



Instructions: Erie ICC Bay Window Caboose System

Tangent Part Numbers: 60700-01 and 60703-01

1/2026

Build Version is 60700-01: Erie/EL 1953-1970 Era



Thank you for purchasing the Tangent Scale Models Erie ICC Bay Window Caboose system kit! A few quick notes before starting:

- **Instructions have many large images:** Because some model builders are visually oriented, while others prefer written instructions, we have included *both* text and photos within these instructions. As you can see, many of the images are rather large, to aid in your model building.
- **There are more images at the end:** If you want to see more views of a completed model as a reference for your building, scroll to the end of this document. This is another advantage of a "digital download" over a printed instruction sheet.
- **Modeling from computer screen is ideal:** If possible, we recommend modeling from your monitor. You can then enlarge the images as you see fit, and you save ink and paper at the same time.
- **There are several ways to complete your kit:** While there are multiple sequence steps possible to build this car, we believe the sequence included here yields the best results.
- **Prototype photos:** While you likely have your own sources of prototype photos, please recall that for each RTR scheme that Tangent releases, we include a prototype photo on our website. You can use these as references in addition to your own sources.

- **We want feedback:** If you find something missing from our text instructions, or an error within these instructions, please let us know by submitting a comment to us on our website or sending an email to support@tangentscalemodels.com. Thank you!
- **This kit is meant for adults:** While we applaud bringing younger modelers into our hobby, this model includes many small parts, some of which are sharp and/or delicate. Therefore, this kit is recommended for those 14 years of age and older.
- **We offer semi-scale wheels separately:** We offer semi-scale wheels separately in 4 packs – in either 33" blackened or nickel silver - to fit our caboose trucks.



Overview of this kit's contents:



Parts needed/recommended:

- Couplers. Our draft sills are designed for Kadee “whisker” shank couplers - #158.

Tools needed/recommended:

- Liquid styrene cement
- CA-type cement or cyanpoxy – for wire to plastic joins
- Canopy cement – for running board to plastic roof joins (made by Pacer and other brands)
- Hobby knives - 11 and #17 are ideal.
- 78/79 drill bit in a pin vise is useful, although a #11 blade can be used gingerly.
- Small Phillips head screwdrivers
- Tweezers

PREAMBLE – THINGS YOU SHOULD KNOW:

- **This kit is NOT recommended for children aged 14 and under.**
- **Small parts:** there are many very small parts included in this kit, so we recommend a clean and open work surface so that you can keep all the parts open and accessible.
- **Kit variations:** When you ordered this kit, there were 4 different prototype-based configurations to choose from. If you want to change the configuration of your kit, you can order all the parts from our website. Simply go to www.tangentscalemodels.com and click on “View & Buy Models” and then “HO Car and Caboose Parts”.

Construction Overview:

Before we begin, we would like to take a moment to point out some things:

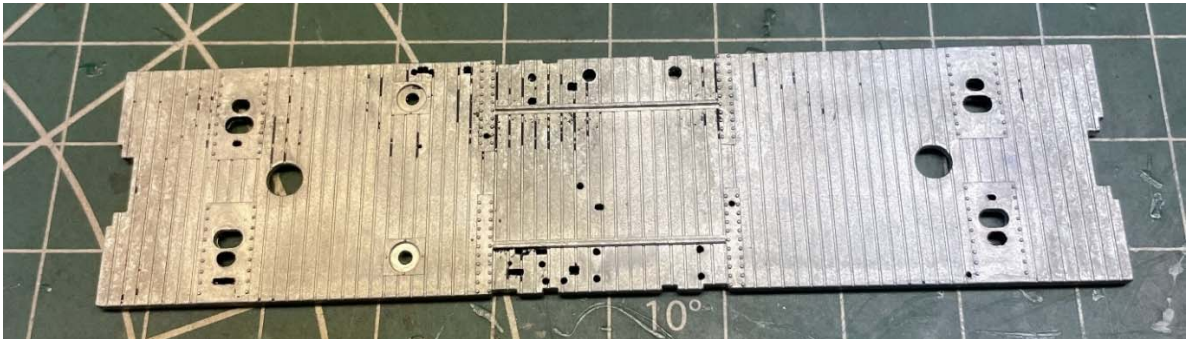
1. **Different Versions:** These instructions were written while building SKU 60700-01, the Erie/EL 1953-1970 era version. Other kits may vary slightly from this build. It’s best to use prototype photos to determine exact parts used.
2. **Parts Bags:** Some steps in the assembly of this kit require parts from multiple bags. Since some of the parts in the bags are very small and could be easily lost, we suggest that after you have retrieved the required parts, return any unused ones back into their respective bags until needed.
3. **See the Photos:** Since some of the steps are difficult to describe in the text there are photos of almost every part and installation step to provide clarity.
4. **Subassemblies:** The kit basically consists of three subassemblies – the body, the interior, and the underframe.

5. **Painting:** However, due to their complexities, you may want to paint them during assembly (specifically the interior components) as it could prove difficult after they are built.
6. **Build Order:** You can build the subassemblies in any order since they will not be joined together until the final step.

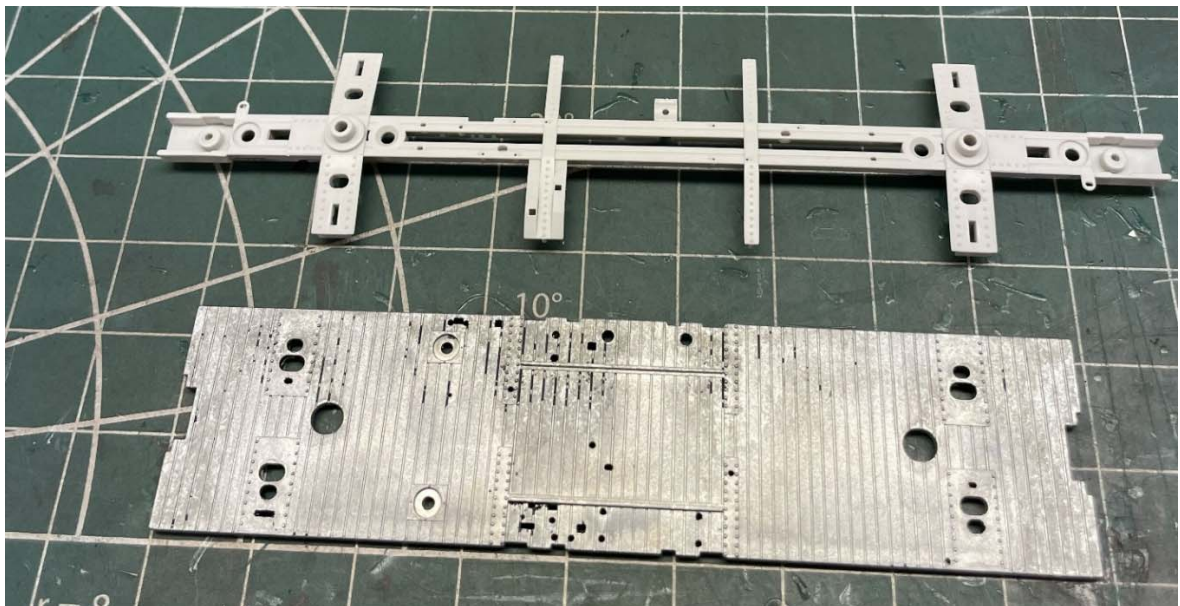
With that out of the way, let's begin!

UNDERFRAME:

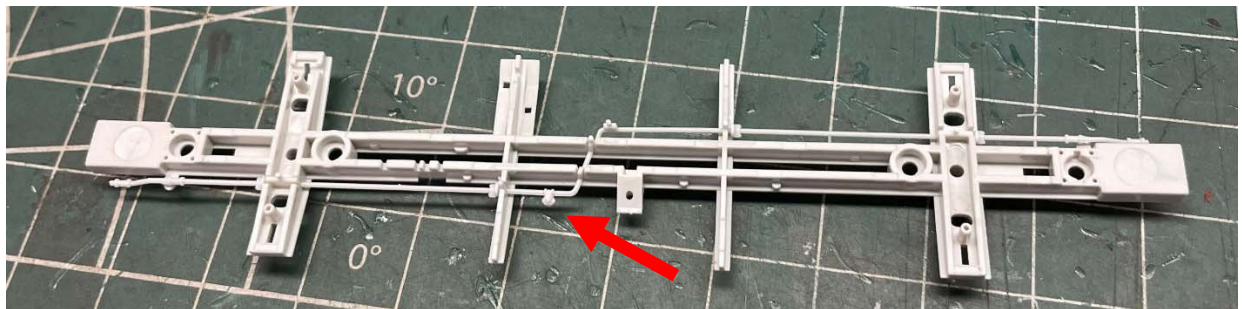
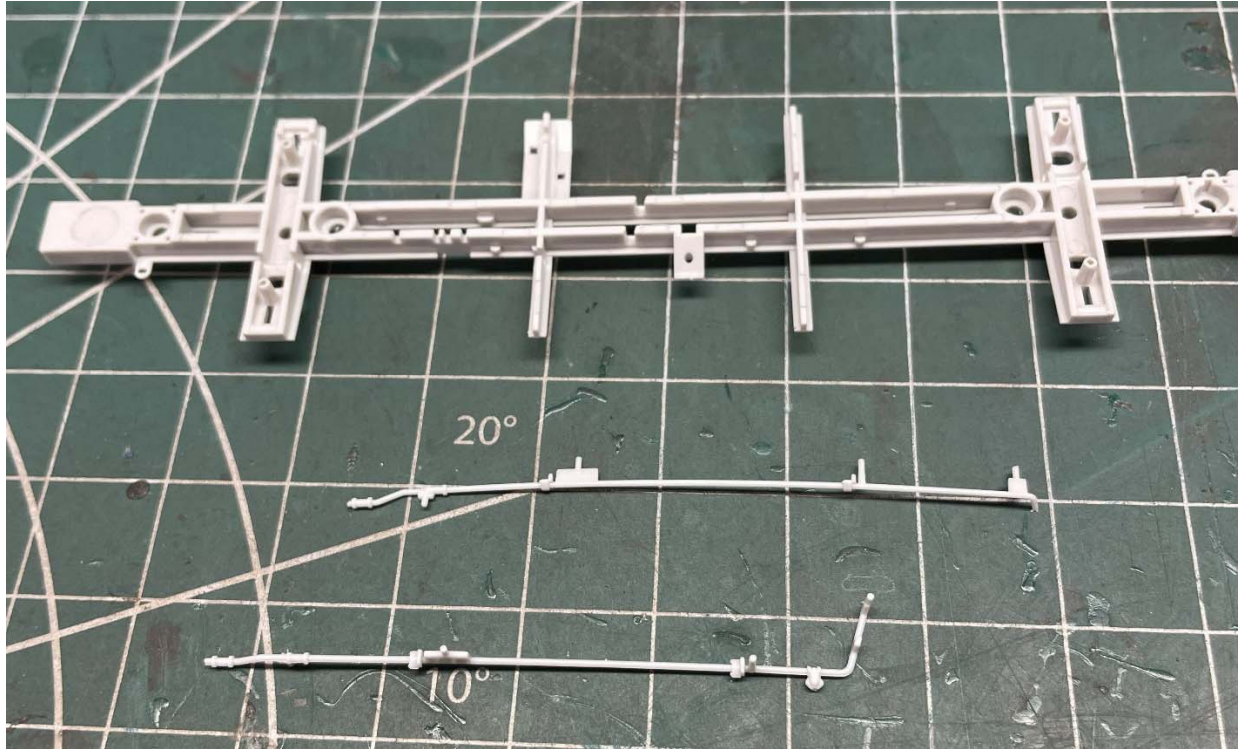
1. Retrieve the underframe from Bag 03. Place it on your work surface with the side that has the recessed area down (the side with the simulated wood flooring facing you) with the two large holes for the toilet tank to the left (we will leave the underframe in this orientation for clarity during the build process).



2. From Bag 02 get the center sill assembly. Orient it so that the bracket for the cylinder is away from you. Also, remove the mold release pin from the bracket if present.



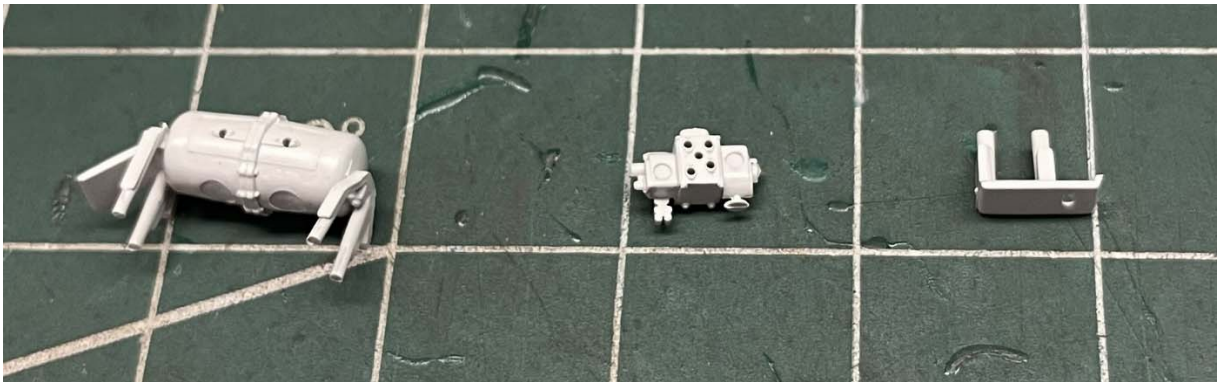
3. Flip the sill over and locate the two sections of the train line from Bag 12. Set the sections into the slots in the sill as shown (the half that has the 90-degree bend goes to the left) and glue.



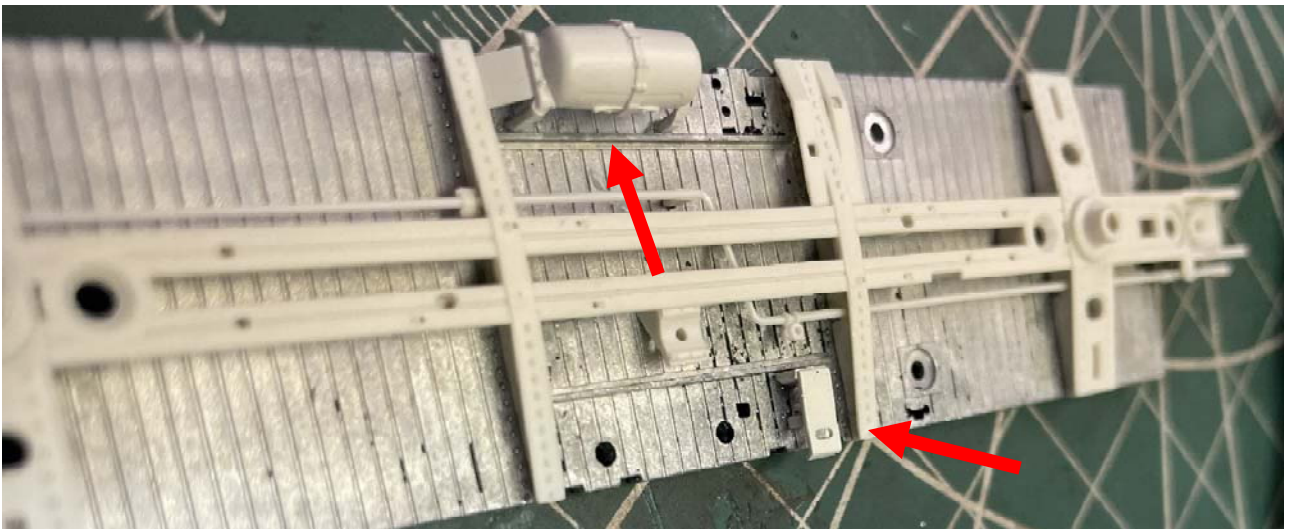
4. After letting the glue cure for a few minutes flip the sill over and install it on the underframe. There are pins on the train line that fit into holes in the floor so you may need to maneuver it a bit to get it to sit properly. We will secure it in a later step but if you want, you can tack the center sill with CA to make sure it stays seated. ***see step 5**
5. ***There is a later step (step 23)** that requires a part to be installed under the cross members, so you need to be able to lift them slightly to get it in position. This is

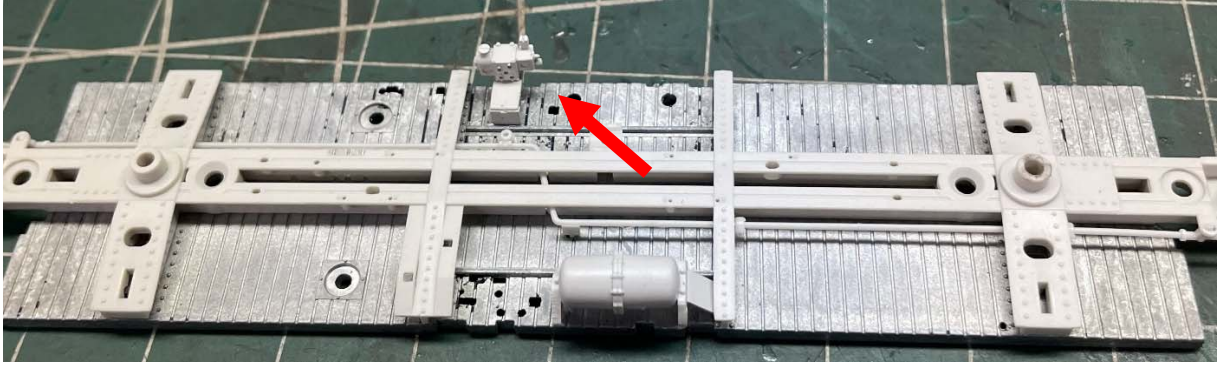
one of the issues we have developing these instructions... we're figuring it out as we go, and sometimes, we find things like this after the fact! You can look forward in the instructions to find the step in question and install the part now if you wish.

6. From Bag 08 retrieve the reservoir, AB valve, and AB bracket. Clear the holes in the reservoir and AB with a #79 drill.

