

# Selected TTX 75-ft. & 50-ft. Piggyback Flatcars<sup>©</sup>



TTX  
Collection

- 75-ft. Flatcars (Classes F39 & F39A)



Bob's Photo

- 50-ft. Flatcars (Classes F30D & F30G)

Jim Panza  
RPM Naperville IL  
October 2023

# Acknowledgements

- Mont Switzer
- Stephen Priest
- Jim Kinkaid
- Eric Neubauer
- Bob's Photo
- Mike Gruber - Mainline Photos
- Overland Models, Inc.
- Bob Webber & Steve Hile – Pullman Library

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# F39 75-ft. Flatcars

- Built by Bethlehem Steel in January and February 1955 for Rail-Trailer Company subsidiary Van-Car Corporation.
  - Rail-Trailer provided piggyback terminal services for the PRR and other railroads.
  - Van-Car Corporation leased the cars to the PRR.
- PRR 470400-470599.



# F39 75-ft. Flatcars

- PRR 470400 undergoing testing.
  - Note extra jack stand in front of trailer wheels.



# F39 75-ft. Flatcars

- PRR 470400-470599 became TTX 470400-470599 in March 1956 as TTX started operations.
- ACF Model A hitches applied by PRR at Altoona, PA beginning in 1956.



Altoona, PA, August 1984

# F39A 75-ft. Flatcars

- Built by Pennsylvania Railroad at Altoona, Penna. including Wabash 300-319.
- Identical to the F39 built by Bethlehem Steel.

Initial	Number	Qty.	Built Date	Class	Note
TTX	470600-470749	150	Jul. - Aug. 1955	F39A	Ex-PRR 470600-470749
TTX	470800-470899	100	Nov. - Dec. 1955	F39A	Ex-PRR 470800-470899



# Non-TTX F39/F39A 75-ft. Flatcars

Initial	Number	Bldr.	Qty.	Built Date	Class	Note
ERIE	7550-7599	BSC	50	Mar. 1955	?	Stretched to 85-ft.
WAB	300-319	PRR	20	Jun. - Jul. 1955	F39A	To TTX 470910-470929



Jim Kinkaid collection

Bob's Photo



# Comparison of Walters F39 75-ft. Flatcar to Prototype

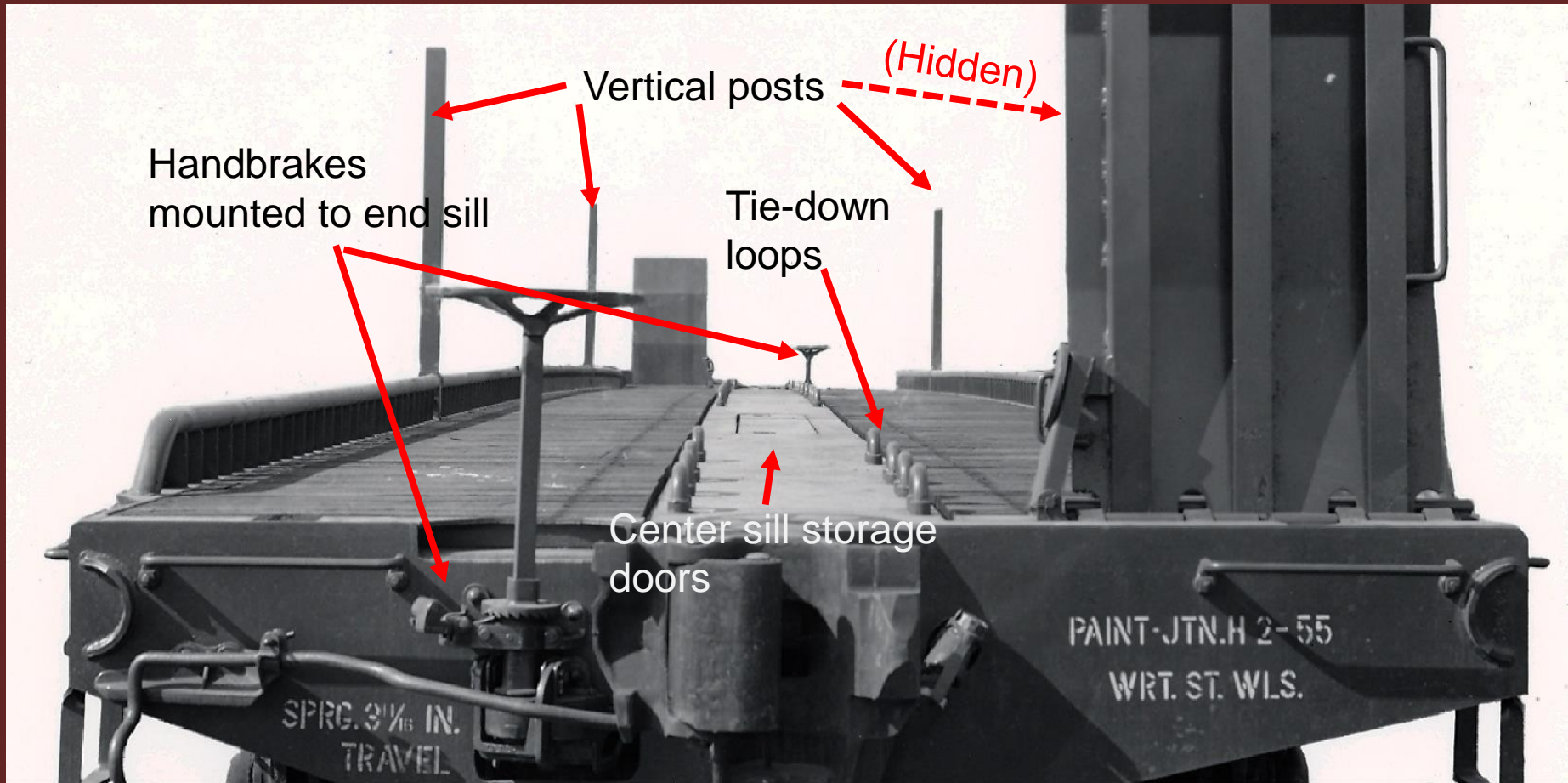


- Stock Walters F39 Flatcar with painted deck boards, hitches and weathering.
- Incorrect car class (F39C), built date (6-56) and weigh stencil date (NEW 12-56).
- Incorrect handbrake type.
- No riser boards at hitch locations.

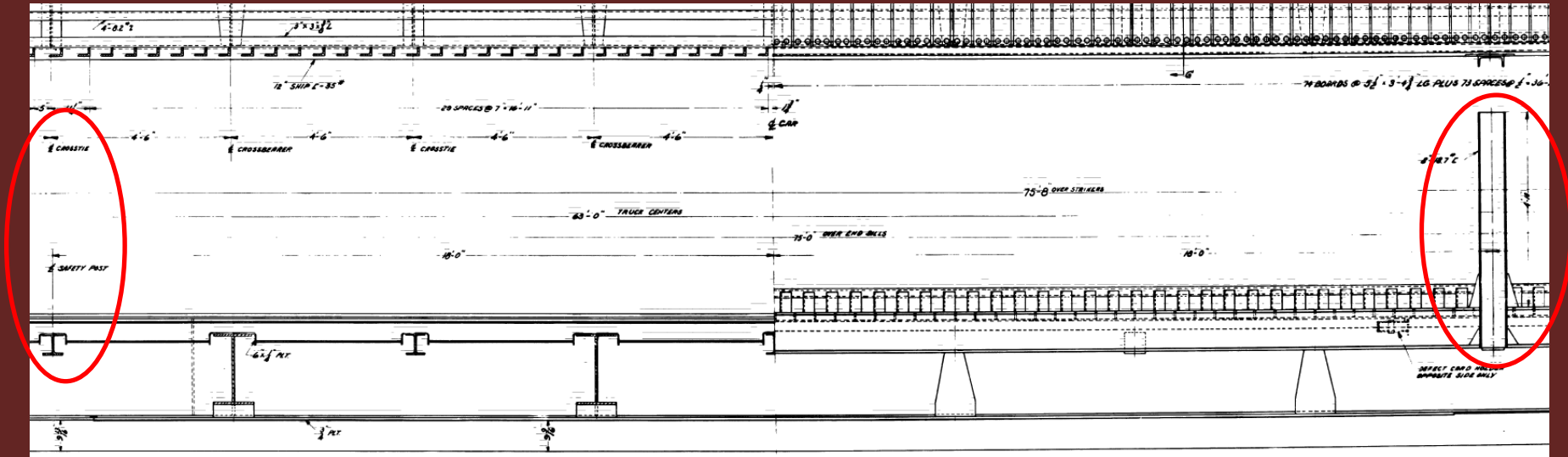


# F39 75-ft. Flatcars

- As built prior to application of trailer hitches.



# F39/F39A 75-ft. Flatcars Early Era: Vertical Posts



## F39 & F39A General Arrangement Drawing:

- 8" width x ~3" flanges x 70" length channel.
- Gussets at top and bottom side sill flanges.
- Located 18' 0" from centerline of car.

## F39/F39A 75-ft. Flatcars Early Era: Vertical Posts

### F39 & F39A:

- Appears to be two channels welded together or welded tube.
- Does not extend below top side sill flange.
- No gussets at top of side sill flanges.
- Welded to pipe guide rail.



# F39/F39A 75-ft. Flatcars

## Early Era: Bridge Plates & Tie Down Loops

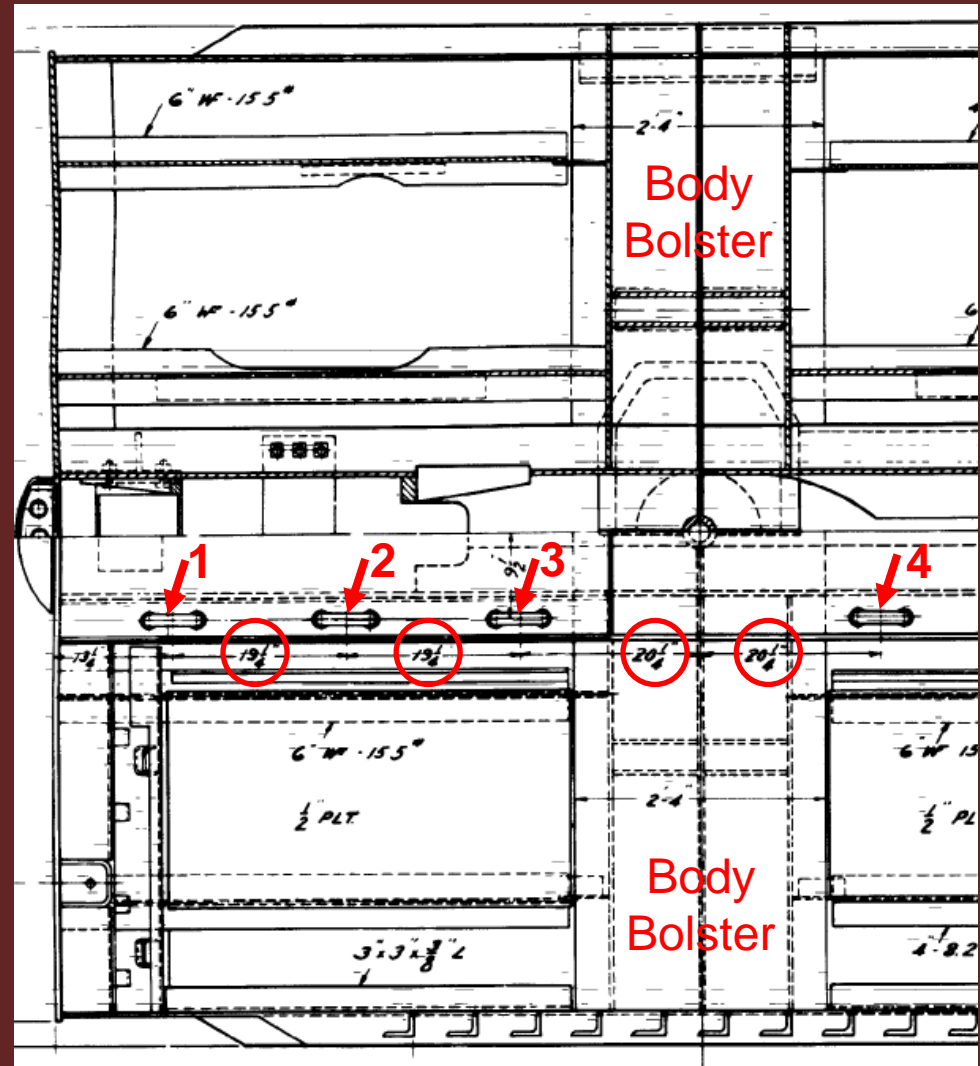
- First generation Bridge Plates with arched running surface.
- Four pairs of tie-down loops at both ends and two sets near the center of the car.



