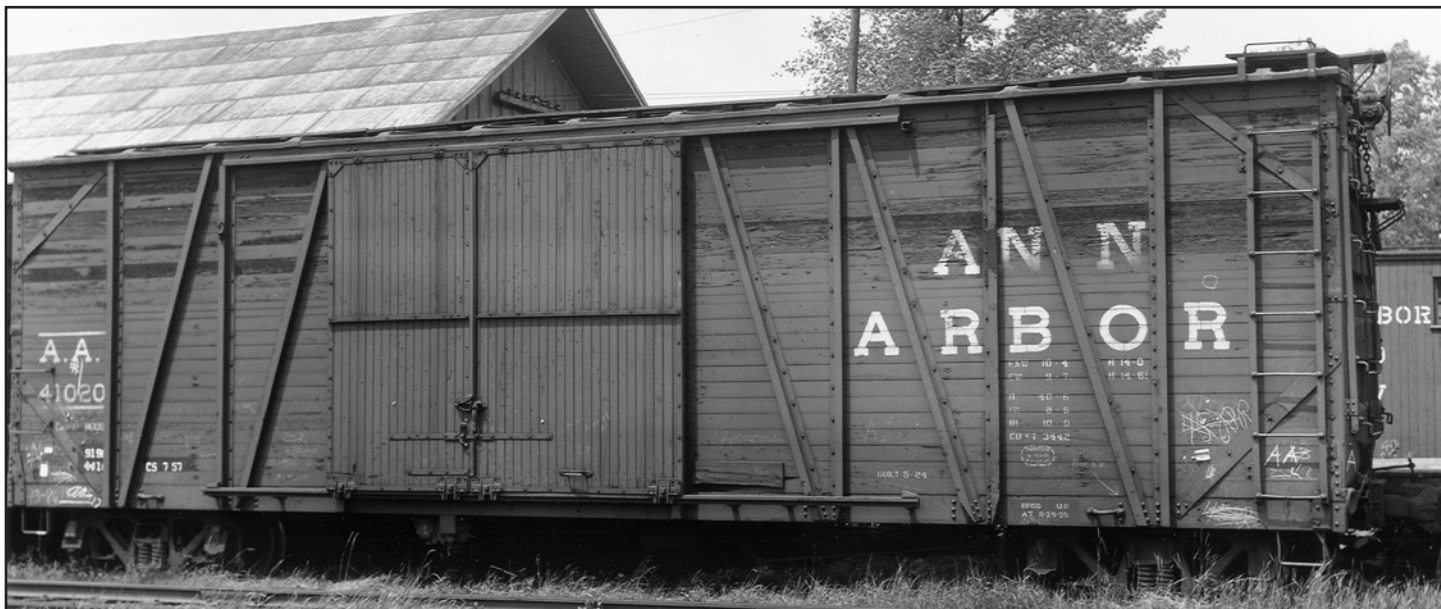


Kit K110 - Ann Arbor 41000-series and 74000-series Single Sheathed Automobile and Box Cars



History

The Ann Arbor received 250 automobile box cars from Standard Tank Car Company during mid-1924, car nos. 10300-10549. These tall, forty-foot single sheathed cars were equipped with Hutchins Dry Lading roofs, Hutchins ends, KC schedule brakes, unpowered shaft hand brakes and Andrews 40-ton trucks.

During the renumbering of the Ann Arbor freight car fleet which began in mid-1929, AA 10300-10549 became AA 41000-41249, and AA 10550 (a single car built in 1927) was reassigned the number AA 41250. This renumbering was completed sometime in 1939. During the latter part of 1937, the Ann Arbor commenced a rebuilding program that would see 60% of the 10300/41000-series cars modified to become single door box cars by the time it concluded in early 1939. The auxiliary door was removed and extra members added to the external truss to reinforce the extended body sheathing. The upper door track was unchanged. The rebuildings likely occurred in the Ann Arbor's main Owosso, Michigan car shops.

The cars also received other upgrades over their service lives. These included the addition of Miner D-3290 power hand brakes, AB schedule brakes, a second grab iron at the far left of the car side, and, on some cars, grain clips (these are the small squares at the side sill on each car side panel; these are not on the models, but may be added with 0.005" styrene and Archer rivets).

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.

