



S.P.S 13087, Arnold Menke collection courtesy Robert Heningner.

Road	# Series	Quantity Built	(Month) Year Built	Door Type	Brake Style
GN	11375-11624	250	6-48	Youngstown 4-6-6 Improved	Universal
GN	11625-11874	250	6-48	Superior 7 panel door with narrow top panel	Universal
GN	18000-18499	500	6-49	Superior 7 panel door with narrow top panel	Universal
GN	18500-19499	1000	8-49	Youngstown 4-6-6 Improved	Superior Ajax Universal
SPS	13000-13499	500	7-49	Youngstown 4-6-6 Improved	Ajax Superior
GN	19500-20499	1000	11-51	Youngstown 4-6-6 Improved	Miner Universal

History

Between July 1948 & November 1951 the Great Northern constructed 3500, 40' Boxcars with orders for both GN and the Spokane, Portland & Seattle (SP&S); Constructed at GN's St Cloud shops on underframes built at GN Superior Shops. The cars featured 12 panel sides, 10' Interior Height, welded underframes, and used a unique version of the Improved Dreadnought end. The end had 7 major ribs along with a small straight rib at the top. The top most major rib was truncated and was flat along the bottom edge. The top and bottom stampings of the end were welded rather than riveted together. The roofs were of the diagonal panel type.

The GN cars used both Superior 7 panel doors with a narrow top panel and Improved Youngstown doors with a 4-6-6 pattern as did the SPS Cars.

All of the Cars were painted GN **Boxcar Red** and used Great Northern's standard font of the time for the stencilling. Thus SPS cars were lettered using GN fonts, including within the herald. When repainted the SPS cars would revert back to SPS standard fonts for the stencilling. The kits include decals for as built as well as GN Repaints. SPS repaint decals are available from Microscale.

Three parts lists are included in the instructions. *Parts Included in This Kit* needs no explanation. *Parts Sourced by the Modeller* are parts required to build the model.

The level of detail you choose for your model will affect the construction time. A model built with the parts included with the Intermountain kit will yield a fine model, but substituting from the third list of *Suggested Optional*

Parts will yield a more accurate car. Of course, the savvy model builder might find ways to enhance their model beyond what's outlined in these instructions, and we'd love to see your work.

Parts Included in This Kit

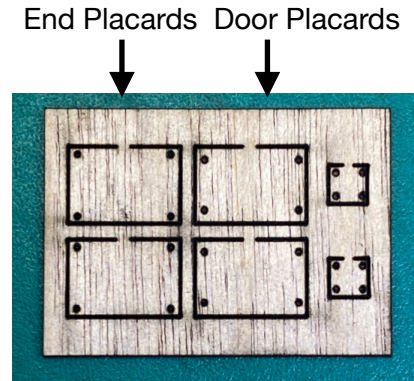
- Resin Ends
- Laser Cut Plywood Placard Boards and Route Card
- Holder
- Slack Adjuster
- Decals

Parts Sourced by the Modeller

- InterMountain 40' 12 Panel Boxcar (41099) 10' IH
- Southwest Scale Model 4-6-6 Youngstown Doors (# 612) or (#671) 7 panel Superior doors narrow top panel
- Or Superior Doors
- Couplers
- Paint
- 0.010" x 0.080" styrene strip

Suggested Optional Parts

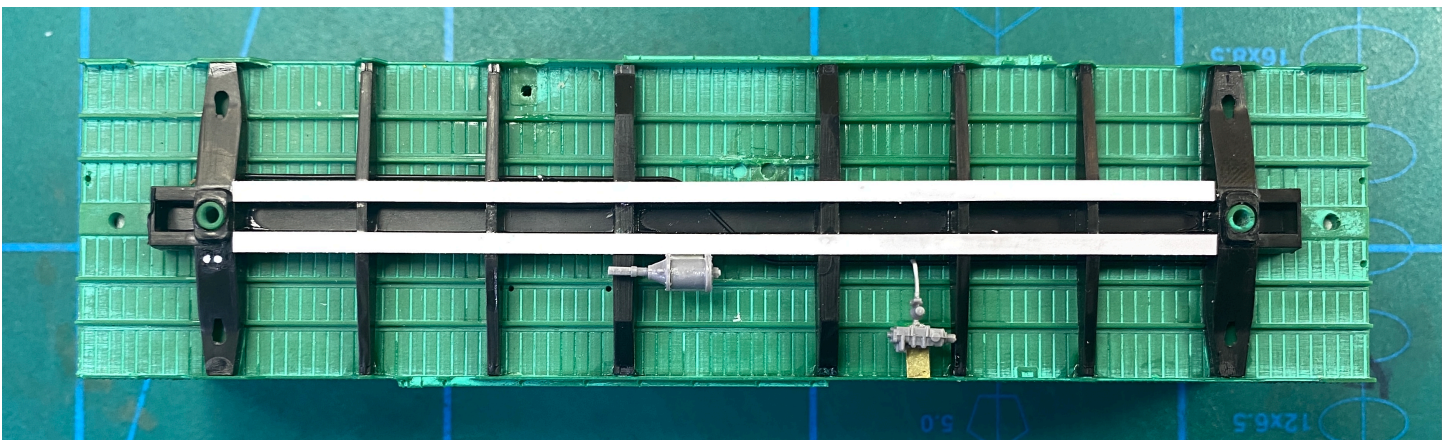
- AB brake set
- Phosphor bronze wire (0.008", 0.010", 0.012", 0.015")
- Tichy Turn buckles
- Tangent 50 ton ASF A3 Ride control trucks
- Yarmouth Model Works Eye bolts, brake levers
- YMW 16" Spacing 8 rung Ladders & 18" Rungs
- Plano Apex Etched Running Board
- Kadee Bracket Grabs