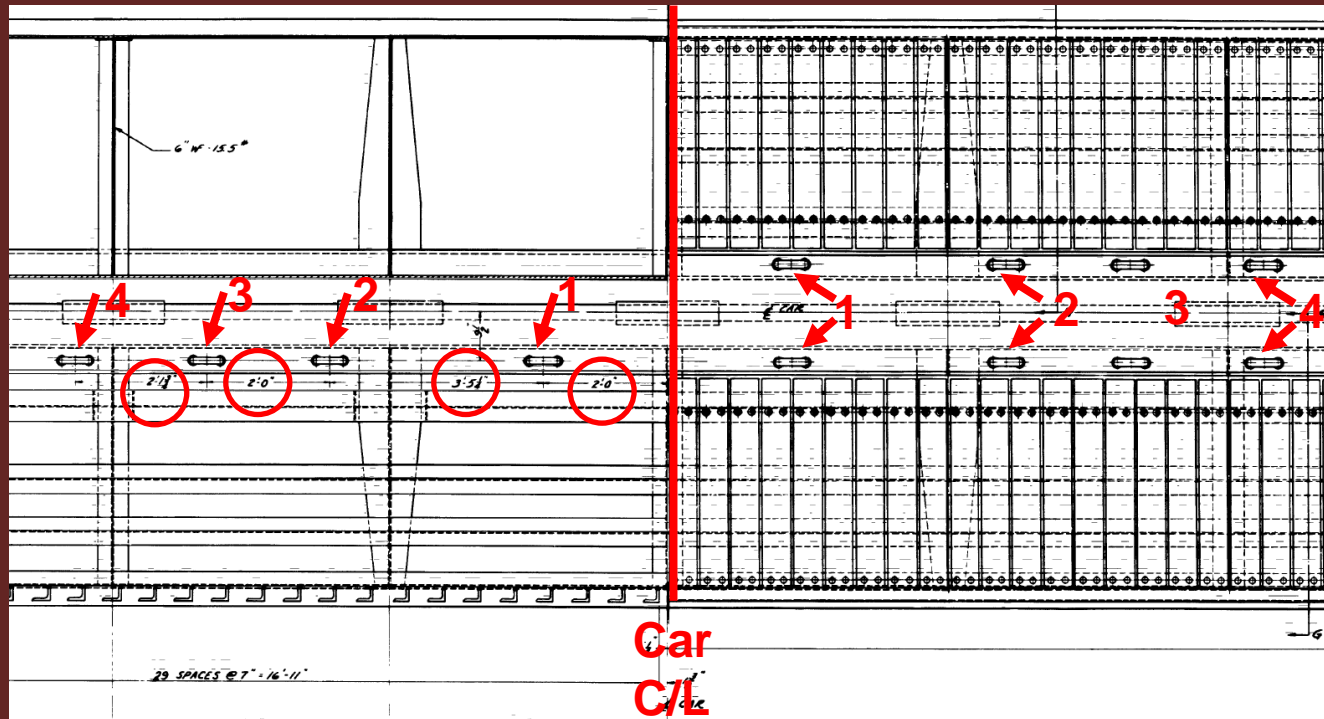
# F39/F39A 75-ft. Flatcars

## Tie-Down Loops

- 20-1/4" from body bolster centerline inward to 4<sup>th</sup> loop.
- 20-1/4" from body bolster centerline outward to 3<sup>rd</sup> loop.
- 19-1/4" outward from 3<sup>rd</sup> loop to 2<sup>nd</sup> loop.
- 19-1/4" outward from 2<sup>nd</sup> loop to 1<sup>st</sup> loop.



# F39/F39A 75-ft. Flatcars Tie-Down Loops



- 24" from car centerline to 1<sup>st</sup> loops.
- 41-1/4" from 1<sup>st</sup> loops to 2<sup>nd</sup> loops.
- 24" from 2<sup>nd</sup> loops to 3<sup>rd</sup> loops.
- 25-3/4" 3<sup>rd</sup> loops to 4<sup>th</sup> loops.

# F39/F39A 75-ft. Flatcars

## Tie-Down Loops

### Tie-down loops for cars with Hitches

- Apply the 8 loops at B-end.
- Apply the 8 loops at the center of the car toward the A-end.



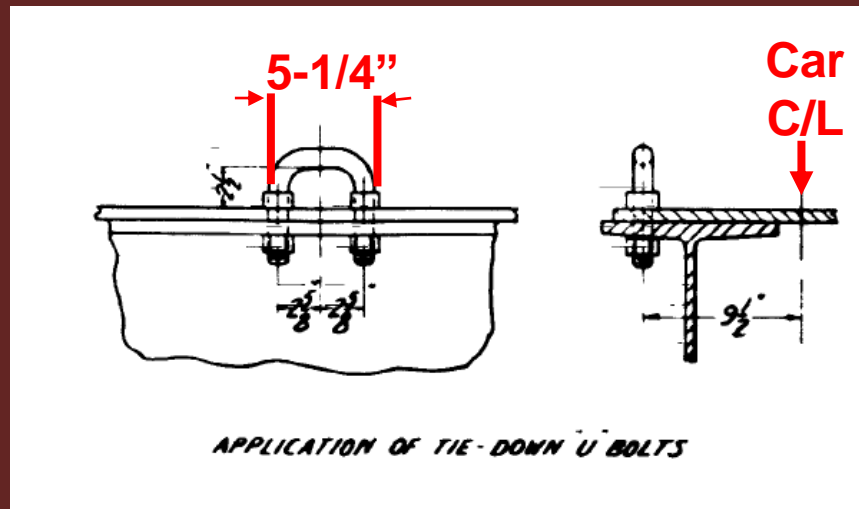
Template used to locate holes for tie-down loops.

Note: Hitches not secured to car deck as of yet.

# F39/F39A 75-ft. Flatcars

## Tie-Down Loops

- Tie-down loop detail

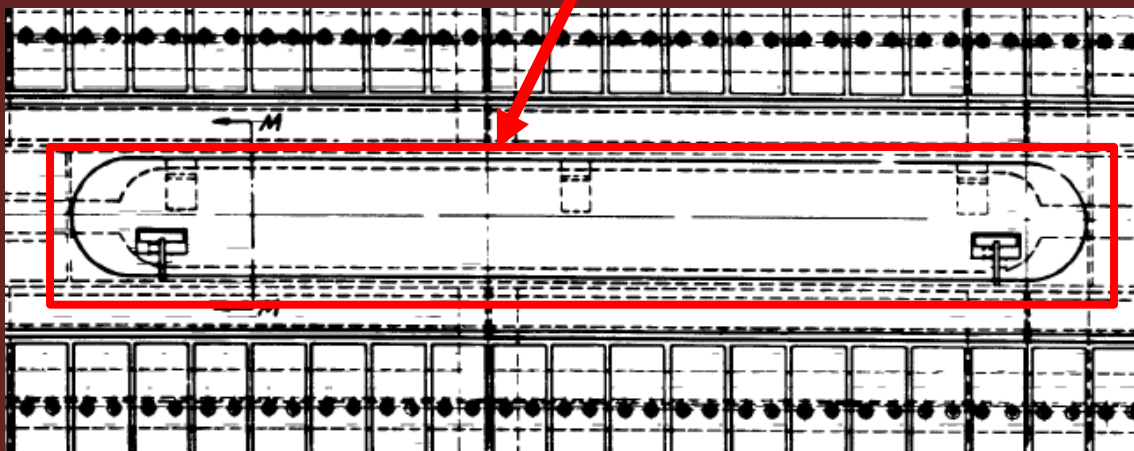


- Loops made from 1-1/4" T-Pin loops, hole size is No. 65 drill.
- Rapido includes tie-down loops for their 50' F30D that could be used.



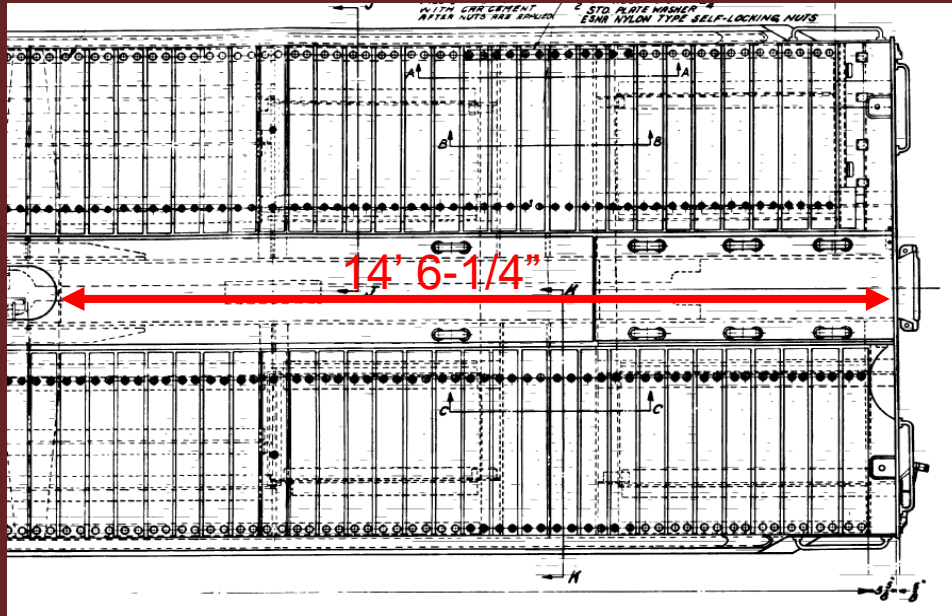
# F39/F39A 75-ft. Flatcars Center Sill Storage Doors

22-1/2" x 102" overall size.



Overland Models, Inc. Photos

# F39/F39A 75-ft. Flatcars Center Sill Storage Doors



Located 14' 6-1/4" from face of end sills to edges of doors.

Storage doors modeled by scribing door outline in center sill top cover plate, carving and filing handle recesses and adding 0.025" rod pieces for handles.



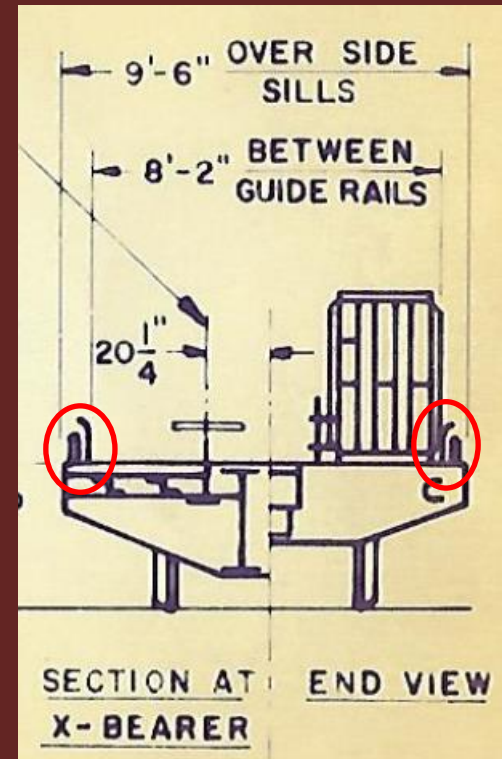
## F39/F39A 75-ft. Flatcars Inside Guide Rails



- Inside guide rails added to reduce inside width to 8' 2" on cars equipped with hitches.
- Note that the supports for pipe guide rail are angles, not rectangular tubes.

## F39/F39A 75-ft. Flatcars Inside Guide Rails

- Estimated height is 9" based on photos, pipe guide rail is 7" to top of the pipe.
- 1" x 6" styrene strip used for vertical face with 1" x 3" bent flange at top.
  - Use a 1" x 6" wood strip for a temporary spacer and remove when solvent has dried.
  - Press guide rail at ends against the pipe guide rails to form the end taper.