Owosso, Michigan, July 21, 1957 Col. Chet McCoid photograph, Bob's Photo

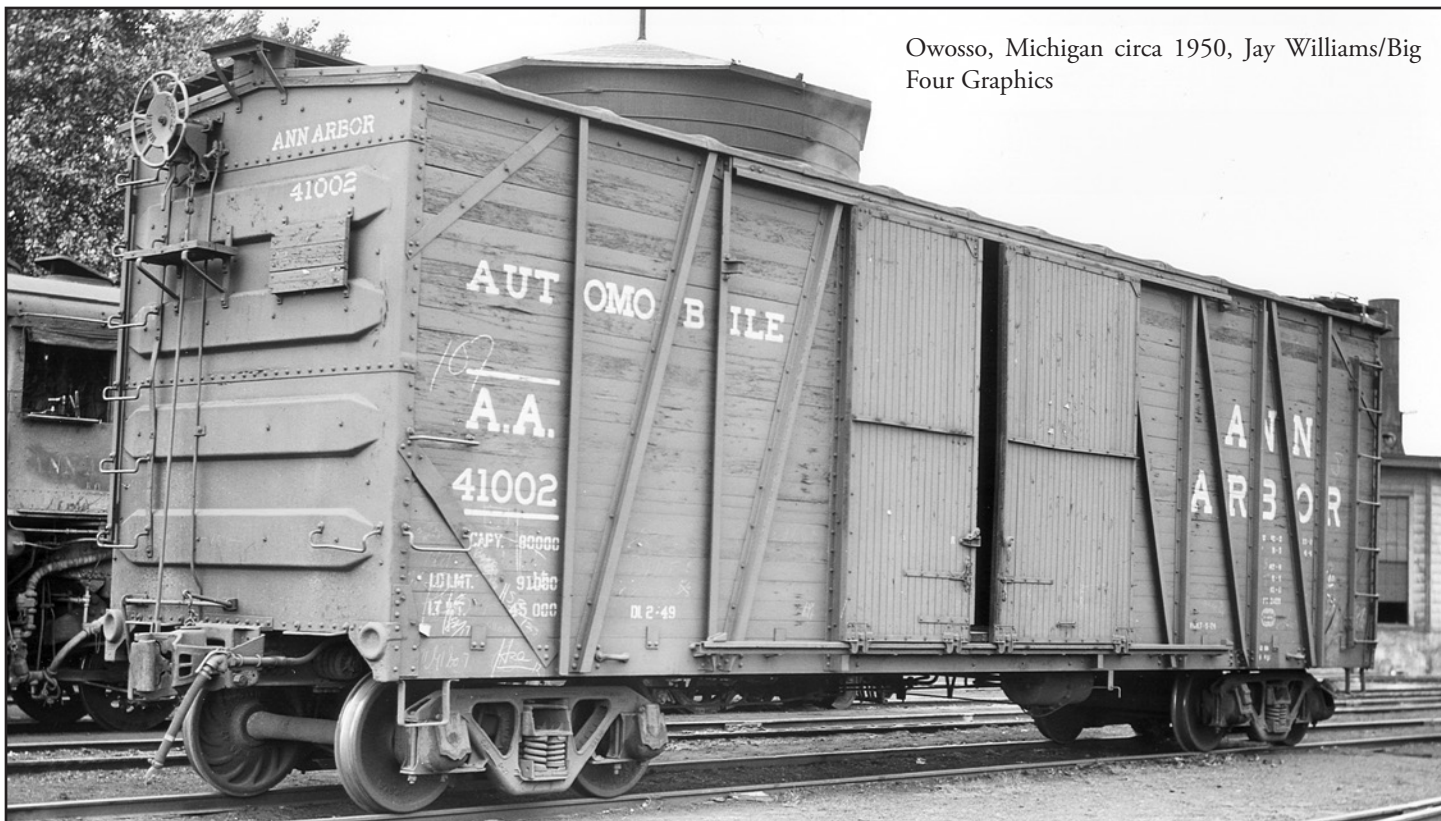
Assembly Sequence

◇ Begin by examining the castings. Using a file, clean up the edges on the car body and underbody castings. Once these parts are clean, test fit the underbody into the car body. The fit should be "loosely snug." If too tight, remove a little material with a file. If too loose, strip styrene can be added to the edges of the underbody. You may have to remove material using a file or sandpaper. If so, work slowly removing material from both sides and/or both ends of the casting. Once satisfied, remove the underbody. Drill the bolsters for trucks using a no. 50 drill. A 2-56 screw will self-tap into a no. 50 hole. The Andrews truck sideframes are included. Add the desired amount of weight. Once you have completed these steps, insert the underbody casting into the car body and tack it in place with ACC at several locations, using the end sills and coupler pads as guides for the proper depth. Then, flow thin ACC into the body/underbody joints. Add your choice of couplers and secure them with screws (the model uses Kadee proto-size couplers secured with 1-72 screws).

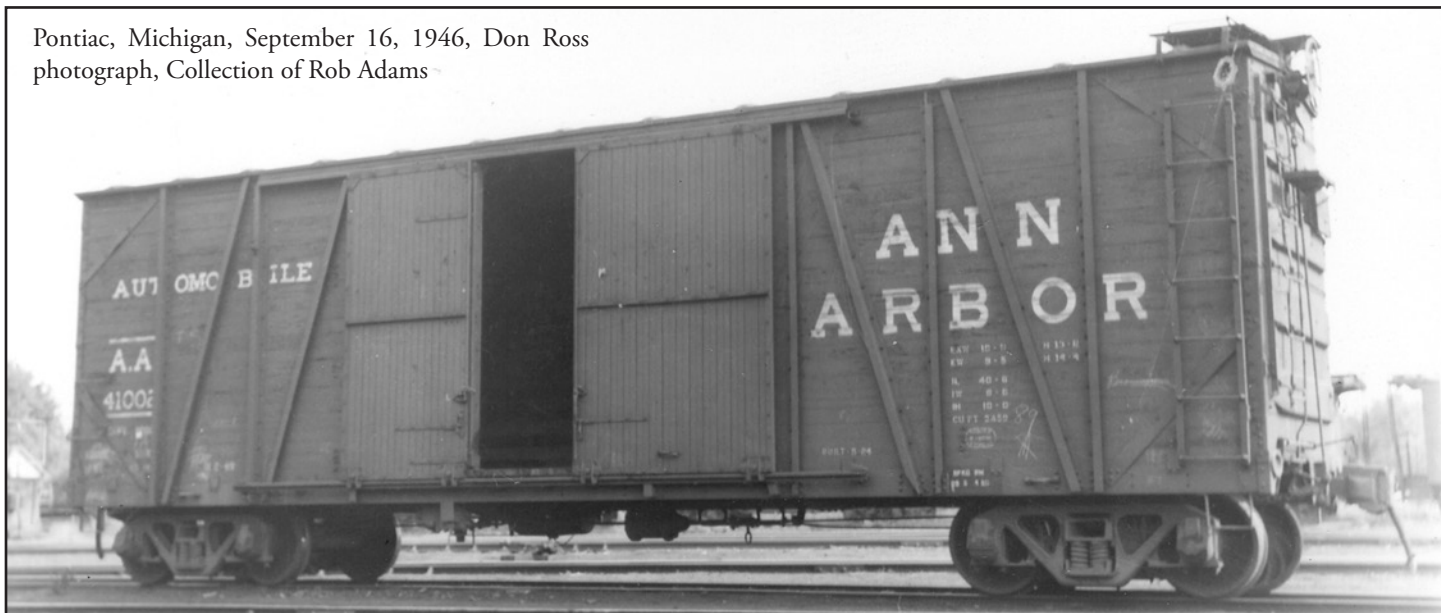
◇ Add the brake detail. *Pre-drill* the parts using a no. 79 drill bit if you are adding piping. Add the reservoir (part nos. 1, 2, 10), cylinder (part nos. 3, 8, 9) and AB valve (part no. 5) as shown in the photo. There is a cast resin bracket for the cylinder. The bracket nests against the center sill and just below the flange of the center sill. The cylinder attaches to the edge of the bracket farthest away from the center sill. The reservoir rests on one of the crossbearers and an "intermediate crosstie" that must be added from the cast resin parts. The "mount" for the portion that attaches to the crossbearer was created from a bit of scrap styrene. Add the reservoir and secure with ACC. Nut-bolt-washer (NBW) parts (not included) were added to the mounting lugs of the reservoir for increased realism (see

SPEEDWITCH MEDIA

speedwitchmedia@gmail.com — www.speedwitchmedia.com



Owosso, Michigan circa 1950, Jay Williams/Big Four Graphics



Pontiac, Michigan, September 16, 1946, Don Ross photograph, Collection of Rob Adams



photos). *NOTE that on the model shown here, the brake levers were created from strip styrene and Tichy turnbuckles, which you may choose to replicate (1x8 styrene not included) or simply use the Tichy brake levers.* Insert the clevis (brake part no. 29 on the sprue) with a brake lever (from the brake parts sprue) into the clevis. The lever should be straight and parallel to the faces of the flanges of center sills, not angled up toward the car body or down toward the rails. Please consult the photos as this can be confusing if pictures are not referred to. Add a piece of scrap styrene nested where the side sill and crossbearer meet to act as a platform for the AB valve, as shown in the photo. Glue the AB valve on top of this. Add piping between the parts using 0.010" wire using the photos as a reference. Add the dirt collector (part number 6 on the brake sprue) to the AB valve. Add the second brake lever (the "dead" lever, using either of the parts on the brake sprue, and a bracket you create from a piece of scrap styrene). If you did not already glue the main lever in place (when you attached the cylinder to the center sill) the main lever is inserted into the clevis again (part number 29 on the brake sprue). Again, we added a NBW to the dead lever for added realism. Once complete, add 0.012" wire to simulate the rods between the levers and to the trucks and hand brake (note that the bends in the wire near the bolsters are to avoid fouling the trucks), as shown. If desired, add chain (not included) between the main brake rod and the cylinder, as shown.

