Please Silence Mobil Devices

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2018 Chicagoland RPM Mini-Kit Assembly of FGEX Truss Rod Reefer by George Toman



The Fruit Growers Express (FGEX) was formed in 1920. In 1925, the Baltimore & Ohio joined FGEX, and brought their own group of older cars into the fleet including truss rod cars. These cars had rebuilt steel underframes and long queenposts. These cars were numbered into the 14000-14998 series under FGEX.

More Information Available in two Bill Welch Articles Prototype Railroad Modeling, Volume Two from Speedwitch Media The B&O Modeler Special Issue dated February 2008 Mainline Modeler Jan 1988 FGE Reefers by Ivan Frantz More Photos: Fallen Flags Website <u>http://www.rr-fallenflags.org/misc-frt/fgex14815jpa.jpg</u> <u>http://www.rr-fallenflags.org/misc-frt/fgex14815jpb.jpg</u> <u>http://www.rr-fallenflags.org/misc-frt/fgex14815jpc.jpg</u> <u>Mini-Kit Includes</u> Decals from Ted Culotta Resin Parts Frank Hodina

Items recommended in instructions to build

Tichy Long Queen Posts Part# 3074 Tichy Reefer Frame Part# 3030 Acurail Wood Reefer Kit Preferred Undec 4800 Series or 4900 Series <u>Plus</u> Trucks TMW -006 Buckeye,

Brake Hardware Your Choice



Resin Cast Part Contents



Mini-Kit Recommended Reefer Underframe



Tichy frame Placed on Accurail Body. Too wide and will need to be narrowed



Two Versions of Underframes?



Photo from FGEX Mini-Kit Instructions

Note the difference of the centersills

Photo of BREX Sunshine Kit Instructions. possibly assembled by Bill Welch



FGEX Reefer Mini-Kit Floor Construction as Interpreted by George Toman from research (Not To Scale) As Viewed upside down Long Queen Posts in Black Center sill Cover Plate Riveted To Center Sill In Green **C-Channel C-Channel**

Wood Side sill in Brown

Wood Stringers in Blue

Center Sill made from C Shaped Pieces in Red and Cover plate in green riveted to C Channel

Wood Floor In Black

Unique Features To Capture on Model











The Accurail Body and side. I will be removing cast on details. Ladders, Grabs, Brake Step, Running Board Supports Xacto 17 blade and other tools used to remove cast on details





.005 styrene shield used with various files and sanding sticks to protect sides while doing cast on detail removal

Cast on detail removed



The Accurail body sides need to be shortened. A Digital Caliper and Ruler was used to make a line 1.075 Inch from the underside of the roof edge.





Note use of 1-2-3 Machinist Blocks inserted in car body for support while marking scribe line where cut will be made to shorten side height Spacers glued to inside of body to keep sides from bowing

- Here we see the Sides Glued to Body
- As viewed upside down
- Note: the use of plastic spacers used to keep the sides straight
- keep the sides straight
- You can also see the shortened side from previous slide

Resin End casting glued in place with CA Glue





Tichy underframe side sill sanded on a Perma Grit course and Medium Grit sanding plate. Good for removing material fast. Note: Mine are 40+ years old





Nicholson 16 inch Mill File used as well to finish sanding side sills

Perma Grit Website: https://www.permagrit.com/ sanding-block-coarsefine-280mm-x-51mm/ Also now available from Micro Mark

Test Fitting Floor to Body

Note: Resin End Beam is not glued on yet and pole pockets not cutoff yet Also side were not yet glued to shell





Removing Resin Parts from carrier Note: The .040 spacer is used for support so not to damage flange on resin side sill when flipped over and sanded from carrier sheet Removing Resin Parts from carrier Tools used include my favorites: Tamiya Course File Steven International Sanding Sticks Single Edge Razor Blade



Using a Single Edge Razor Blade to shave the back of part.



Modifying Bolster Parts



Using Tichy centersill part used as template to mark elongated opening for .019 trainline

Green Tape to hold centersill while marking



One resin centersill is positioned and CA glued in place

Note: The two Tichy Bolters pieces that go over the trainline are not glued until the sills are glued in place

The .019 Trainline is put though glued centersill

The unglued centersill is being moved into place being careful to thread trainline.