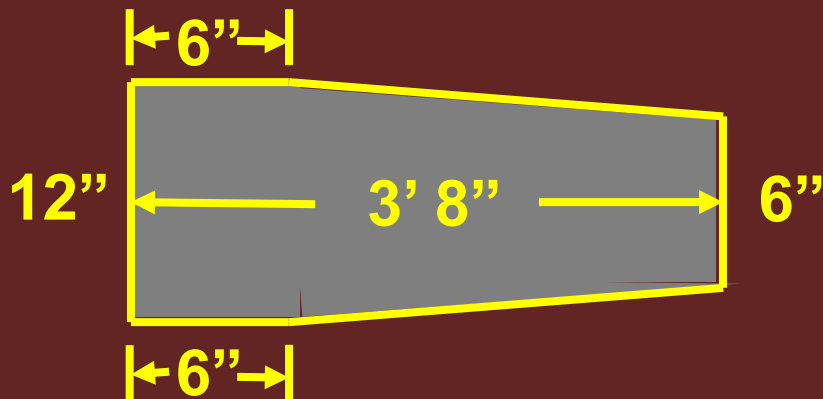
# F39/F39A 75-ft. Flatcars

## Underframe Improvements to the Walthers F39\*

\*Mont Switzer – Mainline Modeler, Jul-Aug 2005

### Center Sill and Crossbearer Bottom Cover Plates

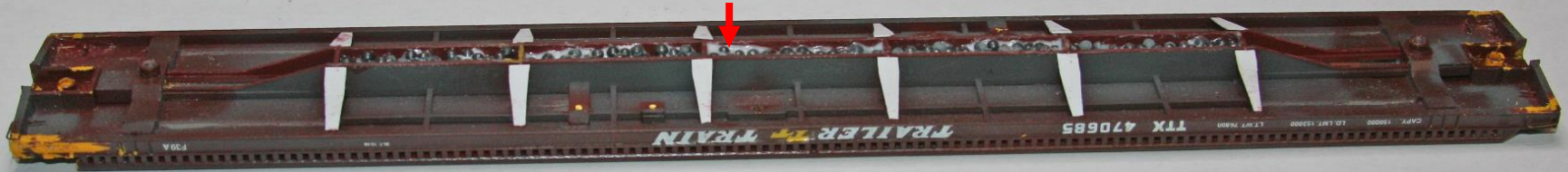
- Do not use the combined center sill and crossbearer bottom cover plate assembly.
  - Crossbearer bottom cover plates are too thick and protrude below the bottom of the side sill which is not prototypical.
- Fabricate new Crossbearer bottom cover plates (12) from 1" x 12" styrene strips.



# F39/F39A 75-ft. Flatcars

## Underframe:

With Center Sill BCP off, it is a good time to add weight to the center sill cavity.



Stock crossbearer BCPs compared to fabricated replacements:



## F39/F39A 75-ft. Flatcars

### Center Sill and Crossbearer Bottom Cover Plates

- Fabricate new center sill bottom cover plates (BCP) from .010" x 0.250" styrene strip.
  - Main BCP is 45' long.
  - Transition BCPs are 4'6" long.
    - File taper at the outside end of the Transition BCP.
- BCPs from transition BCP to body bolster is .010" x .188" to clear wheel flanges of the No. 2 and No.3 wheelsets x 3' 7" long.

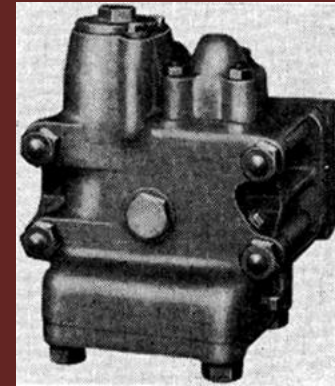


# F39/F39A 75-ft. Flatcars

## Brake System:

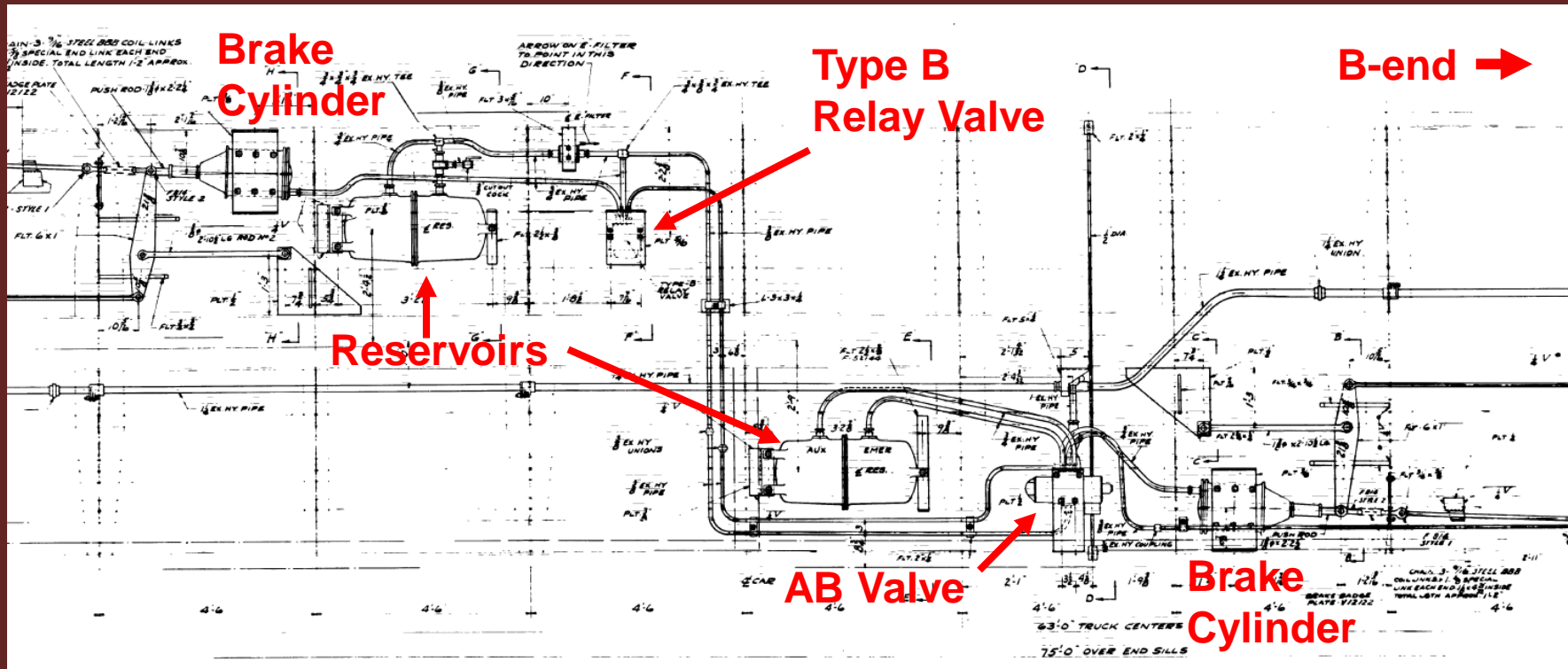


Single AB Control Valve



Type B Relay Valve

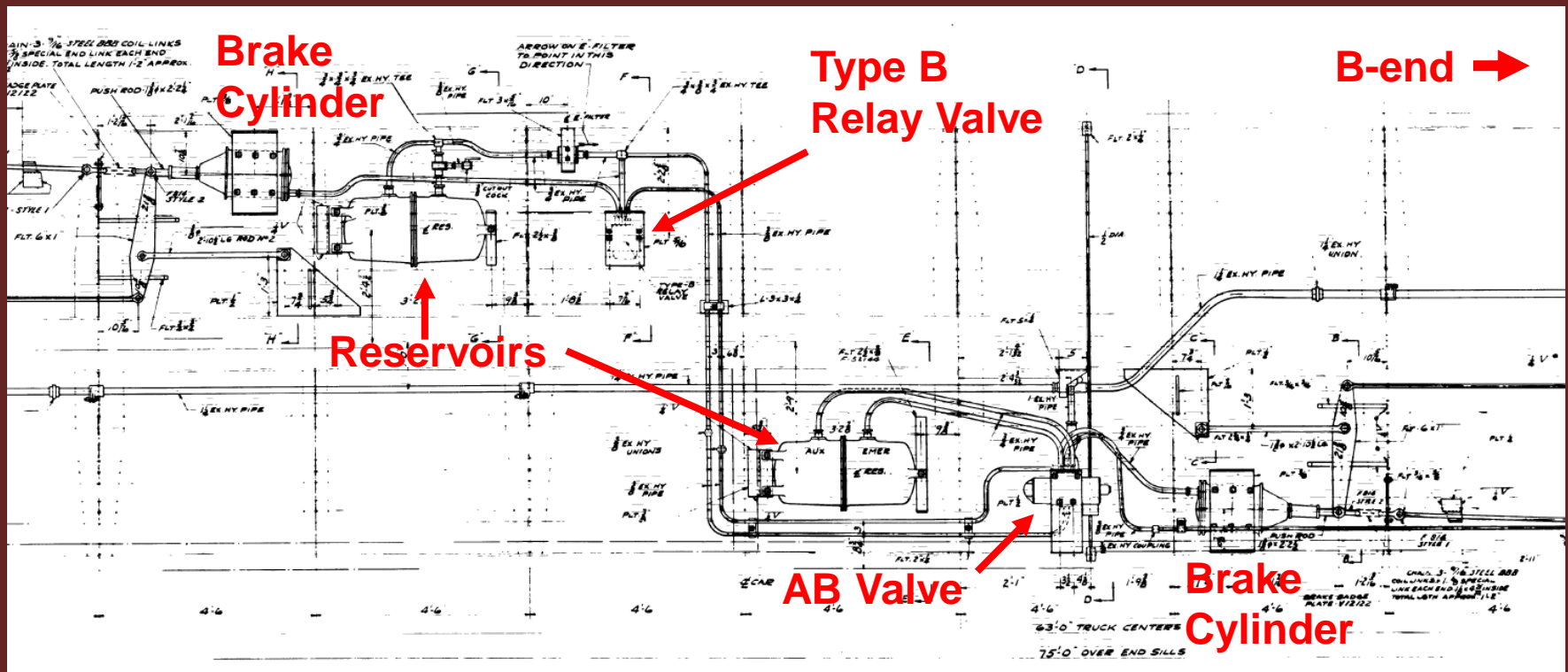
Pullman Library Coll.





# F39/F39A 75-ft. Flatcars

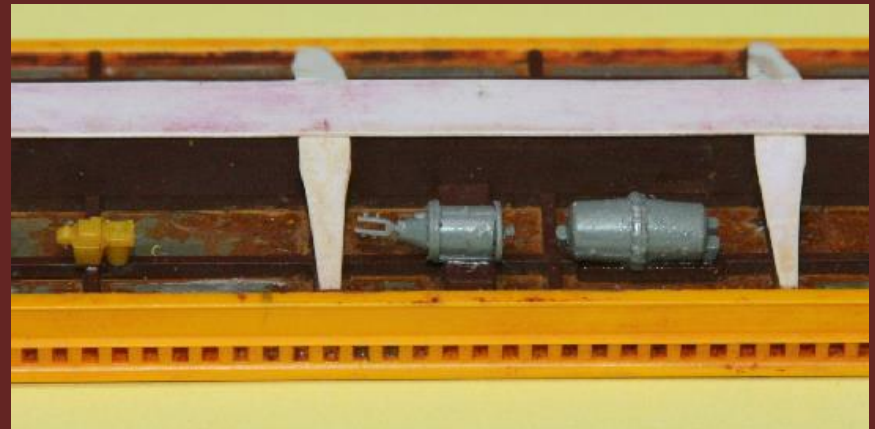
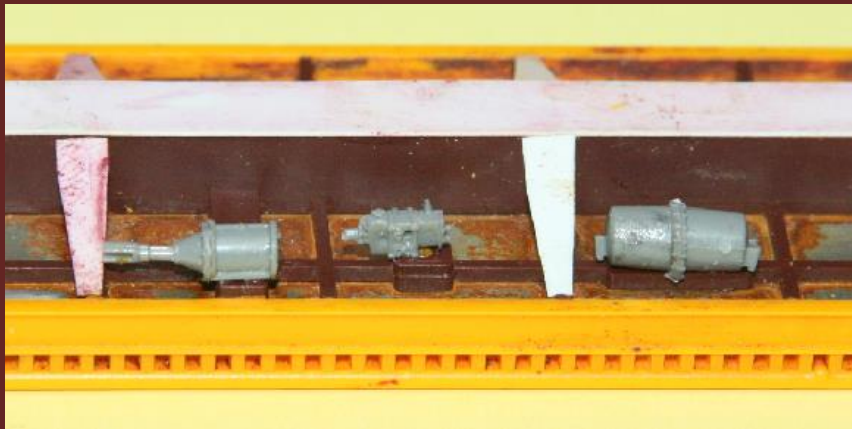
- Brake System:
  - Two brake reservoirs (one for AB Control Valve and one for Relay Valve).
  - Two 10" Brake Cylinders.