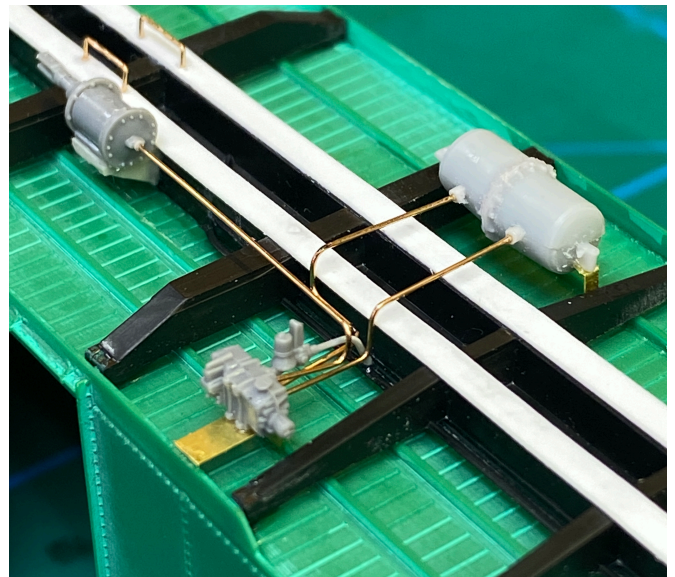
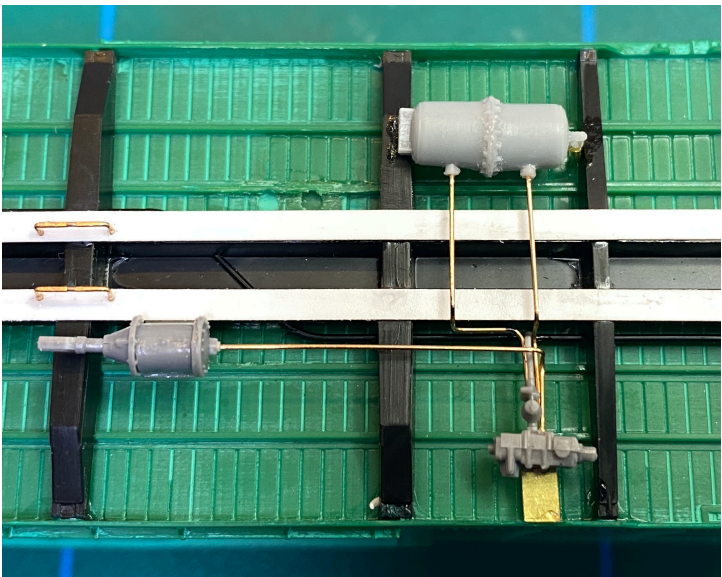
Construction

Start off by cleaning the resin parts of any remaining mold release. Cleaning with 'Shout', orange type degreaser or dish soap and water will all give satisfactory results. Remove flash from the resin parts by sanding on a flat surface such as plate glass or a bench top. 200-grit sandpaper works well for this. Take your time and make sure to sand the parts to an even thickness. Rotate the part as you go to ensure you don't sand any one area more than the rest of the part. If the castings have any small pin holes, they can be filled with auto body glazing compound or Squadron filler for plastic models.

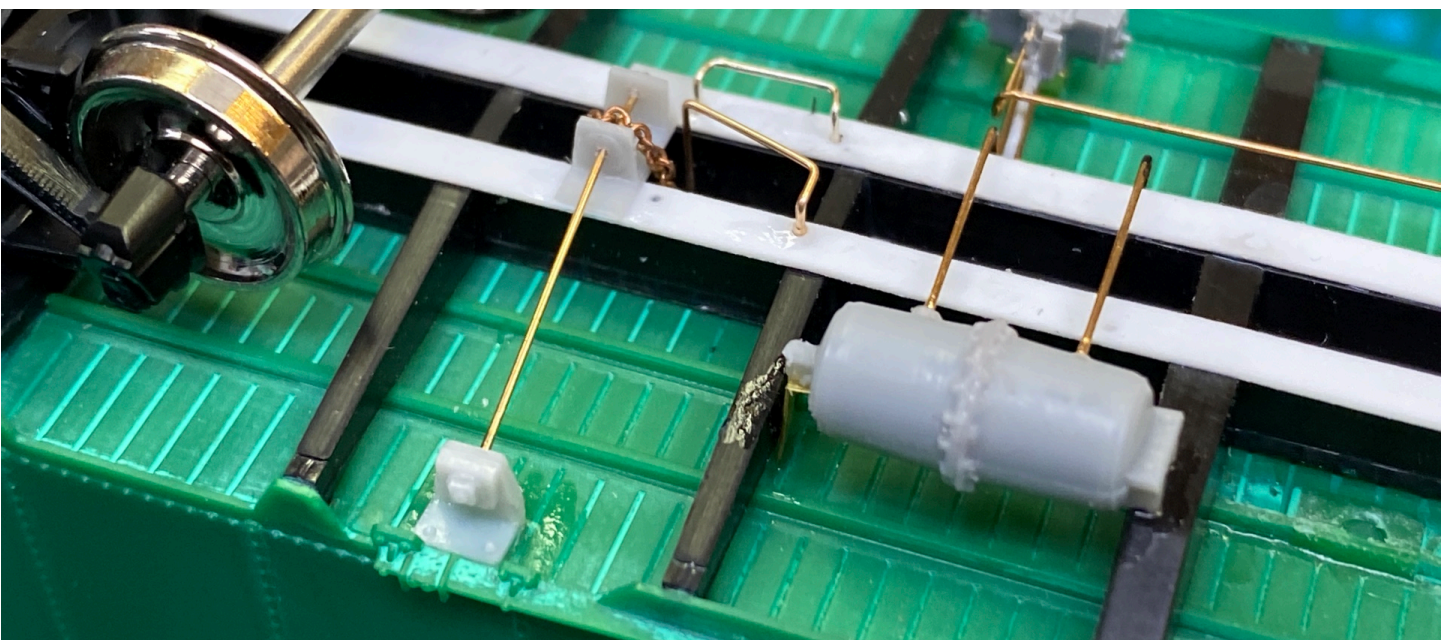
Next, add weights to your car and make sure the glue is dry before proceeding. Remove the cast on brake cylinder and AB valve mounting lugs. Install the kit under-frame. The under-frame tends to run a bit long compared to the body casting - a better fit can be made by using a round file to open up the king pin holes in the bolsters towards the centre of the car. Glue the under-frame to the body shell. Add two strips of 0.010" x 0.080" styrene to the bottom of the centre sill. This simulates the lower flanges of the Z26 steel members which constitute the centre sill. Mount the Brake Cylinder and AB valve, using brass shim stock or styrene to make simple angles to represent the prototype brackets. Apply your favourite couplers and mount the trucks.



Next, install the reservoir between the cross bearer and inboard cross tie; across from the AB valve. Make a bracket from sheet brass or styrene to support one end of the reservoir, the other end should rest on the cross bearer. Plumb the brake components with 0.012" diameter phosphor bronze wire.

