

# Modeling the Great Northern Mid-1950s Freight Car Roster

## 40' Boxcars – Part 1

RICHARD REMIARZ MMR®

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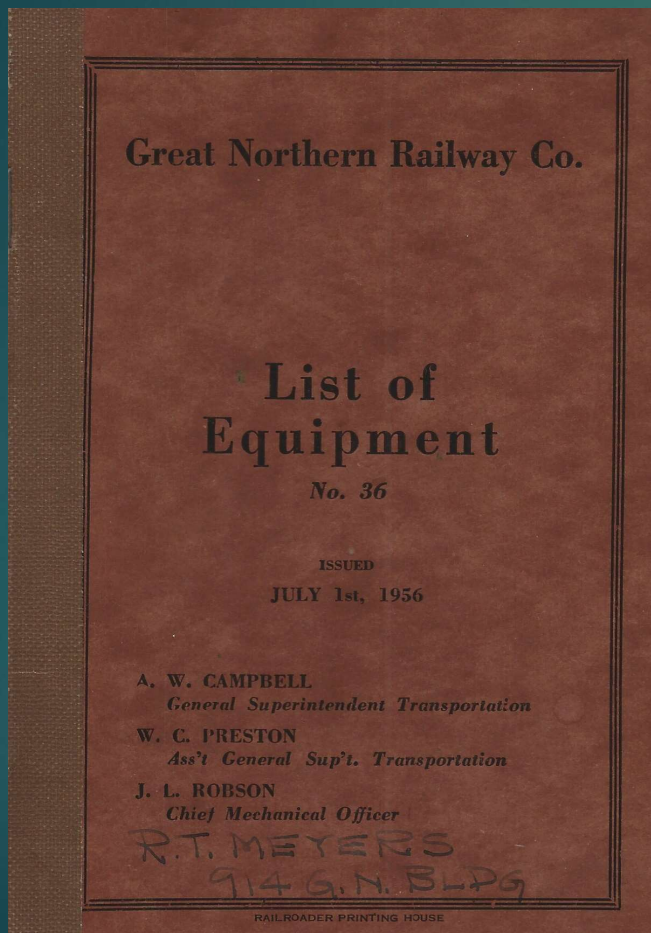


# Acknowledgements

- ▶ Special thanks to
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  - ▶ John Westley
  - ▶ Richard Yaremko
- ▶ Great Northern Railway Historical Society Archives
- ▶ Bob's Photos
- ▶ Charles Houser Collection
- ▶ Mainline Photos
- ▶ Ron Morse
- ▶ Stan Styles Collection



# Great Northern July 1, 1956 Freight Car Roster



FREIGHT EQUIPMENT									
Box Cars—40 Ft.									
	Numbers		Inside Dimensions			Cubic	Lbs.	No.	
	From	To	L. ft. in.	W. ft. in.	H. ft. in.	Capacity	Capacity	of	
2500R <sup>1</sup>	2501	2549	40	6	9 2 10 0	3727	100000	1	
2600	2600	2649				(See Passenger Equipment)			
(15 ft. Staggered Doors)	3000	3499	40	6	9 2 10 6	3890	100000	500	
(12 ft. Staggered Doors)	* 3500	3999R <sup>1</sup>	40	6	9 4 10 6	3851	100000	500	
	5000	5499	40	6	9 2 10 6	3900	100000	500	
	9000	9999	40	0	8 7 7 10	2639	80000	62	
	10000	10899	40	6	9 2 10 0	3727	100000	837	
	10900	11874	40	6	9 2 10 0	3715	100000	963	
	18000	18499	40	6	9 2 10 0	3715	100000	498	
	18500	19499	40	6	9 2 10 2	3775	100000	991	
	19500	20499	40	6	9 2 10 2	3775	100000	992	
	20500	21449	40	6	9 2 10 6	3900	100000	949	
	21450	21939	40	6	9 2 10 6	3900	100000	490	
Compartmentizer (Roller Bearing Trks)	21940	21949	40	6	9 2 10 6	3900	100000	10	
Cushion Underframe	21950	21964	40	6	9 2 10 6	3900	100000	15	
	28494	28993	40	6	8 6 9 0	3098	80000	1188	
	28000	28499	40	0	8 7 7 10	2639	80000	13	
	30000	30599	40	6	8 6 9 0	3098	100000	560	
	31000	31499	40	6	8 6 9 0	3098	100000	474	
	32000	32999	40	6	9 2 10 0	3769	100000	999	
	38000	38499	40	6	9 0 10 0	3645	80000	7	
	44025	44999	40	6	9 2 10 0	3727	100000	959	
	45000	52999	40	6	9 2 10 0	3712	100000	6791	
Total—18,349 Cars									
Box Cars—50 Ft.									
	28975	29999	50	6	9 2 10 0	4629	100000	255	
(15 ft. Staggered Doors)	*35050	35399R <sup>2</sup>	50	6	9 4 10 6	4947	100000	350	
(15 ft. Staggered Doors and End Doors)	*35400	35499	50	5	9 4 10 6	4941	100000	100	
	38900	38999	50	6	9 2 10 0	4629	100000	93	
(8 ft. Doors)	39000	39339	50	6	9 2 10 1	4681	100000	316	
("DF" Loaders)	39340	39371	50	6	9 0 10 1	4614	100000	32	
(15 ft. Staggered Doors)	40000	40099	50	6	9 2 10 1	4681	100000	99	
(15 ft. Staggered Doors)	40100	40299	50	6	9 2 10 6	4866	100000	150	
(12 ft. Double Doors)	41525	41999	50	0	9 2 10 0	4583	100000	475	
	42000	42899	50	0	9 2 10 0	4583	100000	842	
(10 ft. Staggered Doors)	42900	42999	50	0	9 2 10 0	4583	100000	93	
(12 ft. Staggered Doors)	43500	43899	50	6	9 2 10 0	4629	100000	384	
(12 ft. Staggered Doors)	43900	43999	50	6	9 2 10 0	4629	100000	95	
Total—3,284 Cars									
Note: R <sup>1</sup> —Cars 3900 to 3999 only have roller bearings.									
R <sup>2</sup> —Cars 35300 to 35399 only have roller bearings.									
*—On order 1956 delivery.									

# Great Northern July 1, 1956 Freight Car Roster

From	To	# cars	length	height	
40' boxcars					
2500	2500	1	40' 6"	10' 0"	
3000	3499	500	40' 6"	10' 6"	1955
3500	3999	500	40' 6"	10' 6"	1956
5000	5499	500	40' 6"	10' 6"	1955
9000	9999	62	40' 0"	7' 10"	1925
10000	10499	887	40' 6"	10' 0"	1945
10500	10899		40' 6"	10' 0"	1947
10900	11874		40' 6"	10' 0"	1948
18000	18499	498	40' 6"	10' 0"	1949
18500	19499	991	40' 6"	10' 2"	1949
19500	20499	992	40' 6"	10' 2"	1951
20500	21449	949	40' 6"	10' 6"	1952
21450	21939	490	40' 6"	10' 6"	1953
21940	21949	10	40' 6"	10' 6"	
21950	21964	15	40' 6"	10' 6"	
23494	24993	1188	40' 6"	9' 0"	1919
24994	25993		40' 6"	9' 0"	1923

From	To	# cars	length	height	notes	model	# models
40' boxcars							
2500	2500	1	40' 6"	10' 0"	Roller bearings		0
3000	3499	500	40' 6"	10' 6"	1955 double door		3
3500	3999	500	40' 6"	10' 6"	1956 double door	Accurail (McKean) model modified	3
5000	5499	500	40' 6"	10' 6"	1955	Rapido	3
9000	9999	62	40' 0"	7' 10"	1925 truss rod wood car w/ Murphy ends	Westerfield	0
10000	10499	887	40' 6"	10' 0"	1945 plywood sheathed	Intermountain	5
10500	10899		40' 6"	10' 0"	1947	Sunshine	6
10900	11874		40' 6"	10' 0"	1948 12 panel 10' IH	Intermountain	3
18000	18499	498	40' 6"	10' 0"	1949		6
18500	19499	991	40' 6"	10' 2"	1949 12 panel 10' 2" IH		6
19500	20499	992	40' 6"	10' 2"	1951		5
20500	21449	949	40' 6"	10' 6"	1952	C&BT	3
21450	21939	490	40' 6"	10' 6"	1953	Rapido	0
21940	21949	10	40' 6"	10' 6"	Compartmentizer		0
21950	21964	15	40' 6"	10' 6"	Cushion underframe	PS-1 Intermountain	7
23494	24993	1188	40' 6"	9' 0"	1919 USRA double sheathed	Accurail, Westerfield	0
24994	25993		40' 6"	9' 0"	1923 USRA double sheathed clone w/ 7/8 murphy ends		0
28000	28499		40' 0"	7' 10"	1928 truss rod wood car w/ dreadnaught ends	Westerfield	3
30000	30599	560	40' 6"	9' 0"	1924/25 USRA double sheathed clone w/ murphy ends	Sunshine	3
31000	31499	474	40' 6"	9' 0"	1927 single sheathed wood car	Andy Carlson resin kit, Sunshine	6
32000	32574	999	40' 6"	10' 0"	rblt 1954 plywood sheathed rebuild of wood sheathed cars		0
32575	32999		40' 6"	10' 0"	rblt 1955		5
38000	38499	7	40' 6"	10' 0"	1923 Double sheathed w/murphy ends		39
44025	44399	959	40' 6"	10' 0"	1944 plywood sheathed	Sunshine	1
44400	44999		40' 6"	10' 0"	1944		2
45000	46999		40' 6"	10' 0"	1942 wood sheathed	Sunshine	1
47000	48999	6791	40' 6"	10' 0"	1941		0
49000	49999		40' 6"	10' 0"	1940		1
50000	50999		40' 6"	10' 0"	1937		3
51000	51999		40' 6"	10' 0"	1939		5
52000	52999		40' 6"	10' 0"	1940		1
		18349					19
50' boxcars							
28975	29999	255	50' 6"	10' 0"			1
35050	35399	350	50' 6"	10' 6"	1956 15' staggered doors	Branchline	2
35400	35499	100	50' 6"	10' 6"	1956 15' staggered doors and end doors		1
38900	38999	93	50' 6"	10' 0"			1
39000	39339	316	50' 6"	10' 1"	rblt 1954 8' doors - steel sides on outside braced wood boxcars		2
39340	39371	32	50' 6"	10' 1"	DF loaders		0
40000	40099	99	50' 6"	10' 1"	15' staggered doors		1
40100	40299	150	50' 6"	10' 6"	15' staggered doors		1
41525	41999	475	50' 0"	10' 0"	12' double doors		3
42000	42899	842	50' 0"	10' 0"	1925 outside braced wood	Westerfield 2852	5
42900	42999	93	50' 0"	10' 0"	10' staggered doors	Westerfield 2804	1
43500	43899	384	50' 6"	10' 0"	12' staggered doors		2
43900	43999	95	50' 6"	10' 0"	12' staggered doors		1
		3284					19
Evans Auto Cars							
38700	38799	100	40' 6"	10' 6"	14' staggered doors - plywood sheathed		1
38800	38849	50	50' 6"	10' 6"	15' staggered doors		0
35000	35049	50	50' 6"	10' 6"	15' staggered doors		0
		200					1



# GN 3000-3499 40' Double Door Boxcars

- ▶ Built by the GN St. Cloud Car Shops in 1955
- ▶ All 500 cars on the roster on 7/1/1956
- ▶ 10' 6" IH
- ▶ Diagonal panel roofs
- ▶ 1-3-4 Late improved dreadnaught ends
- ▶ Apex running boards and brake steps
- ▶ Universal hand brake and rotary slack adjuster



S Holmquist Collection, GNRHS Archives

15' wide door opening  
Main door 8' 5-6-6 Improved Youngstown  
Auxiliary door 7' 5-6-6 Improved Youngstown  
Main door offset 6" to right of car centerline

Built by G.N.Ry.-1955.

40'-6" BOX CAR Nos. 3000 to 3499  
(All Steel)  
(Welded Frame)

2A

Series	Draft Gear
3000 to 3099	Miner A-22-XL Friction
3100 to 3199	Cardwell R-20 Rubber
3200 to 3299	Miner RF-333 Rubber
3300 to 3399	Waughman WM-DC-5 Rubber
3400 to 3499	National MF-260 Rubber

Note: 3000 to 3199 - E.O.S. wheels.  
3300 to 3399 - A.O. Smith Brake Beams  
3400 to 3499 - Chicago Mail.