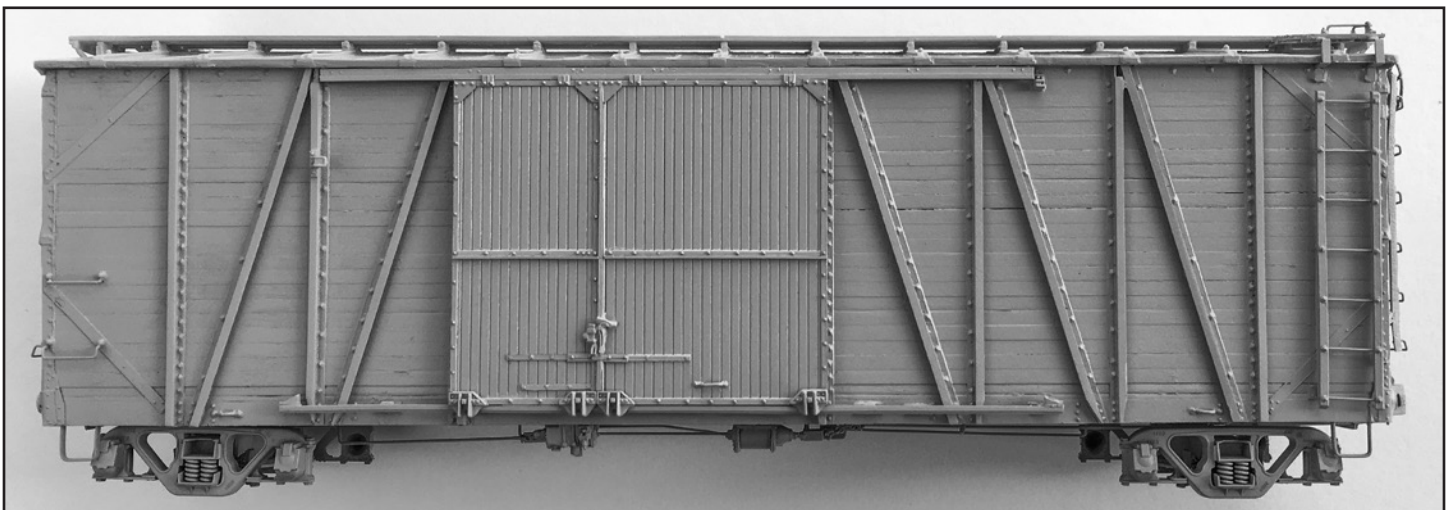
◇ Add the ladders to the ends. Drill no. 79 holes below the NBWs on the cast resin ladder stiles. The left stiles are angled castings while the right stiles are flat castings. The recommended approach is to drill the holes while these delicate castings are still attached to the resin backing. The rungs are 18" drop grabs. Here is the method we used. Tack the angled stile (the left one) to the ends at the mounting tabs with ACC. With the right stile still "loose", insert a grab into both stiles at either the top or second holes from the top and carefully adjust the stiles so that the stiles and grab are straight. Add sparing amounts of ACC to secure. Repeat at either the bottom or second from the bottom (if the grab is not straight, remove and bend the legs slightly in opposite directions to adjust the tilt of the grab until it is straight). Secure with ACC. Secure the stiles in multiple

places with ACC and then add the remaining grabs using the same technique. Add straight grabs to the end sills. Add a drop grab iron to the right corner of the end. Add the two hand holds to the left side of the car; the bottom one is a drop-style grab while the upper is a straight grab. A keen observer will note that the grabs on our model have been bent from 0.010" for increased fidelity. You may choose to duplicate this. The side ladder will be created and added later in construction.

◇ Now, turn your attention to the roof. Clean up the running board casting by cleaning the underside of the part by sliding it on sandpaper. Carefully trim between the boards to remove any flash and create the "see-through" effect. Scraping along the inside edges from the "back" of the part is an effective way to clean up the openings. Once the part is cleaned to your satisfaction, add the angle-shaped support to the underside of the ends using ACC. The angle faces "out" away from the car end and the face with the small detail at each end is on the leg of the angle that is not directly attached to the underside of the running boards. The diagonal supports will rest in this detail. Apply the running board to the roof, centering it both laterally and longitudinally. Tack it in place using a cement such as Barge cement (available at shoe repair shops) or Goo, followed by an application of ACC added with a pin. Take the latitudinal running board castings. Clean the castings to create the "see-through" effect. Drill holes adjacent to the nut-bolt-washer (NBW) castings on the roof for the corner grabs. Add the corner grabs, plus one eye bolt (on the etched parts fret) per grab and glue in place using ACC. When dry, trim the excess wire from the back of these castings and file smooth. Set aside.

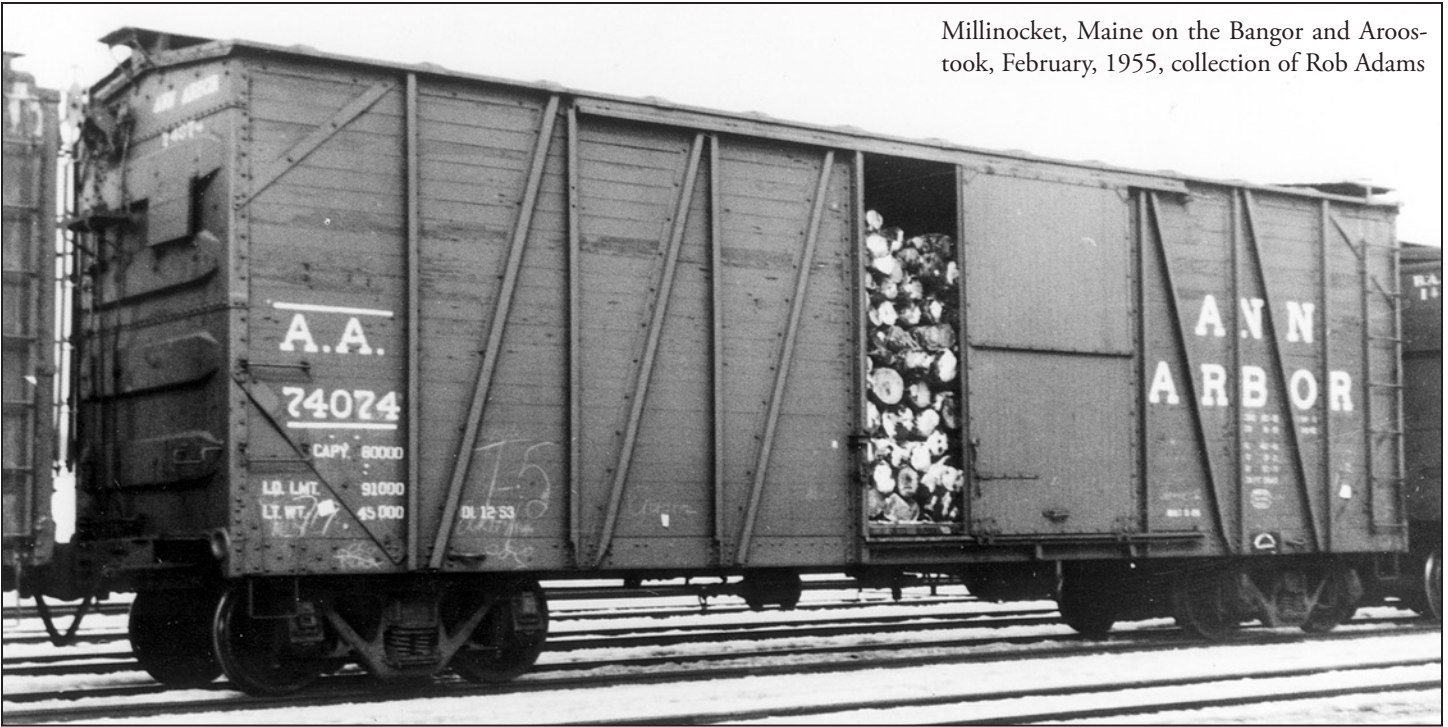
◇ Add the doors to the car. Begin by adding the upper door track, using the photos as a guide. It should rest against the underside of the roof. Secure with ACC. Add the doors, centering them over the door opening (for the 1-½ door car or against the left door post for the single door car). Secure with ACC. The bottom door tracks will be added later.