Resin C Channel Needle Beams Note Notch in corner to fit against centersill Needle beam in place. Note; Thes are placed 4ft from center of car and the C facing in



Dimensions from C/L of car for Long Queen Posts



Marking and drilling holes next to bolsters for trussrods Note: For these I will use 10lb test line approx. .012 diameter & use a #80 drill bit for holes in floor.



Making See Through Turnbuckles





10lb test line approx. .012 diameter is flared on one end by bring up to the tip of a hot soldering iron. The non flared end is threaded from the center and pulled tight to the end of a Tichy Turnbuckle as shown in these two photos leaving the center open as it should be. 10lb fishing line threaded through Tichy Turnbuckle and holes next to bolster. Put line (Red line) through holes and lay next to queenpost while centering turnbuckle. Glue in holes with CA. When dry lift line (Red) trussrods up onto queen posts. This will insure tight truss rods.



Semi Scale Draft Gear from resin parts sheet Tichy Bolster part Modified

Side sill with Semi Scale Draft Gear in place and Modified Bolster piece

Side View with floor in place but not glued and before addition of trussrods



Building An Alternate Underframe

Floor scribed .060 x .040 thick Floor Stringers .060x.050 made of .030x.060 and .020x.060 glues together Side Sill .020x.060 Flanges .010x.020





Bolsters built up of .010 x .195 Styrene .020x.100 styrene cut to triangular shape .010x.020 for flange at front and rear





.010 Stryene for top plate and bottom plate of bolster

Scraps of Styrene tapped for 2-56 screws

Parts for Bolsters

Centersill C Channel .100 Styrene

Note cutouts for trainline in Centersill C Channels

Top and bottom plate over centersill C Channels .010 x .220 styrene


C Channel Needle Beams .010 Styrene Spaced 4ft from centerline of car

.019 Trainline and 3D Printed T (Tom Madden Design)

Bolsters builtup of styrene



C Channel .100 Styrene

Note that C Channel Needle Beam was notched on end attaching to centersill



Comparison of the two underframes



Note Application of Resin Rivets from Micro Mark Underframe ready for brake components



Sideview of new underframe test fit in place



4 sets of Trussrods made from .0125 brass wire and brass turnbuckles





Pre bending of truss rods over a paper template. Note brass pins marking center and bend lines drawn on paper

Close-up of Bolster Construction and Truss Rod Installation at bolster

Note small styrene block cut and drilled to secure truss rods in place on top of bolster



Truss Rods Installed



Adding Tichy AB Brake Castings to underframe



Yarmouth Brake Levers Tichy AB Brakes And Brake Piping



Building the ladders





Styrene Assembly Fixture Built of scrape styrene Note Styrene stop for rung alingment Yarmouth Ladder Stiles with .010 PB Rungs bent to desired width

Note Styrene Stop to keep ladder rung straight. Also allows for application of CA glue





Making the Square Brake Staff



Note Square Brake Staff

Step 1 Green Frog Tape use to hold .030 round brass rod Flip 180 degrees and file back side flat



Step 2 Two .015 styrene file guides stuck to tape with rod rotated 90 degrees and filed. Repeat for other surfaces











Styrene Bending fixture and filing guide for steps. Made from .005 x.030 brass strips

Note Soldered 2nd step for two of the steps

control



Modified Ice Hatch Note shallow groove down center for Plano Hatch Latch Bars Part #12079

.010 Tichy Wire with Tichy Laddder Rung Ends cut off





Plano Hatch Latch Bar Part #12079





.005x.030 End Brace with 1inch square nut washer detail from Grantline

Yarmouth Ladders Installed

Precision Releif Valve

Brake Step Brackets formed from .005x.030 brass

.010 End Grab with Tichy detail



.005x.050 brake staff support



Square Brake Staff and custom bent support bracket

Splice joining two brake platforms (barely visable)

Note notch in brake platform per prototype photo



Car Ready for to be cleaned and off to the paint shop Note .005x.030 styrene and Athearn Rivets above steps on ends.



Styrene Running Boards made from .015 x .060 styrene with wood grain and mounting bolt impressions made and board lengths









New Corner Braces made from .005 styrene and Grantline Square Nut/ Bolt detail 1 ½ inch

bit









Painted With Vallejo Paint

70.8 Black Gray underframe 73.605 German Red Brown primer Yellow is a 5:1 mix of 71.033 yellow and 71.001 white





Top View and Underframe







Gloss Coat of Future Pledge applied with Air Brush to sides and ends

Decals Applied Paint Touched Up



A End View


B End View



Top View Note Nail Holes

Questions