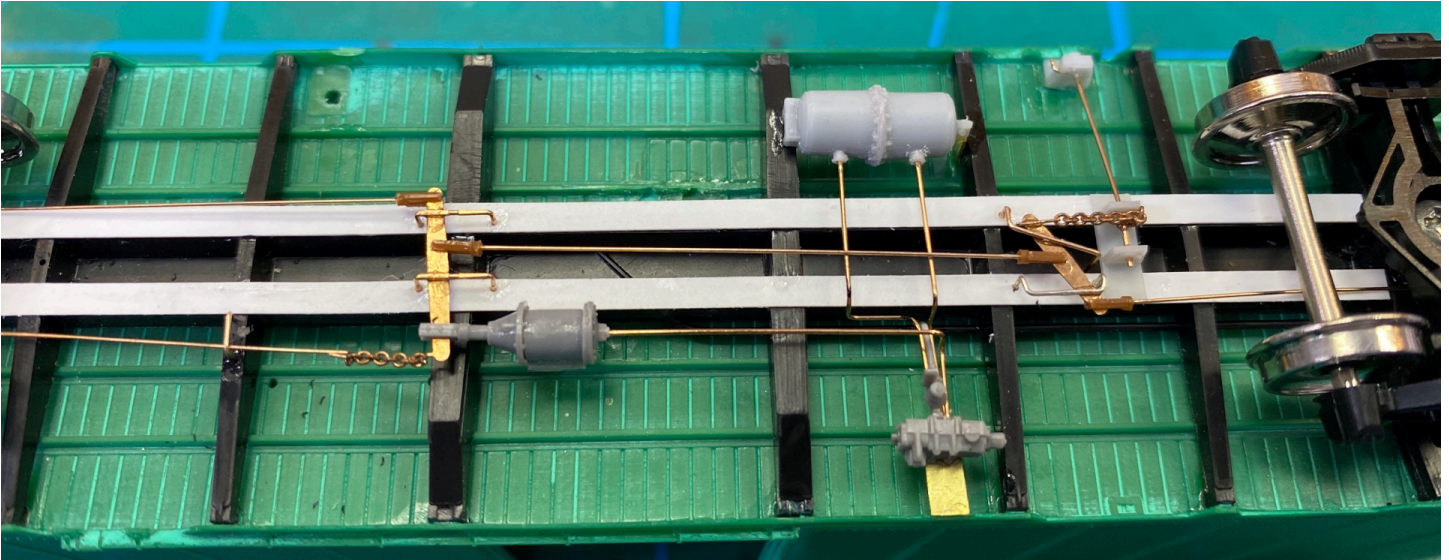


Using 18" standard grab irons fit brake lever hangers to the centre sill inline with the clevis on the brake cylinder. The hangers closest to the AB Valve can be simulated with a drop grab while the one across from it needs to be a custom bent piece of wire. It needs to be angled to provide clearance for the slack adjuster chain. Bend and mount as shown. Drill a 0.012" blind hole in the back of the slack adjuster ratchet plate. Next drill through the slack adjuster U bracket, going through both flanges completely. Insert a piece of 0.012" wire through one flange of the U bracket and slide on a piece of 40 link per inch chain. Insert the wire through the other flange of the U bracket. Glue the U bracket to the centre sill as shown. Glue the ratchet plate to the side sill of the car body. Insert the end of the 0.012" wire into the back of the ratchet plate. Trim the wire so that it just protrudes from the U bracket.

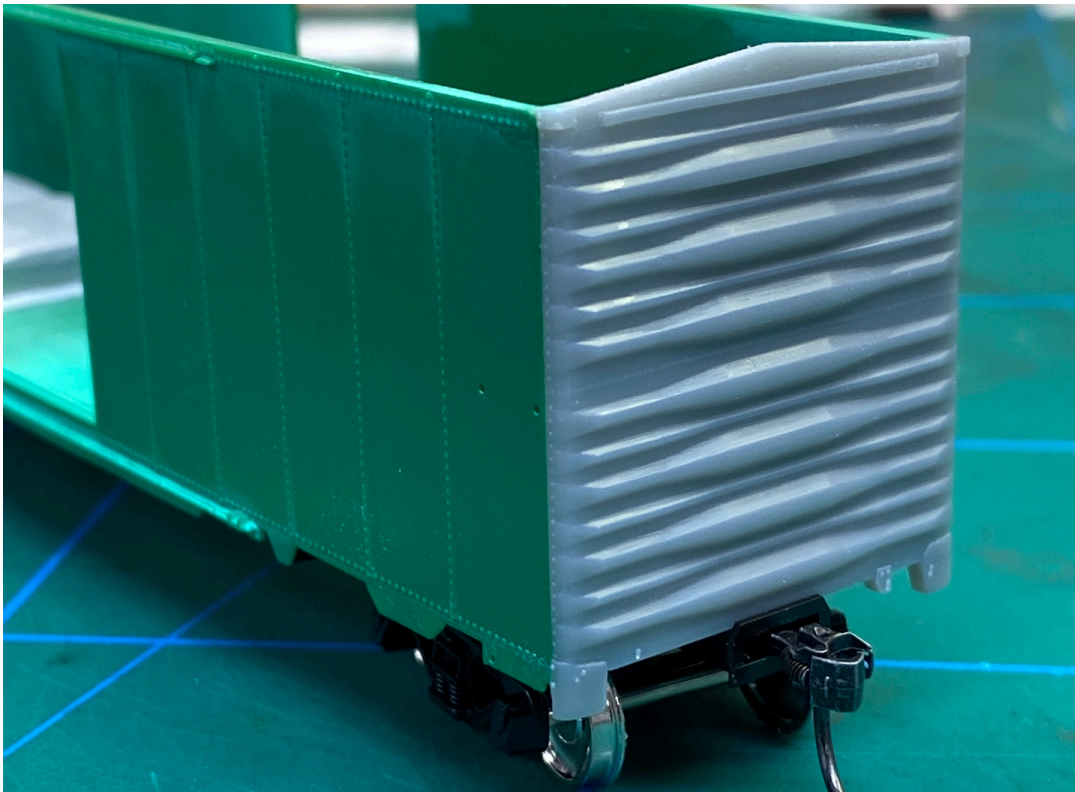


MK109 - GN & SPS 12 Panel Boxcars

Install brake levers; etched levers from Yarmouth Model works were used on the pilot model. Make brake rods from 0.010" wire and attach with Tichy turnbuckles with one end cut off. Glue the chain from the slack adjuster to the dead lever using a short piece of 0.008" wire formed into a "U" - leaving little to no sag. Using 0.010" wire construct the hand brake rod and attach it to the live lever using a short length of 40 links per inch chain. Form a hand brake rod hanger from 0.012" wire as shown and install on the inboard cross tie.



Install the ends. Start by clamping them onto the false ends using a soft faced clamp. When happy with the position, apply glue through the holes in the false end with CA. Drill a couple extra holes in the false end with only three holes, to provide a better bond.

