RESIN CAR WORKS
R.C.W.
P.O. BOX 42
BYRON, IL 61010

Freight Cars of Every Description

Kits SE #1.1 and SE #1.2
GATX Type 30
Class 103
8,000 Gallon Tank Car

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 to provide 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: Tom Madden for his gorgeous castings; Ken Soroos for the remarkable decal artwork which is taken directly from the prototype cars themselves and for help laying out the instructions and creating the box labels; to Bill Darnaby for drafting the instructions and taking construction photos and to Eric Hansmann, the keeper of the website and blog.

This is a "CRAFTMANS" level resin kit and its construction should not be attempted by anyone who has not built similar types of models. This kit is different from those previously released by Resin Car Works in that the kit parts have been kept to a minimum. Please note that Tangent Scale Models is working on a plastic version of this car, the GATX Type 30. We have no knowledge as to when that model will be released. We've been messing with this model for years though, and have accumulated dozens of sets of castings. For those who can't wait for the plastic version, we're offering the GATX Type 30 in resin. To keep the cost down, the kit will consist of the resin castings, decals, and those other hard to get parts like PSC stanchions and Pierre Oliver's GATX corner steps. Wire, grabs, chain and all that other little "stuff" is up to the modeler. A good source for scale-size brass wire is Clover House at http://www.cloverhouse.com.

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.

The Car

One of the more numerous of railroad specialty rolling stock are tank cars, which are owned and maintained almost exclusively by private companies, not railroads. In the transition era, the two largest privately owned tank car companies were Union Tank Car Company (UTLX) and General American Transportation Corporation (GATC). In 1948 UTLX operated some 41,300 cars while GATX rostered 39,800. Lesser private companies were Shippers Car Line (SHPX), an American Car

& Foundry (ACF) subsidiary, with 9,700 cars, and North American (NATX) with 4,500 cars.

The principal business of the various tank car companies was to lease cars to shippers. UTLX concentrated on short-term leases on a daily charge or per diem basis. GATC cars along with SHPX and NATX cars were leased on a long-term basis of months and years.

In 1928 GATC introduced a standard tank car design that was noted for the year the first car was constructed, Type 28. The Type 28 design became the standard for all GATC tank cars constructed until after WW2. Certain unnoticeable design changes in 1930 led to the Type 30. The notable spotting feature of the Type 28/30 is an open frame without any side or end sills. The frame featured massive truck bolsters with poling pockets on the ends.

A variety of companies leased or purchased Type 30s to haul edible food commodities, such as corn oil, cane syrup, cotton seed oil, fats and liquid sugar. The food commodities cars could be ICC Class 103 (safety valves) or Class 203 (frangible membrane vents). Since these food companies were conscious of the advertising potential of the cars, they were often painted in bright colors to display the company name and logo.

General American leased Type 30 8,000 gallon cars to the Clinton Company of Clinton, Iowa for corn syrup transportation. The cars leased were ICC Class 204, distinguished by the style of vent used. GATX 13000-15699 was one of the larger series of GATX 8,000 gallon cars with 1985 in 1943. The Clinton Corn Syrup Refining Company of Clinton IA was established in 1906 by the National Candy Company of St Louis MO. The first products were glucose syrups, other products from the wet corn-milling plant, dry starch products, and dry conversion products. Production of crystalline dextrose monohydrate followed in 1928, only a few years after Corn Products Refining co had built the first plant for this new sugar. In the course of the years the company changed its name a number of times, to Clinton Company, to Clinton Corn Products Co., when it was taken over by Standard Brands (1956) and later to Clinton Corn Processing Co. It became part of the ADM organization in 1982 under the name ADM-Clinton Co.

The other lettering scheme being offered is for the Southern Cotton Oil Company with reporting marks "S.C.O.X.". Formed in New Jersey in 1887, the company was an upstart to the more established American Cotton Oil Company. The February 2017 Official Railway Equipment Register shows tank cars in the 1 to 281, 300 to 382 and 601 to 700 series. The 1940 ORER shows 402 cars, all TM types. Most were 8,000-gallon, but there were a few 10,000 and 12,500 gallon cars. All were numbered within SCOX 1 to 780. In 1946, the number of cars with SCOX reporting marks was down to 343. By 1950 the cars and reporting marks were gone. Today, the company is part of ADM.

Construction

It's recommended that before you start construction that you familiarize yourself with the additional information and photos on the Resin Car Works website, www.resincarworks.com, that pertain to this kit. 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 ACC. When the term "cement" is used in these instructions, it refers to ACC. ACC is a strong adhesive which dries quickly. It can easily attach a part where it is not supposed to be. It will glue skin. Be careful. Place a few drops on a plate of glass and use a wire or pin to transfer small amounts of ACC to the area to be joined. Always wear safety glasses. ACC debonder is a useful tool for removing smudges of ACC 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.

General

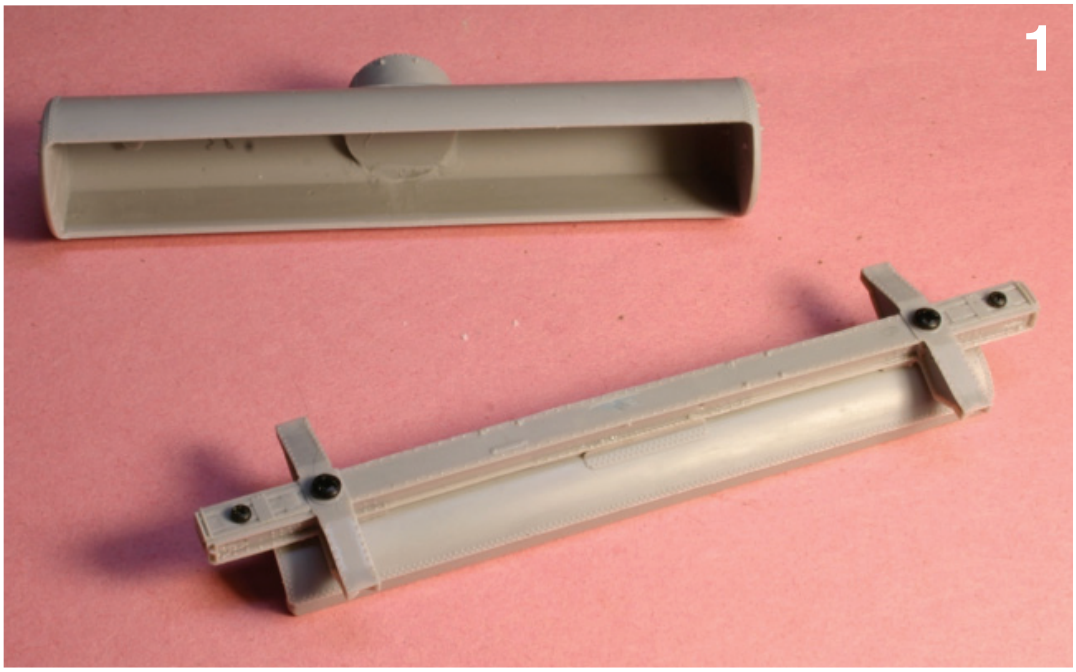
Clean any flash from the underframe and tank castings. Check the fit of the upper and lower parts of the tank. Material can be removed from the inside edges of the upper part by carefully scraping with a razor blade to allow the lower part to seat in the upper in a way that presents a uniform circumference at the tank ends. Do not clean out the angled corners of the rivet line of the upper half. Check the underframe for any twists or bow left from the casting process. This can be corrected with gentle heating on a flat surface at low oven temperature.

