



Instructions: Bethlehem 70-ton Riveted Gondola Kit

Kit number 10900-01 – Steel Floor or 10900-02 Wood Floor

8/2012

Parts included in this kit:

- 95004-01 Plastic Part - Body Shell (either steel or wood floor option)
- 95004-02 Part Sprue - Airline Components
- 95004-03 Part Sprue - Underframe
- 95004-04 Stamped weights (2 different weights)
- 95004-05 Part Sprue - End Components
- 95004-06 Part Sprue - Coupler Boxes and Tack Boards
- 95004-07 Part Sprue - Coupler Box Lids and Brakewheels and Air Hoses
- 95004-08 Wire parts bag including etched parts
- 100-1 70-Ton ASF A-3 Ride Control trucks with all-metal wheels

Not supplied:

- Couplers – we recommend Kadee “whisker” #158s

Tools needed/recommended:

- Styrene cement
- CA-type cement
- Hobby knives - #11 and #17 are ideal
- Sprue nippers are useful but not necessary
- Small screwdrivers

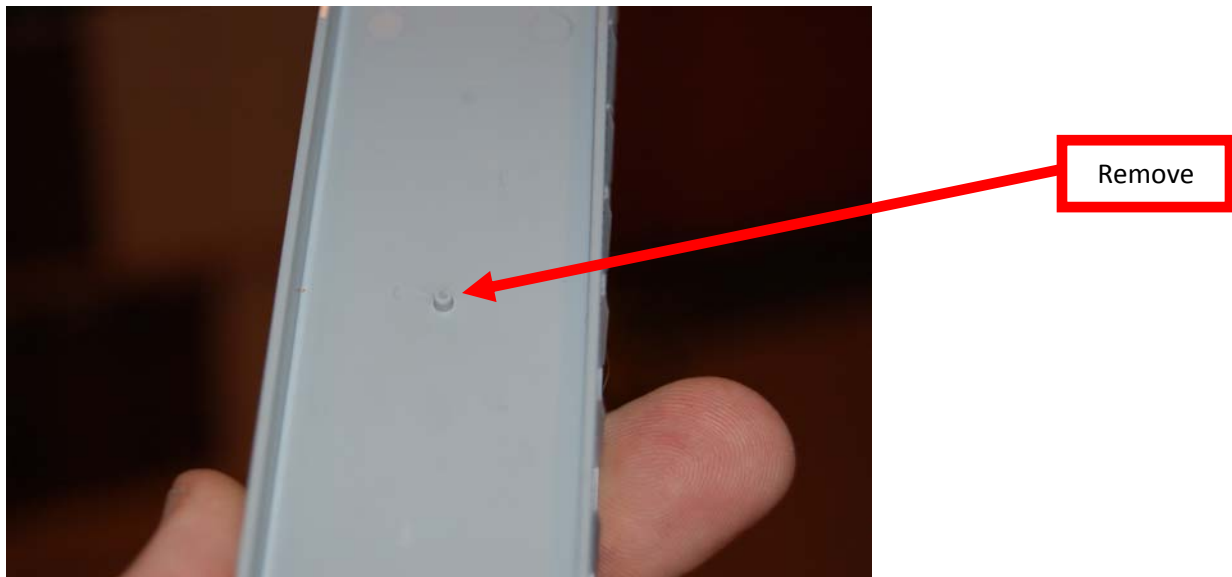
A few quick notes before starting:

- These instructions are divided into two sections:
 - **Primary instructions:** If you want to save ink and paper and only want to print the text version of these instructions, set your print are to print *only* pages 1-4.
 - **Photo addendum:** We have included photos that illustrate the text. These are found on pages 5-12 and can be printed if desired.
 - **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.
- Please note that the plastic parts are delicate and should be removed from the box carefully.
- This kit is not recommended for children aged 14 and under.

Instructions:

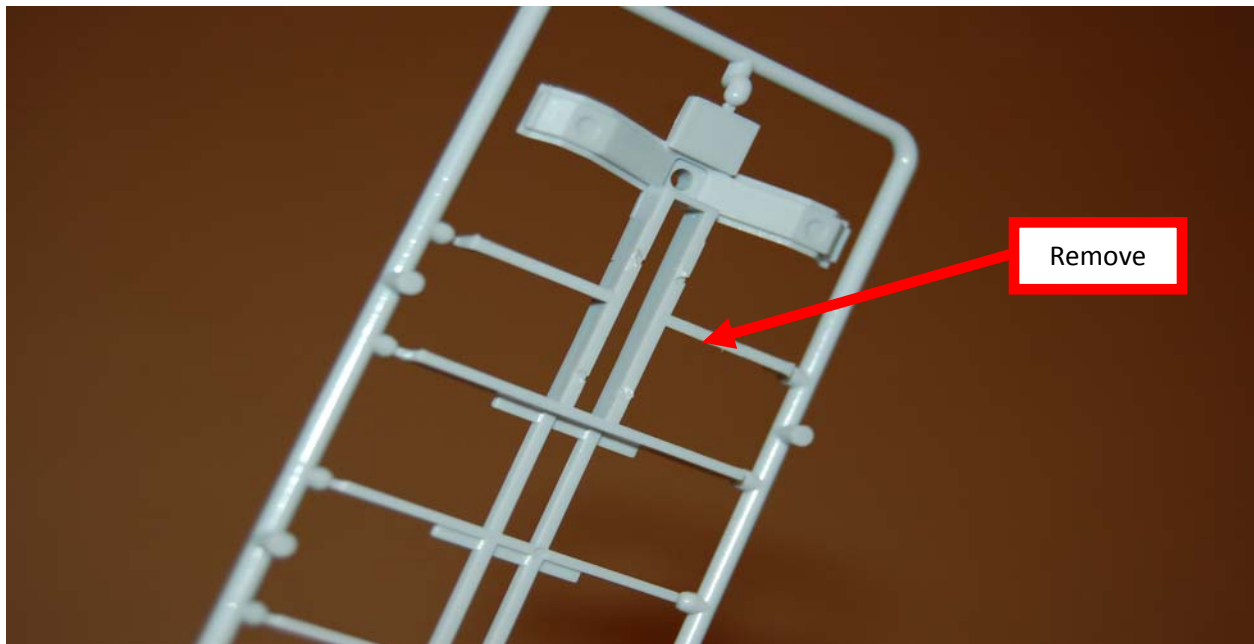
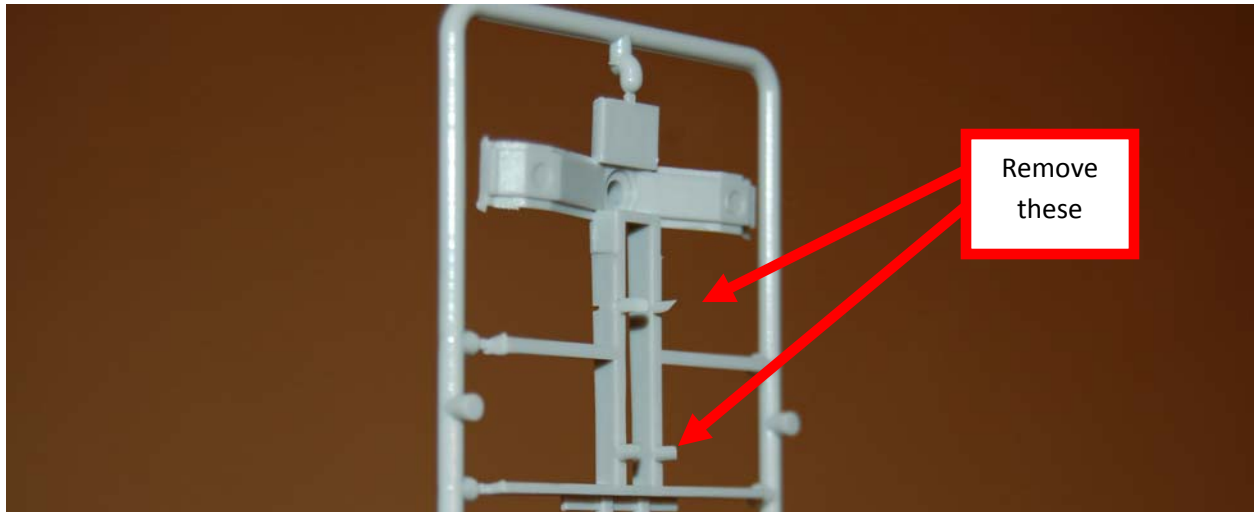
1. Handle the body shell carefully. It is also worth noting that the stirrups of this car are quite fragile so take great care when handling the car during construction to avoid damaging them. In the event that one breaks, a new one can be fabricated from Detail Associates .010"x.018" flat brass bar (part # 2522).

2. Remove plastic protrusion on body. To begin, we need to do a little prep work to the main body casting as well as the underframe. Start by turning the body casting upside down. You will notice a small protrusion sticking out in the center of the body.



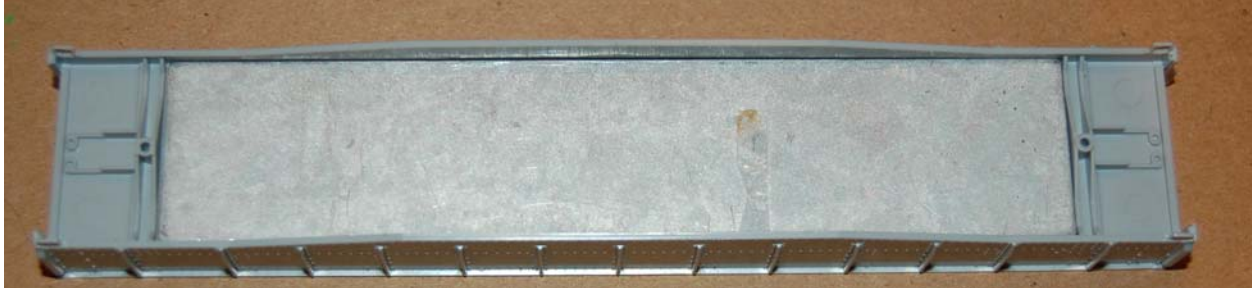
Remove this with a sprue nipper and file flat. Also, your body shell may have eight circular scraps of plastic flashing between the bolsters. A few of these may have a raised edge on them. File these flat as well. The goal is to make the bottom of the casting perfectly smooth to allow the weight to sit flat against the floor.

2. Remove flashing between the bolsters. Now look at the underside of the center sill casting. You will notice that there are pins that stick out that need to be trimmed off in order to allow the sill to sit flat against the weights. Remove with a sprue nipper and file smooth.



3. General cleanup of the sprues. At this time it would also be a good idea to check all of the castings for flash and remove it. Being that some of the castings are quite small (and fragile!) it is a bit better to work with them still attached to the sprues.

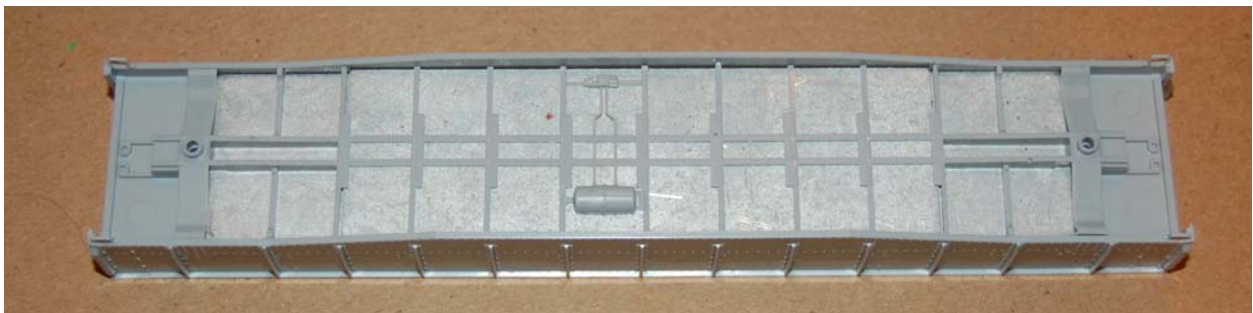
4. Install the long weight into the body. There are two weights: one short and one long. The long weight sits against the floor and fits between the bolsters. Secure it in place with a few drops of CA adhesive.