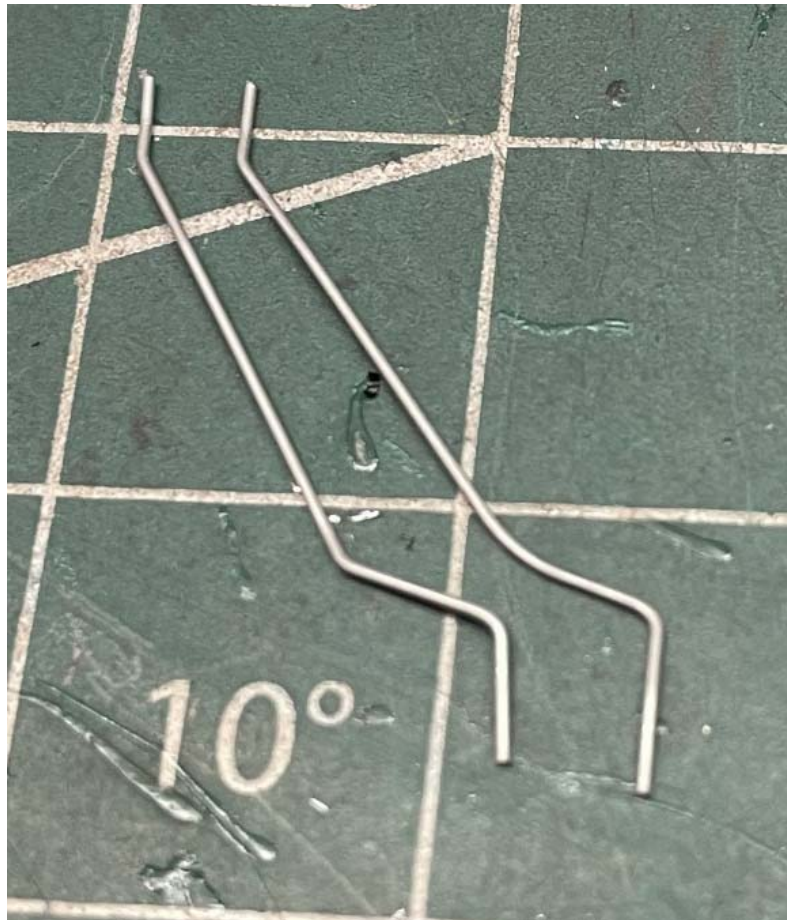


7. Install the AB bracket in the holes in the floor just to the right of the cross member with the "ledge" facing the outer edge of the floor. Install the reservoir in the four holes opposite the AB with the angled bracket facing to the right with the bracket resting underneath the cross member (the holes in the reservoir are facing the center sill). Install the AB valve on the bracket with the holes facing the center sill as well. Secure all parts with CA.

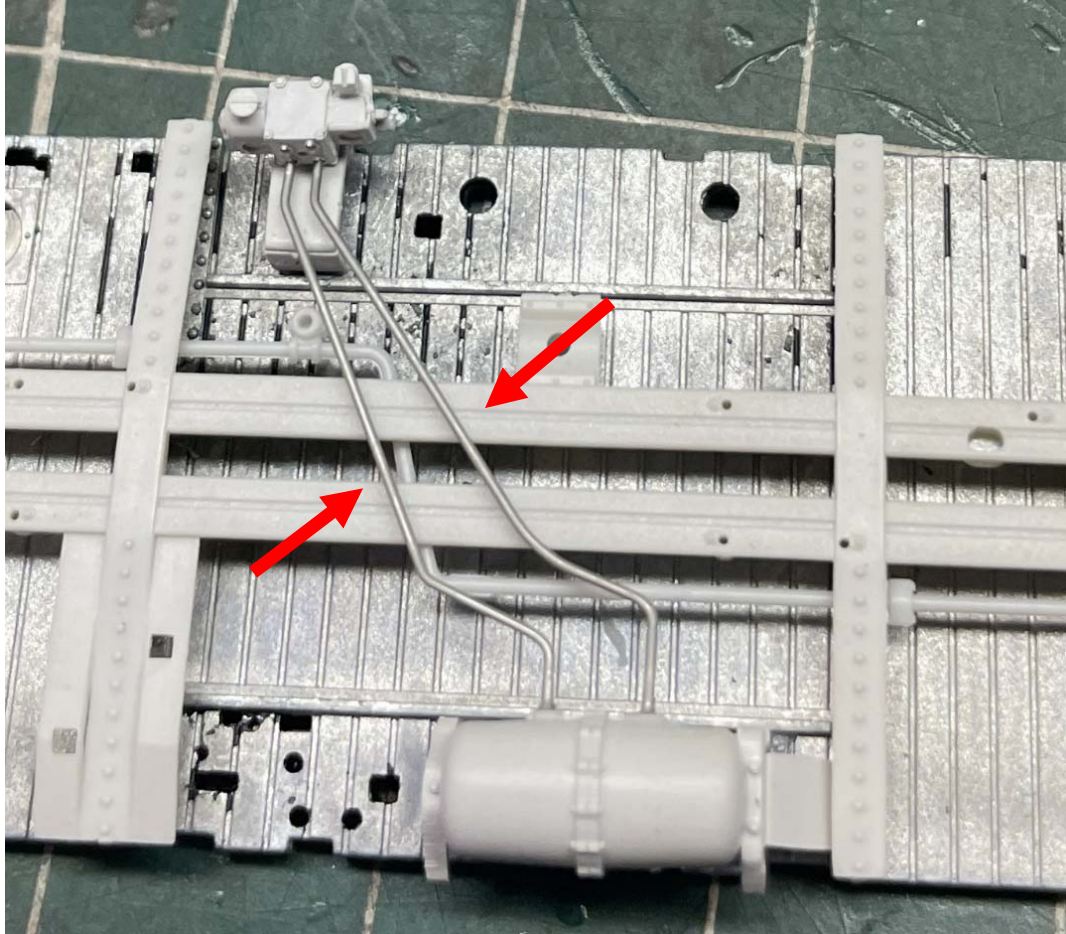




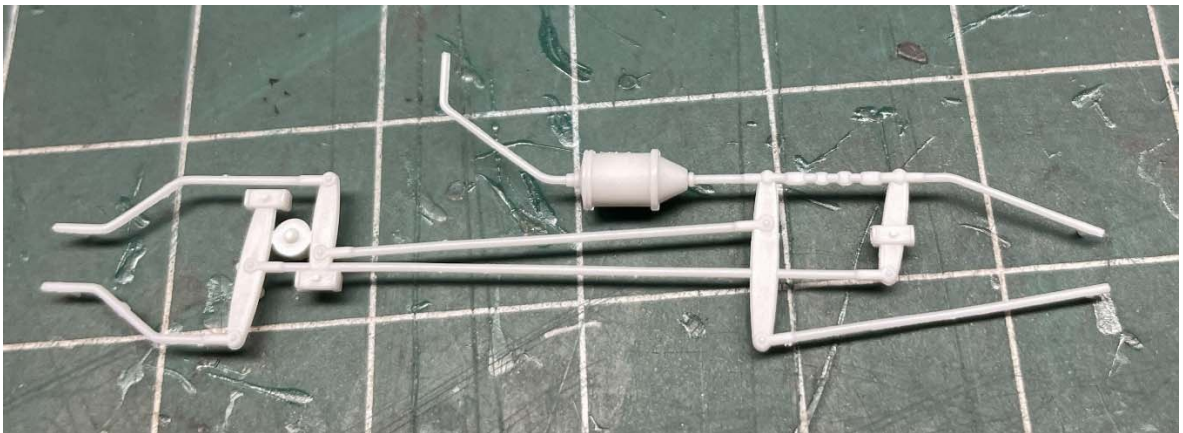
8. From Bag 15 locate the air lines that go from the reservoir to the AB. As they are shown in the photo is the same position they will go on the car. They will go into the bottom two holes in the AB.



9. Set in place and secure with CA at the reservoir but not at the AB yet as we want to make sure we do not block the other holes. We will secure all parts in the AB after they are all in place.



10. From Bag 09 locate the brake rigging assembly. There is a small mold release pin between the brake levers that needs to be removed before installation.

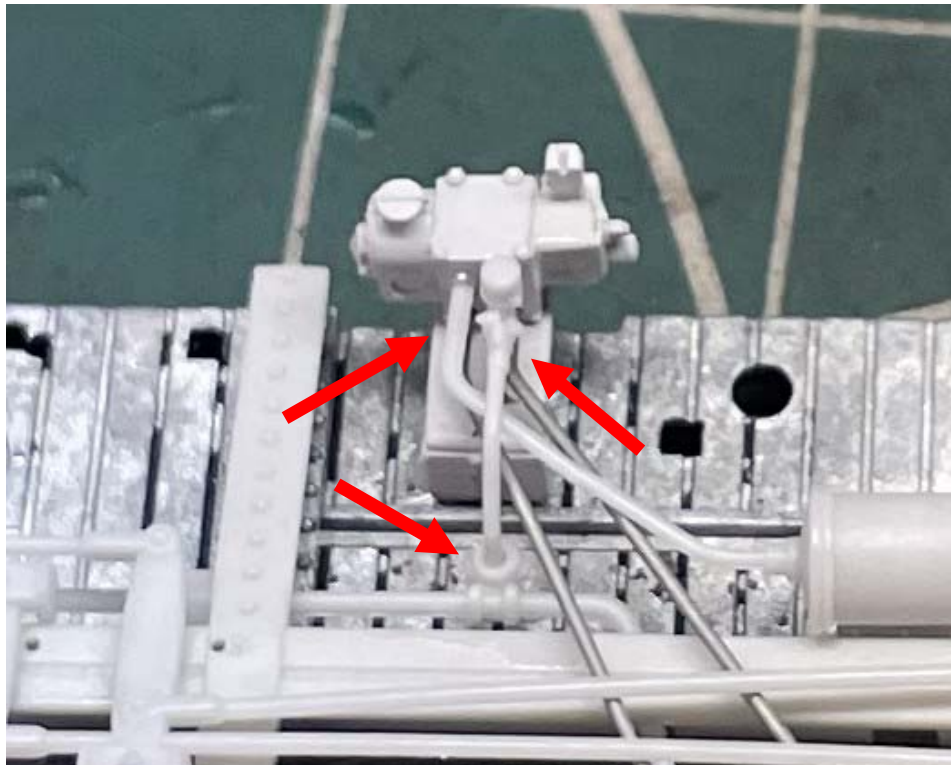


11. The part has mounting pins that guide in its positioning so set the cylinder in place in the bracket and align all mounting pins to their corresponding holes in the sill. Glue in place.

12. From Bag 12 retrieve the dirt collector pipe.



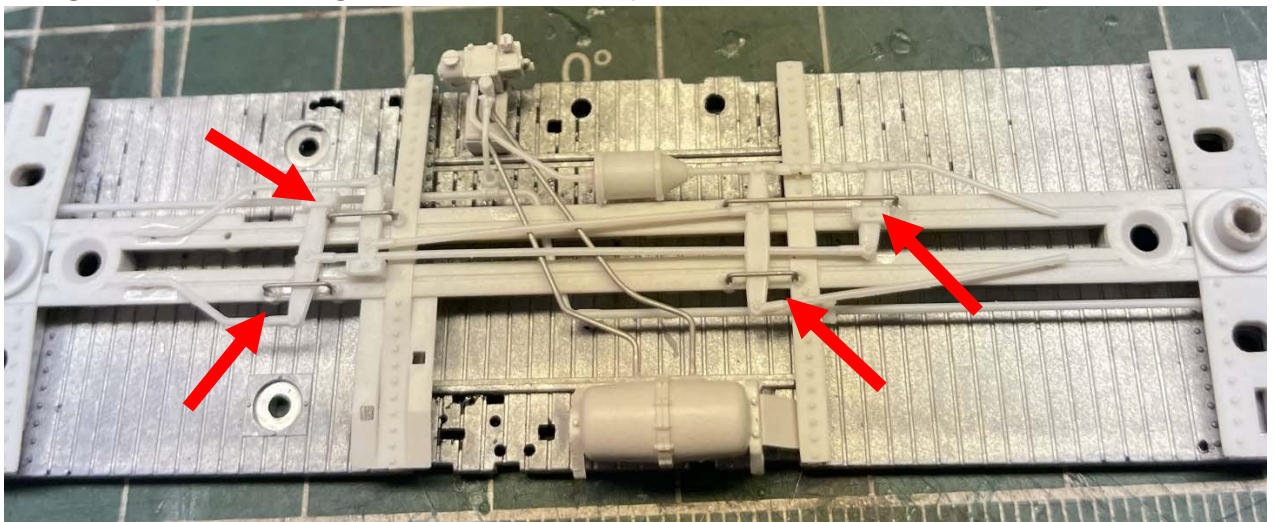
13. One end will go into the upper right hole in the AB valve and the other will go into the coupling on the train line. Set in place as shown and secure all parts in the AB valve. The line from the cylinder (from step 11) goes into the upper left hole of the AB valve. See photo for final position of brake rigging and related components.



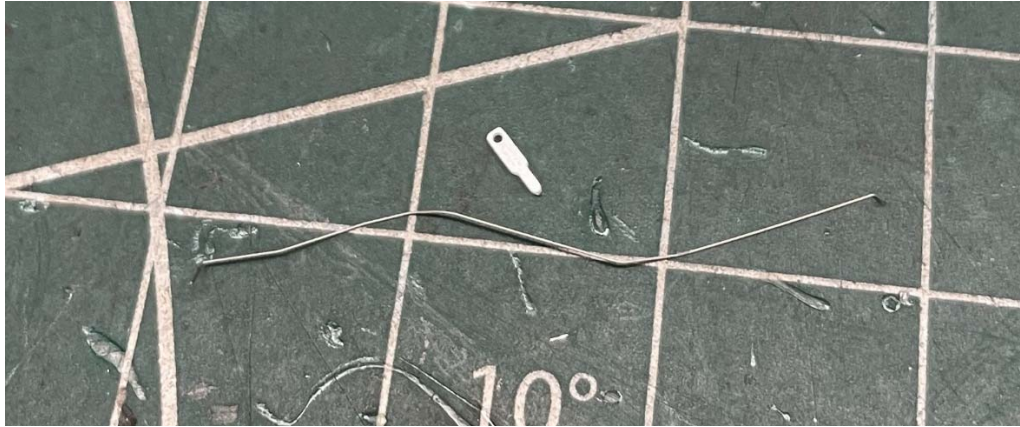
14. From wire parts Bag 15 retrieve the brake hangars.



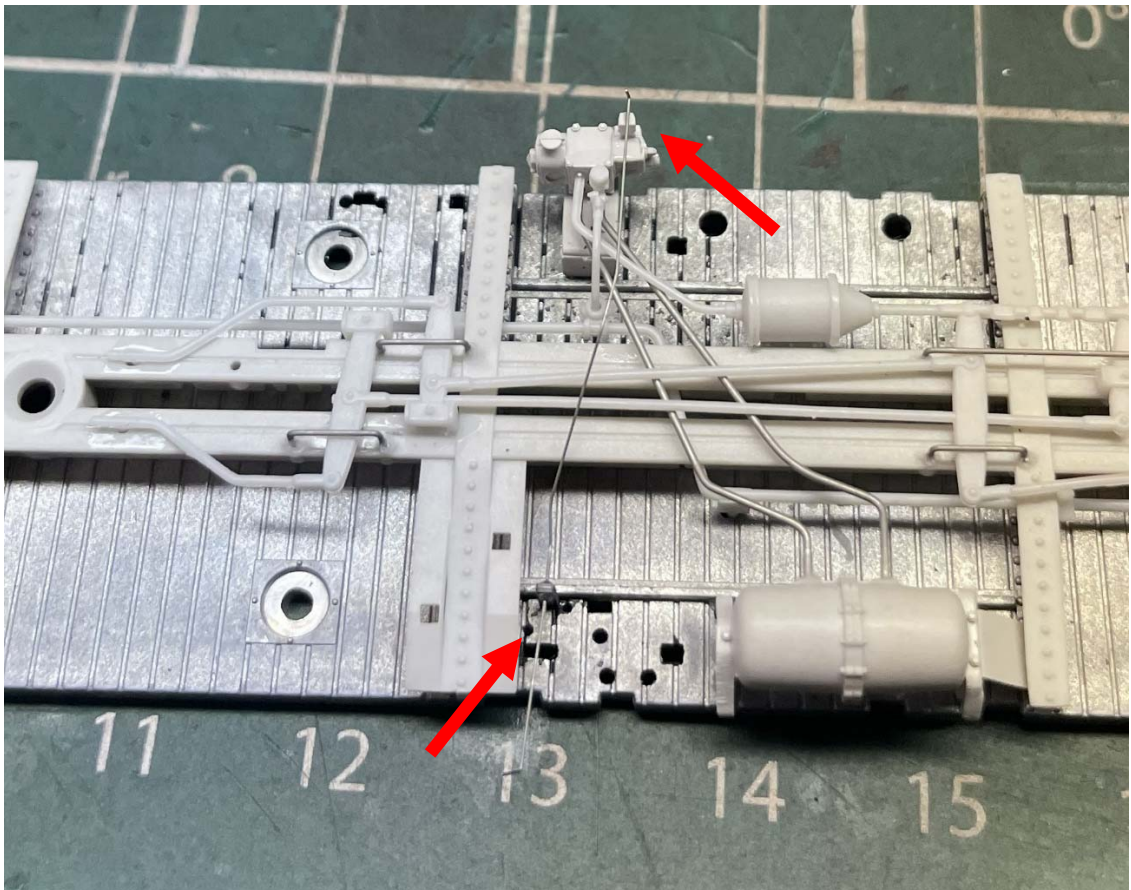
15. Using the photo as a guide set all four in place and secure with CA.



16. From Bag 15 retrieve the bleed rod and standoff.



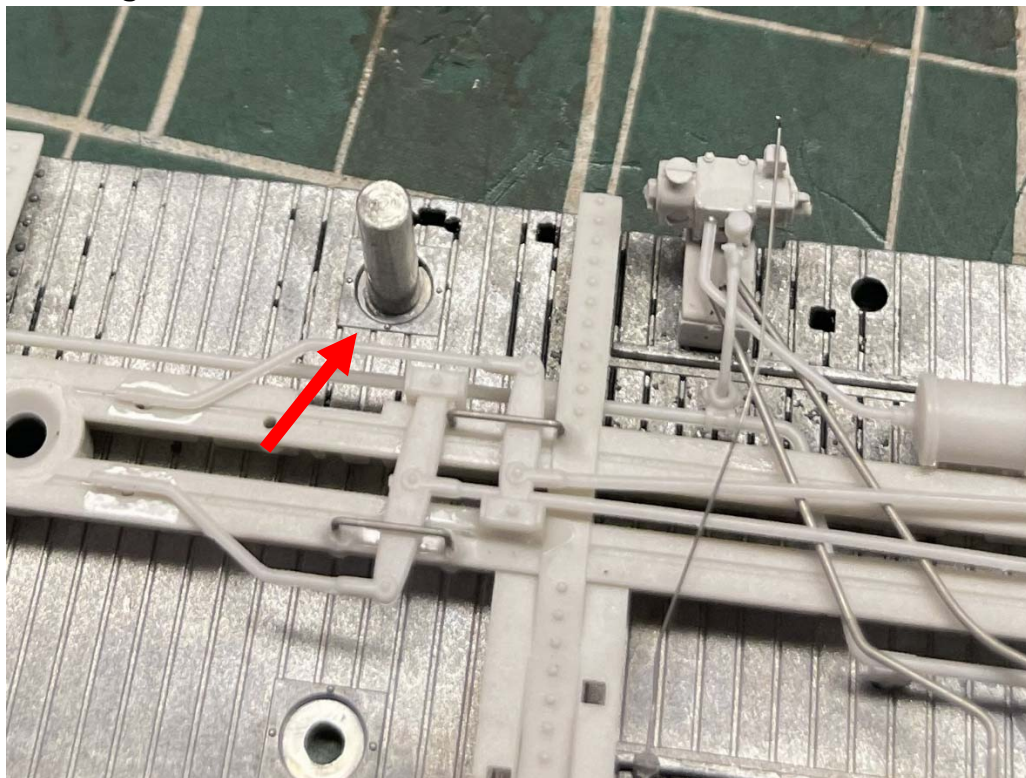
17. As is shown in the photo, the left side of the bleed rod will go toward the AB valve. Install the standoff into the hole on the left-hand side next to the left cross member. Fish the bleed rod through the standoff and secure in the small notch on top of the AB valve as well as at the standoff. The other end of the bleed rod will rest in a notch in the car body after the assemblies are joined together so be very careful when handling the underframe as the bleed rod can be damaged very easily.



