



Southern Ry. 40'6" Wood Rack (1951 rebuild – Block)

NOTE

This HO scale kit was designed by Smoky Mountain Model Works, Inc. for WrightTRAK Railroad Models, LLC, using 3D CAD/Solid Modeling and Rapid Prototyping technology. Castings were produced using industrial grade, tinted polyurethane resin. Drawings and photos used to generate the 3D CAD files were supplied by the Southern Railway Historical Association, Inc. (www.srha.net).

INTRODUCTION

This kit contains cast polyurethane parts to speed assembly and is considered an entry-level “craftsman kit”. Only patience and basic hobby tools are needed to produce a top quality finished product. Tools required to complete this kit include a flat working surface, assorted small files, a hobby knife with #11 blade, miscellaneous drill bits, fast-set CA glue, wire forming pliers, and fine-point tweezers.

WARRANTY: This kit was manufactured by Smoky Mountain Model Works, Inc., 35 Springwood Drive, Asheville, NC 28805, Phone (828) 777-5619, Email jimking3@charter.net. If there are any manufacturing defects in the castings of this kit, please bring them to the attention of Jim King, owner Smoky Mountain Models Works, Inc., regarding replacement of any such parts. Other included parts can be brought to the attention of WrightTRAK Railroad Models, LLC, via the contact information on this sheet.

LIABILITY: SMMW will not be held liable for personal injury or health problems, short term or long term, resulting from the use and/or misuse of tools, adhesives, material, castings, paints or any other product(s) used to construct this kit. This kit is recommended for builders over age 15.

WARNING: This kit contains polyurethane castings. Although non-toxic in its cured state, dust created during filing and sanding may cause temporary respiratory problems if air circulation or ventilation is not provided. Be sure to work in a well-ventilated area. Wear a dust mask or respirator and safety glasses for maximum protection. Wash hands when finished, especially before eating.

COMMENTS ON THE PROTOTYPE

Over the years, Southern Railway rostered many thousands of pulpwood racks, most built from worn out gondolas or boxcars, starting as early as the late 1930s. The subject of this kit is a group of 4,136 cars rebuilt from DD, DS wood boxcars in the 148000-series by Spencer Shops from 1951 to at least 1953. These cars were unique from others because of the 4/4 “reverse Dreadnaught” rib patterns.

As built, the cars wore the standard black paint with white stenciling. After 1957, the block lettering scheme replaced the Roman lettering but photos indicate that the majority of cars still retained the Roman scheme into the late 1960s. A few cars had Barber Stabilized friction bearing trucks applied but the rest retained the original Scullin trucks.

Official Railway Equipment Registers from 1952 thru 1973 and Southern’s 1973 Freight Car Diagram book were used to create the following life history of the cars. Modelers can use this chart when decaling cars to fit their era.

ORER	126000	250100	301100	326100
Date	129999+	250399	301299	326199
1/52	260	--	--	--
1/53	810	100	52	63
1/57	3536	299	199	100
10/57	3524	298	198	99
1/59	3518	298	197	99
4/61	3481	296	196	98
7/64	3223	286	184	95
4/65	3167	283	183	94
10/66	3119	282	182	91
1/67	3102	279	181	91
4/68	3047	277	180	91
10/69	2972	267	175	88
4/70	2835	250	158	81
7/70	2776	246	153	78
4/71	2582	231	138	76
7/71	2480	221	134	75

ORER	126000	250100	301100	326100
Date	129999	250399	301299	326199
7/71	2582	231	138	76
10/71	2416	210	125	67
4/72	1957	184	101	52
7/72	1773	169	93	44
10/72	1675	153	80	39
4/73	1445	136	65	30
7/73	1307	127	60	30
11/73	1255	121	56	23
10/74	1048	112	50	21
10/75	744	83	39	18
10/76	426	45	17	5
10/77	122	5	4	2
10/78	14	2	0	0
10/79	9	1	0	0
10/80	5	1	0	0
7/81	1	1*	0	0

(+) = Series started with 126000-126908 in 1/52, changed to 126000-129999 by 1/57, to 126000-129547 between 7/64 and 4/65, then finally to 126000-129999 between 10/68 and 1/69. (*) = last one of these cars was retired from this series between 1/83 and 5/83.

