

## History

**The Northern Pacific 70050-70199 HM series were built by** Pressed Steel. 200 50-ton twin hoppers were in this series. They had ➤ 34'9" inside lengths and a 2230 cubic feet capacity. Photos of these can be found in the NP Freight in Color Book publishes by Moring Sun and at the Lake States Railway Historical Association on their SmugMug Site. [Lake States Archive](#) Search term NP Hoppers

## Getting Started

It is recommend that before you start that you familiarize yourself with additional information and photos that pertain to your model. Also please review the instructions and kit contents carefully identifying the parts that pertain to your model as there are options on the resin parts sheets for different variations.

- First, give the resin parts a good cleaning with Dawn and a toothbrush too remove any mold releasing agents.

A light sanding of joints also helps bond parts. Dawn Powerwash Spray works very well also.

The car parts are best attached with ACC. When the term "cement" is used in these instructions, it refers to ACC.

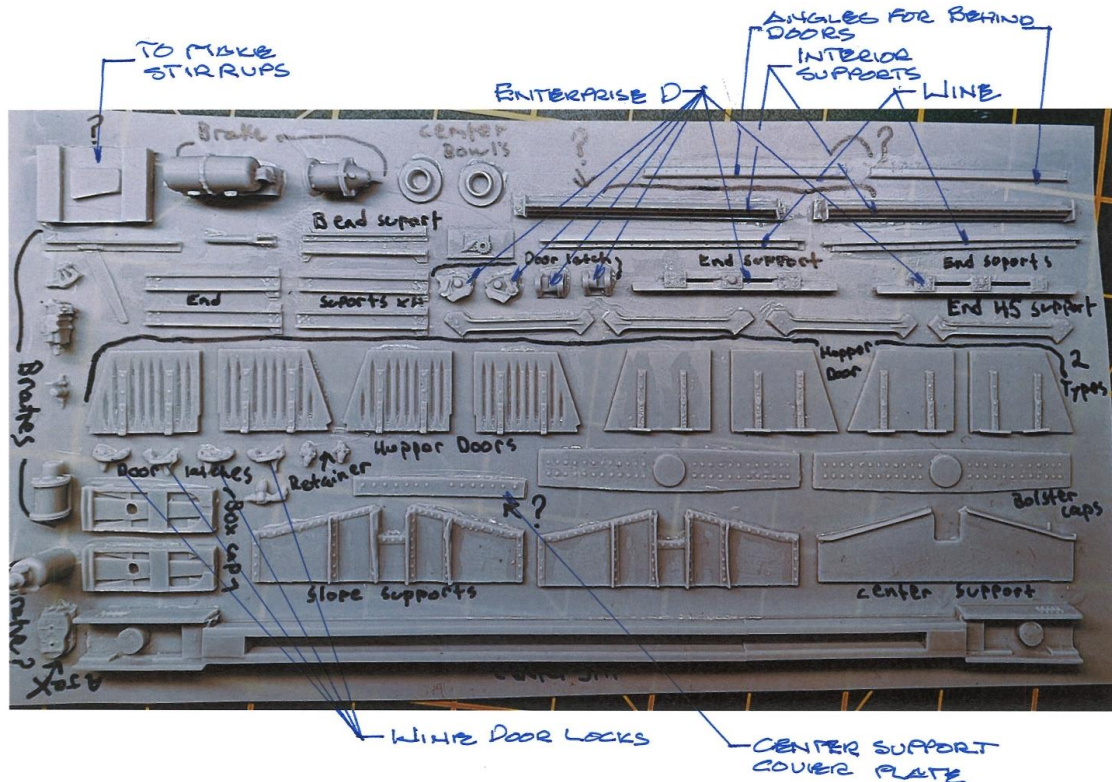
- GOO or other similar products are not recommended for construction except in small quantities, as they will soften the casting material.
- When a measurement is given, it's in prototype feet and inches.
- When the word "scrap" is used, it refers to an item that the modeler is to supply

Instructions and model  
by George Toman  
Oct 2024

## Construction

The photo to the right shows the kit contents

The photo below shows the resin parts sheet with callouts to the different options



### Additional Parts Required

Tahoe Dalman Trucks

Scraps styrene

Brass wire .008, .010, .015, .020

# NP Hopper Drawing for HM Class 70050-70199

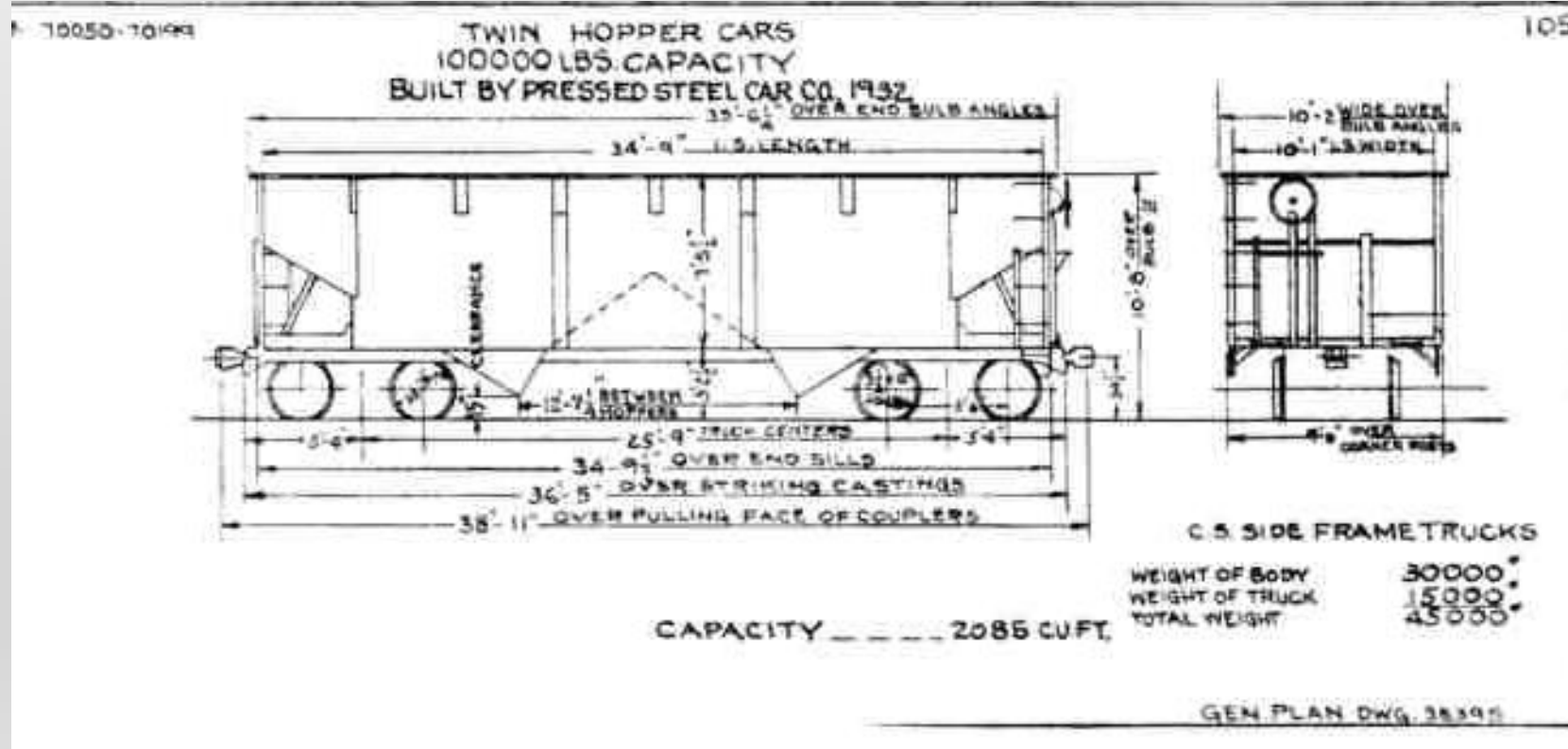


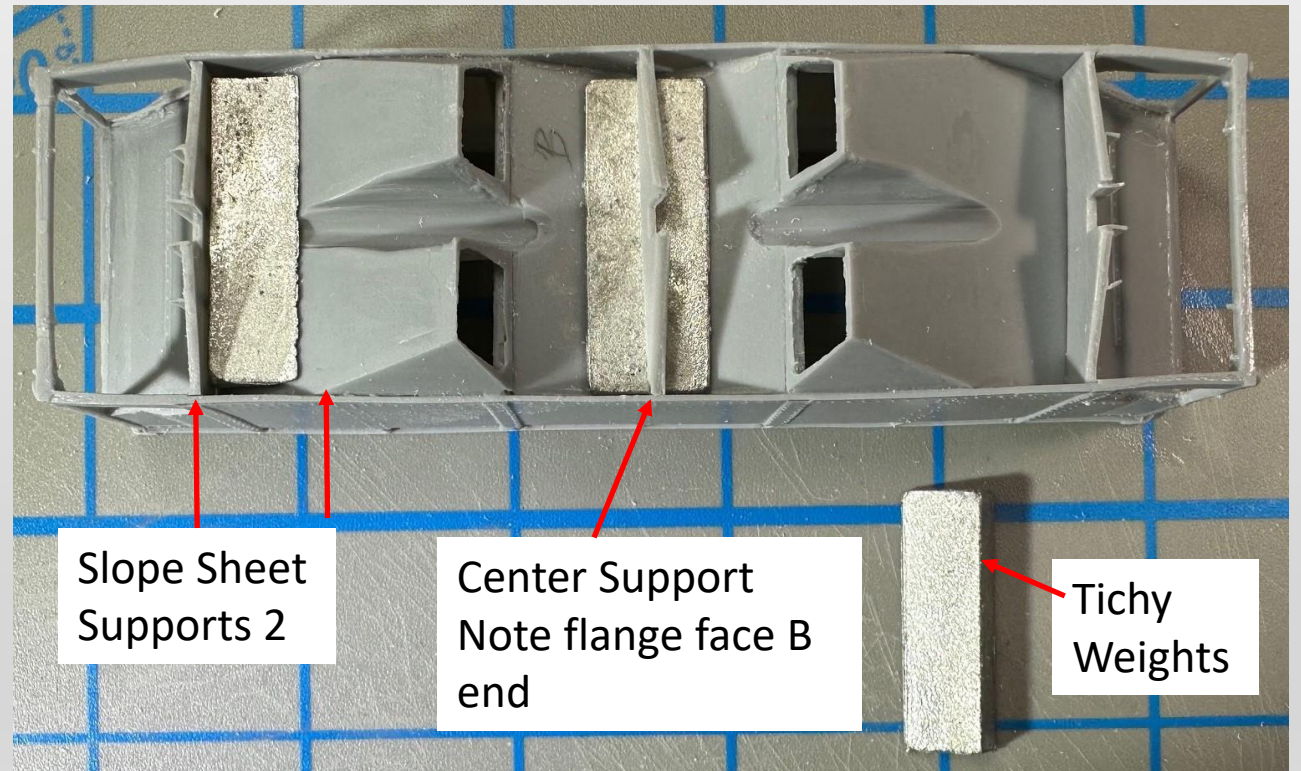
Photo David  
Lehibach Collection



- After washing your resin parts, begin construction by cleaning the resin castings of flash and removing the required parts from the resin parts sheet. The Northern Pacific used wine hardware and the Plain Doors
- Install the end slope sheet supports so that they are lined up with the vertical portion of the side sheets. The top of the edges will need to be sanded to match the angle of the slope sheet so it fits properly.

Photo to the right shows the Hopper Body, Slope Sheet Supports, Center Support and Tichy weights 3.