Tank to Frame Orientation and Tank Assembly

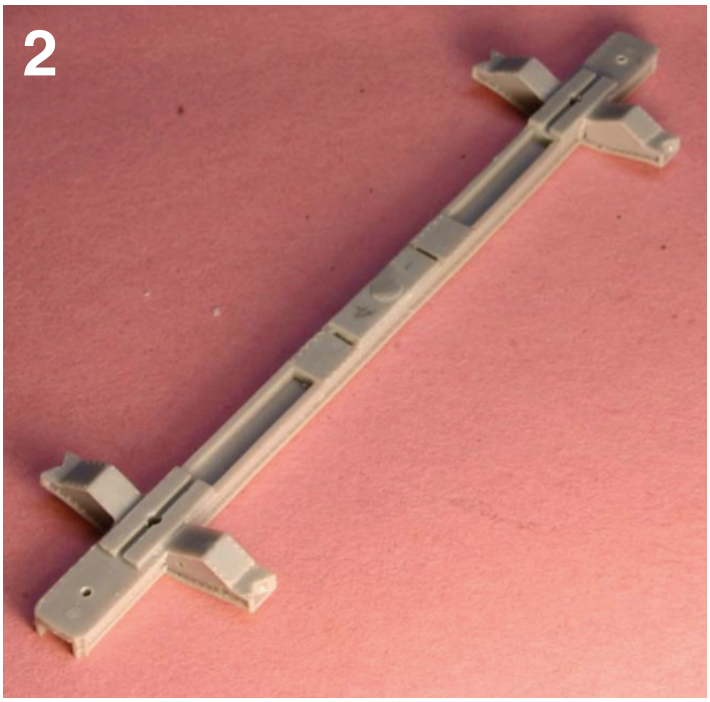
Note which is the B end of the underframe and the tank. The B end of the underframe has two pairs of rivets for the lever hangers and has a rectangular pad on the side of the center sill for the cylinder bracket. The safety valves on the tank go toward the B end.

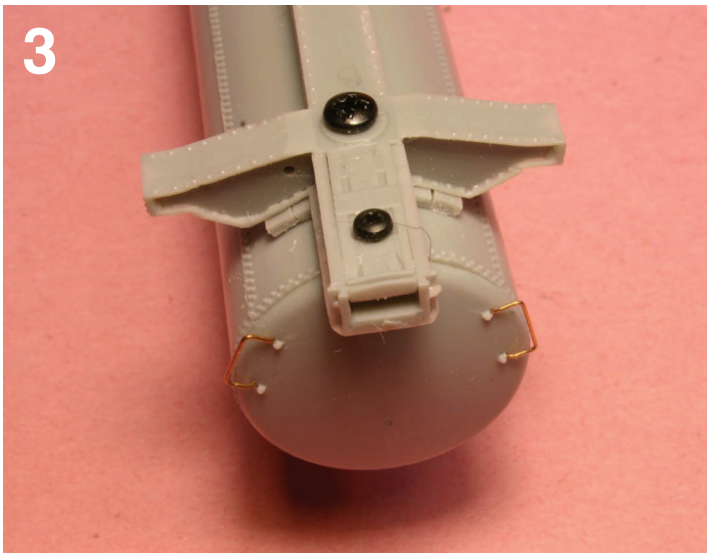
The center tank anchor interlocks with a pad on the underframe to minimize locating error, but it is still possible to inadvertently mislocate the bolsters relative to the tank. Drill out the bolster holes with a number 50 bit for a 2-56 screw, but do not tap yet. Drill the holes as squarely as possible. Drill and tap the draft gear for 0-80 screws and install the covers and screws [Photo 1]. Set the tank bottom down so the bottom is up and the underframe is on top of it and centered. Keeping the underframe on the tank centerline, drill through the bolster holes, using them as guides, into the tank casting with the 2-56 tap drill. Then tap through both underframe and tank at the same time. Install the screws to hold them together. These will be the truck screws and half inch long ones will do. You may find it helpful to do this operation at one end first, screwing the underframe and tank together so that the other end cannot move around during its drill and tap operation [Photo 1].

Remove the tank saddle blocks from the parts sheet and clean off any flash. With the tank bottom attached to the underframe, insert the blocks into the space between the bolster and tank. Sand the blocks as required for a snug fit. Attach the blocks to the bolster, ***but not the tank***. When satisfied, separate the tank lower half and underframe [Photos 2, 3].



Drill the holes in the underframe for the train line with a .032 bit [Photos 4, 6, 7]. The line runs through the bolsters and crosses through the center sill just before the B end of the center tank anchor at approximately a 45-degree angle. The bolster holes are positioned 16 inches from the centerline of the sill and the train line runs at mid-level of the sill. Form the train line out of two pieces of .020 wire. The straight ends are fished through the bolster and the angled ends inserted into the angled holes in the sill. ***Do not glue at this point***, but