According to notes on page P2121 of the 1973 SR Freight Car Diagram book, these cars were built from the 148000-149999 boxcar series, which is not a large enough pool of candidates. Several hundred more of the boxcars were likely assigned to SR's subsidiaries in different series but still not enough to produce over 4000 wood racks. It is surmised that toward the end of the program, other boxcars were used, possibly with different ends. All cars in the four series noted in the above chart are listed as 36'6" interior length (between bulkheads) which is a key measurement when determining origin.

On that same page, a note pertaining to the enlarged number series between 4/68 and 10/69 states (in context) that cars in the three smaller series still in service were renumbered into the 126000-129999 series (details shown below) yet the ORER's continue to list these as separate series. A possible explanation is that the cars were *planned* to be renumbered but do to age and dwindling numbers were simply "left alone" until retirement.

New Series	Old Series	Breakdown by Year Built (from 148000-149999 boxcar series)					
		No. of Cars	Year Built	No. of Cars	Year Built	No. of Cars	Year Built
129548-129774	250100-250399	103	1922	111	1925	87	1929
129775-129924	301100-301299	152	1923	51	1926	547	1930
129925-129999	326100-326199	55	1924	614	1928	(Total of 1720)	

Thanks to information from Al Kresse and Tom Dixon, we have documentation showing that the C&O bought 30 of these cars in late 1962, shopped them at Raceland, KY by early 1963 and placed them in service soon after, numbered 81500-81529. These cars are available as a separate kit with unique instructions.

CONSTRUCTION

- **Step 1** (Fig. 1): Scrub all castings with a mild abrasive, like Comet or Soft Scrub, then wash thoroughly and let dry. Deflash the body along the deck/side sill corner, up the bulkhead and across the top. Deflash the underframe along the perimeter (save the lids and small parts for later). The bulk of the flash can be removed by scraping an X-Acto #11 blade along the edges. Straighten the brass weights as necessary and clean both sides with 220-grit sandpaper. Sand the recessed weight areas with 220-grit and wipe clean with isopropyl alcohol. Apply several thin beads of CA in the recess, then drop the weights in place centered in both directions.
- **Step 2** (Fig. 2): Underframe >> test-fit the underframe casting. File the width and cut length as necessary until it "drops in" without force. Note that, due to casting thickness variations, the gussets may require some trimming of the profile to fit below the side sill edge. Do so with fine jeweler's file and test fit the gusset "cap" to ensure when glued in place it is not below the side sill edge. After filing, trim short lengths of the cap "strip" to each of the (6) gussets, trim flush with the end of each gusset, then CA the underframe to the body.
- **Step 3** (Fig. 2): Main air line >> drill #61 holes thru the bolsters, crossbearers and into each centersill half as shown and install (2) sections of air line that meet in between the centersill halves. Note that the pipe tee is slid over the air line near the triple valve mounting post *before* gluing the air line in place. Trim each air line flush with the car's end.
- **Step 4** (Fig. 6): Brake parts >> deepen the brake cylinder and both reservoir holes with a #79 bit, then CA to the underframe.
- **Step 5** (Fig. 6): Brake rigging >> drill #79 mounting holes for the brake lever brackets using the dimpled hole locators along the centersill. Add brake rods and levers.

(Figs. 4a-4c): Form the brake lever supports using the grab iron forming fixture casting (supplied). Drill the jig hole near the center with a #78 bit and deflash the bottom edge of the half-hole at the edge. Form a 90° bend in wire with smooth-jawed pliers, insert this end into the full-diameter hole, gently form the corner with your fingers, remove from the fixture, finish that corner with the same pliers, then trim both legs to approximately 3/16" long.