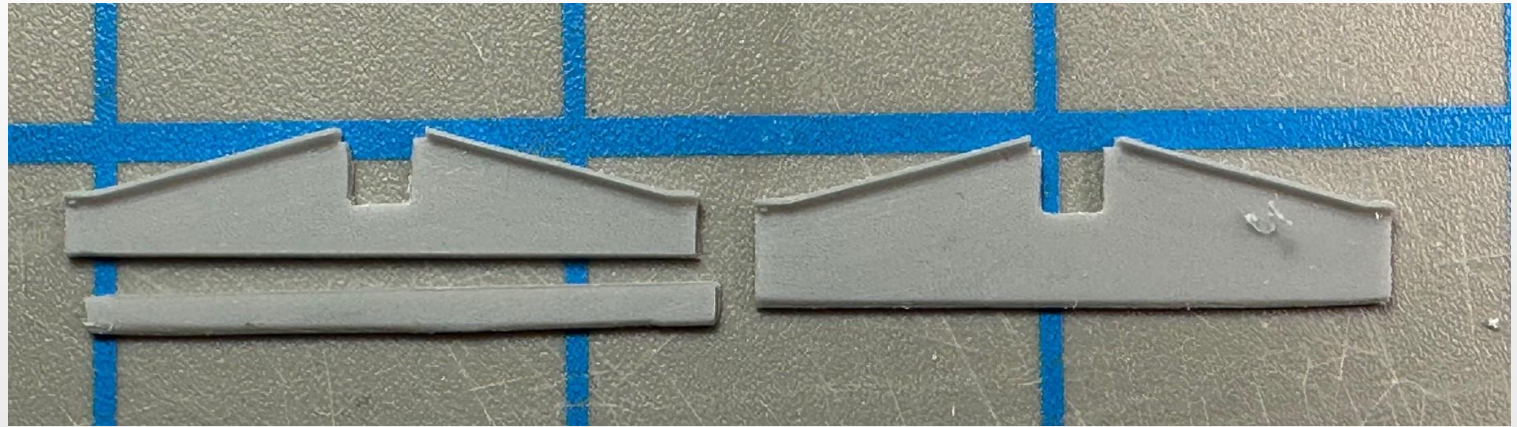
Note: nothing was cemented in place as this was a trial fit. See next page for modification to center support



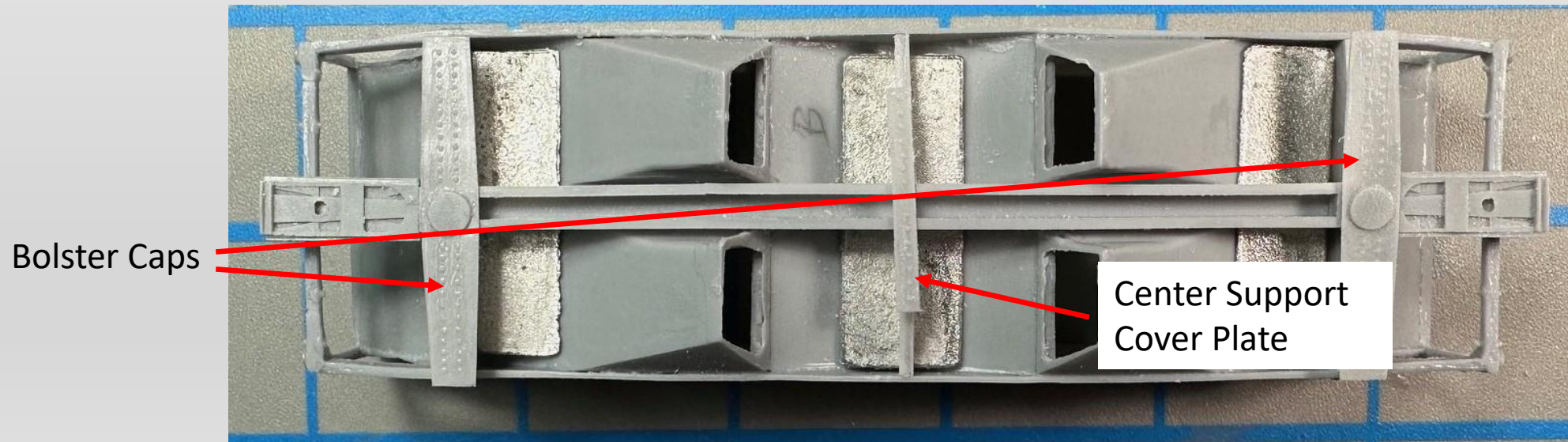
Modification to Center Support to clear Tichy Weight.

I temporally placed the weight in place and cut the required amount for cross beared to fit properly

Note the Flange portion that faces the B end of the car



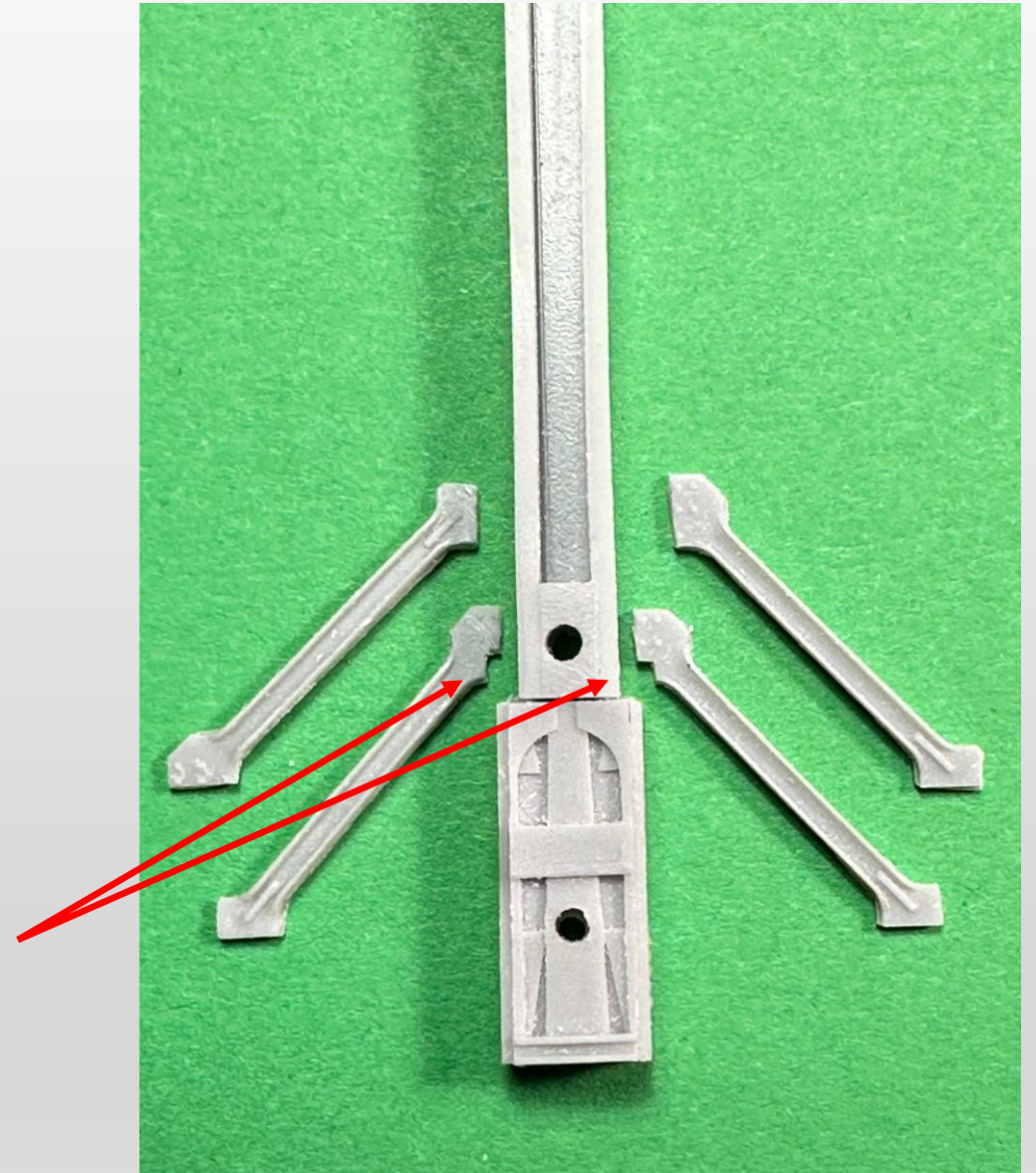
Next is trail fit the Center Support and make sure the everything aligns properly. This includes the Draft gear covers as well.. Below is a photo of these pieces being test fit.





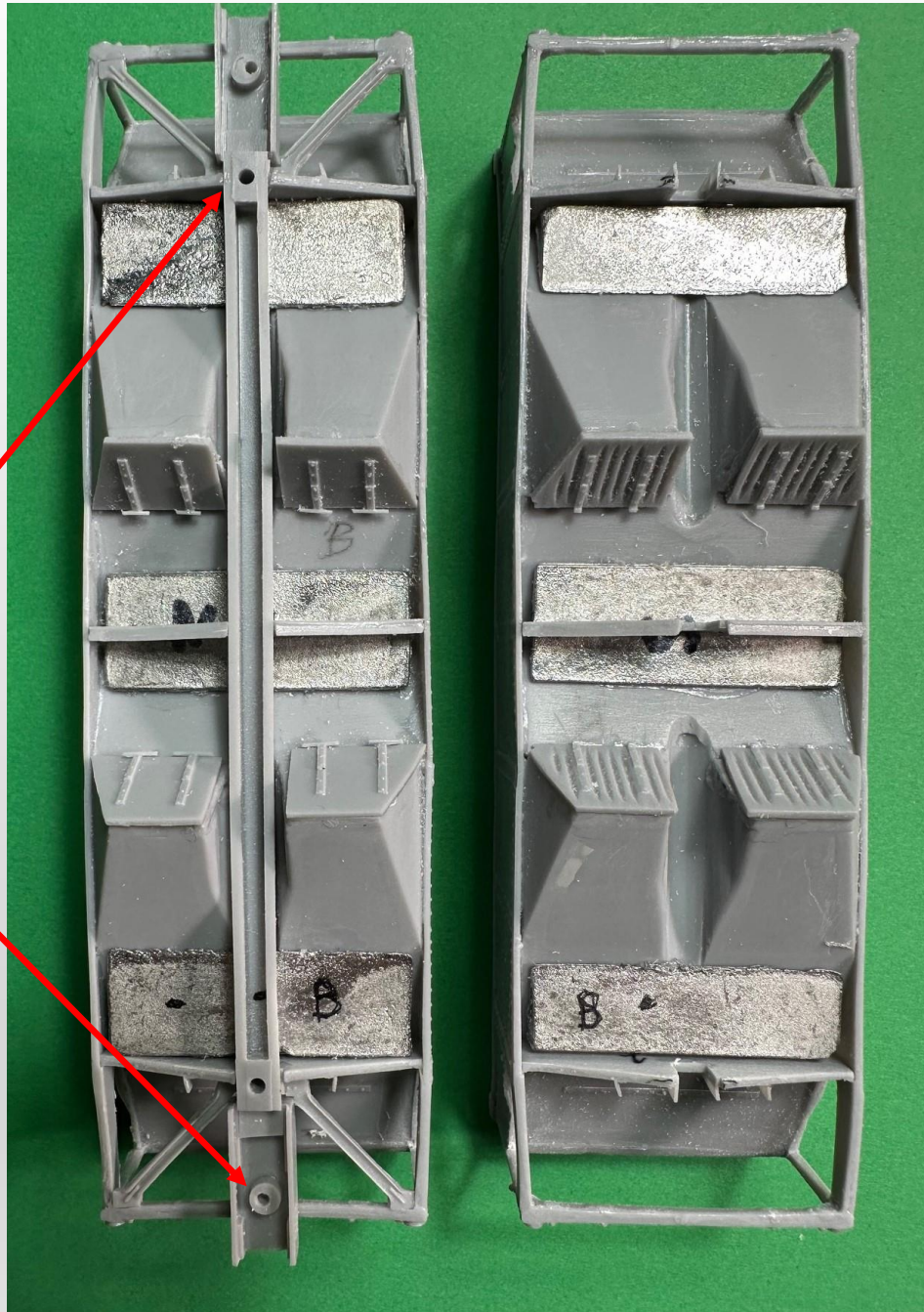
The corner braces were next cleaned and modified as seen in the photo to the right to fit properly. Note I made a small notch to fit the draft gear and centersill.