# F39/F39A 75-ft. Flatcars

## Air Brake Components

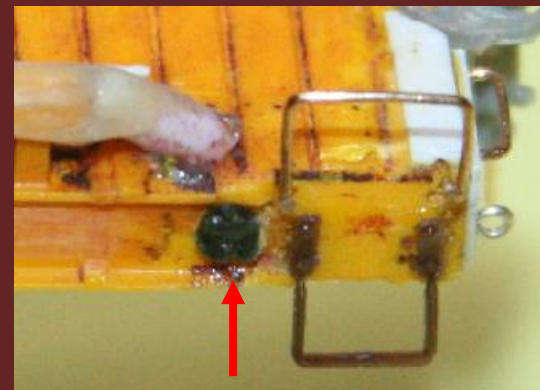
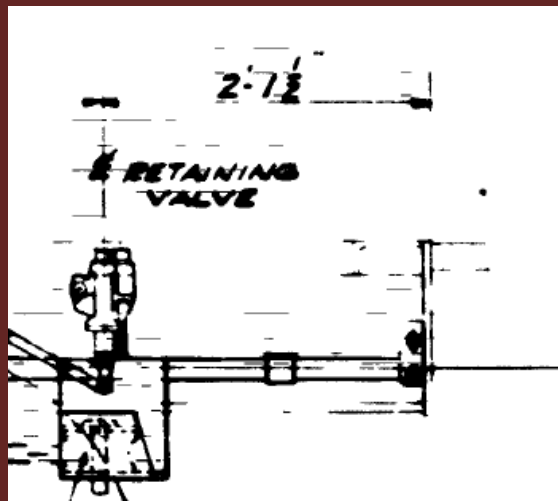
- Replace the air brake reservoirs with Tichy.
- Replace the Walthers AB valve with one from Tichy
- Add Type B Relay Valve (I applied A1 Reduction Relay Valve in its place for an upgraded prototype).
- Replace the Walthers Brake Cylinders with Tichy
- Add piping to your satisfaction.
  - Send me an email for PDF copy of drawing showing air brake arrangement ([jdpanza@comcast.net](mailto:jdpanza@comcast.net))



# F39/F39A 75-ft. Flatcars

## Handbrakes and Retainer Valve

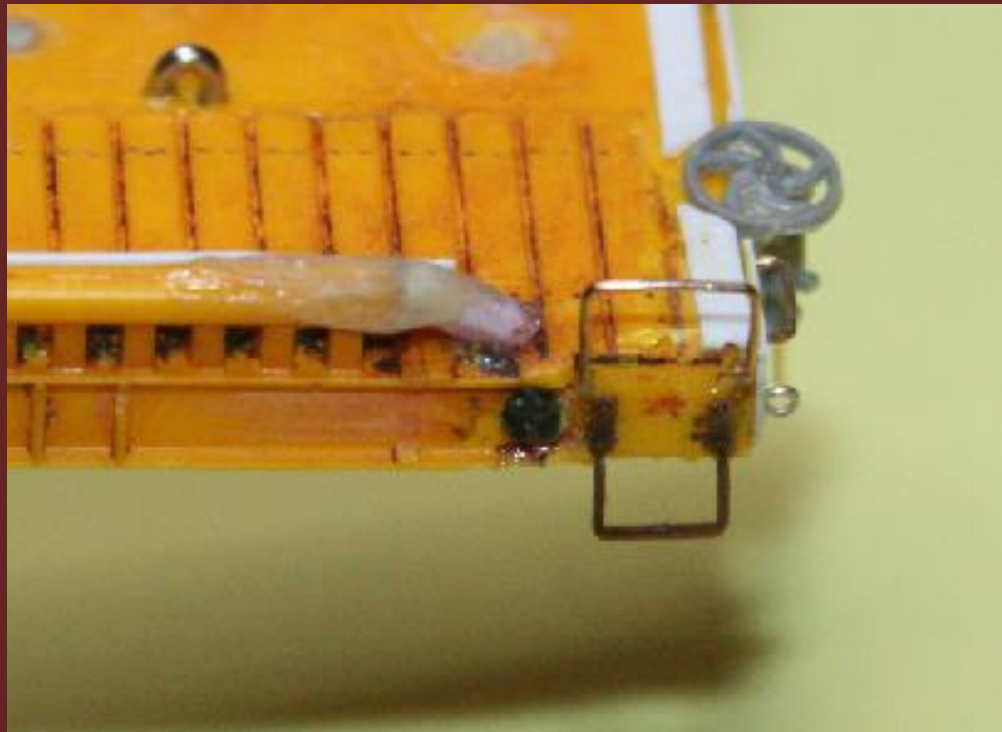
- Remove the handbrake and support using a hobby knife with a sharp blade.
- Use a file and sanding sticks to carefully remove that part of the handbrake support between the top and bottom side sill flanges.
- Apply a retainer valve to the left side sill 25-1/2" from the B-end.



# F39/F39A 75-ft. Flatcars

## Pipe Guide Rail

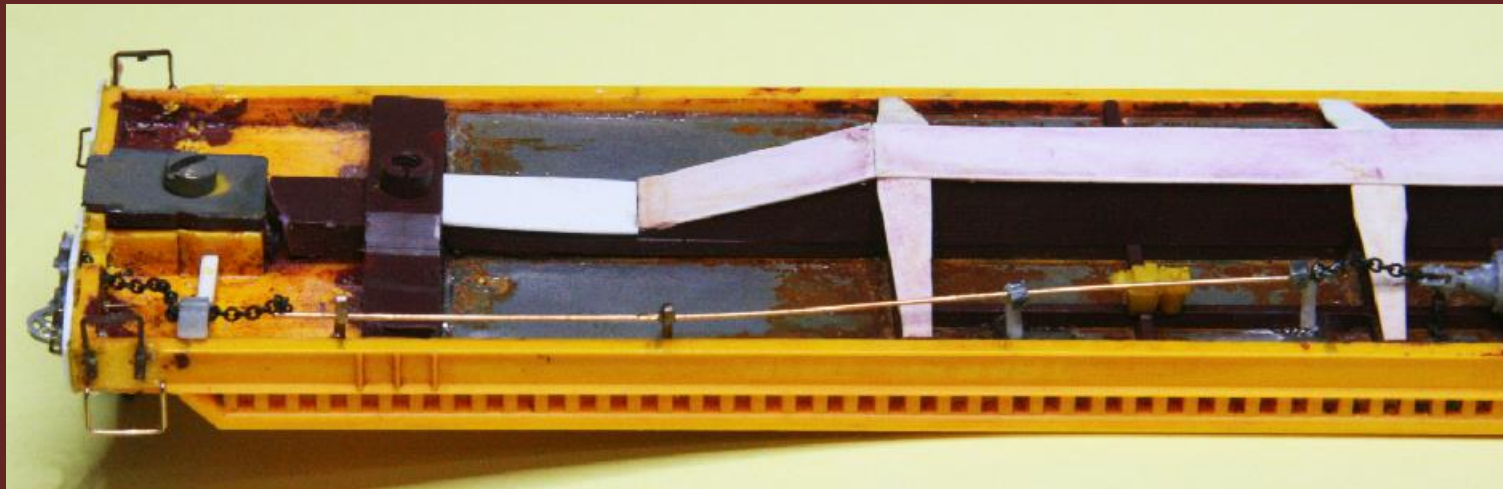
- Fabricate replacement pipe guide rail from .062" styrene rod at the BL corner where the handbrake supports were removed.



# F39/F39A 75-ft. Flatcars

## Handbrake Rods & Supports

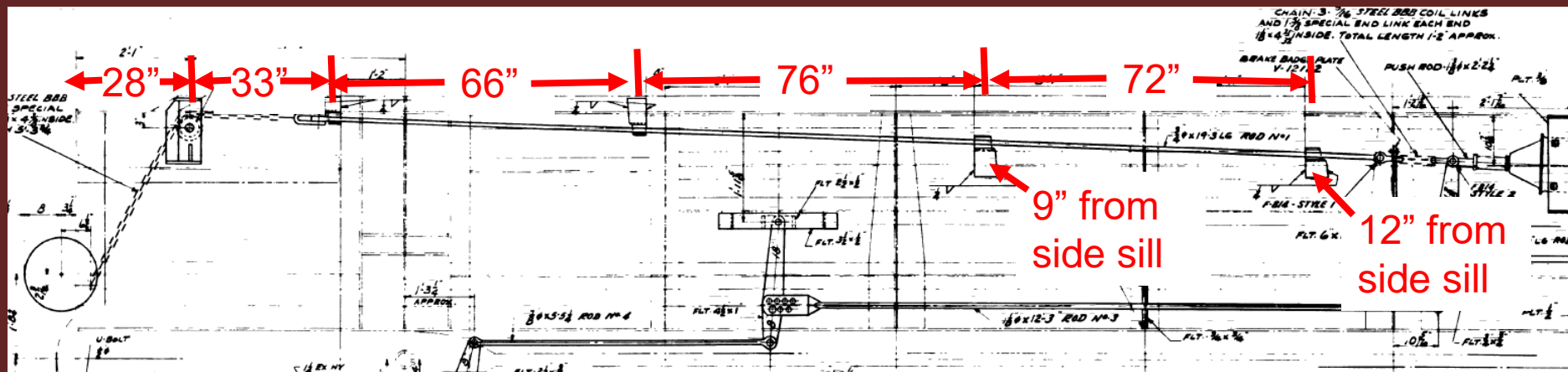
- Sheave wheel supports taken from Tichy AB Brake Set with a fabricated sheave wheel made from .062" styrene rod.
- Fabricate handbrake rod supports from A-Line sill steps cut in half and/or styrene strips per Mont's article, locate per diagram below.
- Handbrake rod made from .015" wire cut to 19' 3" in length.
- Chains cut to length to allow some sagging to indicate handbrake is released.



# F39/F39A 75-ft. Flatcars

## Handbrake Rods & Supports

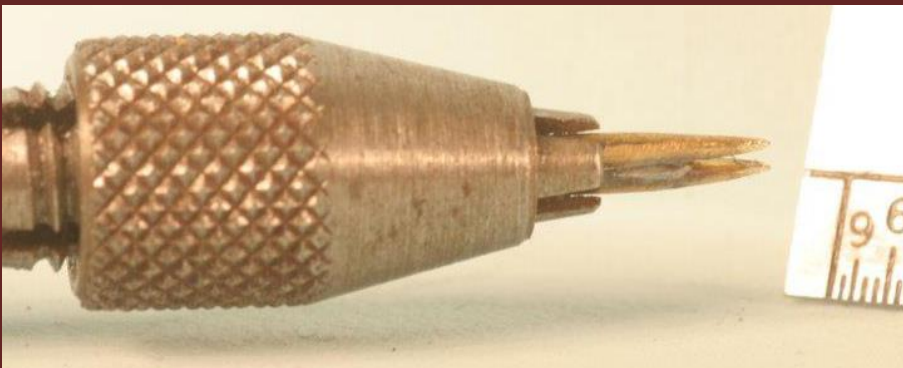
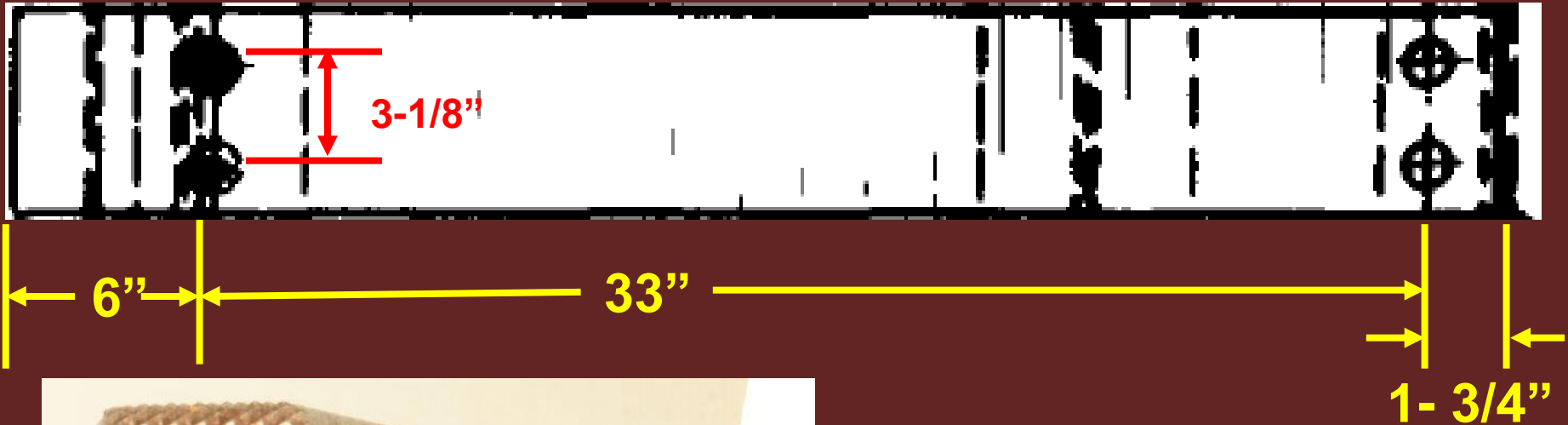
- Drawing showing position of handbrake rod supports and sheave wheel bracket.
- Drawing is looking down from above at the AR corner of car.
- BL corner is mirror image of AR corner.



# F39/F39A 75-ft. Flatcars

## Floor Boards

- Prototype floor boards are 2-3/8" thick x 5-1/2" wide x 40-3/4" long.
- Bolt hole locations per Builder's drawing:



Mont's Method: Solder two pins together and use straight edge to ensure bolt holes are longitudinally properly aligned.

