

A yellow wooden freight car, likely a refrigerator car, is shown in a dark, low-key photograph. The car has "FRUIT GROWERS EXPRESS" and "EGEX 35832" painted on its side. The text "VENTILATOR AND REFRIGERATOR" is also visible. The car is on tracks, and the background is dark and indistinct.

Fruit Growers Express

The Wooden Cars

Naperville IL. RPM Meet October 2024

A modelers look at the FGE Consortium's transition era wooden cars
Help in selecting which cars to model.

Inspiration and support for this presentation by the late Bill Welch

Fenton Wells

When you look at this photo, what do you see ?



FRUIT GROWERS EXPRESS-WOODEN CARS
THEY ARE SIMILAR, BUT NOT ALL THE SAME
WHY???

- Different Car Heights,
- Different Car Roofs
- Different Paint jobs
- Different Underframes
- Different Manufacturers

- WHY??? What is the modeler do?



FGEX WOODEN CARS: A DIFFICULT STUDY

WHY IS IT A HODGEPODGE OF CAR DESIGNS

FGEX Wood Car Types vs the competition

Company	Wood Car Types
PFE	4
ART	1
MDT	3
SFRD	3
FGEX	33

- Many Inherited cars from Armour divestiture with little documentation
- Many different types cars inherited from joining consortium members
- FGEX Assigning cars of different types to the same number series
 - Except for PRR little documentation of a quirky and diverse fleet of inherited cars

FGEX - WOODEN CARS – OUT OF MANY..... THERE IS ONE

A BRIEF HISTORY

- March 18th, 1920, FGEX formed – due to Anti-trust case by US Courts vs. Armour Co. Henry B. Spencer is President
- May 1, 1920, New Co. inherits 4279 cars from Armour and that same day the C&EI receiver sells 971 truss rod cars to the consortium
- End of 1920 New Haven and N&W join the new company
- July 18th, 1923, Great Northern forms Western Fruit Express and pools resources with FGEX and brings 5500 cars into the new company
- July 18th, 1923, L&N sells 1362 cars to the consortium and becomes a stockholder
- October 1, 1923, FEC leases 175 new(almost) reefers and joins the consortium
- May 15, 1925, B&O transfers 1612 cars, to join the consortium



FGEX - WOODEN CARS

A BRIEF HISTORY

- May 1st, 1926, Burlington Express is formed to join FGEX operations and brings 2659 reefers into the new company and PRR joins with 2676 36 ft reefers
- January 1, 1927, C&O joins and brings 49 cars into the company..
- February 1928, FGE forms National Car Co (NX) to serve the meat packing industry
- January 1, 1931, NYO&W sells 46, 36 ft and 240, 40 ft reefers (from NY,NH&H)
- June 1st, 1932, Burlington adds Colorado Southern and Fort Worth and Denver into the mix bringing 300 more reefers into the company
- June 1st, 1932, FGE purchases 3244, R7 Reefers from Pennsylvania RR
- Late 1940, Pere Marquette brings 125 reefers into the company and FGE purchases 171 cars formally under lease to the car ferry co.
- 1945 FGE purchases 10 outside braced reefers from N&W

FGEX - WOODEN CARS

A BRIEF HISTORY – A FEW FGE FACTS

- The consortium, FGEX, WFEX, BREX and NX was National in scope
- In 1936 the consortium, known as “Our Companies” had 26,327 reefers second only to PFE and most of these were wooden cars
- By 1953 the company maintained 20,463 cars, still mostly wooden
- At their peak, ‘Our Companies’ provided :Transportation, Protective Services - Inspection, refrigeration, heating, and ventilation and refrigerator cars to 75 railroads through 500 locations
- Info for modeling FGEX is difficult: Due to lack of data/records.
- Different type cars put in same number series



FGEX - WOODEN CARS

A BRIEF HISTORY – A FEW FGE FACTS...FOR MODELERS

- FGEX consortium, of the 5 major produce reefer companies, had the only Truss rod reefers, and still had 378 on the roster in 1953.
- Brake steps were added when not present
- BREX truss rod cars probably never received Hutchins roofs or AB brakes or brakes steps while some FGEX and WFEX cars did.
- FGEX, WFEX and BREX never rebuilt a wood sheathed car with steel ends
wood sides = wood ends
- Some cars re-built with steel frames and some not
- PFE, SFRD and MDT wood sheathed cars each featured 2 underframes types while FGEX had 7-8



FGEX - WOODEN CARS

A BRIEF HISTORY - FGEX'S OWNERS

Atlantic Coast Line

Baltimore and Ohio

Central of Georgia

Chesapeake and Ohio

Chicago and Eastern Illinois

Florida East Coast

Louisville and Nashville

Nashville, Chattanooga & St. Louis

New York, New Haven, & Hartford

Norfolk Southern

Norfolk & Western

Pennsylvania

Pere Marquette (1940-1947)