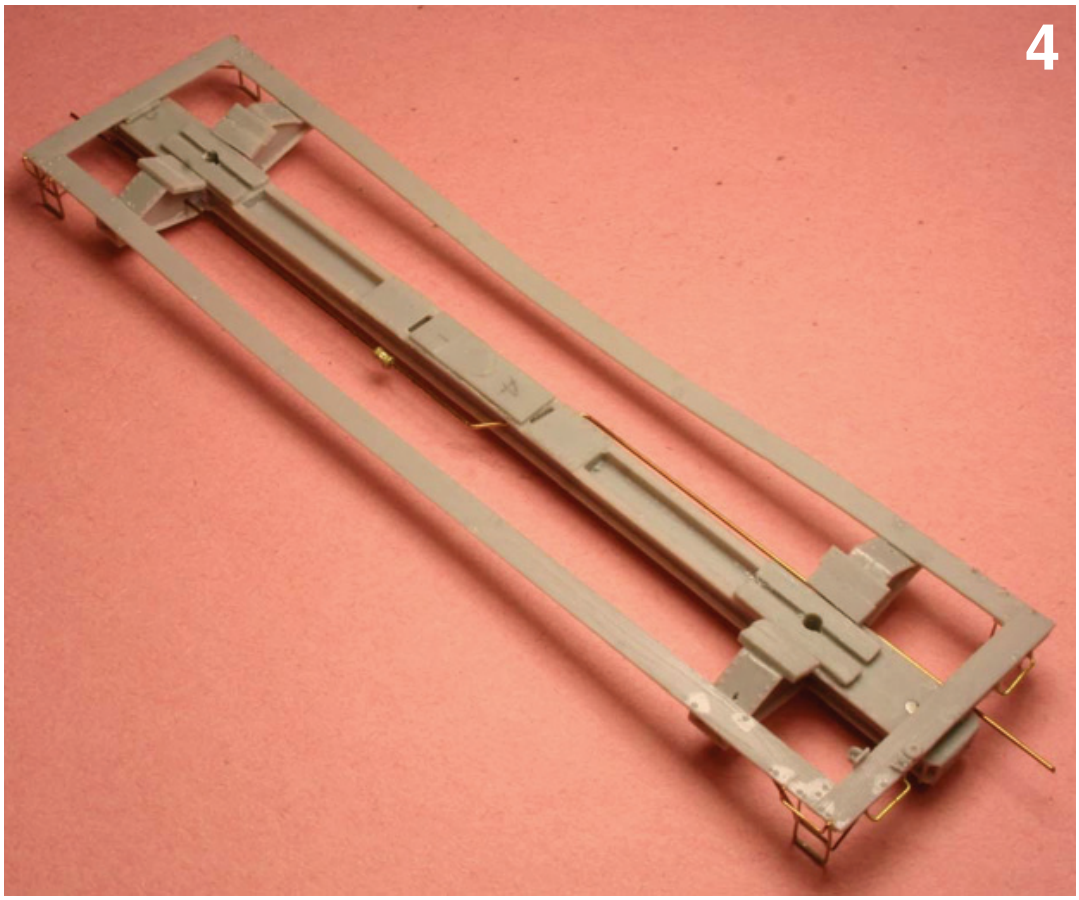


leave them loose. Drill out the holes in the center sill for the brake lever hangers at the two pairs of rivets for the B end and single pair at the A end [Photo 6].

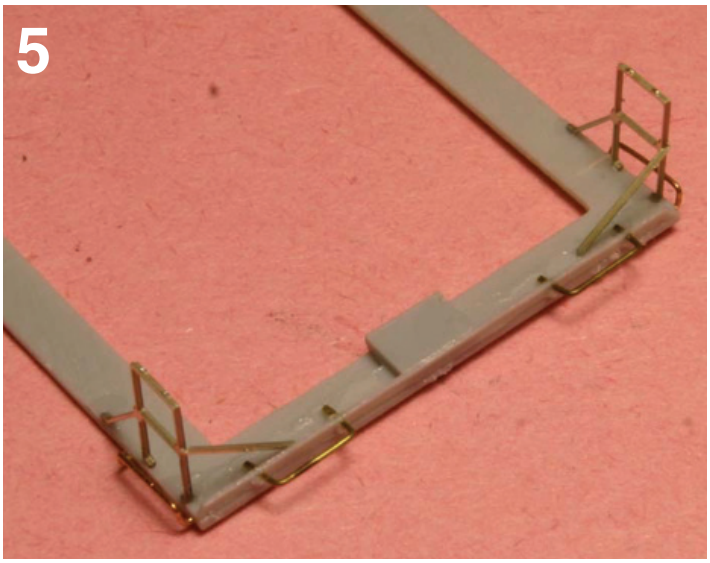
Add weight to the tank lower half. A strip of stick-on lead weights (six ¼ ounce pieces will do) is a good solution. Recheck the fit between the tank halves. When satisfied, wick CA into the parting line to permanently attach the two halves together. With the tank access handy, drill and attach the grabs for the dome and tank ends. Set the tank aside for now.

Running Board Details

Remove the running board from the parts sheet and clean off any flash. Check to see that it is square and lays flat. Correct with low heat on a flat surface. Remove the end sills from the parts sheet and de-flash them. Attach them to the underside of the running board flush with the ends and so that the rectangular pads will rest on the draft gear. Drill the end sills beneath the rivets for the end grabs and install them. In reality, the side corner grabs attach underneath the running board, but a more secure attachment is made by drilling their holes in the edge of the running board. Drill for and install these grabs. Drill through the handbrake pawl and through the end sill for the .015 wire brake wheel stem. If the car has top-mounted cut levers, drill holes for the eye bolts in the end edge of the running board and insert the eye bolts.



Turn to the sill step etchings [Photo 5]. Each of the legs and the angled side support have pins that are inserted into holes drilled in the underside of the running board. Each sill step also has an angled end support that is folded at a right angle to the step. There is a crease etched into each where it joins the step. Fold the supports towards this crease to form the end sill supports for the sill steps. Two identical pairs of steps will result. It will be necessary to cut out a small piece of the end sill top flange with a razor blade so that the sill steps will sit square to the running board and the correct distance from the end. Using a step as a guide, locate and drill out the holes for the step pins in the underside of the running board. Install the steps and secure with CA [Photo 5].