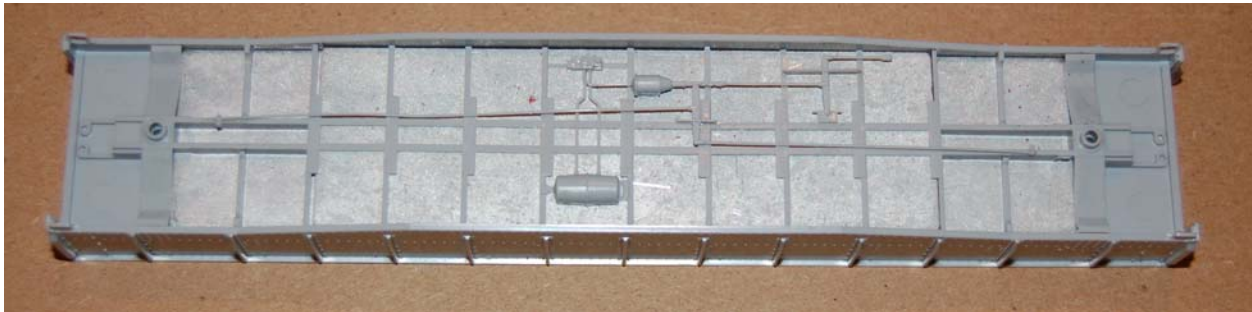
5. Install the short weight into the body. The small weight rests on top of the long weight and fits between the third rib (side post) from each end of the car. Lay the weight in place but do not glue it as you want it to float to ensure you can fit the underframe casting properly.



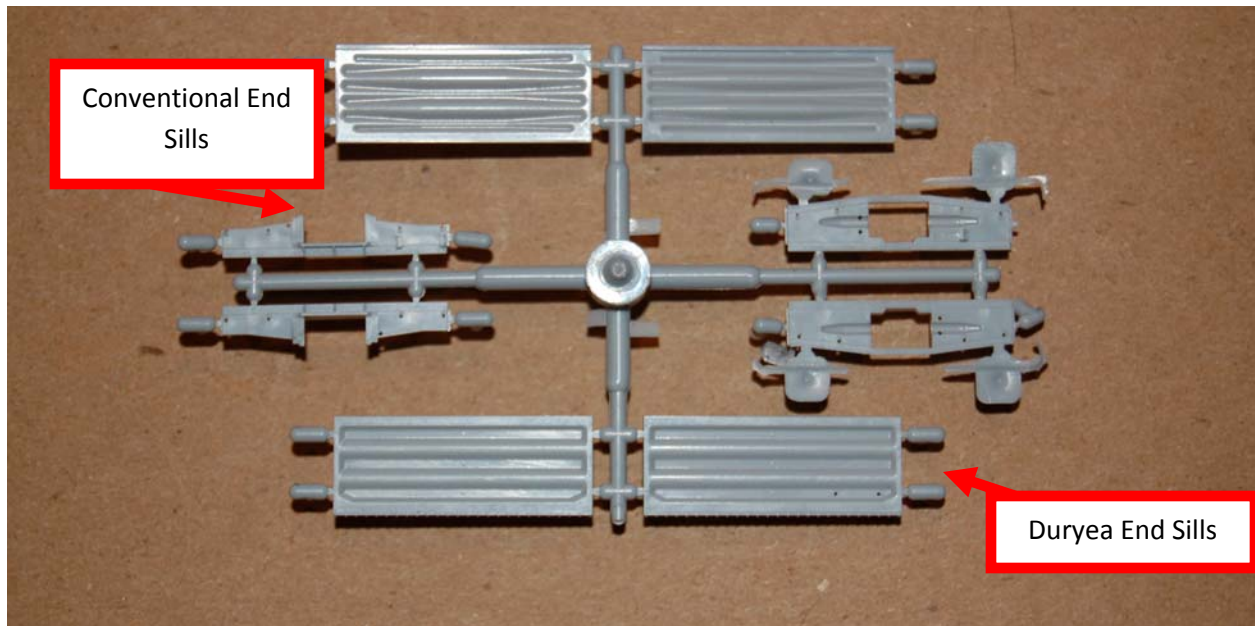
6. Attach the underframe. Orient the car with the B end (the end with the brakewheel) to your right. When you install the underframe casting, make sure that the air reservoir is on the bottom (closest to you) and the triple valve is towards the top (furthest away from you). Test fit to make sure that the small weight will fit in the indentation of the underframe and the whole assembly sits flat and level. When satisfied with the fit, glue in place.



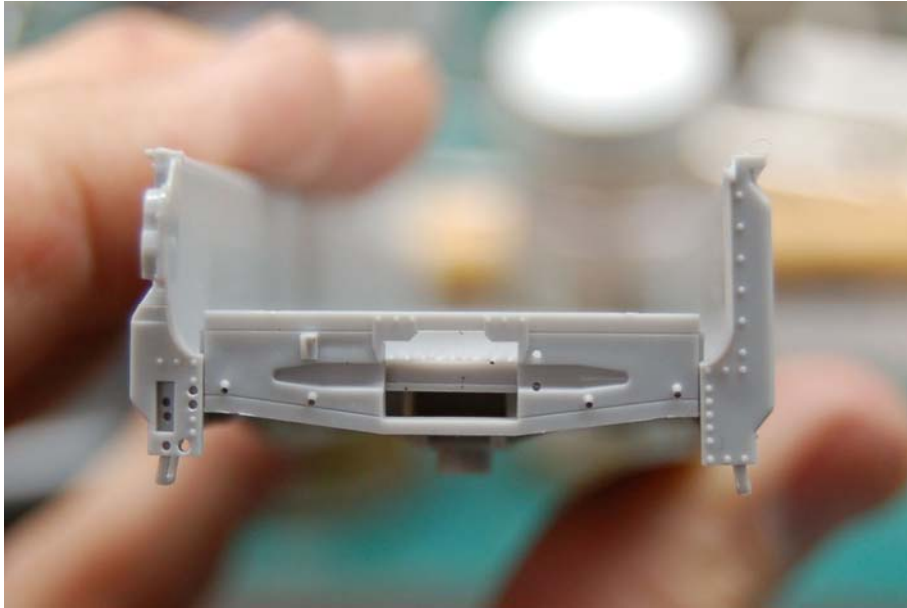
7. Install the train line/brake rigging assembly. Be very careful when removing this from the sprue as it is quite delicate. Place it on the car with the cylinder pointing toward the B end of the car. There are three locating holes on the underframe that correspond with pins on the trainline/brake rigging assembly. When these are lined up secure in place. Use a small amount of CA to secure the cylinder to the weight.