- **Step 6** (Fig. 6): Secondary air lines >> form both air lines connecting the reservoir to the triple valve, then the line from the cylinder to the triple valve. CA all joints. Fig. 6 shows the completed underframe.
- **Step 7** (Figs. 3a-3b, 5 & 8): Grab irons, ladders & steps >> drill #79 holes at each dimple using a drill stand of some sort (Fig. 3a shows a foot-pedal-powered Dremel motor tool and simple vise to maintain vertical orientation). Due to the very small dimples and the likelihood of "leading off" if the bit is rotating as you engage the hole, it's recommended that the bit be stopped, then lower the bit to the dimple, turn on the drill motor with the foot pedal and drill into the body. Fig. 5 shows 6x6 spacers used to gauge each grab.

(Figs. 9-11): End grab irons >> Drilling the end grab iron holes should be done by hand; be sure to drill the bottom edge holes into the body at a slight upward angle, otherwise, you'll break thru bottom of the body before going too far.

You'll need to form the straight grabs using the supplied jig as described in Step (5). You will also have to form the drop type using the supplied jig and .012" brass wire as described in Step (5). Straight grabs are installed on the left side (2), upper right corner of each bulkhead (1 each), along the bottom of each end (2) and (1) on the right side of each end.

Trim the ladders to 5-rungs as shown in photos and attach (1) to each end using the alignment guides as gluing spots.

Steps (Figs. 8, 9-11) >> drill a #76 hole at the corner of the bulkhead side/end junction into the body, parallel to the side sill. Drill another hole vertically into the body under the bulkhead, slightly to the right of the leftmost upright. Modify the steps as shown in Fig. 8, noting there is a left- and right-hand version depending on which corner it's applied to. Apply CA to each leg and install.

- **Step 8** (Figs. 9-11): "B"-end details >> drill a #76 hole in the bottom of the brake gear housing, CA a ½" length of chain in the hole and CA the housing to the end. CA the brake wheel, small pad for the retainer valve and that valve. Create the brake platform from .015" styrene (provided), file or cut a slot to clear the brake staff and CA to the cast-on supports. Finish the platform with HO 1x3 styrene strips for the horizontal and angled supports.

Form the retainer valve air line using photos as reference. There are (2) small "nubs" cast onto the mounting pads for this line that can be drilled *carefully* to accept the wire but you may choose to use Detail Associate's HO lift rings instead. CA the wire in place.

Trim the chain length to slightly above the platform. Form a short 90° bend in a 1-1/2" length of wire, insert thru the brake platform slot attach the bent leg thru the bottom chain link. Attach a bell crank to the underside directly below the brake housing. Cut the brake staff slightly longer than needed to contact the top of the bell crank, bend another 90° at the end and CA into the top hole of the crank.

- **Step 9** (Figs. 9-11): Cut levers >> similar "nubs" are cast onto the cut lever bracket mounting pads. As noted above, these can be drill thru or removed and replaced with lift rings (shown on pilot model). If the latter, install both, then form the cut lever from wire.
- **Step 10** (Figs. 9-11): Couplers, trucks & roping loops >> install the supplied Kadee couplers. Drill a hole at the bolster dimple to accept the supplied #2-56 truck screw. Install the trucks, check coupler height and adjust with washers or by filing the bolster as needed. Drill a #46 hole thru the coupler lid, place lid on the pocket, drill a locator dimple, remove and drill the dimple with a drill bit.

Drill out the center of each roping loop (located along the side sill angle) and trim out the opening with an X-Acto blade. Note that the loops were relocated above the trucks in later years. Remove one or the other loops, depending on the era modeled. Rule of thumb: as-built to circa 1957 would use the loop on the side sill angle; after that, the one above each truck is appropriate.

- **Step 11** (Figs. 9-11): Air hoses >> the completed model shows Grandt Line air hoses installed with a pipe coupling as a connector between the air line and the angle cock. Any hose will fit, so you may choose to trim the air line back to clear another manufacturer's product.
- **Step 12** (prototype pix): Cars stenciled with the Roman font were painted black (but color slides have proven that cars shipped in the late 50s were painted brown and stenciled Roman); Block-font cars were traditional "Southern Freight Car Brown". The C&O cars were black. Note that as-built Roman-stenciled cars did not have the distinctive vertical white stripe on the inner face of each bulkhead or stenciling on each bulkhead side; this was added per Note A in 1954. Refer to the stenciling diagram notes to represent the era you want to model.