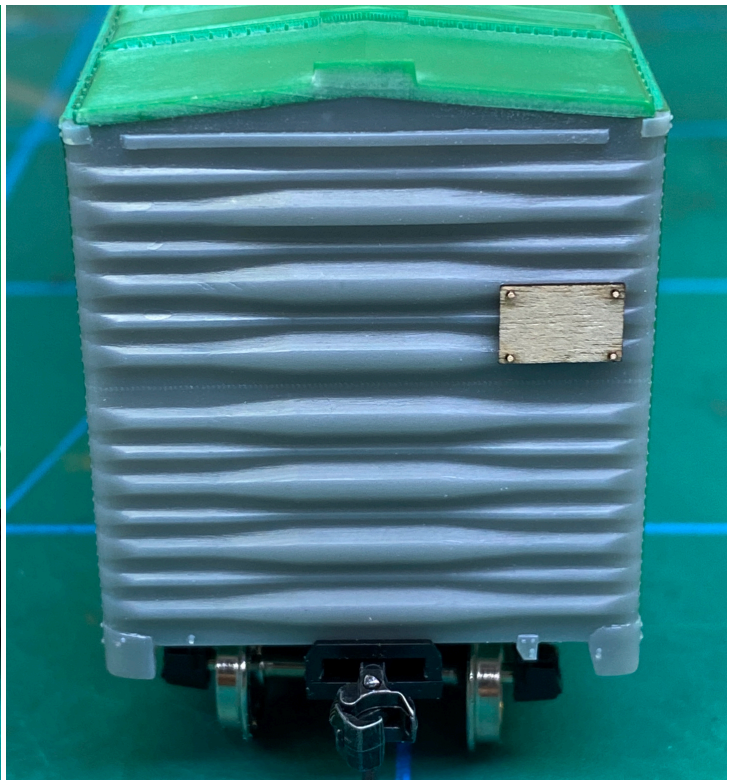
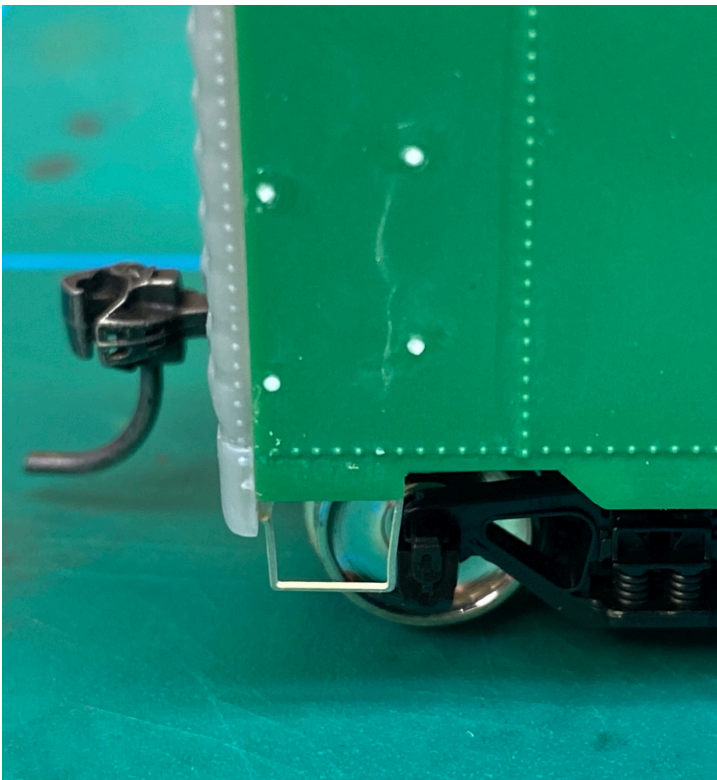
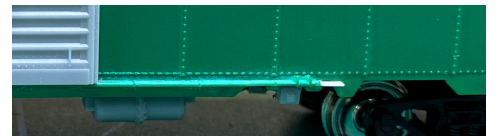


MK109 - GN & SPS 12 Panel Boxcars

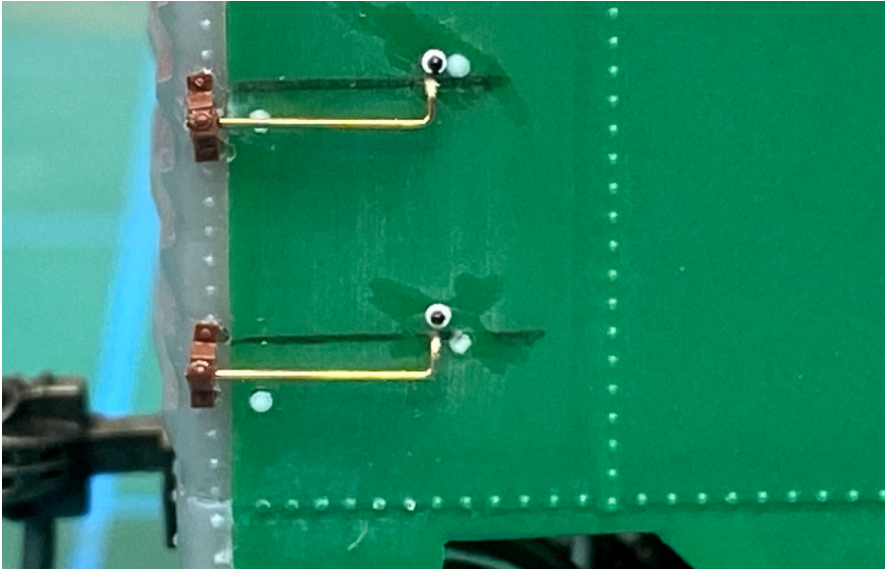
Glue the roof, doors, placard and route card holders in place using the photos for reference. The end placards should be drilled through so they can be pinned with wire to simulate the faster on the prototype. The door placards & route card holders have engraved recesses to simulate plow bolts. Add the sill steps also at this time.



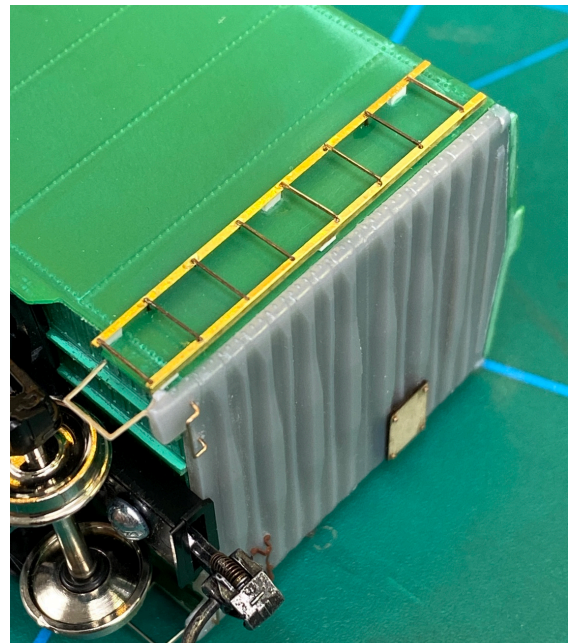
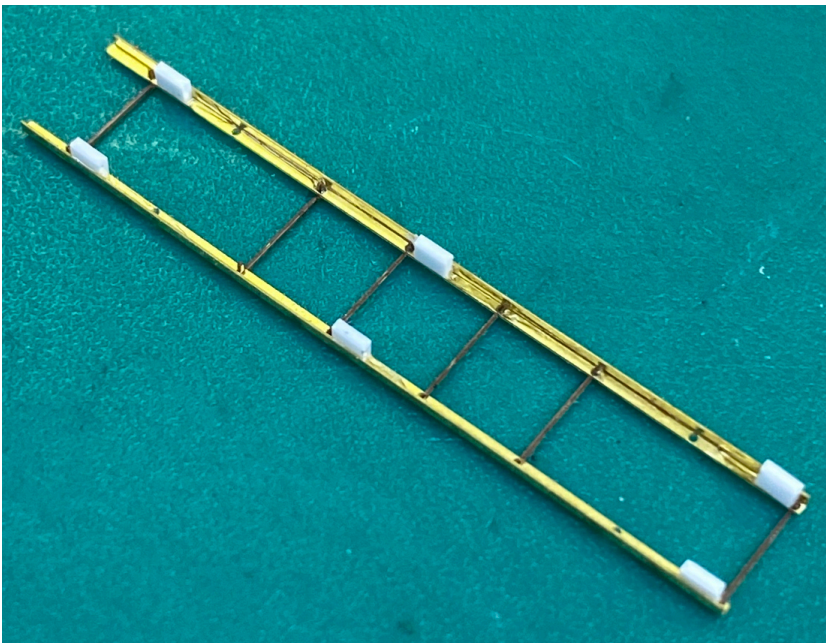
If using Youngstown doors, a short extension should be added to the door tracks using 0.010" x 0.04" styrene.



