



P114 - Santa Fe Bx-44 Postwar AAR Box Cars



California State Railroad Museum Library

Car nos.	Slogan	Running Board
138700-138799	The Grand Canyon Line	Morton Open Grip
138800-138899	The Scout	Morton Open Grip (138800-138824); U.S. Gypsum (138825-138899)
138900-138999	El Capitan	U.S. Gypsum (138900-138949); Apex Tri-Lok (138950-138999)
139000-139099	The Super Chief	Apex Tri-Lok
139100-139199	The Chief	Apex Tri-Lok

History

In 1946 the Santa Fe received 500 box cars (Class Bx-44, car nos. 138700-139199, Mt. Vernon Car Manufacturing Co.) that followed the postwar iteration of the AAR box car design. The cars were distinguished by the use of the early version of the improved Youngstown corrugated steel door that had wide overlaps between the three panels, creating an unusual look. The cars were decorated with all five of the Santa Fe slogans of the day in combination with the straight map scheme on the opposite side of the car. The cars rode on ASF A-3 Ride Control trucks.

Instructions

General

The general order of the assembly is in many ways up to the preferences of the modeler. There are also some things that are optional and require items not included in the kit. These are noted throughout the instructions.

These instructions were initially written for a full conversion kit offering, with everything to build the model included (less paint, couplers, etc.) The parts offering only includes the proprietary Speedwitch materials. Please be aware of this as you proceed.

Assembly Sequence

◇ Begin by gluing the desired weight to the inside of the car body. If using an adhesive such as Goo, silicone, etc., wait until the adhesive has fully cured before gluing the roof in place.

◇ You have a choice in terms of the level of detail for the model. If you do not wish to add all of the detail, the construction

will progress rather quickly. If you wish to replace the side sill sections with the more accurate resin parts, Add the center sill to the underframe. If you do not wish to add the Royal brake regulator, then simply add the Branchline brake details.

◇ Remove the flash from the end castings by sliding them back and forth on a sheet of sandpaper laid on a flat surface such as a piece of glass or a countertop. We use 220 grit sandpaper. Check your work carefully to ensure that you are removing material evenly. Once you are satisfied, set these parts aside. Grab the roof and insert it into the car body, centered from end to end. Holding the roof in place, check the fit of one end against the end of the car body, nestled under the eaves of the end of the roof. If you are satisfied that the fit of the end casting is okay, remove the casting and add a few drops of ACC to the end of the car body and then replace the end casting, holding the roof in place all this time. Do not add a lot of ACC at this moment as more will be added. Hold the end firmly in place until the ACC sets up. Remove the roof and then add “thin” ACC using a fine applicator (the point of a pin works well or you can use the very fine tip applicators that are available and can be slid over the nozzle on the ACC bottle,) allowing it to flow into the joints. Some can be added using the holes in the inside of the car body. Keep a tissue handy with the corners twisted to “points” to wick away any excess ACC. Once the end is completely set, repeat for the other end.

◇ Glue the roof in place using liquid cement for plastics, unless you wish to add the doors first. If so, leave off until later.

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You may also choose to save the roof until after painting as it is a different color than the car body. On our model, we added the roof and masked it for painting.

◇ Now the details will be added. Much of what you do from here on will be determined by how much detail you prefer to add. Remove the set of crossties between the two crossbearers on the underframe part. These two were not on the early postwar AAR box cars. (Note that in our photo of the underframe with primer on it, this piece is still in place; we forgot to remove it until after model was painted.) If you wish to add a train pipe (we did not on our model,) drill holes in the underframe cross members now. The train pipe crossed between the center sills diagonally between the crossbearers, closer to the A end (the B end is the one with the hand brake.) Drill holes accordingly. The pipe did pass through the crossbearers as well as the crossties. Glue the underframe/center sill/bolsters to the underframe using liquid solvent cement. The train pipe can be created from 0.015" wire.

