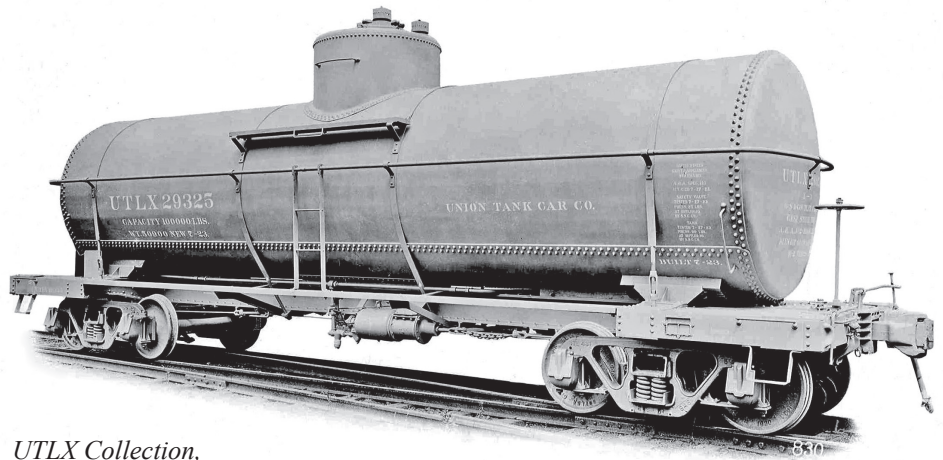


RESIN CAR WORKS
RCW
P.O. BOX 42
BYRON, IL 61010

Freight Cars of Every Description

UTLX Class X-3
10,000 Gallon
Tank Car



*UTLX Collection,
courtesy of Steve Hile*

Introduction

Thank you for your interest in Resin Car Works and this kit. Resin Car Works is not a business in the traditional sense. Its purpose is to share in the fun of prototype railroad freight car modeling and their operations with others by providing unique and different equipment that isn't readily available. Several friends assist with various production phases, so it's not quite a one-man operation. To list a few who helped with the production of this kit I would like to thank: Steve Hile for his research, data, plans, detail drawings and car history; Tom Madden for the gorgeous castings; Ted Culotta for the use of his UTLX tank car decals; Ken Soroos for his help with formatting the instructions; and Eric Hansmann, the keeper of the website and blog.

This is a remake of a kit issued by Sunshine Models from my patterns from some 15 years ago. The patterns were redone to make the kit easier to construct while correcting a few detail errors that were found in the original kit. Those 15 plus years were put to good use learning about UTLX equipment and the company's operations.

This is a "CRAFTSMAN" level resin kit and its construction should not be attempted by anyone who has not built similar types of models. The kit consists of a resin tank body, underframe and detail parts; Elgin Car Shops photoetched stirrups, eye bolts and bar stock; Precision Scale Company brass stanchions, air hoses and plumbing tee; Tichy AB brake set; assorted wire sizes and grabs; and decals. The modeler is to supply any small styrene bits, trucks, couplers, weight and small screws needed to complete the model.

Warranty

All sales are final. There will be no exchanges or returns. Resin Car Works will replace any part(s) found to be defective due to manufacturing or shipping to the original purchaser within the first 30 days after shipment. The damaged part(s) must be sent back with your request for replacement. As these are limited production kits, don't ask for replacement of parts that you damage or lose after the 30 day period.

Liability

Resin Car works will not be responsible or held liable for any and all personal injury and/or health problems, short and/or long term, that may result from the use and/or misuse of tools, adhesives, materials, castings, paints or any other product(s) used to construct and/or contained in this kit. This kit contains polyurethane castings. Although non-toxic in its cured state, dust is created during filing, sanding and drilling. Air circulation and/or ventilation should be provided. Always work in a well-ventilated room. Wear a dust mask or respirator and safety glasses for protection. Always wash your hands when you're finished working.

History

New specifications for all tank car construction went into effect in May 1917. All cars built after that date had to meet the Class III specification. As a key participant in the Master Car Builders Association and the ARA committees that established this specification, Union Tank Car Company (UTLX) agreed with and was prepared to meet this new spec. Among the most visible changes this specification brought to UTLX's designs was the lowering of the running boards to a height equivalent to that of a flat car. UTLX built upon its successful Class II spec design, known as Class X to UTLX, by creating the X-3 class.

