



Instructions: ACF 70-ton Welded Gondola Kits

10/2009

Plastic Parts included:

- Body shell
- Parts Sprue #1 – “Bolsters, coupler box lids, and other ladder details”
- Parts Sprue #2 – “Drop ends”
- Parts Sprue #3 – “Equipco and Universal handbrakes/housings”
- Parts Sprue #4 – “Floor”
- Parts Sprue #5 – “Top Chords”

Etched metal parts included:

- Etched metal brake platform

Wire Parts included:

- 16 grab irons
- Coupler cut levers and eye bolts

Screws included:

- 2 screws for trucks (larger)
- 2 screws for couplers (smaller)

Other parts included:

- One pair of our new ASF A-3 70-ton Ride Control trucks and all-metal wheels (also available separately for purchase for your other projects!)

Not supplied:

- Couplers – we recommend “whisker” #158s

Tools needed/recommended:

- Styrene cement
- CA-type cement
- Hobby knives - #11 and #17 are ideal
- Sprue nippers speed things up!
- 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.
- 1.) **Install the weights.** Begin by locating the short and long weights. They will fit into recesses set in the floor of the carbody between the bolsters. With the carbody upright set the short weight into the center recess of the body (**Photo #1**). Then, lay the long weight on top of the short weight, making sure the weights set flush with the top of the bolsters/coupler pockets as this will ensure that the floor will lay flat (**Photo #2**). Once you are satisfied with the way the weights are situated you can remove them and tack the short weight in place with CA adhesive. Put a little CA on top of the short weight and lay the long weight in place.
 - 2.) **Install the floor.** After the glue has set you can test fit the floor (**Photo #3**). You will notice that the bottom of the floor casting has “nubs” on either end, one is round and one is square. These will fit into recesses on the carbody-the round one is on the B-end (brakewheel) of the car. The floor is also notched on all four corners to aid in placement. Place the floor in the carbody making sure to orient it correctly and that it is level in the carbody. Once satisfied with the fit you can secure the floor in place. Don’t forget that “beating up” the floor for weathering is sometimes easier prior to installation.
 - 3.) **Install the drop ends.** These are also keyed with notches on the top corners. When orienting the ends, the notch faces the end of the carbody. Test fit and when satisfied, glue in place (**Photos #4 and #5**).
 - 4.) **Install the brake details.** Flip the car over to apply the underframe detail. Begin by removing the air reservoir from the sprue. (NOTE: Be very careful when de-spruing the underframe brake details as they are extremely fragile!) With the car set up so that the b-end is on your left (and the car is resting upside down on your workbench) the small tab on the end of the brake cylinder will fit into the notch that is furthest away from you. Use CA to glue it to the bottom of the weight, and tack it to the center sill where the air lines cross (**Photo #6**).
 - 5.) **Continue to install brake details to underframe.** Now, de-sprue the cylinder/triple valve/ train line casting, again making sure to be EXTREMELY careful! Once that is done, orient it so that the small tab on the cylinder fits into the other notch in the carbody (the one closest to you). There are tabs on the train lines

and mounting holes in the floor that all line up. Glue all of these in place, and also secure the large fulcrum to the bottom of the weight, as well as the triple valve with CA (again, [Photo #6](#)).