Note the notch to allow proper fit  
The top 2 have not had the notch made yet



All underframe parts fitted and cemented in place except for Bolster Caps and center support cover plate

Note that the bolsters have been tapped along with the draft gear for #2-56 screw

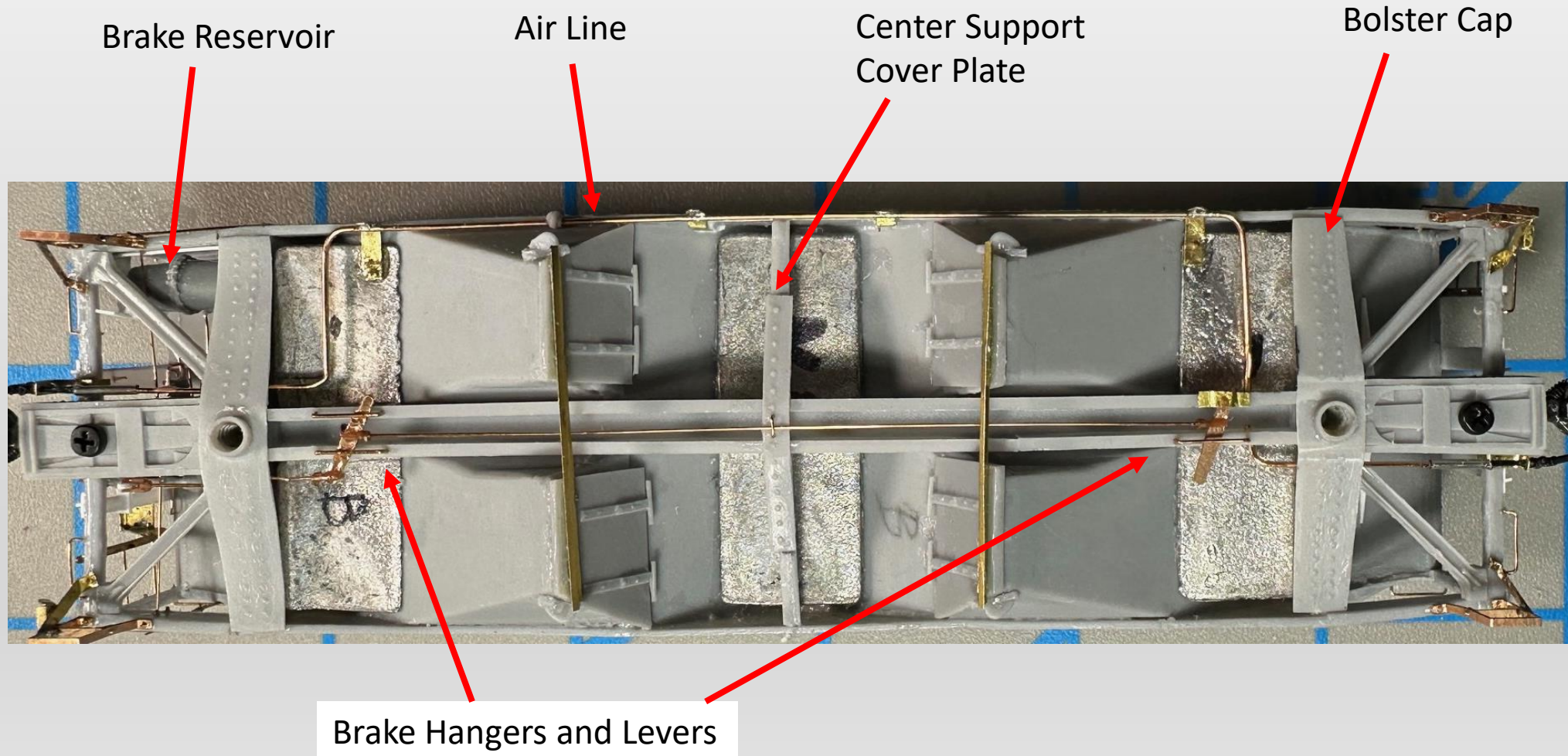


Two twin hoppers were built at the same time, a Soo Hopper is on the right with the corrugated doors. Also note the B end is labeled on the weight.

The Hopper on the left is a almost identical one for the Northern Pacific that had plain steel doors.

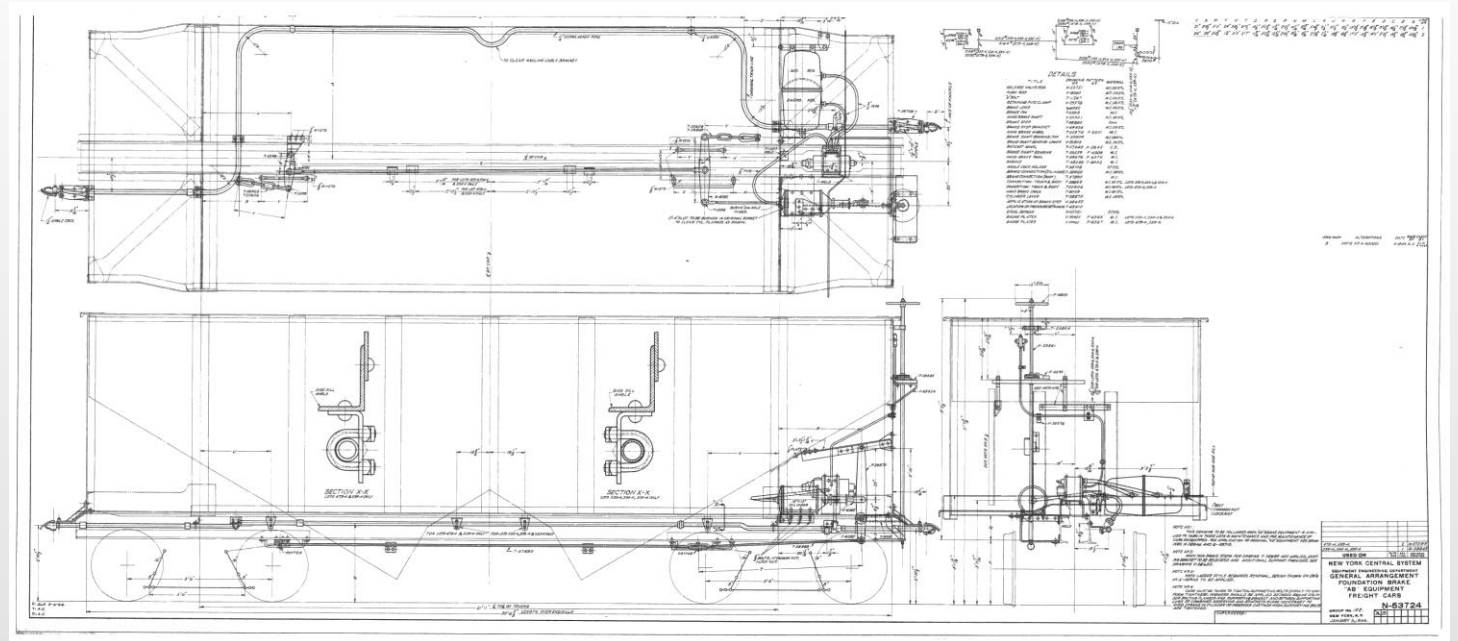


From this point either AB or K brakes are added to the B end. Photo below shows the routing of the train line and how it is attached. This photo was a bit further along and show an almost complete underframe. See next page for Two NYC Brake Arrangement Drawings that are for similar twin hopper