While sharing many design features, the X-3 design evolved over time with certain visible distinctions. X-3 cars were built, by UTLX and commercial builders, in sizes ranging from 4,500 to 12,000 gallon nominal capacities. Essentially, two thirds (12,924 out of the 19,425 X-3s built) were of the 10,000 gallon capacity. The 10K X-3s were built between 1917 and 1930. The cars best represented by this RCW kit were 2,675 cars built by three different builders in 1923. Those cars were numbered as follows:

- 27825 – 29324 1,500 cars built by American Car and Foundry
- 29325 – 29999 675 cars built by Standard Steel Car Company
- 36500 – 36999 500 cars built by Cambria Steel

In addition, Standard Steel Car built 325 identical cars that were delivered to UTLX and immediately jacketed and insulated for Class IV specification service, which UTLX classified as X-4, numbered 23520-23844.

Cars built to this version of the X-3 design had some features in common with most 10K X-3s and had a particular combination of features that I will point out.

The underframe was the classic version of the X-3 with built up box section bolsters, as indicated by the pattern of 6 rivets on the stub side sills. The end sills were straight across and the area between the end sills and the bolsters was completely covered with wood decking.

These cars had tanks with 60-inch inside-diameter domes and the manway cover was the safety type, secured by a ring of fold-down bolts. The safety valves were well spaced away from the car center line on the top of the dome. Imagine lines drawn from the center of the dome at 45 degrees either side of the car center line. The safety valves were placed on those lines. (Many earlier X-3s had safety valves closer to the centerline and quite a few cars built in earlier batches had 54 inch ID domes.) As was common with most X-3s, these cars were built with only one dome platform and ladder, located on the brake equipment (left) side of the car.

The cars were delivered with U section Andrews trucks and retained them for most of their lives. KC style brakes were used until well past World War II, when UTLX engaged in a massive project to convert to AB brakes by the required deadline. Heavy brackets were required additions to support the reservoir and triple valve, while the brake cylinder stayed in the same location as with the KC set.

The builder's photo shows the as-delivered lettering scheme. By 1930, the lettering had been slightly rearranged to what shows in most steam era photos. Top-operated couplers were replaced by bottom-operated ones, probably after WWII.

Over the years, UTLX repurposed and renumbered many cars, including cars in these series. Known records do not detail which cars were converted, but certainly some of these cars received internal heaters and were renumbered into a 5xxxx range. Others may have been insulated and jacketed with or without heaters and numbered into the 6xxxx range. Nevertheless, 32 years after being constructed, a good fraction of these cars remained in their original configuration.

- 27825 – 29324 387 cars with this number range remained in 1955.
- 29325 – 29999 177 cars with this number range remained in 1955.
- 36500 – 36999 188 cars with this number range remained in 1955.

Construction

It's recommended that before you start construction, you familiarize yourself with the additional information and photos that pertain to this kit on the Resin Car Works website (www.resincarworks.com). Especially helpful are a series of prototype drawings that show the placement of the various car parts.

- First, give the resin parts a good cleaning with Dawn and a toothbrush to remove any mold releasing agents. A light sanding of joints also helps parts to bond.

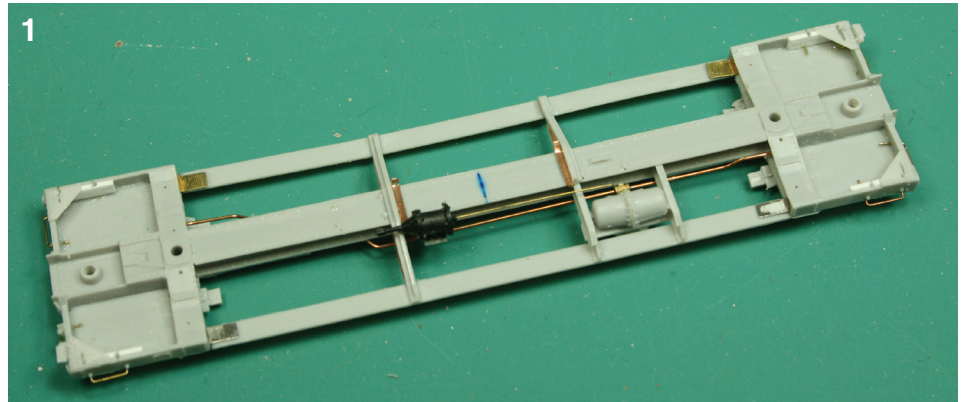
- The cast parts are best attached with CA. When the term "cement" is used in these instructions, it refers to CA. CA is a strong adhesive which dries quickly. It can easily attach a part where it is not supposed to be. It will also glue skin. Be careful. Place a few drops on a plate of glass and use a wire or pin to transfer small amounts of CA to the area to be joined. Always wear safety glasses. CA debonder is a useful tool for removing smudges of CA from surfaces where it shouldn't be. Place a drop on the offending spot and wipe up.