◇ Add the brakes to the underframe. This can be as simple as adding the Branchline brake parts. Or, you may choose to fully detail the model as shown in the accompanying text and photos. If adding full detail you will need to add an AB brake system. Begin by pre-drilling the parts using a no. 78 drill. These holes will be for wire "piping." Once all of the holes are drilled, add the three brake components to the underbody. The cylinder can be glued directly to the bracket that is already in place on the Branchline part. The AB valve as shown in the photos was add to a strap/bracket simulated with 0.010" x 0.080" styrene strip. One piece rests against the inside of the side sill, one is attached to the side face of the stringer and then the third sits on top of these first two. The AB valve was then glued on top of this. The reservoir on the prototype (and our model) was mounted transversely. This was accomplished by creating mounting brackets using strip styrene. The bracket for the reservoir half with two lugs was created from 1x12 strip styrene, while the one for the reservoir half with a single lug was fashioned from 1x4 strip styrene. If using a different set of AB brakes, it may be necessary to add strip styrene.

◇ Add the brake piping using 0.010" wire. Add the two pipes between the reservoir and the AB valve. Bend as shown in the photos. Add the pipe between the cylinder and the AB valve. If your AB brake set has a dirt collector, add it to the AB valve now, pre-drilling it with a no. 77 hole. Secure all of these "pipes" with ACC if you have not done so already.

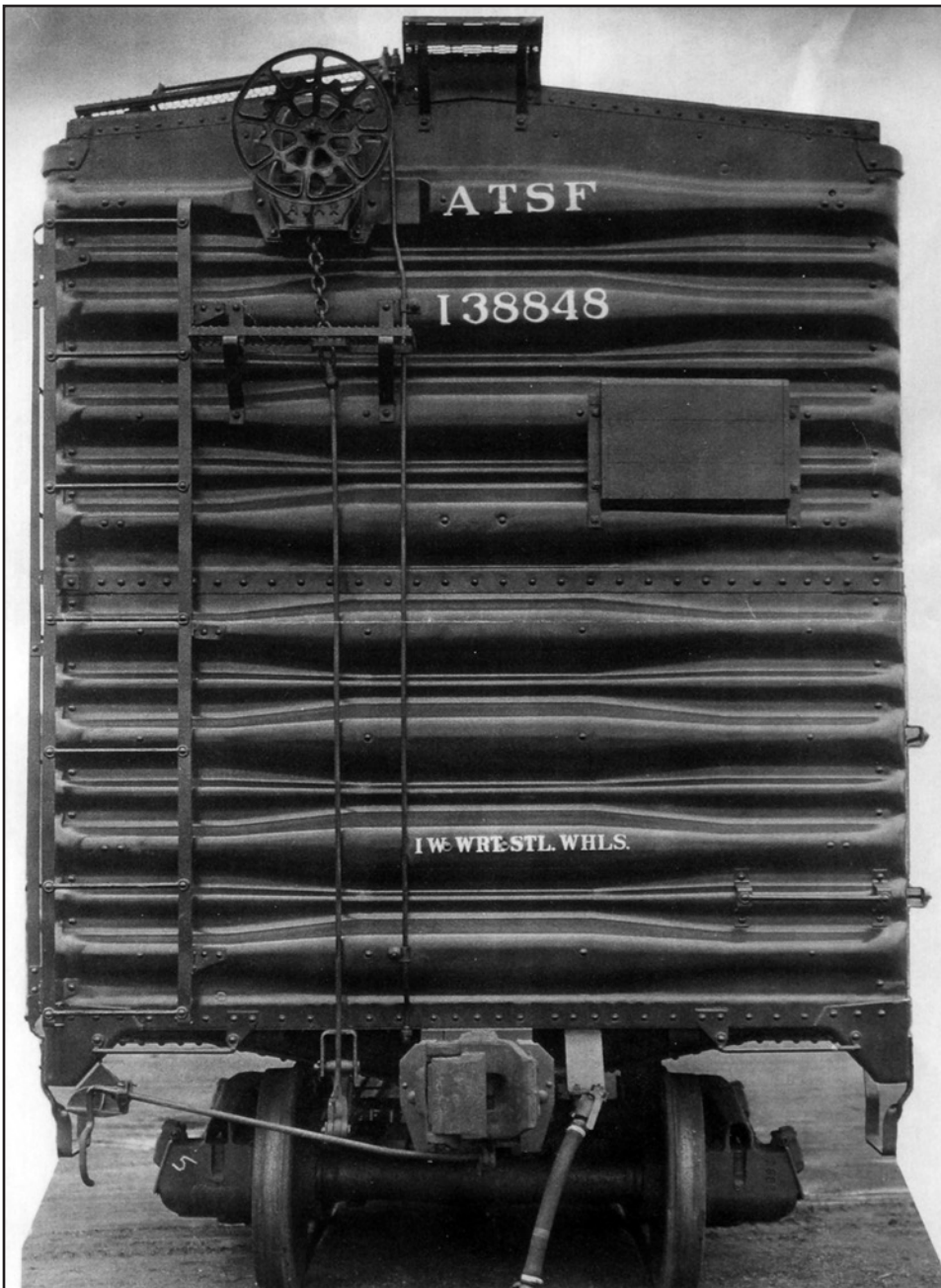
◇ Add the brake levers, if not using the Branchline brake sprues. The main brake lever from the cylinder on the model was created using 1x6 styrene strip and Tichy turnbuckles trimmed to represent clevises. Insert the main lever at the front of the cylinder into the clevis and secure everything in place using the appropriate type of cement. Add the Royal brake regulator casting to the center sill using two bits of strip styrene as shown in the photos. The dead lever was also created from 1x6 styrene, again using Tichy turnbuckles for clevises, and slid into the slot in the Royal brake regulator casting. Add