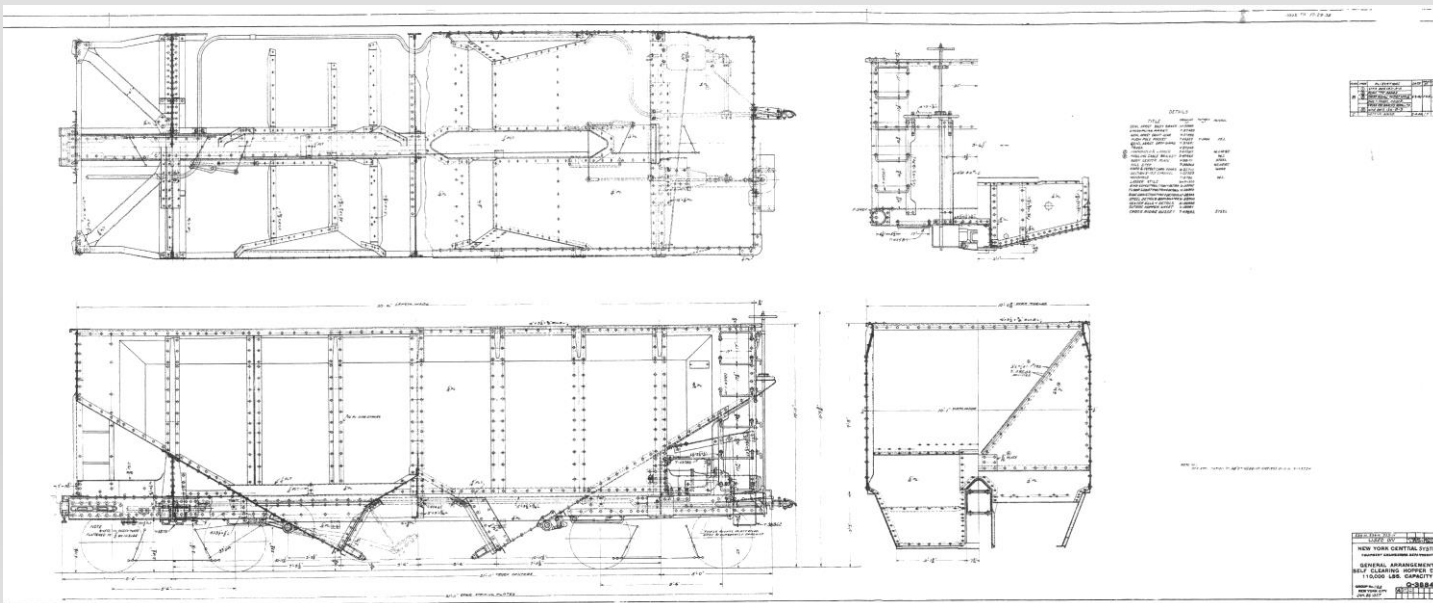




## AB Brake General Arrangement Drawing

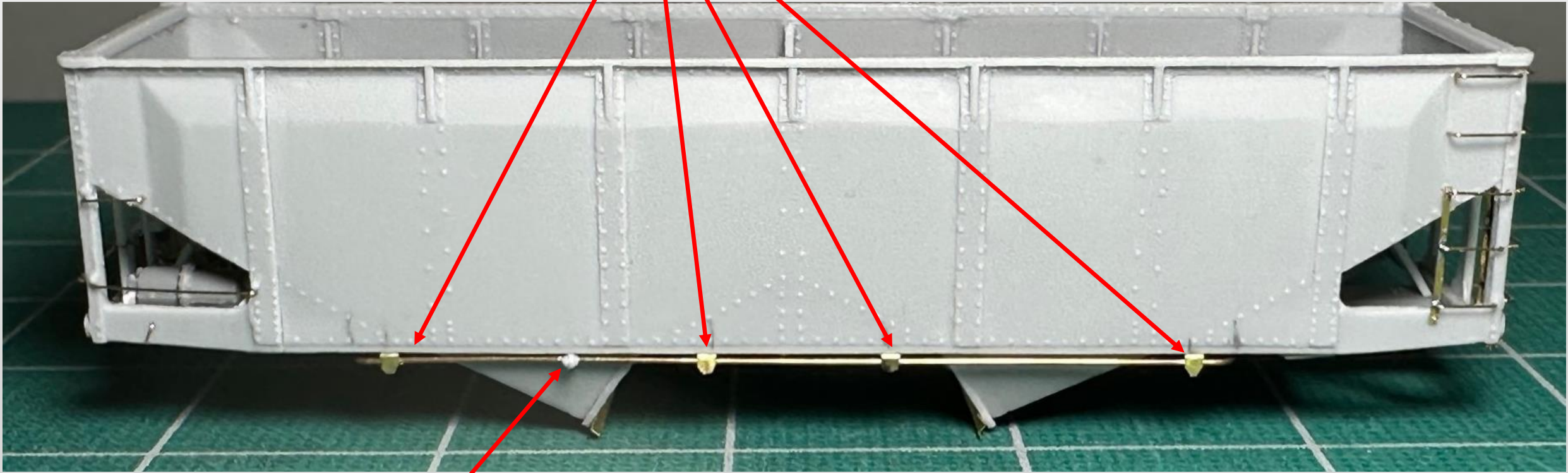


## k Brake General Arrangement Drawing



Both Drawings from RCW website

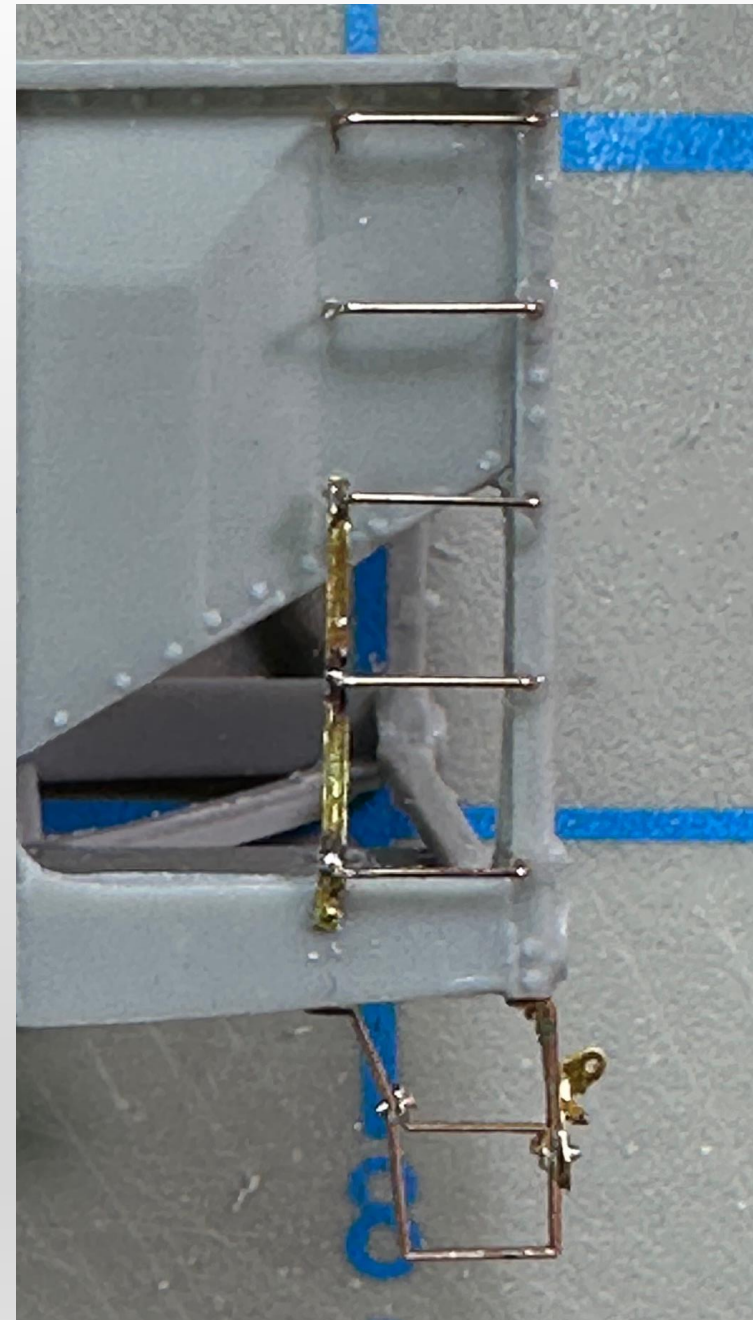
Train line mounting brackets cut from .005 brass and soldered to .020 trainline before installation



3D printed union's on train line

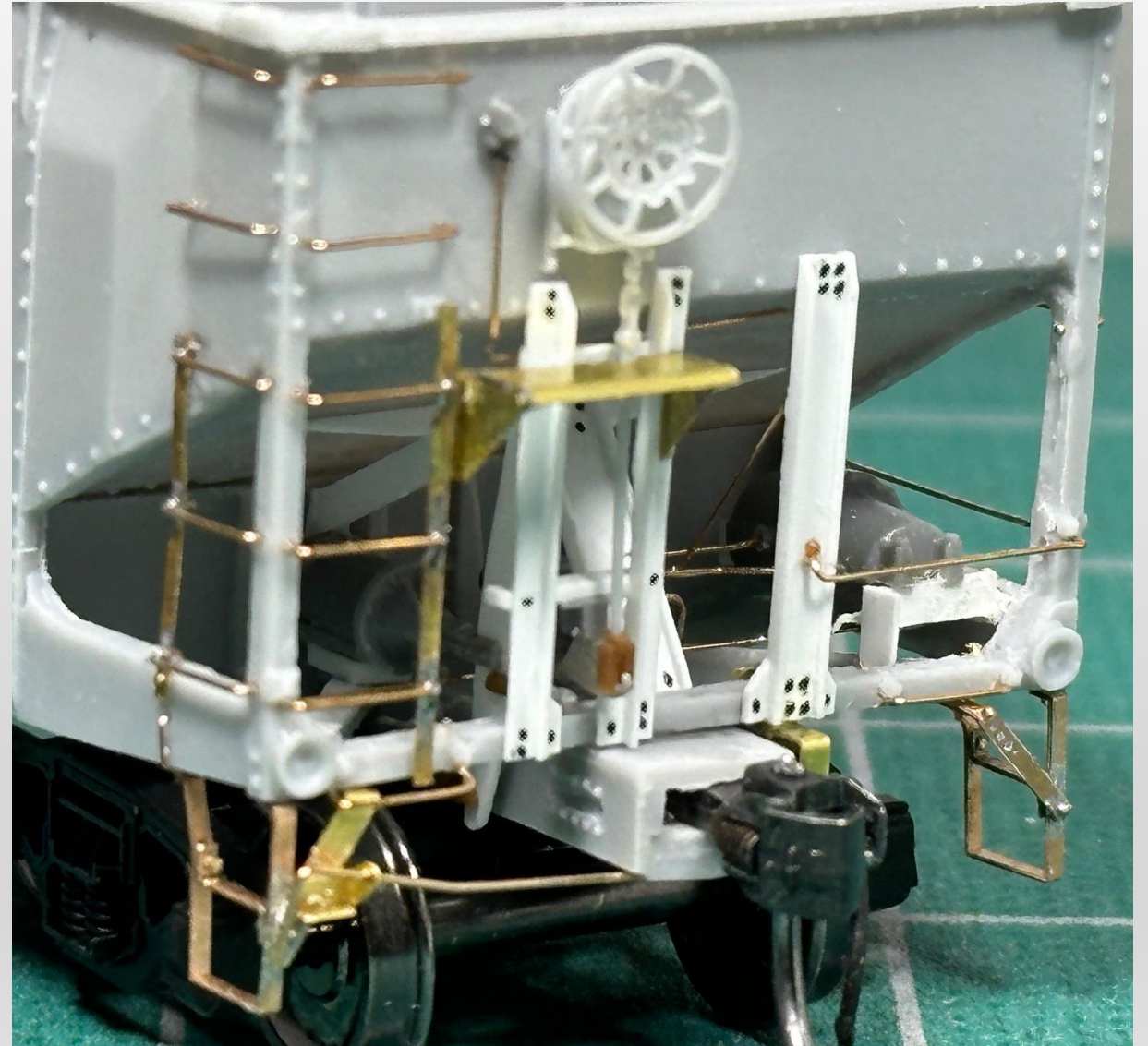


Yarmouth GATC Stirrups were  
modified to match the NP  
ones as shown



The photo on this page shows the completed B end of the hopper. There are a lot of parts in a small space. I choose to build/install in the order below

- 1) Install grabs made from .010 brass and PE  
Ladder stiles cut to length
- 2) Install slope sheet brace made from scrape  
styrene
- 3) Install Brake cylinder
- 4) Install Control Valve
- 5) Install Brake Reservoir
- 6) Install Tichy Ajax Brake Housing and retainer  
and retainer valve
- 7) Install Brake lever bracket (one parallel to  
slope sheet)
- 8) Install left side vertical end supports made  
from scrap styrene using drawing and photos
- 9) Install brake fulcrum
- 10) Piping was made from .0125 wire except .008  
for retainer
- 11) Right side vertical braces were made from  
scrap styrene