Plug the bracket grab holes in the car body with styrene rod. Trim off and sand flush. Install partial sections of Kadee bracket grabs along the resin ends. Next drill holes inline with the top fastener of the bracket grab, 20 scale inches in from the ends. Refer to the photos for location. Bend half drop grabs from 0.010" wire. Install one leg through the hole in the side panel and slide the other end behind the Kadee bracket grab. Secure with CA. Laying out the holes with a machinist divider gives consistent results. Place a Tichy standard 'nbw' above the drop grab on the side to simulate its attachment or use punched styrene disks and harvested rivets as was done on the pilot model. Install a single Kadee bracket grab on each end, along with two drop grabs at the bottom of the end. Again refer to photos for locations.

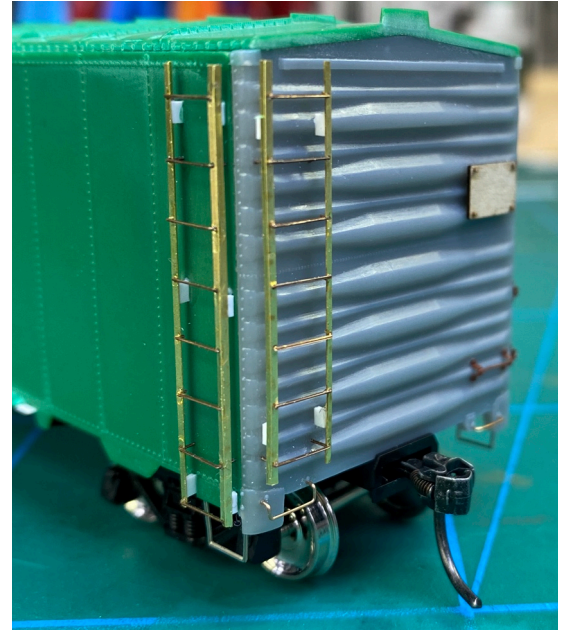
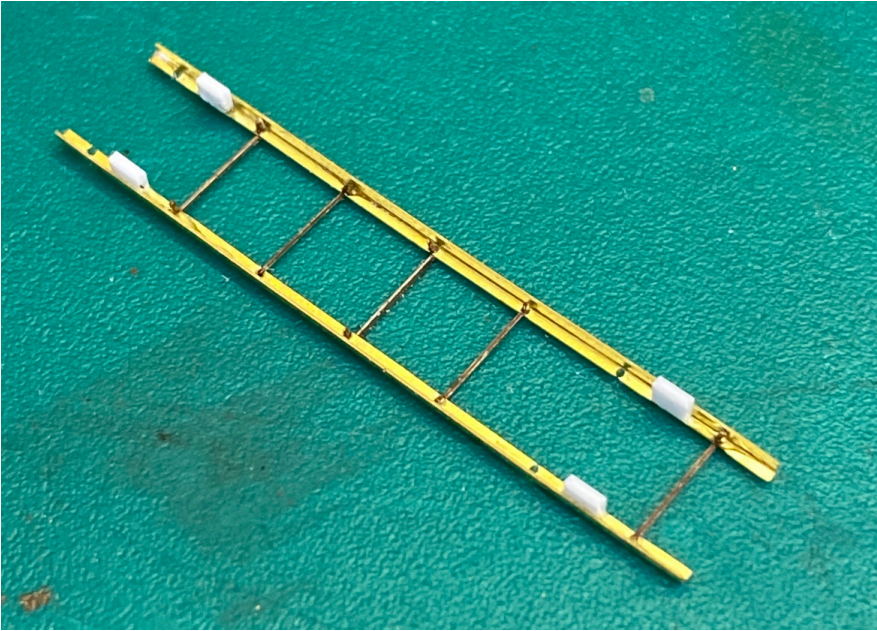


Install the kit ladders or plug the ladder mounting holes in preparation for YMW 16" spacing, 8 rung ladders. Construct the Side ladders using YMW 16" spacing 8 rung ladders and add small pieces of 0.020" x 0.040" styrene in three locations per style to facilitate mounting to the car side. Leave two rungs spots empty to facilitate installing the long length rungs, to pin the ladders to the car side. Glue the assemblies to the sides and pin with the long rungs.