AFB 85460

Weight	50500 Lbs.	Side Bearings	Tk. Mtd.	Stucki	Length-Inside	40'-4 5/8"	Running Board	Apex	Metal
Capacity (Nom.)	100000	Truck Bolster	Cost Steel	Kind of Truck	ASF, A-3	Cost Steel	Brake Step	Apex	
Draft Gear	See Table	Journals	5 1/2" 10"	Wheels	1 1/2" W	33"	Flooring	3 1/2" 9 1/2" W Sect.	Great Lakes
Coupler	Type E	Yokes	AAR	Cost Steel	Release	Rotary	Side Plates	3 1/2" 9 1/2" W Sect.	GN Steel
Air Brake	AB	Handbrake	Universal	Power	Stack Adjuster	(Man.)	Universal	End Lining	13 1/8 Nu-loc
								Doors (Side)	Camel

Lubricators:-  
3000 to 3399 - Miller Pak  
3400 to 3499 - Chenille

# GN 3000-3499 40' Double Door Boxcars

- ▶ ASF A-3 Ride Control trucks
- ▶ Symmetrical fish belly side sills
- ▶ Transversely mounted brake reservoir
- ▶ Reinforcing gussets on either side of door bottoms
- ▶ Diagonal rivet line running from outside edge of gussets towards top of the doors
- ▶ Used Miller Pak or Chenille lubricators
  - ▶ Orange journal box covers
- ▶ Cars used a variety of equipment
  - ▶ Both IWW and E.Q.S. wheels
  - ▶ Five types of draft gear
  - ▶ Three types of brake beams
  - ▶ Wheel and draft gear data on car ends



S Holmquist Collection, GNRHS Archives

	Handbrake	Wheels	Draft Gear	Lubricators
3000-3099	Universal	E.Q.S.	Miner A-22-XL	MillerPak
3100-3199	Universal	E.Q.S.	Cardwell R-20	MillerPak
3200-3299	Universal	1WW	Miner RF-333	MillerPak
3300-3399	Universal	1WW	Waughma WM-DC-5	Chenille
3400-3499	Universal	1WW	National MF-260	Chenille



# GN 3000-3499 40' Double Door Boxcars

Note orange journal box covers  
and stenciling for lubricator pads

Used on boxcars built in 1955  
and 1956

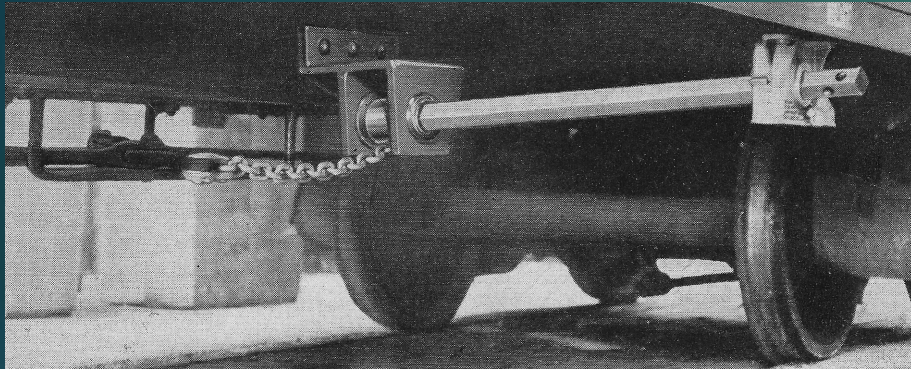


August 25, 1955 Los Angeles, CA Mainline Photos

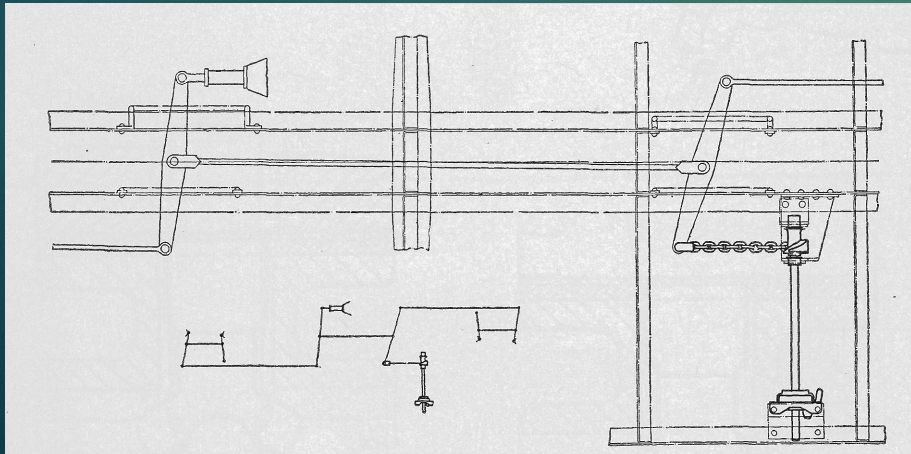


S Holmquist Collection, GNRHS Archives

# GN 3000-3499 40' Double Door Boxcars



1953 Car Builders Cyclopedia



Universal rotary slack adjuster

Used on most GN freight cars built from 1945 into the 1960s



S Holmquist Collection, GNRHS Archives



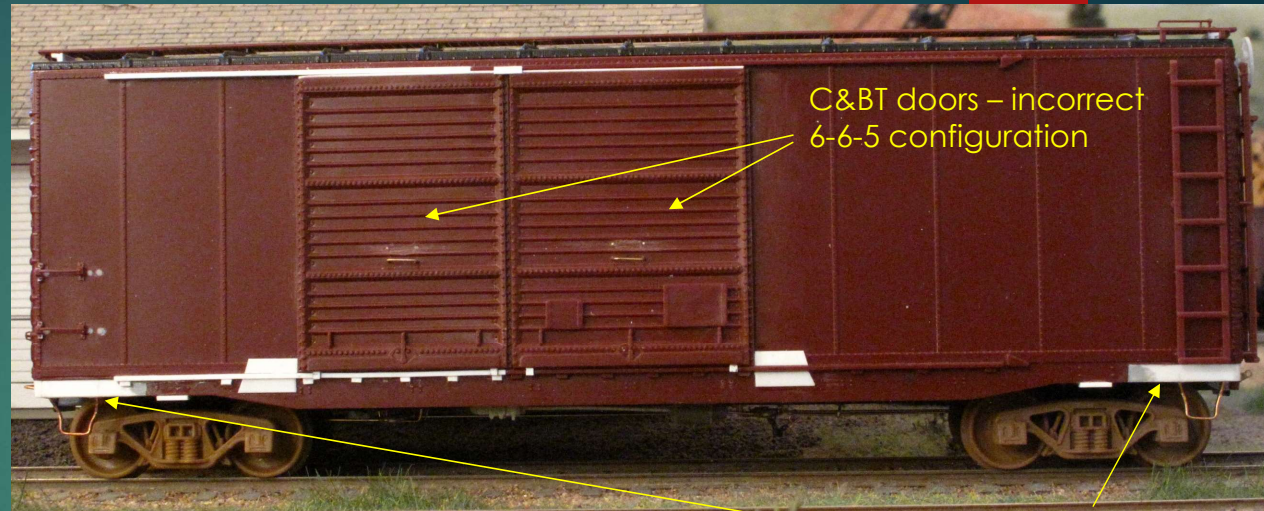
# GN 3000-3499 40' Double Door Boxcars

## ▶ Front Range Products

- ▶ 4070 series 40' riveted box car kit with an 8' door and fish belly side sills
- ▶ 4090 series 40' riveted box car kit with 13' door with fish belly side sills

## ▶ Kadee makes 5-6-6 Improved Youngstown doors in 7' and 8' widths

- ▶ Use 8' door with low mounted tack board (2220 or 2221)
  - ▶ Make 7' door using parts from 7' doors with low mounted tack board (2236 & 2237) and high mounted tack board (2234 & 2235) to eliminate cast-on tack board and route card holder
  - ▶ Make mold of new door and cast additional copies
- ## ▶ Square-off ends on fish belly side sills
- ▶ Extend side sills and round-off corners



Ted Fandel photo



Upper half is from door with lower mounted tack board

From middle section of door with lower mounted tack board

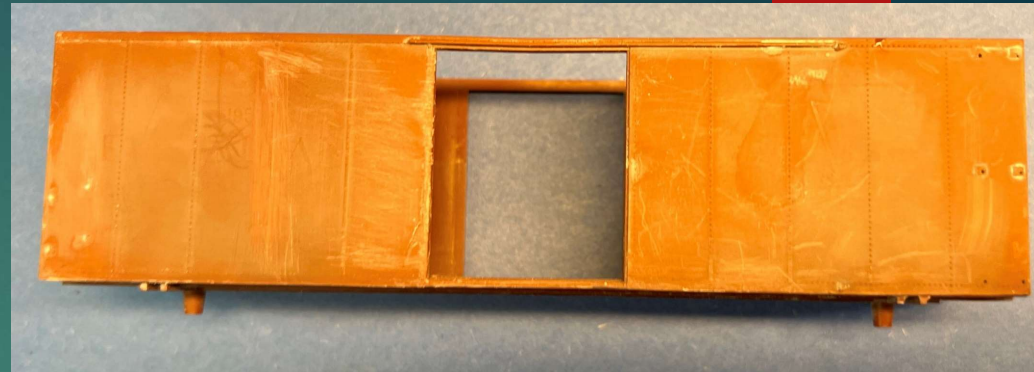
From door with upper mounted tack board

Extend side sill at each end and round-off corners  
Need to eliminate route card holder



# GN 3000-3499 40' Double Door Boxcars

- ▶ Branchline Post-war AAR 40' boxcar kit with 8' doors
  - ▶ Need 7' door from Branchline Post-war AAR boxcar kit
  - ▶ Made mold and cast copies of 7' door
- ▶ Remove tabs on side sills then glue ends to car
- ▶ Make new fish belly side sills
  - ▶ Cut two pieces of 2" x 8" styrene to fit between the ends and glue in place
  - ▶ Cut two pieces of 2" x 6" styrene 28.5' long – taper final 2' 9" from each end



- ▶ Glue 2" x 6" styrene piece to bottom of side sill, centered on car side
- ▶ Cut two pieces of 1" x 4" styrene 23' long
- ▶ Glue along bottom of side sill, perpendicular to side sill

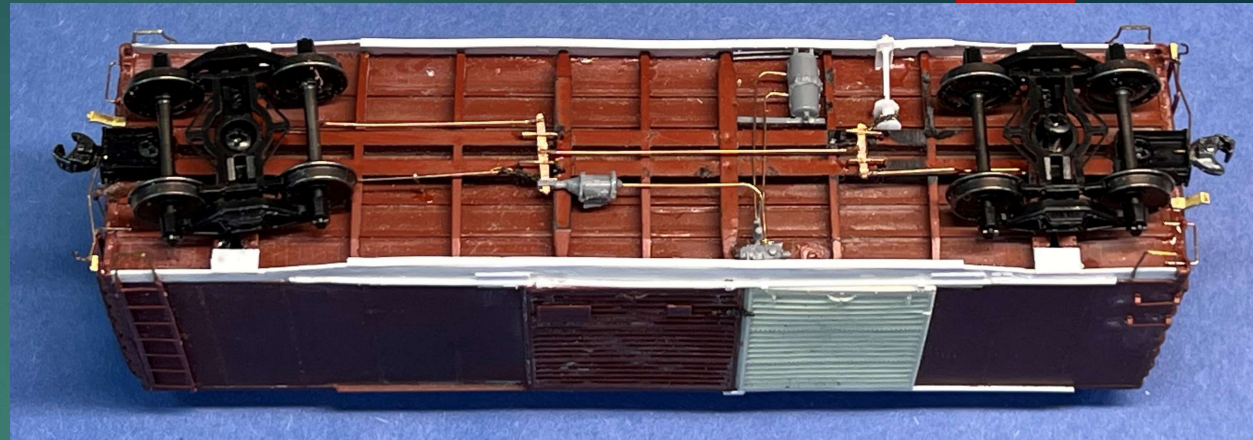


1" x 4" styrene glued to bottom of fish belly



# GN 3000-3499 40' Double Door Boxcars

- ▶ Remaining steps are the same
- ▶ Detail underframe
- ▶ Universal rotary slack adjuster
  - ▶ 2" x 2" styrene strip for square rod
  - ▶ 1/16" styrene rod for drum and bearing
  - ▶ 5/32" styrene C channel for supports cut 8" wide
- ▶ Chain from drum to brake lever
- ▶ Longer side sill bracket required due to fish belly side sills
- ▶ Glue thin disk of 1/16" tubing to side sill bracket and drill for 2" x 2 rod
- ▶ Add scrap of styrene for lever
- ▶ Glue drum between two brackets with cut-off corners