0.012" wire for the brake rods. Consult the photos as you work. Add grab irons to simulate hangers for the levers. For the rod emanating from the clevis on the front of the cylinder, a section of chain may be added as well for additional realism.

◇ Add the etched metal running boards. We recommend using Barge cement followed by a touch of ACC to further strengthen the joints. You can either use the Plano parts for the underside of the latitudinal running boards and supports for the ends, the Branchline running board supports or you can create these from styrene. We used the Branchline parts. To create them from styrene, place a piece of styrene 1x2 "flat" on the underside with a 1x3 on edge against the 1x2 to create a 3x3 angle. The diagonal supports are 1x2 styrene. For the latitudinals supports, you can either use the Plano brass colored parts (see diagram) or create them from 1x3 styrene (again, see photo.) On our model we used 1x3 styrene, placing two pieces on the underside of the latitudinal and gluing these to the underside of the running boards and then adding two pieces of 1x3 under the edge of the latitudinals where they meet the roof eaves. These were then curved over the roof eaves and glued in place.

◇ Next, detail the sides and ends. Read this section and determine how you will add the bracket grabs and ladders. If you will do as described, then you should fill the mounting holes on the model with styrene or putty, let it dry and sand smooth. Add the bracket grabs (these are on the Branchline parts sprue.) On the model, they are designed to be attached solely to the side, but on the prototype, the left brackets attached to the corner of the end. We removed the grab portion and replaced it with 0.012" wire for durability. If you wish to add the doors now, scroll down to that section of the instructions. However, if adding now, it is recommended that you add some thick styrene to the back of the doors to "beef" them up as handling may cause them to "cave-in" a little. Last, add the ladders. The ladders on the model are the Branchline 8-rung ladders turned "upside-down" compared to the way they would normally be added to the model. The mounting pins were removed and replaced with bits of styrene. Note that on the ladder on the car side, the top right portion of the stile is shorter than the left. This was done to simulate the prototype. Simply trim this bit. See photo.

◇ Detail the ends. Add the ladders. They are oriented "upside-down" like the sides. Bits of styrene were added to the back of the left stile where it meets the second, fifth, and eighth main end corrugations from the top of the end. Add the bracket grabs to the right edge of the end on the flat area between the first and second main corrugations from the bottom. Add the grabs to the end sill (drill no. 79 holes first.) Add the small casting for the uncoupling lever bracket. Clean the flash away from the casting. We recommend using the thinned Barge cement to loosely attach the casting and once everything is in place, go back and secure with small amounts of ACC. Drill a no. 78 hole through the casting that you added and add the uncoupling levers. You will need to straighten



the bends in these parts as shown on the model. Secure the uncoupling lever with ACC. We only secure this part in one place. If you normally add an eye bolt to the coupler box, do so now. Add the cast resin placard boards taking care to orient the "legs" (strap extensions) downward and glued to the fourth corrugation from the top of the end. Now, turn your attention to the B end. Prepare the Ajax hand brake housing by drilling hole(s) in the bottom to accept a u-shaped wire loop (if you are adding a segment of chain [not provided]) or just running a piece of wire into the bottom. Add the chain and wire loop, or just the wire, to the bottom of the housing and secure with ACC. If using chain, make sure that the section of wire from the chain to the bottom of the car side is in place as well. Next, glue the housing to the model as shown in the photo. Add the bell crank to the end sill, directly below the housing. Trim the wire from the housing so that it is the proper length and