Richmond Fredericksburg & Potomac

Seaboard Airline

Southern



FGEX Cars in 1953

Number Series	Car Qty	Member	U/F	Notes
18100-18799	58	FGEX	T/R	Most all got Hutchins roofs (both types of queen posts check photos)
20000-21849	50	FGEX	T/R	Ex L&N most got Hutchins roofs (both types of queen posts check photos)
25500-25999	488	FGEX	?	Mystery first appear in 1924
32100-35999	1632	FGEX	C 1-3	FGEX 1921-22 Design all rebt with Hutchin roofs and AB brakes
35900-35999	100	FGEX	?	Appear to be FGEX 1921 design some dimensional differences
36000-37999	820	FGEX	C-4	FGEX 1927 design All rebt with Hutchins roofs and AB brakes
50000-51999	865	"	"	Cars 36000-37999 had a Copy of 75000 lbs; & cars 50000-50999 had a Copy of 90000 lbs
38000-38199	188	FGEX	C-5	WE cars with DN ends and plywood sides w/Murphy panel roof and plywood sides. Cars
38200-38499	245	"	"	38374-38499 rebt with steel sides in 1946
43500-46349	111	FGEX	R7	Ex PRR R7 Some rebuilt with Hutchins roofs a few with sliding drs
52000-52229	110	FGEX	R7	Upgraded 1922/27 cars built on PRR R7 U/F's with extra grab as required for car end
52230-52679	347	"	"	
55000-56999	1497	FGEX	Various	Rebuilds of 1927 cars(32100-35999 & 50000-51999) Taller car and doors and side sill reinforcement .Adjustable Ice grates and many with fans
57000-58999	847	FGEX	"	
59000-59999	824	FGEX	"	
		C = FGEX Company 1-5 underframes		
		C-1 =No side sill - exposed cross bearers		
		C-2 = 4" riveted side sill - 4" of crossbearers exposed		
		C-3 = 6" Riveted side sill - 2" of crossbearers exposed		
		C-4 = 8" Riveted side sill no cross bearers exposed		
		C-5 - 8" Welded side sill no cross bearers exposed		
		T/R = Truss Rod - Check photos for straight or angled		

WFEX, BREX, CX & FW&D Cars in 1953

74400-74699	294	BREX	C-5	WE Cars Murphy panel roof, 4/4 - D/N ends AB Brakes Plywood or T&G sides
75000-75999	693	BREX	F/B	USRA design Pull 1922 with outside metal roofs and hatch platforms, no brake steps on car end, Andrews Trucks. Cars rebuilt starting late '40s with Hutchins roofs
50050-50249	143	CX	"	
20001-20100	59	FWDX	"	
49000-49999	627	WFEX	T/R	Rblt with C-4 U/F and Hutchins roofs in the late '40s
60001-63910	275	"	"	
65000-66349	668	WFEX	C-3	Similar to the FGEX 1922 design
66400-66499	97	WFEX	C-5	WE Cars Murphy panel roof, 4/4 - D/N ends AB Brakes, Plywood sides
66500-66624	123	"	"	
67000-67846	548	WFEX	C-4	Similar to FGEX 1927 design
72055-72179	125	WFEX	C-5	Rblt in '48 from 65000 series cars - See photos
73900-73999	100	WFEX	C-5	Rblt in '49 from 65000 & 67000 cars - See photos

Notes: U/F = Underframes

F/B = Fishbelly

T/R = Truss Rod - Check photos for straight or angled

C-3 = 6" Riveted side sill - 2" of crossbearers exposed

C-4 = 8" Riveted side sill no cross bearers exposed

C-5 = 8" Welded side sill no cross bearers exposed

The Consortium's Signature Wooden Cars

Burlington Refrigerator Express

BREX brought 2659 cars to the consortium and 38% of the cars were this type rising to 51% when CX and FW&D added



Western Fruit Express

The GN brought a fleet dominated by truss rod cars, 846 of these cars in 1951, 46% of the fleet.

Fruit Growers Express

4078 of these would be built,
many remodeled after 1948
They represent 27% of the
cars in 1941

FRUIT GROWERS EXPRESS – THE WOODEN CARS

HOW DO WE KNOW WHAT CAR TO MODEL???