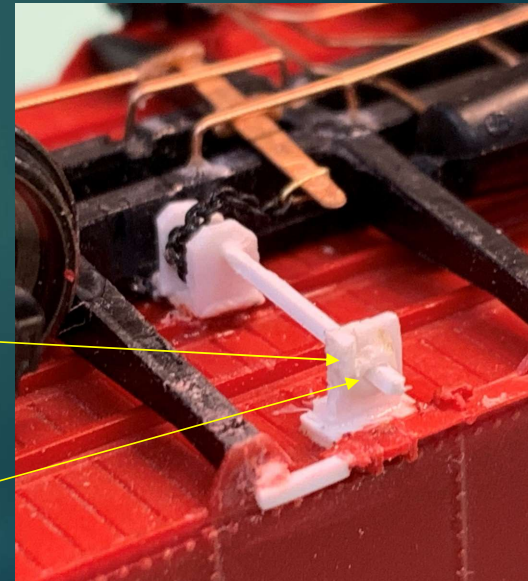


5/32" styrene C-channel



Scrap of styrene for lever

Thin disk of 1/16" styrene rod



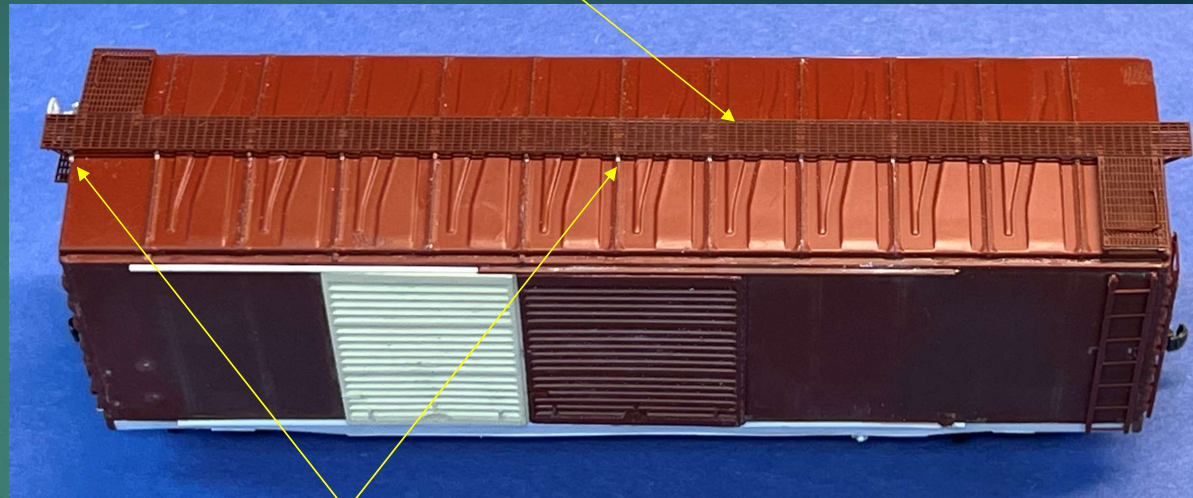
# GN 3000-3499 40' Double Door Boxcars



1" x 4" styrene glued  
to bottom of fish belly

1" x 12" styrene plate  
over end of bolster

Kadee Apex running board

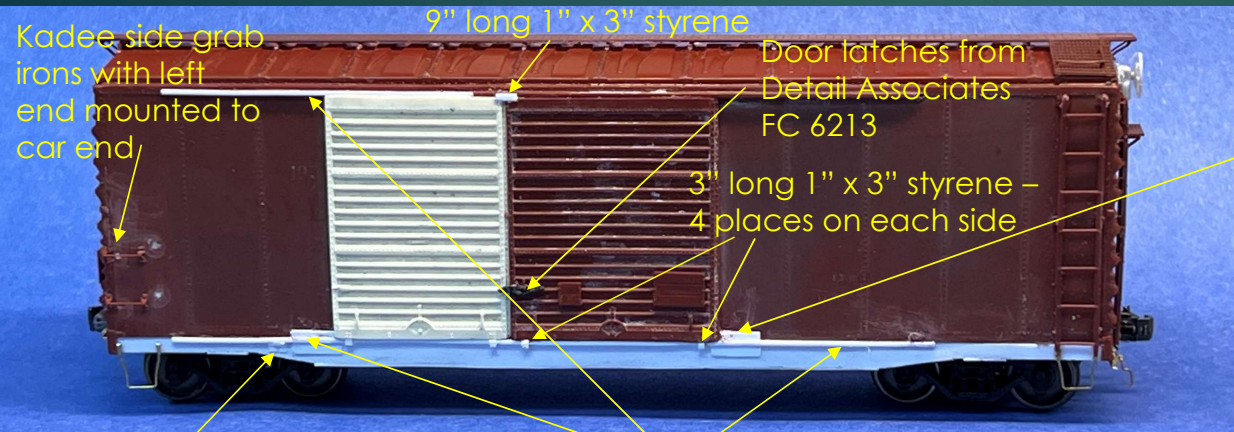


Narrow existing running board supports

- ▶ Add 1" x 12" plates over ends of bolsters
- ▶ Add Kadee Apex running board



# GN 3000-3499 40' Double Door Boxcars



Defect card holder made from 1" x 6" and 1" x 2" styrene

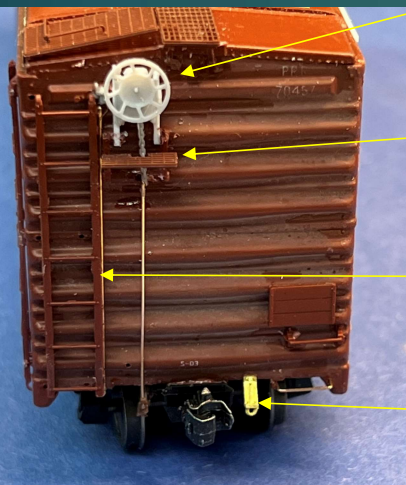
Door guides made from 2" x 2" styrene

Tangent Universal hand brake and brake wheel mounted to 1" x 2" styrene strips

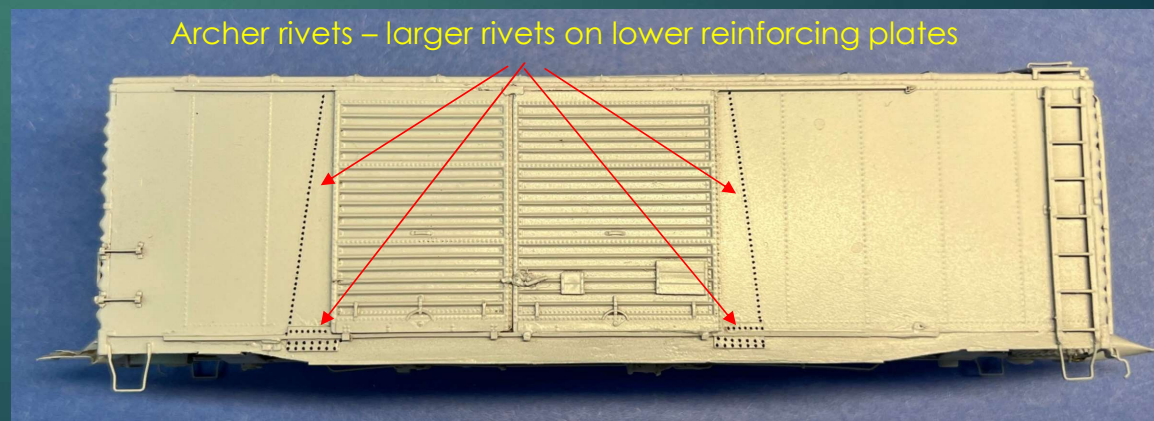
Brake step made from section of Kadee Apex running board

Ladders from scrap box - kit end ladders are too narrow

Hi-Tech Details air hose bracket



Archer rivets - larger rivets on lower reinforcing plates



# GN 3000-3499 40' Double Door Boxcars

## Detail Parts – Front Range 40' riveted side boxcar 8' door

- ▶ Kadee 2221 8' Youngstown door – low mounted tack board
- ▶ Kadee 2235 7' Youngstown door – high mounted tack board
- ▶ Kadee 2237 7' Youngstown door – low mounted tack board
- ▶ Kato 31-607 A-3 Ride Control trucks with ReBoxx WS 20950 .088" wheel sets
- ▶ Kadee #158 couplers
- ▶ Tichy 3013 AB brake set
- ▶ Yarmouth YMW-403 brake levers
- ▶ Evergreen 8203, 8303, 8408, 8202, 8102, 8103, 222 (1/16" rod), 265 (5/32" channel), and .010 styrene rod
- ▶ Kadee 2001 Apex running board
- ▶ Tichy 3021 18" straight grab irons and 8021 turnbuckles
- ▶ Tichy 1106 .0125 and 1100 .008" wire
- ▶ DA FC 6213 Handles, Latches & Tackboards
- ▶ Red Caboose ladders, bracket grabs (on car ends) and tack boards
- ▶ Kadee 2250 side grab irons
- ▶ Campbell #256 black chain
- ▶ Tangent TSM-1004 Universal brake housing & TSM-1055 Universal brake wheel
- ▶ Tangent TSM-203 coupler lift bars
- ▶ Plano #131 Apex brake platform
- ▶ Yarmouth YMW #507 cut lever brackets
- ▶ PSC 39156 air hose brackets & Hi-Tech Details 6038 air hoses
- ▶ DA 2524 .010" x .018" brass bar



- ▶ Roof, sides, ends, underframe and trucks painted with TruColor TCP-214 GN 1930-45 Freight Car Red
- ▶ Highlight tip of rotary slack adjuster actuator rod with Tamiya XF-2 Flat White
- ▶ Journal box covers painted PollyScale Daylight Orange
- ▶ Lettered using K4 Decals set GN 40 Ft Double Door Boxcar and Speedwitch D135 Chalk Marks decals
- ▶ Light weathering using AIM weathering powders rusty brown and soot black, Model Masters grimy black, AK 10011 light Rust and 10018 Gun Metal weathering pencils



# GN 3000-3499 40' Double Door Boxcars

## ► Detail Parts – Branchline 40' AAR Boxcar 8' door

- Branchline 7'
- Tangent ASF A-3 Ride Control trucks
- Kadee #178 couplers
- Tichy 3013 AB brake set
- Yarmouth YMW-403 brake levers
- Evergreen 8103, 8104, 8106, 8112, 8202, 8206, 222 (1/16" rod) and 265 (5/32" channel)
- Kadee 2001 Apex running board
- Tichy 3021 18" straight grab irons
- Tichy 8021 turnbuckles
- Tichy 1106 .0125" wire
- DA FC 6213 Handles, Latches & Tackboards
- Campbell #256 black chain
- Kadee 2250 side grab irons
- Tangent TSM-1004 Universal brake housing
- Tangent TSM-1055 Universal brake wheel
- Tangent TSM-203 coupler lift bars
- Yarmouth YMW #507 cut lever brackets
- Hi-Tech Details 6040 air hoses and brackets
- DA 2524 .010" x .018" brass bar



- Roof, sides, ends, underframe and trucks painted with TruColor TCP-214 GN 1930-45 Freight Car Red
- Highlight tip of rotary slack adjuster actuator rod with Tamiya XF-2 Flat White
- Journal box covers painted PollyScale Reefer Orange
- Lettered using K4 Decals set GN 40 Ft Double Door Boxcar and Speedwitch D135 Chalk Marks decals
- Light weathering using Pan Pastel Neutral Grey Shade, Burnt Sienna Extra Dark, Permanent Red Extra Dark, Red Iron Oxide Extra Dark, Burnt Sienna, and Raw Umber, Polly Scale Grimy Black, and Modelflex Rust



# GN 3000-3499 40' Double Door Boxcars



Ted Fandel model and photo – Front Range kit



Ted Fandel model and photo – Front Range kit



Front Range kit



Branchline kit

# GN 3000-3499 40' Double Door Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #66 – Great Northern 40 Ft. Double Door General Service Box Cars, Series 3000, 3500 and 4000, by Staffan Ehnбом, December 1980
- GN 1950's Box Cars Prototype, by Staffan Ehnбом, Mainline Modeler, June 1986
- GN 1950's Box Car Models, by Staffan Ehnбом, Mainline Modeler, June 1986
- Kit Bashing GN 3000-3499 Series Double Door Box Cars Part 1, by Ted Fandel and Rich Remiarz, March 2023 GNRHS Modelers' Pages
- Kit Bashing GN 3000-3499 Series Double Door Box Cars Part 2, by Ted Fandel and Rich Remiarz, June 2023 GNRHS Modelers' Pages
- Kit Bashing GN 3000-3499 Series Double Door Box Cars Part 3, by Ted Fandel and Rich Remiarz, December 2023 GNRHS Modelers' Pages



# GN 3000-3499 40' Double Door Boxcars



Circa May 1965 G Werkema Collection, GNRHS Archives

Circa 1968 C Newby Collection, GNRHS Archives

Later  
Paint  
Schemes



Post October 1974 G Werkema Collection, GNRHS Archives

Post May 1967 C Newby Collection, GNRHS Archives

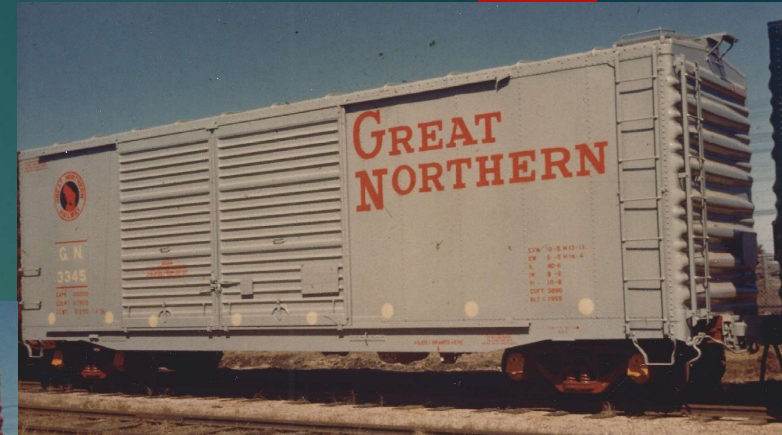




# GN 3000-3499 40' Double Door Boxcars

"Circus Train" cars  
Painted in April, 1956

GNRHS Archives



# GN 3500-3999 40' Double Door Boxcars

- ▶ Built by the GN St. Cloud Car Shops in 1956
  - ▶ 3500 built 5/22/56
  - ▶ 3601 built 6/12/56
  - ▶ 3645 built 6/22/56
  - ▶ 3875 built 12/56
- ▶ 10' 6" IH
- ▶ Overhanging diagonal panel roofs
- ▶ 1-3-4 Late improved dreadnaught ends
- ▶ Apex running boards and brake steps
- ▶ Universal hand brake and rotary slack adjuster



S Holmquist Collection, GNRHS Archives

Built by G.N.Ry.-1956.

40'-6" BOX CAR Nos. 3500 to 3999.  
(All Steel)  
(Welded Frames)

2  
B

Note:- Draft Gear (Rubber)  
3500 to 3599 - Cardwell, R-20  
3600 to 3699 - Wough, WM DC-5  
3700 to 3999 - Miner, FR-16

Note:- Trucks  
3500 to 3899 - ASF-A3  
3900 to 3999 - Natl. C-1

Note:-  
3900 to 3999 - EQS Wheels.

Note:-  
3900 to 3999 - Timken "A" R. Brgs.

Technical drawing of a 40'-6" boxcar showing side and end views with dimensions. The side view shows a length of 40'-6", a width of 9'-6", and a height of 10'-6". The end view shows a width of 9'-6" and a height of 10'-6". Dimensions for the doors and internal structure are also provided.

AFE 87280.