secure in the bell crank. We used a Tichy turnbuckle that was modified and slipped over the bell crank. This is also shown in the photo. Add the brake stand from the Plano parts to the Branchline brake stand supports. Add these to the car end. Finally, pre-drill the retainer from the Tichy brake parts and add it to the end. Run 0.008" wire from the retainer to the underside of the end sill, as shown. Note: you may use the Branchline parts for this step, although they may not be accurate in all respects, nor as durable.

◇ Now turn your attention to the doors. If all is okay, glue to the car body using liquid cement for styrene. Next, add the placard and route card boards to the doors. Lastly, add the cast resin door tracks. We used the following technique. Glue a piece of 0.020" x 0.020" styrene strip below the door and extending to the door stop on the car body, approximately 12'9" long, in HO scale. We then glued the cast resin door track on top of this using ACC. Note that the rivets on the track are not symmetrical, meaning that there is a "right" and "wrong" orientation. Therefore, consult the photos to achieve the correct orientation.

◇ For trucks, we recommend Kato ASF A-3 trucks. The Branchline trucks (included) are not exact representations of the prototype.

◇ Before painting the model, we recommend lightly sandblasting all metal (grabs) and engineering plastic surfaces (truck sideframes) to ensure that the paint will not chip or flake. This should be

followed by a washing using liquid dishwashing detergent and a soft toothbrush. Rinse thoroughly and allow to dry completely. Prime the model with your choice of primer followed by a coat of Floquil ATSF Mineral red for the car body. The roof should be painted black (and glued to the model if you have not yet done so,) followed by a gloss coat over everything in preparation for the addition of decals. We elected to paint the running board silver to simulate an unpainted, galvanized running board

◇ For decaling, our recommended approach is to apply the decals with only water. After sliding them in place (with a dull object) let them dry *thoroughly*. After they have dried, apply decal setting solution by touching the edge of the decal with a brush that has the solution on it and letting capillary action pull the solution under the decal. Again, let the decals dry thoroughly. After they have dried again, using a sharp knife, slit any areas where there are

bubbles or silvering. Add setting solution, Keep repeating until all traces of air are gone. Add a flat coat to seal the decals. Weather to your preference, add reweigh and repack stencils, and chalk marks, and your model is ready. Congratulations!

Parts List

Resin castings (ends, and details)
Southwest Scale Youngstown doors
Decals

Other parts

Branchline Trains 40' Box Car with 6' door opening
Branchline Trains underframe, brake, running board, roof, side, end detail sprues, and truck sideframes
18" straight grab irons (7)