- GOO or other such products are not recommended for construction except in small quantities as they will soften the casting material.

- When a measurement is given, it's in prototype feet and inches.

1. Underframe

The underframe has been partially detailed to speed up the model construction. Note that there is a "B" or brake end to the part. Consult the drawings and photos



on the website to help with the location of various underframe details.

- a) Drill and tap coupler pockets for 2-56 screws and pre-drill bolsters for trucks.

- b) Use a #74 drill to drill two holes on the backside of the bolster for attachment of the trainline. From photos, the X-3s had several different locations for the placement of the trainline. Some installations had the line located up and over the top of the frame while others placed the line through the frame forward of the brake cylinder. You'll need to determine which installation you would prefer. If the choice is to have the line through the frame it is best to drill that hole now.

- c) Fit the long running boards between the bolsters and cement in place. A stronger joint can be created by using a small piece of the sprue from the etched bar stock attached to the underside of the bolster and running board (Photo 1).

- d) Cement the saddles and the cast 4x4s to the top of the frame. The saddles are located just inside the four rivets on the

raised plates on top of the bolster. Shape the saddles and 4x4s to fit the tank with a one-inch wood dowel rod with some 240 grit sandpaper attached. Adhesive tape works well for this. Work slowly checking the fit of the tank with the saddles and 4x4s. The tank anchor angles on the bottom of the tank fit over the tank-locating pad in the center of the frame (Photo 2).

- e) When originally built, the X-3s were equipped with KC brake systems. Two cross bearers formed from angle supported the running boards. When AB brakes were applied, all parts were located on the brake cylinder (left) side of the car. Which type of brake system to model will need to be determined. The kit is supplied with the AB system. Cement a full cross bearer on the "B" end of the car and a partial cross bearer on the "A" end, right side, next to the nut and bolts casting for the brake hangers, with the angle facing inward. (The cross-bearers are located incorrectly on the pilot model. Mount them with the angles facing inward.) Predrill the reservoir, triple valve

and cylinder for 0.010" wire. Cement one reservoir support channel to the frame and running board even with the cross bearer on the "A" end. The open side of the channel faces towards the center of the car. Attach the reservoir to the channel and then cement the other channel to the reservoir. Cement the small board with two rivets on each side across the channels at the running board. Cement the triple valve on this board. Cement the brake cylinder bracket 1'-1" from the car center line. Cement the brake cylinder to the bracket. Run 0.010" wire between the triple valve and reservoir and between the triple valve and brake cylinder.

f) Drill and install eight straight grabs at the four corners of the car above the bolts. It's also a good time to drill the holes for the stirrups, but don't install them yet (Photos 2, 3, 5).

g) When new, the cars were equipped with cut levers located on top of the end sills. If this location is chosen, drill holes for two eye bolts on each side as per prototype photos. If a low-mounted cut lever is used, cement the angle attachment along with an eye bolt cemented to the angle (Photo 5).