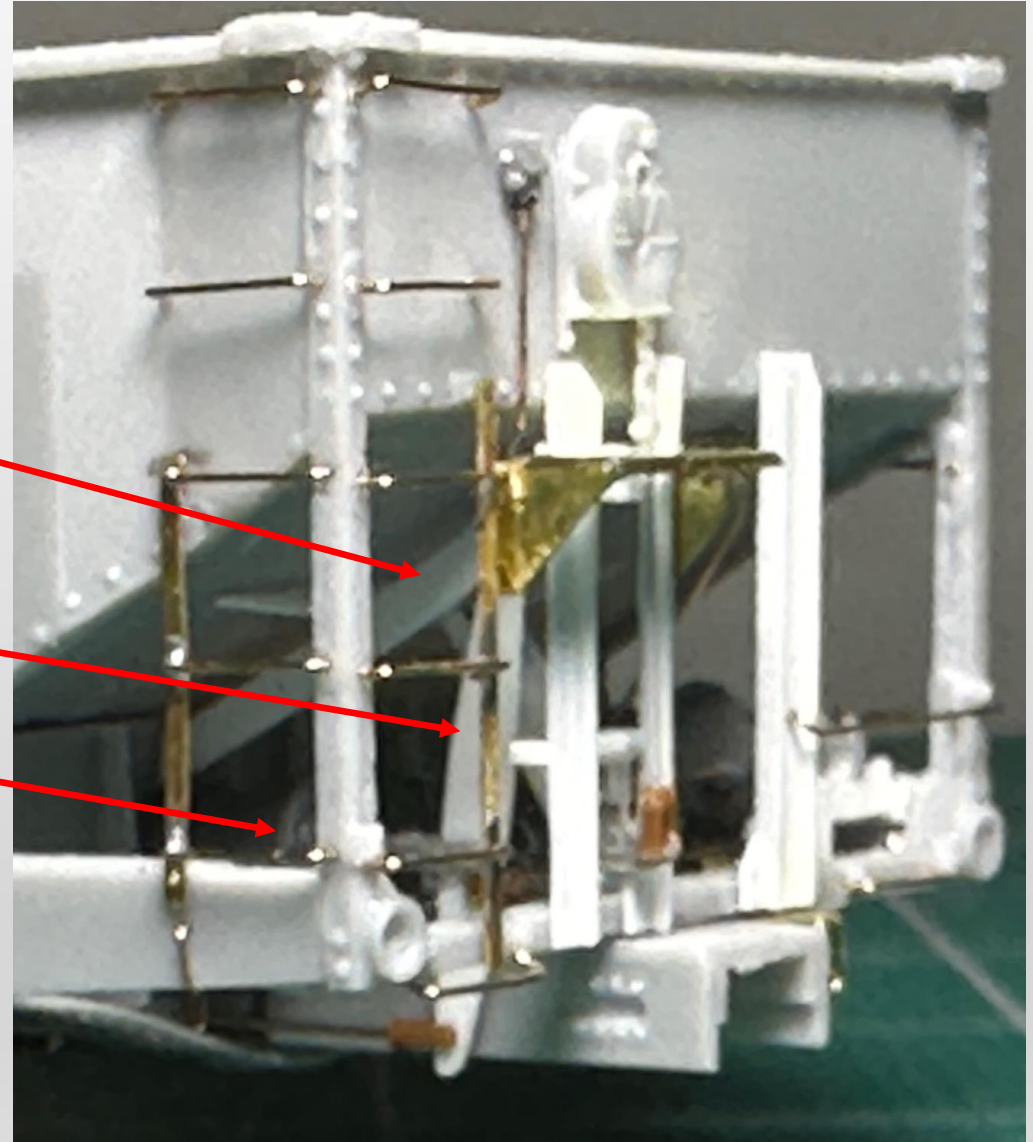


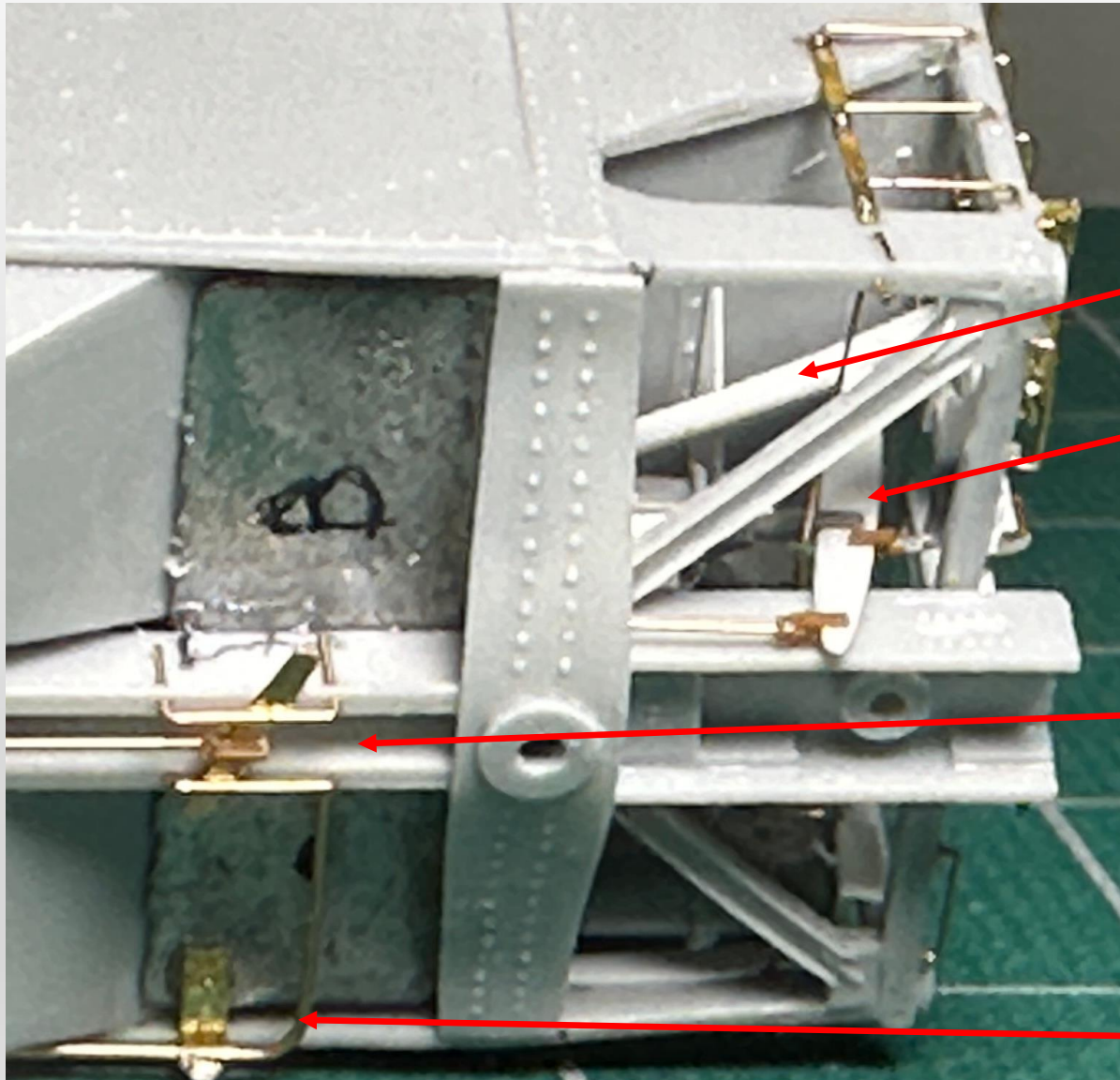
Brake Lever support mounted parallel  
to slope sheet

Brake Lever .010 styrene

Brake Cylinder

Note: I recommend also viewing the Soo  
Line Twin Hopper Instructions of a  
similar car with more views of B end  
construction





View of B end from underside

Brake Lever support made from rectangular styrene

Brake Lever

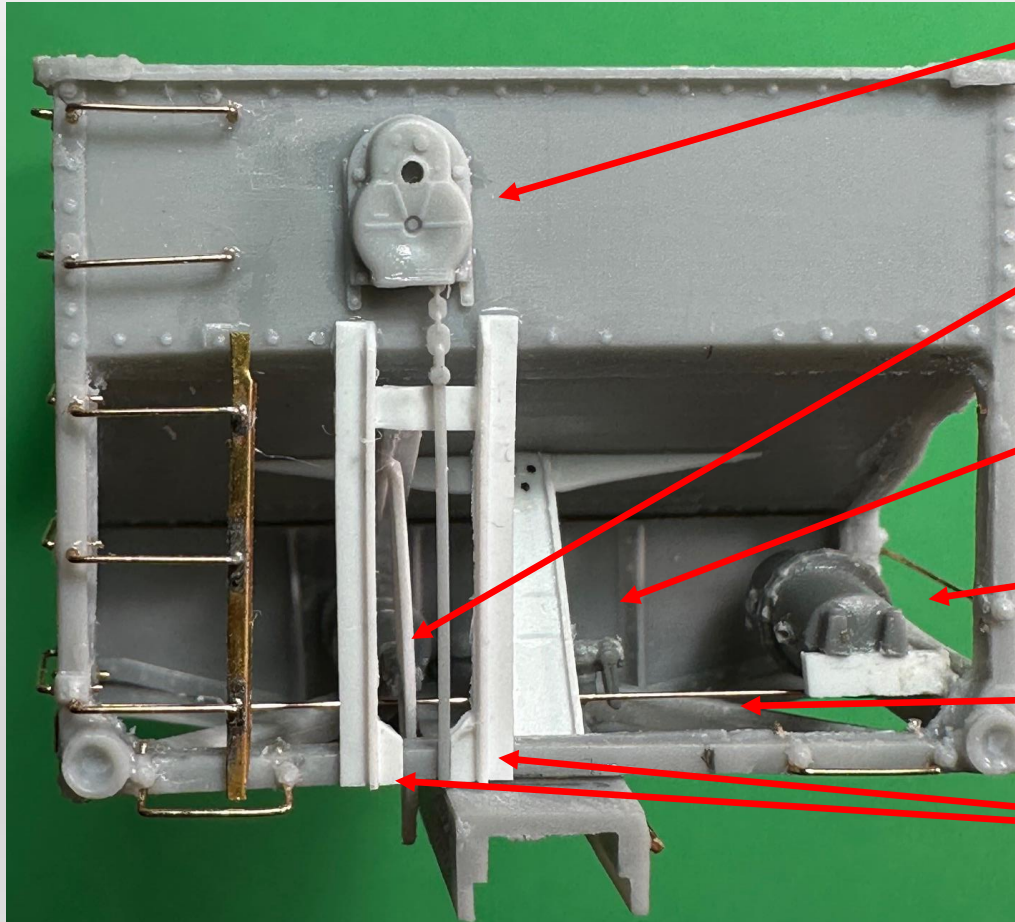
Yarmouth Brake Lever and Hangers bent from .0125 wire

.020 Train line and support brackets



Brass 010 wire and Photo etch ladder stiles cut to fit were used to make the NP grabs and were installed in place before installing the Tichy AB Brakes. Also the slope sheet brace was made from scrap styrene and installed before placement of the AB components.

The photo below shows an in progress photo with how parts fit in this tight space



A Tichy Ajack Brake Housing was installed

Brake Cylinder mounted on scrape styrene riser to cross brace and center sill

Control Valve mounted on a scrape styrene riser on top of Center sill and Draft gear box