# F39/F39A 75-ft. Flatcars

## Floor Boards – Drawings vs. Photos



Drawings indicate boards were retained with 4 securements when cars were built.

Photos indicate some cars with boards retained with 2 securements without countersunk holes but with mushroom cap bolts.

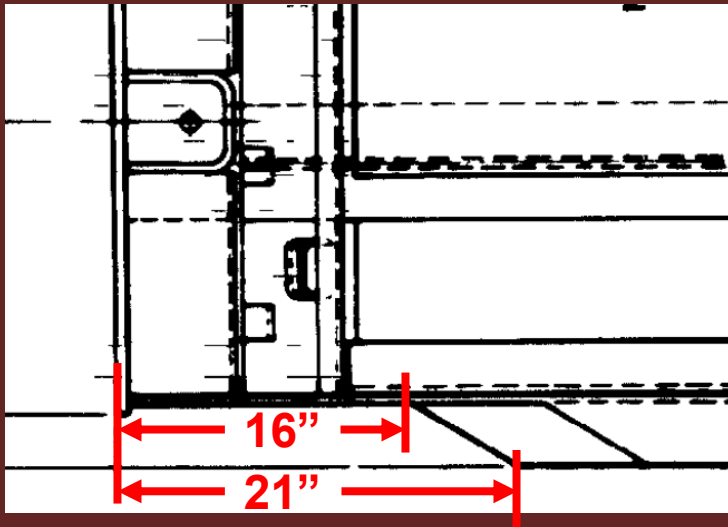




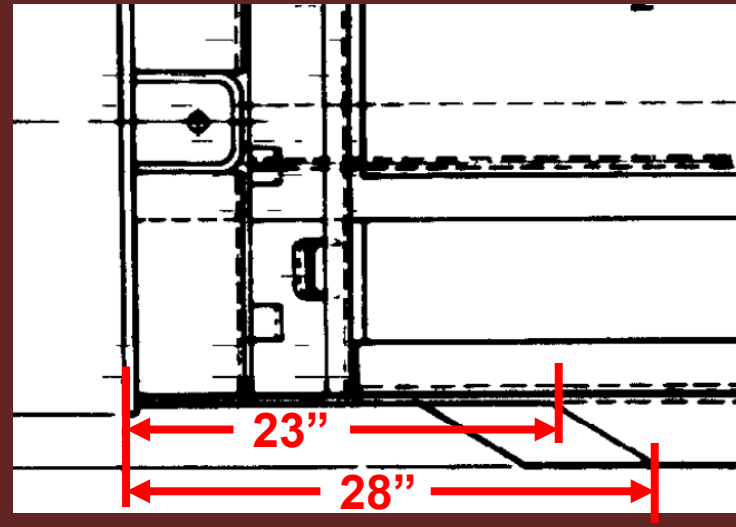
# Improving the Walters F39 75-ft. Flatcar

## Safety Appliances:

- The side sill flanges at the corners are trimmed to allow proper clearance for the handholds and sill steps.



Side Sill Bottom Flange



Side Sill Top Flange

## F39/F39A 75-ft. Flatcars

### Safety Appliances as built:

- Sill steps are 12" wide and 14" tall with the horizontal portion of the step located 8-1/2" below the bottom side sill flange.
- Side sill handholds are 18-1/4" in length, located 2-3/8" from the end sill and 2-3/8" from the top of the side sill.



## F39/F39A 75-ft. Flatcars

### Safety Appliances revised:

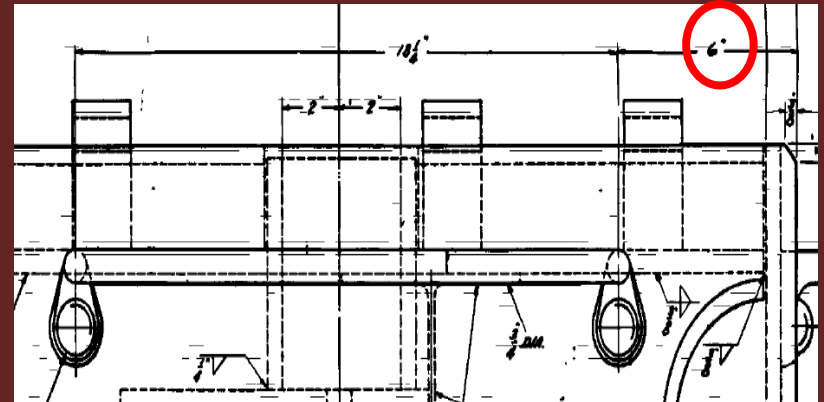
- 18" high offset handholds replaced straight handholds mounted to the side sills.
  - I used 18" high handholds making them 12" tall after bending which are a bit short.



## F39/F39A 75-ft. Flatcars

### Safety Appliances

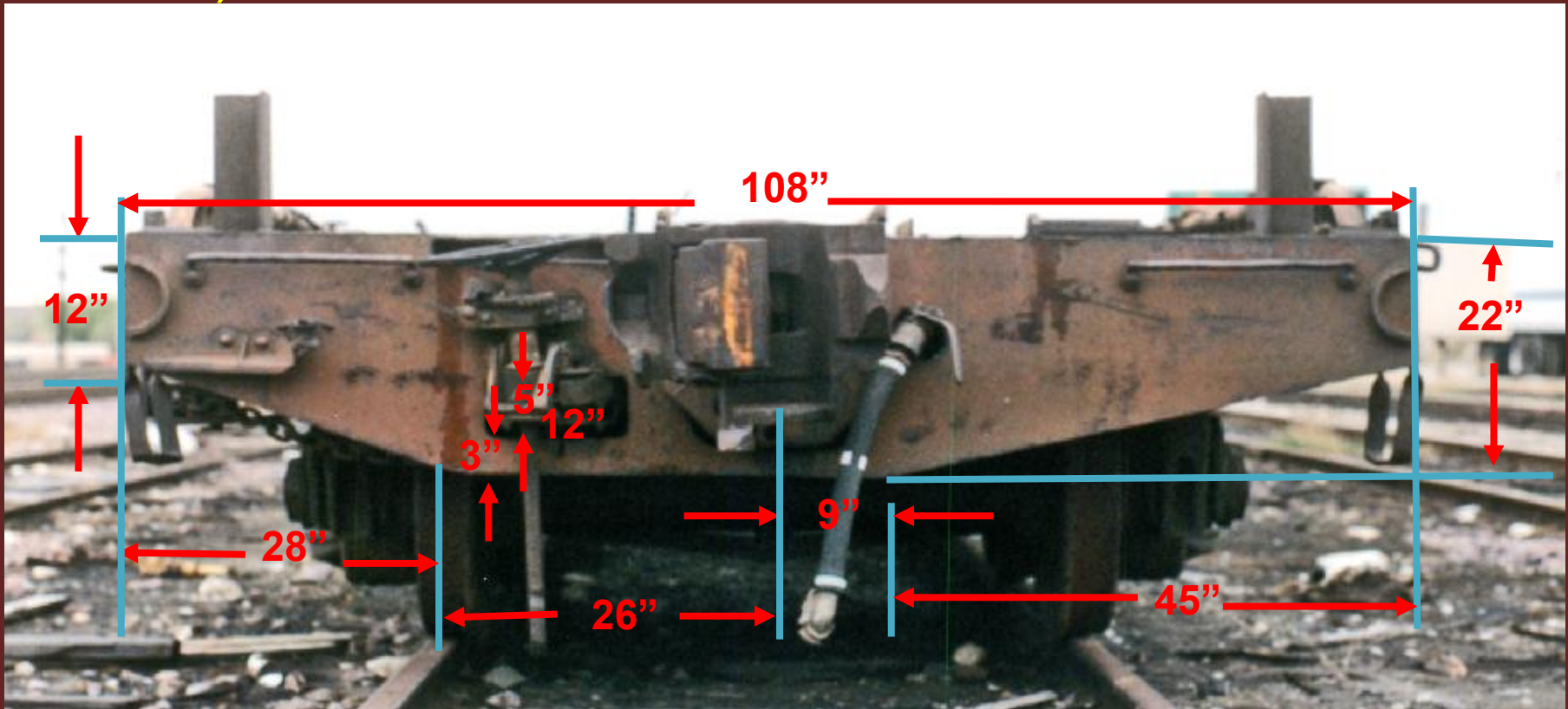
- End sill handholds are 18-1/4" in length, located 6" from the side sill and 2-3/8" from the top of the end sill.



# F39/F39A 75-ft. Flatcars

## End Sills on Prototype:

- End sills at handbrake location (BL & AR) are different than those at non-handbrake location (BR & AL)





# F39/F39A 75-ft. Flatcars

## End Sills:

- File the end boards above the end sill flush.
- Add end sill top plates from 1" x 6" styrene strip in pieces.
  - Cut at angle for handbrake wheel recess.
  - Gap between pieces is 18" above end sill face centered at the handbrake shaft centerline. (20-1/4" from the car centerline).
- Add striker bar made from .020" x .060" styrene.



# F39/F39A 75-ft. Flatcars

## ACF Model A Hitches

- Screw-operated trailer hitch.
- First widely-accepted trailer hitch to replace jacks & chains.
- Square top plate and vertical strut “skinny legs”.

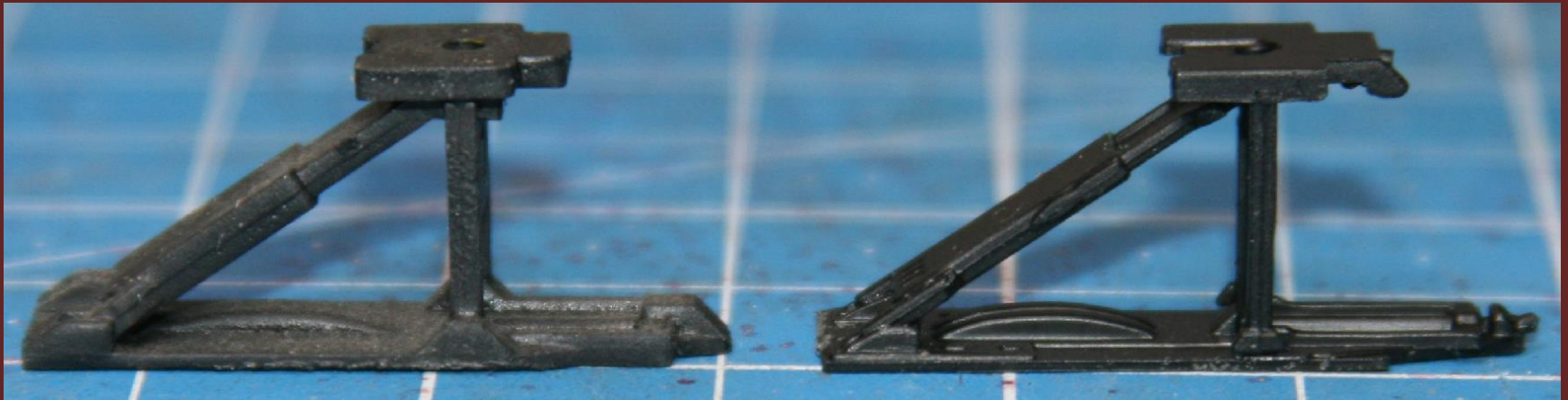




# F39/F39A 75-ft. Flatcars

## ACF Model A Hitches

- Walthers ACF Model A Hitch on left.
- Athearn #20008 ACF Model A Hitch on right.
- Paint hitch black for yellow TTX paint scheme.
- Paint hitch primer red for TTX red scheme.