Bill Welch's conclusion was – Underframes “*By their underframes they shall be known*”

Legacy Designs

Truss Rod

Early Steel

PRR R7

Fishbelly

Straight

Company Design

1922 Company

1927 Design

Welded Company



TRUSS ROD UNDERFRAMES

- First choose your modeling era (transition era for now)

- Underframes –

Truss Rod – 2 types - Long angled and straight

Long Angled

WFEX: 60001-63901

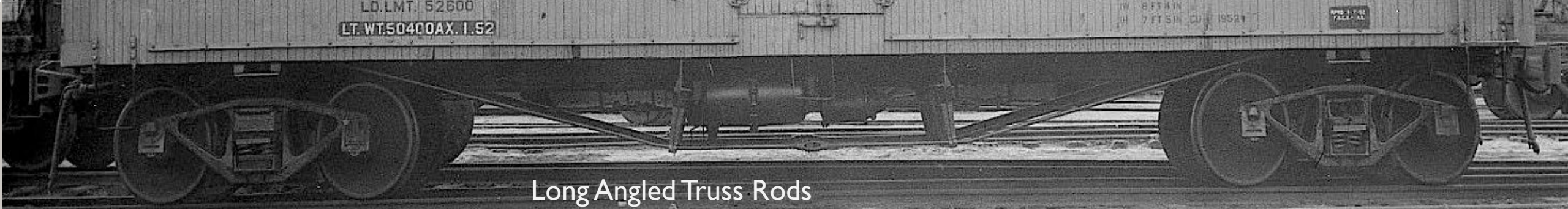
FGEX: 14000-14998; 18100-18899; 19000-19224; 20000-21849; 31000-31999

BREX: 76800-77204; 78200-78699

Straight

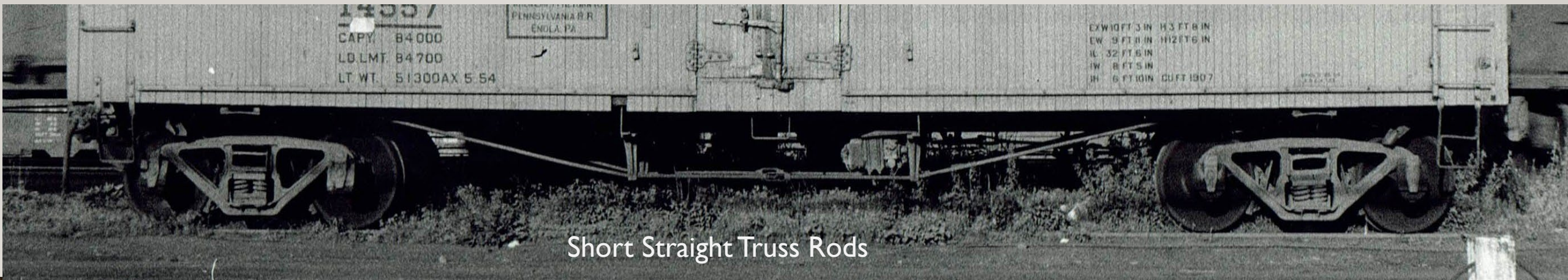
WFEX: 60001-63910

FGEX: 19000-19224; 20000-21849



Long Angled Truss Rods

Two types of truss rods



Short Straight Truss Rods

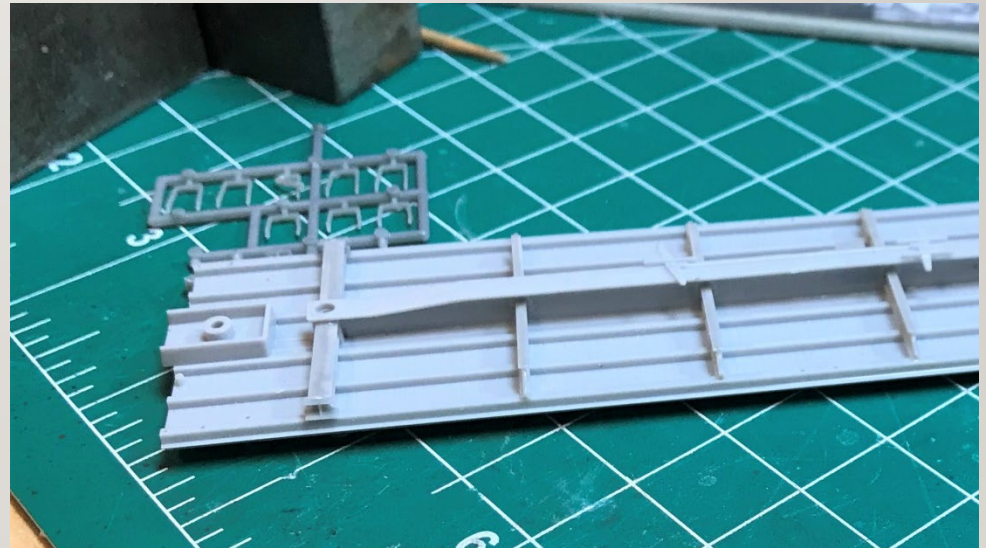


STEEL UNDERFRAMES - BETTENDORF

Bettendorf (Red Caboose U/F) –
(most of these cars retired by 1953)

FGEX: 22000-22549 (Ex L&N CARS)

FGEX: 11350-13057 (? Origan)



EARLY STEEL UNDERFRAMES – BUILT UP

PFE Was a big user of the Built Up
Built Up (Tichy) - (most of these cars
retired by 1953)

FGEX: 22000-22549 (Ex L&N cars)

FGEX: 13500-13999 (?*)

*Where did these cars come from, L&N,
Armour?