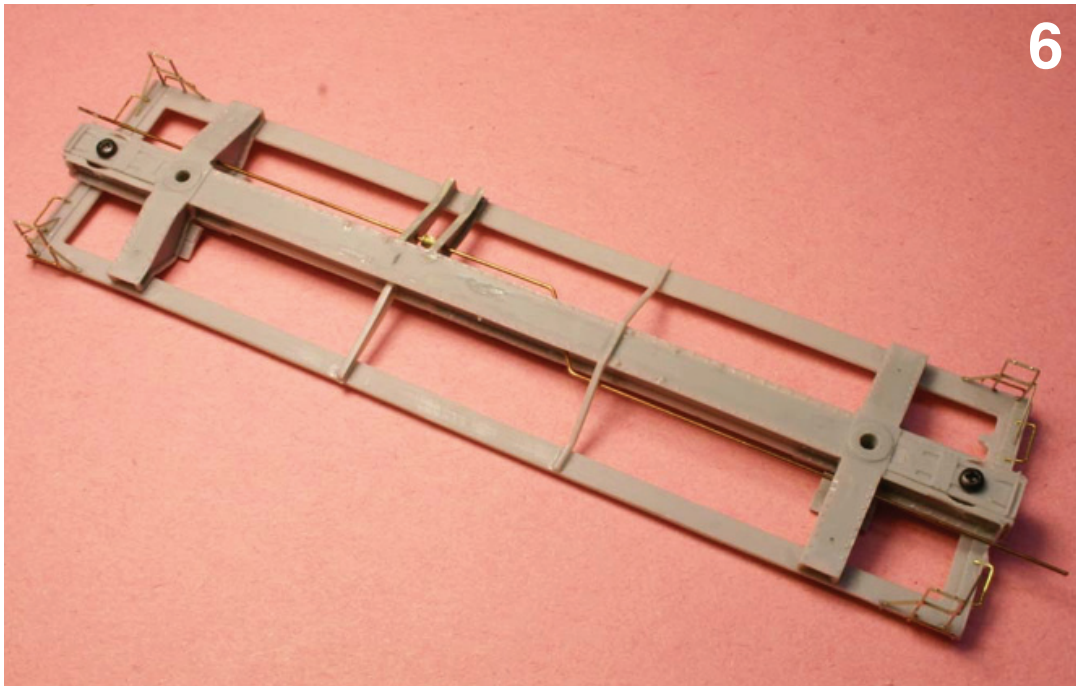


Underframe Assembly

Attach the running board to the underframe Photos 4, 6]. It is best to turn the running boards upside down and suspended between two flat surfaces. Set the underframe down on it and check to see that it rests against the running board at the four bolster pads and the top of the draft gear.

If necessary, the end sill pads and/or the tops of the draft gear can be filed so that the running board contacts the underframe at all six points without distortion or twisting. When satisfied, apply a little pressure to the underframe to set it down against the running board and apply CA to the six contact points. Be sure the running board is centered end to end and side to side.

Drill .015 holes down through the bolsters just inside the running boards. These are for the tank hold-down bands [Photos 4, 6, 7].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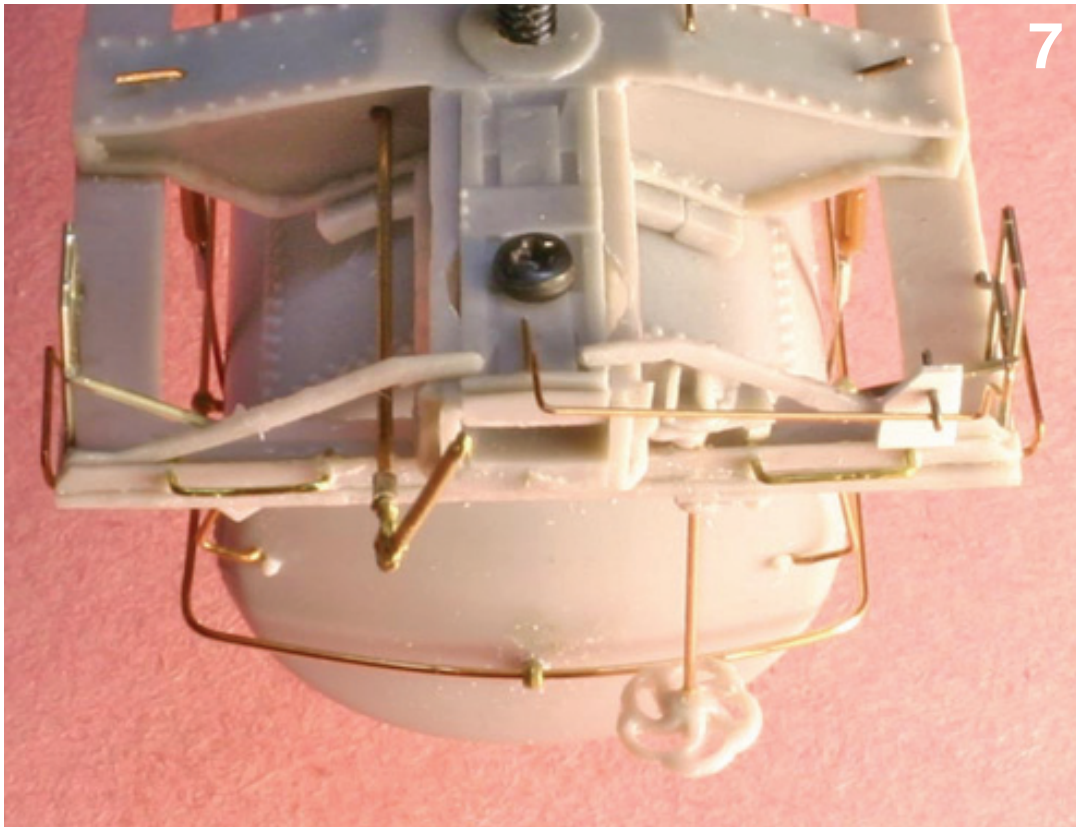
Mark the underside of the center sill at points 14' from each end to locate the running board supports [Photo 6]. Cars built with AB brakes had a full-width angle extending from running board to running board and under the sill at the B end. *It faced inward*. The right side of the A end had a single tapered flange, again facing inward to clear the reservoir under it. The left side of the A end had a pair of heavy flanges facing away from each other that support the running board and the AB valve under them. Cars built with K brakes had the full width angles at each end facing each other. Cars that had K to AB conversions typically had the left side A end support replaced with a pair of C channels that held the reservoir in addition to supporting the running board. These channels would extend from the center sill under its top flange out to the underside of the running board. The valve would sit on a plate spanning these channels above the reservoir. There were other variations to these conversions, so attention needs to be paid to the prototype in question. The Tangent Models three-compartment tank car has a Type 30 underframe and may serve as a guide, but note that it is a shorter 32-foot frame.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Turn the underframe assembly upside down again, preferably supported on the running boards, and attach the appropriate running board supports at the marked locations. The pair for the AB valve need to be drilled for the train line and are positioned one foot apart centered at the mark. Reinstall the train line on that side of the car. There is a cast pipe T that should be slid over the train line wire and positioned next to the AB support flanges toward the center of the car [Photo 11]. Photo 6 above shows the T in the ***wrong*** position (between the support flanges).