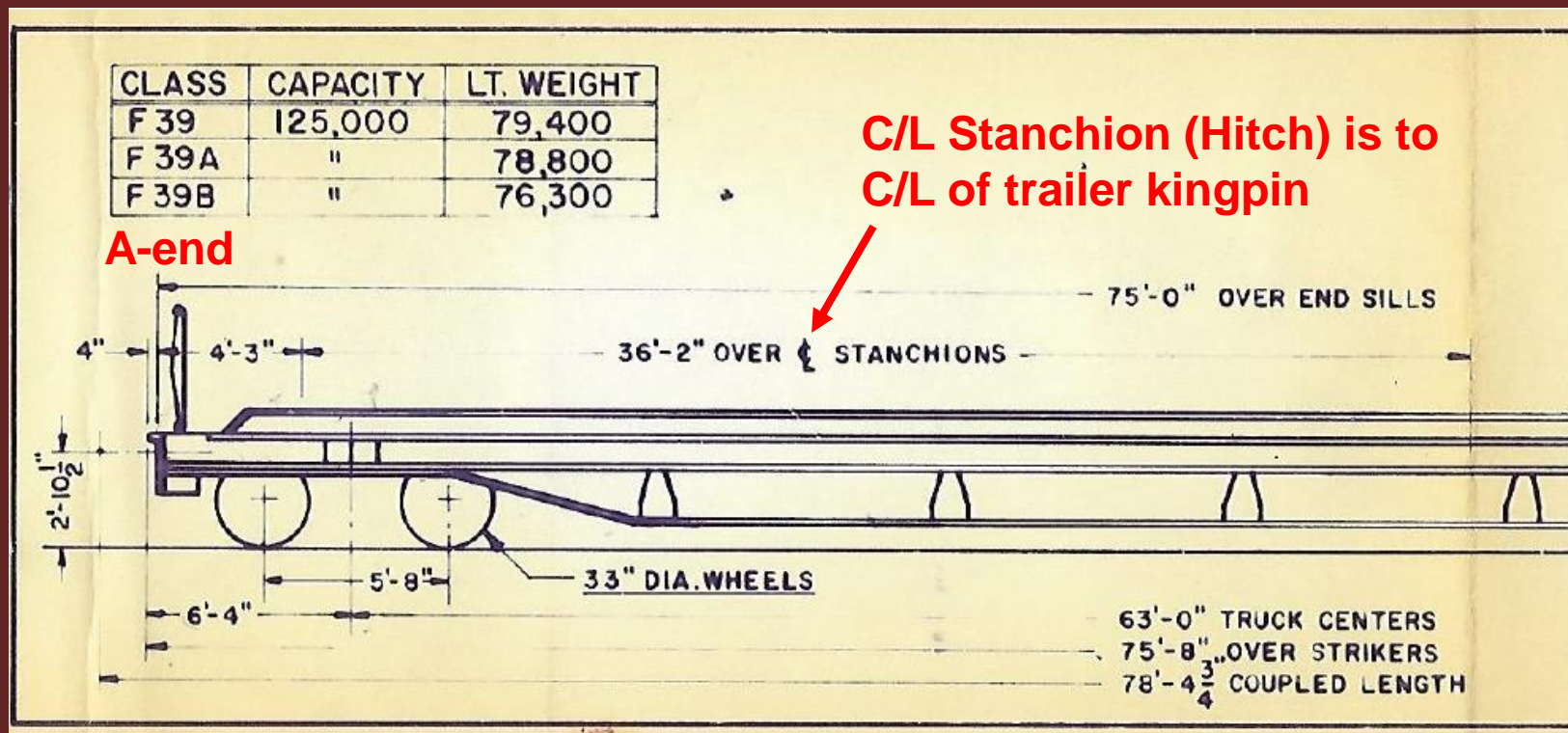
Walthers ACF Model A Hitch

Athearn ACF Model A Hitch

# F39/F39A 75-ft. Flatcars

## ACF Model A Hitch Locations

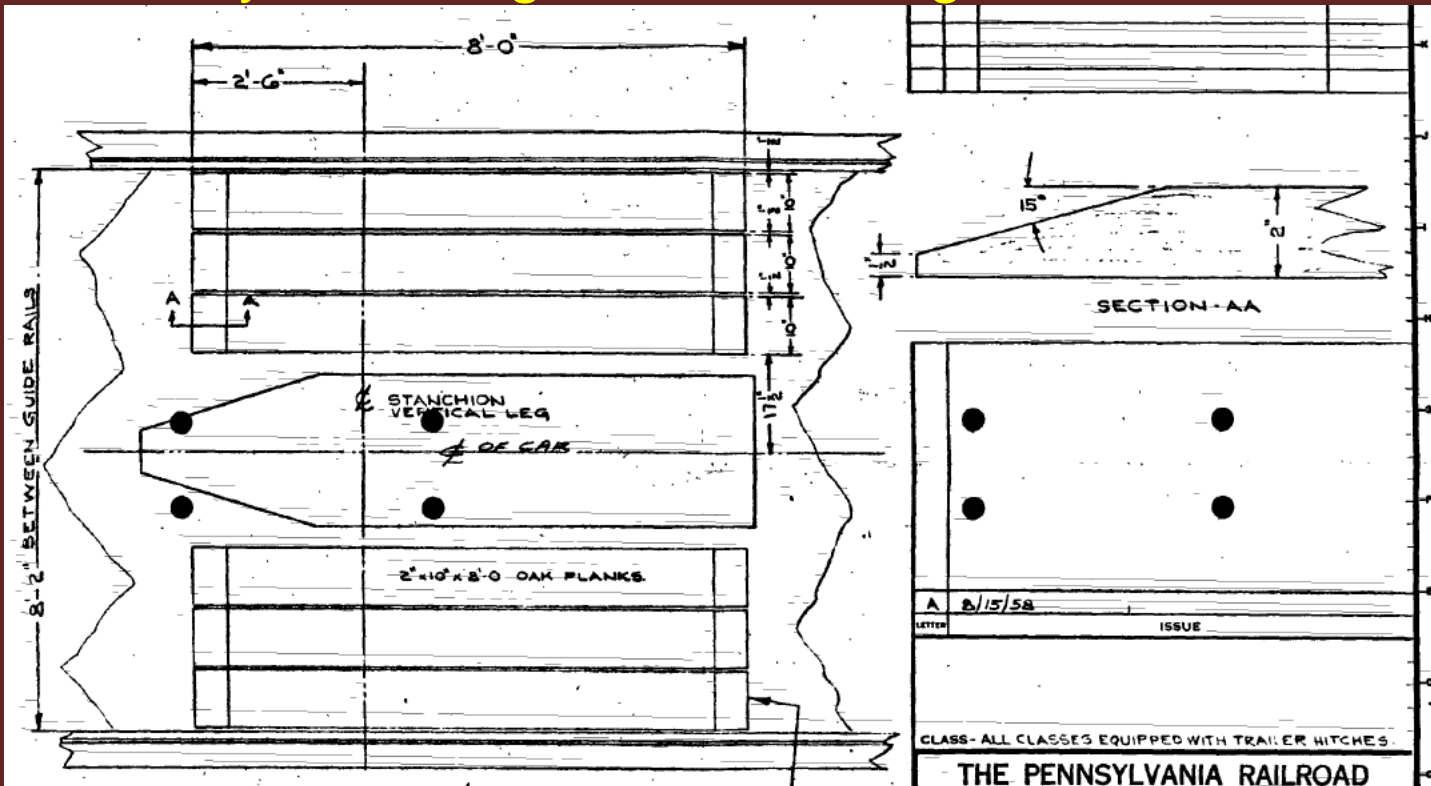
- End hitch located 4'3" from A-end end sill, 4'7" from A-end striker face.
- Center hitch located 40'5" from A-end end sill, 40'9" from A-end strike face.



# F39/F39A 75-ft. Flatcars

## Hitch Riser Boards

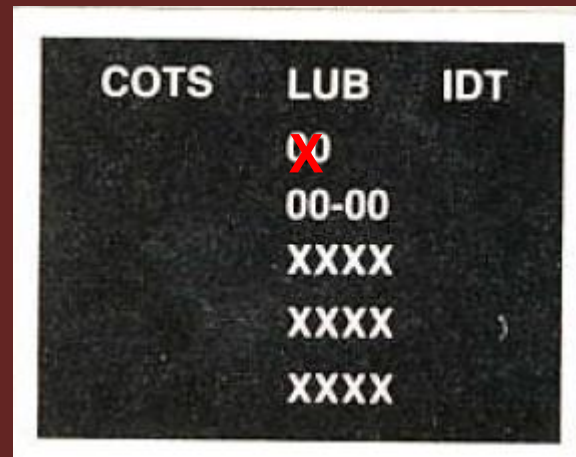
- 2"x 10" x 8'0" with 15-degree taper at ends down to 1/2" thick – 6 per hitch location.
- Riser boards must be located at the hitches to provide clearance for trailer axles passing over hitches during circus-style loading and unloading.



# F39/F39A 75-ft. Flatcars

## ACF Model A Hitches

- Athearn ACF Model A hitch painted and applied to A-end of the car.
- Apply hitch inspection and lubrication date using Microscale consolidated stencil decal for roller bearing lubrication but only the top 4 lines, delete line 2.
  - Make sure you use “LUB” stencil that has date and company-station and not one that says “NO” under “LUB” (No Field Lubrication Roller Bearings)

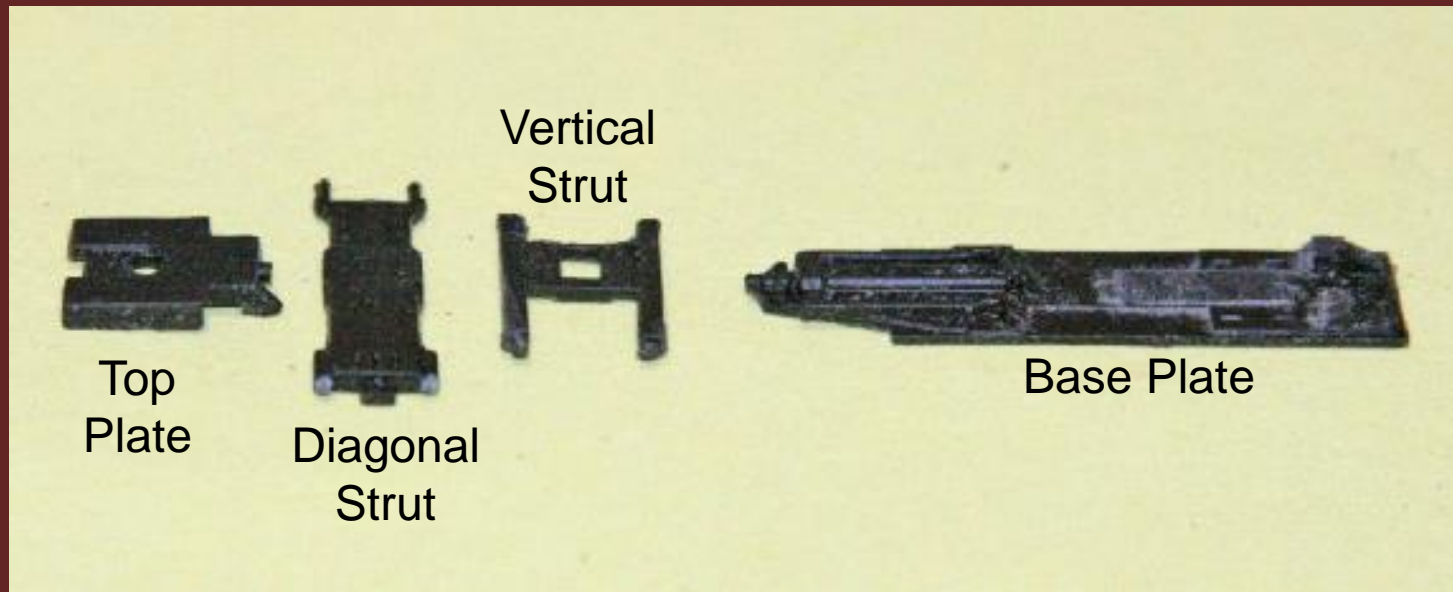


LUB  
9-73  
RDG

# F39/F39A 75-ft. Flatcars

## Retracted Athearn ACF Model A Hitch

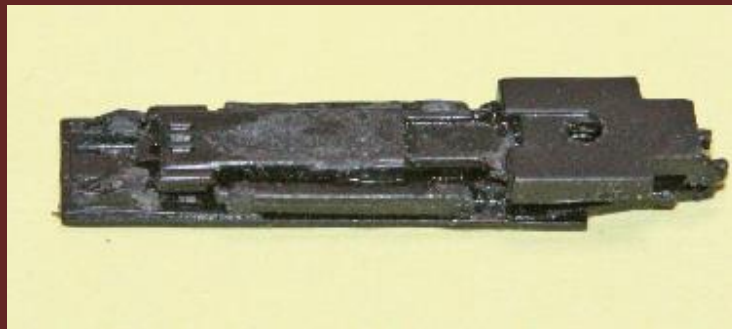
- Start dismantling hitch by carefully removing the top plate from the vertical strut.
- Remove vertical strut from base plate.
- Remove diagonal strut from base plate.
- File leaf springs off base plate.



# F39 75-ft. Flatcars

## Retracted Athearn ACF Model A Hitch

- Dry fit the components to the base plate in the following order.
- Vertical Strut positioned so that the recessed web is upward to nestle the diagonal strut.
- Diagonal Strut positioned with the bottom legs at the rear pivot mount.
- Top plate just behind the elevating screw socket and front bracket.
- File components as needed to get hitch to lay as flat as possible.



# F39 75-ft. Flatcars

## Retracted Athearn ACF Model A Hitch

- A retracted hitch is necessary if loading your F39 or F39A flatcar with a single 40-ft. long trailer.
- Position retracted hitch so that the holes for the vertical strut in the base plate are centered 40' 5" from the A-end end sill.
- Note that the hitch inspection & lubrication stencil is applied to the hitch closest to the end of the car only.