Brake Reservoir mounted on scrape styrene riser to cross brace and side sill

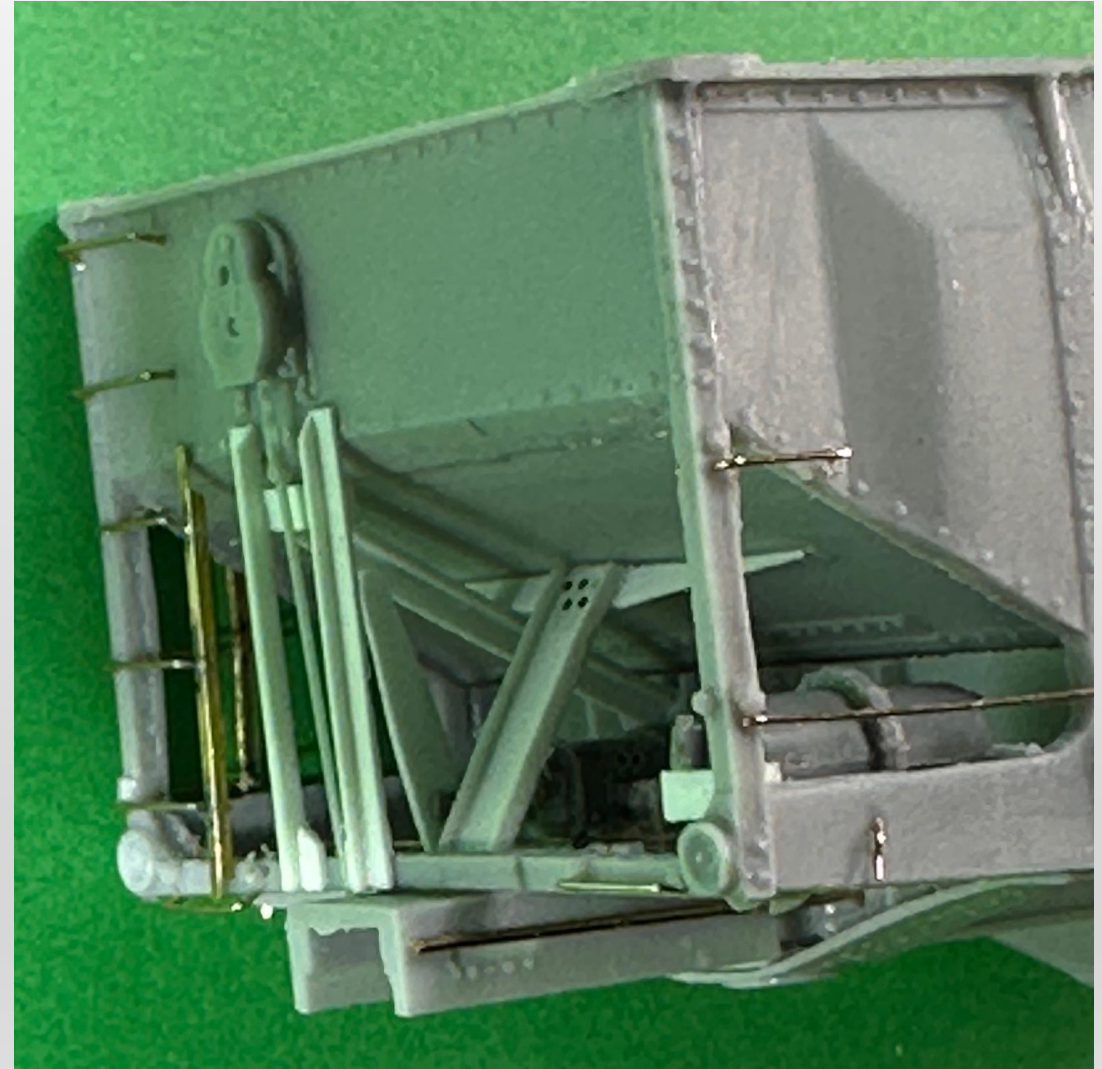
Note release rod .008 Tichy wire

Custom Vertical end supports were made from scrap styrene with the use if photos and engineering drawing

A End showing new end support brackets and slooe sheet brace



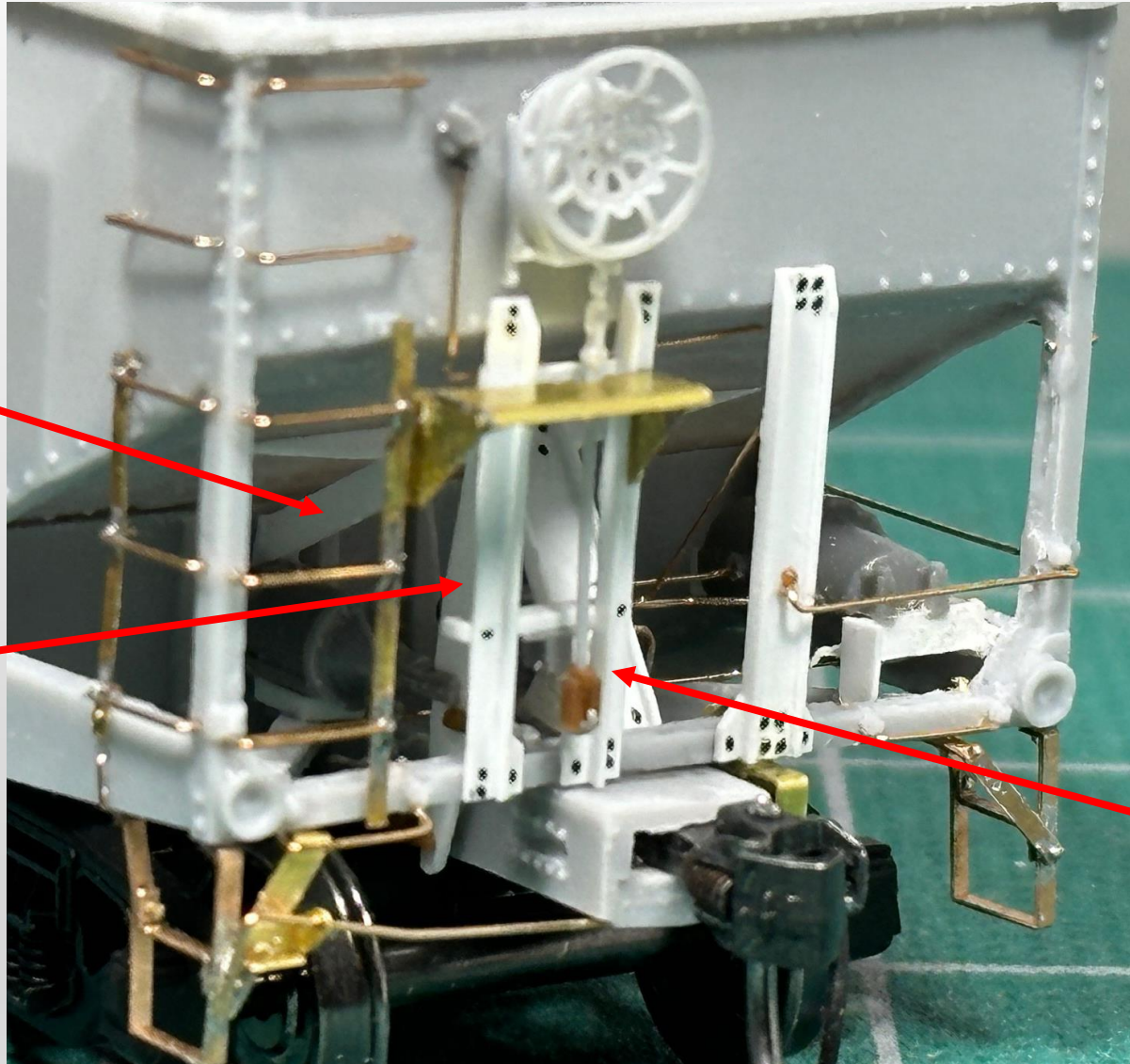
B End work in progress before piping





Scrap styrene mounter on angle parallel to slope sheet. This is what the top of the brake lever mounts to and pivots

Brake lever made from .010 styrene scrap



Brake Step made from .005 brass

Brake rod attached to clevis with ½ Tichy turnbuckle

View of AB  
Brake piping

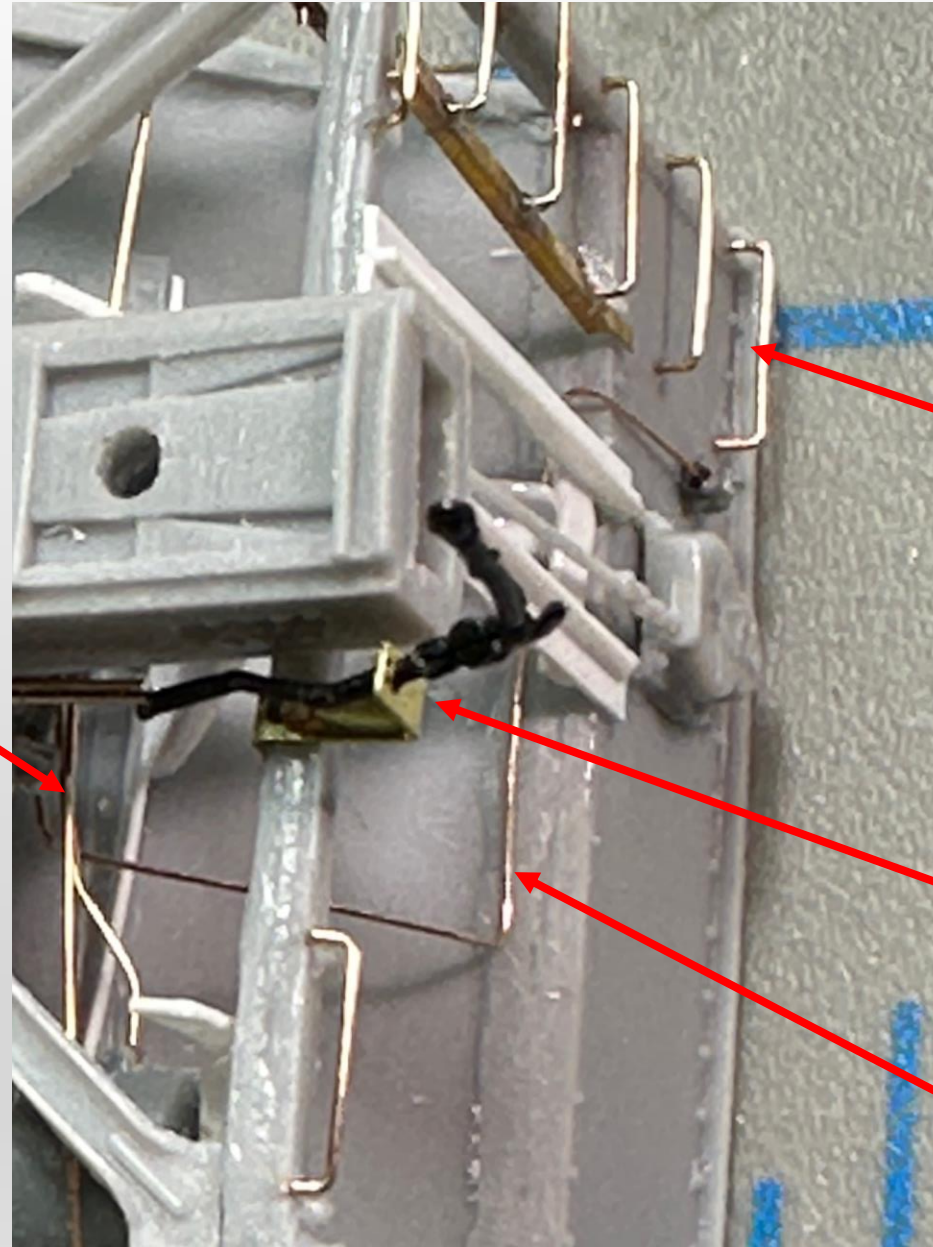


Modified Yarmouth  
stirrups. The extra  
unused holes were  
filled before  
painting