PRR R 7 - STEEL UNDERFRAMES

R7 - PRR R7 Reefers and R7 underframes used on FGEX rebuilds



FISHBELLY STEEL UNDERFRAMES



Fishbelly (BREX Accurail)

The BREX cars and some
FGEX cars (ex C&O, FEC,
B&O & NYO&W)

COMPANY UNDERFRAMES – STYLE NO. I

Company No. I – Riveted with no visual side sill

FGEX 32000-32099 & WFEX 65000-66349



COMPANY UNDERFRAMES – STYLE NO. 2

Company No. 2 – Riveted with a 4” side sill

FGEX 32100-35999



COMPANY UNDERFRAMES – STYLE NO. 3

Company No. 3 – Riveted with a 6” side sill

FGEX 32100-35900, WFEX 6500-66349 (the 1921-1922 cars)



COMPANY UNDERFRAMES – STYLE NO. 4

Company No. 4 – Riveted with an 8” side sill

1928 design and used in large numbers of FGEX 36000-37999; 50000-51999 & WFEX 67000-67846



COMPANY UNDERFRAMES – STYLE NO. 5

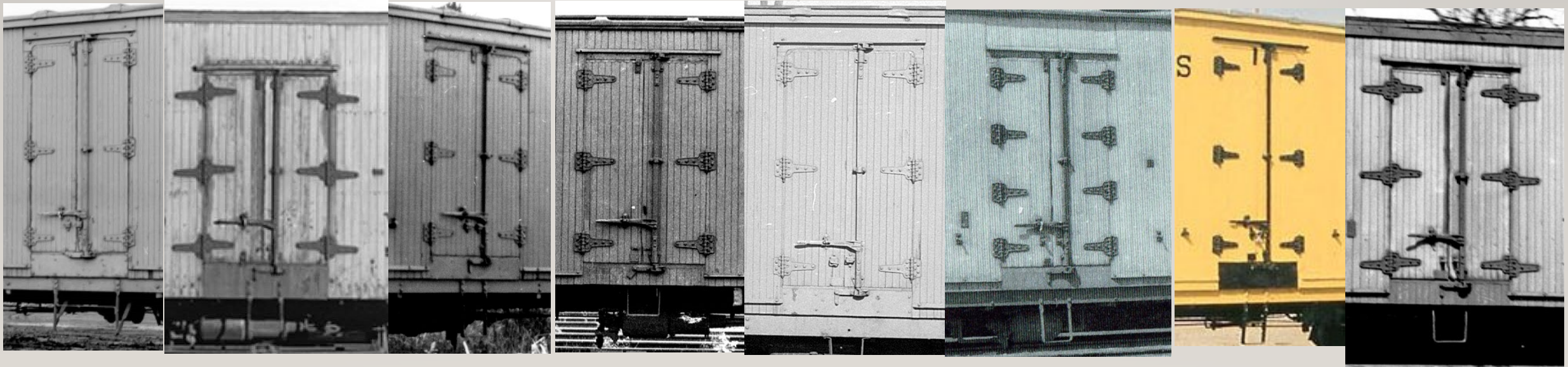
Company No. 5 – Welded 8” side sill

Used by FGEX, WFEX & BREX 1942-46 WE cars



HOW DO WE MODEL THESE CARS?

- Doors - A Plethora of sizes, shapes and number and type of hinges
 - Various heights depending on new or rebuilt car – see photos !!

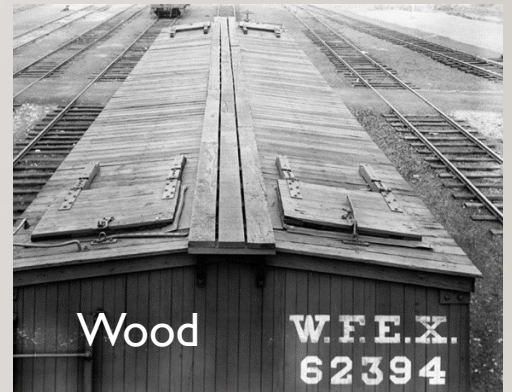


HOW DO WE MODEL THESE CARS

Roofs

- Double Wood
- Steel roof
- *Hutchins roofs

*Note – no small stiffener rib in middle of roof panels



FGEX – THE WOODEN CARS – MODELING: WHERE DOES A MODELER START?

Kits?

Kit Bash?

Scratch Build?