# Hitches/Riser Boards/Guide Rails



- Tie-down loops at the hitches were removed to allow application of hitch base plate.
- One set of tie-down loops at center of car toward A-end and one set at the B-end were not removed.



# F39/F39A 75-ft. Flatcars

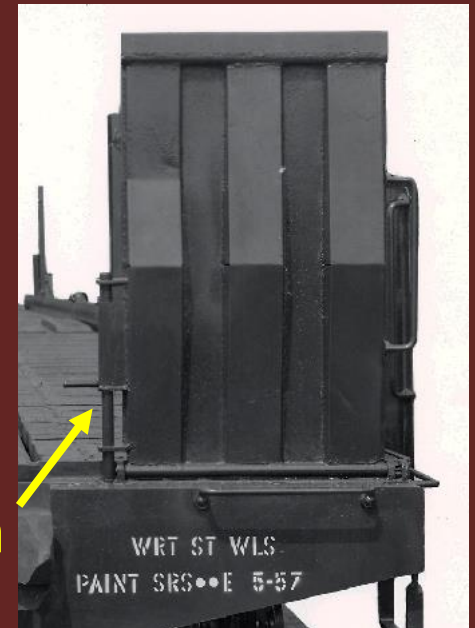
## Bridge Plates and Ramps

- I updated the bridge plates to those that have flat running surfaces.
- Apply handholds to bridge plates if modeling prior to 1968.



Original Bridge Plate Design

Revised Bridge Plate Design



## F39/F39A 75-ft. Flatcars

### Bridge Plates and Ramps

- Bridge plate ramp is formed steel.
- Bridge plate hinge pin pivots cut from steel plate.
  - Pivot at side sill was cut off by a shipper after the car was converted to general service.
- Bridge plate lock bar receptacle steel tube is welded within hole in end sill top flange.

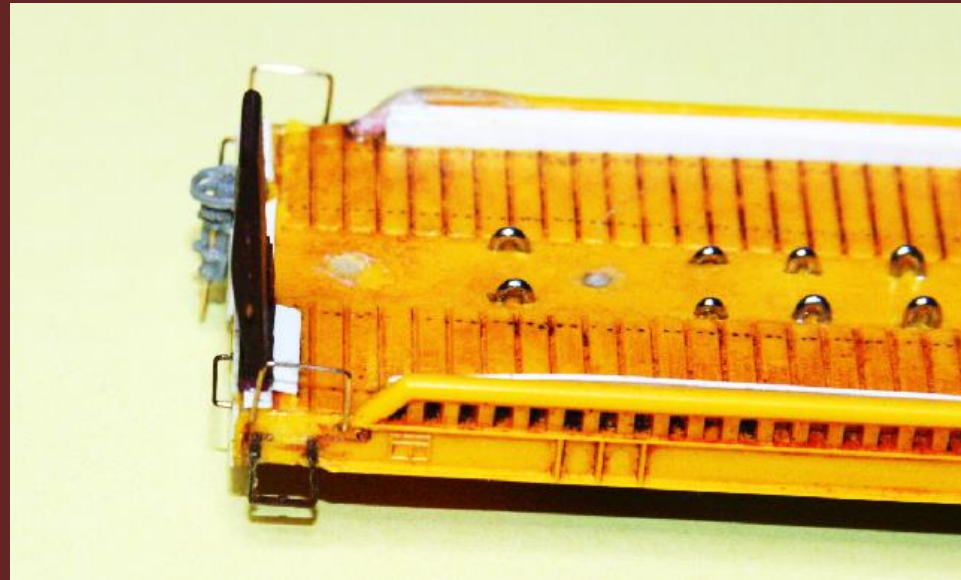


Overland Models, Inc. Photo

# F39/F39A 75-ft. Flatcars

## Bridge Plates and Ramps

- Bridge plate ramps were made from 1" x 2" x 28" and 1" x 6" x 28" styrene strips.
- Bridge plate is cemented to the end sill top plate.
- Bridge plate outer pivots are cut from .020" x .060" styrene strips to 2" in height with 1/2" tapers.
- Inside pivots are hidden by the bridge plate lock assembly.



# F39/F39A 75-ft. Flatcars

Upgraded F39 (Post 1958):

- Mt. Vernon Shops HO PRR F39 Flatcar Decals.
  - Reporting marks and car number are slightly oversized, substitute with those from Microscale set 87-552.
- COT&S date on air brake reservoir by the AB valve only.



Completed Car

# F39/F39A 75-ft. Flatcars

## Recap of Modifications to the Walthers F39 Cars in TOFC Service without vs. with Hitches

Item	Prior to Hitch Application	With Hitches
Underframe	Yes	Yes
Brake System	Yes	Yes
Handbrakes	Drop Shaft on both ends	Drop Shaft on both ends
Vertical Posts	Yes	No (Some early on)
Tie-Down Loops	Both ends and car center (2 places)	B-end and car center toward A-end
Bridge Plates & Ramps	Add handhold to old style	New style
Guide Rail	No	Yes
Storage Door	Yes	Yes
Riser Boards	No	Yes
Side Sill Handhold	Straight	Offset 18" high or straight

# F39 75-ft. Flatcars

## Typical Late Life Appearance

TTX 470594 – A-end Right Side View

- ACI Label added.
- Inside Guide Rail and Hitches.
- New design bridge plates.



12/19/1970 Reading, Pa Craig Bossler Photo – Jim Kinkaid Collection

# F39A 75-ft. Flatcars

## Rare modified F39 A

- During Program Maintenance, the car was repainted into the 1958 Trailer Train scheme.
- Other work includes reconditioned, or new, trucks, hitches and new wheel sets.
- Rare is the removal of the two drop shaft handbrakes and application of an AAR Group E Handbrake (Lever Type).



# F39A 75-ft. Flatcars

## Rare modified F39 A

- Note Group E handbrake applied with support at the B-end.
- Vertical posts have been removed.
- Tie-down loops at the hitch locations have been removed.
- How many received the handbrake modification?



TTX Collection



## F39 in TOFC Service Late in Life.

- Side sill handholds converted with offset type that extends above the deck.
- Consolidated stencil board and stencils added.
- U1 Wheel Stencil still on car from 1978 when applied.
- Telescoping uncoupling lever applied.



Altoona, PA,  
August 1984

# F39/F39A as ATTX

- Perform all modifications as TOFC except hitches, riser boards, and inside guide rails.
- Some had bridge plates, others had them removed.

Compo, Calif.



Bob's Photo

# F39/F39A as ATTX

- Continuous tie-down loops



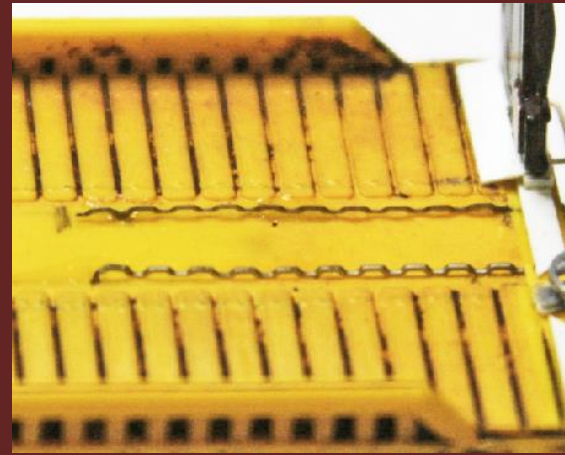
F39B Shown

- Tangent Bethlehem Steel Gondola Metal Lading Band Anchors



# F39/F39A as ATTX

- Continuous tie-down loops
  - 6 x 9-ft. Lengths with 18-in. spacing between sections and at ends of car (total of 8 18-in. spaces).
  - Lay them out prior to affixing to ensure fit.
  - No. 75 hole for securing to deck, approximately 3” from inside edge of center sill top cover plate.



## F39/F39A as JTTX

- Perform all modifications as TOFC except hitches, riser boards, and inside guide rails.
- Some had remnants of continuous tie-down loops (ex-ATTX).
- Some had pipe guide rails and supports removed providing a flush deck for loads.



Ex-WAB 313: TTX Collection

# F39 in Wheel Service

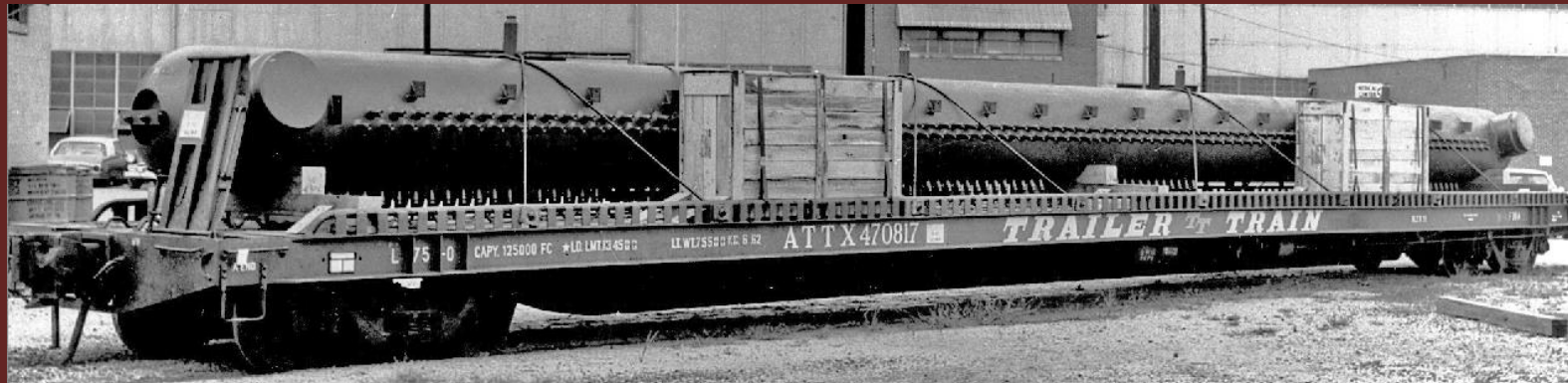
- Perform all modifications as TOFC except hitches, riser boards, and guide rails.
- Fabricate wheel rack.
- Some had ATTX reporting marks, others had JTTX reporting marks.
- Cars were prominent in C&NW service.



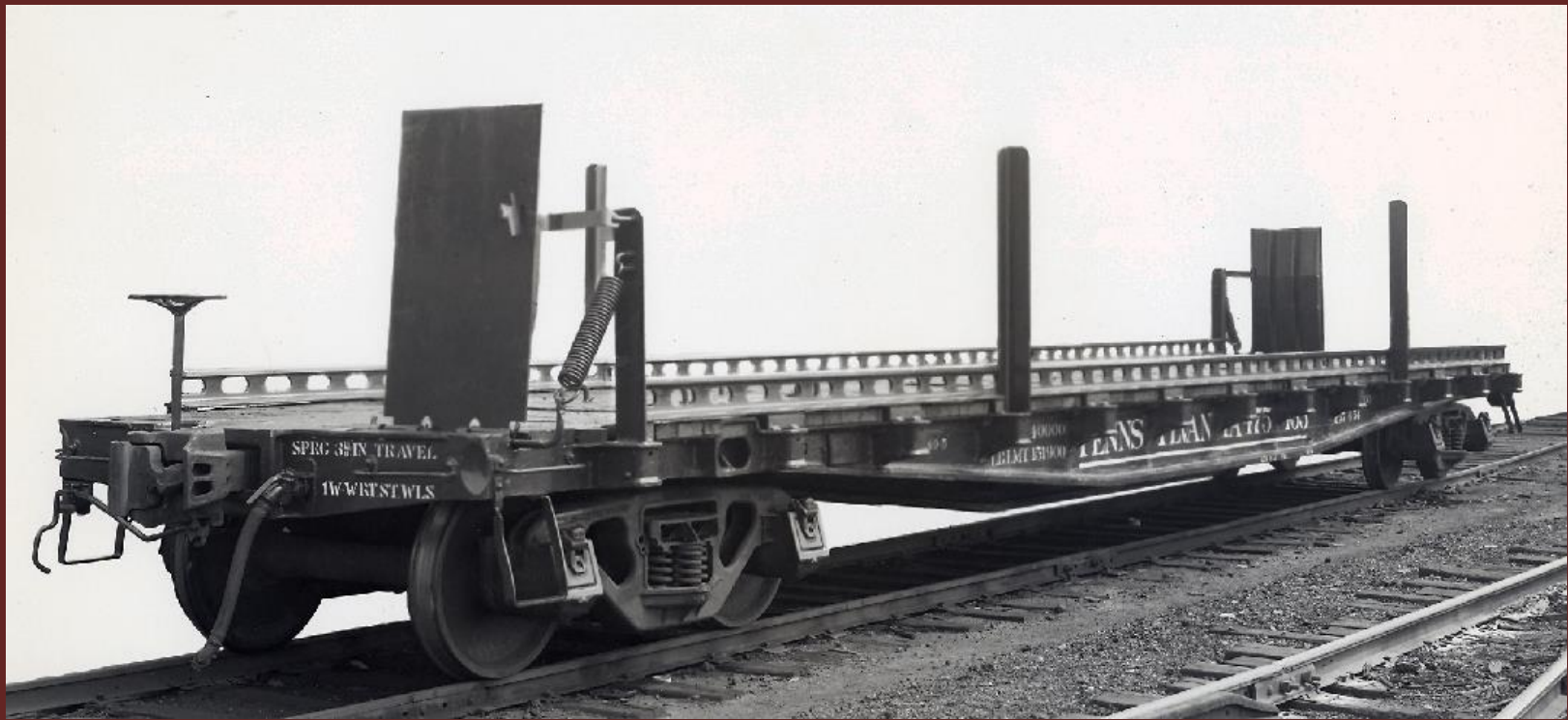
J. Michael Gruber – Mainline Photos

# F39/F39A ATTX and JTTX 75-ft. Flatcars Modifications to the Walthers F39

Item	ATTX	JTTX
Underframe	Yes	Yes
Brake System	Yes	Yes
Handbrakes	Drop Shaft on both ends	Drop Shaft on both ends
Continuous Tie-Down Loops	Yes	Mixture of yes and no – refer to photos.
Guide Rail	Pipe Style Guide Rail Only	<ul style="list-style-type: none"> <li>• Pipe Style Guide Rail</li> <li>• <u>or</u></li> <li>• Remove pipe style guide rail and supports.</li> </ul>
Storage Door	Yes	Yes
Side Sill Handhold	Offset 18" high or straight	Offset 18" high or straight