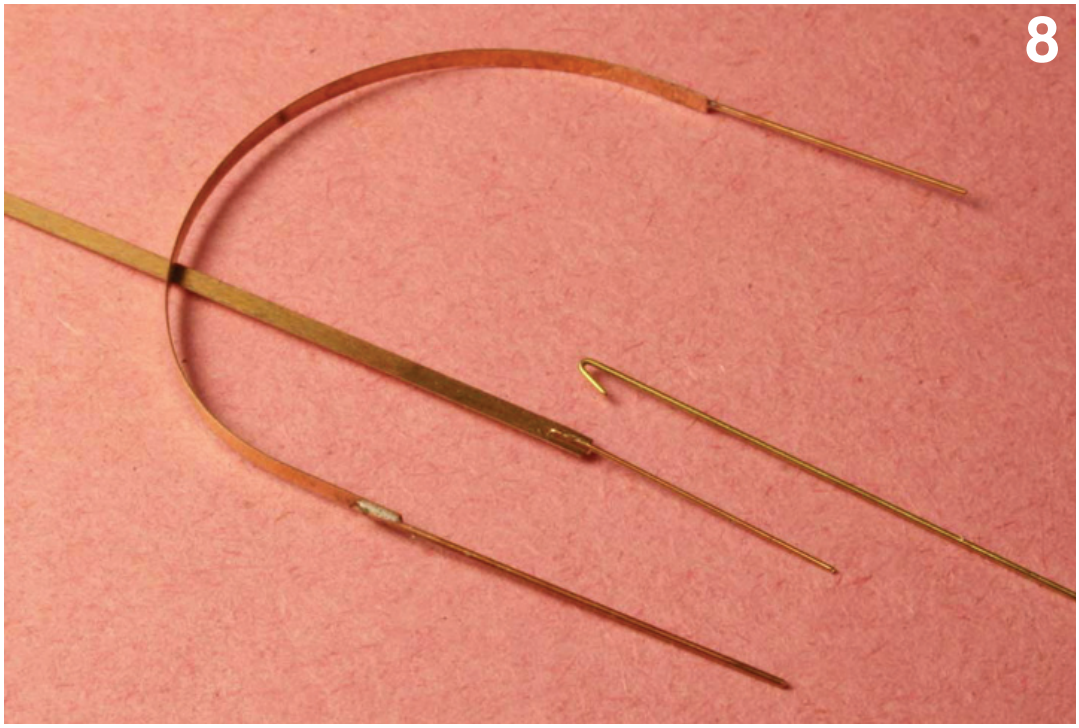
The end sills had braces similar to the angled running board supports [Photo 7]. The shorter leg goes under the corner of

the sill. The other end reaches over to the underside of the draft gear and it needs to be trimmed so that it does not interfere with removal of the draft gear (coupler) cover. Each brace faces inward (flat side out). The support legs for the sill steps are attached to the end sill braces. This leg will need to be trimmed so that it can form a roughly 30-degree angle with the end sill and attach to the sill brace inside the corner formed by the legs of the brace. For bottom-operated cut levers, attach the lever brackets to the end sill braces just below the end sills as shown [Photo 7].

Cars without geared handbrakes used additional angles below the end sill support angle at the rear corner of the left side to create a pivot for the shaft to wind up the chain. This is cast into the end sill brace for this corner. After installation, continue drilling through the brake shaft ratchet pawl down through the corner brace so the shaft can extend down through to the pivot. For cars with a geared take up, assemble the two pieces from the parts sheet with the two discs that represent gears on top and facing up with the small gear outwards towards the end. Drill a hole in this small gear for the shaft wire. Insert a wire through the ratchet pawl to position the gear assembly and attach the assembly below the end sill.