Weight	49900 Lbs
Capacity (Nom.)	100000
Draft Gear	Note
Coupler	Type E 3 1/2 x 8
"	Cent. Dev. B.H. Ad. SREMO
"	Yokes AAR - Cast Steel
"	Release Rotary
Air Brakes	AB 10 x 12
Handbrakes	Power Universal

Side Bearings	Trk. Mtd.	Du. Well
Truck Bolster	Cast Steel	Gate Steel
Kind Of Truck	10'-6"	Ride Control
Journal Size	5 1/2 x 10	1 Wear
Wheels	12 x 27	ASF Ride Control Type
Snubbers	1 Wear	Unit Cast
Brake Beams	Manual	Universal
Slack Adjuster	Manual	Universal

Length (Inside)	40'-6"
Width	9'-6"
Height	10'-6"
Cubic Capacity	3972 Cu. Ft.
Roof	Riveted
Ends	CBS
Framing	CBS
Sheathing	CBS 10"
Lining	None
Ceiling Covering	None
Doors (Side)	Camel

Running Board	Apex
Brake Step	Apex
Flooring	Notable
Side Plates	ZU
Side & End Ladders	G.N.
End Lining	1 1/2" Fir
Body Color	Vermilion
Under-Fr. & Trk.	BoxCar Minera

12' wide door opening

Main door - 6' 5-6-6 Improved Youngstown

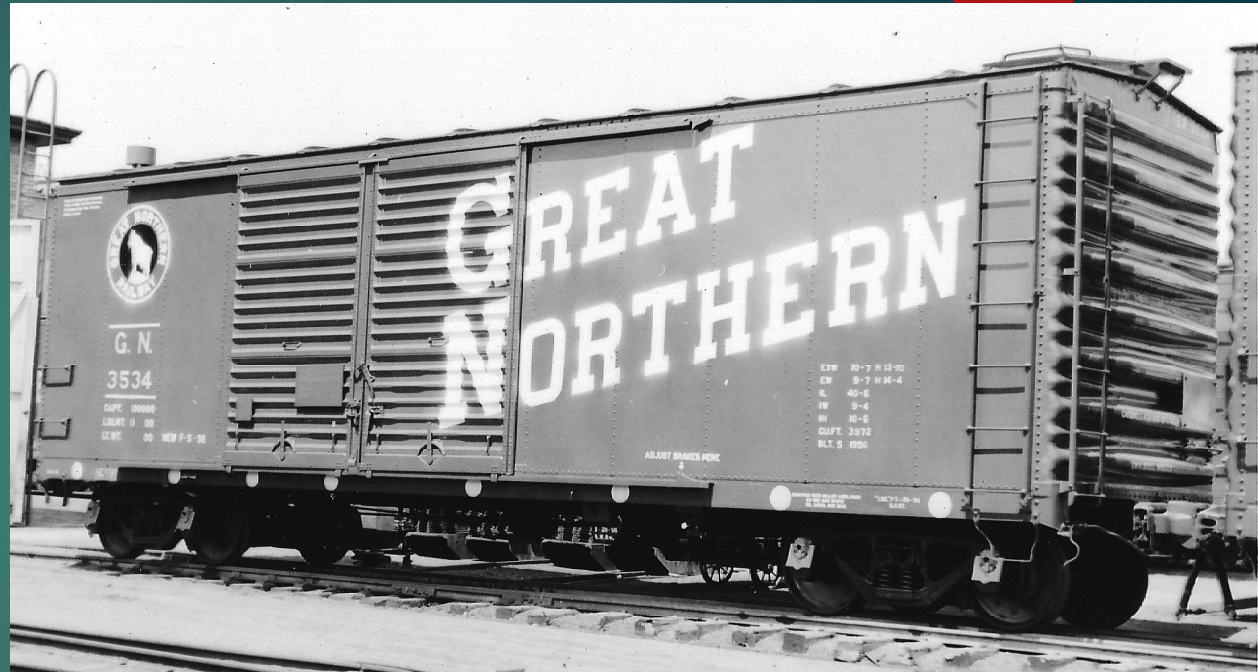
Auxiliary door - 6' 5-6-6 Improved Youngstown

Main door centered on car centerline



# GN 3500-3999 40' Double Door Boxcars

- ▶ Transversely mounted brake reservoir
- ▶ 3500-3899 ASF A-3 Ride Control trucks
  - ▶ I wear wheels
- ▶ 3900-3999 National C-1 truck
  - ▶ EQS wheels
  - ▶ Timken “AP” roller bearings
- ▶ Straight side sills
- ▶ Used lubricators (Miller Pak)
  - ▶ Orange journal box covers
- ▶ Cars used a variety of equipment
  - ▶ Three types of draft gear
  - ▶ Wheel and draft gear data on car ends

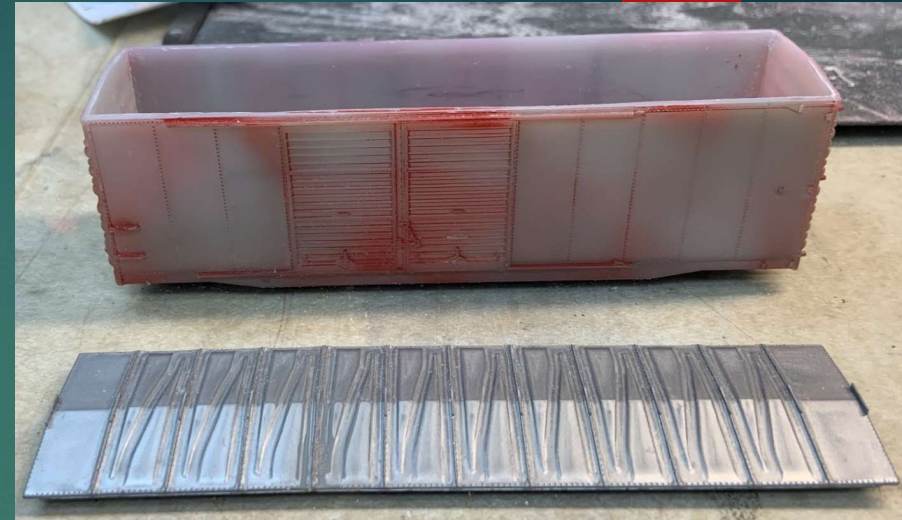


S Holmquist Collection, GNRHS Archives

	Handbrake	Trucks	Wheels	Lubricators/Bearings	Draft Gear
3500-3599	Universal	ASF A-3	1WW	MillerPak	Cardwell R-19
3600-3699	Universal	ASF A-3	1WW	MillerPak	Waugh WM DC-5
3700-3899	Universal	ASF A-3	1WW	MillerPak	Miner RF-16
3900-3999	Universal	National C-1	E.Q.S.	Timken AP roller bearings	Miner RF-16

# GN 3500-3999 40' Double Door Boxcars

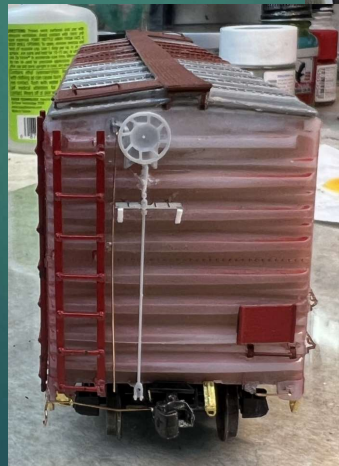
- ▶ Accurail 40' double door boxcar
  - ▶ Originally McKean kit
- ▶ Roof, side sills and ends match the 3000-3499 series
- ▶ Sides, doors, and ends match the 3500-3999 series
- ▶ To model the 3500-3999 series
  - ▶ Replace roof with overhanging diagonal panel roof
  - ▶ Cut off fish belly side sills
  - ▶ Add appropriate details
- ▶ No proper 40' overhanging diagonal panel roof exists at this time
- ▶ Shorten a 50' Branchline diagonal panel roof





# GN 3500-3999 40' Double Door Boxcars

- ▶ Remove detail from existing underframe
  - ▶ Original tooling includes castings of slack adjuster
- ▶ Detail the underframe
  - ▶ Scratch-built Universal rotary slack adjuster
  - ▶ Yarmouth etched brass brake levers
  - ▶ DA AB brake set
- ▶ Add Kadee Apex running board
- ▶ Detail sides
  - ▶ Original placard boards, routing card holders, and ladders
  - ▶ Placard boards mounted in lower position
  - ▶ Sill steps bent from DA 2524 .010" x .030" brass bar
    - ▶ Will use .010" x .018" in future
  - ▶ Left side of bracket grab irons is attached to edge of car end and not car side
- ▶ Detail ends
  - ▶ Tangent Universal brake housing and brake wheel
  - ▶ Apex brake step
  - ▶ Ladders, grab irons, placard boards, coupler lift bars and brackets, air hose brackets, and air hoses



- ▶ Kato A-3 Ride Control Trucks
- ▶ ReBoxx .950" axle 0.088" wheelsets
- ▶ Kadee #158 couplers and pockets

# GN 3500-3999 40' Double Door Boxcars

## ► Detail Parts

- Kato A-3 trucks
- ReBoxx .950" axle 0.088" wheelsets
- Kadee 158 couplers
- Detail Associates (DA) AB brake set
- YMW 403 brake levers
- Kadee 2001 Apex running board
- Tichy 3021 18" straight grab irons,
- DA FC 6209 bracket grab irons
- PSC 31796 retainer valve
- Tangent TSM-1004 Universal brake housing
- Tangent TSM-1055 Universal brake wheel
- Tangent TSM-203 coupler lift bars
- YMW #507 cut lever brackets
- Hi-Tech Details 6040 air hoses and brackets
- Plano 131 Apex brake step
- DA 2524 .010" x .030" brass bar



- Roof sides and ends painted with TruColor TCP-079 Vermillion
- Underframe and trucks painted with TruColor TCP-214 GN 1930-45 Freight Car Red
- Journal box covers painted PollyScale Daylight Orange
- Lettered using Sunshine CAR END DAT VER 2 decals, Champ BRH-31, BRH-333 and HB-429 decals, Microscale 87-185 decals, and Speedwitch D135 Chalk Marks decals
  - K4 now makes a decal set for the 3000-3499 and 3500-3999 series boxcars
- Light weathering using Pan Pastel Paynes Grey Extra Dark and Raw Umber, Polly Scale Grimy Black, and Modelflex Rust

# GN 3500-3999 40' Double Door Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #66 – Great Northern 40 Ft. Double Door General Service Box Cars, Series 3000, 3500 and 4000, by Staffan Ehnborn, December 1980
- GN 1950's Box Cars Prototype, by Staffan Ehnborn, Mainline Modeler, June 1986
- GN 1950's Box Car Models, by Staffan Ehnborn, Mainline Modeler, June 1986
- Modeling HO Scale Great Northern 3500-3999 Series Double Door Box Cars, by Rich Remiarz, December 2024 GNRHS Modelers' Pages



# GN 3500-3999 40' Double Door Boxcars



Post 1979, Unknown photographer, R Remiarz Collection

Hoboken, NJ, August, 1975, R Remiarz Collection, GNRHS Archives



March 1963, G Werkema Collection, GNRHS Archives

Circa 1970s, C Newby Collection, GNRHS Archives



Later  
Paint  
Schemes





# GN 5000-5499 40' Single Door Boxcars

- ▶ Built by the GN St. Cloud Car Shops in 1955
- ▶ All 500 cars on the roster on 7/1/1956
- ▶ 10' 6" IH
- ▶ Diagonal panel roofs
- ▶ 1-3-4 Late Improved dreadnaught ends
- ▶ US Gypsum running boards and brake steps
- ▶ Universal rotary slack adjuster



February 1964, Richard Yaremko photo

6' wide door opening  
Youngstown 5-6-6 door

Built by G.N.Ry.-1955

40'-6" BOX CARS Nos. 5000 to 5499.

(All Steel)

(Welded Frame)

Fiber Glass Insulation @ Johns-Manville

Series	Draft Gear
5000 to 5199	National MF-275 Rubber
5200 to 5399	" MF-260 "
5400 to 5499	Miner RF-332 "

Note:-

5000 to 5099- Equipco H.B.  
5100 to 5299- Ajax Handbrake  
5300 to 5499- National H.B.

\* 5375 to 5499 have 5/8" fir inside lining.

AFE 85460.

Lubricators

5000 to 5249- Chenille

5250 to 5499- Plypak

XM

Weight	48200 Lbs.
Capacity (Nom.)	100000 "
Draft Gear	See Table
Coupler	Type E
" Ctr. Ht. Adj.	SRM Co
" Yokes	AAR Cast Steel
" Release	Rotary
Air Brake	AB 10"x12"
Handbrake	See Note Power

Side Bearings	Trk. Mtd.	Stuck
Truck Bolster	Cast Steel	Cast Steel
Kind Of Truck	ASF-A3	Cast Steel
Journals	5 1/2 x 10	
Wheels	1 Wear	33
Snubbers	Ride Control Type	Ends
Brake Beams	ASF	Unit Cast
Slack Adjuster	Man. Universal	
Lading Strap Anchors	Yes	

Length (Inside)	40'-4 1/2"
Width ( " )	9'-2 3/4"
Height ( " )	10'-6"
Cubic Capacity	3900 Cu. Ft.
Roof	Diagonal Panel
Ends	CBS Dreadnaught
Framing	CBS Steel
Sheathing	CBS 10" Youngstown
Ceiling	Latex Alum. over Flintkote
Doors (Side)	Camel

Running Board	Gypsum
Brake Step	Gypsum
Floor Plates	Bolster to Bolster
Side Plates	3/8" at 9.9 W Sect.
Side & End Ladders	G.N. Steel
Side Sheathing	10" GOS
Side Lining	5/8" Plywood
End Lining	1 1/2" Fir
Grain Door Nailing Post	Yes

# GN 5000-5499 40' Single Door Boxcars

- ▶ ASF A-3 Ride Control trucks
  - ▶ I wear wheels
- ▶ Straight side sills
- ▶ Used lubricators
  - ▶ Orange journal box covers
- ▶ Cars used a variety of equipment
  - ▶ Three types of draft gear
  - ▶ Three types of hand brakes
  - ▶ Two types of lubricators



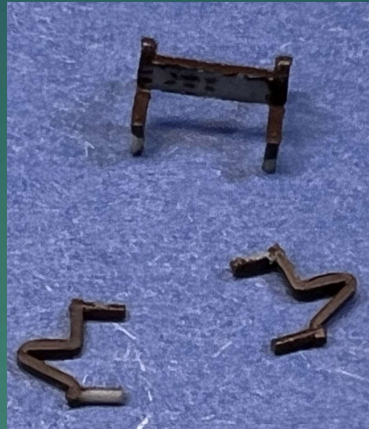
Post January 1973, C Newby Collection, GNRHS Archives

	Handbrake	Draft Gear	Lubricators
5000-5099	Equipco	National MF-275	Chenille
5100-5199	Ajax	National MF-275	Chenille
5200-5249	Ajax	National MF-260	Chenille
5250-5299	Ajax	National MF-260	Plypak
5300-5399	National	National MF-260	Plypak
5400-5499	National	Miner RF-333	Plypak



# GN 5000-5499 40' Single Door Boxcars

- ▶ Rapido GN 40' Boxcar Late IDNE Ends
  - ▶ Add correct running boards and hand brakes
- ▶ Use existing brake step supports
  - ▶ Add Plano 132 US Gypsum brake step
- ▶ Add Kadee 2016 US Gypsum running board
  - ▶ Add support at ends using 1" x 8" styrene
- ▶ Add appropriate hand brake and brake wheel
  - ▶ Tichy Ajax hand brake and brake wheel
  - ▶ Tangent TSM 1001 Equipco brake housing and TSM 1051 Equipco brake wheel
- ▶ Replace coupler lift bar
  - ▶ Carve off existing coupler lift bar
  - ▶ Drill hole in existing bracket
  - ▶ Add Tangent TSM 203 Coupler Lift Bars
- ▶ Kadee #178 couplers and Tangent .088" wheelsets