Bottom view of B End

Release rod from .008  
Tichy wire

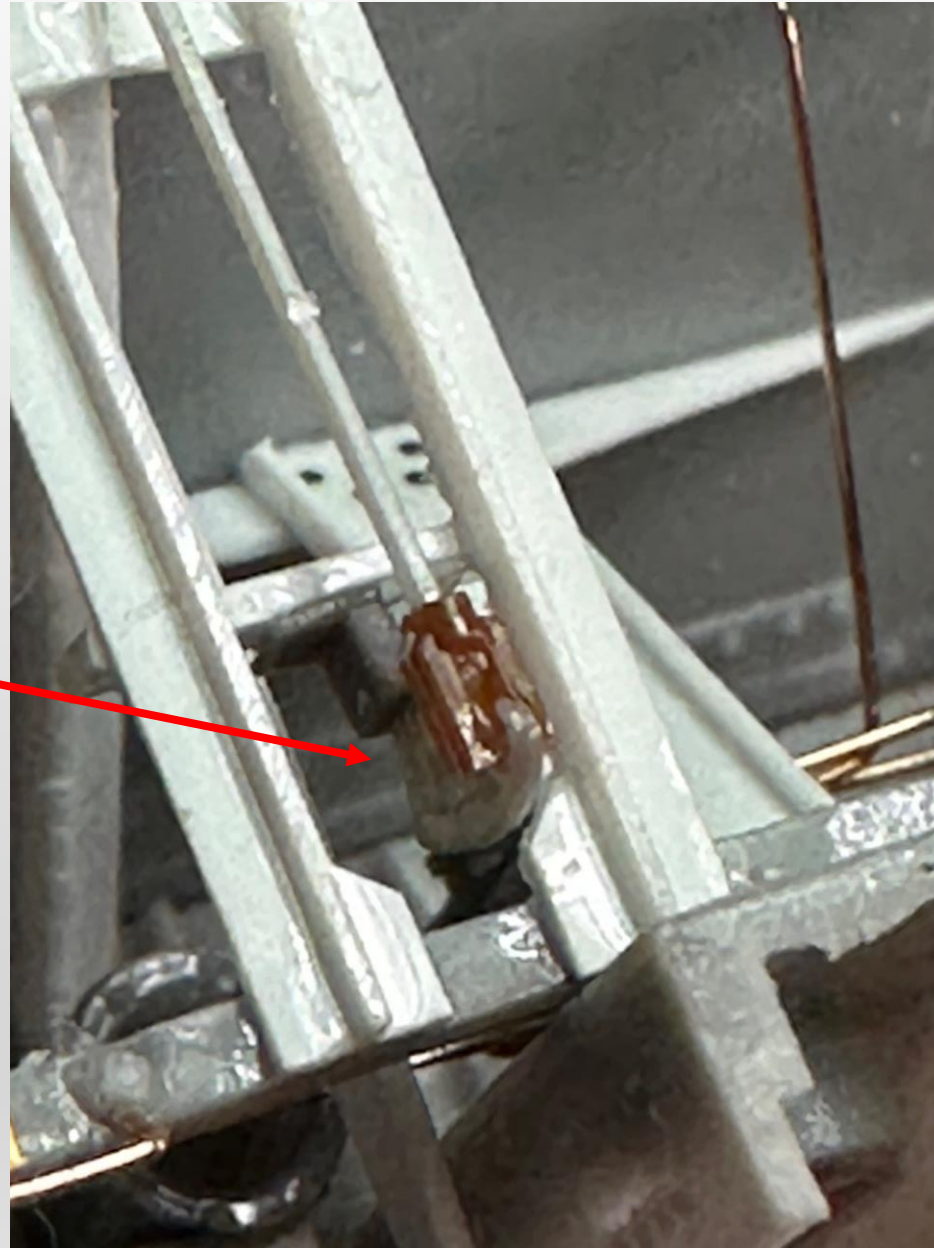


End grabs made from  
.010 Tichy wire and Photo  
Etched ladder stile  
Note the rungs were  
soldered for strength to  
PE Stile before mounting

Moloco Air Hose in a  
holder made from .005  
brass sheet

Retainer line made from  
.008 Tichy wire

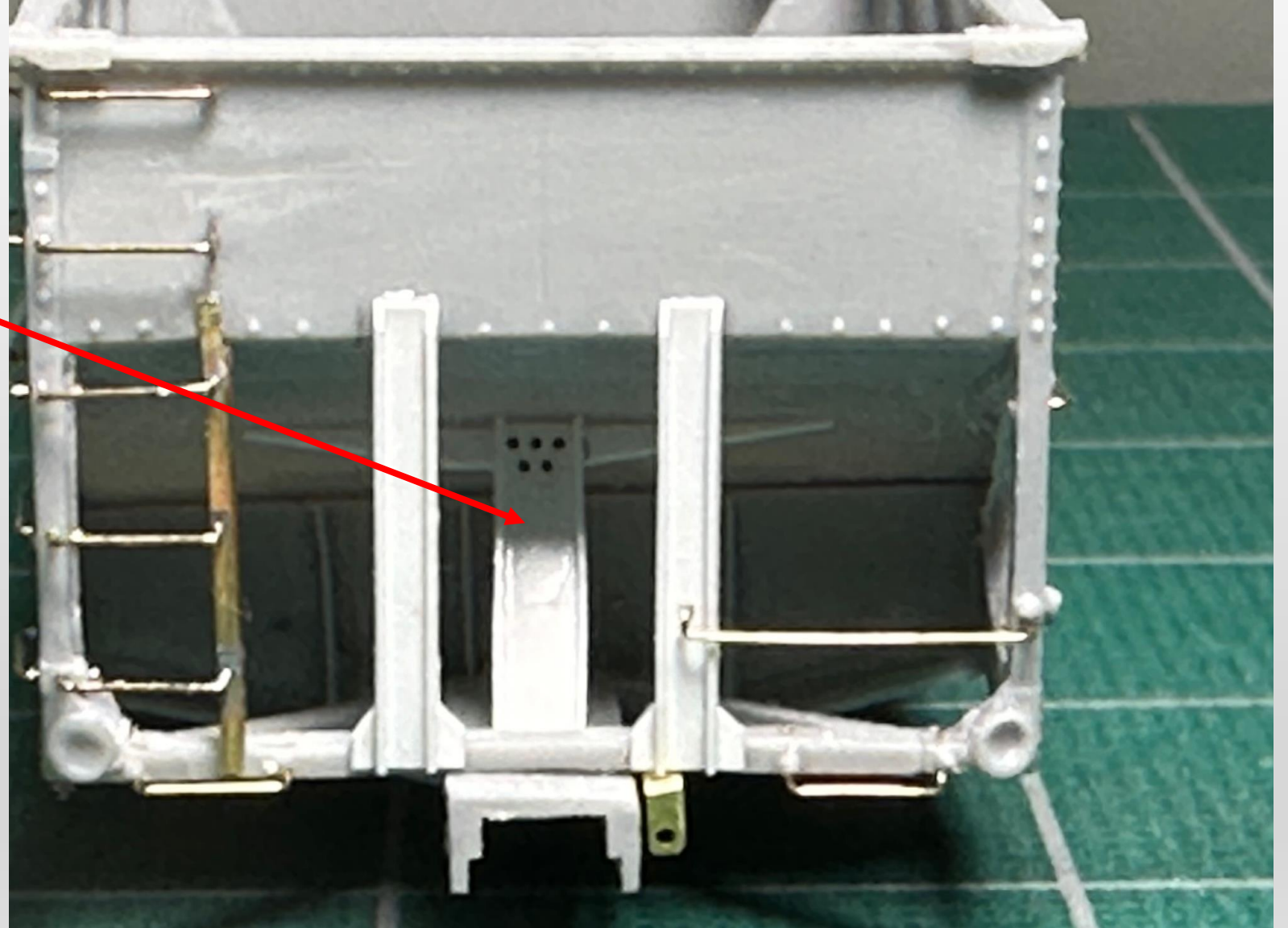
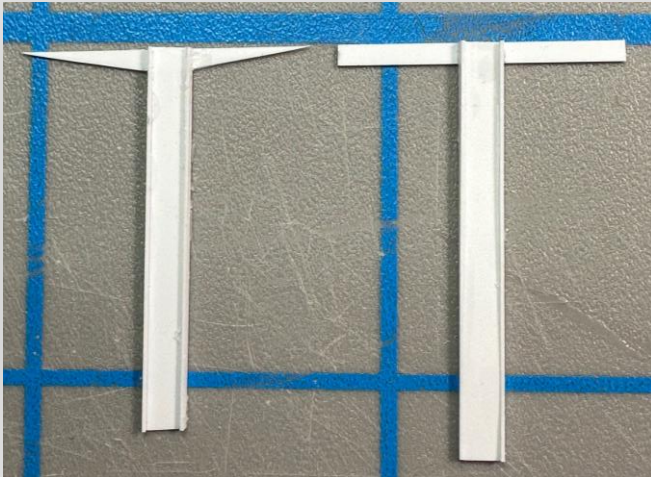
Tichy Bell Crank  
mounting on B End



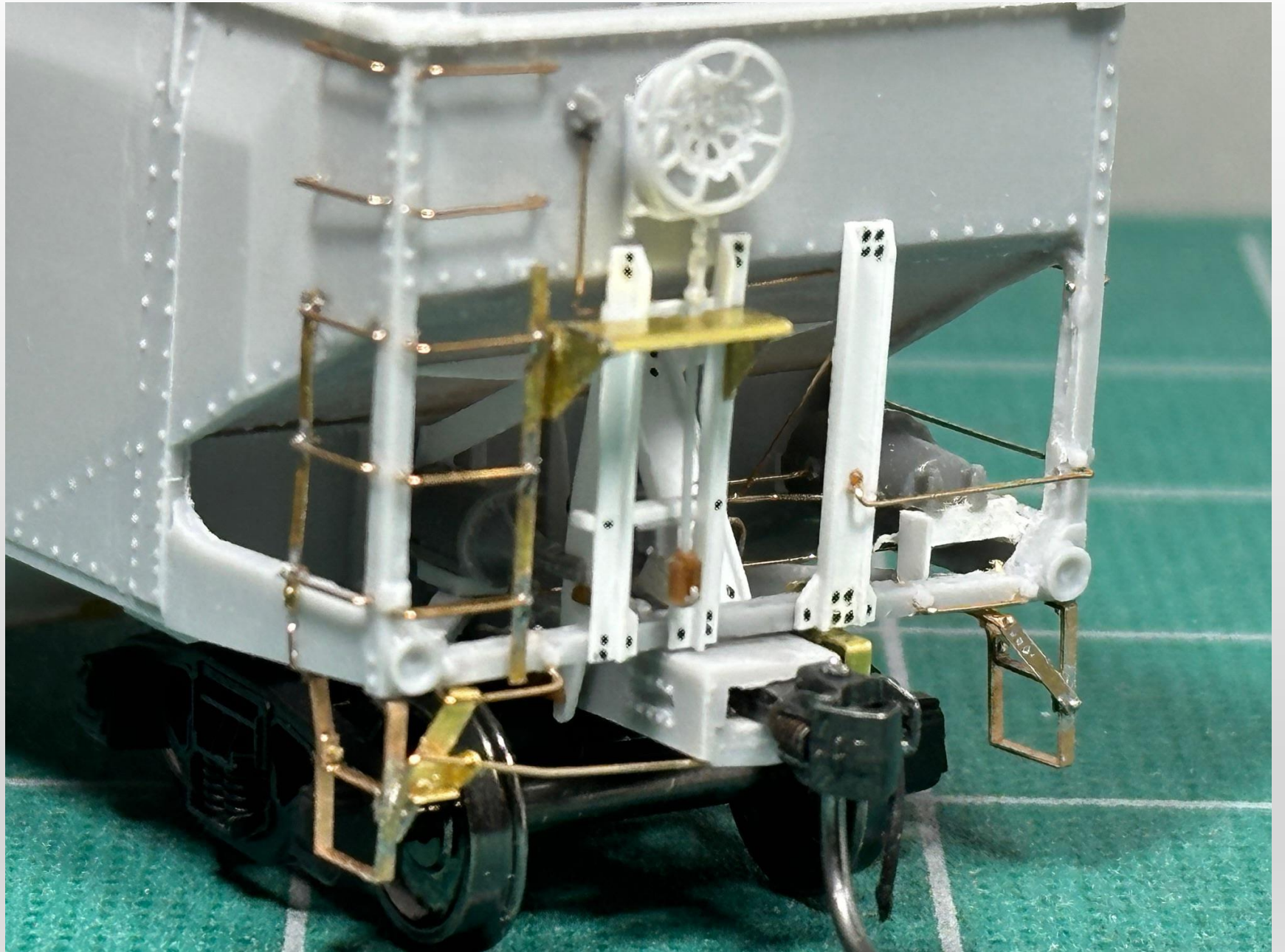


The A End of the car showing the Slope sheet brace and is also used on the B end. Archer rivets not installed on lower part of brace