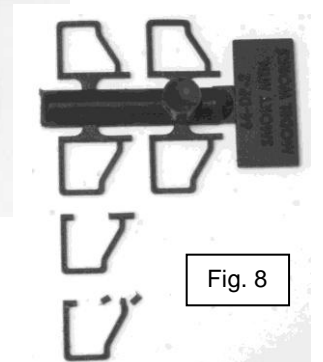
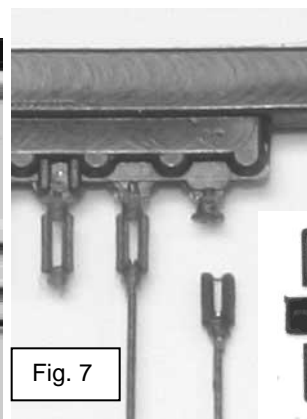
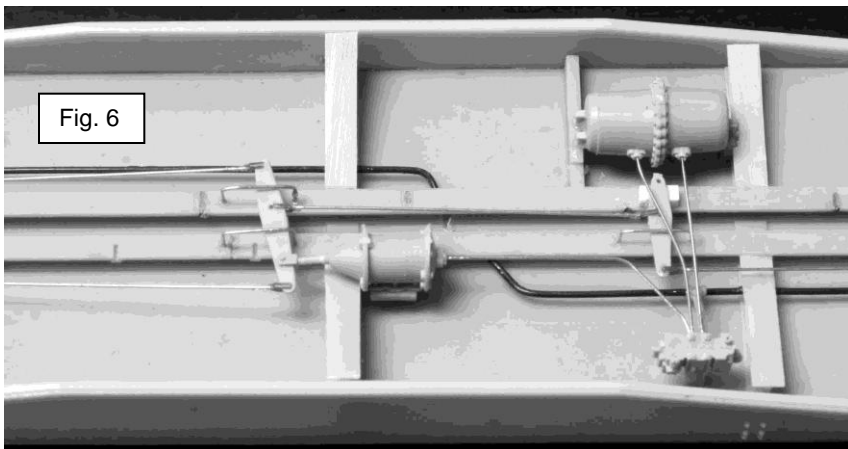
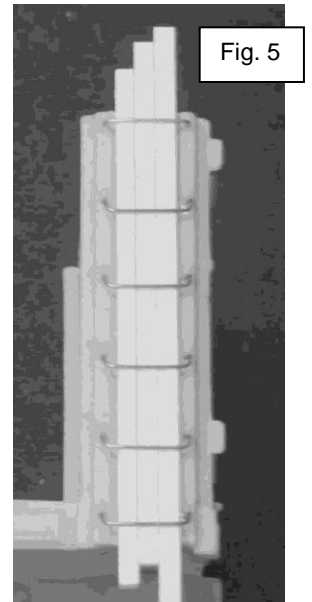
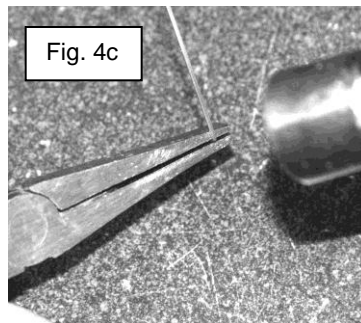
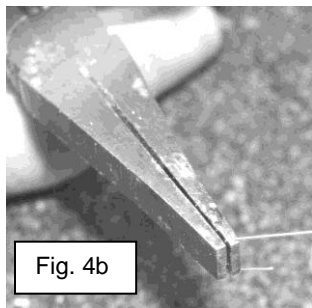
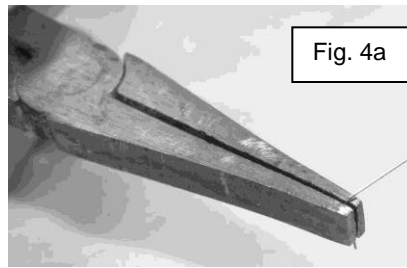
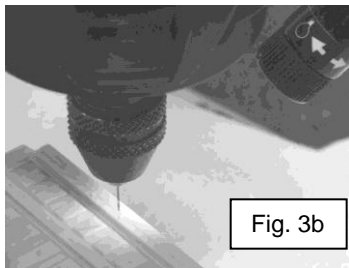
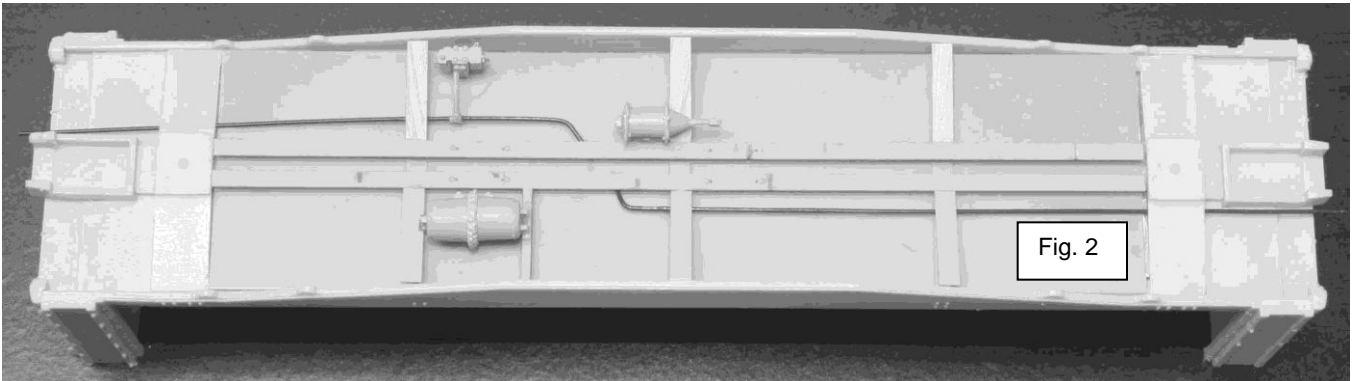