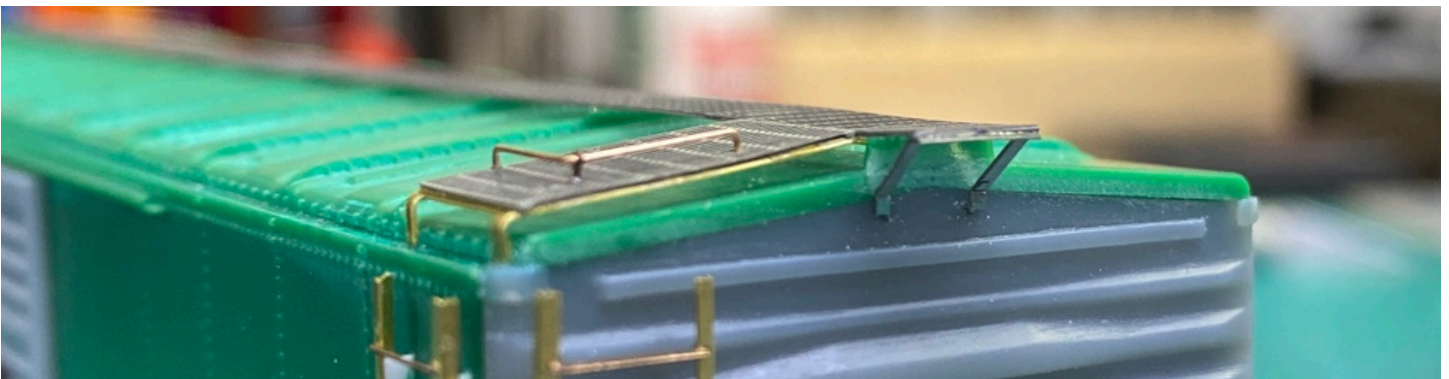
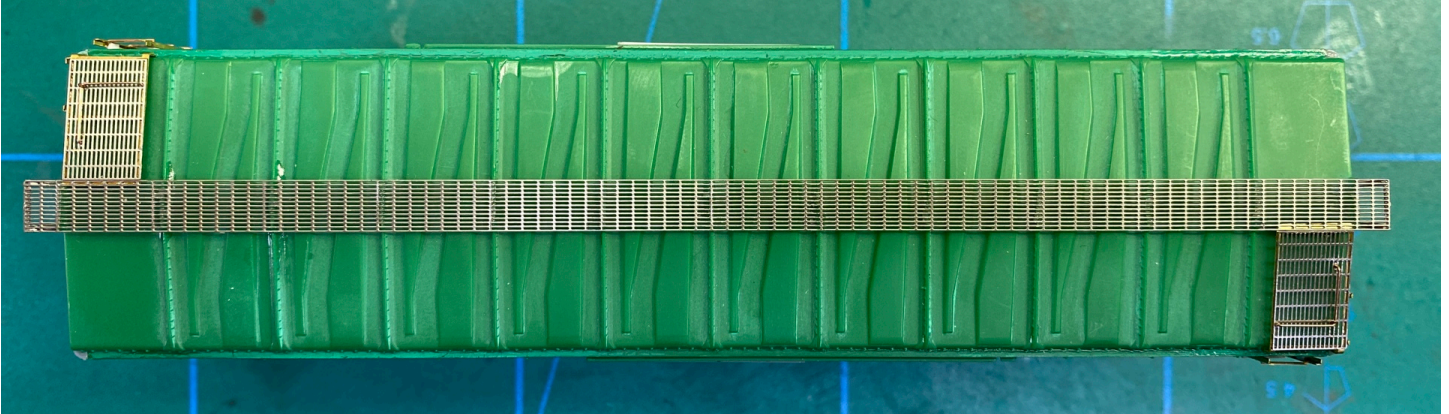


MK109 - GN & SPS 12 Panel Boxcars

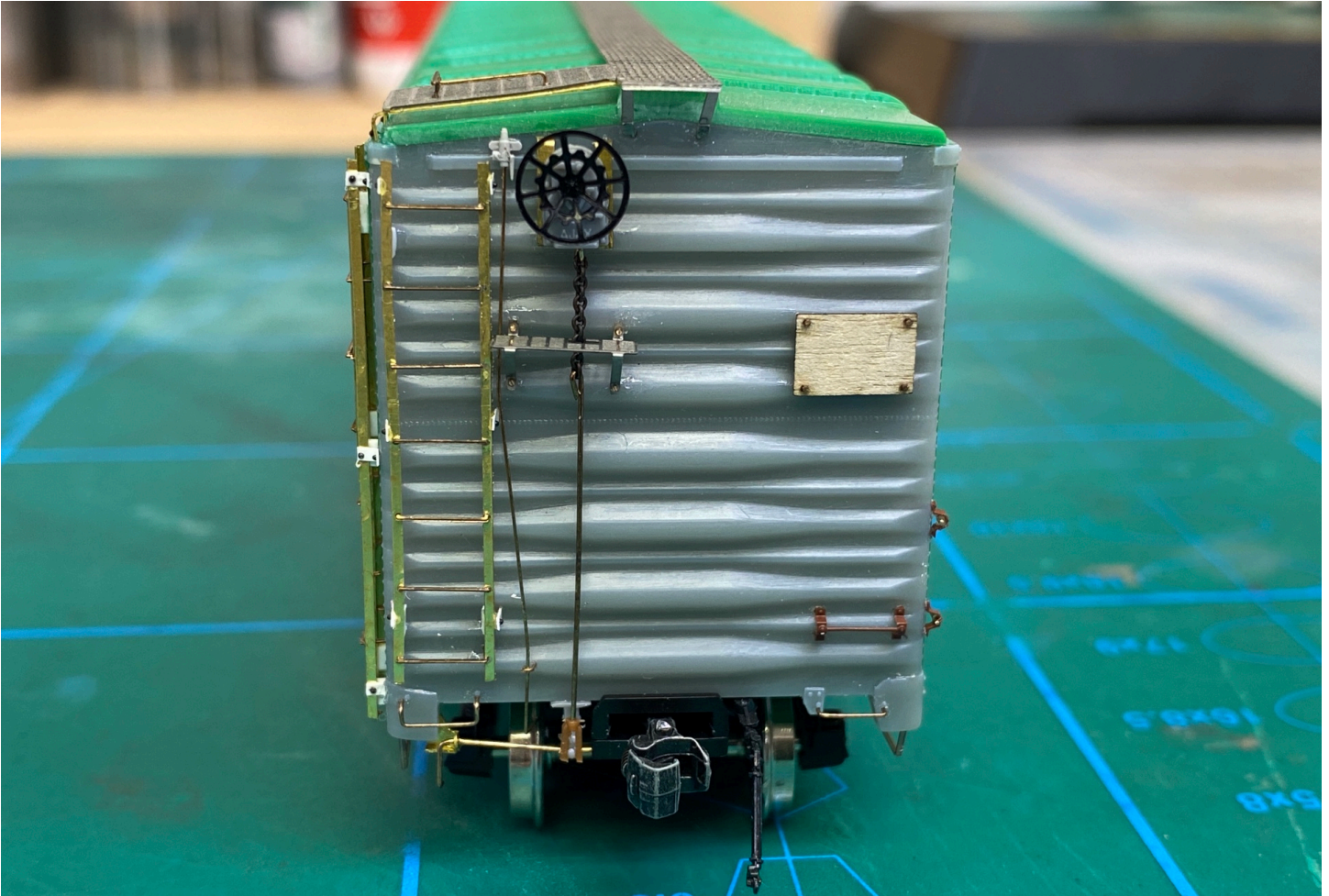
The end ladders are 7 rungs, so the styles need to be shortened. Cut the style at a point 0.080" below the second rung - from the end with the hole closest to the end. Again assemble the styles leaving two rungs off for installation of the long rungs for pinning. Use short lengths of 0.020" x 0.040" styrene strip as standoffs. Glue to the car end and pin with the long rungs.