MODELING THE COMPANY DESIGN CARS, THE TRUSS ROD CARS – SUNSHINE MODELS

Sunshine Truss Rod kits

- | | | |
|-------|------|---|
| 34.9 | REEF | FGEX modernized truss rod reefer |
| 34.10 | REEF | WFEX modernized truss rod reefer |
| 34.14 | REEF | BREX 78200 series 38'8" reefer w/ truss rods, tongue in groove roof, 1930s-50s decals (QUICK_KIT) |
| 34.15 | REEF | WFEX 38'8" reefer w/ truss rods, tongue in groove roof, facing goat(1930s-50s) decals (QUICK-KIT) |

TRUSS ROD CARS

Sunshine or scratch build – Model by Bill Welch



MODELING THE
COMPANY
DESIGN CARS,
THE 1921
COMPANY CARS
– SUNSHINE
MODELS

Sunshine 1921 Design kits

34.1	REEF	FGEX 1921 reefer 12'1" 32000-35999
34.3	REEF	WFEX 1921 reefer 12'1" 65000-66999
34.5	REEF	EKSX Natl Car 12'1" Kahn lettered
34.7	REEF	NX Natl Car 12'1" special "glass" and "can" decals

MODELING THE COMPANY DESIGN CARS, THE 1927 CARS SUNSHINE MODELS

Sunshine 1927 Design kits

34 .2	REEF	FGEX 1927 reefer	12'7"	36000-37999
34.4	REEF	WFEX 1927 reefer	12'7"	67000-67999
34.6	REEF	EKSX Natl Car	12'7"	Kahn lettered
34.6	REEF	EKSX Natl Car	12'7"	Kahn lettered

THE WAR EMERGENCY CARS: SUNSHINE KITS

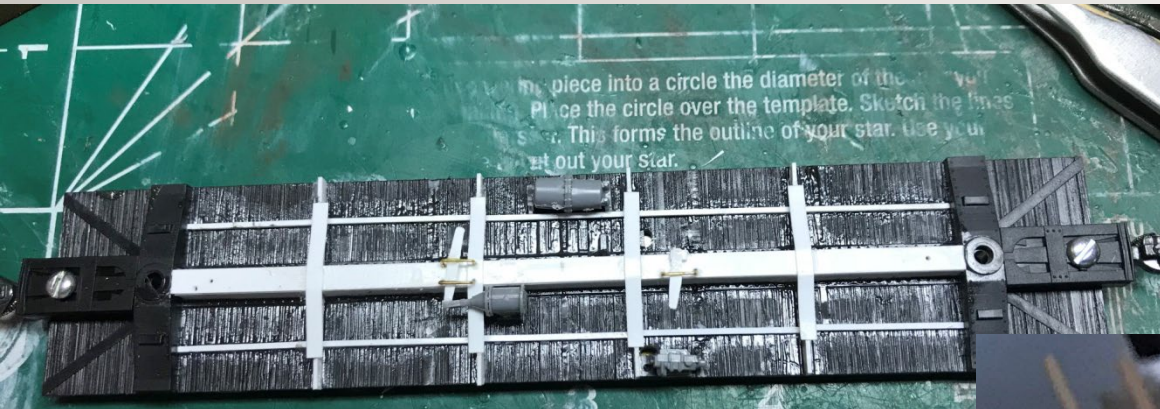
34.16	REEF	BREX WWII era plywood reefer, etched brass detailparts, 3-color logo, as built decals
34.17	REEF	BREX WWII era tongue in groove reefer, etched brass detailparts, 3-color logo, as built decals
34.18	REEF	WFEX WWII era plywood reefer, etched brass detail parts GN & GN Railway logos, as built decals
34.19	REEF	FGEX WWII era plywood reefer, etched brass detail parts, as built decals
34.20	REEF	BREX WWII era tongue in groove reefer, etched brass detail parts, 3-color logo, '50s decals
34.21	REEF	WFEX WWII era plywood reefer, etched brass detail parts GN logos, (50s-60 decals)
34.22	REEF	WFEX WWII era tongue in groove reefer, etched brass detail parts GN logos, (50s-60 decals)
34.23	REEF	FGEX WWII era plywood reefer, etched brass detail parts,
34.24	REEF	FGEX WWII era tongue in groove reefer, etched brass detail parts, as built decals

MODELS 1921-22 DESIGN – MODIFIED ACCURAIL

FGEX, WFEX and NX

1. Modify underframe – All 3 styles can be modeled
2. Modify the ends
3. Modify roof
4. Detail and decal to suit personal desires
5. Different rebuilds can be modeled with Evergreen sides and ends