18. There are two different toilet dump pipes. The longer one is the original Erie, the shorter is the later era Erie Lackawanna. For this version we will be using the silver one.



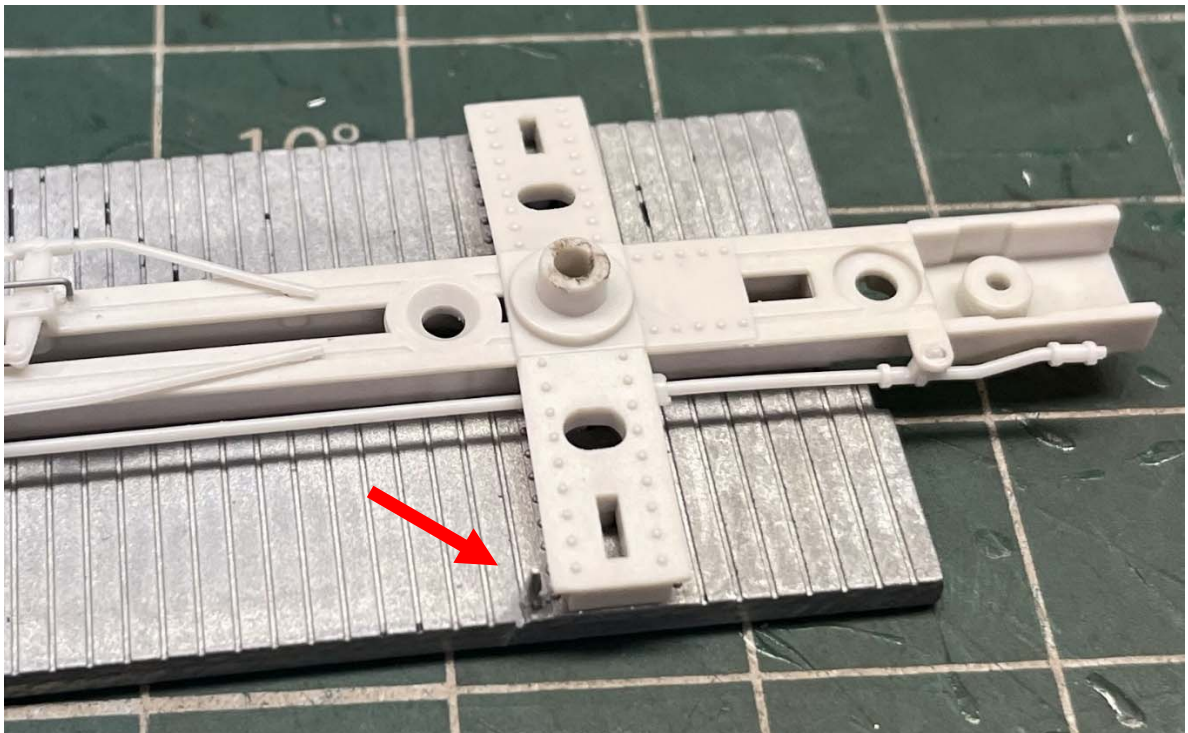
19. It mounts into the hole in the floor to the left of the AB valve. Install and secure with CA making sure it is vertical.



20. There is a very small cone-like part in Bag 15. This is the water fill inlet pipe.

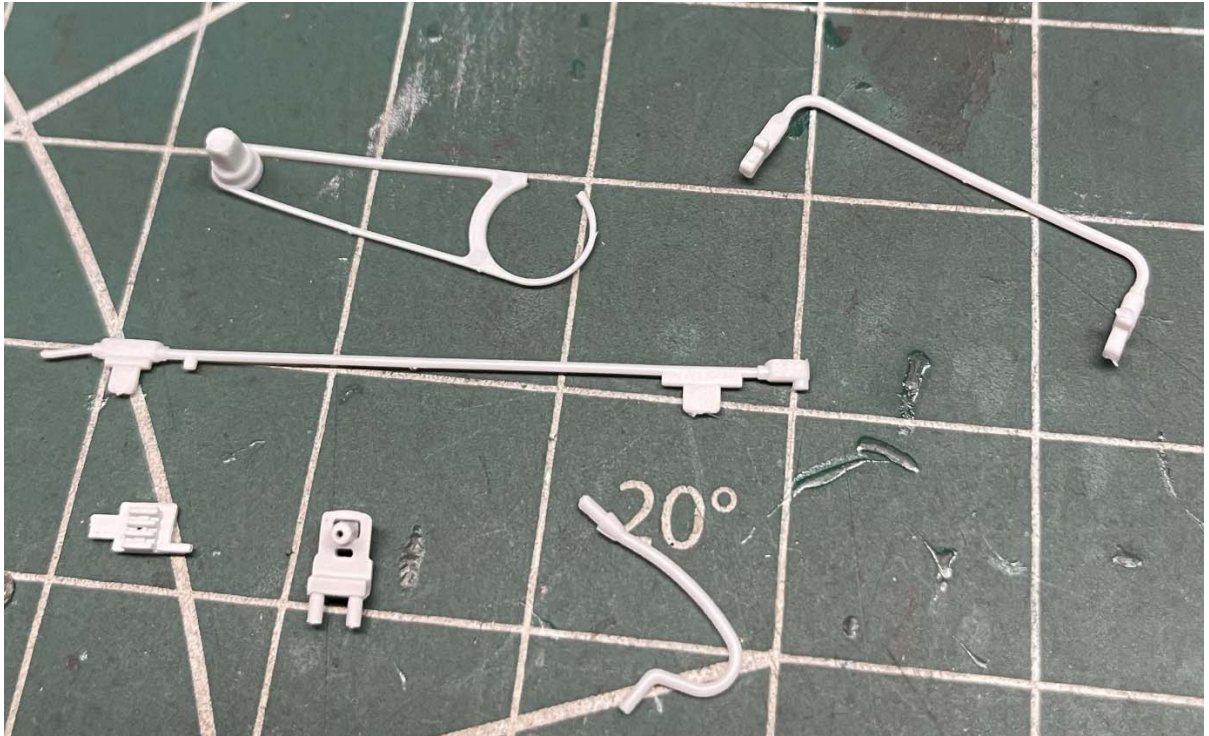


21. It gets installed into the hole next to the bolster on the right-hand side. Secure with CA.

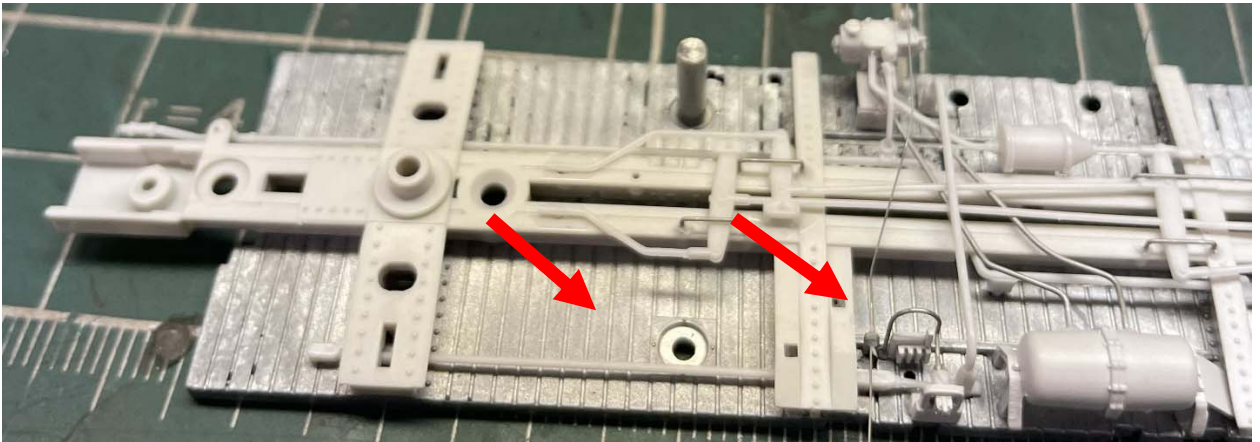


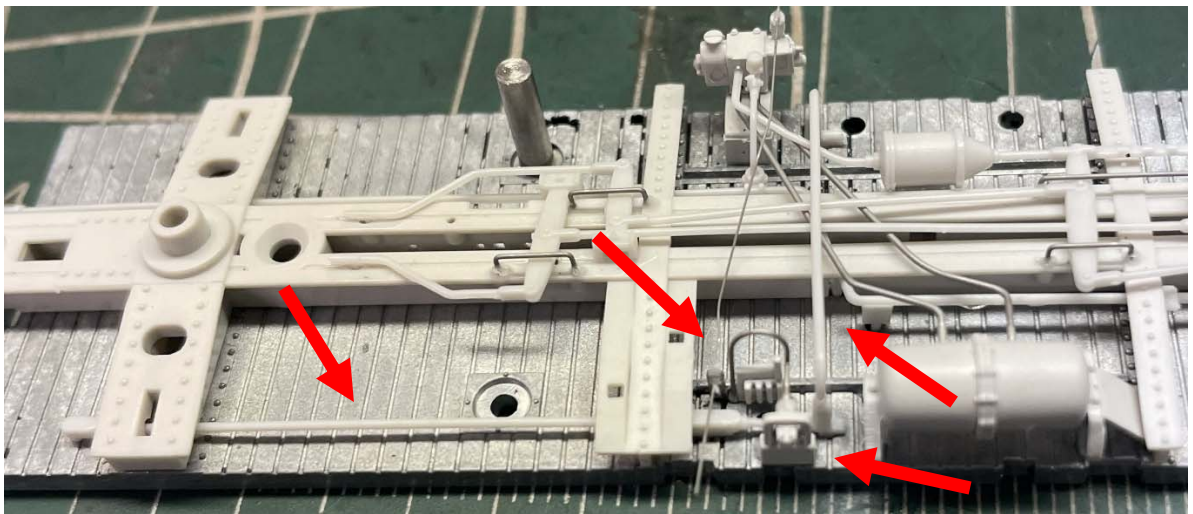
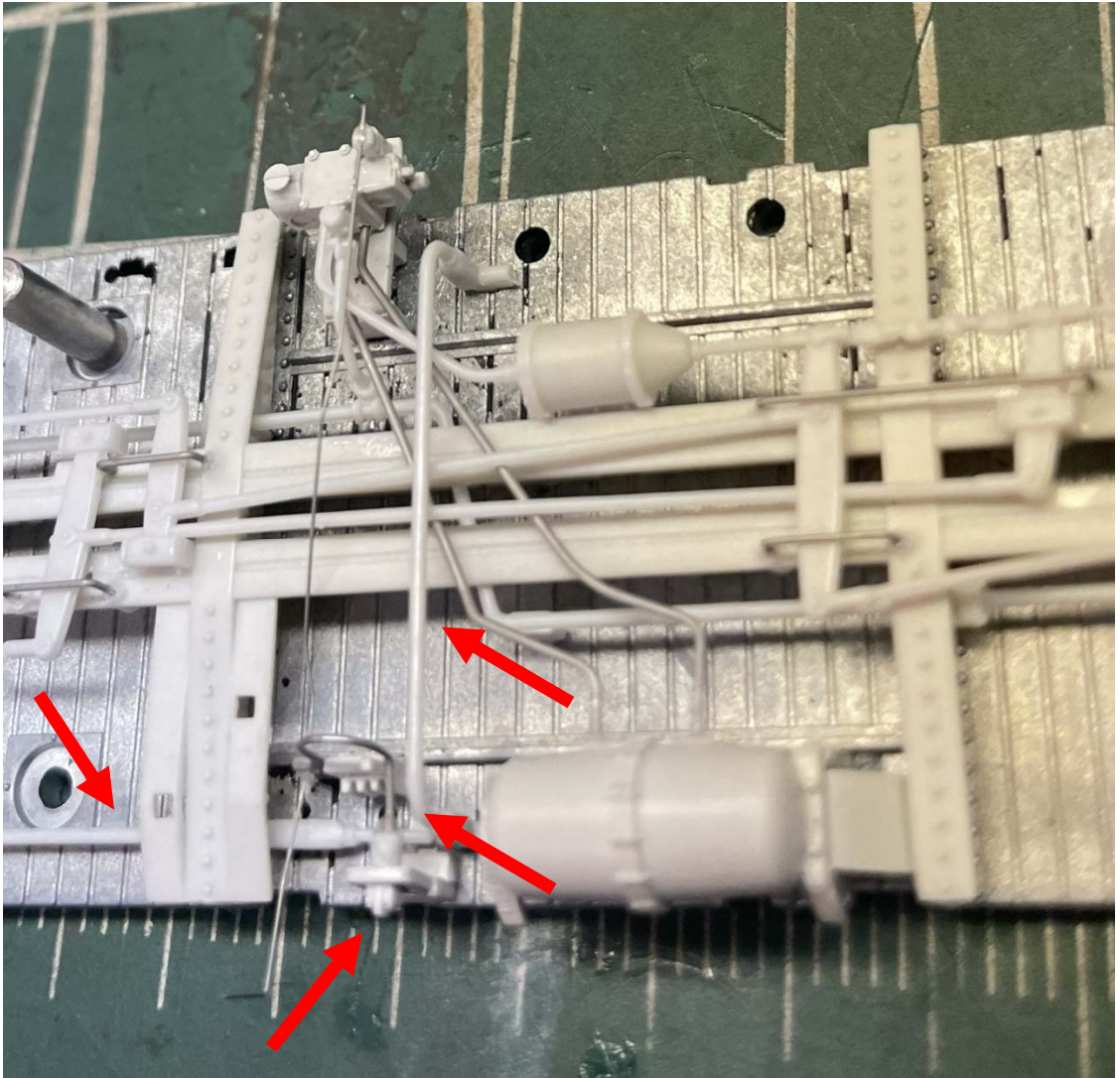
22. From Bag 12 retrieve the axle generator belt, from Bag 11 retrieve the generator electrical wire bundle (J shaped pipe) and two electrical conduits (U shaped

and straight pipes), and from Bag 07, retrieve the wire connection block and the electrical charging plug, and from the wire parts bag retrieve the metal guard.



23. Using the photos install all components as shown.

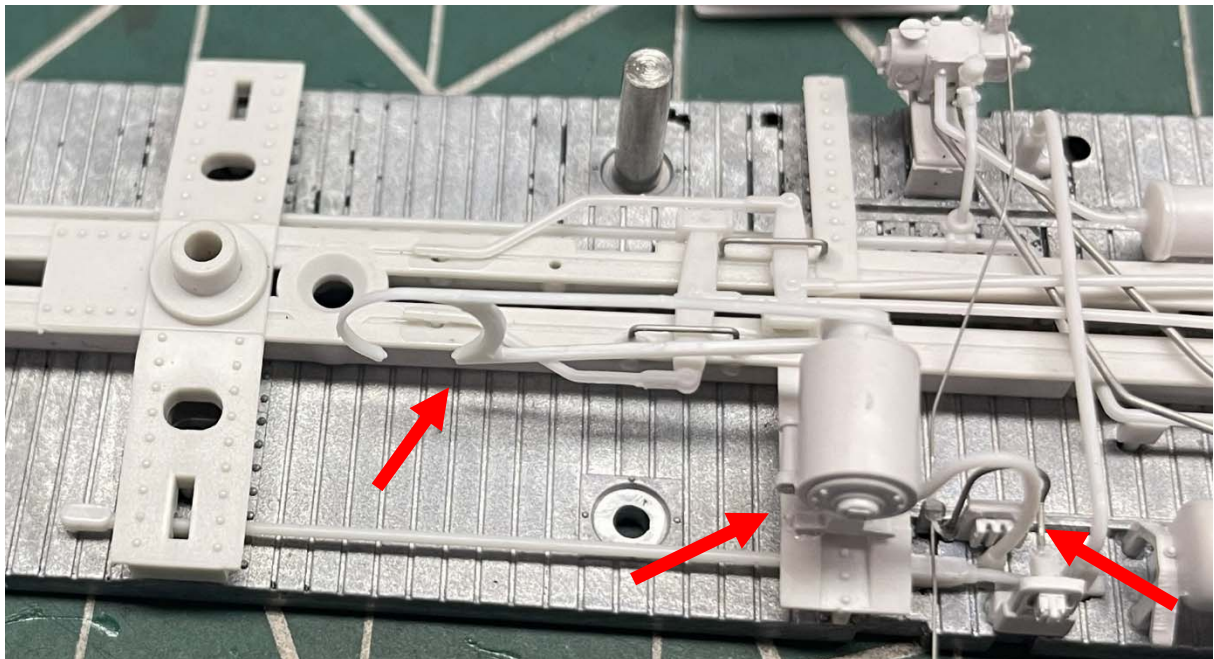




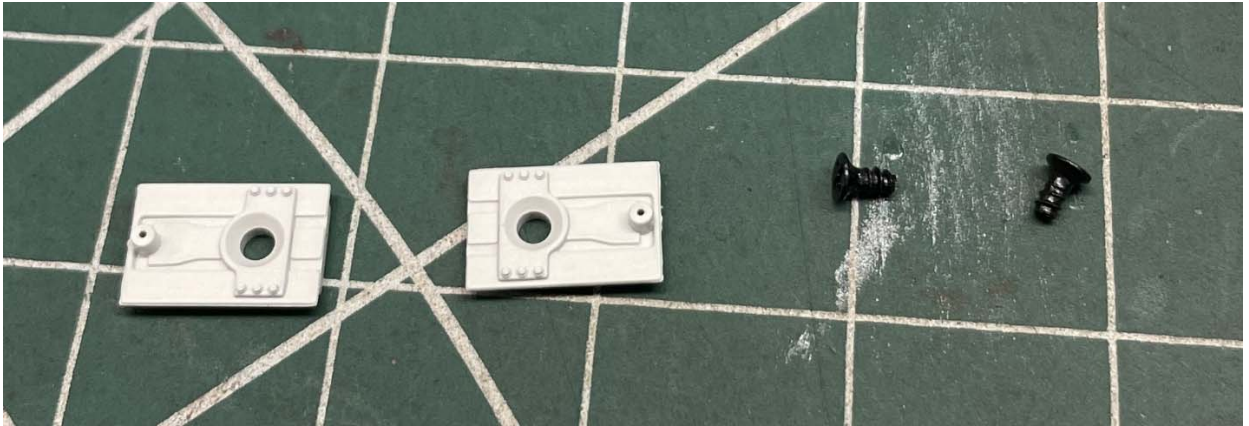
24. From Bag 08 retrieve the generator.