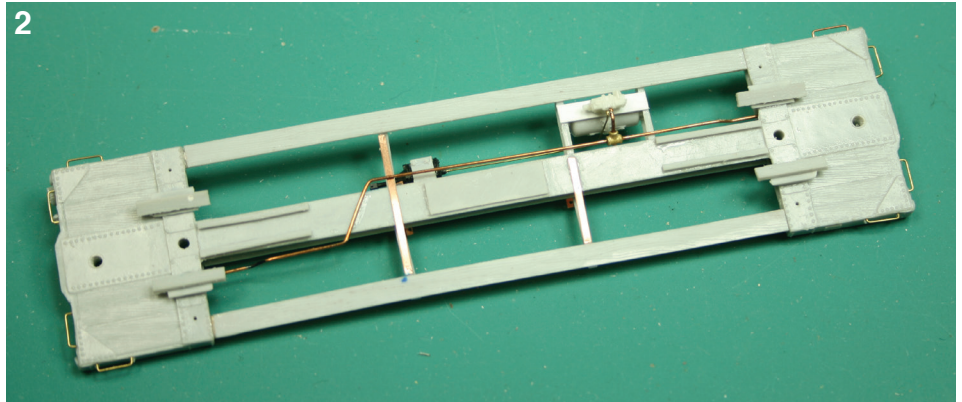
h) Drill 0.015" holes in the top of the bolster plate at the back of the running board for insertion of the tank band rod (Photos 1, 2).

i) Bend 0.020" wire for the trainline as per prototype photos. Slip the brass "T" over the trainline and install the trainline between the bolsters, making sure that the "T" is located between the channels before cementing the trainline to the frame. Connect the triple valve to the "T" with a small piece of 0.015" wire (Photo 2).

2. Tank

Before starting tank construction, please note the small dimples on each side of the tank near the ends. Draw a line across these

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dimples with a fine "Sharpie" pen. This line will be used later to locate the handrail stanchions on the tank bands (Photo 3, 4).

a) Clean the interior cavities of the top and bottom tank sections to insure a good fit.

b) Add the desired weight. I like using thin lead sheet from McMaster-Carr (www.mcmaster.com) as it's easy to cut and form. I also don't trust the glue joint between the weight material and resin, so a styrene frame is made around the weight to ensure it doesn't rattle if it becomes loose. Keep the weight away from the truck screws so that the frame can be connected later to the tank.

c) Cement the dome hatch and vents to the dome. Then cement the tank sections together.

d) Drill for 0.0125" wire and form and install four grabs at the lower tank corners and on the left (ladder) side of the dome.

e) Attach the tank to the frame with the dome vents on the "B" end, centering the tank on the pad at the center of the frame. When all looks to be square and vertical with the frame, cement the tank to frame.

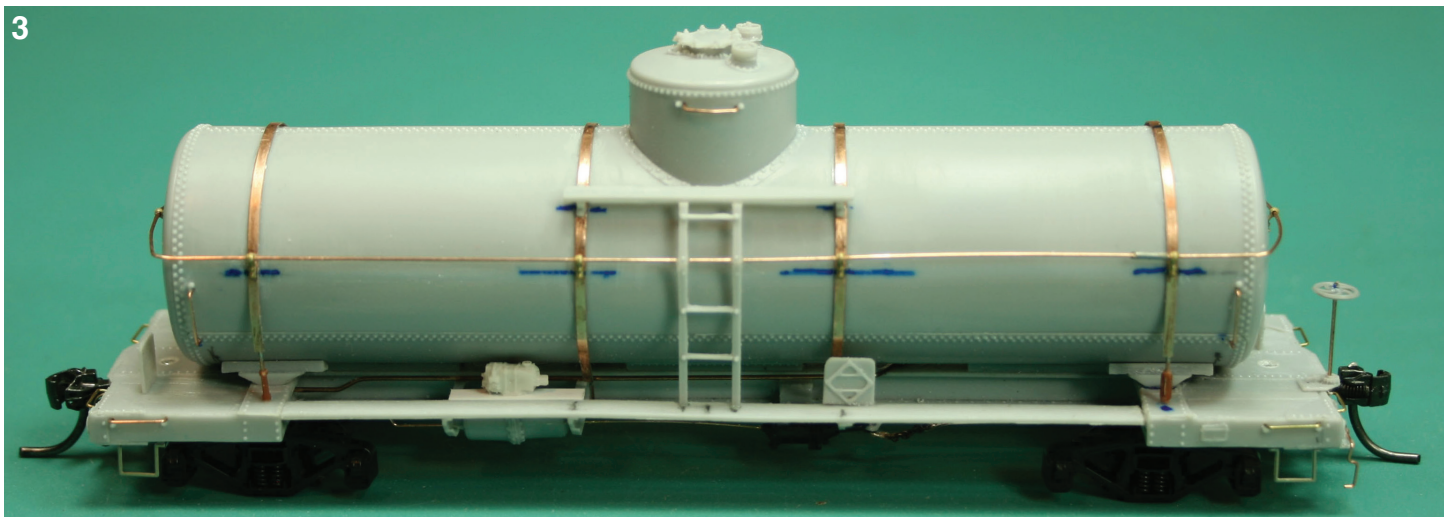
f) You'll need to create the tank bands, two which hold the tank at the bolsters, and two which hold the tank to the under-frame. Use the etched bar stock material and 0.015" wire. Cut two bands 16' long