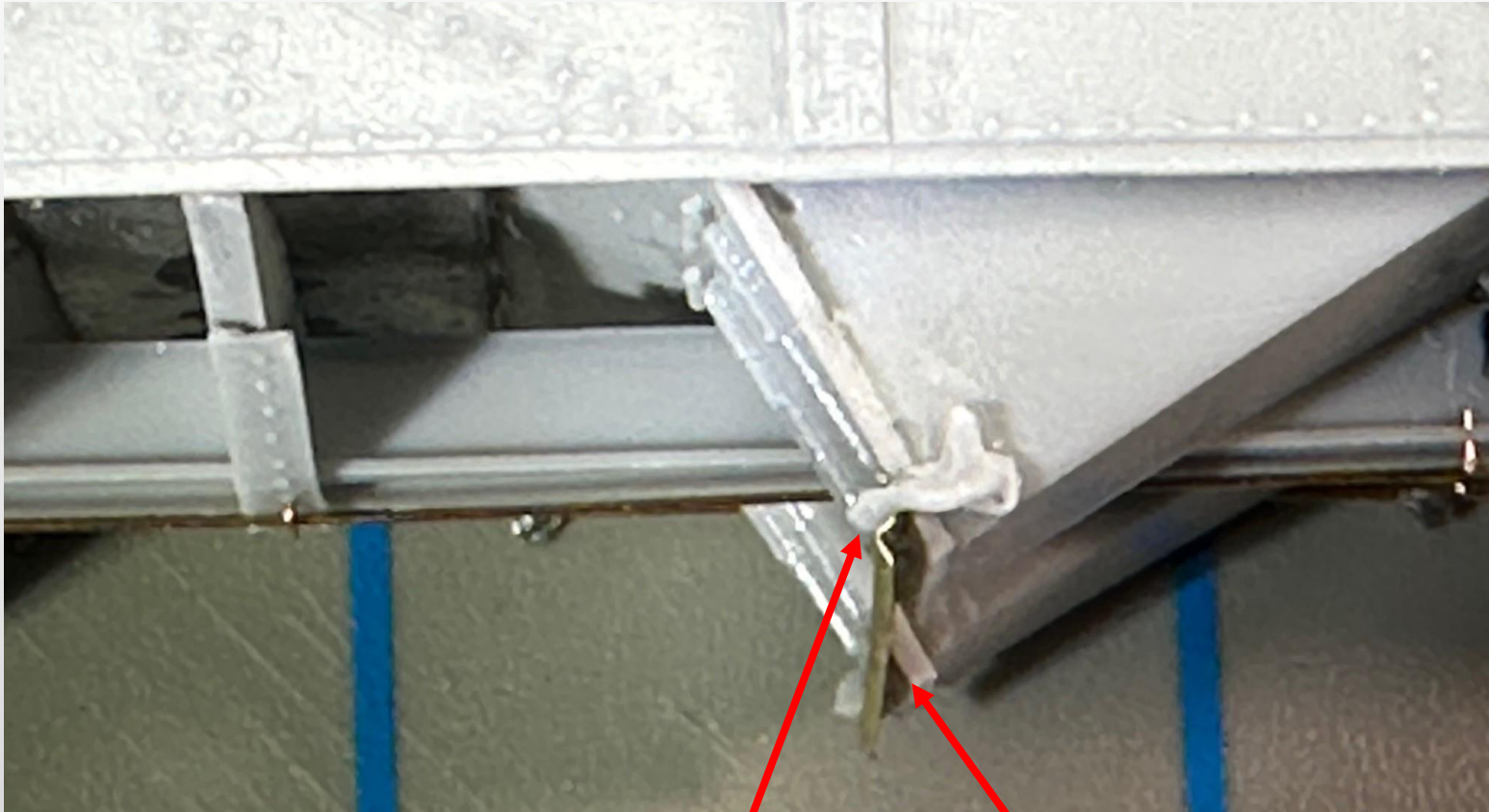
Making the Slope Sheet Braces from Scrape Styrene



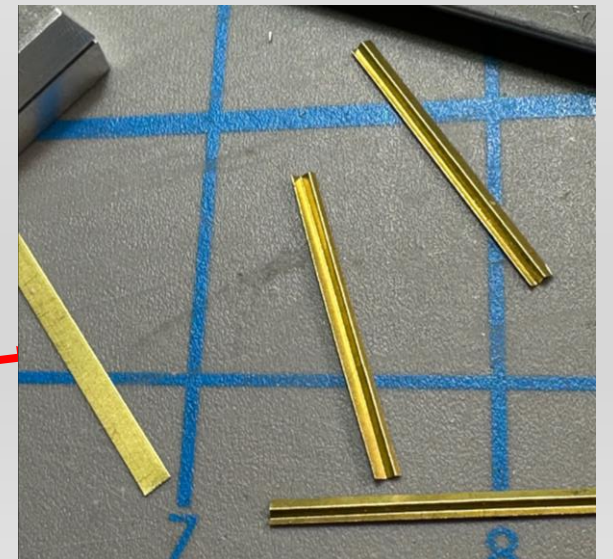
The Completed B End  
and ready for paint







Wine Door Locking Hardware and  
custom cut and bent .005 Brass Z bar  
in place of resin one from kit

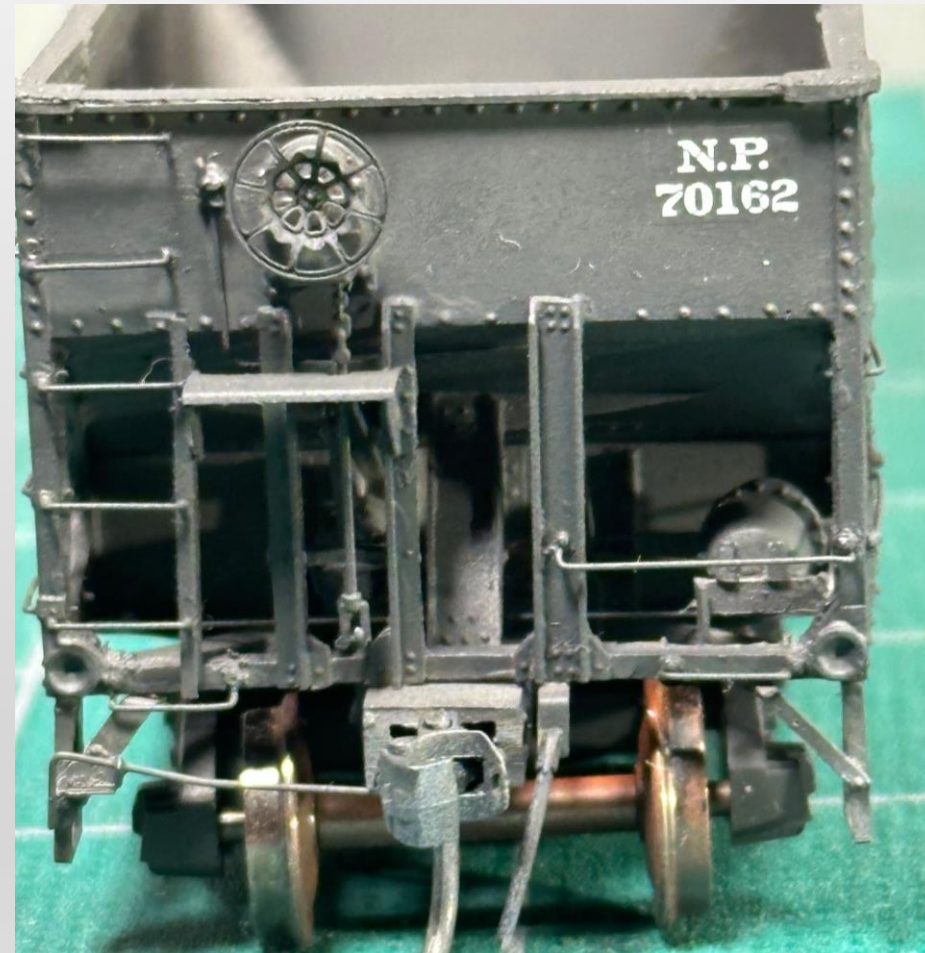
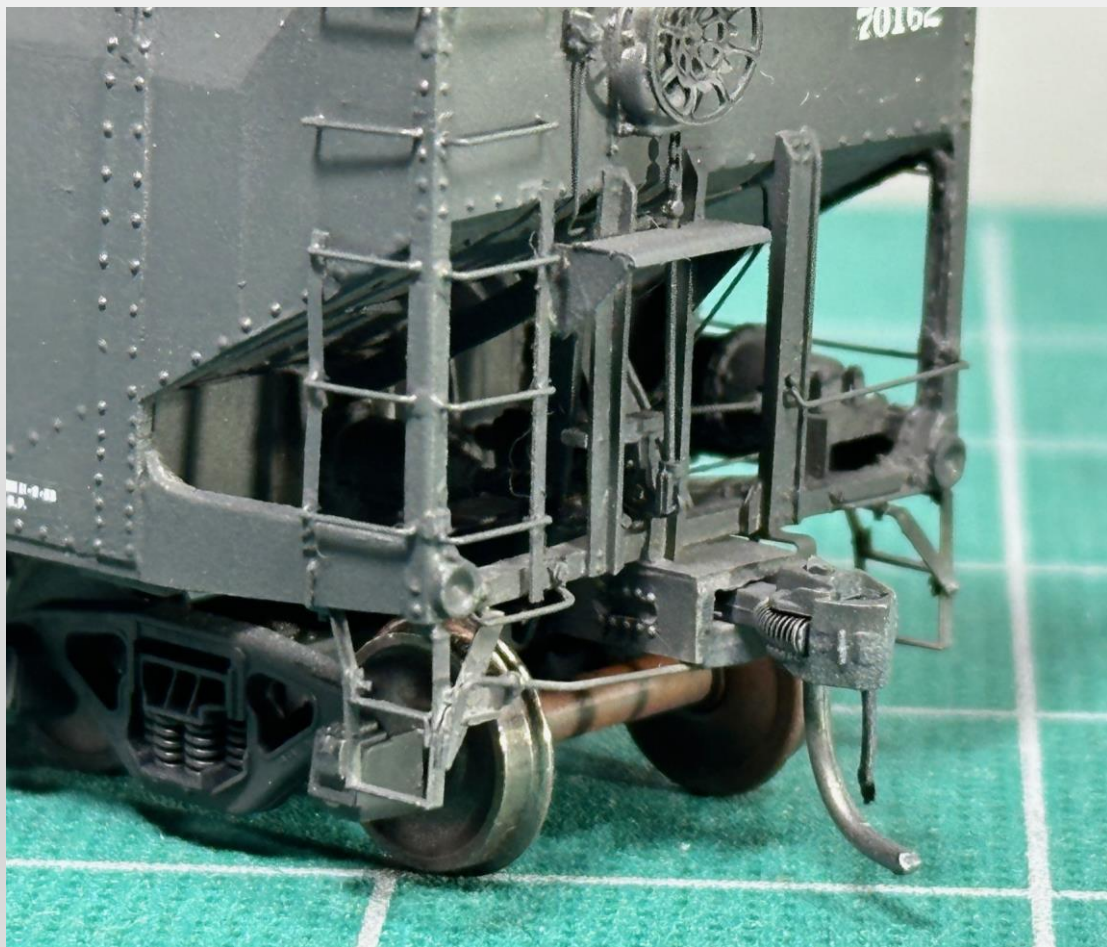


Wine Door lock hardware  
installed and brass Z bars





Painted and decaled showing B End





Tahoe Dalman Trucks TMW 201



Painted and decaled showing underframe



Painted and decaled with some weathering





Painted and decaled



Painted and decaled  
with some weathering



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