FGEX Accurail modified



1921-22 BREX – MODIFIED ACCURAIL

1. Modify underframe

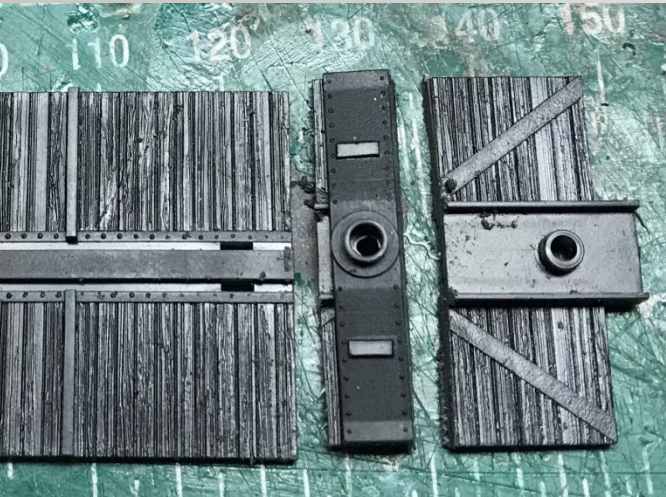
- a. Move bolster 6” closer to car end (5’-0” SF to bolster)
- b. Use Accurail Fishbelly underframe – 6” side sill (Type 3)

2. Modify ends (depending on era)

3. Modify roof (depending on era)

4 Detail and paint and letter to suit personal tastes

Accurail BRET Modification





Note this is the rebuilt version with the FGEX Hutchins roof for a backdated model see Bill Welch article in Prototype Railroad Modeling, Vol. I, Speedwitch Publications ***“The Burlington Refrigerator Express Company’s Signature Wood Sheathed Reefers”***

Intermountain 1927 FGEX Cars and post war upgrades – Use the Intermountain car



R7 Reefer and R7 Underframe on rebuilt car



Westerfield kit



Westerfield Underframe with Chad Boas end sills



Westerfield Resin Reefer kits

R 7 PRR, FGEX, NX, Matheison

11601 Original Roof PRR

11602 Original Roof FGEX

11651 Modern Roof PRR

11652 Modern Roof FGEX

11653 Modern Roof NX

11661 Hutchins Roof FGEX

11662 Hutchins Roof NX

11664 Hutchins Roof Mathieson Dry Ice

ACF WFEX

6002 Type 1 GN WFEX

RF Class(Early FGEX)

2753 Modern FGEX

INHERITED AND REBUILT CARS

Inherited cars – need photos and modify Accurail or scratch build

Evergreen, Grandt Line, Accurail can provide most parts

Accurail, Red Caboose and Tichy for underframes

Built Up Underframe - using the Tichy Underframe



PAINTING AND STENCILING

1. Pre-1940 – till about 1949 or maybe a bit later
2. 1950 – 1953
3. 1953 – 1955
4. 1960 and beyond

PAINT AND STENCILING PRE-1940

Yellow: car sides

Reddish – Brown: car roof, ends and kick plate below door....most of the time

Black: Underbody, trucks and metal hardware and ladders on car sides

Lettering: Optic style “Ventilator and Refrigerator” used on the sides

Notes:

- Until 1944 and beyond the dimensional data was not used. Other info was placed there, Adjustable Ice grates, Air circulation fans etc. after 1944 that was reduced in size and moved to upper left on car side
- Information on car side was black except for Lt Wt and Lube info, white in black background
- WFEX and BREX used corporate monograms on car side
- Hardware on ends most likely red but sometimes black