Tichy AB brake sprue

Etched metal running board and brake step

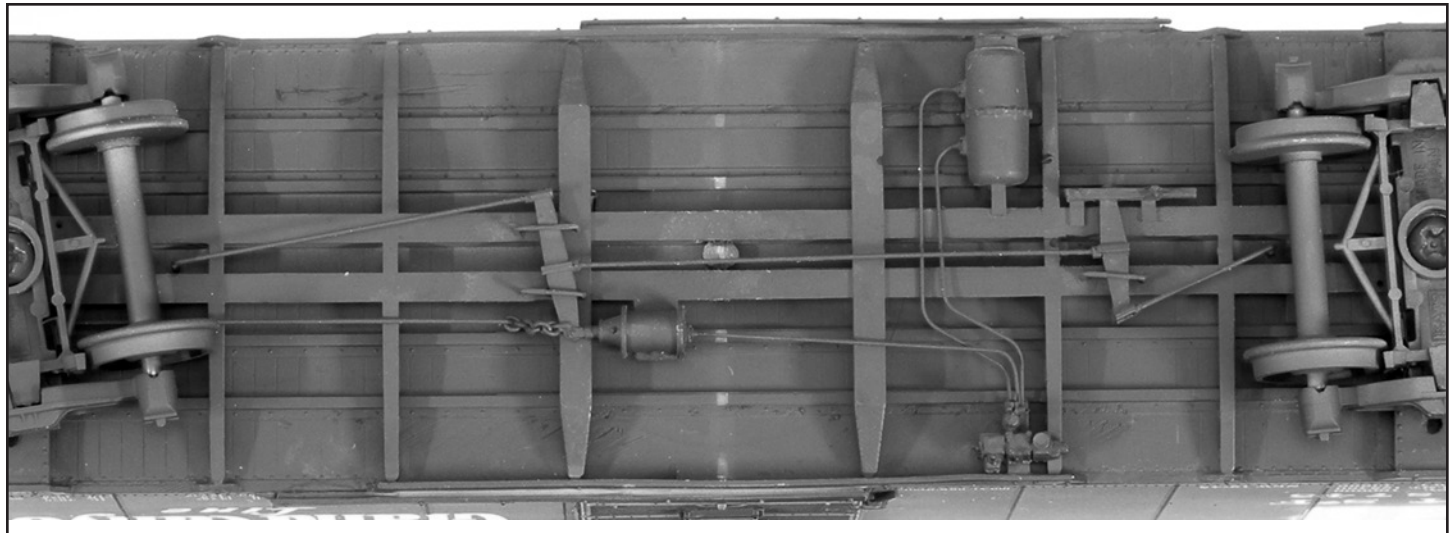
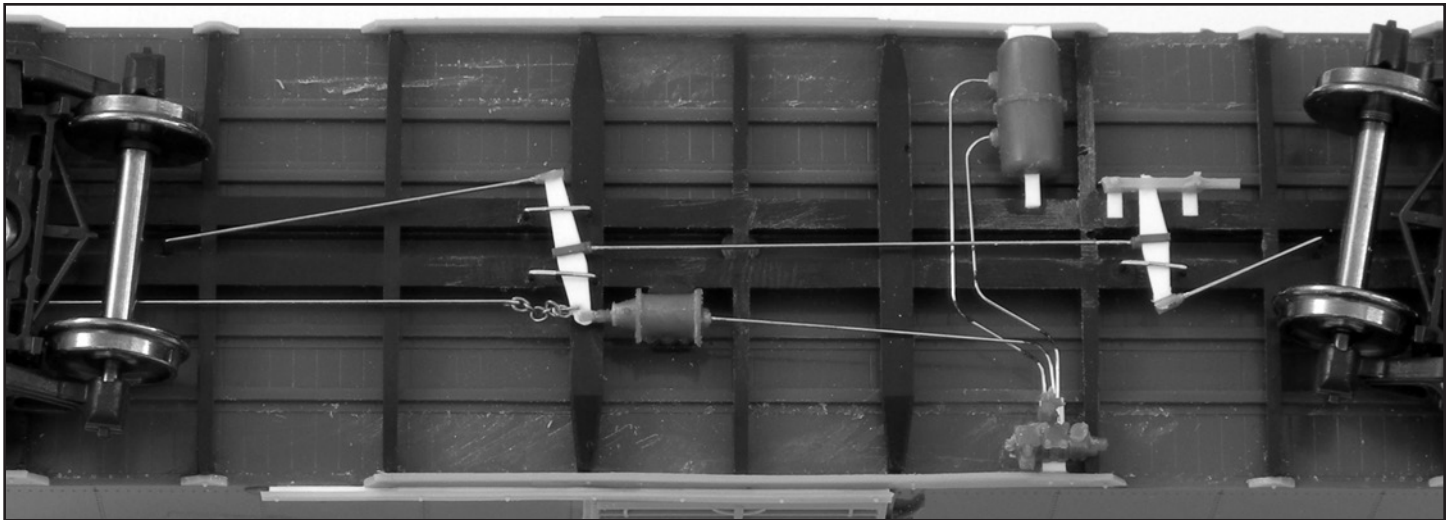
Wire (0.008", 0.010", 0.012", 0.015")