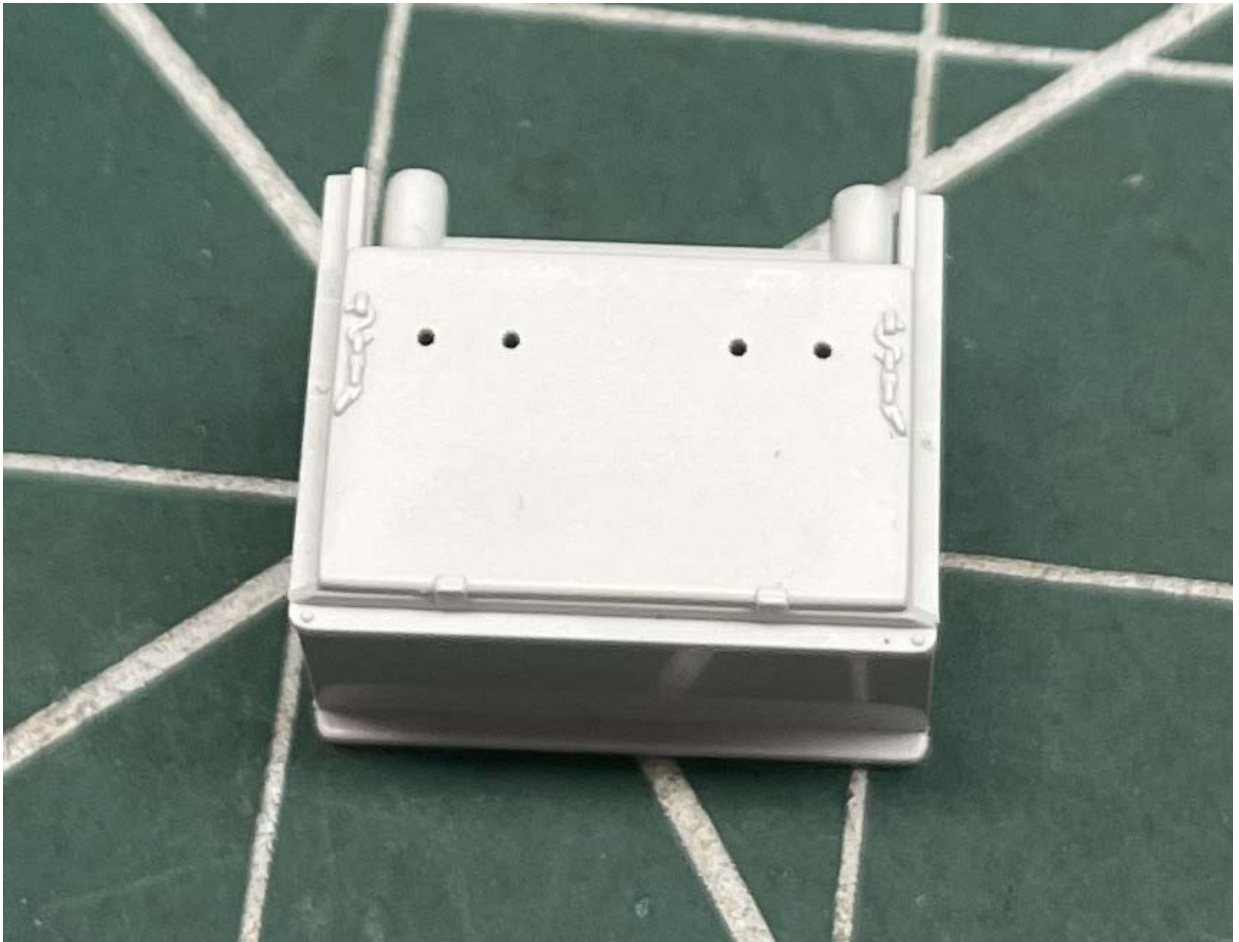
25. The square hole in the end faces the center sill of the car. Install into the square holes in the left cross member. Install the pulley into the square hole in the generator and install the generator electrical conduit (the curved plastic piece from Bag 11) into the hole in the generator and in the floor. Secure all.

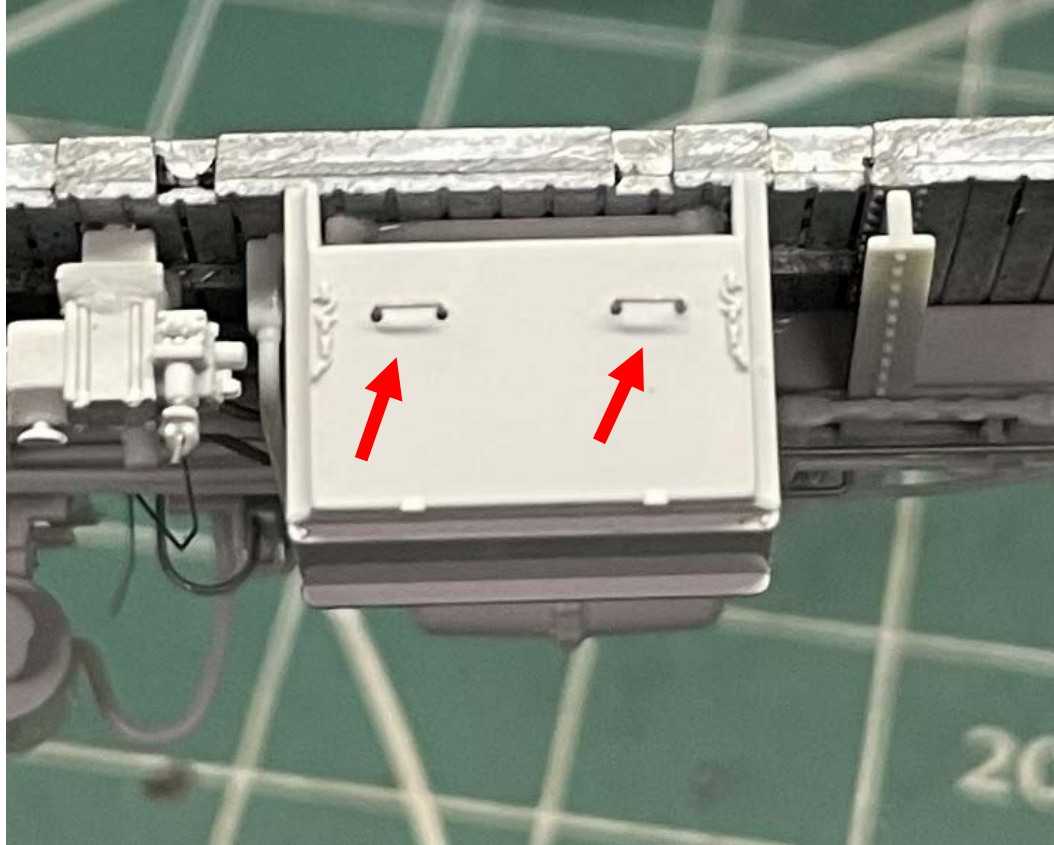


26. From Bag 07 retrieve the coupler box covers. The screws are in Bag 16, sub bag 14030DFB. Set covers in place and secure with screws.



27. Bag 08 has the battery box and Bag 15 has the wire handles. Install the handles and secure with CA. Install the box into the large holes in the floor next to the AB valve and secure with CA. (see photo)

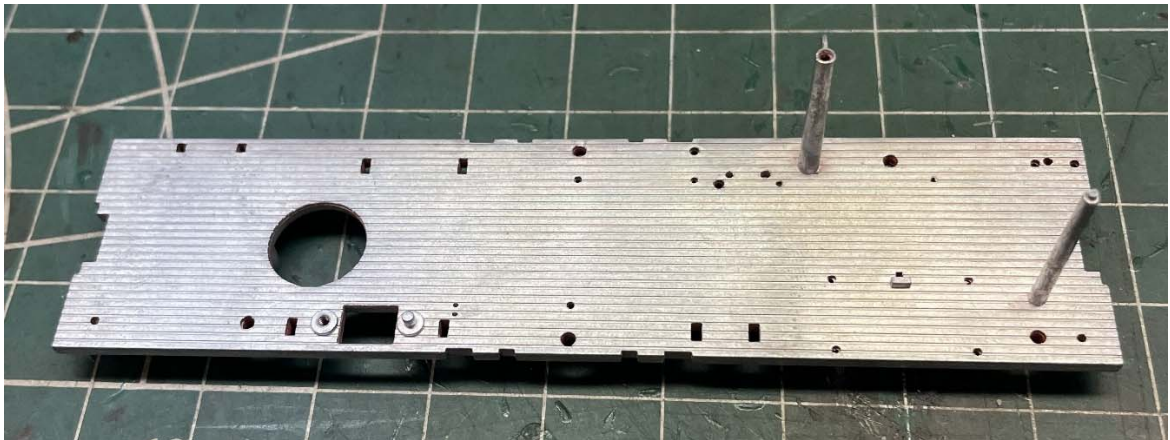




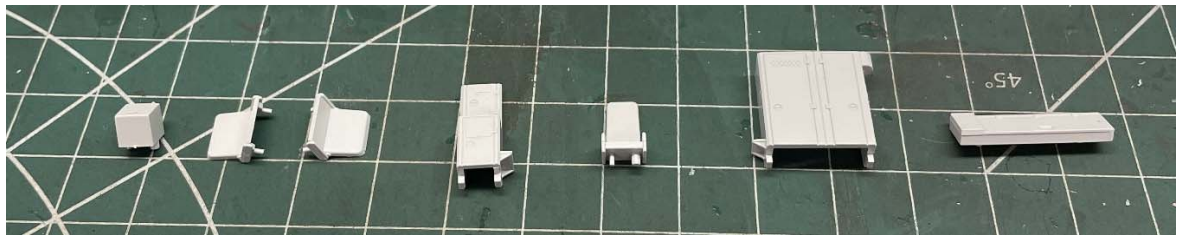
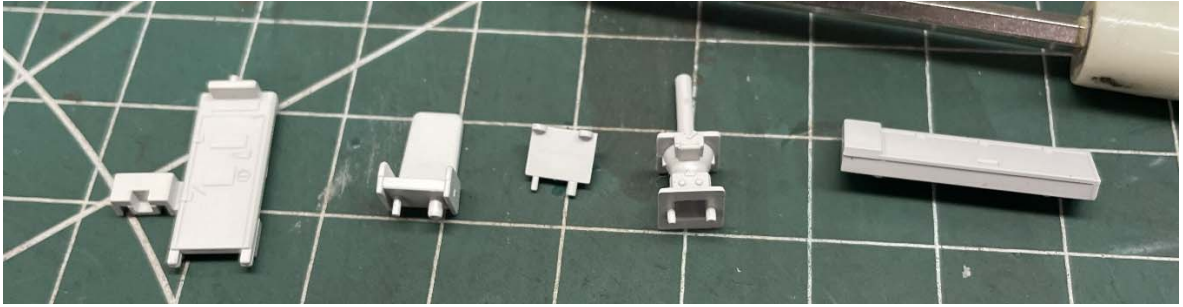
This concludes the underframe assembly. Set it aside for now.

INTERIOR

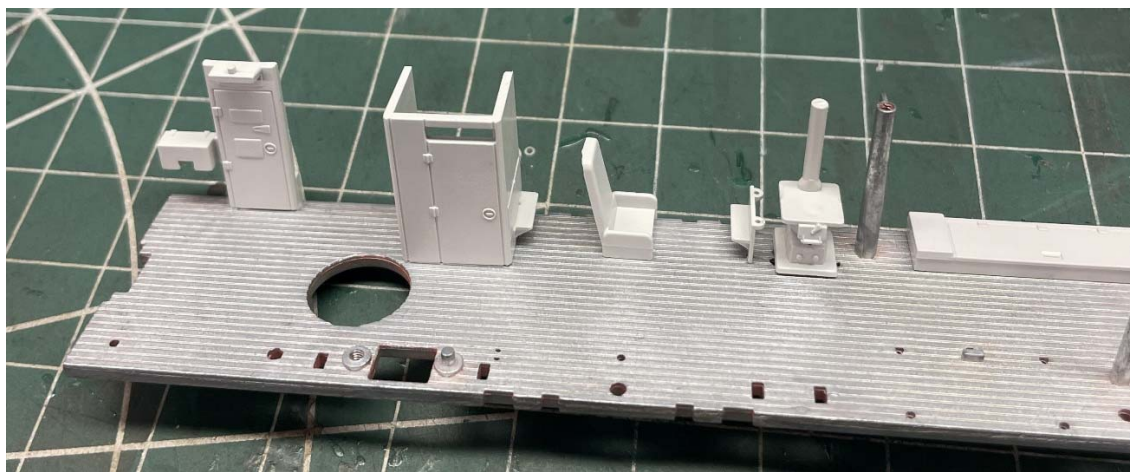
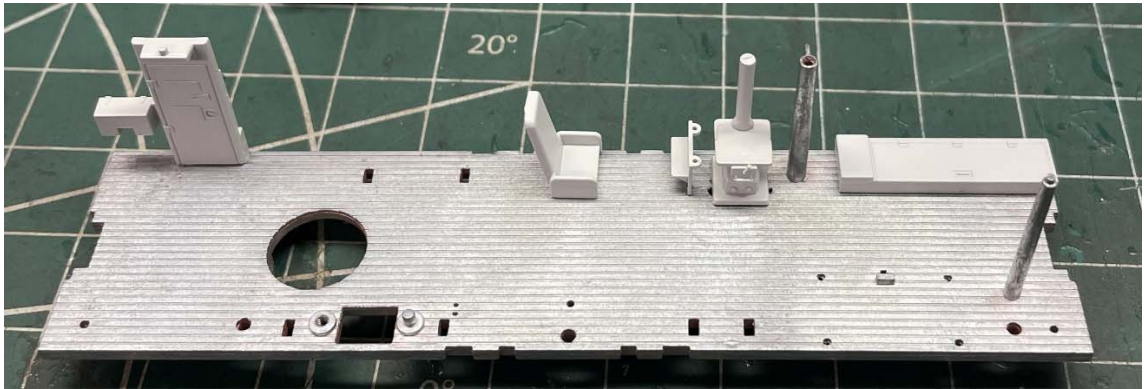
1. Retrieve the interior sub floor. Set it on your work surface with the large hole to your left.



2. The interior components are in Bags 07 and 08.



3. Using the photos as a guide set all components in place and secure with CA.





4. If you are modeling a later version of the kit, you will use the larger bathroom as in the photos.
5. Locate the interior sub roof. You will see that there is a raised edge on one side and the other is flat. The flat side will face down (toward the interior). From Bag 16 retrieve sub bag 14030DPB. One screw has coarse threads, and one has fine. The fine thread screw goes into the post of the interior frame, and the course tread goes into the top of the locker. Set sub roof in place and secure with the screws.