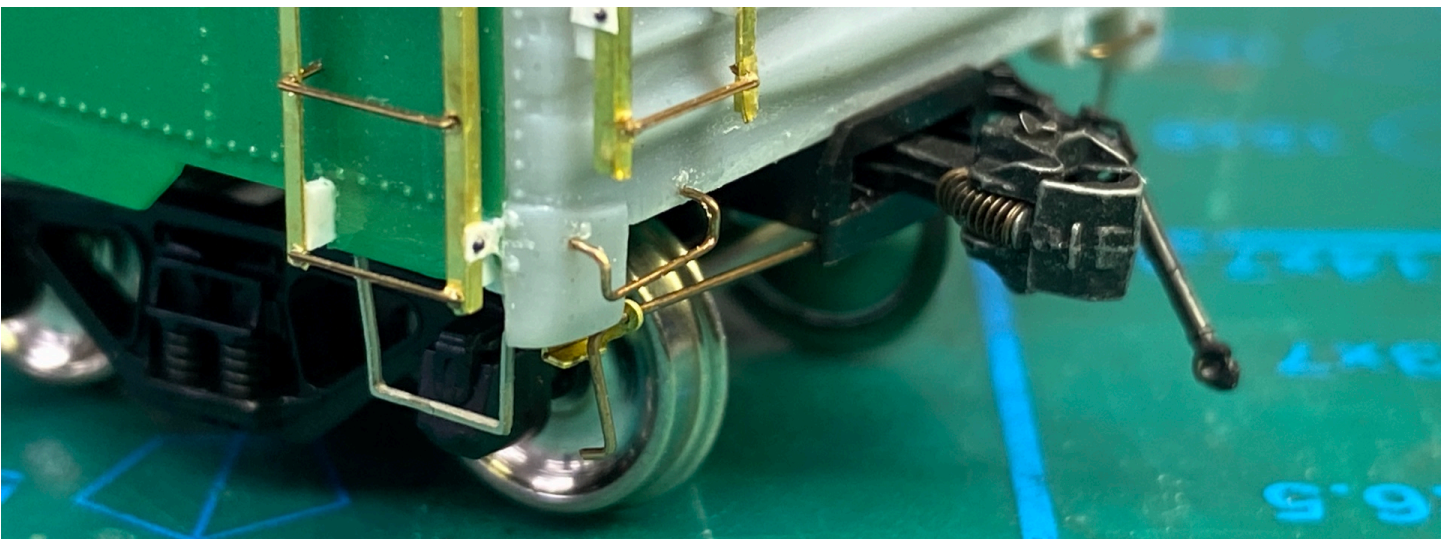
Install the running board and laterals. Plano model products Apex running Boards were used on the pilot models.



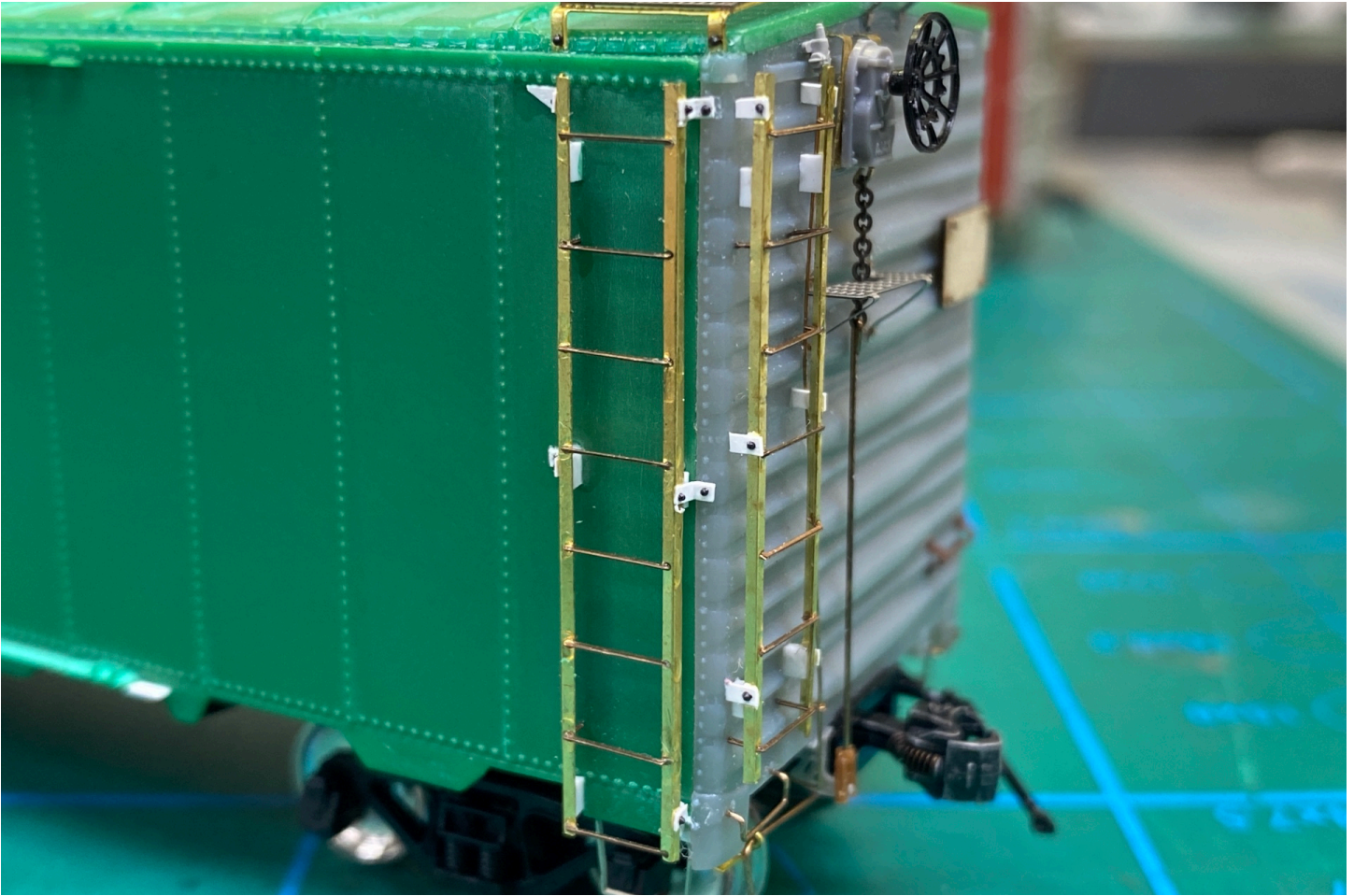
Install the brake components on the B end of the car. The cars came equipped with different brake appliances, refer to the table provided to pick the correct style based on the car number you wish to build.