◇ Add the sill steps. Drill no. 75 holes at the corners for the sill steps. Drill the four holes closest to the corners first and then use them to locate the where the second holes should be placed. Do this by putting one leg of the step into the hole



Previous page, bottom - Fayetteville, North Carolina, October 10, 1951, Col. Chet McCoid photograph, Bob's Photo

Millinocket, Maine on the Bangor and Aroostook, February, 1955, collection of Rob Adams



and using the other leg to mark where the second hole is to be drilled. After both holes are drilled, insert the steps and glue in place with ACC. It is advisable to cant the steps slightly out from the side sill to allow unfettered truck swing. Add the towing loops near the body bolsters. These are 0.012" wire loops. Drill no. 78 holes using the mounting rivets as a guide. The loops are mounted in between these rivets. The loops must be bent from wire to create a circular shape. Insert into the holes and affix with ACC. Consult photos for guidance.

◇ Add the brake detail to the end. There are two angle brackets that must be added to the back of the hand brake housing. These are resin castings. Use the photos as a guide. The flange of the upper piece is visible above the hand brake housing. The lower bracket is entirely hidden by the housing. Clean the hole in the housing to accept the Kadee Miner hand wheel. Test fit the wheel, but do not add at this time. If you will use a length of chain (not included) between the housing and brake rod, add now, leaving the end of the chain loose and dangling.

Add the brake step. The step is cast resin as well as the two straps that are attached to the face of the end. The support is roughly triangular in profile. It can be created by gluing strip to the bottom of the step and then gluing second strips that span between the bottom of the straps and the outer edge of the step, under the strips that were just added to the underside of the step. Alternatively, strip may be bent to replicate the triangular support strap profile in a single piece, as was done on the prototype (and our model). The latter is more challenging, but visually more appealing. Please consult photos as a guide.

Add the hand brake housing to the end, above the step, aligning the notch in the step below the housing, using the photos as a guide. Add the Tichy bell crank, part no. 22 on the brake sprue, on the bottom of the end sill, below the hand brake. Add 0.012" wire between the housing and bell crank

(there is a little notch on the bell crank to accept the wire). Alternatively, use a Tichy turnbuckle to replicate the bell crank mounting shown on the pilot model). If you added chain to the hand brake housing, the 0.012" connects to the chain and not directly to the hand brake housing. Drill a no. 80 hole in the bottom of the pressure retainer valve resin casting and glue that part to the top of the end as shown. Add 0.008" wire to simulate the retainer pipe, adding a slight bend at the bottom and a ninety degree bend to pass to the underframe, as shown in the photos.

◇ If adding uncoupling devices, bend them from 0.012" wire. The left bracket is cast on to the car end. A no. 78 hole must be *carefully* drilled through this bracket. The second bracket is an etched metal part. The visible portion of the etching is two-faceted, with one portion attached to the car end, above the draft gear, and the portion with the hole perpendicular to the end. The small third portion of the etching is a pin that is inserted into the end (in a hole you will drill). Please consult photos. The parts are notched to allow for very easy bending. The parts bend *into the notches* (so the notches are hidden "inside" the bends). Bending away from the notches may break the etching. After bending, the part loosely resembles a z shape. Once the holes are drilled, the uncoupling wire rods bent, and the etchings bent, the order of assembly is as follows: thread the rod through the bracket cast on the car end, thread the etching on to the other end of the rod, oriented correctly (see photos), insert "pin" on etching into hole, secure with ACC.

◇ Add the running board supports. These are created from strip cast on the resin parts sheet. Trim to size and glue between the ends of the running board supports and the bits at the top of the car ends (these bits simulate the end of the support straps). Add the cast resin placard boards to the ends, using photos as a guide.

◇ Adding the latitudinal running boards is a two-part process. With ACC attach strip to the underside of the running boards, extending from the bottom of the running boards, located where the latitudinal running boards will be adjacent to the running boards. The latitudinals will be attached on top of these straps. For further reference, the straps should be parallel to the roof seam caps. After these straps are dry, glue the latitudinals on these straps. For reference, the latitudinals should be roughly aligned with the ladder brackets at the top of the car side. The latitudinals should be slightly closer to the running boards than the roof eaves, but there should be a gap between the running boards and latitudinals. See photos.

The latitudinal supports are etched metal parts. They must be bent three times. The bends are scribed for ease. The parts should bend over or “into” the lines or notches so that the lines become hidden or obscured. Bending the other way can break the etching. Consult the graphic to see the profile of the final shape as well as the overall layout.

◇ Add the hand wheel release lever to the housing using photos as a guide. Add the hand wheel to the hand brake housing.