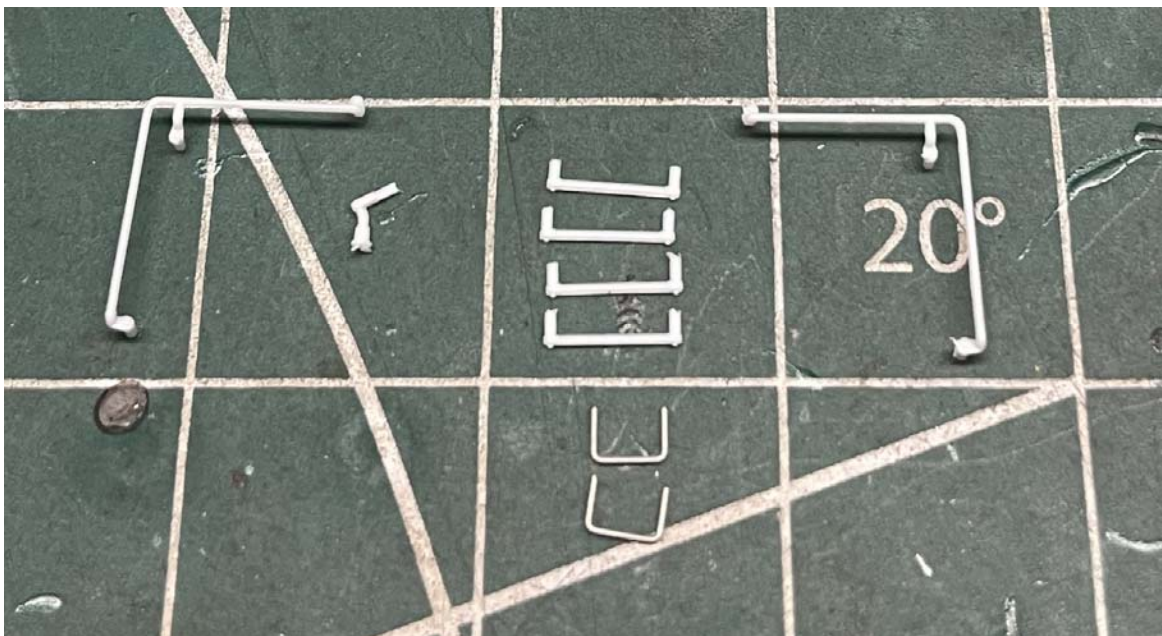




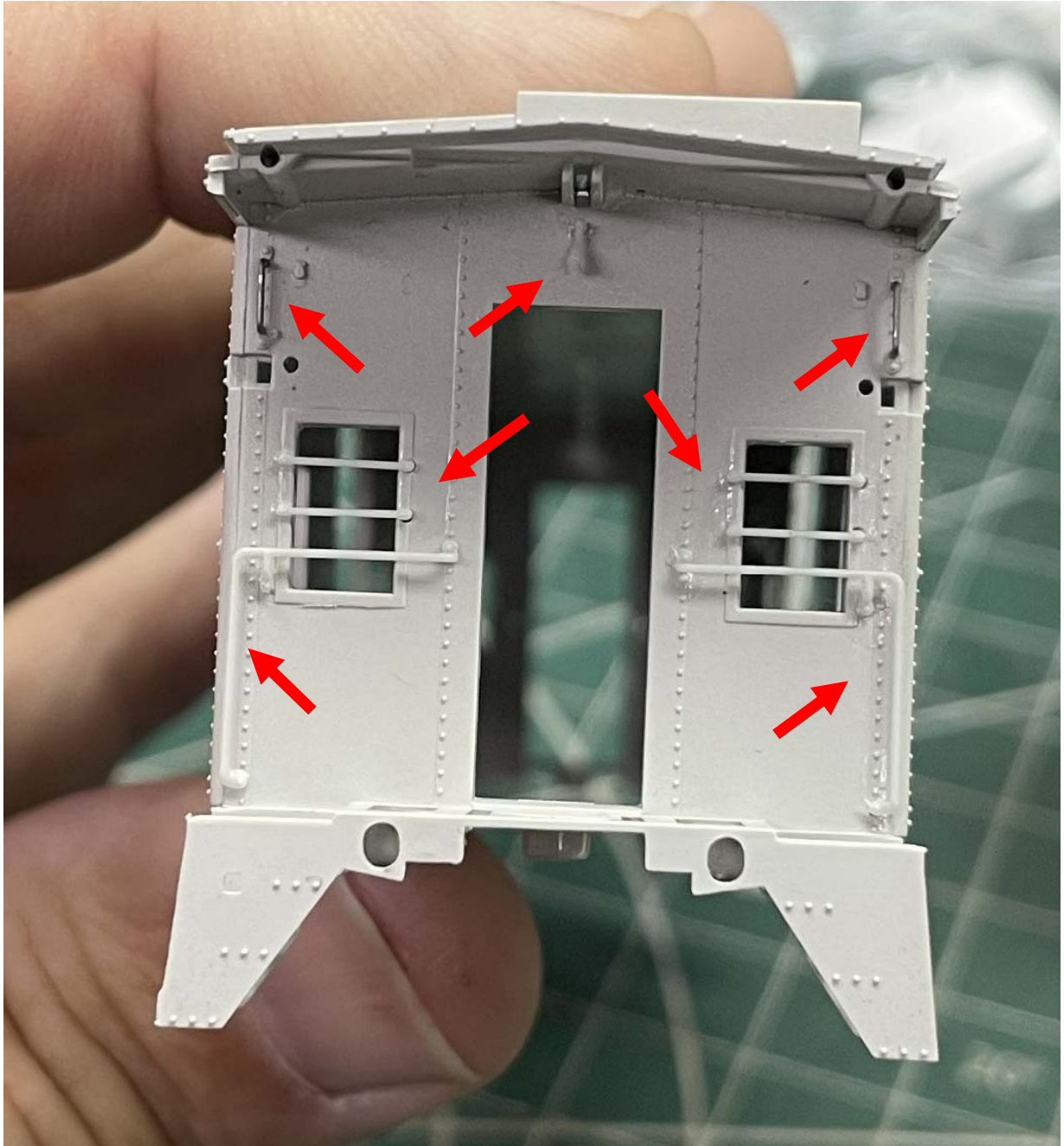
This concludes the interior assembly. Set it aside for now.

CAR BODY

1. We will begin with the body detailing with the ends (they are the same on both sides of the body). You will need the following parts:
 - a. Bag 07 – marker light brackets of choice
 - b. Bag 12 – corner grab irons, end lights (above the doors), and window bars
 - c. Bag 15 – wire grabs for upper corners (see photo of all components)
2. The marker brackets are not shown in the photo since there are different versions depending on your prototype. Choose the appropriate version for your build.



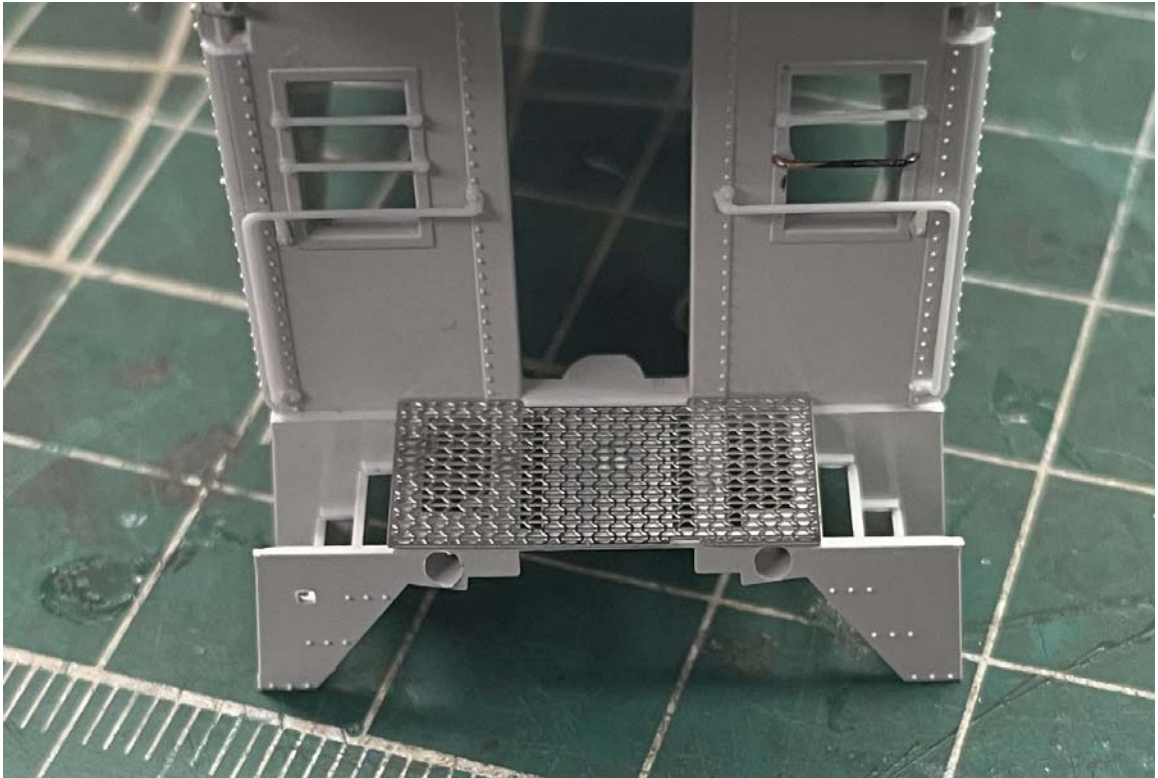
3. Install the vertical grab irons using CA. Install the light in the small hole above the door and secure. Install the window bars and secure. Install the corner railings (there are left and right versions so use the photo as a guide when installing).



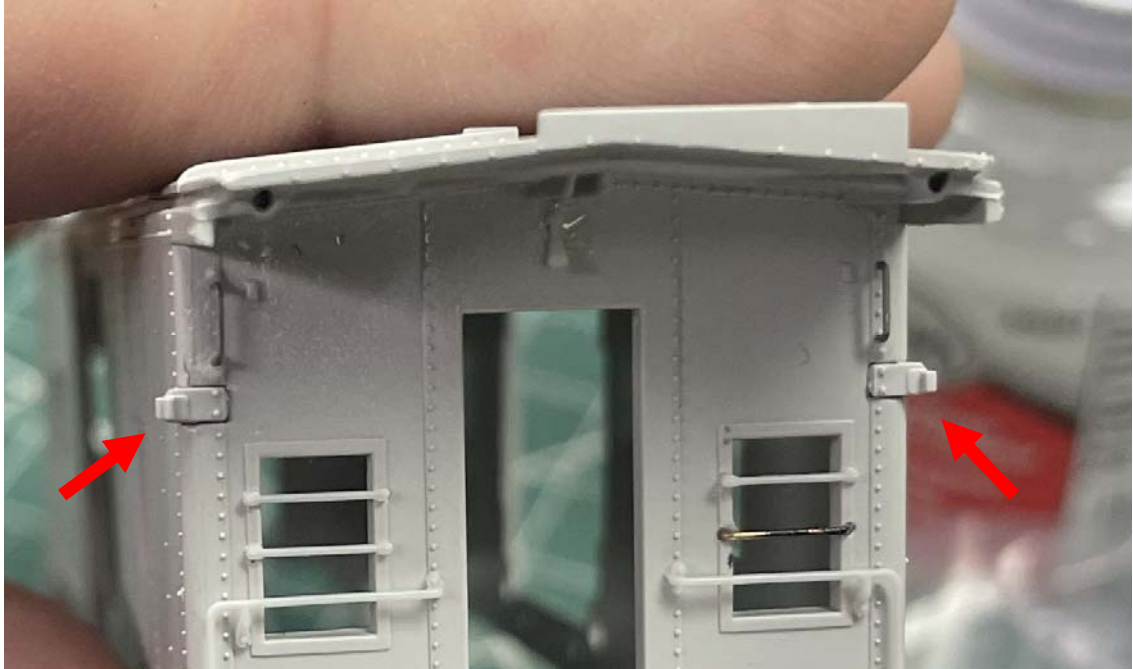
4. Bag 15 has the end platforms.



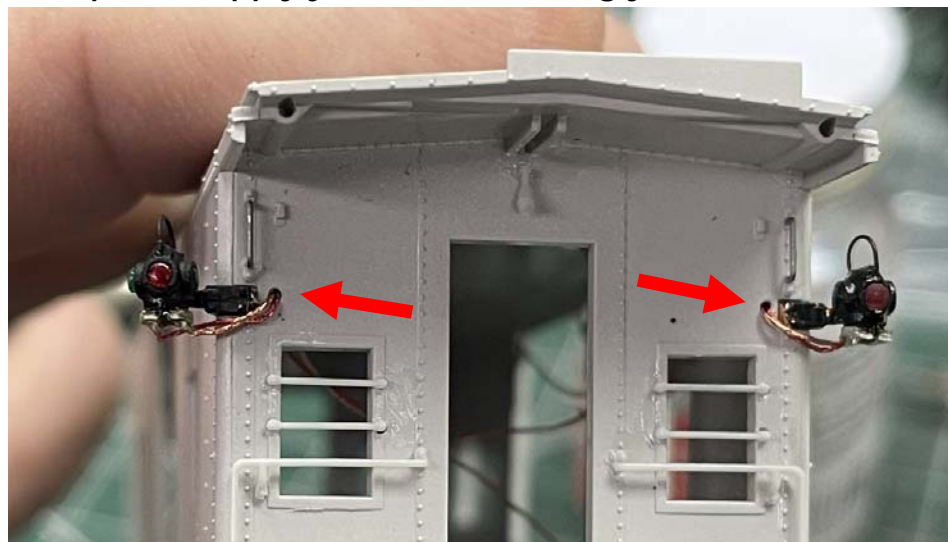
5. The side with the long notch goes against the door sill and the small notch goes to the right as you view the end of the car. Set it in place and secure it with CA.



6. Choose the appropriate marker brackets and install them in the notches on the ends of the car body that does not have the small holes for the marker light wires. Glue in place.



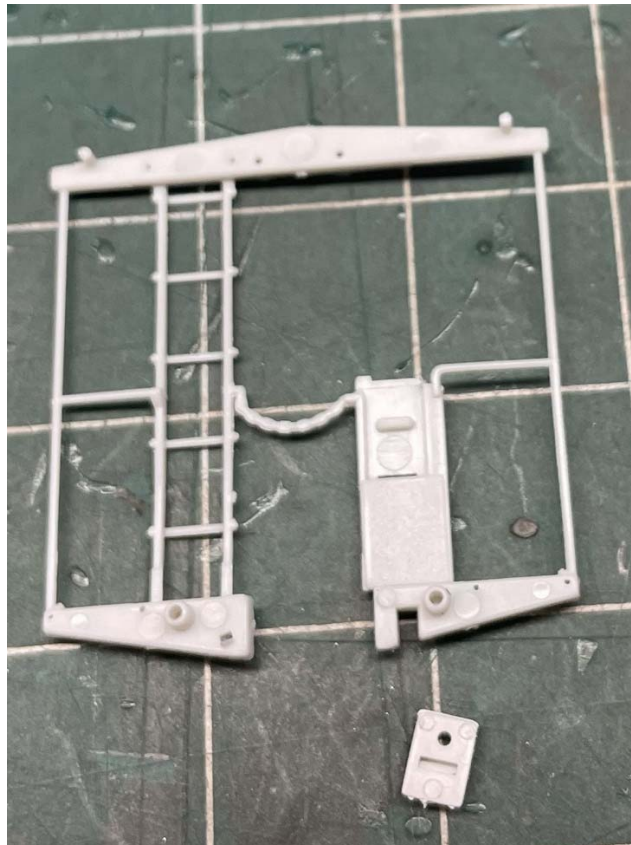
7. There are prewired lamps included in Bag 05. You can install them on the other end of the car body (the one with the small holes next to the notches for the brackets). You can secure them with CA, but it is suggested that you do not install them until after painting so they do not need to be masked.
8. **Note about the included LED Lights:** Depending on what kit you purchased, it may include brass lantern parts with LEDs, OR side marker light boxes with LEDs, OR end marker lights with LEDs. These LEDs are rated at MAX 2.1V 20mA. You must be mindful of the voltage applied to these LEDs. This means you will need to use resistors in conjunction with whatever voltage comes out of your own lighting circuit/power supply you will be installing your caboose model.

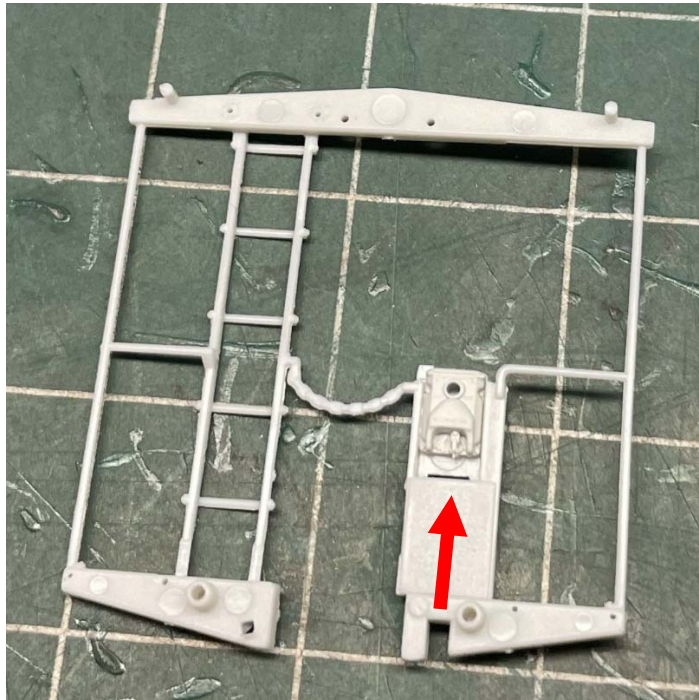


9. Bag 13 has the end cages. There are three different versions depending on the type of power hand brake used (from Bag 06). Choose the appropriate cage/brake combination for the version of your build.

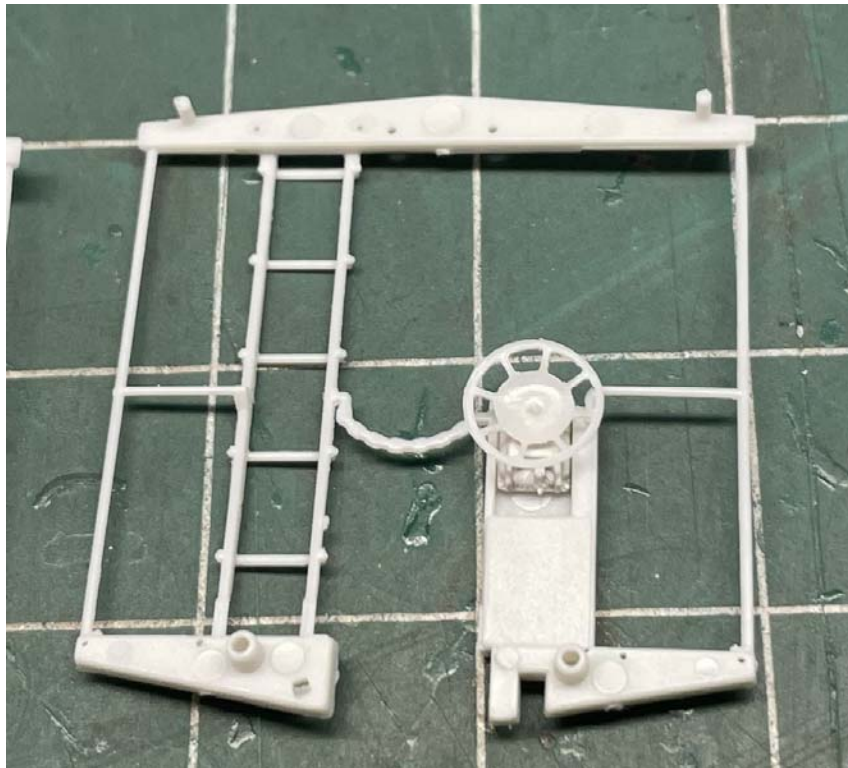


10. Turn the cage over. On the plate for the brake housing there is a small tab that the housing will sit on. Install the housing and glue it in place.