Couplers

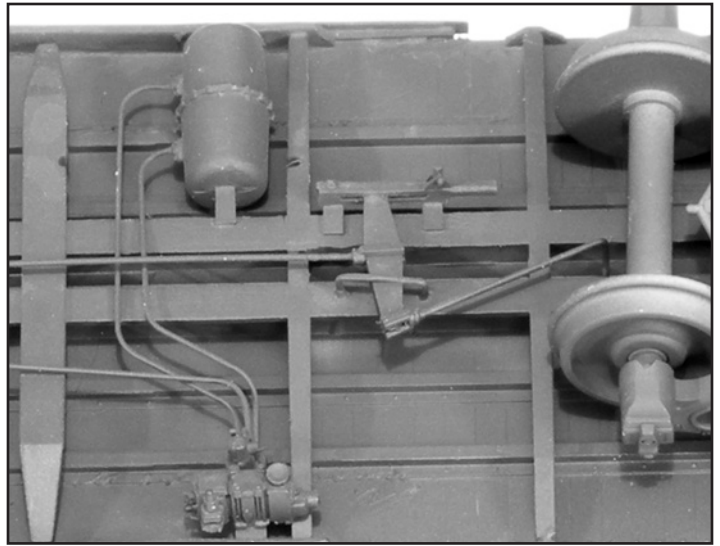
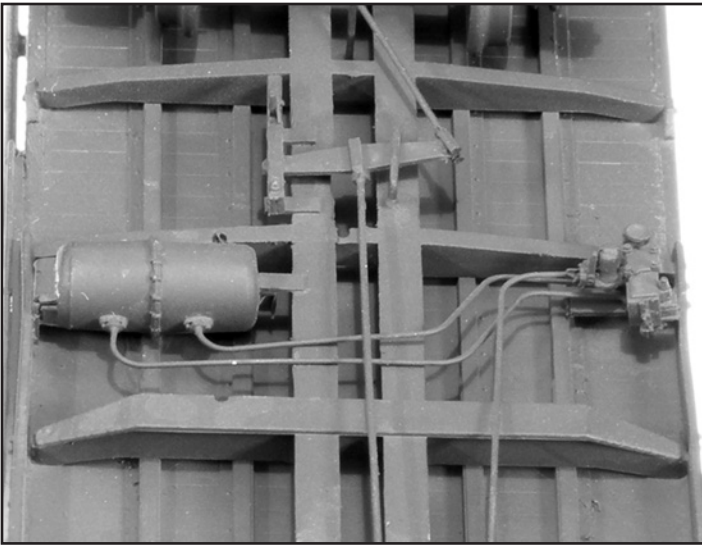
Strip styrene - various (1x2, 1x3, 1x6, 1x12, 0.020" x 0.020")