for the bolster bands and 20' long for the frame bands. Solder about 5' long pieces of the 0.015" wire to the ends of the bands. You'll also need to create two connection castings for where the bands connect to the frame. These are 2'-6" long with a #76 hole drilled at each end. Run the ends of the bolster bands through the turnbuckles. Apply the bolster bands over the tank and into the holes drill through the bolsters (Photos 6, 7.)

g) Apply the two long bands at the tank middle. These are located just inside the crossbearers. The connection castings, which were made above, are used to attach the bands to the frame. The ends of these connections will need to be bent down some in order for the bands to fit (Photos 3, 5, 6, 7, 8).

h) Remember that line that was drawn on the tank? This locates the holes on the bands which need to be drilled for installation of the handrail stanchions. Cement the bands to the tank with thin ACC where the stanchions are located. With a #77 drill bit, carefully drill through the band and tank, ensuring that the hole is located dead center on the band. A trick to prevent the drill from sliding on the band is to place a thin piece of masking tape, something that you can see through, over the band. Widen the hole with a #76 bit. Also drill holes on the

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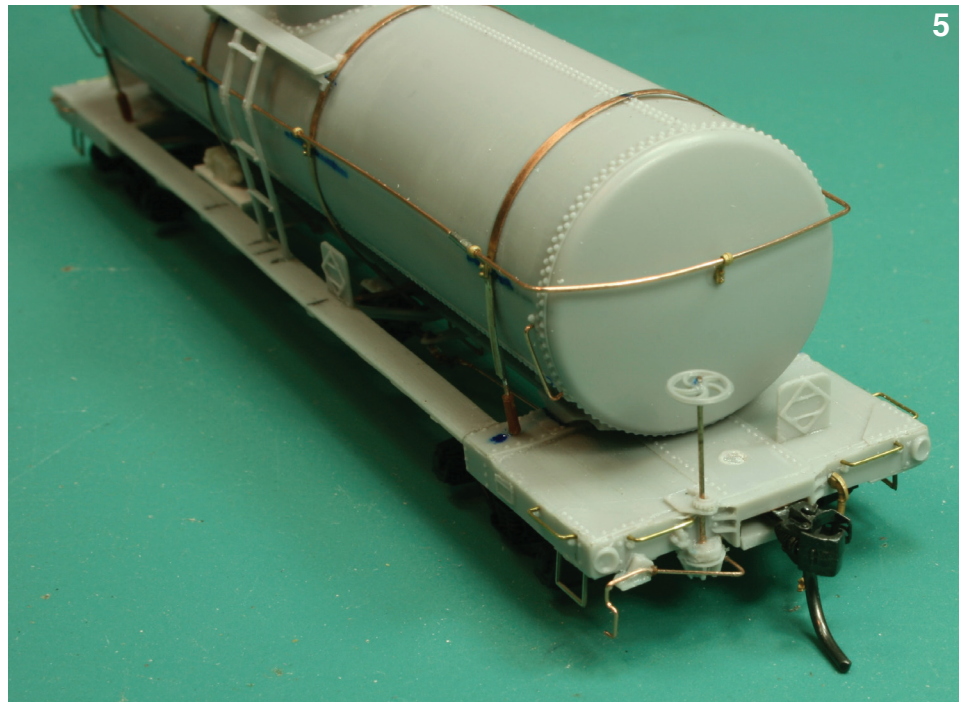
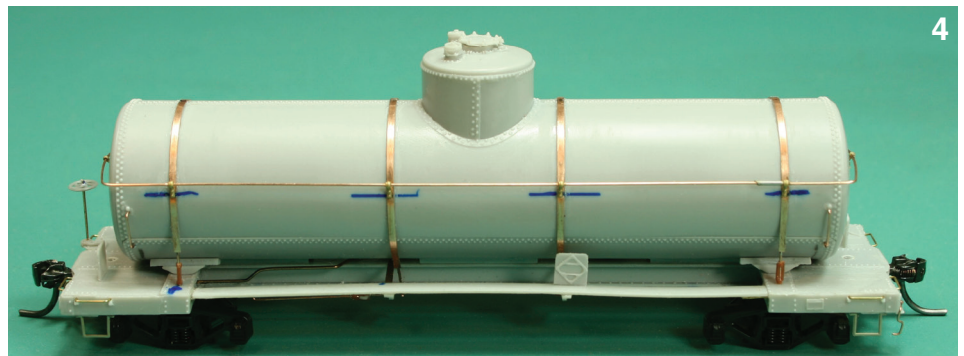
ends at the locations noted with the #76 bit. Precision Scale handrail stanchions are provided for the handrail. Drill out the castings with a #77 bit to ensure that a 0.015" handrail wire included with the kit represents 1" inside diameter pipe. If you want handrails made from 1 1/4" I.D. pipe, use 0.019" wire (not supplied) and carefully enlarge the holes in the stanchions with a #76 bit.