Consortium Paint Schemes*

Optic and similar to FGE

* Thanks to Bill Welch

WFE - BRE Early 1940-early 1951

Both roads displayed their heralds on the cars

WFE Pre 1940 thru October 1942



WFE Oct.1942 thru 1948-1949



WFE 1949 thru 1953 and beyond



PAINT AND STENCILING 1940 - 1951

Yellow: car sides

Reddish – Brown: car roof, ends and kick plate below door....most of the time

Black: Underbody, trucks and metal hardware and ladders on car sides

Lettering: Optic style “Ventilator and Refrigerator” used on the sides

Dimensional data added beginning around 1944

Placard boards added post war and were mostly yellow but sometimes black

PAINT AND STENCILING 1951 - 1955

Yellow: car sides, and metal hardware and ladders on car sides

Reddish – Brown: car roof, ends and kick plate below door....most of the time

WFEX and NX started painting roofs silver, rest of consortium later

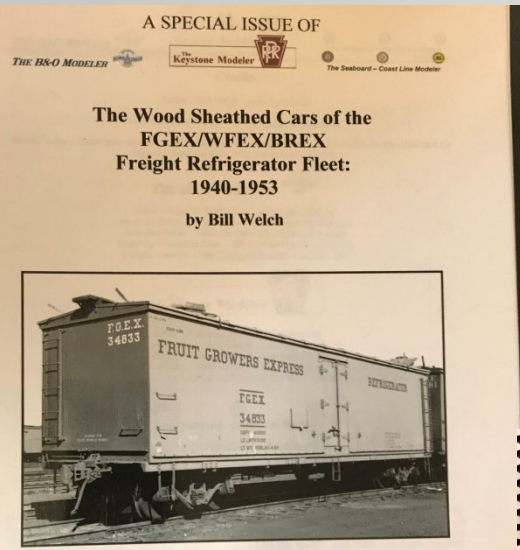
Black: Underbody, trucks

Lettering: Optic style “Refrigerator” used on the sides

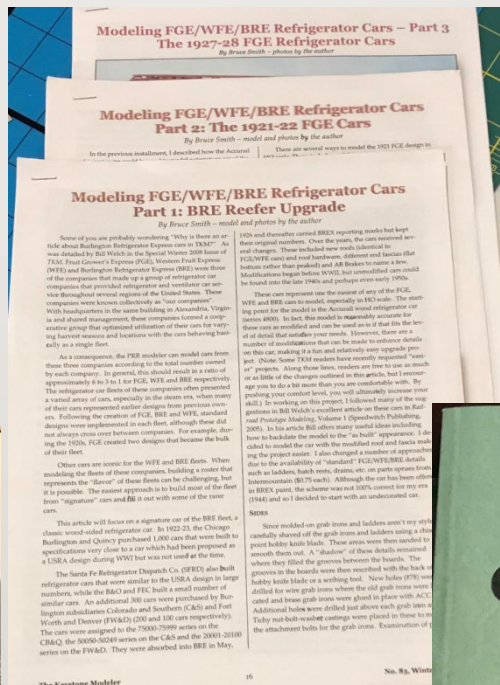
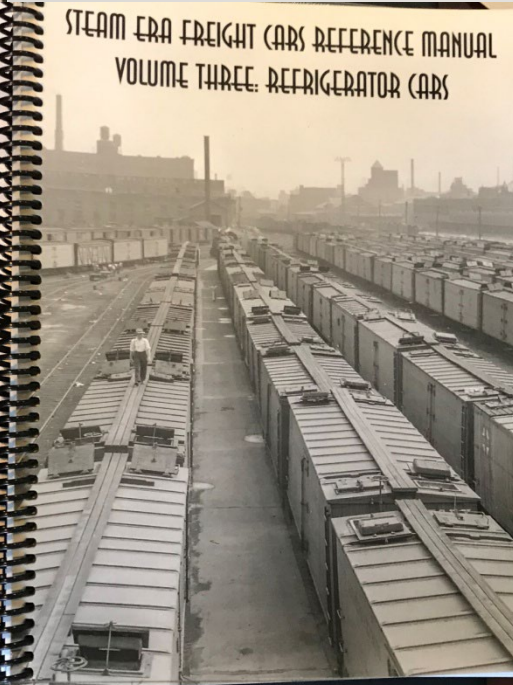


-
- And for your later era modelers (1960's – 1970's) this is what they looked like at the end of the ice age
 - Note lettering was changed from Optic to Gothic about 1957

Go TO Resources for this topic

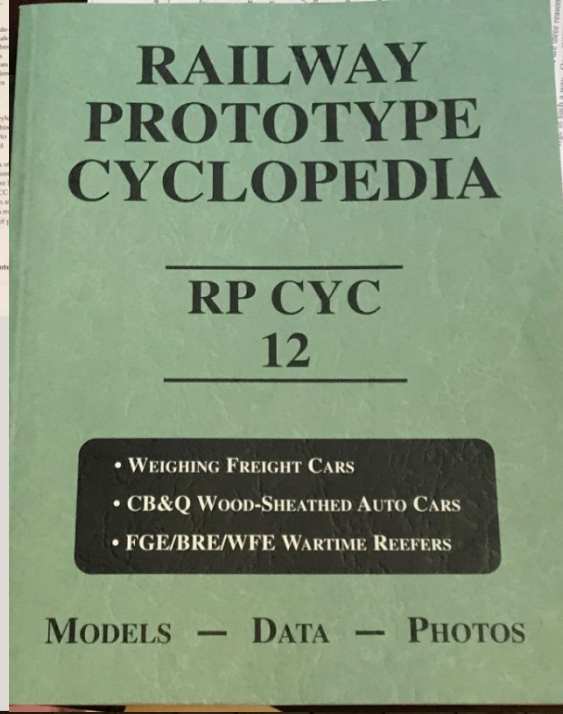
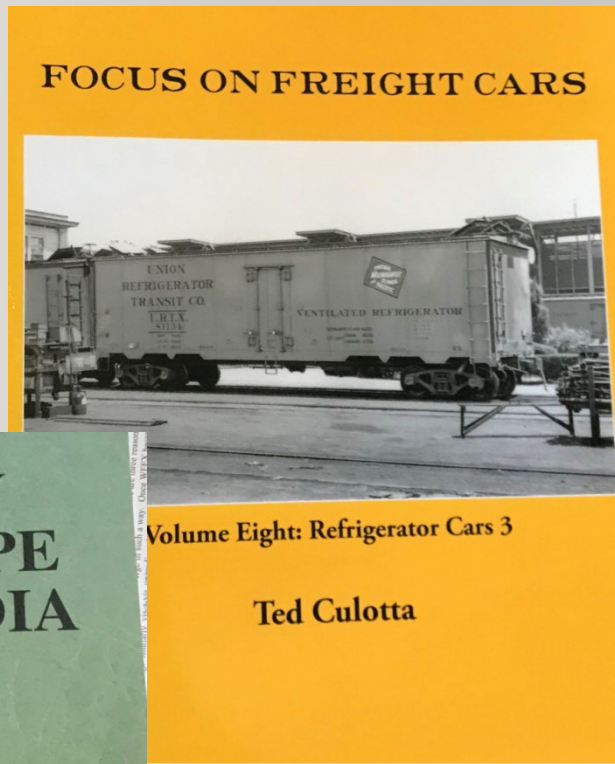