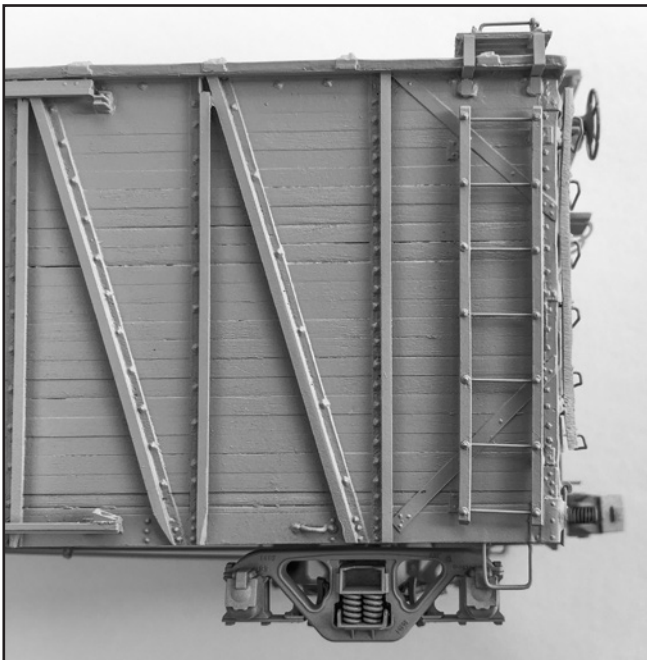
◇ Create the side ladders. The side ladders are fashioned by adding wire (0.010" or 0.012" - your choice - we used 0.010") to a jig and progressively removing the spacers from the jig, ending with completed ladders. The accompanying photos provide the best description, but for increased clarity the process is described herein. Begin with just the jig. Add the first wire rung and affix with ACC, as shown. Care must be exercised to apply ACC to the jig, not the underlying mat, countertop, desk, etc. Remove the first spacer. Add the second and third rungs and secure with ACC. Remove the next spacer. Add the fourth rung, add ACC, remove next spacer. Add fifth and sixth rungs and secure with ACC. Remove next spacer and add last rung, securing with ACC. Add stile covers with rivet detail, aligning the detail with

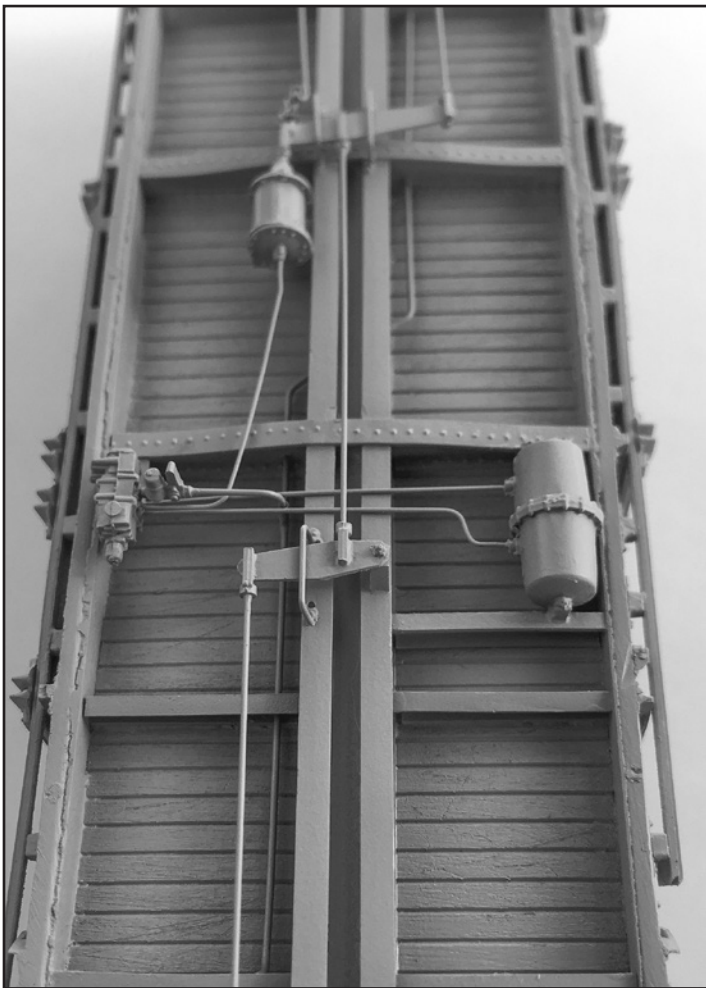
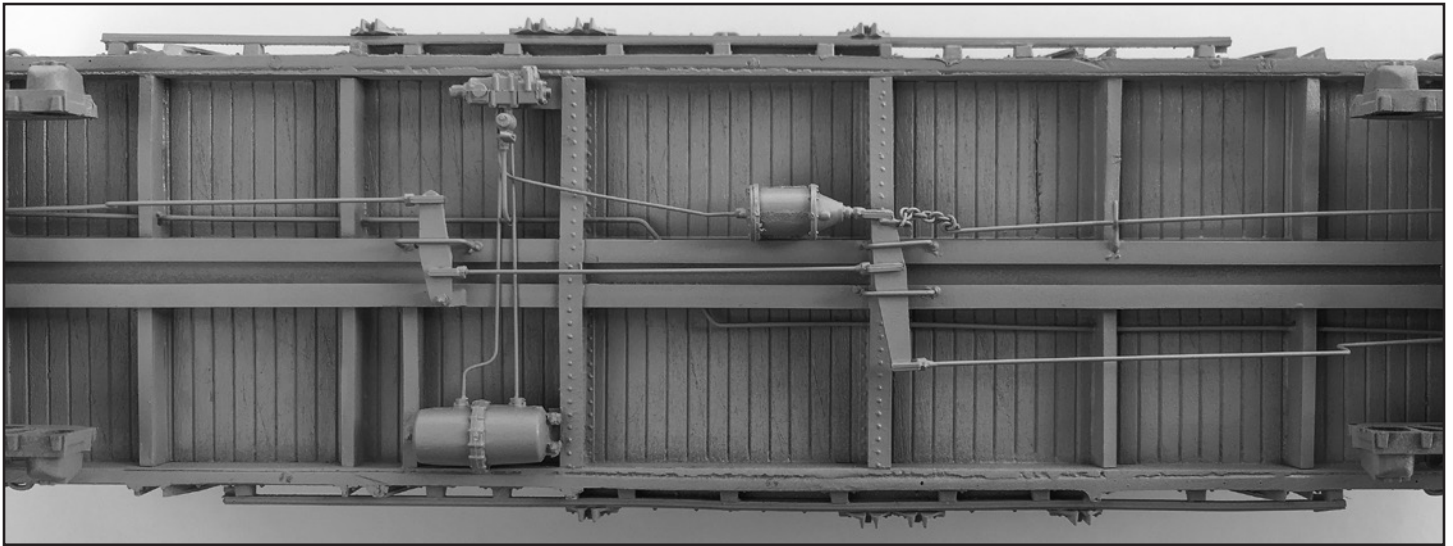
the rungs. Secure with ACC on both the inside and outside of the joints. Trim the ladders and add to the brackets on the car side, aligning with the rungs on the ends.

