of dull (matte) finish over all.
- Weathering. If you followed the deck painting recommendations, all you will need to do a basic weathering is airbrush a light coat of very thinned gray or brown enamel or acrylic paints on the underside and sills.

# PHOTOS

PC&F 2351-2400 with the 30" high side/end boards added in 1942. This is easily duplicated with stripwood. Appropriate Light Weight and Load Limit decals are included.



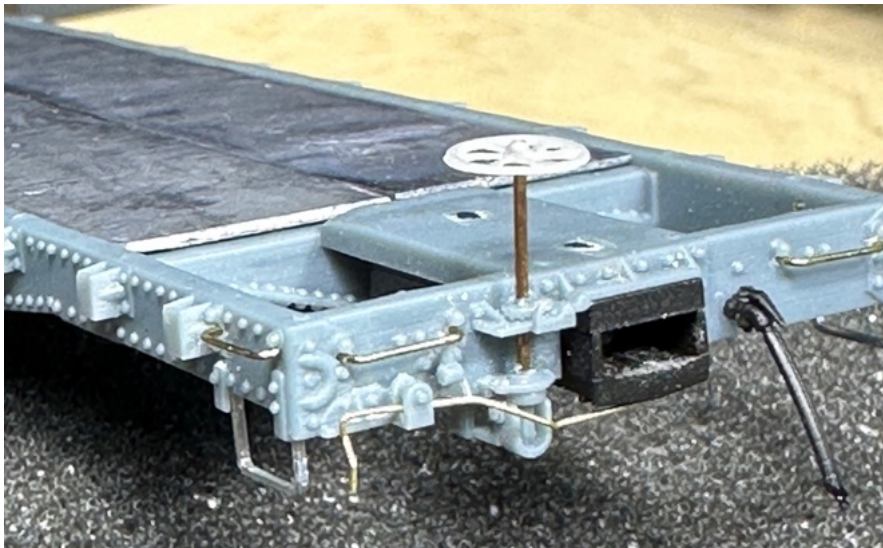
Sill step using a staple:

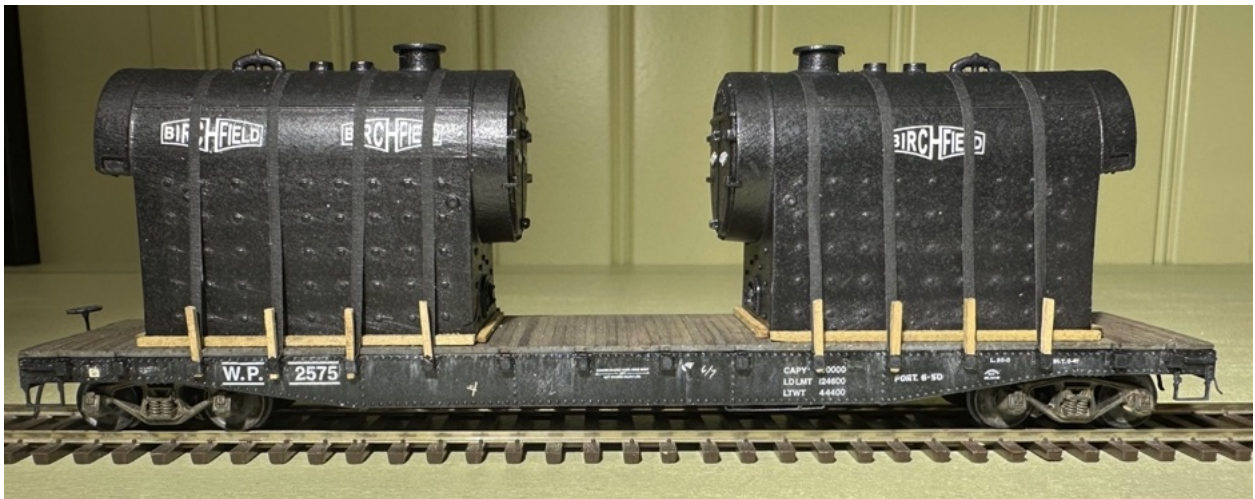
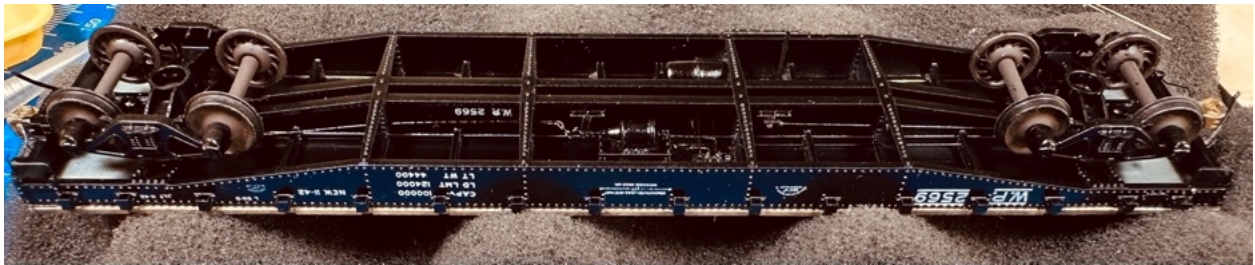
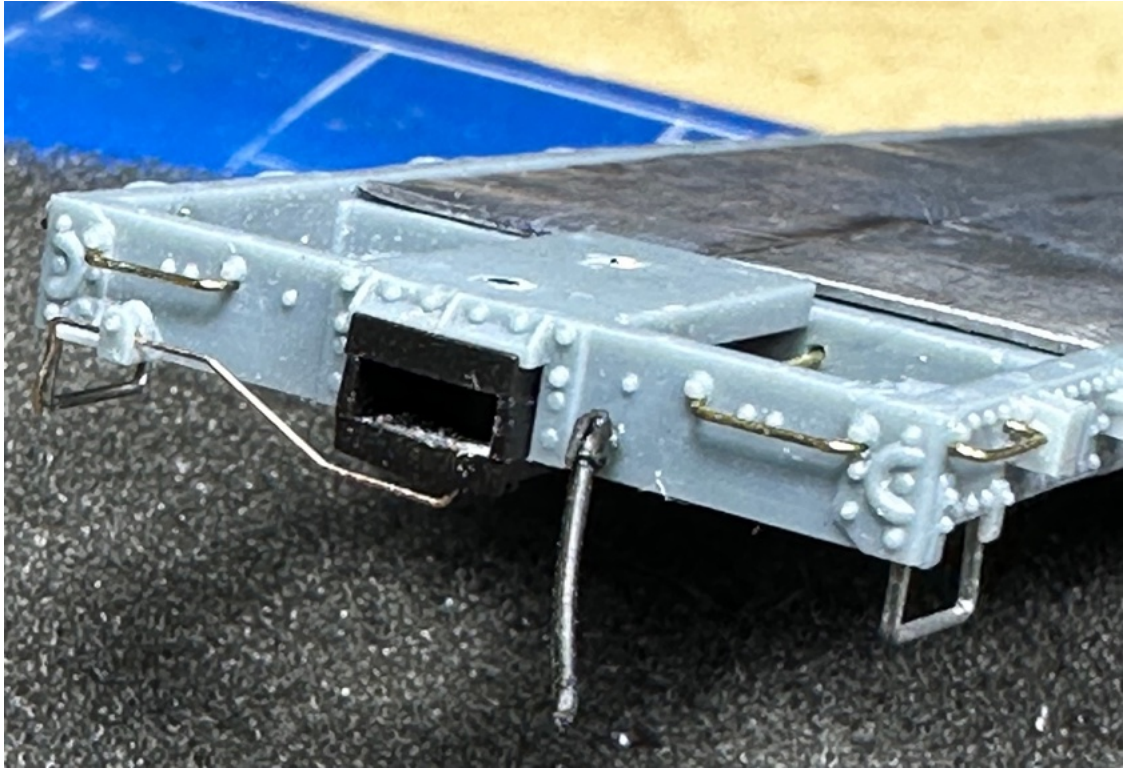


As delivered lettering:

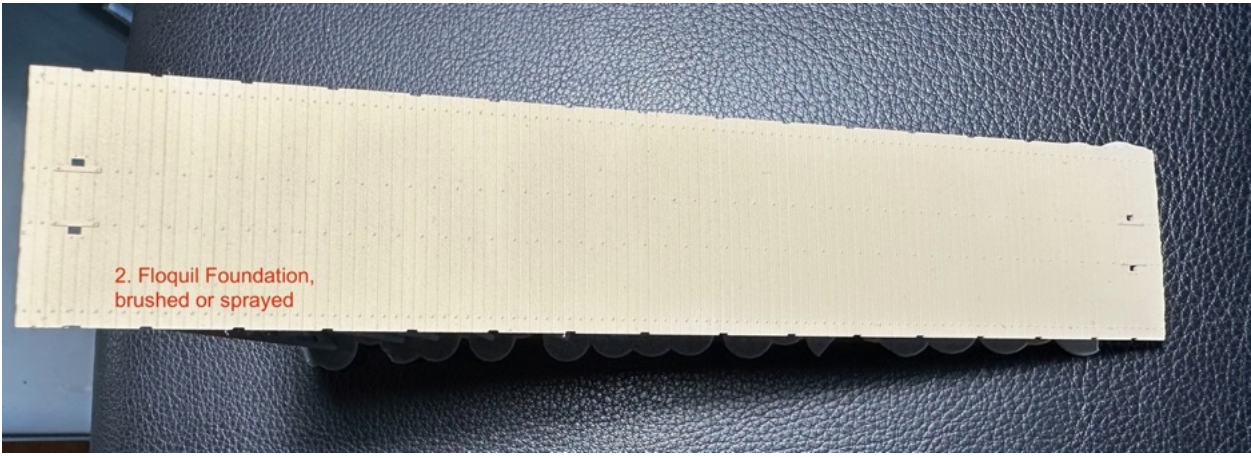
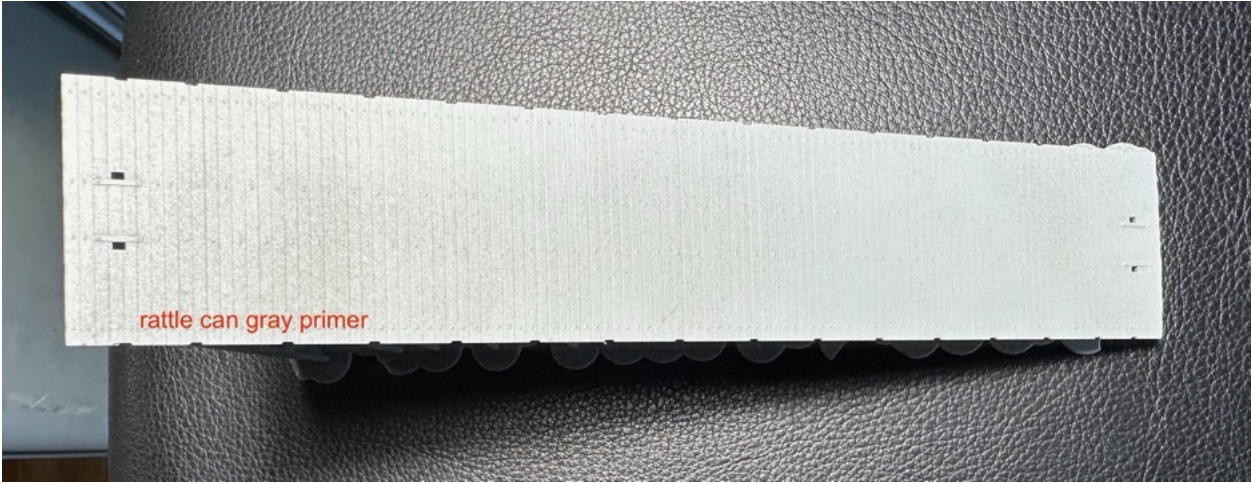


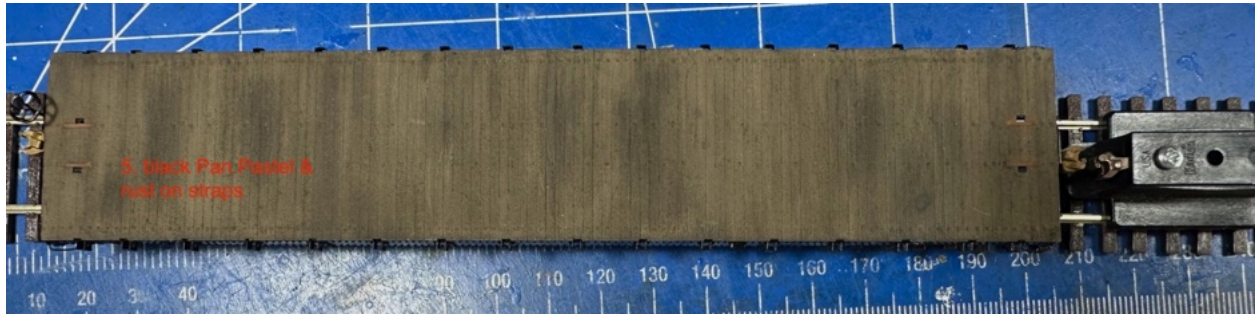
Trust Plate location. Opposite side directly across:





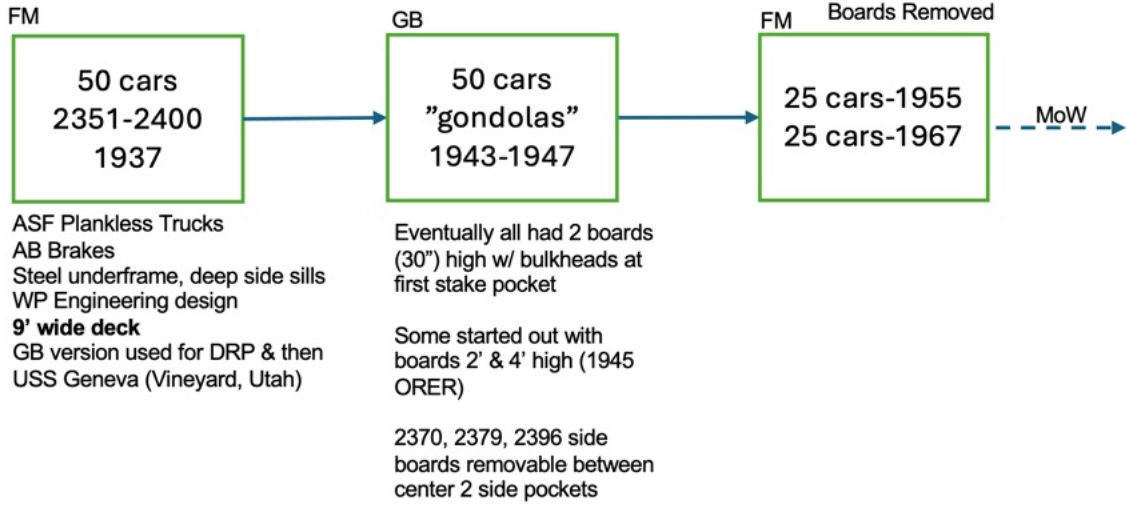
Example of deck coloring for a newish car:





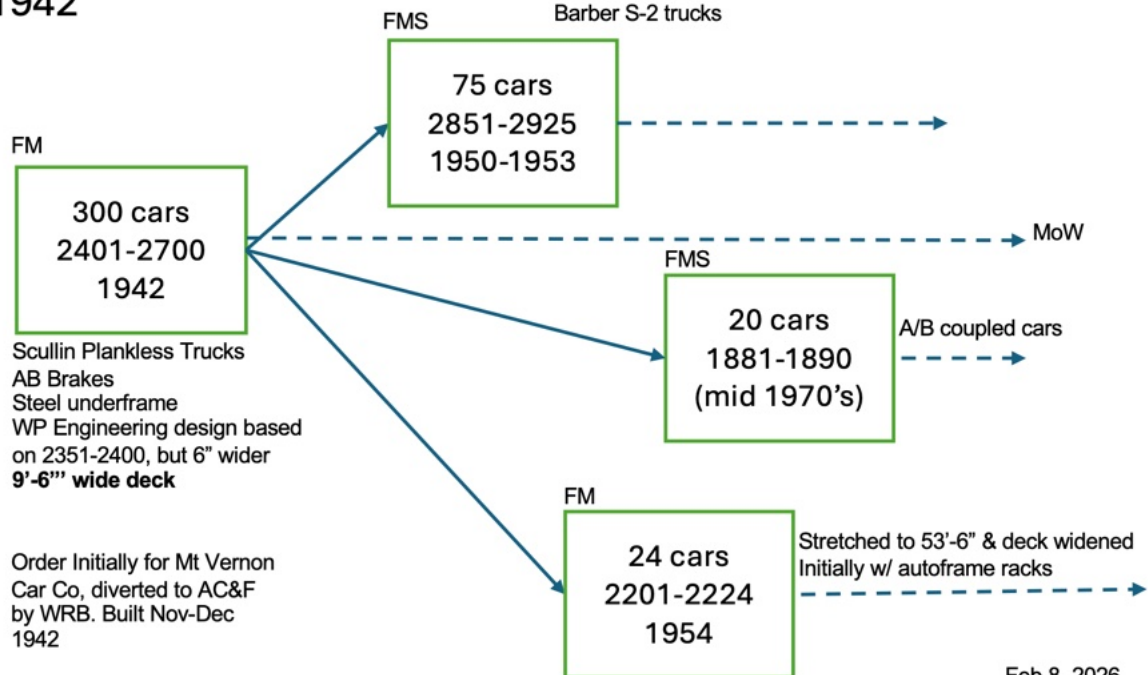
# 50' Pacific Car & Foundry 1937

0 wrecked or scrapped by 1950



# 50' American Car & Foundry 1942

4 original wrecked or scrapped by 1950



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