Tank Attachment

Attach the tank and underframe assemblies with the screws. They can be secured to each other at the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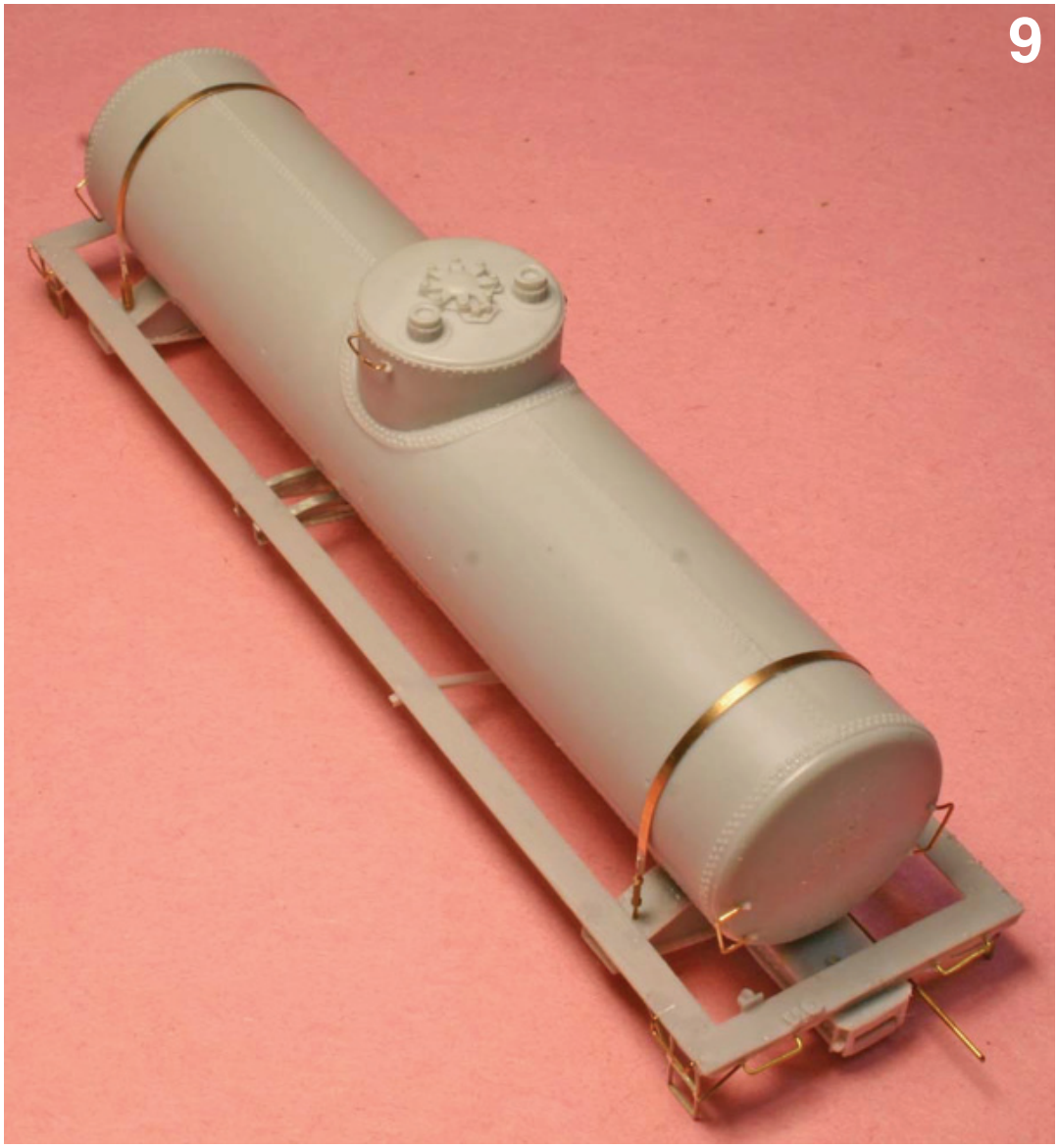
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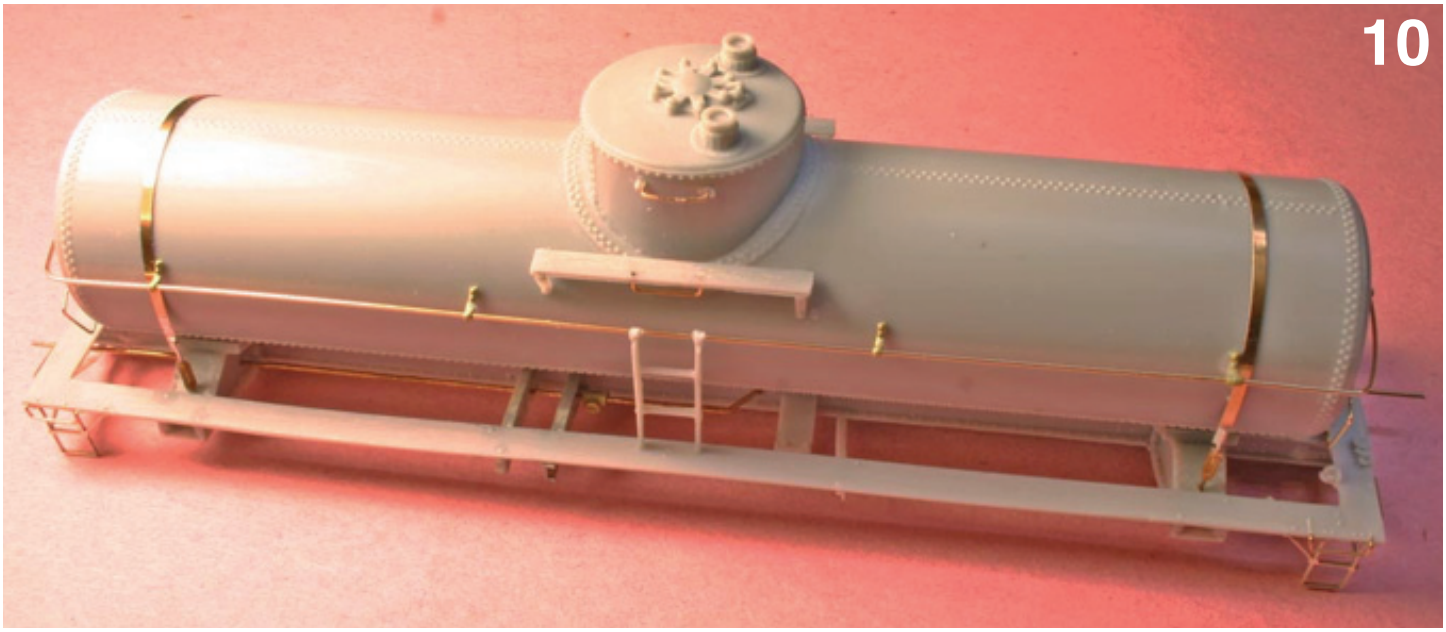
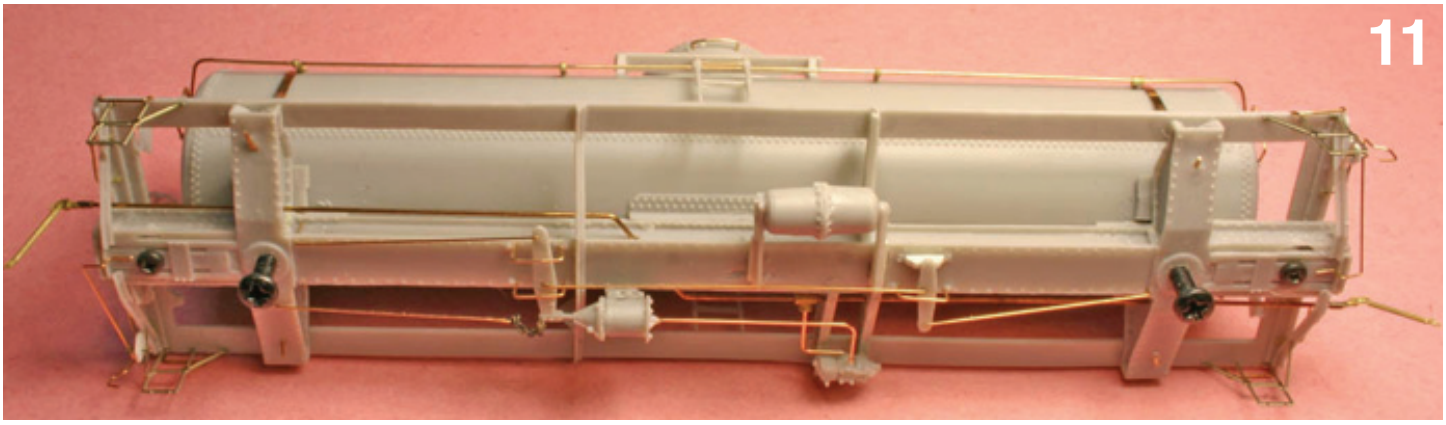


bolster block and center anchor with CA at this time. Cut out the tank bands from the fret. They should be approximately 13 ¾ feet long for an 8,000 gallon tank and wrap around the tank from rivet line to rivet line [Photos 9, 10]. The tank band rods are made from .012 wire and can be attached to the bands in a couple of ways [Photo 8]. The most secure way is to solder them. Another way is to drill through the band about 6 inches from the end. Flatten the wire for about 6 inches and make a 90 degree bend. Continue this bend over the dull edge of a razor blade so the flattened part is parallel to the wire but not touching it. Insert the wire through the hole in the band so that the flattened part of the wire faces the tank. Crimp the wire down over the tank band to secure it. Trim the wire so that it extends roughly 4 feet from the band.