i) In each set, Precision Scale provides two castings with cylinders that are wider than the others (Three extra handrail stanchions are provide in case you lose one). Place one of these on each side of the tank (on opposite corners is suggested). Place the remaining three on each side. Form the handrail by bending 0.015" wire using the jig provided, or by eye. There will be two pieces, with each running down each side of the tank to the wide stanchions and including one curved end. Trim the ends of the pieces so that the ends of each meet within the wide stanchions. When satisfied, slide the two remaining stanchions around each end and attach them in the holes at the ends of the tank. Fix the wire ends inside the wide stanchion castings with CA. Soldering with a low wattage iron also works. Straighten the handrails as necessary by adjusting the angle of the stanchions.

j) The dome step and ladders are only installed on the side of the car with the brake cylinder. The step is made up of the cast wood plank and brackets, which are attached to the tank bands. For the ladder, drill two holes through the running board where the ladder is located. Fit the ladder between the dome step and running board with the ladders legs going through the holes in the running board. Cement and, when dry, remove any protruding parts of the ladder from below the running board (Photos 3, 5).

3. Complete the Detailing

Before proceeding, we recommend that



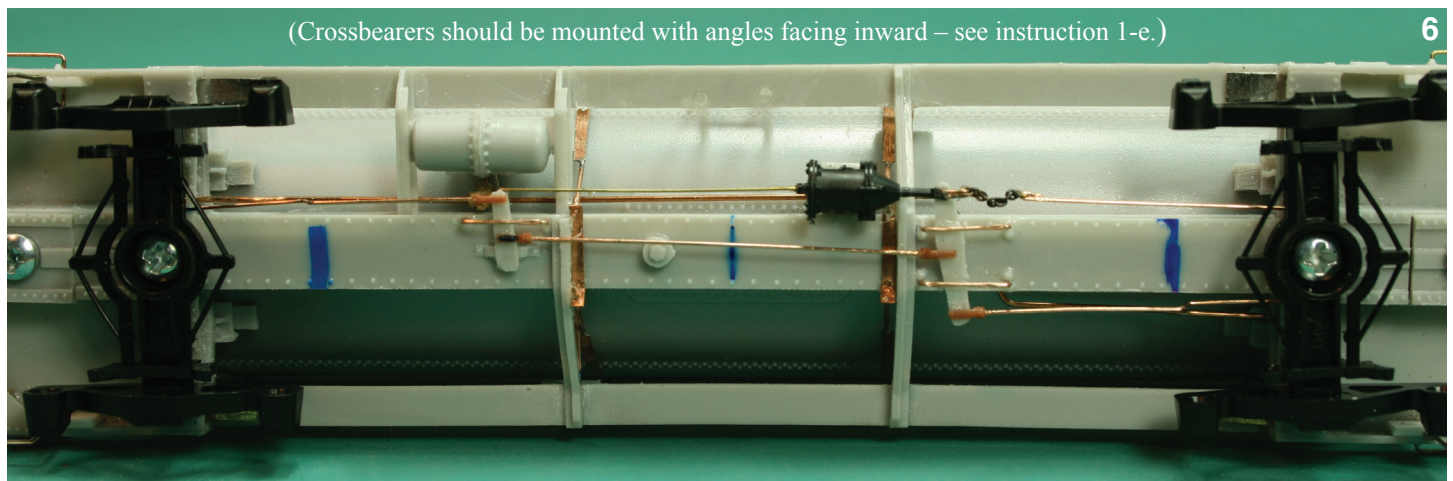
you use a cradle of foam to hold the model in order to ease installation of the brake components.

a) The lever hangers are located on the underside of the underframe with NBW castings. Drill #78 holes on the outsides of the nuts, form the hangers with 0.015" wire, and attach to the underframe (Photos 6, 7).