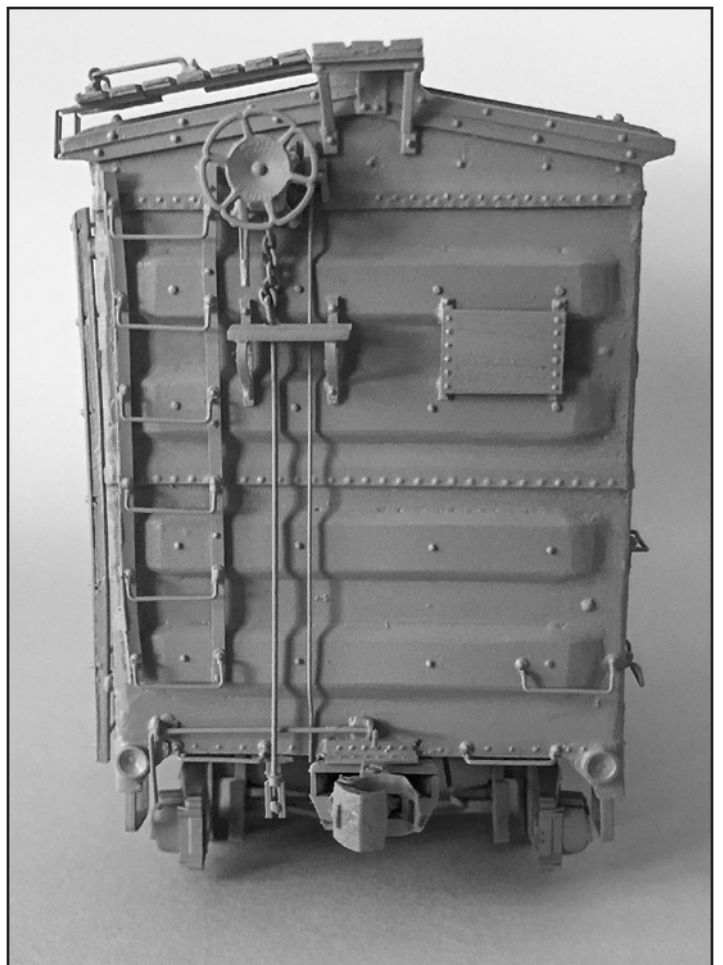
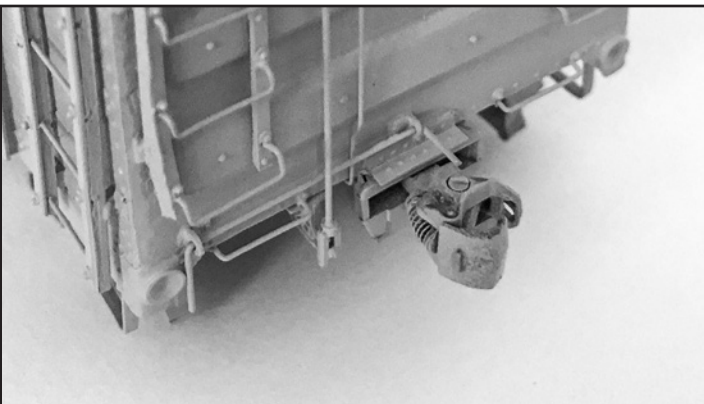
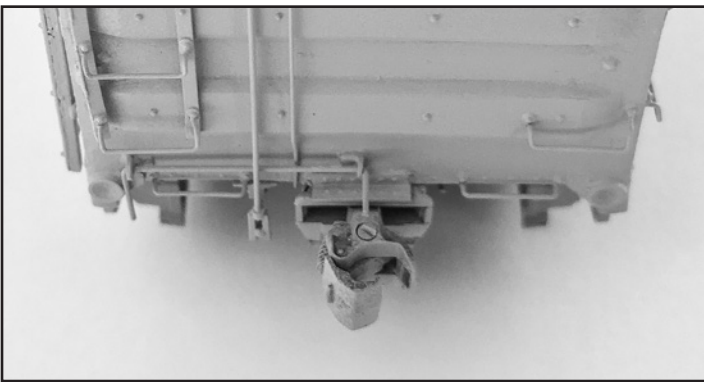
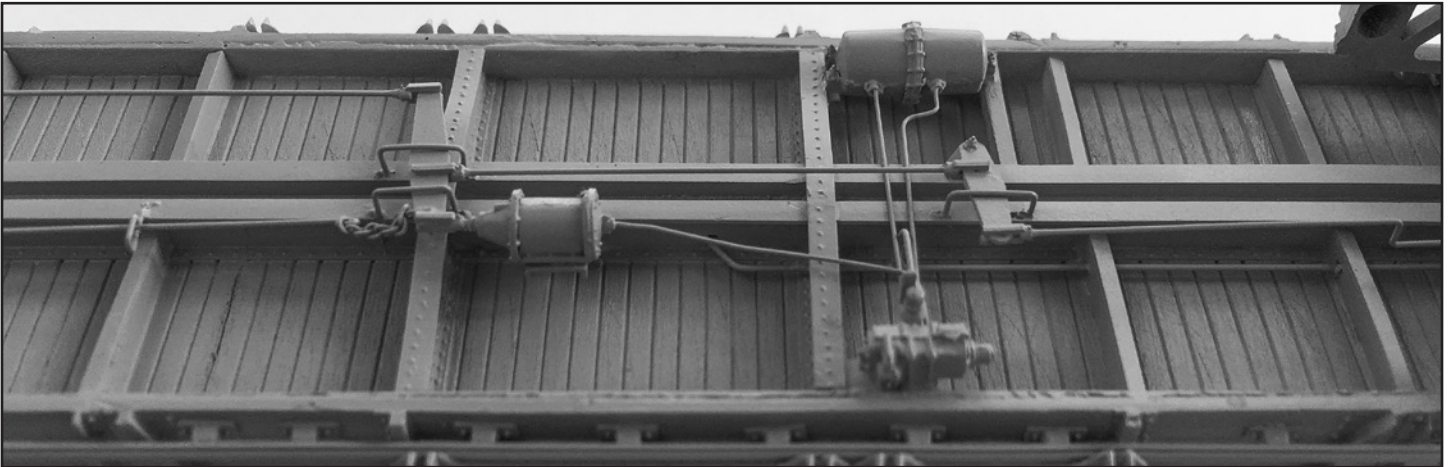
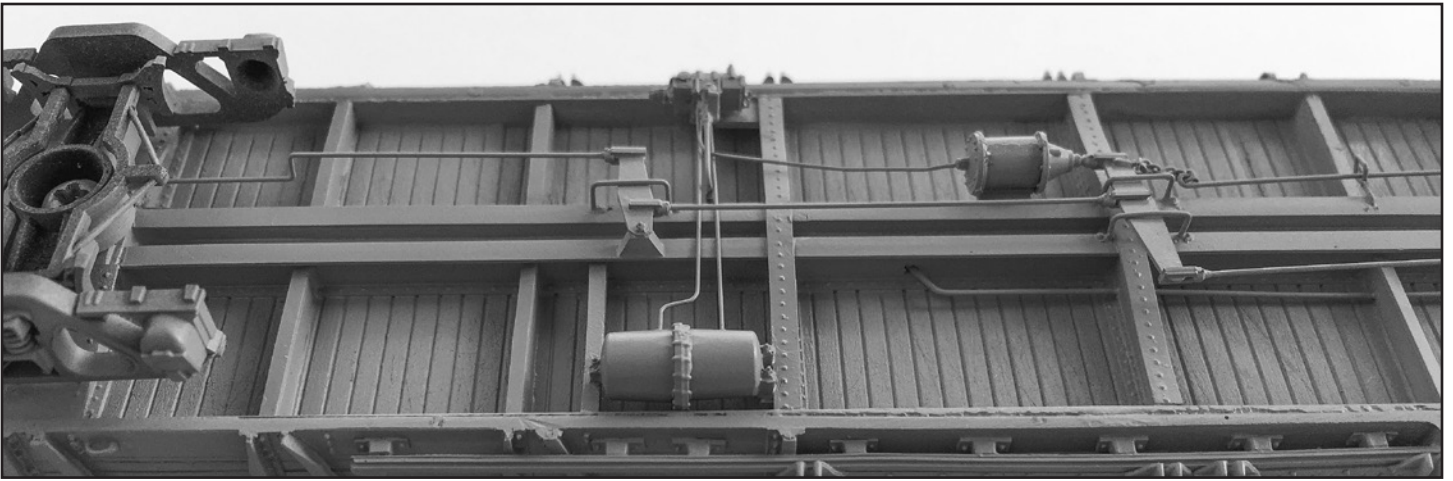
◇ Add the lower door tracks. Carefully place the tracks and begin gluing under the doors, using ACC. Add door track supports (ten for the 1-½ door car and six for the single door car) between the door tracks and side sills. Secure with ACC. Add door stops to end(s) of door tracks. These are triangular shaped parts on resin strips. Trim away from the strip and add using ACC. Add upper right door stop to both versions of the kit and the left door stop to the 1-½ door cars. Add door handles fashioned from 0.012" wire to the main doors, between the mounting bolt heads on the door. No. 78 holes must be drilled to accept the wire. Construction is complete.