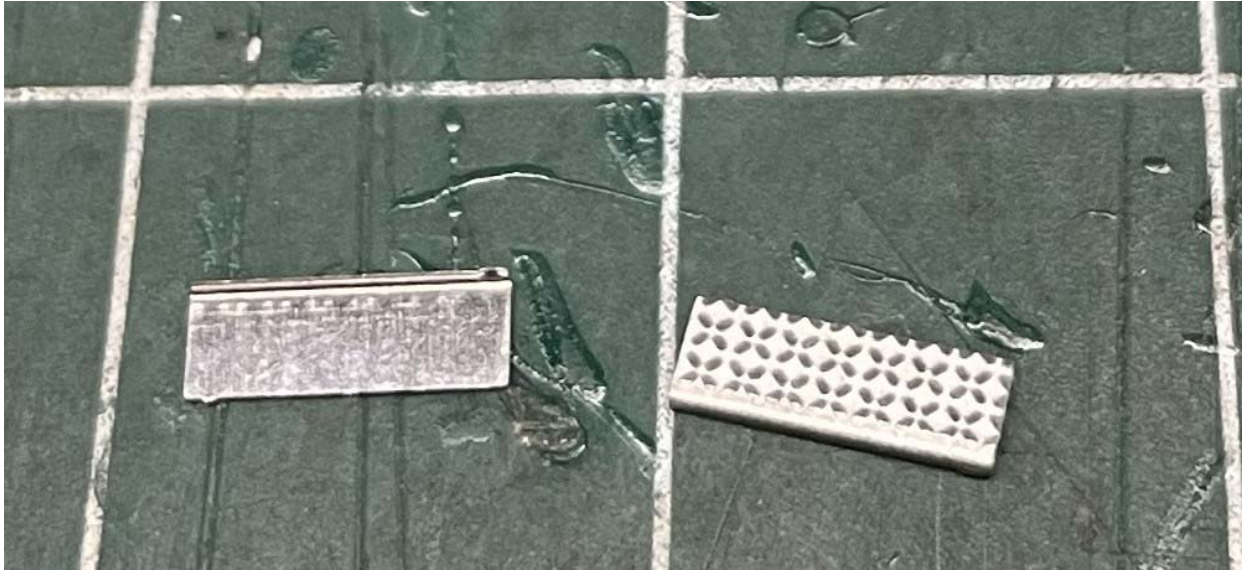




11. Bag 14 has three different types of brake wheel. Choose the appropriate version for your build and install it in the housing. Glue in place.



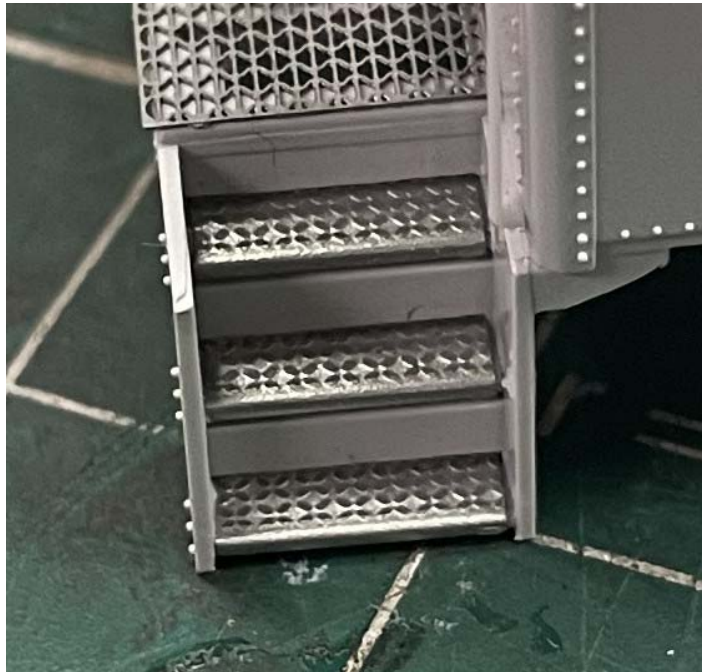
12. Bag 15 has the step treads. There is a small lip on the front of the tread.



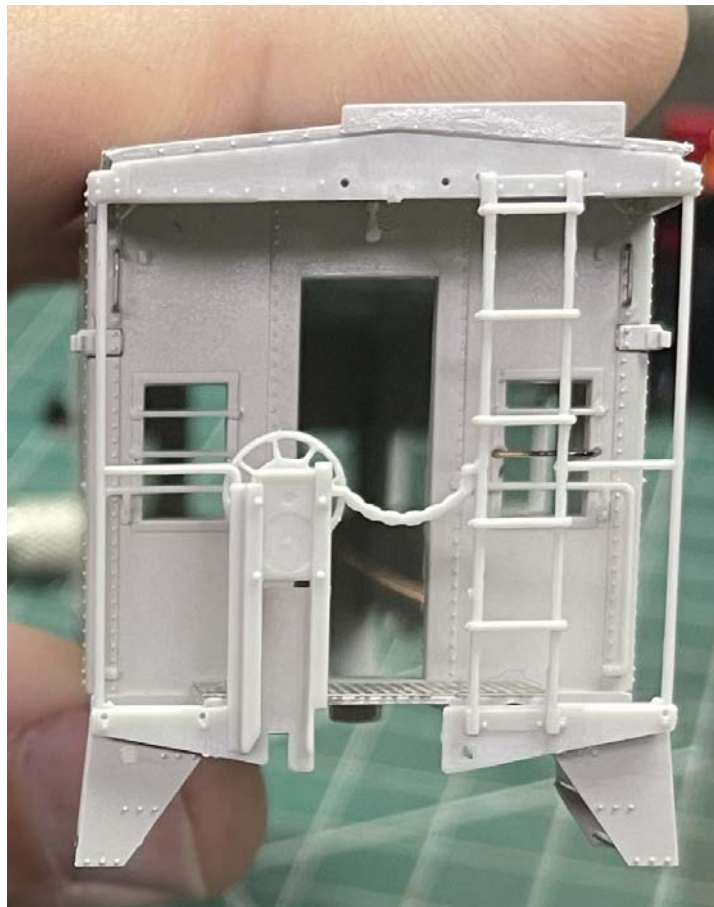
13. In the step wells you will notice small ridges on each side. The treads rest on these ridges with the front lip resting against them when installed.



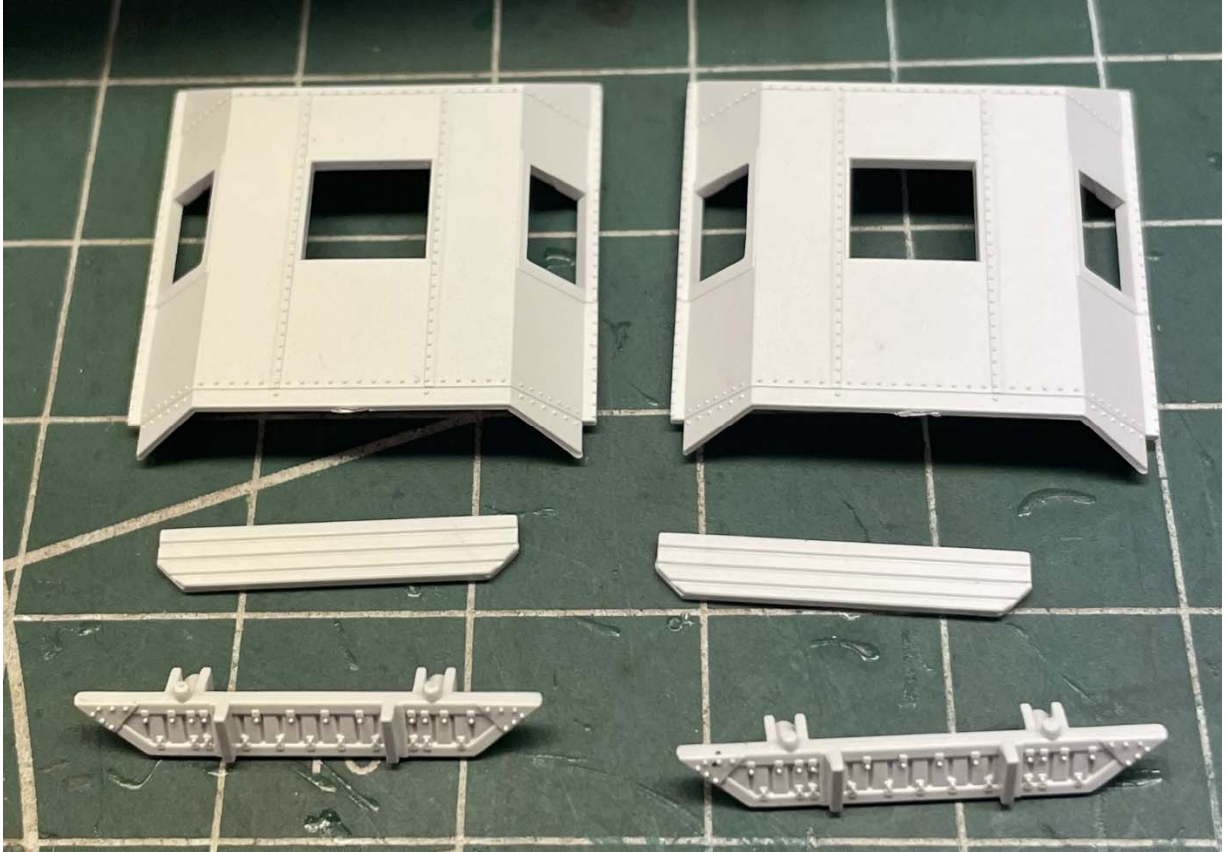
14. Set all in place and secure with CA.



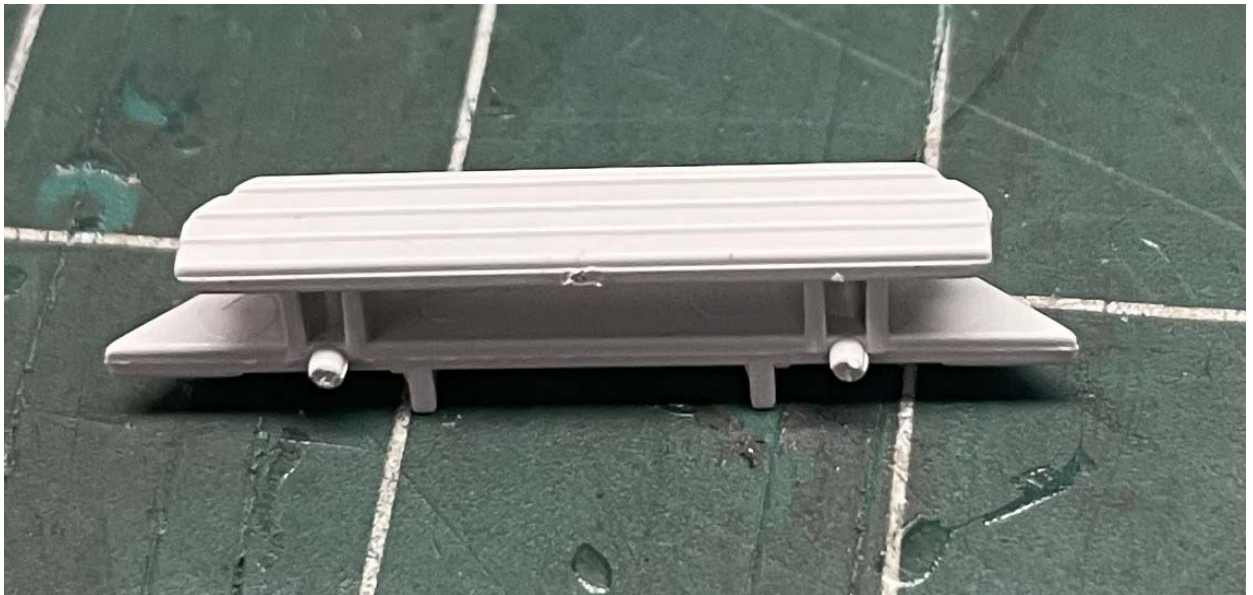
15. Install the end cages on the car body and glue.



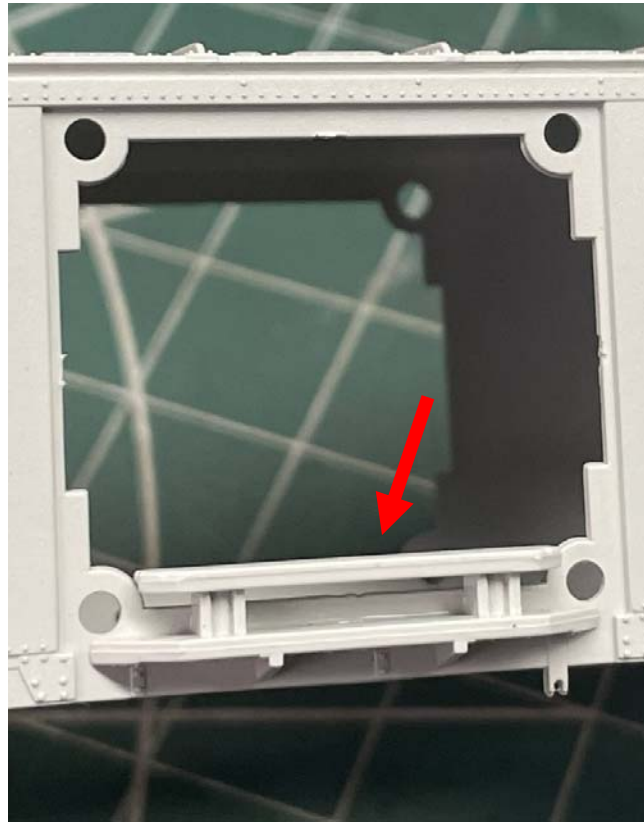
16. Bag 06 contains the bays and Bag 07 contains the interior bay floors (two pieces each).



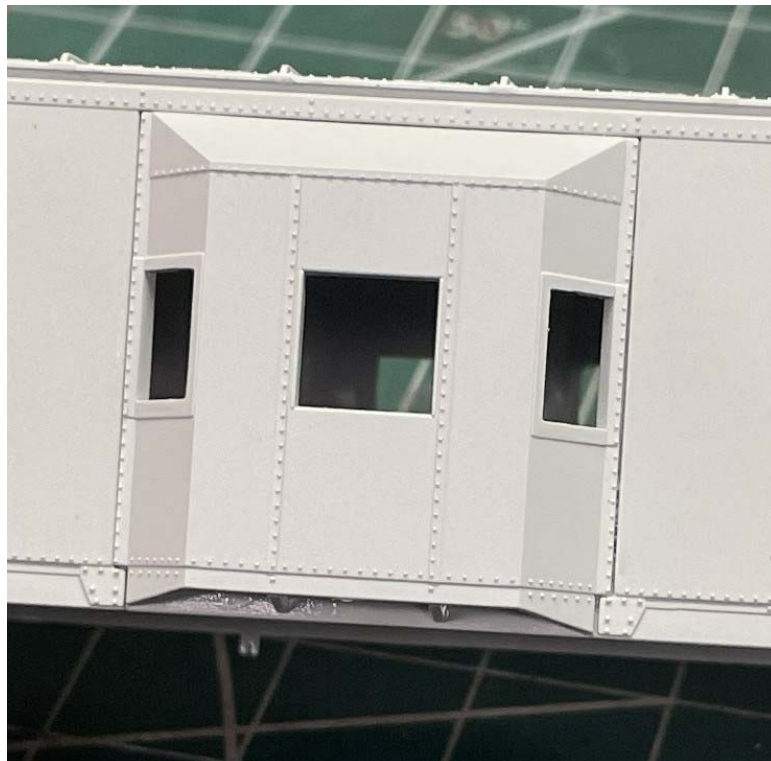
17. Install the interior bay floors on the bay bottoms.



18. Install the bay bottoms into large holes in the car side.



19. Install the bays into the car body and glue.



20. Bag 06 has three different styles of end door.



21. Choose which one is appropriate and install inside the car body (it is keyed with pins and holes) and glue.



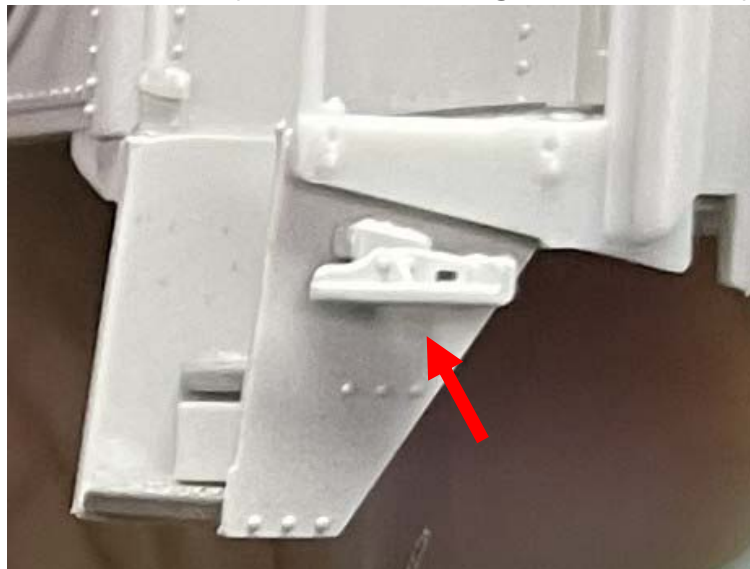
22. Bag 15 has the curved side grab irons. Install all four and secure with CA.



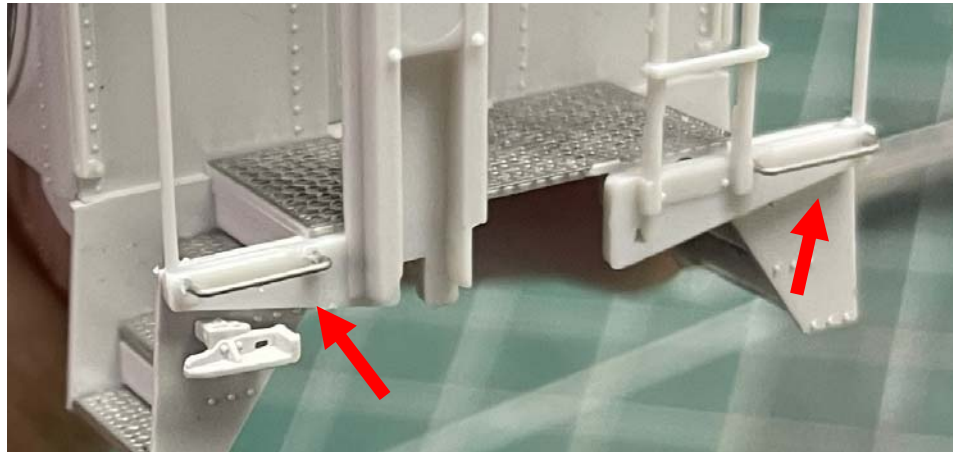
23. Locate the end sill grab irons from the wire parts bag as well as the small brass eyelets for the cut levers. From Bag 07 locate the cut lever brackets.



24. Install the cut lever brackets in the small square hole in the left step well wall. Make sure when installed it sits parallel with the ground. Glue in place.