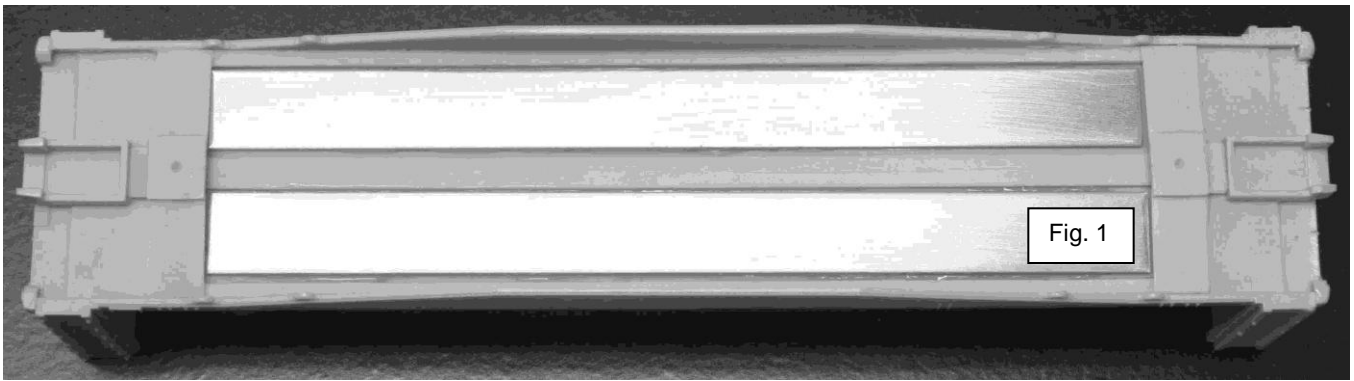
Suggestions for Applying Thin-Film Decals. These are some of the thinnest decals currently available and do require more care during application than thicker decals. ALPS decals will not stand up to rough handling. Avoid sliding metal objects across the characters and excessive flexing of the sheet. DO NOT use scissors to cut out decals.