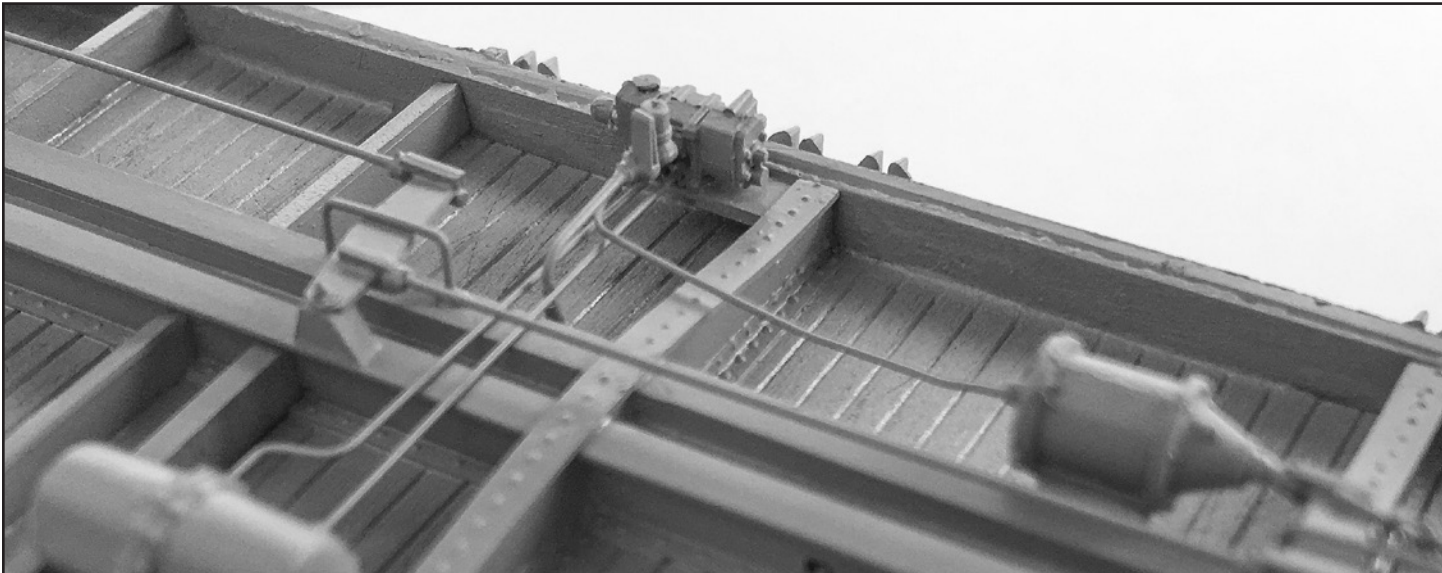
◇ Before painting the model, we recommend lightly sandblasting all metal (grabs) and engineering plastic surfaces (truck sideframes) to ensure that the paint will not chip or flake. This should be followed by a washing using liquid dishwashing detergent and a soft toothbrush. Rinse thoroughly and allow to dry completely. Prime the model with your choice of primer followed by a coat of oxide red with a very slight orange tint. We used tru-color Rust (TCP-76). The trucks are black. Add a gloss coat to aid in decal adhesion if using the flat/matte paints.

◇ 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!