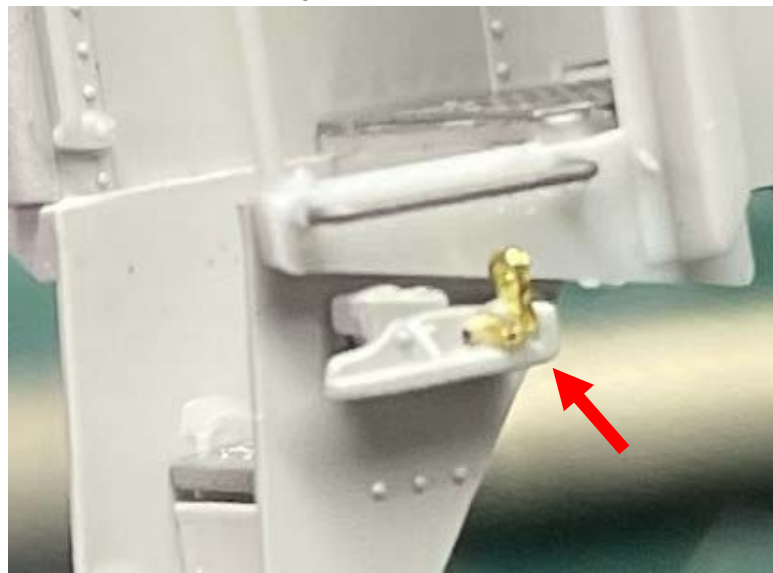
25. Install the end sill grab irons in the holes in the end sill with CA.



26. The brass eyelet has a small bend break right below the eyelet. Use this to put a 90-degree bend so that it forms an "L".



27. Install the flat part of the L into the slot in the cut lever bracket and secure with CA making sure not to block the eyelet hole.



28. Bag 09 contains all the windows. The design of the kit allows the windows to only fit in the opening that they are designed to fit in. There are certain ways that some need to be positioned so they are correct. For the side bay windows there is a small hole for the windshield wiper to be installed in. It is slightly off center, so you need to make sure that when installed the hole is positioned away from the car side and the offset is toward the top of the window opening. A few other things to keep in mind:

- a. The window castings all have a raised ridge around the perimeter that will need to be painted silver to represent the window frame. Painting them before installation will be easier.
- b. For the center bay window one of the ridges is slightly wider than the others – this edge goes at the bottom of the window when installed.
- c. The large L shaped windows have a left and right when installed (see photo for orientation). These windows also have a larger frame edge at the bottom of the window.

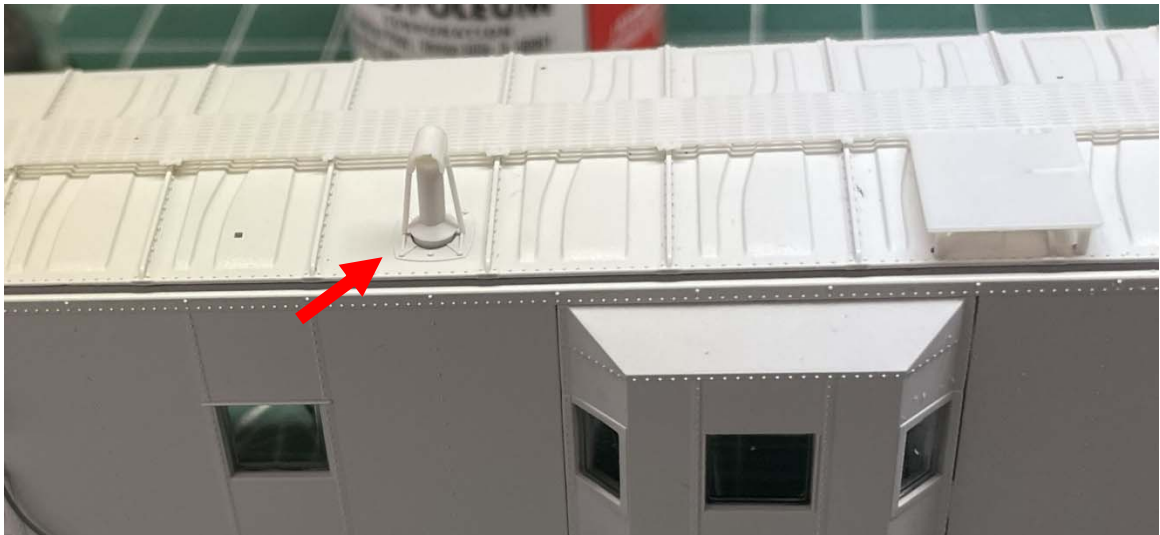
29. Again, you may want to wait until after painting the body before installing windows, so you do not have to mask them.



30. Bag 09 has the running board. It is keyed to fit one way with the platform for the antenna. Set it in place and glue.



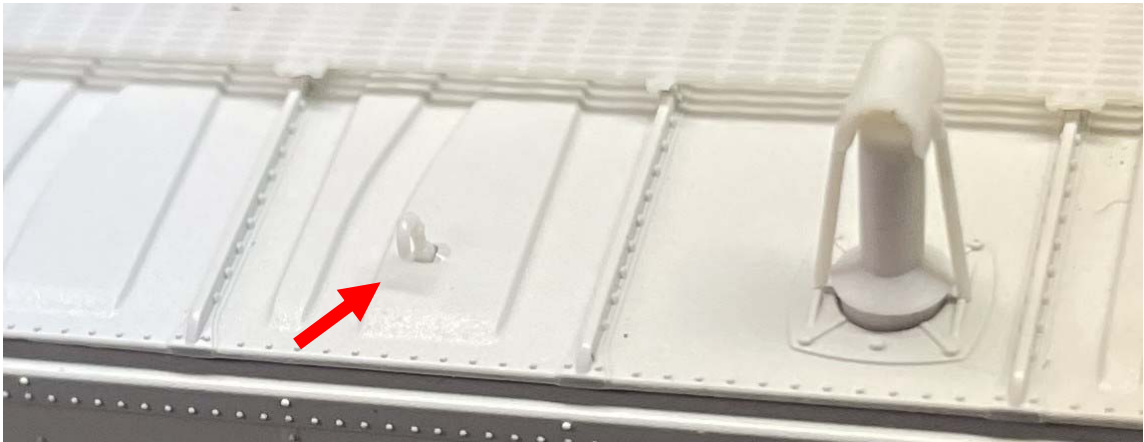
31. Bag 11 has the smoke jacks. There are several different types so choose the appropriate one for your build. Set it in position as shown and secure.



32. There is an air vent pipe that fits into the square hole to the left of the smoke jack and when installed it faces the outer edge of the roof.



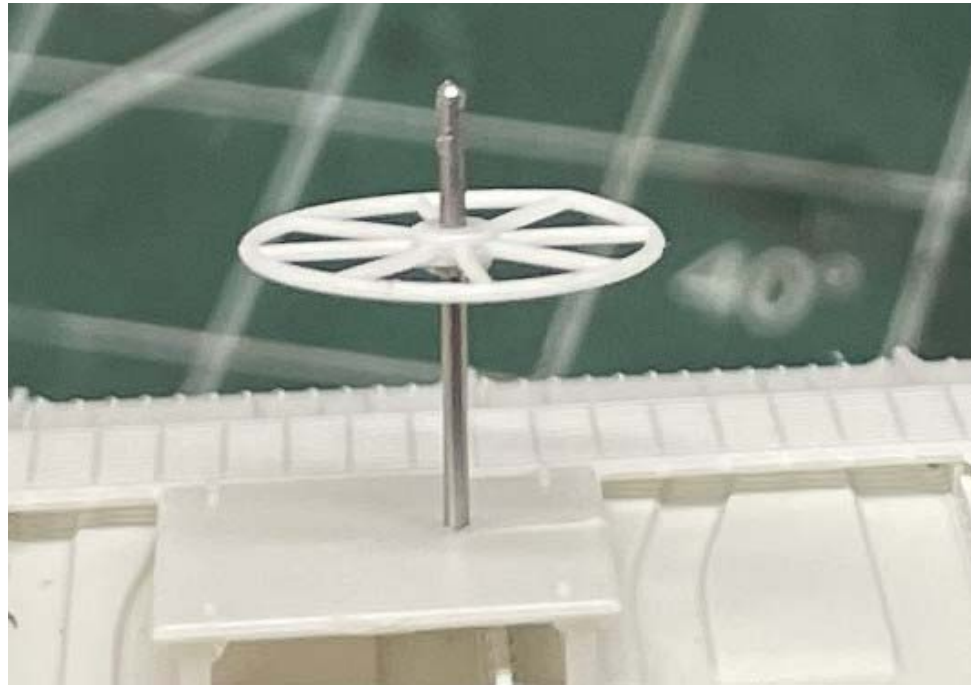
33. Set in place and secure.



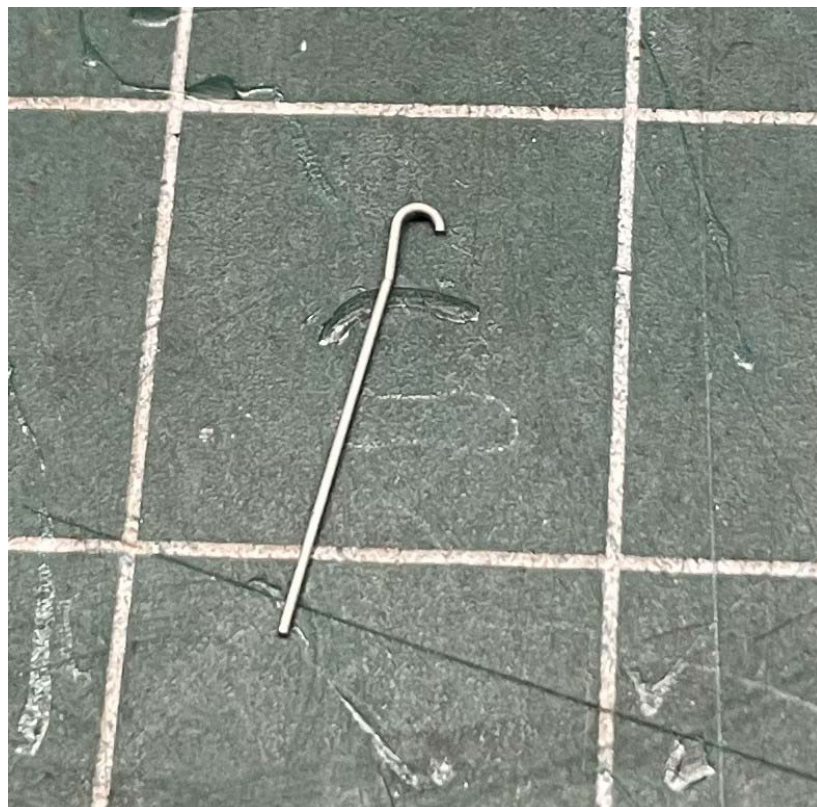
34. Locate the wagon wheel antenna and the post (Bag 15). The post has a small collar on each end.



35. The shorter side goes into the hole in the platform. Install it securing with CA making sure it is vertical. Install the antenna on the post and slide it down until it bottoms out on the collar. Secure it with CA making sure it sits level.



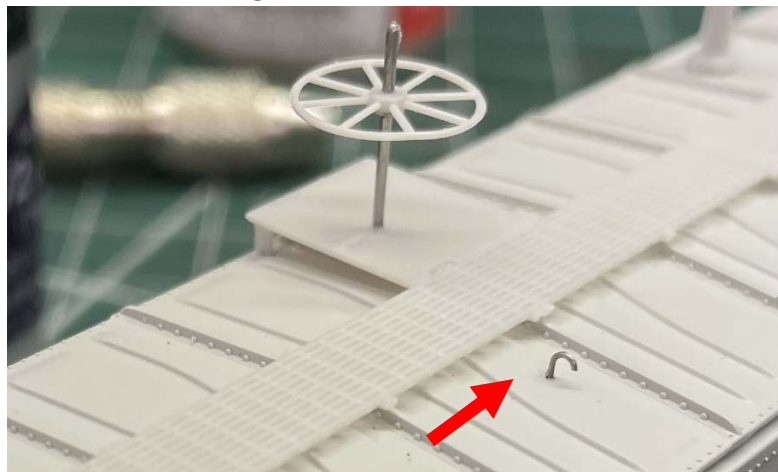
36. Bag 15 has a small wire with a hook at the end. This is the locker vent pipe.



37. It will be installed in the hole in the roof adjacent to the antenna. Shorten the wire and install it so it sits above the roof the same height as the vent on the opposite side of the roof.



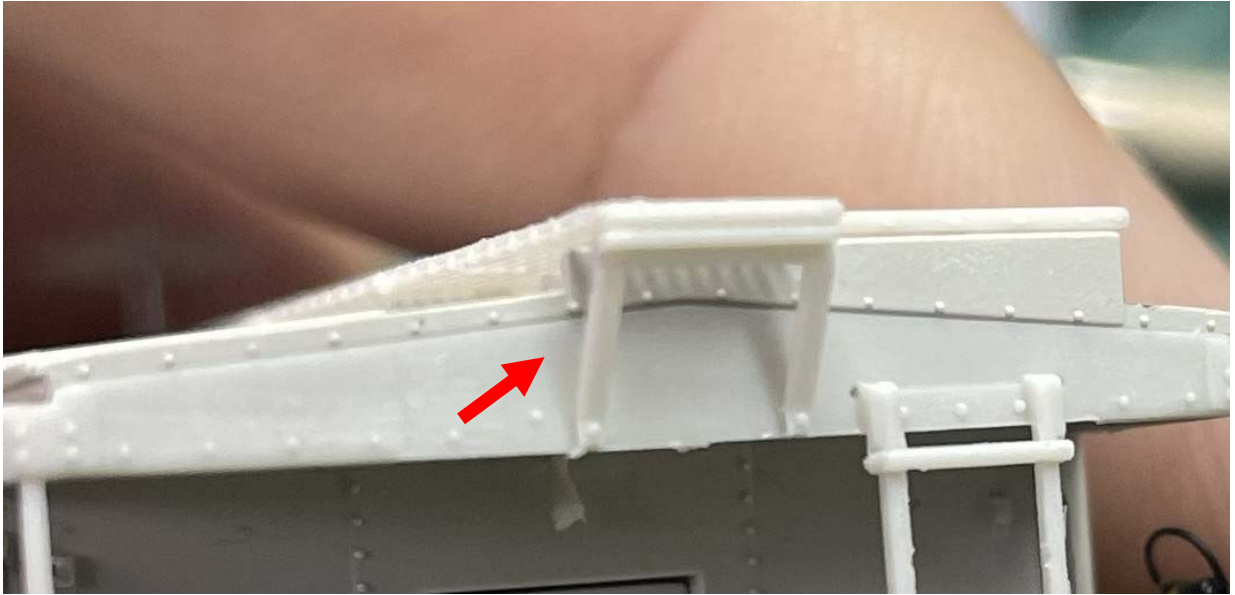
38. Install it so it faces the outer edge of the roof and secure it with CA.



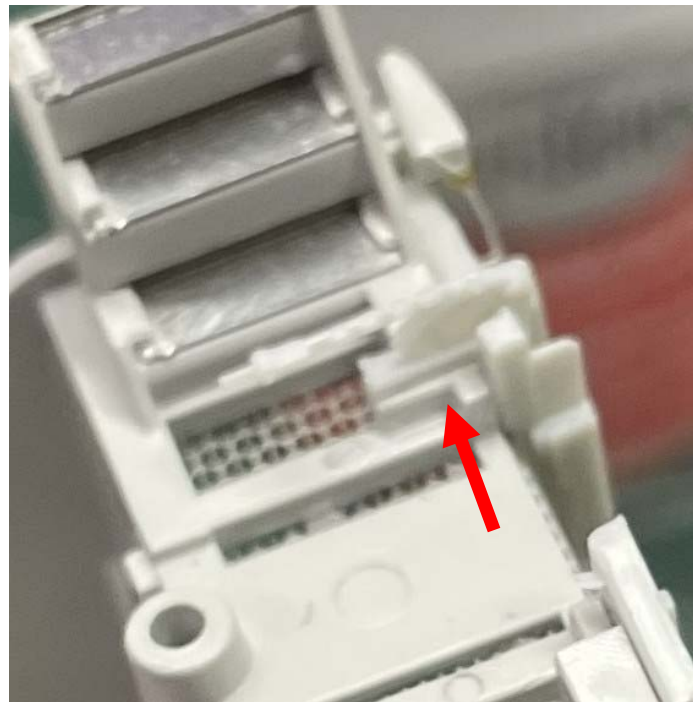
39. From Bag 12 retrieve the running board end supports, air hoses, and bell cranks.

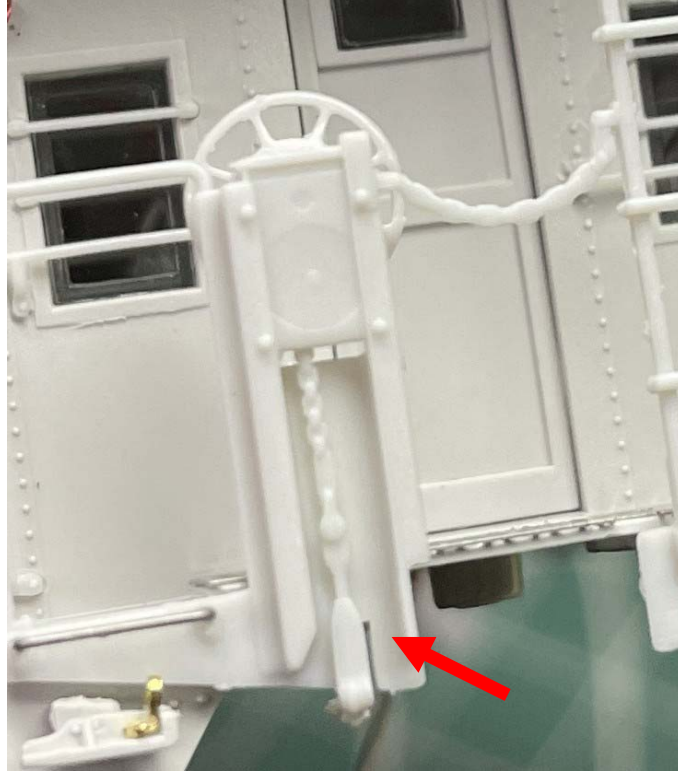


40. Insert the pins on the running board support into the holes in the end fascia and orient so that the horizontal part of the support rests on the bottom side of the running board. Glue in place.