8. Install the end sills. There are two different types of end sills that come with the kit, Duryea and conventional. Which one you install depends on the prototype you are modeling. When you choose which you will install remove them from the sprue. You will notice small tabs on the sides of the sill castings. These are used to key the sill and align it in its final position



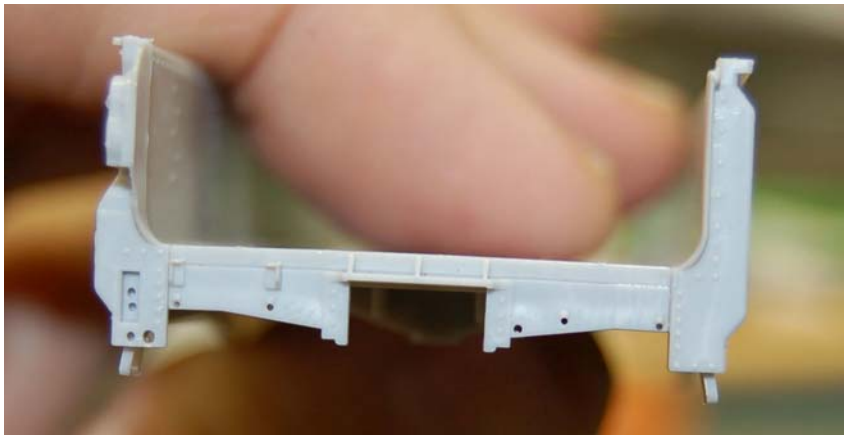
Install the sills from the top and slide them down until the top of the sill is flush with the car floor and also that it is flush with the façade of the car end.



Secure in place.



Sample Conventional end, installed:



9. Install the ends. There are also two types of ends supplied: Straight Corrugated and Dreadnaught. Again consult photos of your prototype to determine which should be used. These will fit into a slot on the end of the car that was created when you installed the end sill, and also fit against the small tabs that protrude into the car.

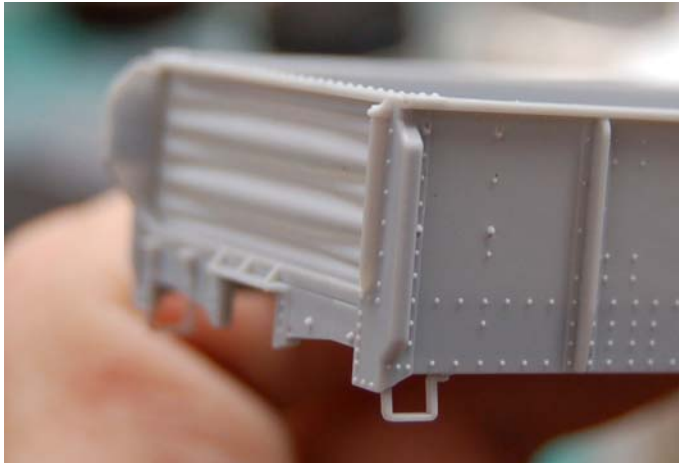


When the car end is installed in the car, the end should be flush with the top of the car side. On the B end of the corrugated end, there is one casting that has holes for a grab iron. This goes on the B end of the car. Repeat the process for the A end of the car.

View of corrugated end during installation:



Installed view:



10. **Install grabirons.** There are three types of wire grab irons provided: drop, straight, and one that has a straight bend on one side and a drop bend on the other. The straight grabs will be used on the ends, on the left two locations of each side, and on the top location on the right side. See photos below, since the photos are better than words for this section!

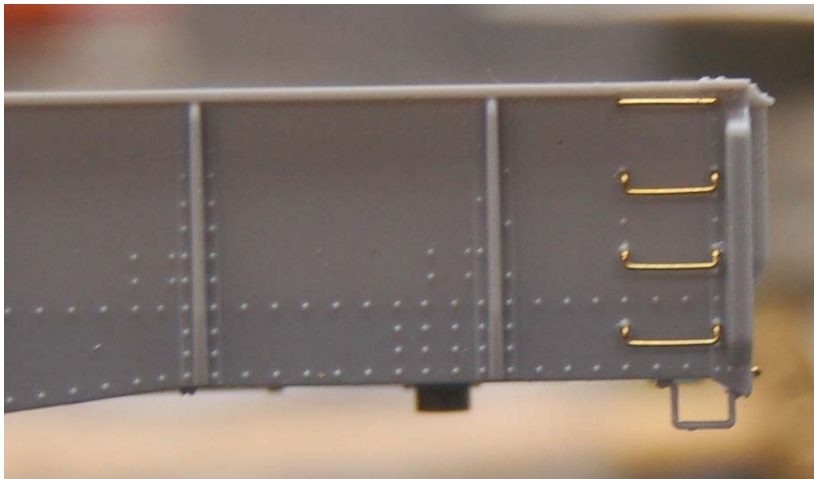
B End grabirons on corrugated end door:



Side view, left side of car:



Side view, right side of car (A end):