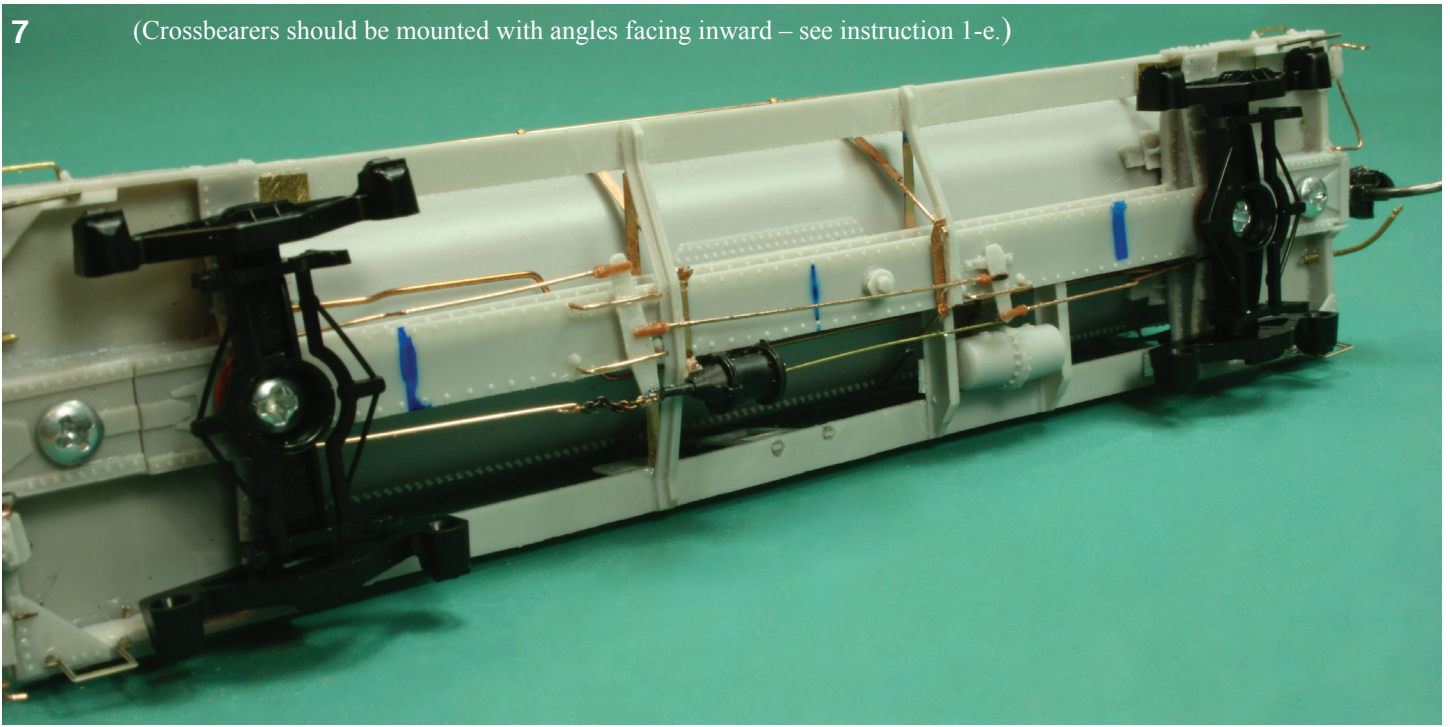
b) Install the small brake lever to the pivot point on the A end of the car. The

larger lever is attached to the brake cylinder. Locate the levers through the hangers.

c) Run 0.0125" brass wire between the levers and the bolsters and between the levers, using the turnbuckles as clevises. Form a loop with a short piece of the 0.0125" wire and slip the chain into the loop. Form another loop on a long piece of 0.0125" wire, slipping the other end of the chain on this loop. Cement the short



(Crossbearers should be mounted with angles facing inward – see instruction 1-e.)