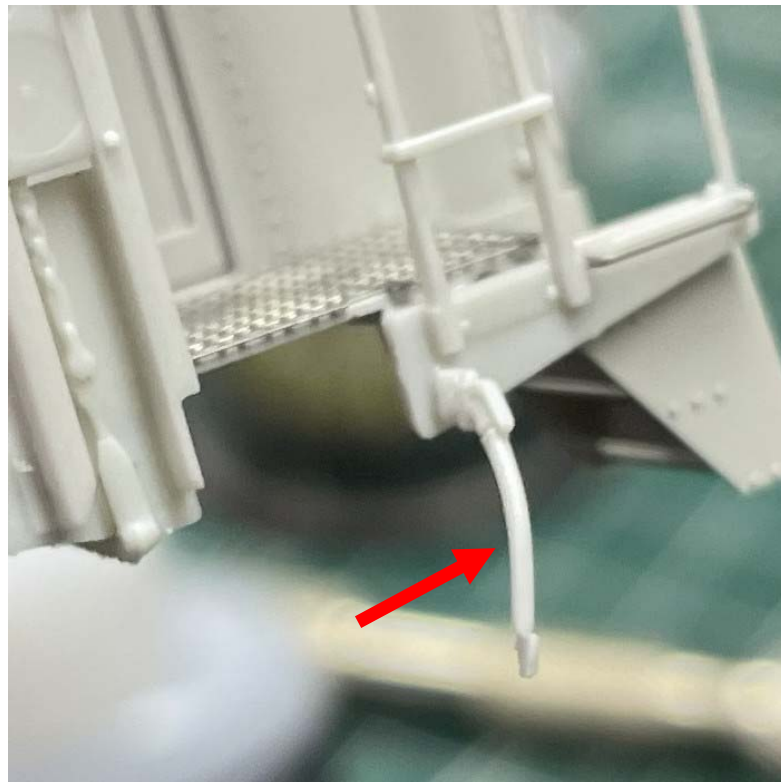


41. The bell crank fits into a square hole in the underside of the end platform, and the vertical chain goes behind the power hand brake housing. Set in position and secure.





42. Install the air hose in the hole next to the coupler pocket in the end sill. Glue in place.



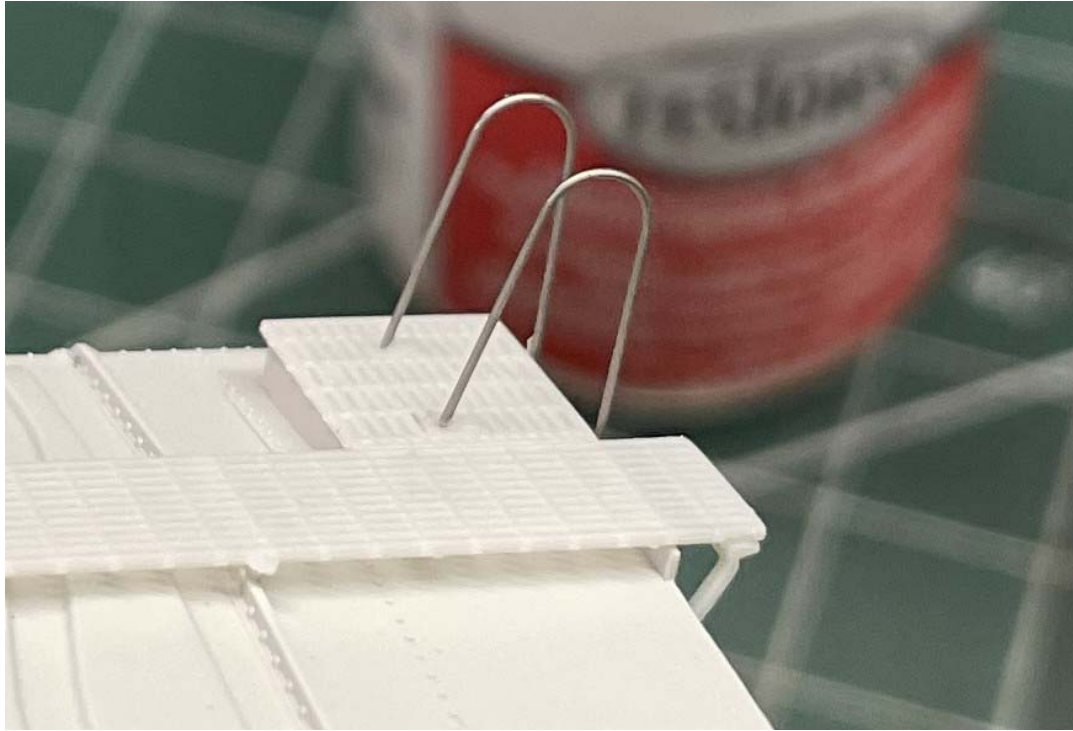
43. Bag 15 has the windshield wipers.



44. Install them into the holes in the side bay windows and secure. (see photo)



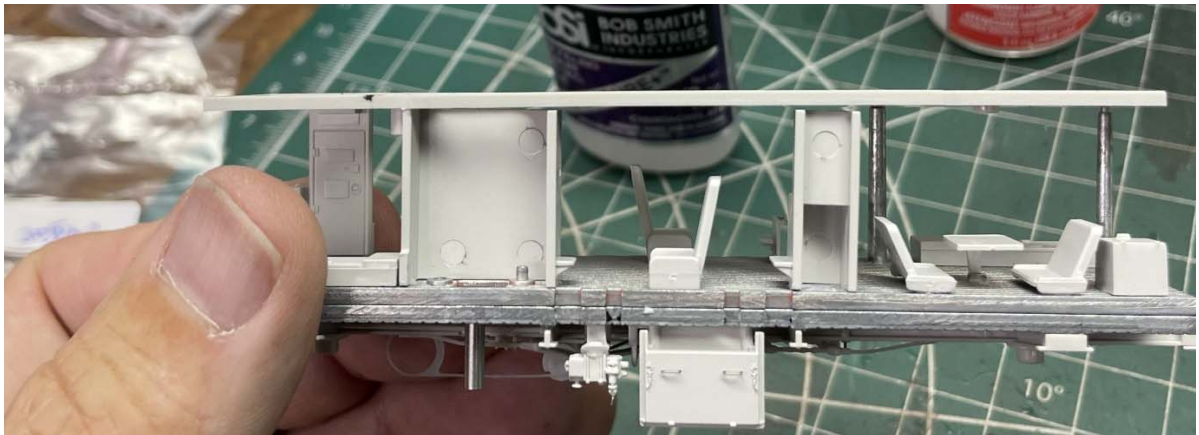
45. Install the vertical ladder rails and secure.

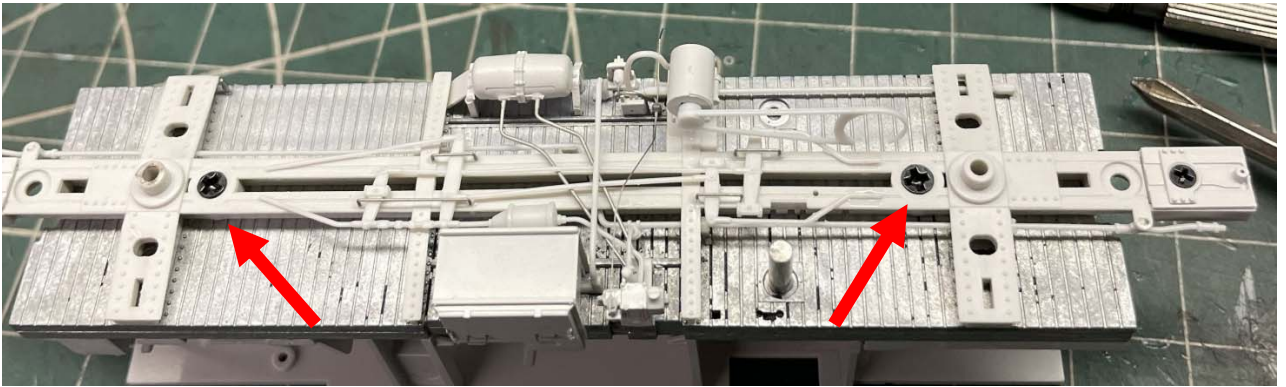


This completes the car body.

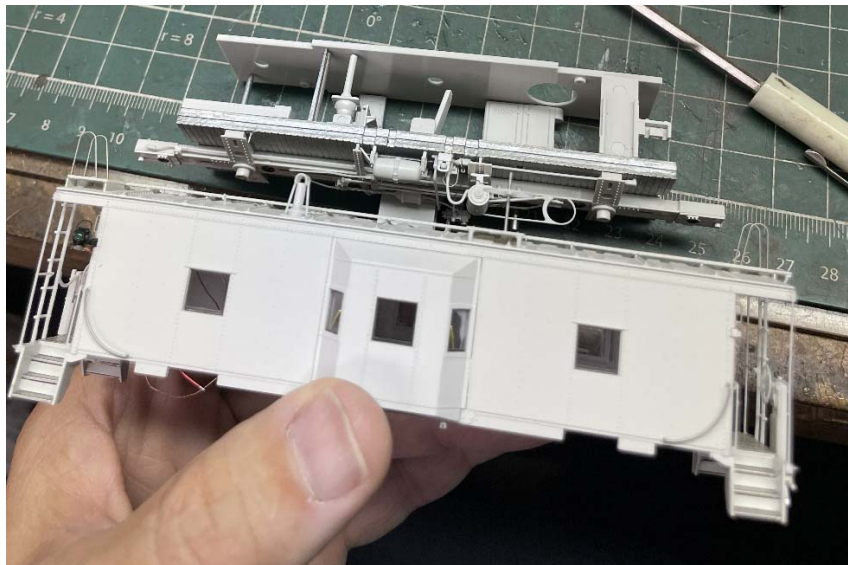
FINAL ASSEMBLY

1. We will now join all three subassemblies.
2. Marry the underframe to the interior. Orient them so that the square opening in the interior floor lines up with the toilet tank in the underframe using screws from Bag 16 sub bag 17040 DFM in the holes next to the bolsters.

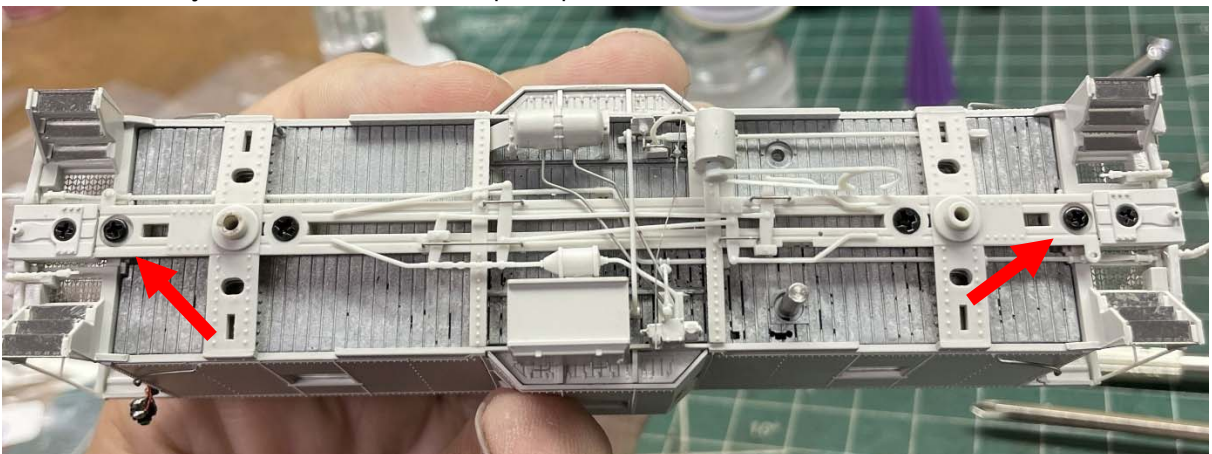




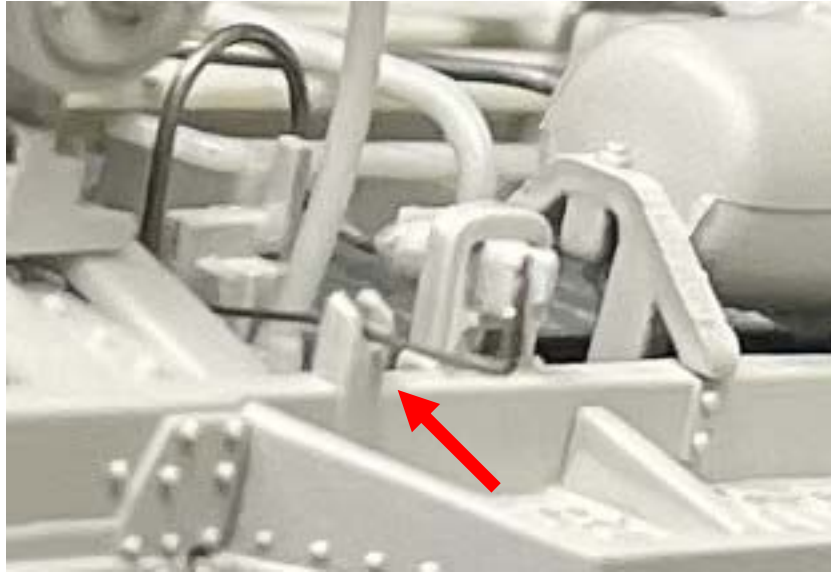
3. Insert the underframe/interior assembly into the car body making sure the stovepipe lines up with the smoke jack.



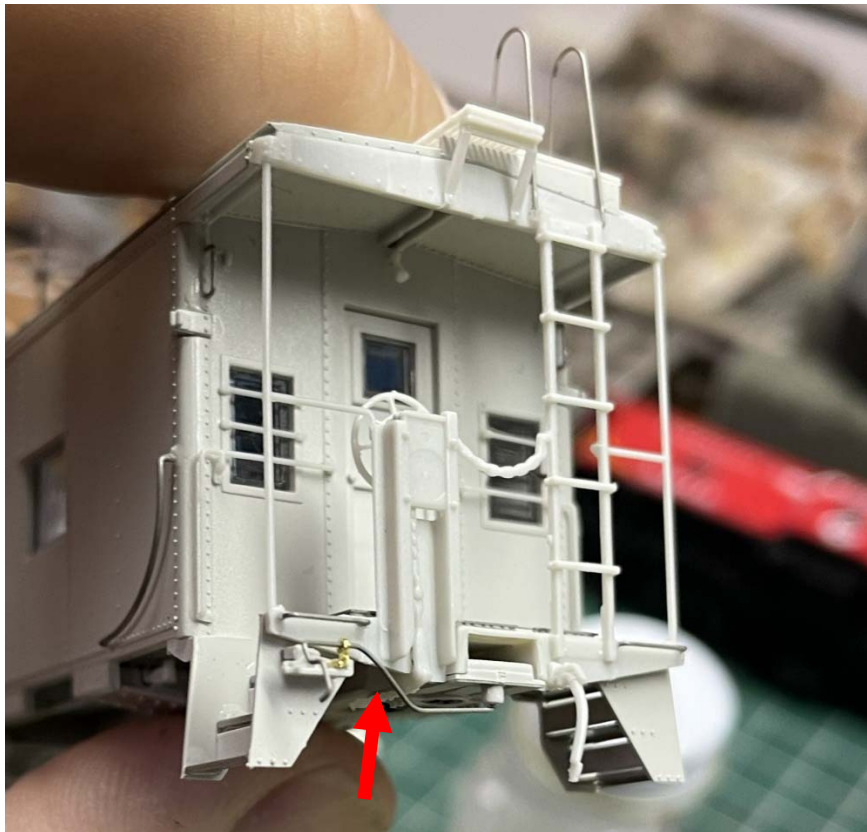
4. Use the screws from Bag 16 sub bag 17030 DPB to attach the body to the underframe just behind the coupler pockets.



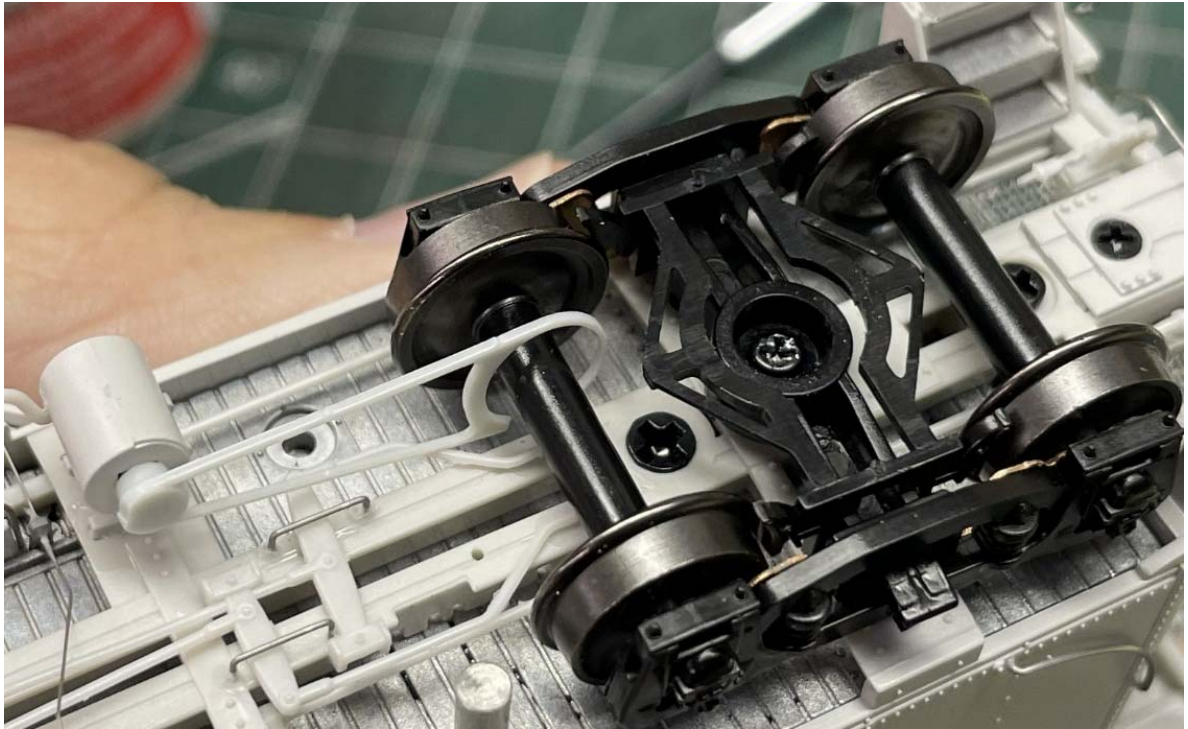
5. Secure the end of the bleed rod into the slot in the edge of the car body.



6. Fish the cut levers through the eyelets in the cut lever brackets and into the hole in the coupler box cover. At this point you have the choice of installing couplers or not. We recommend that you wait until all paint and weathering is complete to ensure the couplers operate properly. You can tack the cut lever at the coupler box to ensure it stays in place until couplers are installed.



7. Install trucks with screws 20050 PWB. Maneuver the axel into the pulley assembly and secure.



This concludes the assembly of the kit.