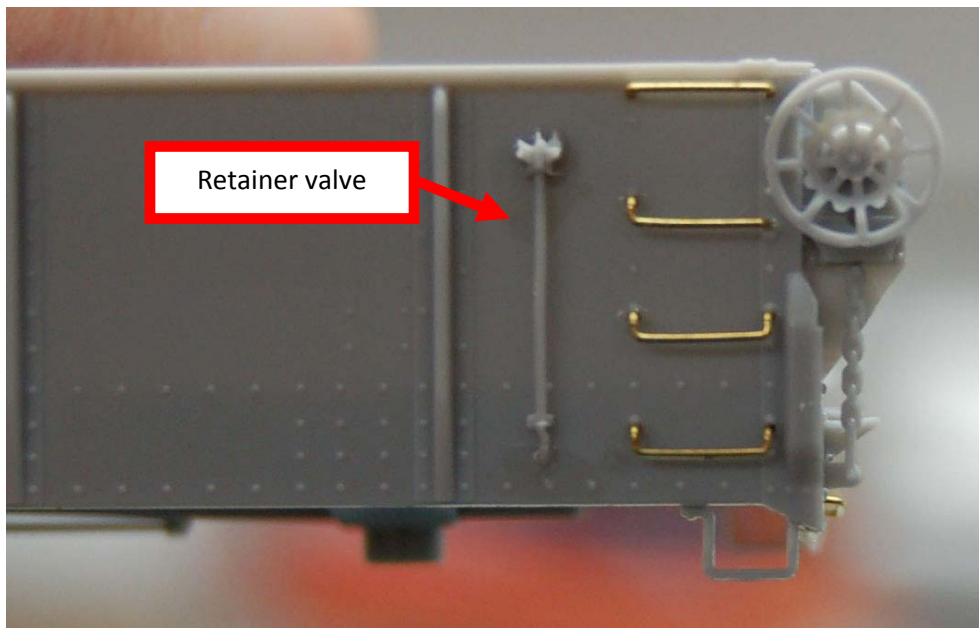
End grabirons:



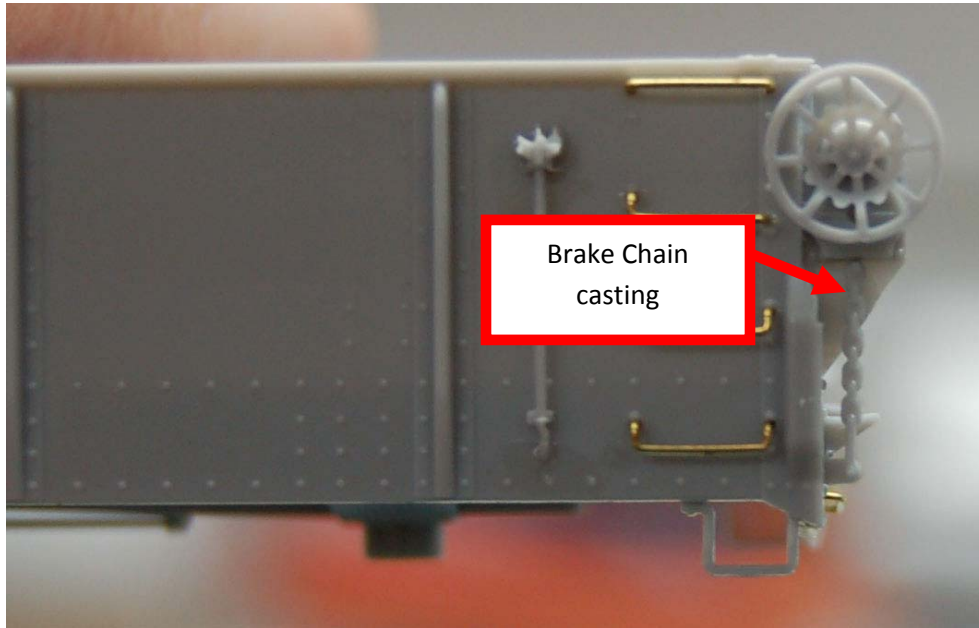
Side grabirons, B end. Note the one special “combo” grab is the second from the top of the car side next to the brakewheel.



11. **Install the retainer valve/pipe** in the locating holes on the car side (see photo above for 2 holes – to the left of the grabirons).

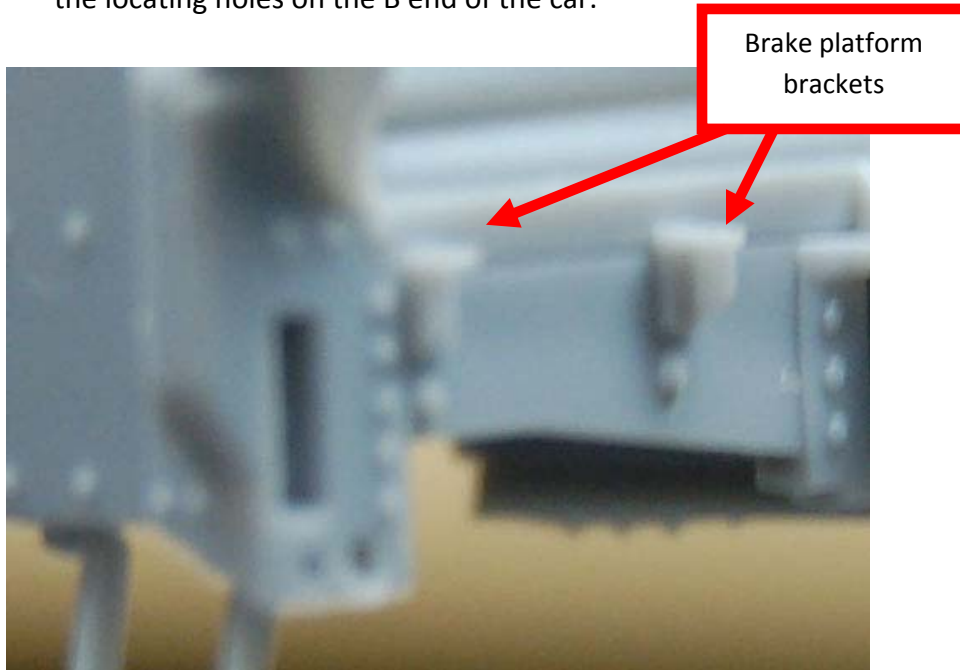


12. **Install the brake chain casting** in the locating holes in the end of the car (see photo xx).



13. **Install brakewheel.** Choose the brakewheel best suited to per your prototype and glue in place.

14. **Install brake platform bracket and brake platform.** Install the brake platform bracket in the locating holes on the B end of the car.