Slide the turnbuckles onto the wires and insert the band assemblies into the holes drilled in the bolsters, making sure the



band is centered side to side on the tank. At one end wick AC into the wire hole from the bottom and bend the wire over against the underside of the bolster. Pull the other end tight to remove any slack in the band so that it is tight against the tank. When satisfied, repeat the process to secure that end. Trim off the excess from the wires, leaving just enough of the bent-over ends to keep the wires from pulling out of the bolster holes [Photos 7, 11].

Handrails and Platforms

The tank has cast-in dimples to locate the handrail brackets. Drill out the side holes with a .022 bit. Don't do the end holes yet. The brackets at the ends of the sides are right up against the tank bands and, because of assembly errors, the band may partially cover this dimple so adjust the hole location as required [Photo 10]. Also note that earlier production cars had these brackets outside of the tank bands so pay attention to your prototype. The bracket castings will need to be drilled out for .019 wire before installation. Attach the brackets to the sides of the tank. Two of the brackets are wider than the others as they are intended to secure the ends of the wire handrail as they meet. Install a wide bracket on each side at opposite ends, or corners, of the tank. Alternately, hypodermic tubing can be used to secure the handrail ends.

Form the handrails out of .019 wire and in two pieces. Each piece will have a formed end and a short leg and a long leg that extends the length of the tank. Trim the ends of the wires so that they meet in the wider brackets such that the handrail is evenly spaced and centered end to end on the tank. Do not attach yet. Slide each of the two remaining brackets on the wire at the tank ends. Secure the ends of the handrail at the wide brackets with CA. Position the end brackets over the tank ends and note where the mounting pin of each bracket contacts the tank end. Because of the curvature of the tank end and handrail spacing from the tank, this point may not be right on the dimple. Mark this location, drill the tank, and insert and secure the bracket. Work around the handrail and adjust it up or down or in or out as required by bending the brackets.

Remove the ladder from the parts sheet and install between the handrail and running board. The ladder is cast oversize so it will have to be trimmed in length. Assemble the platforms by attaching the support brackets to the board castings. Drill the boards from the underside and insert the bottom-mounted grabs centered in the boards. Attach the platforms to the tanks, making sure they are level and centered.

Brake Details

Add the brake parts. The cylinder has a bracket that is attached to the side of the center sill at the small rectangular pad [Photo 11]. Attach the bracket and cylinder after drilling out the back of the cylinder for the pipe to the AB valve if desired. Cut a piece of .010 styrene to span the two large running board supports and hang the AB valve from it. Add a piece of .015 wire between the pipe T and valve and a piece of .010 wire between the back of the cylinder and the valve. The reservoir is supported by a pair of angles that extend across the bottom of the center sill and face out away from the reservoir. The support angles jog downwards so that the reservoir piping will clear the bottom of the sill.

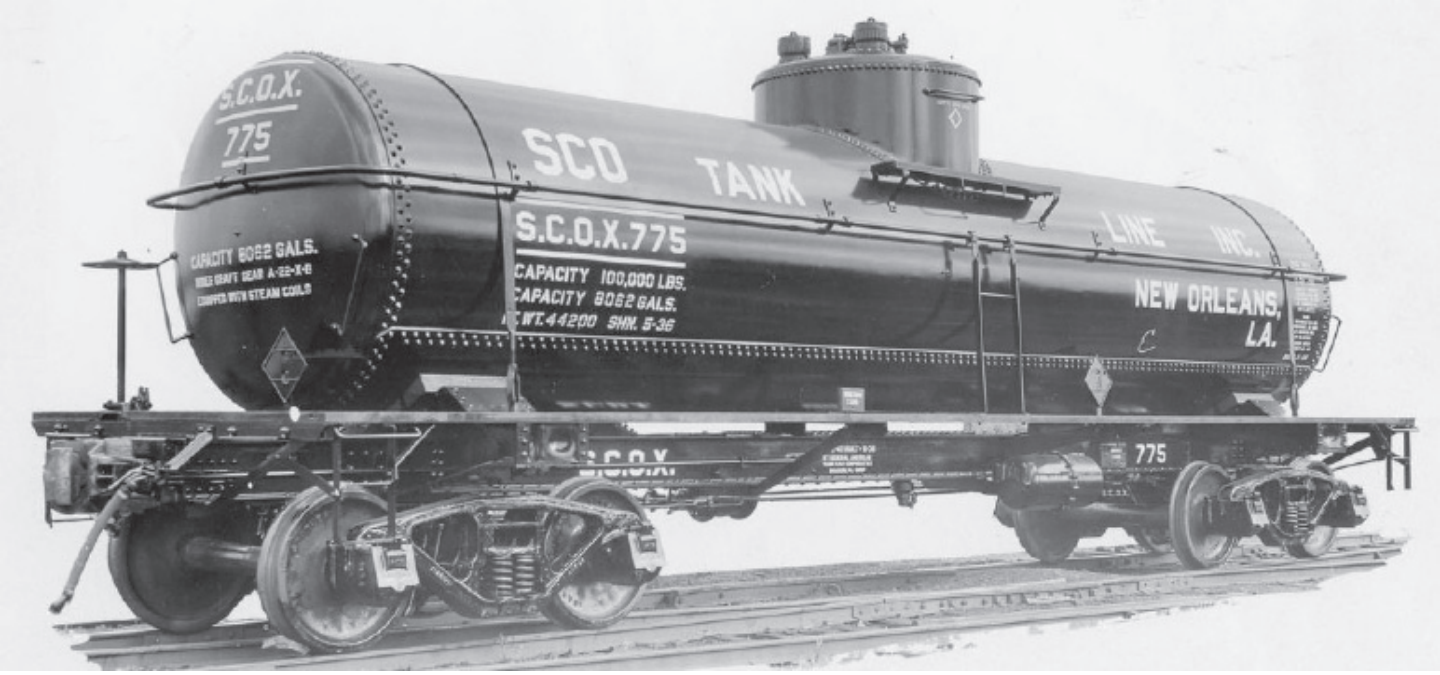
Drill the brake levers for the brake rodding [Photo 11]. Cut a piece of styrene to form the dead lever pivot and attach to the pad at the A end of the underframe. Attach the dead lever to it and insert the long (live) lever in the clevis on the cylinder. Install the lever hangers using formed brass grab irons or bend your own. Install the brake rods.