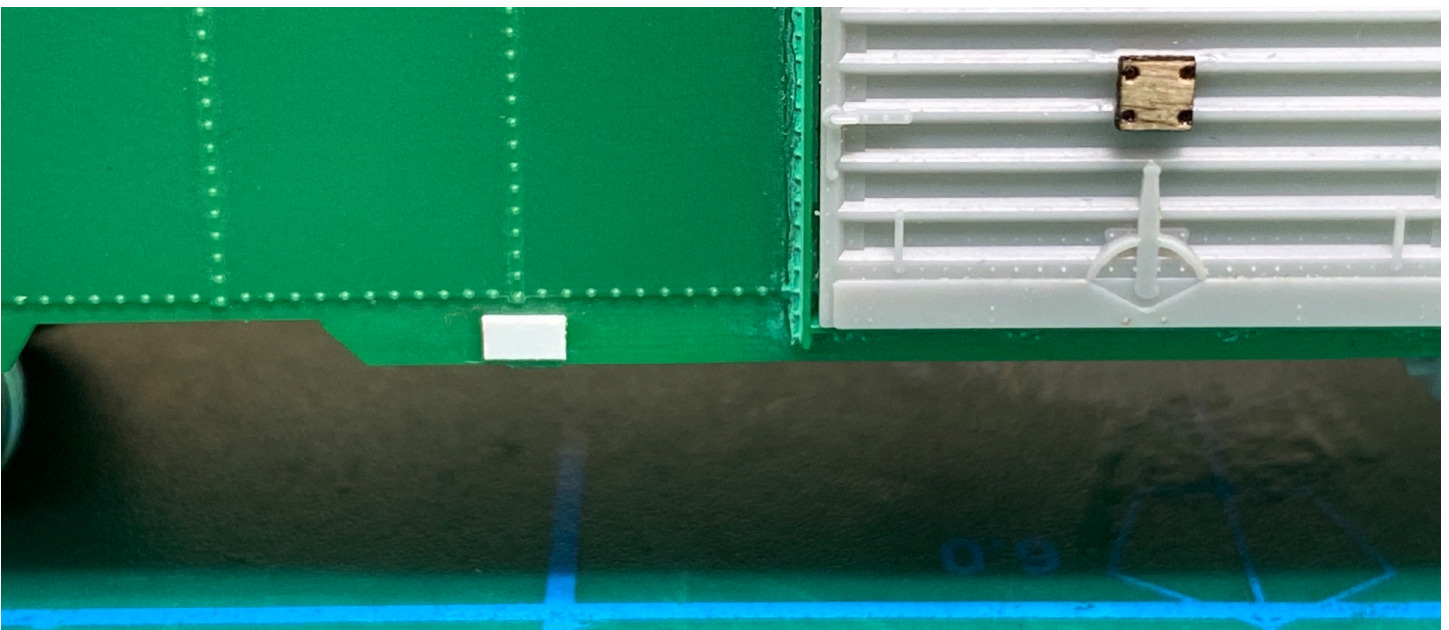
Install cut levers using Yarmouth Model Works cut lever brackets. Brake hoses should also be installed at this point.



Ladder mounts can be made from styrene and harvested rivets should you wish to add this detail.



Install a defect card holder made from a piece of 0.010" x 0.060" styrene about 0.100 long.



Painting and Finishing

Before painting be sure to clean the model with mild soap using a soft toothbrush. Let it dry completely. A primer coat will always yield better results in your paint finish. Take this opportunity to spot sand out any imperfections before applying the top coats of paint. Scalecoat Box Car Red #2 was used, and per prototype practice, the trucks were painted the body colour. If you use another type of paint, be sure to gloss coat before applying the decals.

Apply the decals using water or Microscale Microset. Allow them to dry completely before applying setting solution like Microscale Microsol. Just touch the decal edge with your brush and let capillary action pull the setting solution under the decal. Seal the decals with Tamiya XF-84, or your favourite clear flat.

Weather your car using your favourite mediums, and place it in service on your layout. Congratulations you're done!

Thank you for purchasing this Mini Kit. National Scale Car thanks, Robert Heninger and the SPS Historical Society for their support in bringing this kit to market.



GN 18918, Hedrich-Blessing Photo, courtesy Robert Heninger.



GN 10' 12 Panel Boxcars As-Built

Series	Qty	Built	AFE No.	Doors	Hand Brakes	Running Board	Side Grabs	Ends	Coupler Cut Bar	Trucks	L.H.	CU FT
10900-11099	200	1948	74885	Youngstown	Ajax	Gypsum	1 bracket	IDE-1	C-shaped	ASF	10' 0"	3715
11100-11199	100	1948	74885	Youngstown	Univ-W	Morton	1 bracket	IDE-1	C-shaped	ASF	10' 0"	3715
11200-11299	100	1948	74885	Superior	Ajax	Apex	1 bracket	IDE-1	C-shaped	ASF	10' 0"	3715
11300-11374	75	1948	74885	Superior	Univ-W	Apex	1 bracket	IDE-1	C-shaped	ASF	10' 0"	3715
11375-11524	150	1948	75800	Youngstown	Univ-W	Morton	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
11525-11624	100	1948	75800	Youngstown	Univ-W	Apex	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
11625-11674	50	1948	75800	Superior	Univ-W	Apex	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
11675-11874	200	1948	75800	Superior	Univ-W	Gypsum	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
18000-18199	200	1949	76804	Superior	Univ	Morton	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
18200-18499	300	1949	76804	Superior	Univ	Apex	1 bracket	IDE-2	Straight	ASF	10' 0"	3715
18500-18599	100	1949	77367	Youngstown	Superior	Gypsum	1 bracket	IDE-2	Straight	ASF	10' 2"	3775
18600-18799	200	1949	77367	Youngstown	Ajax	Gypsum	1 bracket	IDE-2	Straight	ASF	10' 2"	3775
18800-18999	200	1949	77367	Youngstown	Ajax	Apex	1 bracket	IDE-2	Straight	ASF	10' 2"	3775
19000-19099	100	1949	77367	Youngstown	Univ	Apex	1 bracket	IDE-2	Straight	ASF	10' 2"	3775
19100-19499	400	1949	77367	Youngstown	Univ	Morton	1 bracket	IDE-2	Straight	ASF	10' 2"	3775
19500-19999	500	1951	80382	Youngstown	Univ	Apex	2 brackets	IDE-2	Straight	ASF	10' 2"	3775
20000-20249	250	1951	80382	Youngstown	Univ	Kerrigan	2 brackets	IDE-2	Straight	ASF	10' 2"	3775
20250-20499	250	1951	80382	Youngstown	Miner	Kerrigan	2 brackets	IDE-2	Straight	National	10' 2"	3775
Hand Brakes		Miner										
		Superior										
		Univ-W				Universal XL power unit W-2000 with M-1704 malleable iron hand wheel						
		Univ				Universal XL power unit WX-2000 with M-1704 stamped-steel hand wheel						
		Ajax				Ajax vertical-wheel power hand brakes						
Side Grabs		1 bracket										
		2 bracket										
Ends		IDE-1				No small rib on top and notch in top major rib where brake gear mounts						
		IDE-2				Top major rib has a flattened bottom edge						
Coupler Cut Bar		C-shaped				"Handle" bends back towards end						
		Straight				"Handle" is straight						
Trucks		ASF				ASF A-3 Ride Control Trucks						
		National										

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