# GN 5000-5499 40' Single Door Boxcars

- ▶ Paint new parts on ends
  - ▶ Brush painted Tamiya XF-7 Hull Red
- ▶ Paint running boards
  - ▶ Airbrush light coat of Tamiya XF-7 Hull Red to minimize color differences
- ▶ Correct BLT date in dimensional data
  - ▶ Lightly scrape of "3" in "53"
  - ▶ Replace with a "5"
  - ▶ Used National Scale Car D-255 GN decal set
- ▶ Add lettering for lubricator pads
  - ▶ From K4 Great Northern 40 Foot Double Door Boxcar decal set





# GN 5000-5499 40' Single Door Boxcars

## ► Detail Parts

- Tangent .088" wheelsets
- Kadee 158 couplers
- Kadee 2016 US Gypsum running board
- Tangent TSM-1001 Equipco brake housing
- Tangent TSM-1051 Equipco brake wheel
- Tichy 3013 AB brake set – Ajax brake housing and brake wheel
- Tangent TSM-203 coupler lift bars
- Plano 132 US Gypsum brake step
- National Scale Car D-255 and D-135 Decals
- K4 GN 40 Ft Double Door Boxcar decals

- Light weathering using Pan Pastel Neutral Grey Extra Dark, Neutral Grey Shade, and Raw Umber, Polly Scale Grimy Black, Daylight Orange, Modelflex Rust, and Tamiya XF-2 Flat White



Lubricator pad  
lettering added

Journal covers painted  
Daylight Orange



End of rotary slack adjuster shaft painted white

# GN 5000-5499 40' Single Door Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #403 – Great Northern Box Cars Numbers 4700-7199, by Staffan Ehnбом, June 2017
- GN 1950's Box Cars Prototype, by Staffan Ehnбом, Mainline Modeler, June 1986
- GN 1950's Box Car Models, by Staffan Ehnбом, Mainline Modeler, June 1986
- Upgrading the Rapido 5000-5499 Series Boxcars, by Rich Remiarz, June 2024 GNRHS Modelers' Pages



# GN 5000-5499 40' Single Door Boxcars



Post 1967,  
C Newby  
Collection,  
GNRHS  
Archives

Post October,  
1969 L Thompson  
Collection,  
GNRHS Archives

Later  
Paint  
Schemes

Post March 1978, G Werkema Collection, GNRHS Archives



December 1967, Richard Yaremko photo



# GN 9000-9999 40' Truss Rod Boxcars

- ▶ Rebuilt by the GN St. Cloud Car Shops in 1925
  - ▶ New steel underframes
  - ▶ Given new build date
- ▶ Only 62 cars on the roster on 7/1/1956
- ▶ 7' 9<sup>3</sup>/<sub>4</sub>" IH
- ▶ Murphy XLA roofs
- ▶ 6-7 reverse Murphy ends
- ▶ Wood running boards
- ▶ No brake steps



Circa 8-1936 S Holmquist Collection, GNRHS Archives

Built by G.N.Ry.-1925.  
Underframe Built By Stretcor Car Co.-1925.

40' BOX CAR Nos. 9000 to 9999

4

AFE 29096, 52086

Weight	43700 Lbs	Side Bearings	Friction	Length (Inside)	40'-0 3/8	Running Board	Wood
Capacity (Nom.)	80000 "	Truck Bolster	H.B.B.	Width	8'-1"	Brake Step	None
Draft Gear	L-25	Kind Of Truck	Cast Steel	Height	7'-9 3/4"	Floor Plates	None
Coupler	AAR Type D	Journal Size	5' x 9"	Cubic Capacity	2689 Cu. Ft.	Side Plates	Wood
Centering Device	None	Wheels	33"	Roof	Murphy X-L-A	Side & End Ladders	Steel
Yokes	AAR	Snubbers	Yes	Ends	Corrugated Steel		
Release	Top Lift	Brake Beams	No 2 Plus	Framing	Wood		
Air Brake	A B	Bottom Rod Support	3rd. Pt.	Sheathing & Lining	Wood		
Handbrake	Plain	Slack Adjuster	None	Ceiling	None		
				Doors (Side)	Wood, Camel Fix		

5' 3" wide door opening  
Camel door fixtures



# GN 9000-9999 40' Truss Rod Boxcars

- ▶ 40 ton capacity
- ▶ Upgrades
  - ▶ AB brakes
  - ▶ Cast steel trucks
  - ▶ Ladders on sides

9-12-1951  
Mainline  
Photos

Fayetteville, NC 4-25-1952 Bob's Photos



Circa 8-1936  
S Holmquist Collection,  
GNRHS Archives

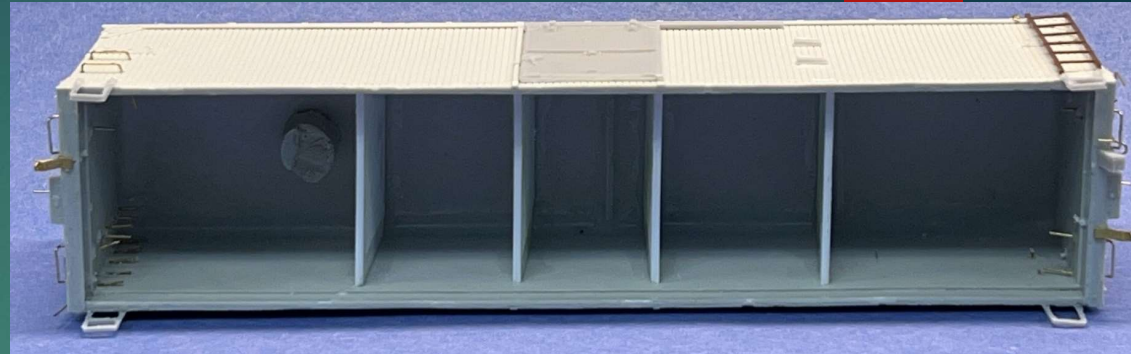
# GN 9000-9999 40' Truss Rod Boxcars

## ▶ Westerfield Models

- ▶ 10451 9000 series DS boxcar – 1925 lettering
- ▶ 10452 9000 series DS boxcar – 1937/41 lettering
- ▶ 10453 9000 series DS boxcar – 1948 lettering

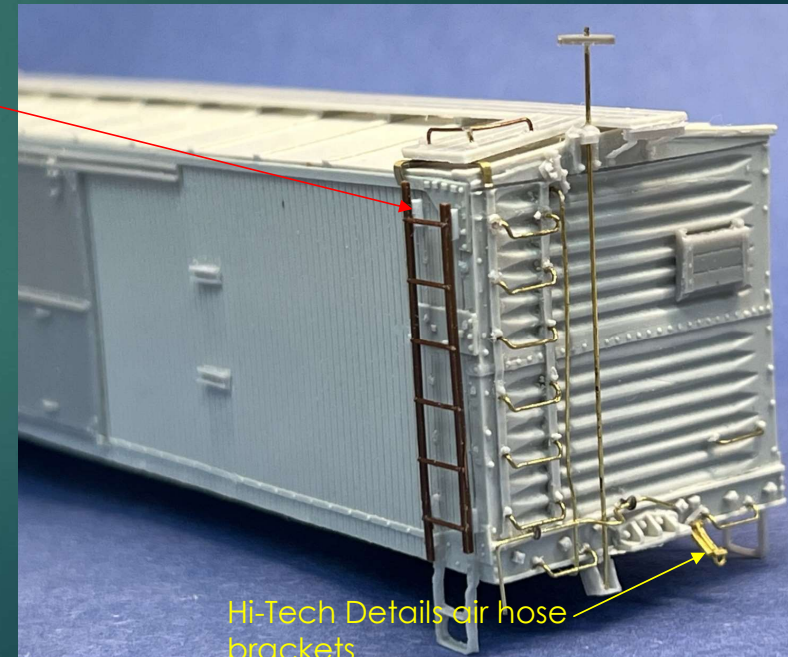
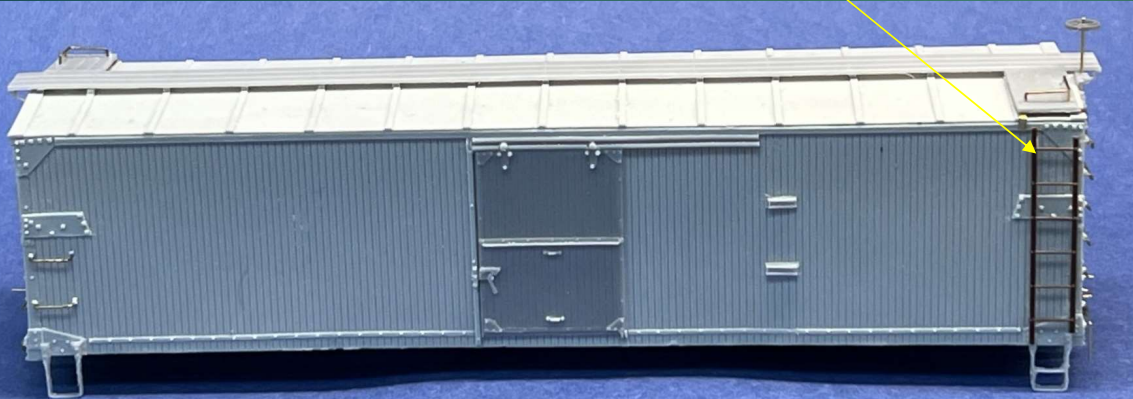
▶ Easy assembly with one-piece body

▶ Bracing added inside body to prevent warping



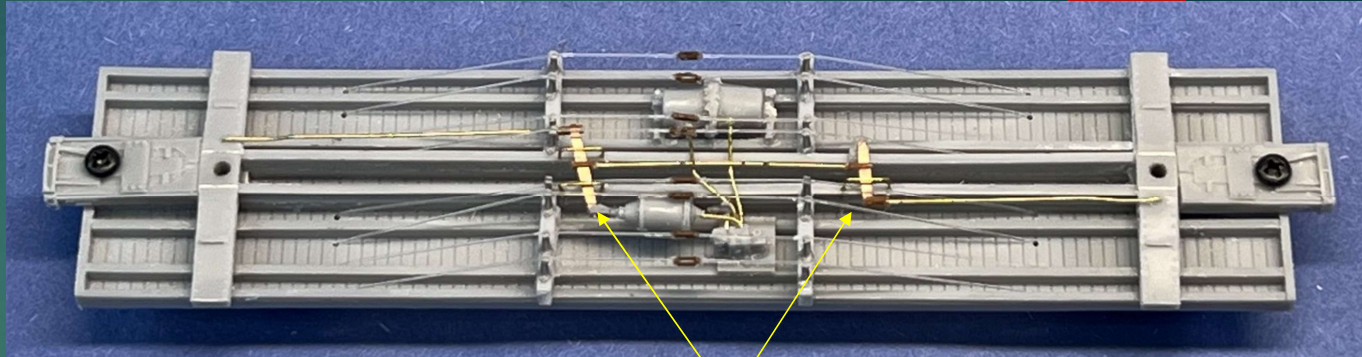
Detail Associates DA 6241 ladders  
trimmed to match prototype photos

Pieces of 1" x 3" styrene  
used to mount ladders





# GN 9000-9999 40' Truss Rod Boxcars



Yarmouth Model Works  
YSM 403 brake levers



Individual boards colored with Prismacolor Terra Cotta, Tuscan Red, Sienna Brown, & 30% Cool Grey



# GN 9000-9999 40' Truss Rod Boxcars

## Detail Parts

- ▶ Tahoe Model Works #215 40 ton ARA trucks
- ▶ Kadee semi-scale #158 couplers
- ▶ Detail Associates DA 6241 Ladder set
- ▶ Hi-Tech Details 6040 air hoses & brackets
- ▶ Speedwitch Relaunch decal set
- ▶ National Scale Car D-135 chalk mark decals



- ▶ Roof, sides, ends, underframe and trucks painted with TruColor TCP-214 GN 1930-45 Freight Car Red
- ▶ Individual boards colored with Prismacolor Terra Cotta, Tuscan Red, Sienna Brown, & 30% Cool Grey
- ▶ Weathered with Pan Pastel Permanent Red Extra Dark, Raw Umber, and Paynes Grey Extra Dark, Modelflex Rust, and Polly Scale Grimy Black





# GN 9000-9999 40' Truss Rod Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #408 – Great Northern 40-Foot Truss-Rod Box Cars, by Ken Middleton, March 2018
- Modeling Great Northern 9000-9999 and 28000-28499 Series Truss Rod Boxcars, by Rich Remiarz, Future GNRHS Modelers' Pages

# GN 9000-9999 40' Truss Rod Boxcars



Circa 1940 Staffan Ehnborn Collection

Late 1930s/early 1940s W Ainsworth Collection, GNRHS Archives



Skykomish, WA 7-1953 W Ainsworth Collection, GNRHS Archives



Circa 1954 W Ainsworth Collection, GNRHS Archives



# GN 10000-10899 40' Plywood Boxcars

- ▶ Built by the GN St. Cloud Car Shops in 1945 and 1947
- ▶ 887 cars on the roster on 7/1/1956
- ▶ 10' IH
- ▶ Murphy rectangular panel roofs
- ▶ 3-4 Improved dreadnaught ends (IDE-1)
- ▶ Universal rotary slack adjuster



June 1947 S Holmquist Collection, GNRHS Archives

- ▶ Note bottom grab irons on ends
  - ▶ Left side is a drop grab attached to bottom of end
  - ▶ Right side is a straight grab with left side attached to tab hanging below end

Built by G.N.Ry.-1945.  
Underframes-Superior.  
Body-St. Cloud.