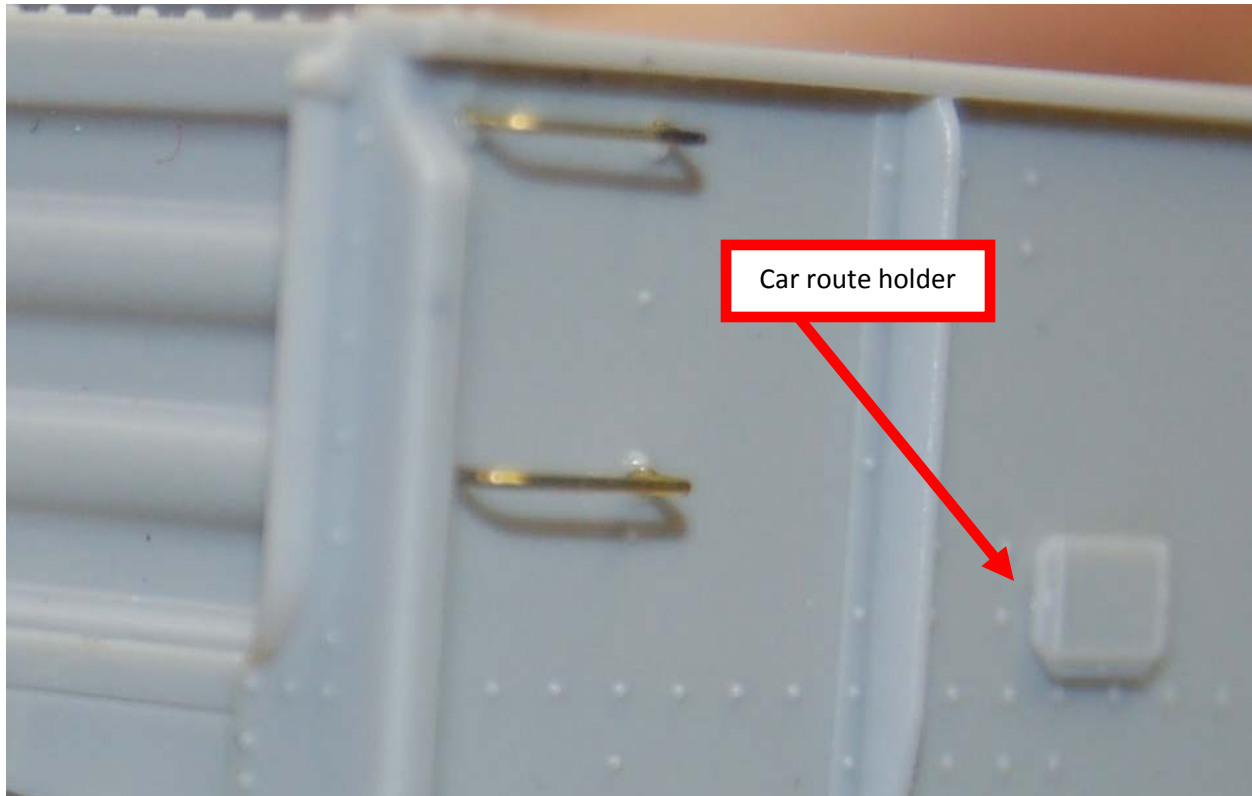
Glue the brake platform to the two brackets.



15. Install car route holder. On the left side of the car you will notice three locating holes for the route car holder.

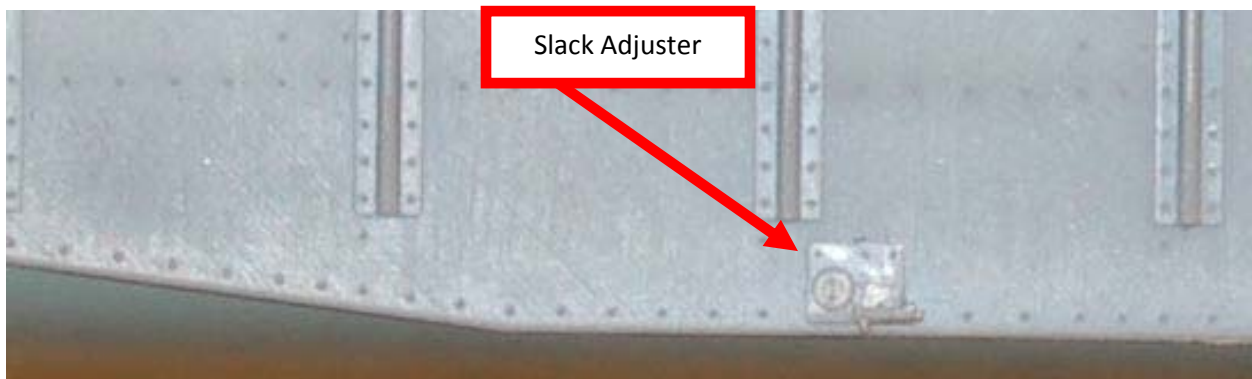


Glue the route card holder in place.