Chain

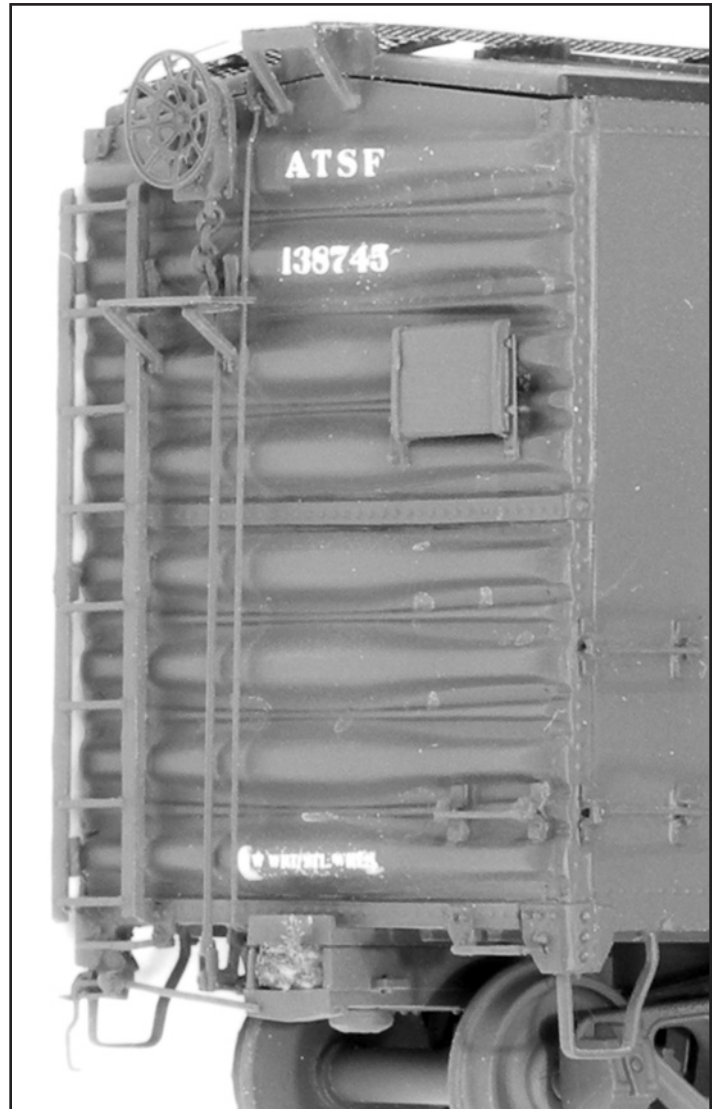
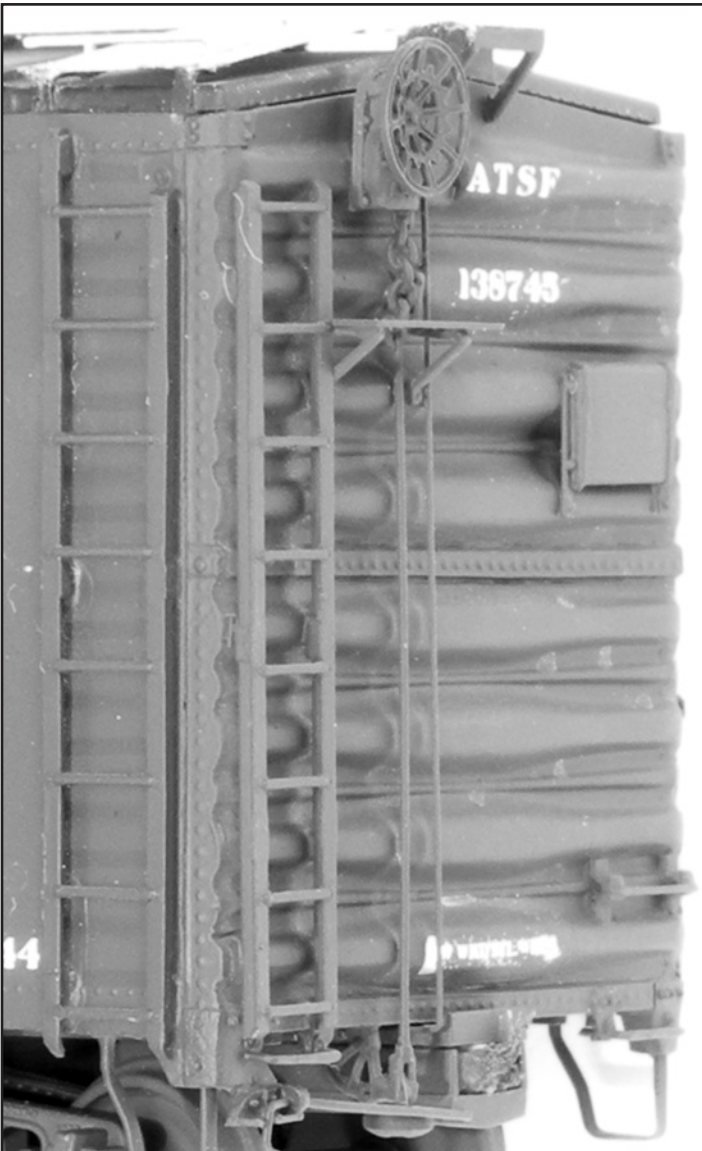
Kato ASF A-3 trucks



These two photos illustrate the location of the brake equipment including the piping and rods. Note that in the bottom photo, the crosssties at the center of the car have been removed as per the prototype. Also note the location of the Royal brake regulator casting.



The two photos shown above illustrate the location and mounting of the reservoir, AB valve and the Royal brake regulator.



These two photos should be used for reference for the location of the ladders, uncoupling lever bracket, bracket grabs, hand holds, placard board, brake step, hand brake housing, retainer valve including piping, and running board support.



Left - Note the location of the bracket grab irons compared to where they would have been located if placed in the holes on the undecorated kit.

Below - This is a general view of the location of the various details that were added to the side of the model.





Thank you to Jay Miller for his assistance with this kit. Also thank you to Bill Schneider of Branchline Trains, Dan Hall of Southwest Scale Productions, Keith Hapes/Plano Model Products, Microscale, Joe D'Elia/A-Line, Don Tichy of Tichy Train Group, and Bruce Boles/Detail Associates.