# 40'-6" BOX CAR Nos. 10000 to 10499 (All Welded Underframe And Side Frame.)

5

Technical drawing of a 40'-6" box car. The side view shows a long rectangular structure with a flat roof and vertical side panels. Dimensions include: 12 1/2" AAR-15in SILL Z PLG 36.21", 30'-0 1/2" TRUCK CENTERS, 36'-2 1/2" TOTAL UNDERFRAME, 40'-0 1/2" OVER STEEL ENDS, 41'-0 1/2" OVER STRUTTING, and 44'-2 1/2" OVER PULLING FACES. The end view shows a smaller rectangular structure with a flat roof and vertical side panels. Dimensions include: 10'-0 3/4" SILL, 10'-0 3/4" WHEEL SPACING, 10'-0 3/4" SILL, 10'-0 3/

# GN 10000-10899 40' Plywood Boxcars

- ▶ ASF A-3 Ride Control trucks
  - ▶ I wear wheels
- ▶ Cars used a variety of equipment
  - ▶ Three types of doors
  - ▶ Two types of hand brakes
  - ▶ Four types of running boards and brake steps
  - ▶ Five types of draft gear



November 1945 S Holmquist Collection, GNRHS Archives

Ron Norby photo,  
S Ehnborn Collection



- ▶ Two types of Youngstown door
  - ▶ 5-6-5 (1945 cars)
  - ▶ Improved 6-6-5 (1947 cars)



# GN 10000-10899 40' Plywood Boxcars

## GN Plywood Boxcars As-Built

Series	Qty	Built	Ends	Doors	Hand Brakes	Running Board	Brake Step	Trucks	Draft Gear
10000-10124	125	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	Blaw-Knox	Blaw-Knox	ASF-A3	Cardwell
10125-10149	25	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	Apex Tri-Lock	Apex Tri-Lock	ASF-A3	Cardwell
10149-10249	100	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	Apex Tri-Lock	Apex Tri-Lock	ASF-A3	Miner
10250-10299	50	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	U.S. Gypsum	U.S. Gypsum	ASF-A3	Miner
10300-10374	75	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	U.S. Gypsum	U.S. Gypsum	ASF-A3	National
10375-10399	25	1945	3-4 Improved Dreadnaught	Youngstown-1	Univ	Morton Open Grip	Morton Open Grip	ASF-A3	National
10400-10499	100	1945	3-4 Improved Dreadnaught	Youngstown-1	Ajax	Morton Open Grip	Morton Open Grip	ASF-A3	Peerless
10500-10599	100	1947	3-4 Improved Dreadnaught	Superior	Ajax	Apex Tri-Lock	Apex Tri-Lock	ASF-A3	Mix
10600-10624	25	1947	3-4 Improved Dreadnaught	Superior	Univ	Apex Tri-Lock	Apex Tri-Lock	ASF-A3	Mix
10625-10724	100	1947	3-4 Improved Dreadnaught	Superior	Univ	U.S. Gypsum	U.S. Gypsum	ASF-A3	Mix
10725-10749	25	1947	3-4 Improved Dreadnaught	Superior	Univ	Morton Open Grip	Morton Open Grip	ASF-A3	Mix
10750-10849	100	1947	3-4 Improved Dreadnaught	Youngstown-2	Univ	Morton Open Grip	Morton Open Grip	ASF-A3	Mix
10850-10899	50	1947	3-4 Improved Dreadnaught	Youngstown-2	Univ	U.S. Gypsum	U.S. Gypsum	ASF-A3	Mix

Doors	Youngstown-1	Youngstown 5-6-5 door
	Superior	Superior 7-panel door w/narrow top panel
	Youngstown-2	Improved Youngstown 6-6-5 door
Hand Brakes	Univ	Universal W-2000 power hand brakes
	Ajax	Ajax vertical-wheel power hand brakes
Draft Gear	Mix	Mixture of National, Westinghouse, Miner, and Peerless

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# GN 10000-10899 40' Plywood Boxcars

- ▶ Two different lettering schemes
- ▶ 10000-10499 had all painted lettering
  - ▶ Green lettering
  - ▶ Outer circle, lettering on Goat herald and inner circle around Goat are painted Pullman Green
  - ▶ Goat is painted white
- ▶ 10500-10899 had Scotchlite lettering
  - ▶ Black lettering
  - ▶ Outer circle and lettering on Goat herald are black Scotchlite
  - ▶ Inner circle around Goat is crimson red Scotchlite
  - ▶ Goat is white Scotchlite
  - ▶ Great Northern and G.N. are black Scotchlite

MONOGRAM				
A	COLOR OF OTHER LETTERING ON CAR	CAR BODY COLOR	SCOTCHLITE OR PAINT	USED ON
PAINT	GREEN	ORANGE	PAINT	BOX-44025 to 44999 PLYWOOD CARS
PAINT	"	"	PAINT	BOX-10000 to 10499 PLYWOOD CARS
SCOTCH-LITE	"	"	SCOTCH-LITE	BOX-10500 to 10899 PLYWOOD CARS
SCOTCH-LITE	"	"	"	PASS BOX 2501 to 2524 PLYWOOD CARS

SEE ALSO DWG 27794 FOR G. N. MONOGRAM

CRIMSON RED SCOTCHLITE

WHITE SCOTCHLITE

6'-0" (72")

BLACK SCOTCHLITE

ORANGE PAINT

"SEE AMERICA FIRST" MONOGRAM (NEW STYLE)

MONOGRAM SCOTCHLITE OR PAINT SEE TABLE

MONOGRAM - WHEN ALL PAINT:-  
Outer circle and letters Pullman Green. Background, car body color, Onaga Orange. Background of inner circle to and including inner ring, Pullman Green. Goat and mountain, White.

MONOGRAM - WHEN SCOTCHLITE -  
SCHEME AS NOTED ON MONOGRAM.

OTHER SCOTCHLITE LETTERING WHEN USED SEE TABLE A

**GREAT NORTHERN**

**G.N.**

BLACK SCOTCHLITE

THIS DING COVERS THE MONOGRAM AND COLOR SCHEME WHEN CARS WERE BUILT WITH ORANGE COLOR BODY PAINT.

**G.N.Ry.**  
**72" Goat Monogram**  
M.P. DEPT. OCT. 2, 1946  
ST. PAUL, MINN.



# GN 10000-10899 40' Plywood Boxcars

## ► Intermountain HO scale Plywood Panel Boxcars

- 46051 Original paint scheme
- 46052 Mineral Red gothic lettering
- 46053 Vermillion Red Empire Builder lettering (Superior door)
- 46054 Mineral Red Empire Builder lettering
- 46055 Original paint scheme Scotchlite
- 46056 Original paint scheme Scotchlite (Superior door)

## ► Nice details (especially later runs)

- Etched metal running board
- Wire grab irons & lift bars

## ► Car sits too high

- Can easily be lowered

## ► Most models have incorrect doors, brake gear, or running boards

- Apex running boards
- Ajax hand brakes
- Correct for 10500-10599 w/ Superior doors



### ► Prototype

- Morton running board & brake step
- Model has correct doors and hand brake



### ► Prototype

- US Gypsum running board & brake step
- Superior doors
- Universal hand brake



### ► Prototype

- Morton running board & brake step
- Model has correct doors and hand brake



## ► Prototype

- Morton running board & brake step
- Improved Youngstown 6-6-5 doors
- Universal hand brake

# GN 10000-10899 40' Plywood Boxcars

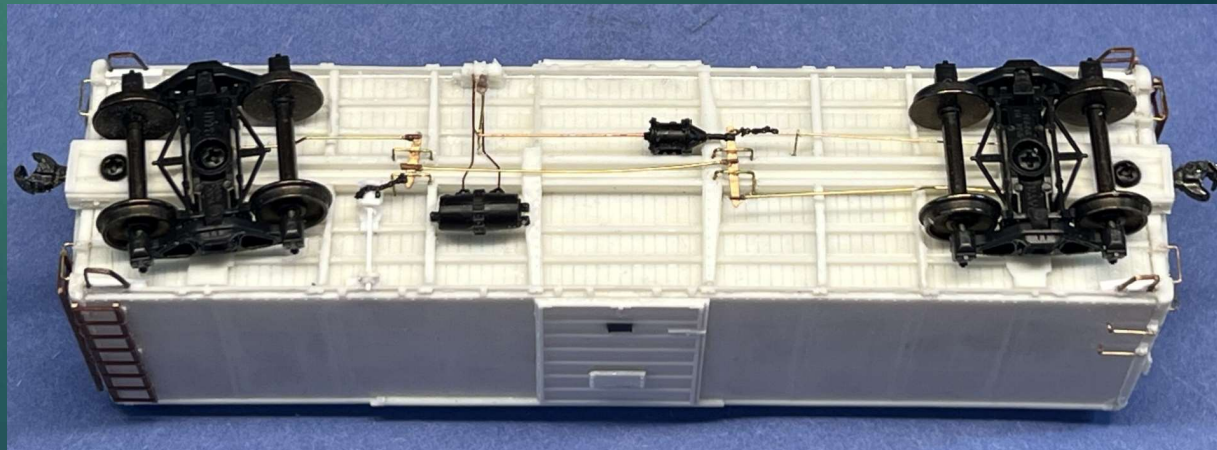
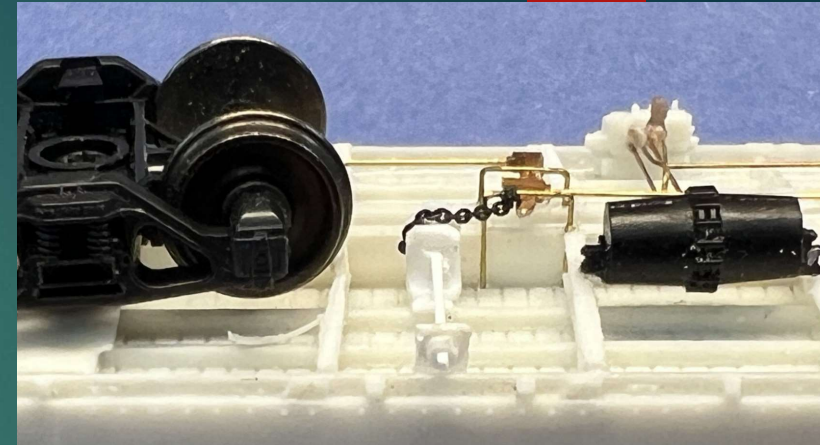
## ► Sunshine Models HO scale Postwar Plywood Boxcars

- 79.5 Postwar Youngstown door original paint scheme
- 79.6 Postwar Superior door original paint scheme
- 79.7 Postwar Youngstown door mineral red paint scheme
- 79.8 Postwar Superior door mineral red paint scheme
- 79.13 Postwar Youngstown door original paint scheme – distressed sides
- 79.14 Postwar Superior door original paint scheme – distressed sides
- 79.15 Postwar Youngstown door mineral red paint scheme – distressed sides
- 79.16 Postwar Superior door mineral red paint scheme – distressed sides
- 79.17 10500-899 Superior door original paint scheme Scotchlite
- 79.18 10500-899 Superior door original paint scheme Scotchlite – distressed sides

► Add Universal rotary slack adjuster

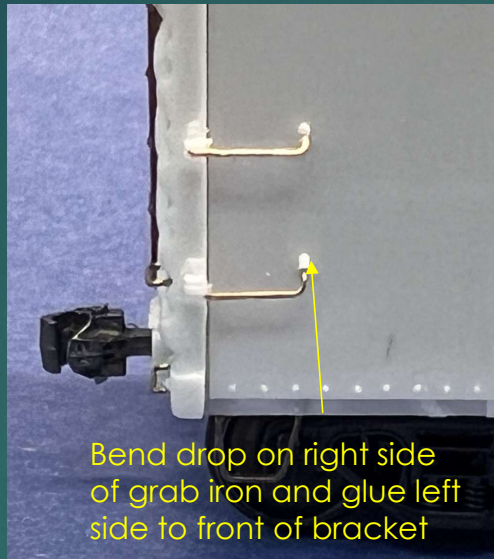
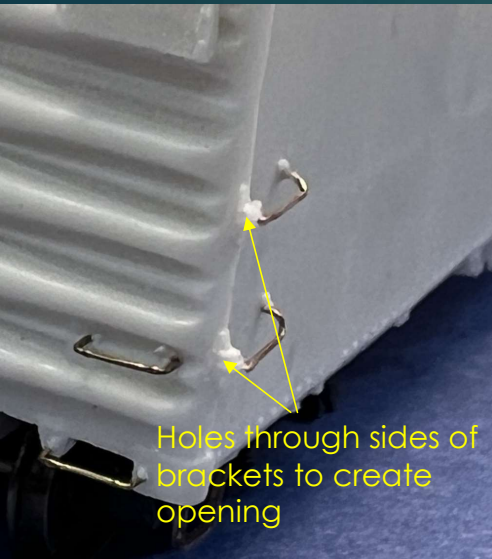
► Kit instructions show incorrect location for fulcrumed brake lever

► Lever adjoins rotary slack adjuster





# GN 10000-10899 40' Plywood Boxcars



## ▶ GN 10629

- ▶ Superior door
- ▶ Universal hand brake
- ▶ US Gypsum running board and brake step

Holes drilled in hub of Tangent Universal brake wheel to model cast version

## ▶ Future builds

- ▶ Use Superior door with narrow top panel (Southwest Scale FC-671)
- ▶ Add indentation to top major rib on B-end
- ▶ Use drop grab on left side of ends



# GN 10000-10899 40' Plywood Boxcars

## Detail Parts

- ▶ Kato 31-601 ASF A-3 Ride Control trucks
- ▶ Reboxx WS20955 0.088" wheel sets
- ▶ Kadee semi-scale 158 couplers
- ▶ Kadee 2016 US Gypsum running board
- ▶ Des Plaines Hobbies DSP 2003 ladders
- ▶ Tangent TSM-1004 Universal brake housing
- ▶ Tangent TSM-1055 Universal brake wheel
- ▶ Tangent TSM 204 coupler lift bars
- ▶ Yarmouth YSM #507 cut lever brackets
- ▶ Yarmouth YSM #403 brake levers
- ▶ Plano 132 US Gypsum brake step
- ▶ PSC 39156 air hose brackets
- ▶ Hi-Tech Details 6038 air hoses
- ▶ National Scale Car D-135 chalk mark decals

- ▶ Roof, sides, ends, underframe and trucks painted with TruColor TCP-214 GN 1930-45 Freight Car Red
- ▶ Highlight tip of rotary slack adjuster actuator rod with Tamiya XF-2 Flat White
- ▶ Light weathering using Pan Pastel Neutral Grey Extra Dark and Raw Umber, Polly Scale Grimy Black, and Modelflex Rust