Use a gloss overcoat on your model and allow to dry completely before applying decals. Use a fresh X-Acto® #11 blade to cut decals, angling the blade toward the center of the decal while cutting. This will taper the decal's edge and make it less visible. It is reported that the decal lettering can be smudged by resting the hand on the sheet while cutting. Use a sheet of waxed paper between your hand and the sheet if handling is necessary.

The decal text is hard to read due to the thin application of white film on a light background. Fold a paper towel four times to form a thick pad and dampen with tap water. Find the area of the decal sheet you want to cut (refer to the layout below), place that section on the dampened pad and press down until some of the moisture transfers thru the blue backing paper. As the paper absorbs water, it darkens, creating more contrast with the white text without soaking the film off the paper. Cut out the desired area and follow typical decal processing, outlined below.

Fill a shallow dish with water. Float the decal face up on the water's surface and place on a dry paper towel to absorb excess water. We use a Bob Harpe trick for decal setting solution. Fill a small bottle with 40% Walther's Solvaset®, 40% distilled water and 20% isopropyl alcohol (used to break the surface tension). While the decal is floating in a shallow dish of water, brush this mixture in the area to be decaled. It should lay smooth and not bead up. Slide the decal off the paper backing into the puddle of setting solution, slowly letting the decal push the excess solution ahead as it is positioned.

Move the decal into the final position using a toothpick or equally dull tool to avoid tearing. When mostly dry, poke any air bubbles with a pin or tip of a sharp blade and re-apply the 40/40/20 solution. Repeat this until all bubbles are removed. Lastly, brush on *full-strength* Solvaset® across the surface of the decal, then let dry thoroughly. Use water and a Q-tip to remove excess decal glue.