0.0125" wire into a clevis made from a turnbuckle. The long 0.0125" wire is attached to the bolster.

d) Install the etched stirrups, centered under the frame grabs. The stirrups are bent out slightly from the sideframe.

e) Install the cut levers as determined and provided for earlier (Underframe (h)).

f) The vertical brake staff also seems to have changed locations over time. When built, the staff went through the running

board on the back side of the end sill. Later, the hand brake and housing were relocated to the face of the end sill. Again, install with the preferred hardware (Photos 3, 5).

g) Install placard holders using the photos as guides.

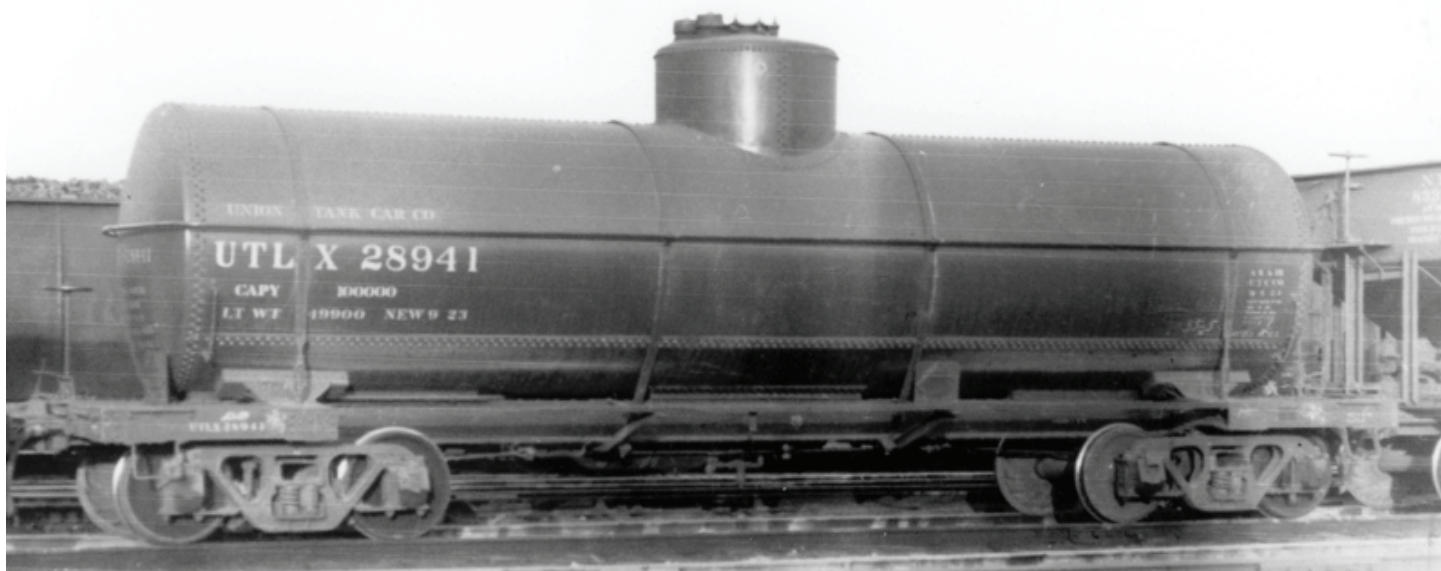
h) Drill and install air hoses in the end sills to the right of the couplers. (Photos 5, 8).

i) Install couplers of your choice and the draft gear covers.

Painting and Lettering

Wash the model again with Dawn and allow it to thoroughly dry before painting. The entire model, including the trucks, is painted black. I like Scalecoat 1 No. 10 black as it provides a glossy surface for decals. Once decals are applied and all the air bubbles have been removed, spray with a flat glaze. Install trucks and finish with the desired amount of weathering.





UTLX 28941 circa 1941 still has KC brakes (on the far side of the center sill) and shows the lack of a dome platform and ladder on this side of the car. It still has its original Andrews trucks and top-operated couplers. *Richard Hendrickson collection, courtesy Steve Hile.*