Final Details

Finish detailing by adding the brake hoses, cut levers, handbrake and wheel assembly and the hazardous warning placards. The brass brake hoses can be attached to the ends of the train line by soldering or by using thin wall tubing as connectors. Install couplers of your choice and the draft gear covers.

Painting and Lettering

Wash the model again with Dawn and allow to thoroughly dry before painting. The entire model, including the trucks, is 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 flat glaze.



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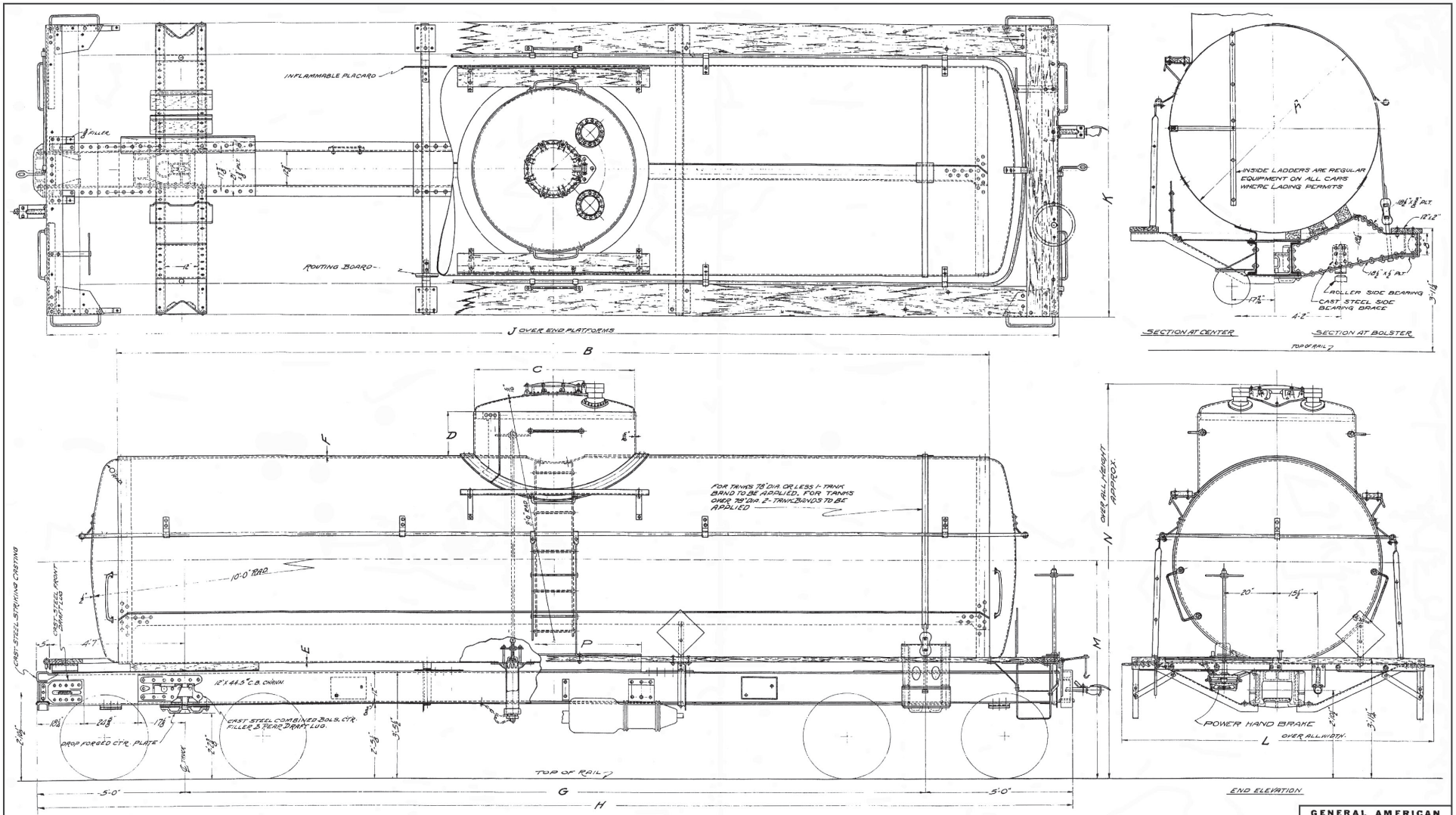

CAPACITY	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
6000 GAL	72 1/2"	27'-0 1/4"	48"	18"	7/16"	5/16"	22'-8 1/2"	32'-8 1/2"	31'-10 1/2"	9'-3"	9'-10 3/16"	6'-9 1/2"	12'-5"	4 1/2"	5'-6"
8000 "	78"	31'-3 1/4"	61 1/2"	17"	7/16"	5/16"	26'-8 1/2"	36'-8 1/2"	35'-10 1/2"	9'-3"	9'-10 3/16"	7'-0 3/8"	12'-9 3/4"	5"	5'-6"
10000 "	87 1/2"	30'-9 1/4"	61 1/2"	21"	1/2"	3/8"	26'-8 1/2"	36'-8 1/2"	35'-10 1/2"	9'-3"	9'-10 3/16"	7'-5 1/4"	13'-11 3/4"	5"	5'-6"
12000 "	89 1/2"	35'-6 1/16"	69"	17"	1/2"	3/8"	31'-2 1/4"	41'-2 1/2"	40'-4 1/2"	9'-10"	10'-2 1/2"	7'-6 1/4"	13'-10 1/4"	5"	6'-0"
12500 "	89 1/2"	37'-0 1/16"	69"	18"	1/2"	3/8"	32'-8 1/2"	42'-8 1/2"	41'-10 1/2"	9'-10"	10'-2 1/2"	7'-6 1/4"	13'-11 1/4"	5"	6'-0"

REV. "B" 2-6-31 A.A. ADDED CENTER SILL TOP TIE PLATE AT ANCHOR.
REV. "A" 4-19-30 A.A.

GENERAL AMERICAN TANK CAR CORP.
CHICAGO

GENERAL ARRANGEMENT
CLASS I.C.C.-103 TANK CAR
CORRECT [illegible] APPROVED [illegible] Mechanical Engineer
APPROVED [illegible] Chief Mechanical Engineer

SIZE AB
DRAWING NO. 4-1853
DATE 1-6-30

DRAWN
TRACED
CHECKED