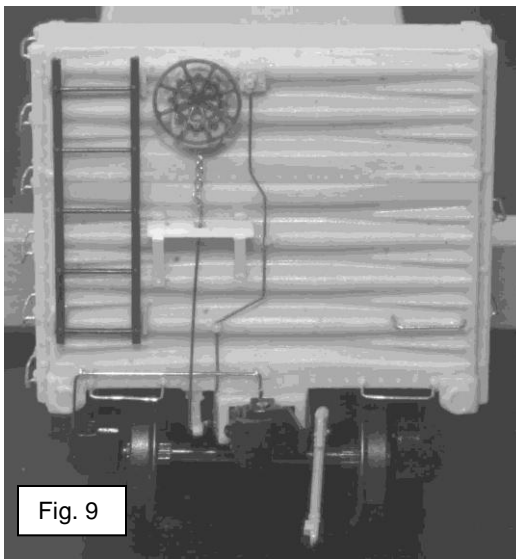


Fig. 9

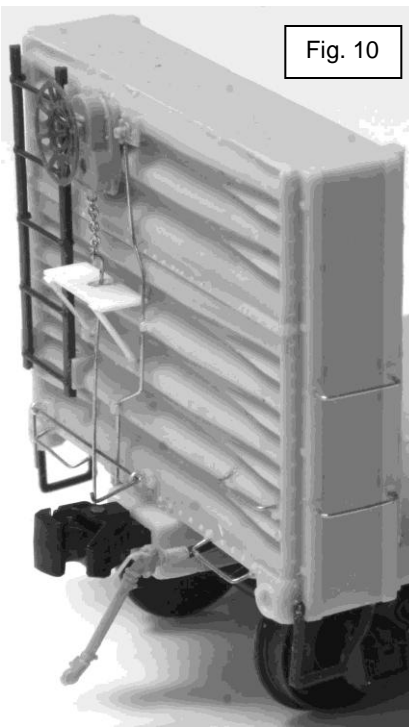


Fig. 10

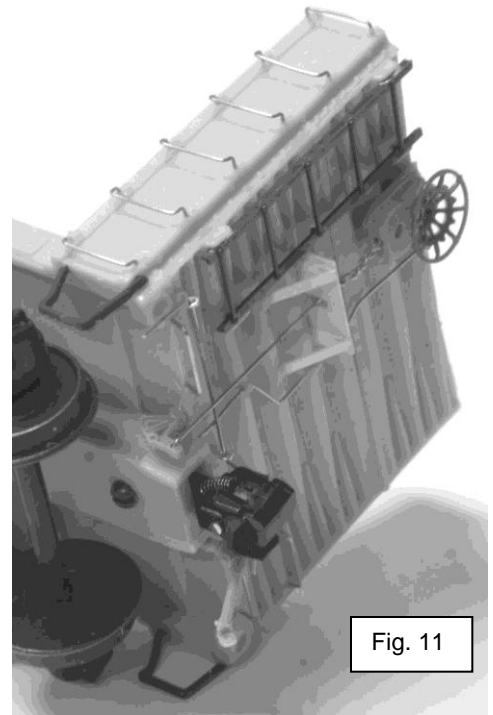
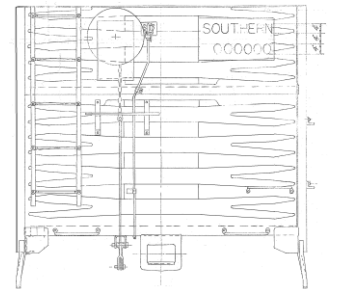
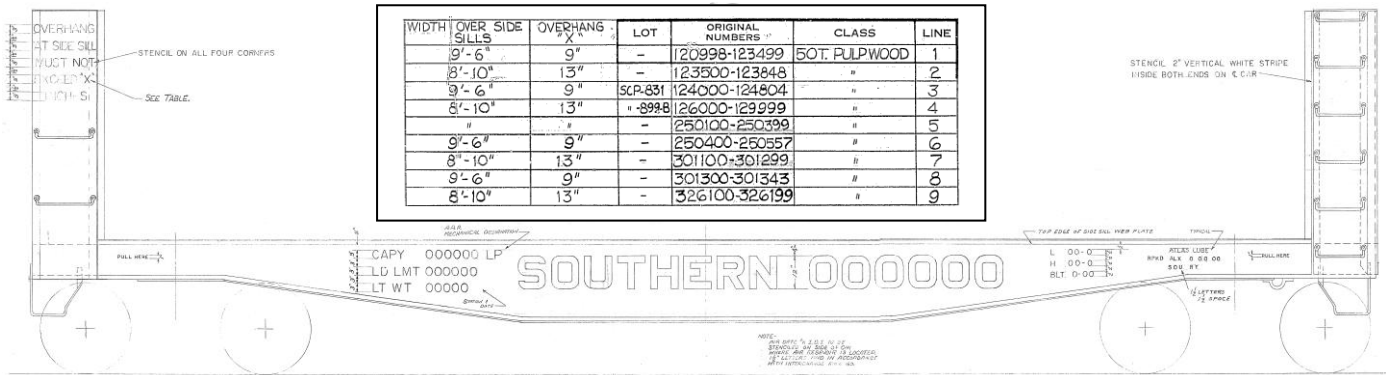






Fig. 11



Top: 128980 at Columbus, GA on 3/15/69. **Middle & Right:** 127187 in Charlotte, NC storage line on 6/5/80. All photos by Larry Goolsby. Note that stenciling diagram shows "B" end lettering applied to separate plate; "A" end photos show lettering applied directly to the ribs, centered across the car's width. The white, bulkhead centerline stripe clearly shows in each photo.