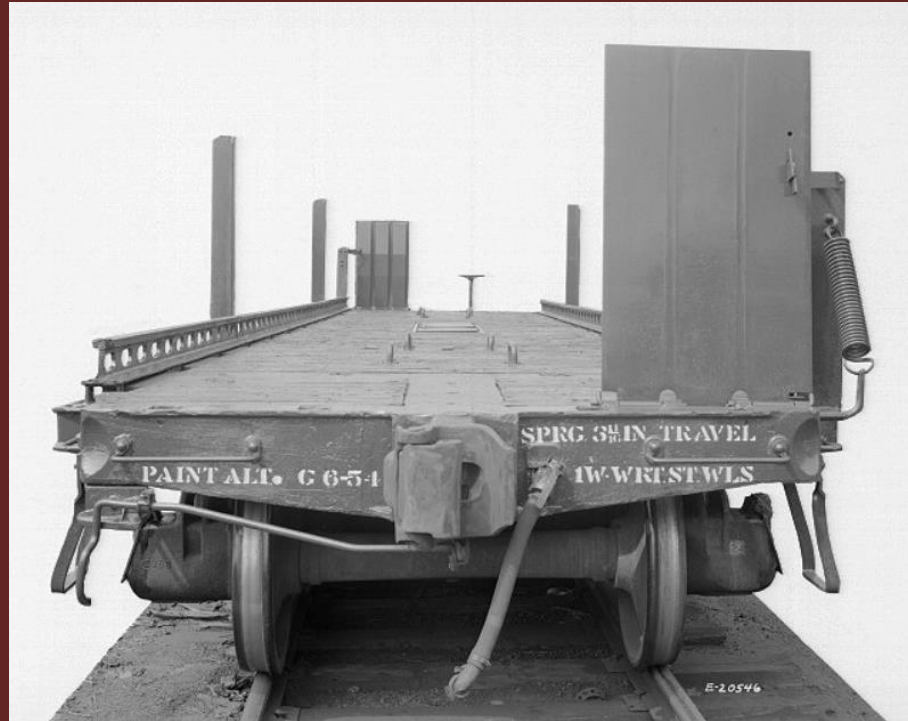
# F30D 50-ft. Flatcars



- Originally built by PRR as class F30d with GSC cast steel underframes (475301-475546) at Altoona in 1951.
- 115 F30d were converted to piggyback service in 1954.



# F30D 50-ft. Flatcars



- TTX signed a 10-year lease for 86 PRR F30d flatcars on October 1, 1957 with TTX taking full possession at the end of the lease.
- TTX 475001-475086 were from PRR series 475301~475546.
- Equipped with jacks and chains to secure the trailer, plain bearing trucks at the time of the lease.

# F30D 50-ft. Flatcars



- Beginning in September 1958, the cars went through an upgrade program that included an ACF Model A hitch, new design bridge plates, removal of vertical channel posts, roller bearing conversion of trucks, and application of new guide rails.

# F30D 50-ft. Flatcars

Stock Rapido F30D:



Upgraded F30D:



- Deck: Grimy black with dry brushed gray, tan and brown.
- Wheel plates painted rail brown, hitch painted primer red.
- Outside edges of deck boards painted PRR Maroon.
- Bridge Plate running surface painted gray for anti-skid.

# F30D 50-ft. Flatcars

Upgraded F30D:

- Replaced Rapido ACF Model A Hitch with Athearn #20008



Rapido ACF Model A

Athearn ACF Model A

- Athearn ACF Model A hitch has finer details.

# F30G 50-ft. Flatcars



- PRR agreed to sell an additional 200 class F30a cars in May 1958, authorizing their dismantling in June 1958
- Only the cast underframes were salvaged for application to the “new” cars that carried 1958 built dates.
- New Ride Control trucks applied as existing trucks couldn't be equipped with desired spring arrangement.

# F30G 50-ft. Flatcars

**Stock Rapido F30G**



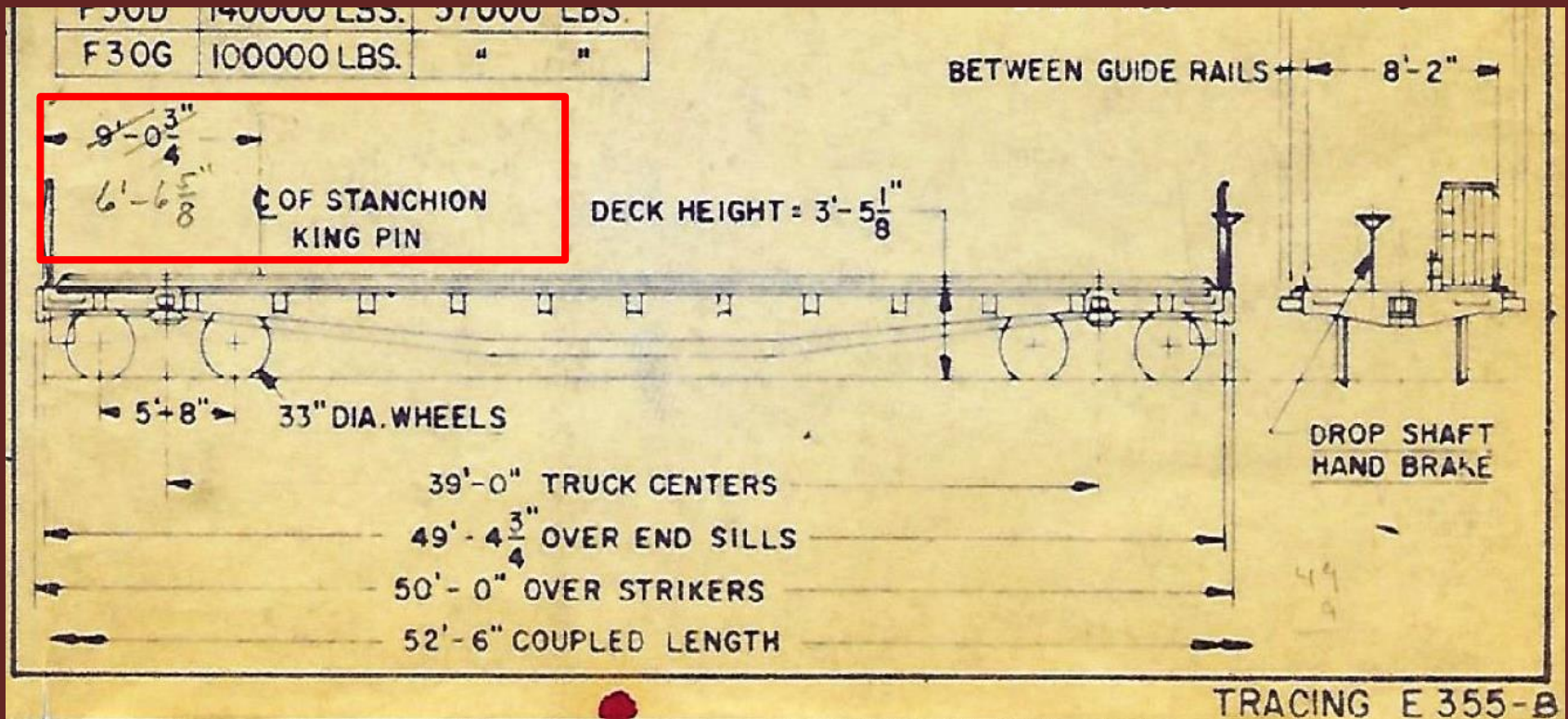
**Upgraded Rapido F30G**



- Same upgrades made as on Rapido F30D.
- Applied the supplied narrow pedestal roller bearing trucks.
- Car class should be F30G on TTX 475087-475286.
- Hitch lube stencil (RB Lube from a consolidated stencil).

# F30D 50-ft. Flatcars

## Upgraded F30D and F30G: Hitch Location



- Photos of F30D and F30G cars indicate hitch is 6'-6-5/8" from end.

# F30G 50-ft. Flatcars

Stock Rapido F30G (Post 1970):



- Trailer Train yellow is too orange, deck boards have green tint.
- Lettering is oversized and has stencil lines not painted.
- Logo is too narrow and too tall.
- U1 Wheel stencil dates the car as 1978 repaint which is feasible.
- Needs consolidated stencil board after July 1974 (furnished).

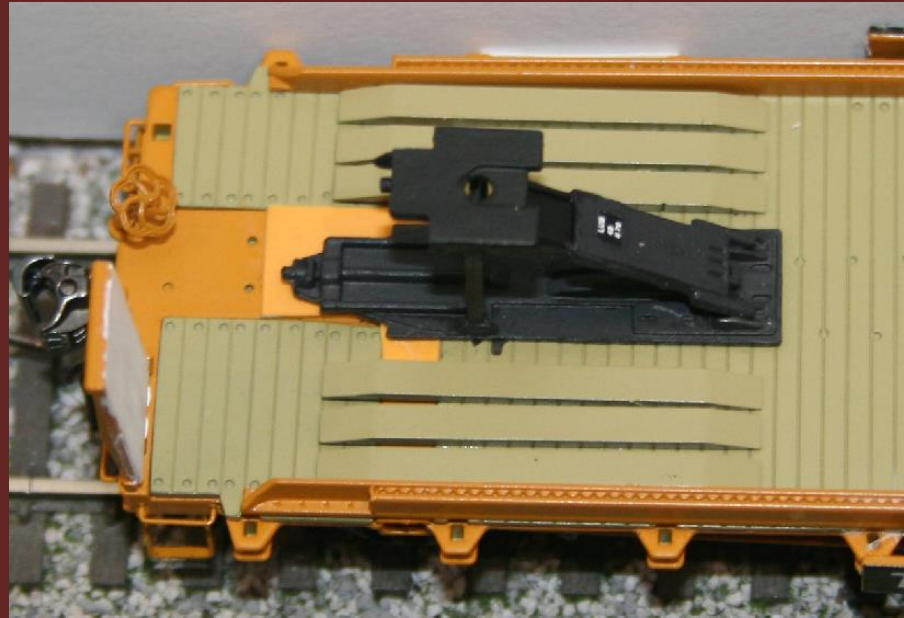


Conrail Historical Society  
Website, Jeff Weaver,  
01/12/1986



# F30G 50-ft. Flatcars

Upgraded F30G (Post 1970):



- Floor plate applied to the deck under the front of the hitch and to the right side (bottom side in photo) to permit weld securement of hitch base plate.
- Highlight hitch components by painting dark gray, paint elevating screw and top of top plate oily black.

# F30G 50-ft. Flatcars

## Upgraded F30G (Post 1970):



- Removed lettering and logo from sign board using Testor's Easy Lift Off.
- "Trailer Train", Reporting Mark and Number from Microscale set 87-578.
- Trailer Train logo is from 87-692 (Auto Rack set), any set with smaller logo will work but not from spine car sets (too small).
- Add Consolidated Stencil boards (Post 1974).
- Apply high side sill handholds in place of straight handholds.
- Light tinted weathering reduced orange cast of color.

# Questions, Comments or Suggestions?

Next up, Mont's Trailer Models for these cars...



Fred McLeod Photo