# GN 10000-10899 40' Plywood Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #37 – Great Northern Plywood Boxcars, Series 10000 and 10500, by Staffan Ehnborn and Duane Amdahl, October 1977
- GNRHS Reference Sheet Reference Sheet #151 – Great Northern Head End Cars:Part V - Box-Express Cars, by John Westley, June 1989
- Emergency Composite Box Cars, by Ed Hawkins, Railway Prototype Cyclopedia Volume 19
- Lightweight House Cars, Part 2, by Pat Wider, Railway Prototype Cyclopedia, Volume 31-32
- Volumes 1-33 Addendum, by Patrick Wider and Ed Hawkins, Railway Prototype Cyclopedia, Volume 34
- Modeling the Great Northern 10000-10899 Series Boxcars – Part 1, by Rich Remiarz, December 2024 GNRHS Modelers' Pages
- Modeling the Great Northern 10000-10899 Series Boxcars – Part 2, by Rich Remiarz, March 2025 GNRHS Modelers' Pages

# GN 10000-10899 40' Plywood Boxcars

Repainted Mineral Red, original Scotchlite lettering, and white paint



August 2, 1964, Shelby MT, Mainline Photos

Kent Charles photo, S Ehnborn Collection

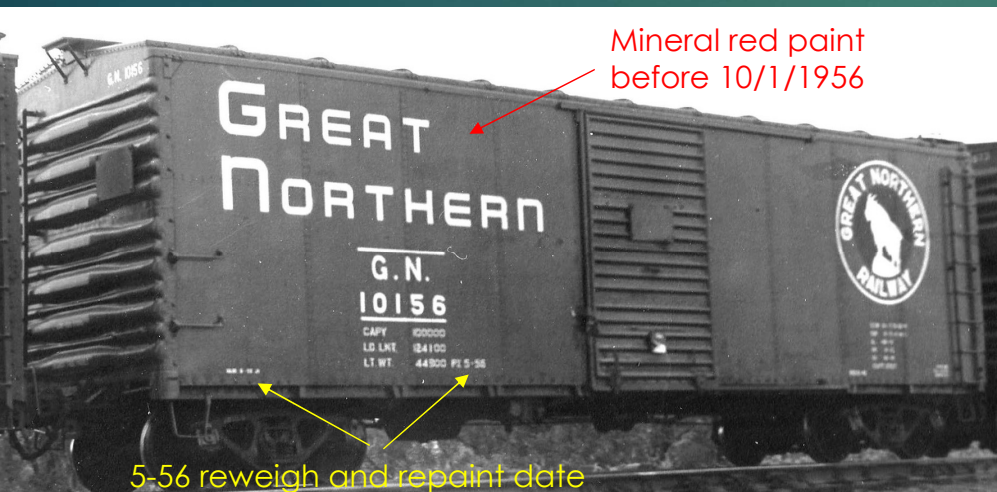


11-56 repack date and repack date but 5-56 reweigh date

1957, Charles Houser Photo

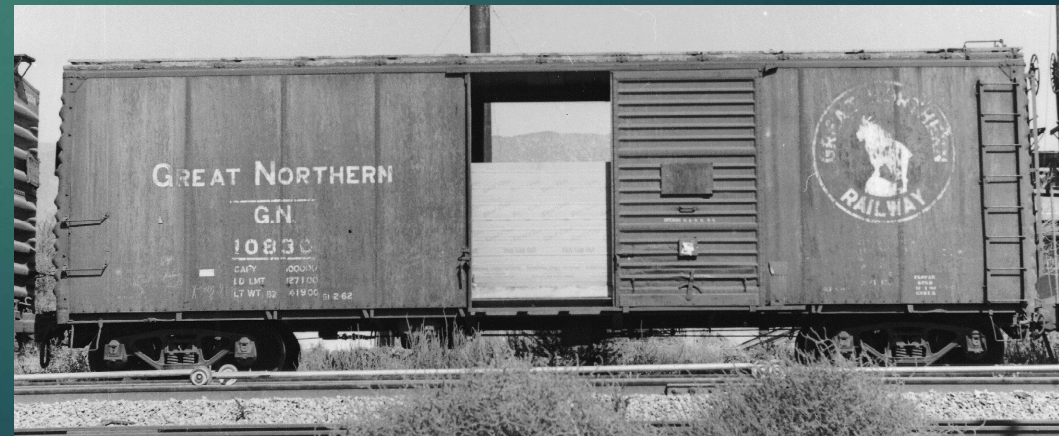
Various Paint Schemes

February 1962 Ron Morse photo



Mineral red paint before 10/1/1956

5-56 reweigh and repack date





# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

- ▶ Built by the GN St. Cloud Car Shops in 1948-1951
  - ▶ 3475 cars built for freight service
  - ▶ 25 cars built as express boxcars (2525-2549)
  - ▶ 500 cars built for SP&S
- ▶ 3,444 cars on the roster on 7/1/1956
- ▶ 10' IH
- ▶ 12-panel sides



September, 1949, Heidrich-Blessing photo, S Holmquist Collection, GNRHS Archives

- ▶ Diagonal panel roofs
- ▶ Improved Dreadnaught ends (2 types)
- ▶ Universal rotary slack adjuster
- ▶ Numerous manufacturers used for specialty equipment

Built by G.N.Ry.-1948.

40'-6" BOX CAR Nos.10900 to 11374  
(All Welded Underframe and Riveted Side Frames).  
Alloy Steel

AFE 74885.

Weight	41000Lbs.	Side Bearings	Barber Top, Hung	Length Inside	40'-6"	Running Bd.	Morton, Apex, Gypsum.
Capacity (Nom.)	100000 "	Truck Bolster	High Tensile Cast Steel	Width ( " )	9'-2"	Brake Step	" "
Draft Gear	West, Minor	Kind Of Truck	ASF-A3 Hi Ten. Cast Steel	Height ( " )	10'-0"	Floor Plates	" " Doorway.
Coupler Swiv. Bolt, Oper.	6/4x8	Journal Size	5/2x10	Cubic Capacity	3712	Side Plates	Alloy Steel Yoder
" Cushioning Device, Std. Ry. Eq. Co.		Wheels	1 Wear 33"	Roof	Riveted Diagonal Panel	Side & End Ladders	Steel G.H.
" Yokes	Cast Steel	Snubbers	Ride Control Type	Ends	Corrugated Steel	Sides	Youngstown.
" Release	Imperial	Brake Beams	AAR-15 Cast Unit	Framing	Alloy Steel		
Air Brake	AB 10'x12"	Bottom Rod Support	Creco	Sheathing	Fire Inside, 075" Steel Outside		
Hand Brake	Ajax, Universal	Slack Adjuster	Universal	Ceiling	1/4 Plywood		
				Doors (Side)	Camel, Superior Steel		

XM

# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

## GN 10' 12 Panel Boxcars As-Built

Series	Qty	Built	AFE No.	Doors	Hand Brakes	Running Board	Side Grabs	Ends	Coupler Cut Bar	Trucks	I.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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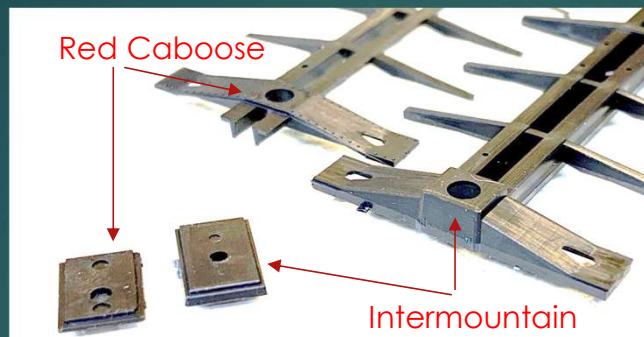


# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

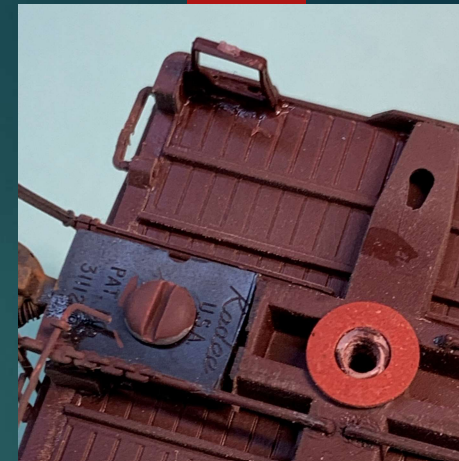
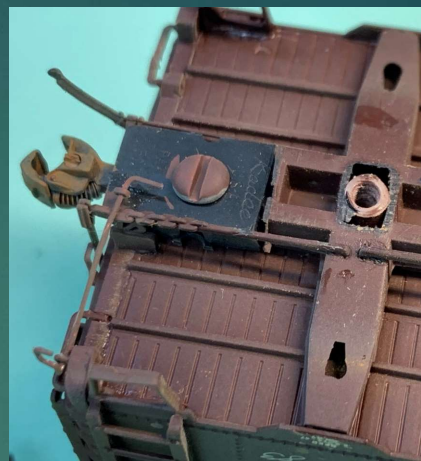
- ▶ Intermountain 10' 12-panel boxcars
  - ▶ Available in HO and N scale
- ▶ HO version introduced in 1997
- ▶ Offered in numerous paint schemes
- ▶ Both Youngstown and Superior door versions
  - ▶ Incorrect version of Youngstown and Superior doors on HO models
  - ▶ Correct Youngstown door on N scale models
- ▶ Cars can be improved with some simple changes and additions
  - ▶ Intermountain boxcars ride too high
  - ▶ Couplers are on the low side
  - ▶ Underframe and trucks should be painted mineral red
  - ▶ Upgrading some details and weathering



# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



- ▶ Cars sit ~3" too high
- ▶ Remove protrusion on bolsters
- ▶ Add .015" Kadee washer
- ▶ Mount Kadee #158 couplers to floor



- ▶ Cut off nubs on truck side frames representing brake shoes & add Kadee #442 brake pads
- ▶ Paint trucks and underframe – PollyScale PRR Maroon or PRR Tuscan
- ▶ Upgrade coupler lift bars
- ▶ Weather and add chalk marks



# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



S Holmquist Collection, GNRHS Archives

- ▶ GN 11099 has IDE-1 ends
  - ▶ No narrow rib across the top
  - ▶ Indentation on top major rib where hand brake mounts
- ▶ GN 18126 has IDE-2 ends
  - ▶ Narrow rib across top
  - ▶ Top major rib has a straight bottom edge

- ▶ Note the two styles of coupler lift bars that are used on these two cars
- ▶ Note the two different types of Universal hand brakes used on these two cars (cast and stamped)



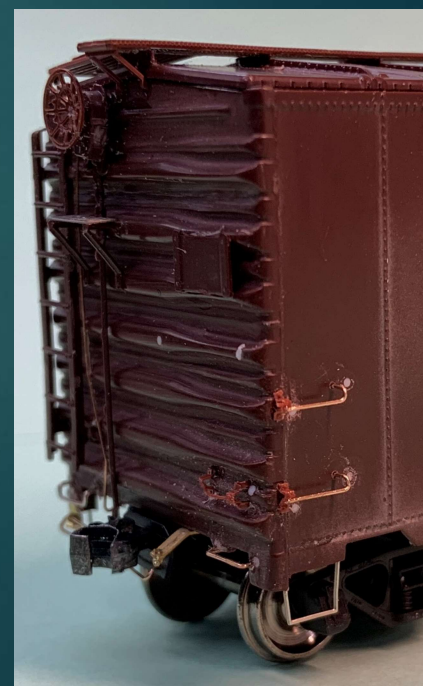
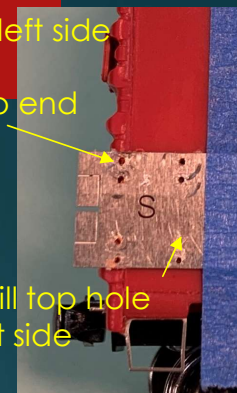
- ▶ Intermountain ends were modified to match IDE-1 (top) and IDE-2 (bottom) designs
- ▶ National Scale Car sells mini-kits with the IDE-2 ends, placard boards, rotary slack adjusters, and decals

# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



Bracket on left side  
of grab iron  
attached to end

Only drill top hole  
on right side



- ▶ Detail underframe
  - ▶ I used Yarmouth brake levers and factory brake components
- ▶ Scratch-built Universal rotary slack adjuster
  - ▶ Included in National Scale Car mini-kit
- ▶ Add Kadee #178 semi-scale couplers
- ▶ Add ASF A-3 Ride Control trucks (except for last series)
  - ▶ Used Kadee HGC trucks with Intermountain 0.088" wheelsets
- ▶ Bracket is cut from a Kadee bracket grab iron
- ▶ Using .0125 wire, bend drop for right side of grab iron
- ▶ Trim left end of grab iron to length and glue to bracket
- ▶ Added Yarmouth sill steps



# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



November 1951, S Holmquist Collection, GNRHS Archives

June 1949, S Holmquist Collection, GNRHS Archives

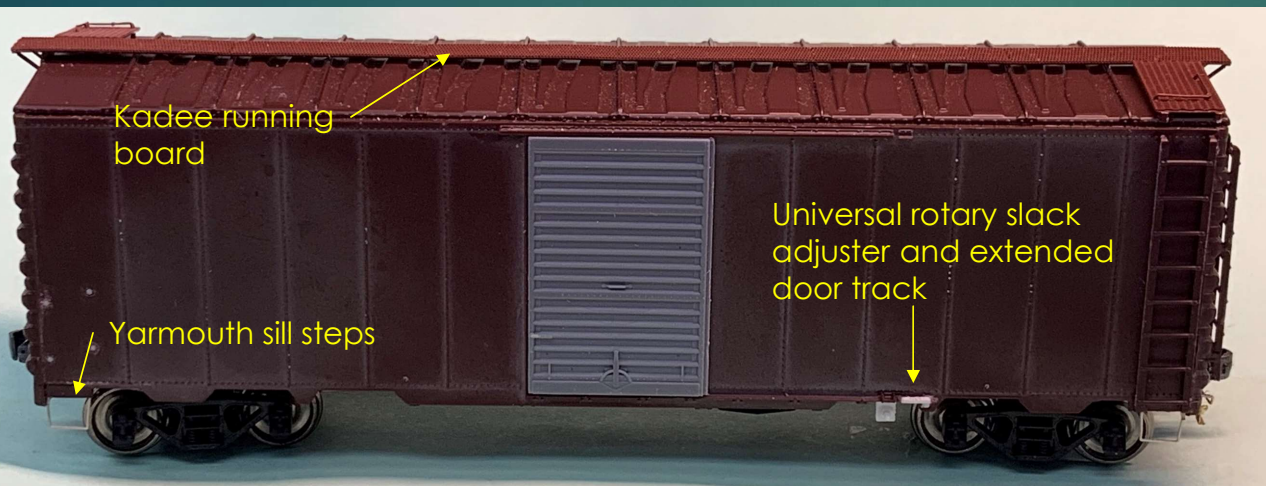


- ▶ Adding the correct doors
  - ▶ Superior doors – Southwest Scale Models FC-671
    - ▶ Existing door track is correct
  - ▶ Youngstown doors – Southwest Scale Model FC-612 4-6-6 Youngstown
    - ▶ Extend lower door tracks

# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

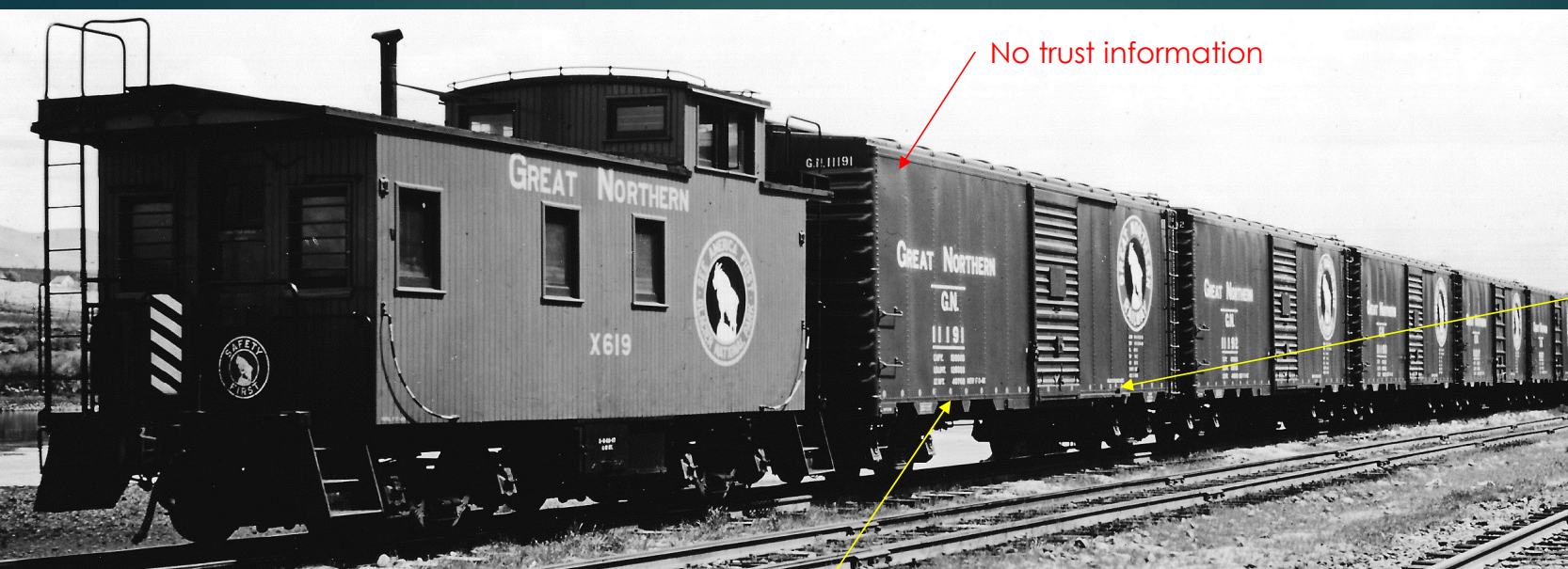
- ▶ Add appropriate Kadee running board
  - ▶ Kerrigan is similar to Apex
- ▶ Add appropriate etched metal brake step
- ▶ Add grab irons to ends
  - ▶ Drop grab on left, straight grab on right, Kadee bracket grab
- ▶ Add appropriate hand brake and brake wheel
- ▶ Yarmouth coupler lift bar bracket and Tangent coupler lift bars
- ▶ PSC 39156 air hose brackets and Hi-Tech Details air hoses

Holes drilled in hub of Tangent Universal brake wheel to model cast version



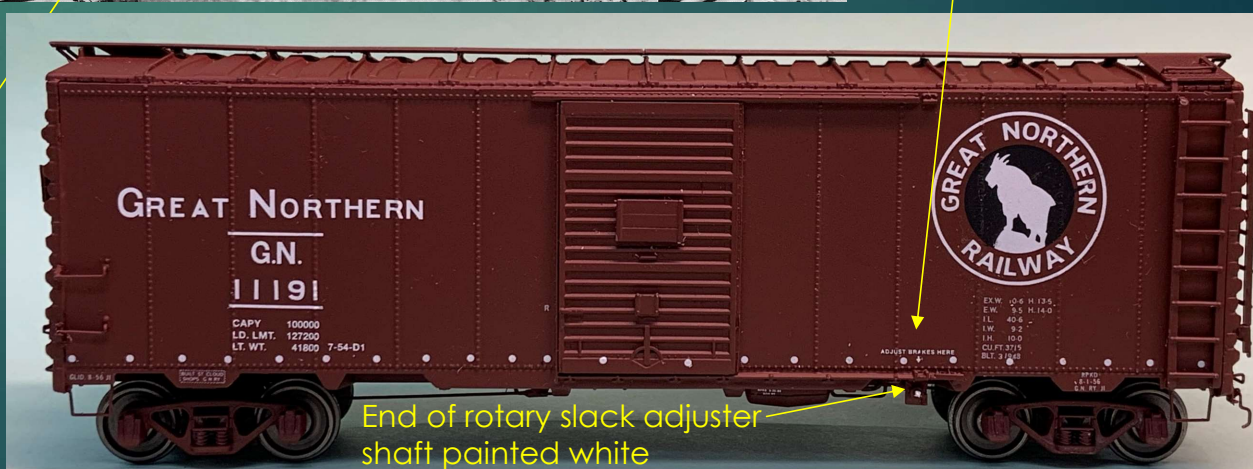


# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

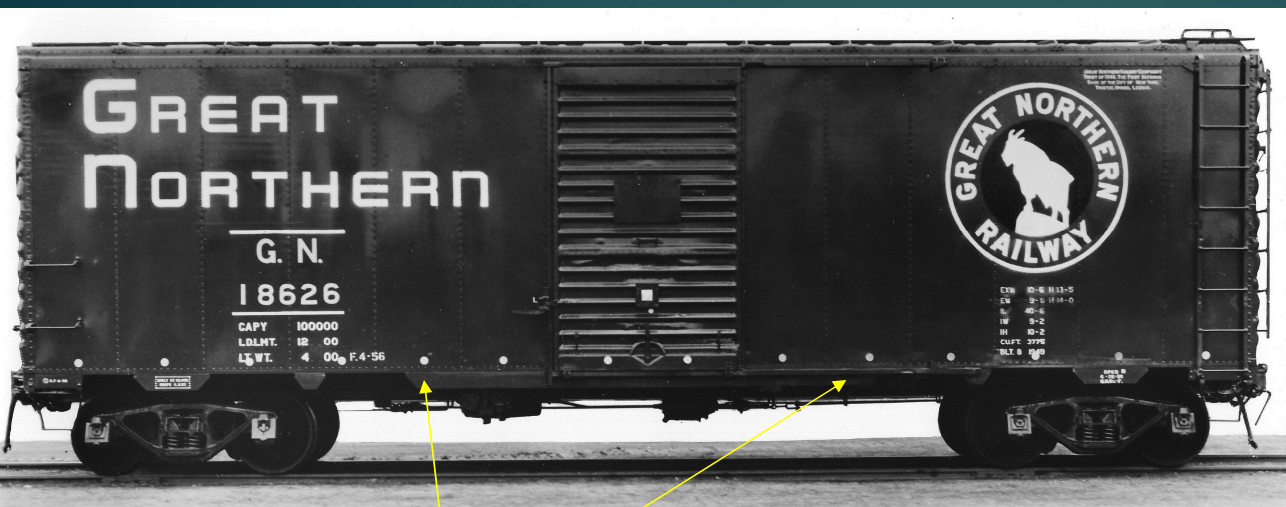


March 1948, S Holmquist Collection,  
GNRHS Archives

Eleven reflective dots to  
left of door



# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



- ▶ GN 18626 may be first car repainted in new "Empire Builder" lettering scheme (4-56)
- ▶ Unusual to have photography studio document repainted cars
- ▶ Entire car still painted Mineral Red
- ▶ Use of Vermillion Red on repainted cars started on October 1, 1956

April, 1956, Riehle Studios photo, S Holmquist Collection, GNRHS Archives

Trust Information

Six reflective dots on either side of door

Paint stencil





# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

## ► Detail Parts

- Kadee ASF A-3 Ride Control trucks
- Intermountain 0.088" wheelsets
- Kadee 178 couplers
- Yarmouth YMW 503 brake levers,
- Kadee running board
- Tichy 3021 18" straight grab irons
- Tichy 8021 turnbuckles
- Tichy .0125" phosphor bronze wire
- DA SY 2210 chain
- Southwest Scale Models FC-612 Youngstown doors
- Yarmouth YMW-201 sill steps
- Kadee 2251 side grab irons
- PSC 3263 retainer valve
- PSC 39156 air hose brackets
- Appropriate hand brake
  - Tangent TSM-1004 Universal brake housing
  - Tangent TSM-1055 Universal brake wheel
  - Tichy Ajax brake housing and brake wheel
- Tangent TSM-203 coupler lift bars or scratch-built



- Yarmouth YMW #507 cut lever brackets
- Yarmouth YMW 3137M tack boards
- Hi-Tech Details 6038 air hoses
- Appropriate Plano brake step
- Entire car including trucks painted TruColor TCP-214 GN 1930-45 Freight Car Red
- Lettered using Microscale 87-185 and 87-1388 decals, Champ HB-429 decals, and Speedwitch D135 Chalk Marks decals
  - Note different IH and CUFT data for different series
- Light weathering using Pan Pastel Permanent Red Extra Dark, Paynes Grey Extra Dark and Raw Umber, Polly Scale Grimy Black, and Modelflex Rust

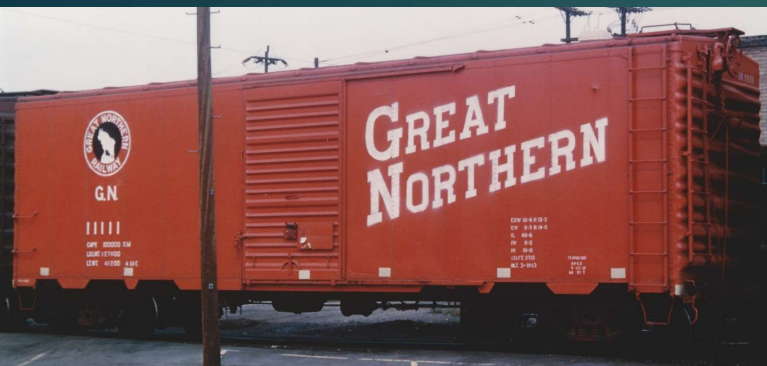
# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars

## ► References

- GNRHS Reference Sheet Reference Sheet #61 – Great Northern 40 Ft. Steel Box Cars: Series 18000, 18500, 19500, 20500 and 21450, by Staffan Ehnborn, March 1981
- Great Northern Postwar Box Car, by Staffan Ehnborn and Stan Townsend, Mainline Modeler, September 1985
- Great Northern Box Car: Modeling, by Staffan Ehnborn and Stan Townsend, Mainline Modeler, September 1985
- Great Northern 40-foot Box Cars From Intermountain's HO Scale Kits, by Duane Buck, Railmodel Journal, October 1998
- Great Northern Steel Box Car, by Staffan Ehnborn, Mainline Modeler, November 2001
- Great Northern Postwar Box Cars, by James Kinkaid, Mainline Modeler, December 2001
- 10'0" Inside Height Postwar 40' 6" A.A.R. Boxcars, Ed Hawkins, Railway Prototype Cyclopedia Volume 8
- Lightweight House Cars, Part 2, Pat Wider, Railway Prototype Cyclopedia, Volume 31-32
- Modeling a Realistic Great Northern Freight Car Roster: 10' 12-panel Steel Sheathed Boxcars Part 1, by Rich Remiarz, December 2021 GNRHS Modelers' Pages
- Modeling a Realistic Great Northern Freight Car Roster: 10' 12-panel Steel Sheathed Boxcars Part 2, by Rich Remiarz, March 2022 GNRHS Modelers' Pages



# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



Sept. 20, 1961,  
Bob's Photos

Mid-1967,  
C Newby  
Collection,  
GNRHS  
Archives

Later  
Paint  
Schemes



Post Jan. 1970,  
M Evoy  
Collection,  
GNRHS Archives

Post 1970,  
C Newby  
Collection,  
GNRHS  
Archives



Post Feb. 1969,  
C Newby  
Collection,  
GNRHS Archives

Sept. 22, 1957,  
San Diego, CA,  
Bob's Photos





# GN 10900-11874 & 18000-20499 40' 12-Panel Boxcars



"Circus Train" cars  
Painted in April, 1956

GNRHS Archives





Thank you!  
Any Questions?  
rremiarz@msn.com

Next year's clinic will continue with  
Great Northern 40' boxcars



S Holmquist Collection, GNRHS Archives

S Holmquist  
Collection,  
GNRHS  
Archives



S Holmquist Collection, GNRHS Archives

S Holmquist Collection, GNRHS Archives



Stan Styles Collection

S Holmquist Collection, GNRHS Archives



Staffan Ehnborn Collection  
S Holmquist Collection, GNRHS Archives