L 42-3 IL 38-6 H 10-10	L 42-3 IL 38-6 H 10-10	L 42-3 IL 38-6 H 10-10	PAL HERR PAL HERR PAL HERR PAL HERR	MA. 1-68	MA. 8-74	AUG. 4-61	AUG. 3-69		129000	SOUTHERN	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	
RPKD ENY 3-3-73 EDU RY	RPKD ENY 3-3-74 EDU RY	RPKD ER 190-81 EDU RY	MA. 1-68	MA. 8-74	AUG. 4-61	AUG. 3-69		128957	CAPY. 100000 LP LD.LMT. 122400 LT.WT. 46600		CAPY. 100000 LP LD.LMT. 122400 LT.WT. 46600	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES
RPKD ENY 3-3-73 EDU RY	RPKD ENY 3-3-74 EDU RY	RPKD ER 190-81 EDU RY	AUG. 2-71	JAX. 5-63	JAX. 6-72	JAX. 12-68		127460	CAPY. 100000 LP LD.LMT. 122100 LT.WT. 46900		CAPY. 100000 LP LD.LMT. 122100 LT.WT. 46900	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES
RPKD ENY 3-3-73 EDU RY	RPKD ENY 3-3-74 EDU RY	RPKD ER 190-81 EDU RY	AUG. 2-71	JAX. 5-63	JAX. 6-72	JAX. 12-68		126724				OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES
RPKD ENY 3-3-73 EDU RY	RPKD ENY 3-3-74 EDU RY	RPKD ER 190-81 EDU RY	ENY. 3-73	ENY. 11-74	SR. 10-60	SR. 2-59		SOUTHERN	SOUTHERN 126724	SOUTHERN 127460	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	
RPKD ENY 3-3-73 EDU RY	RPKD ENY 3-3-74 EDU RY	RPKD ER 190-81 EDU RY	ENY. 3-73	ENY. 11-74	SR. 10-60	SR. 2-59			SOUTHERN 128957	SOUTHERN 129000	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	OVERHANG AT SIDE SILL MUST NOT EXCEED 10 INCHES	
RPKD ER 202-89 EDU RY	RPKD JMK 6-16-72 EDU RY	RPKD JMK 1207-81 EDU RY	1 W. STL. WLS FRICTION TRK. SPRGS.			1 W. STL. WLS FRICTION TRK. SPRGS.			1 W. STL. WLS FRICTION TRK. SPRGS.				
BLT 1-30	BLT 2-28	BLT 3-30	BLT 4-28	BLT 5-30	BLT 6-28	BLT 7-30	BLT 8-	BLT 9-	BLT 10-	BLT 11-	BLT 12-		
BLT 1-30	BLT 2-28	BLT 3-30	BLT 4-28	BLT 5-30	BLT 6-28	BLT 7-30	BLT 8-	BLT 9-	BLT 10-	BLT 11-	BLT 12-		
BLT 1-30	BLT 2-28	BLT 3-30	BLT 4-28	BLT 5-30	BLT 6-28	BLT 7-30	BLT 8-	BLT 9-	BLT 10-	BLT 11-	BLT 12-		
RPKD MA 1-0-81 EDU RY	RPKD MA 1-0-74 EDU RY	RPKD AUG 410-81 EDU RY	RPKD AUG 33-89 EDU RY	RPKD AUG 2-24-R EDU RY	RPKD AUG 2-24-R EDU RY	RPKD JMK 6-08-83 EDU RY	ATLAS LUBRE ATLAS LUBRE	SOUTHERN 126724	SOUTHERN 127460	SOUTHERN 128957	SOUTHERN 129000		
RPKD MA 1-0-81 EDU RY	RPKD MA 1-0-74 EDU RY	RPKD AUG 410-81 EDU RY	RPKD AUG 33-89 EDU RY	RPKD AUG 2-24-R EDU RY	RPKD AUG 2-24-R EDU RY	RPKD JMK 6-08-83 EDU RY	ATLAS LUBRE ATLAS LUBRE						

SOUTHERN RY. 1951 PULPWOOD FLAT (BLOCK FONT) • S SCALE • SMOKY MTN. MODEL WORKS © 2008

Use the above decal layout while trimming decals for application.