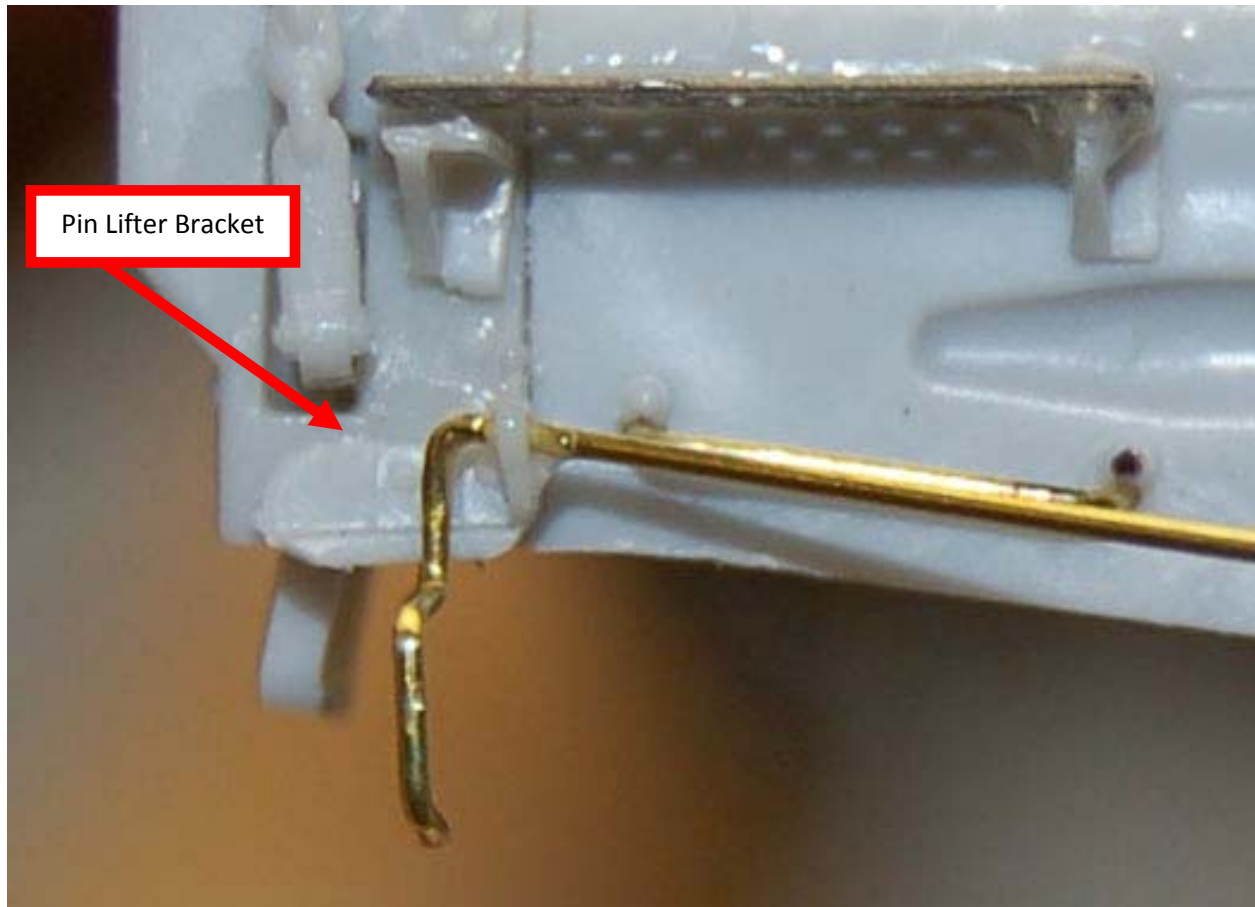


Note – Tangent Scale Models also includes extra route holders to match the randomness of prototype installations. Consult prototype photos as a guide.

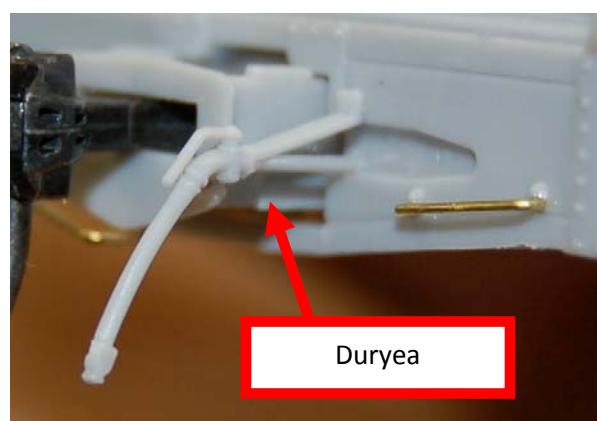
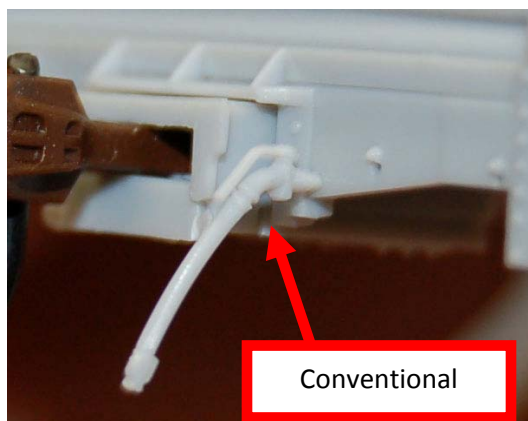
16. Install slack adjuster. On the bottom edge of the car you will see another triangular set of holes. These are for the slack adjuster. Glue in place. Note: this part is only used on B&O cars.



17. Install the pin lifter brackets. They are installed in the locating holes on the outside edge of the car end. Glue in place.

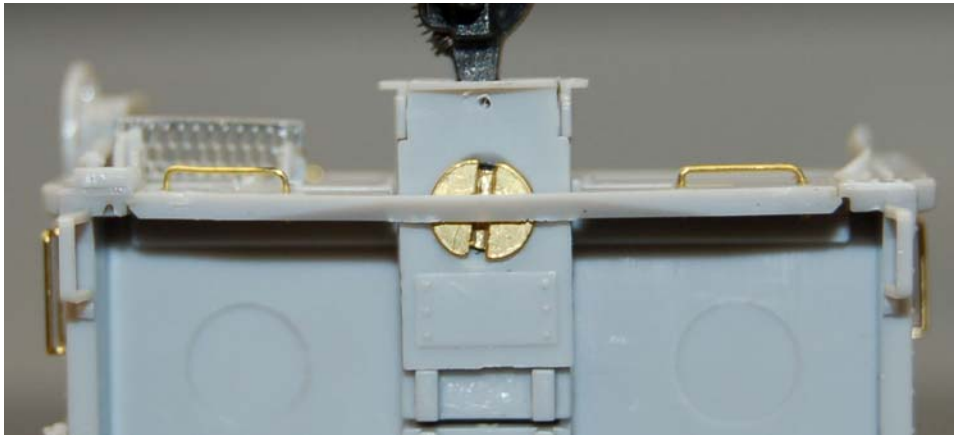


18. Install the air hose. There are two types of air hoses, extended and standard. Which you install depends on the end sill you installed. For Duryea end sills, utilize the longer air hose to accompany the longer draft gear/coupler pocket (to be installed in the next step). Conversely, for conventional end sills, install the shorter air hose. Glue in place.



19. Draft gear/coupler pocket installation. There are two different types of coupler pocket assemblies, Duryea and standard. See the photos above to see the different coupler pockets installed. For the Duryea you need to assemble the bracket completely and insert it through the end sill since the cover screw is not accessible once it is in place. It will also take a bit of maneuvering to get it in its final position so be very careful to not damage the end sill when fitting it in place.