- 6.) **Install the bolsters and coupler pocket covers.** Add the bolsters at this time, as well as the coupler pocket covers (the coupler pocket covers use the small screws. The large screws are for the trucks) ([Photo #7](#)). You may opt to not install the couplers until the car is painted and weathered as they tend to get “sticky” if they get painted.
- 7.) **Orient yourself to the four metal grab iron types.** There are four different types of metal grab irons in the parts bag. For the purposes of identification, we will refer to them as short, medium, long, and offset. There should be 10 short, 2 medium, 2 long, and 2 offset in your parts bag ([Photo #8 includes 3 out of the 4 types](#)).
- 8.) **Install A-end grab irons, pin lifter bracket, and pin lifter.** After identifying all of the grab irons in the previous step, we will now work on the A (non-brakewheel) end of the car. Take the two medium grab irons and glue them into the holes on the end sill. Next, apply the pin-lifter bracket to the lower left corner of the end sill (the bracket is keyed with a large pin and a small pin to ensure proper placement) ([Photo #9](#)). Glue the pin lifter in place (you may need to enlarge the hole in the bottom of the coupler box cover with a #79 drill) and also the air hose and the A end is complete.
- 9.) **Install B-end grab irons, pin lifter bracket, and pin lifter.** Now we will work on the B-end of the gondola. First, install the two offset grabs in the pre-drilled holes. Next, install the pin-lifter bracket, as well as the air hose, in a similar fashion that you did on the other end of the car. The brake platform sits on top of the two triangular brackets cast into the end sill with the back side flush with the sill. Use a small amount of CA on the top of each bracket and carefully lay the platform in place.
- 10.) **Install the brake housing and handbrake lever.** There are two different types of handbrake levers and housings included in the same part sprue (one is a Universal – found on WAB and most PRR G31B cars ([Photo #10](#)), while the other is an Equipco found on virtually all other roadnames ([Photo #11](#)). Choose the brake housing which matches your prototype and install it on the end in the locating holes. Add the brake lever as appropriate and glue in place.
- 11.) **Install the side grab irons.** With the car in front of you orient it so that the B-end of the car (with the brakewheel) is on the right and the side is facing you. On the left side of the car you will see holes for two grab irons. Use a long grab iron for the top grab that is at the top sill. For the lower grab you will use a short. You first need to install the grab bracket (using an Opti-visor here is very helpful as this part is quite small!). In looking at the bracket, you will notice that there is a hole in the top of the casting for the grab to fit into and you will also notice that it is offset

slightly. Orient it so that the offset is facing the end of the car and glue in place. Install the short grab. You will repeat this procedure for the other side of the car (**Photo #12**).

- 12.) **Install the side ladders.** Now locate the ladder bracket on the parts sprue and glue it in the locating holes on the right hand side of the car with the angled end towards the bottom of the car. You will install four short grabs in the corresponding holes. Also, the brake retainer goes on this side as well (when the B-end is at right). Line up the locating holes and glue in place (**Photo #13**). You can now flip the car over and repeat steps 11 and 12 (except for the brake retainer).
- 13.) **Install the top chords.** These two parts are taped to the inside top of the box lid because they are very fragile! Please be sure to take great care when removing them from the top of the box **as well as** when de-spruing. *Also please note that both top chords are different!* Align them so that the “holes” in the top of the body shell – seen when looking from the top – are lined up with the “tie-downs” on the top chord parts. Test fit each top chord before gluing in place to make sure to familiarize yourself as to how they fit as you really only have one chance to get this right! (**Photo #14**). A suggestion is to start in one corner and work your way across the car side going slowly and flowing glue as you go along. There is a small lip on the back of the chord that sits on top of the car side to align everything as well as to provide a gluing surface. Just move slowly and you should not have any problems.
- 14.) **Install the stirrup steps.** There are two different sizes of stirrup step (**Photo #15**). The smaller of the two go on the B-end of the car, and the larger ones go on the A-end of the car. You will also notice that they are bent inward. This is prototypically correct – check out the “Prototype Page” on the “About Our Products” tab at www.tangentscalemodels.com for photos showing this! In other words, please don't try to bend them straight or they will break! Install all four stirrups and you are ready to paint and letter your model.

We hope you enjoyed building this kit! Please feel free to let us know of any needed corrections or improvements. Also, please visit www.tangentscalemodels.com and click on the “share” tab to see other people’s kits in their completed form. Submit your digital photos for inclusion on our website by emailing to the address below!

Thank you!

tangentscalemodels@yahoo.com

Photo Addendum Section:

Photo #1:

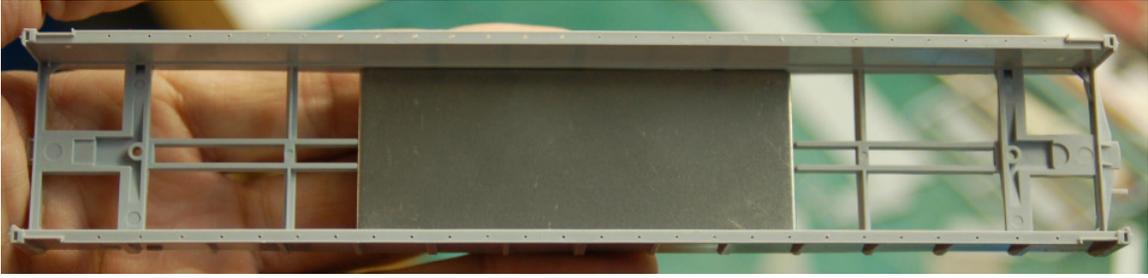


Photo #2:



Photo #3:



Photo #4 and #5:

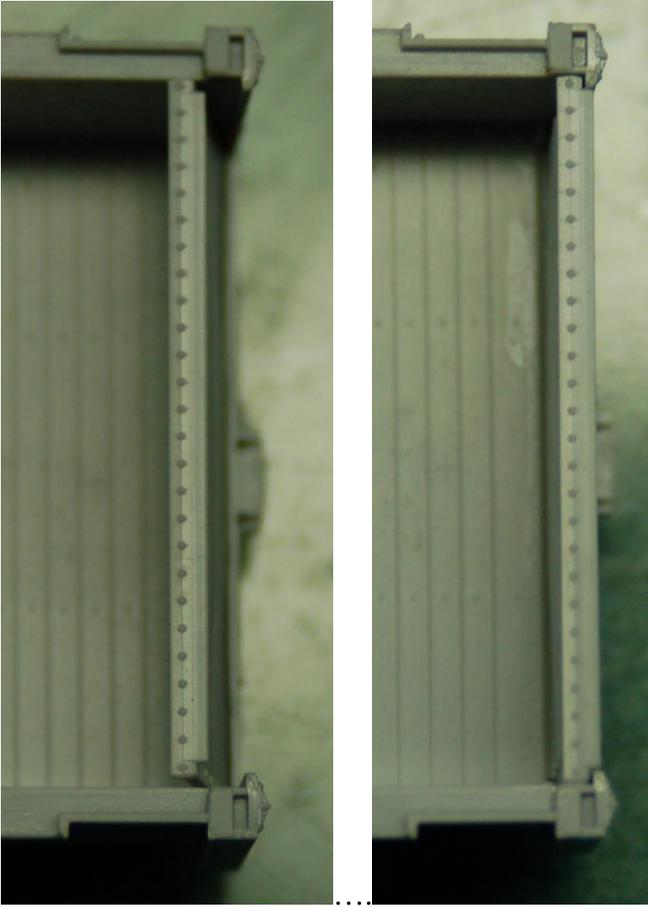


Photo #6:

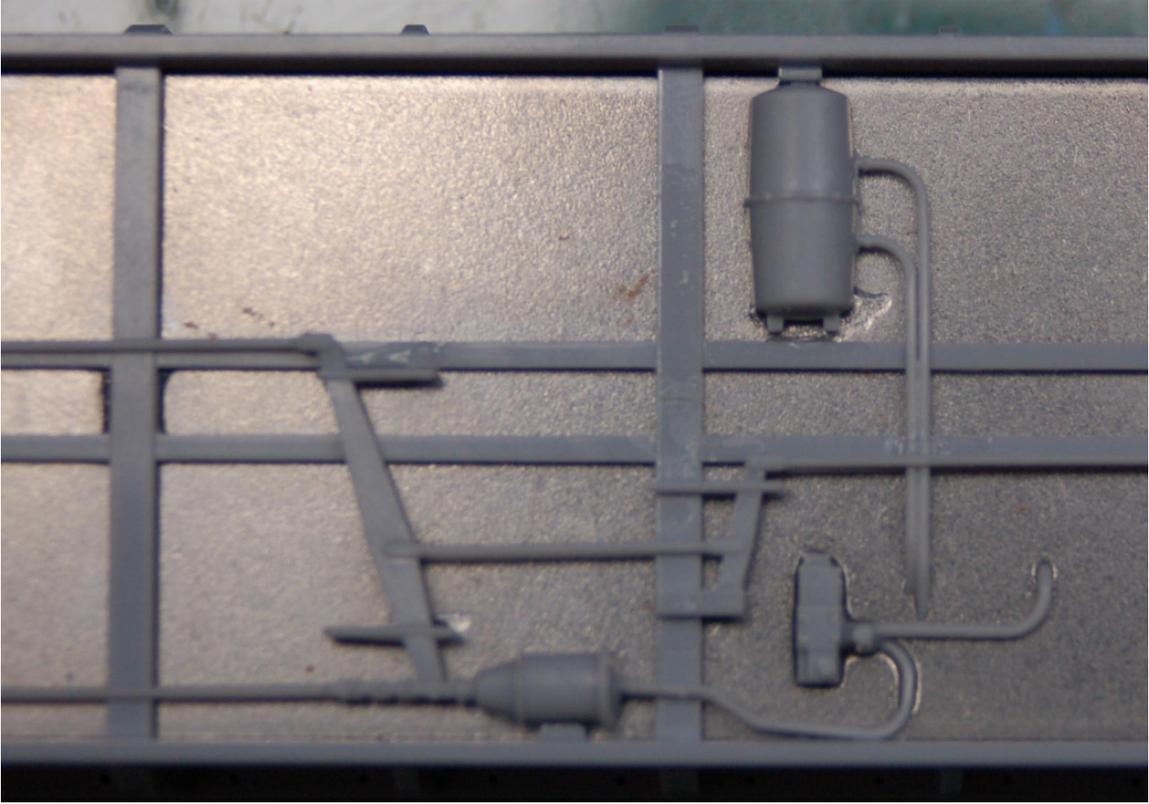


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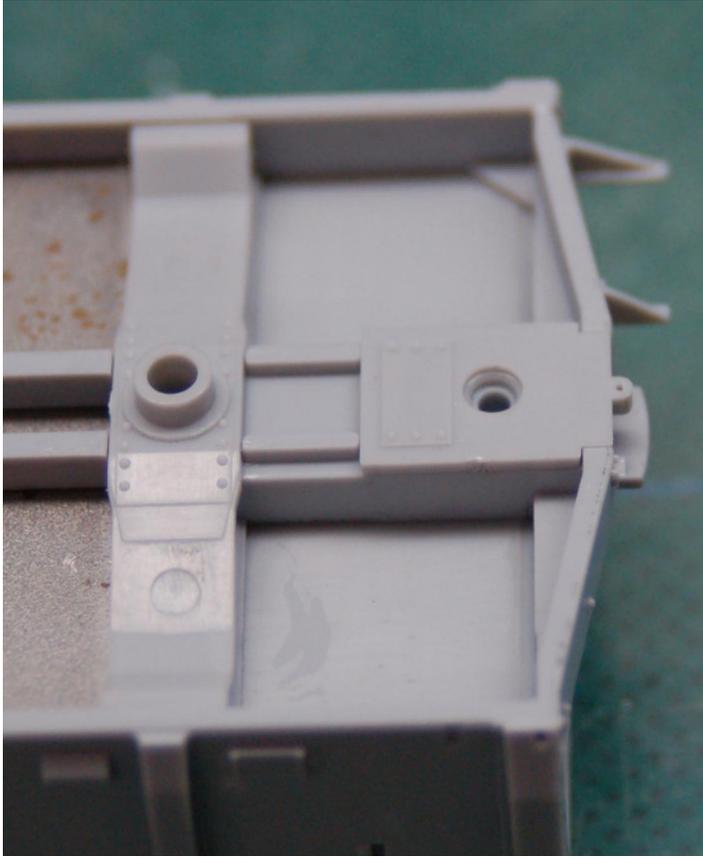


Photo #8:

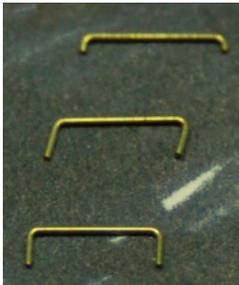


Photo #9:

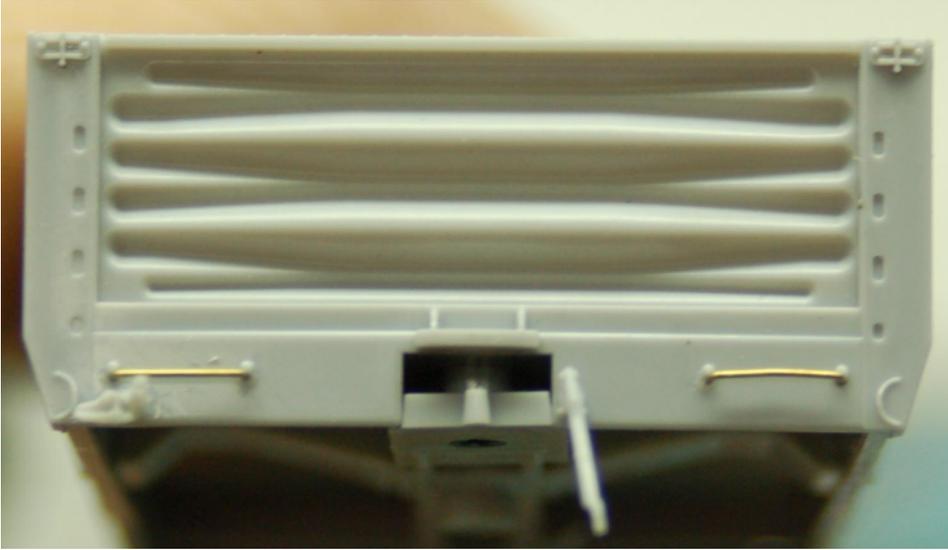


Photo #10:



Photo #11:



Photo #12:



Photo #13:



Photo #14:

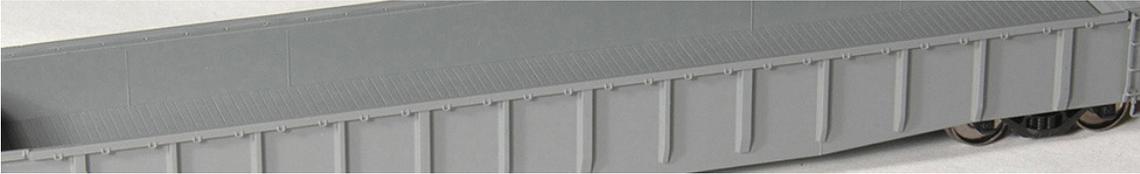
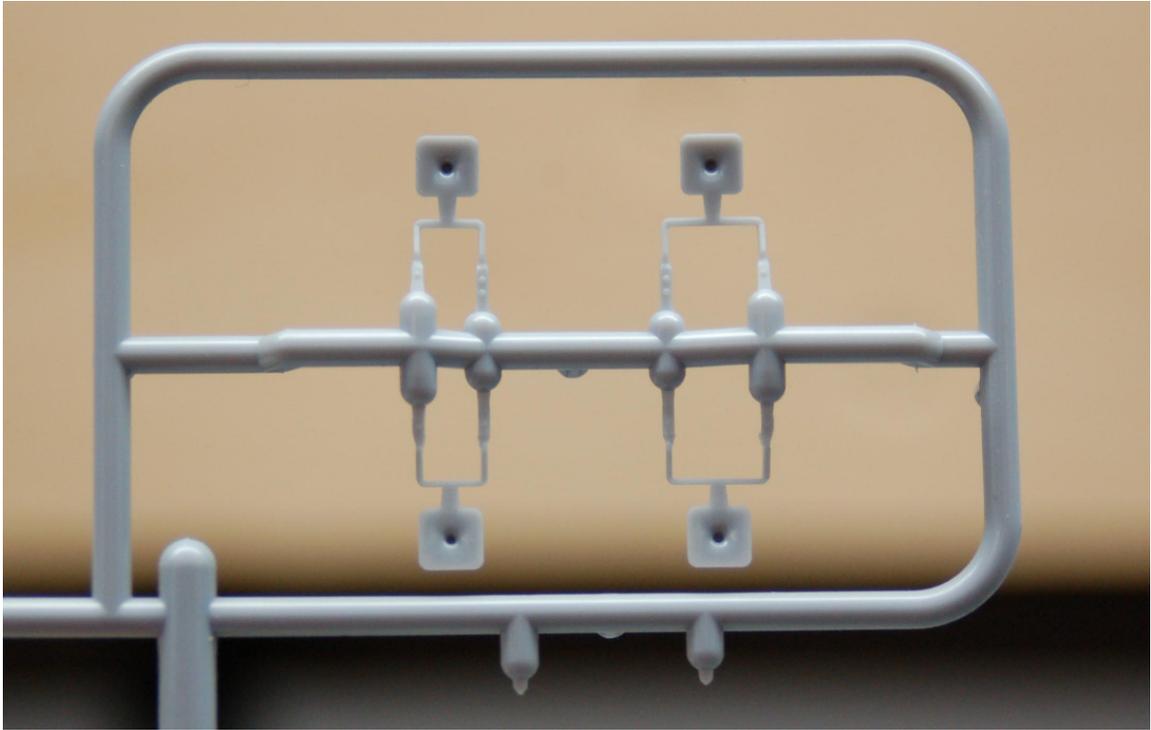


Photo #15



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