**RRANN
ARBOR**

A. A. 74027
CAPY 80000
LOUNT 31600
LT WT 44000

A. A. 41002
CAPY 80000
LOUNT 31600
LT WT 45 000

ANN ARBOR
ANN ARBOR
41002
74027

01123456789
01123456789

AUT OMO B ILE

0123456789
0123456789

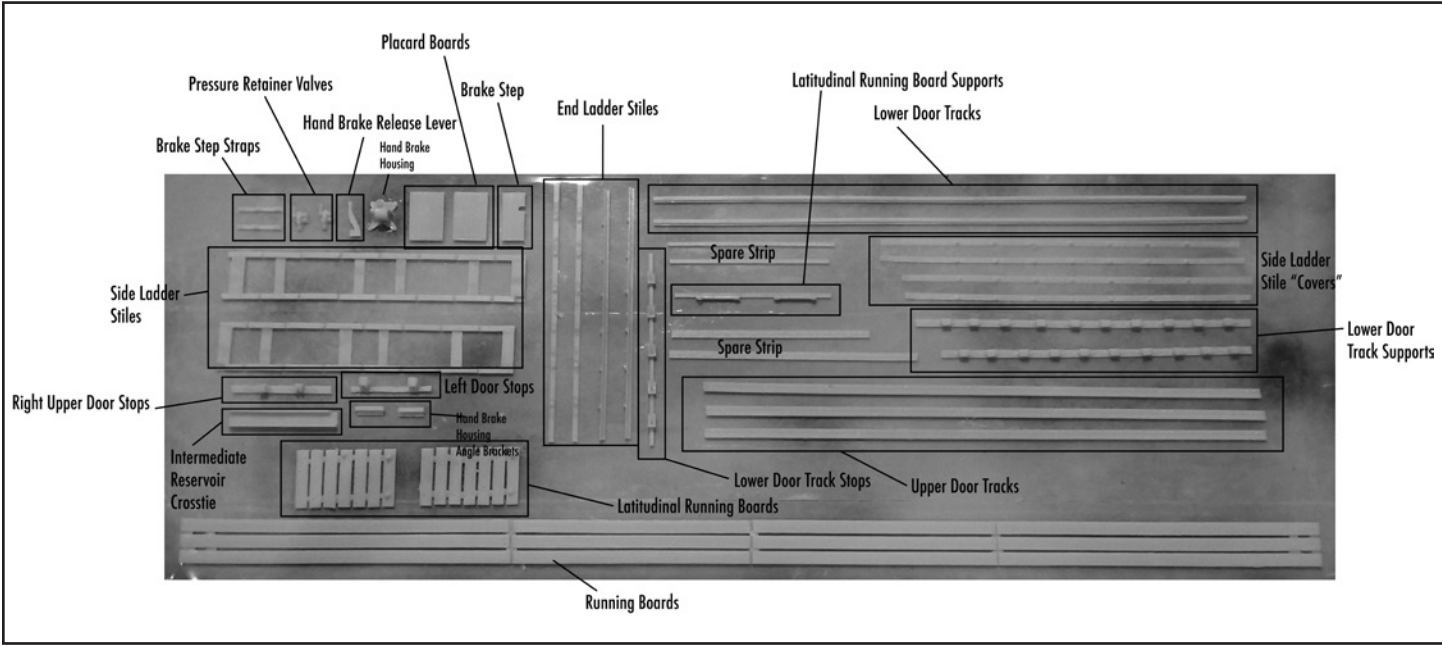
BUILT 5-24

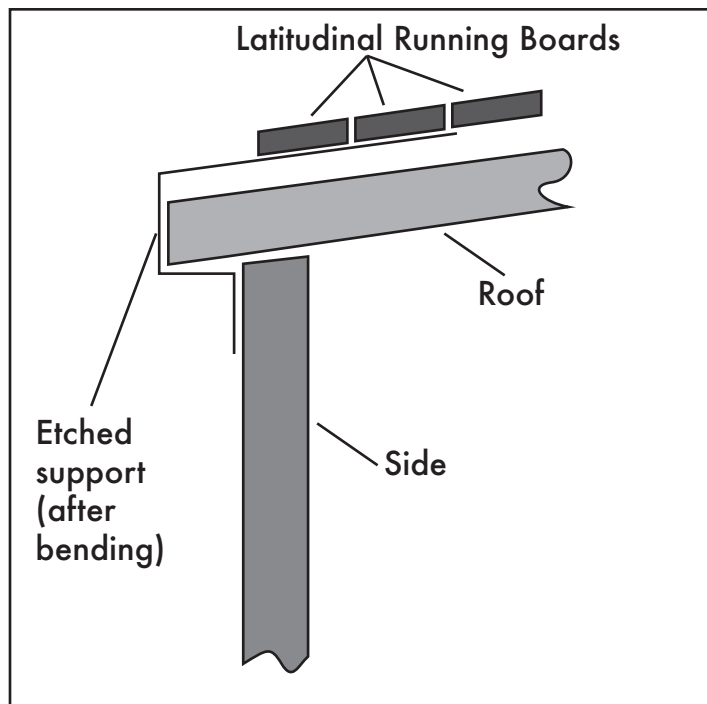
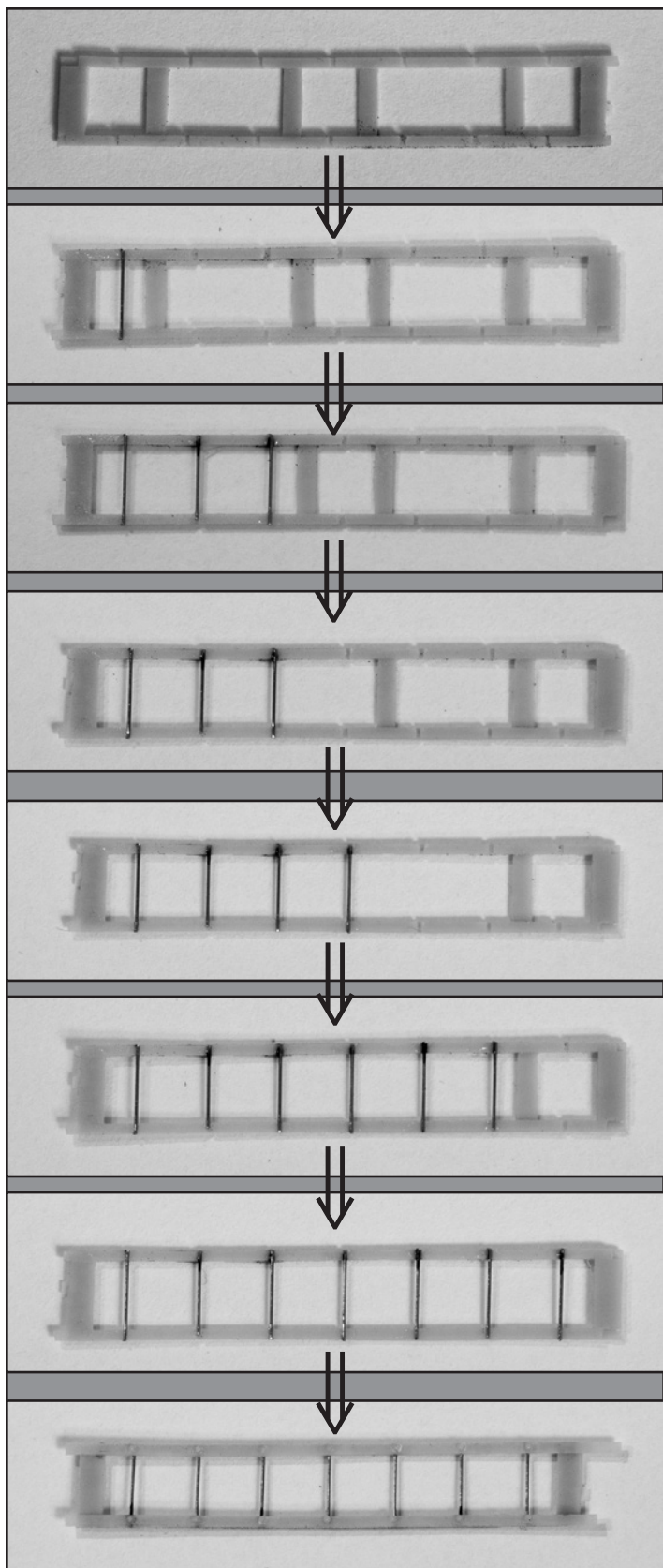
Reporting marks and capacity data

End reporting marks

Paint stencils

Reweigh, repack, and brake test stencils





Thank you to the late H. Arnt Gerritsen for providing his original drawings of these cars, without which this project would not have been possible, to Rob Adams for prototype information, and to Al Hoffman for encouragement. For more information about these cars, consult *Prototype Railroad Modeling, Volume Two* from Speedwitch Media.