SPECIAL ISSUE FEBRUARY 2008



The Keystone Modeler
3 Articles by Bruce
Keystone Smith

Part 1 No. 83 Winter 2013
Part 2 No. 84 Spring 2013
Part 3 No. 87 Winter 2014



- “Upgrading the Accurail/5th Ave. Car shops E. Kahn’s & Sons 40 ft meat reefer”, Greg Martin, *The B&O Modeler*, May/June 2007, p. 20
- “Truss Rod Refrigerator Cars of the Fruit Growers Express Co. /Western Fruit Express/Burlington Refrigerator Express Consortium”, Bill Welch, *Prototype Railroad Modeling, Volume Two, Speedwitch Media*, 2006, p.43.
- “The Burlington Refrigerator Express Company’s Signature Wood Reefers,” Bill Welch *Prototype Railroad Modeling, Volume One, Speedwitch Media*, 2005, p.40
- “The Wood Sheathed Cars of the FGEX/WFEX/BREX Freight Refrigerator Fleet 1940-1953”, Bill Welch, *Special Issue of the B&O Modeler, The Keystone Modeler, and the Seaboard - Coastline Modeler*, February 2008
- “WFE & FGE 40-foot Wood Reefers from Intermountain Models”, Bill Welch, *Railmodel Journal*, February 2005, p. 40
- “Fruit Growers Express Reefer: Less Publicized than PFE”, Ivan Frantz, *Mainline Modeler*, January 1988, p. 42.
- “Fruit Growers reefer”, Harold Russell, *Model Railroader*, July 2009, p.42
- “Western Fruit Express. Refrigerator Cars, Part One”, Clive Carter, *Mainline Modeler*, April 1996, p.41

FGEX WOOD CARS - RESOURCES

FGEX WOOD CARS – RESOURCES CONTINUED

- “Kit Conversion: Pennsylvania X23 Box Cars and National Car R-7 Reefers from Cannonball or Westerfield and Bowser Kits”, Stan Rydarowicz, *Railmodel Journal* May 2007, p.26
- “Modeling FGE/WFE/BRE Refrigerator Cars” Bruce Smith, *The Keystone Modeler, Part 1 The BRE Reefer Upgrade*, No 83, Winter 2013 p.16, Part 2, *The 1921-22 FGE Cars*, No 84, Spring 2013, P. 24, Part 3, *The 1927-28 FGE Refrigerator Cars*, No. 87, Winter 2014, p.6.
- “Burlington Reefers – in Color”, *Model Railroading*, May/June 1985, p.40
- “The Refrigerator Cars of the Burlington”, *Model Railroading*, January/February 1985, p.40
- “ FGE/BRE/WFE Wartime Reefers”, Bill Welch, Ed Hawkins and Patrick Wider, *Railway Prototype Cyclopedia*, Volume 12, 2005, p. 88
- “Great Northern truss rod reefers”, Richard Hendrickson, *Prototype Modeler*, January 1986, P39
- “Steam Era Freight Cars Reference Manual Volume Three: Refrigerator Cars” Ted Culotta, *Speedwitch Media*, 2017, FGEX System p. 17.
- Focus on Freight Cars, Volume Eight: Refrigerator Cars 3” Ted Culotta, *Speedwitch Media* 2017, FGEX p. 26, p. 38,

MANY THANKS

Bob's photos

Arn's photos

Ted Culotta

Andrew Dahm

Chad Boas

National Scale Car Company

Bruce Smith

AND LAST BUT NOT LEAST,
THANKS FOR THE HELP AND INSPIRATION

to the Late.....

Mr. Fruit Growers Express.....

Mr. Bill Welch