Duryea installation:



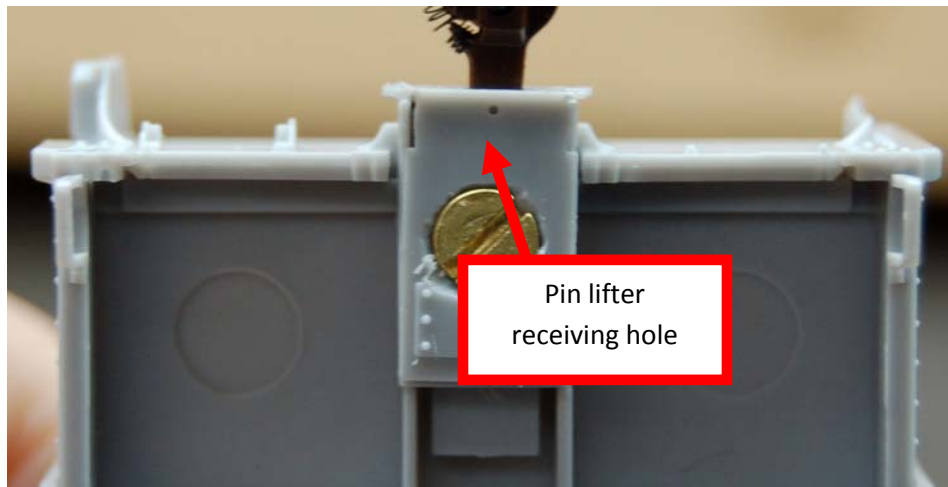
Conventional installation:



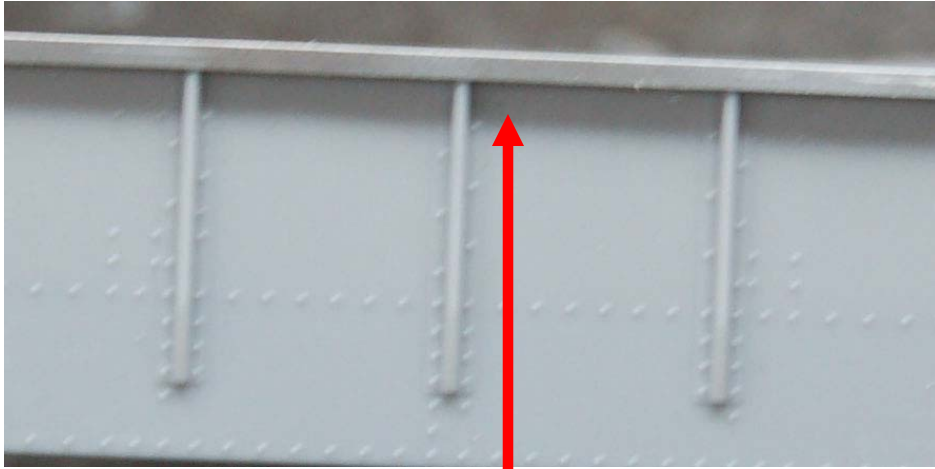
20. Strategize your steps for painting. You may want to wait to install the couplers until after the model is painted and weathered. If you choose to install the couplers first, it is recommended that you cover the couplers with tape to avoid getting paint on the moving parts as this could make them “sticky” and cause them to not operate properly.

If you are waiting to install the couplers until after painting on the Duryea version, do not glue the coupler pockets in place as you won't be able to get the couplers in them. On the standard version it will not matter as the cover screw is accessible when the pocket is installed.

21. Install the pin lifter. There is a small locating hole on the coupler pocket for the pin lifter. Be sure to not insert the pin lifter too deeply into this hole as it could interfere with the motion of the coupler. Also, be very careful when you secure it with glue as to not allow any glue to get in the hole as well.



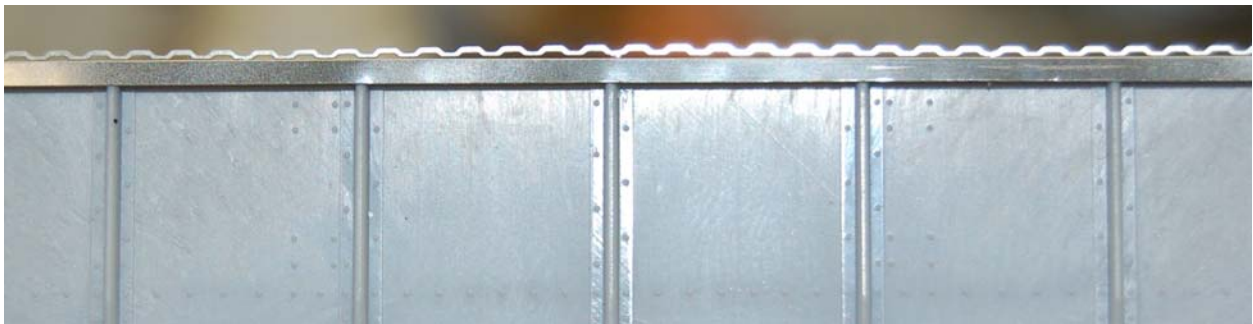
22. Top chord and tie down strips for top of car sides. There is a top chord and tie down loop included with this kit. You will need to look at prototype photos to determine if your prototype had both, one, or none. To install the top chord you first need to bend it at the fold line to form a 90 degree angle. This can be accomplished in a few ways. The best would be to use a bending break. Otherwise, you could use a straight edge and a hobby knife with a #17 (flat) blade. You will see a bend line on one side of the etching. You will bend it on this line, with the line being on the inside of the angle. Use a straight edge to hold down the longer edge of the etching, and use the flat blade to slowly go under and bend up the length of the bend line. Work slowly and carefully. When the bend is complete glue it to the top of the car side with the longer part of the bend against the car side and the shorter part against the top. It will be positioned so that the ends of the longer part of the bend (against the car side) is equally spaced over the second rib from each end.



Top chord



The tie down loop etching has pins that align with holes in the top chord, and a few that you will have to drill out on the top of the side. There are also tabs that need to be bent over at a 90 degree angle to the top. You can see the bend lines on these. Bend them over and put the etching aside. Drill out the 5 holes in the top chord and glue the tie down in place. This will allow you to align the outer pins and mark where you need to drill the holes. Drill out and glue the remaining pins in place.





22. Install trucks using screws provided.

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