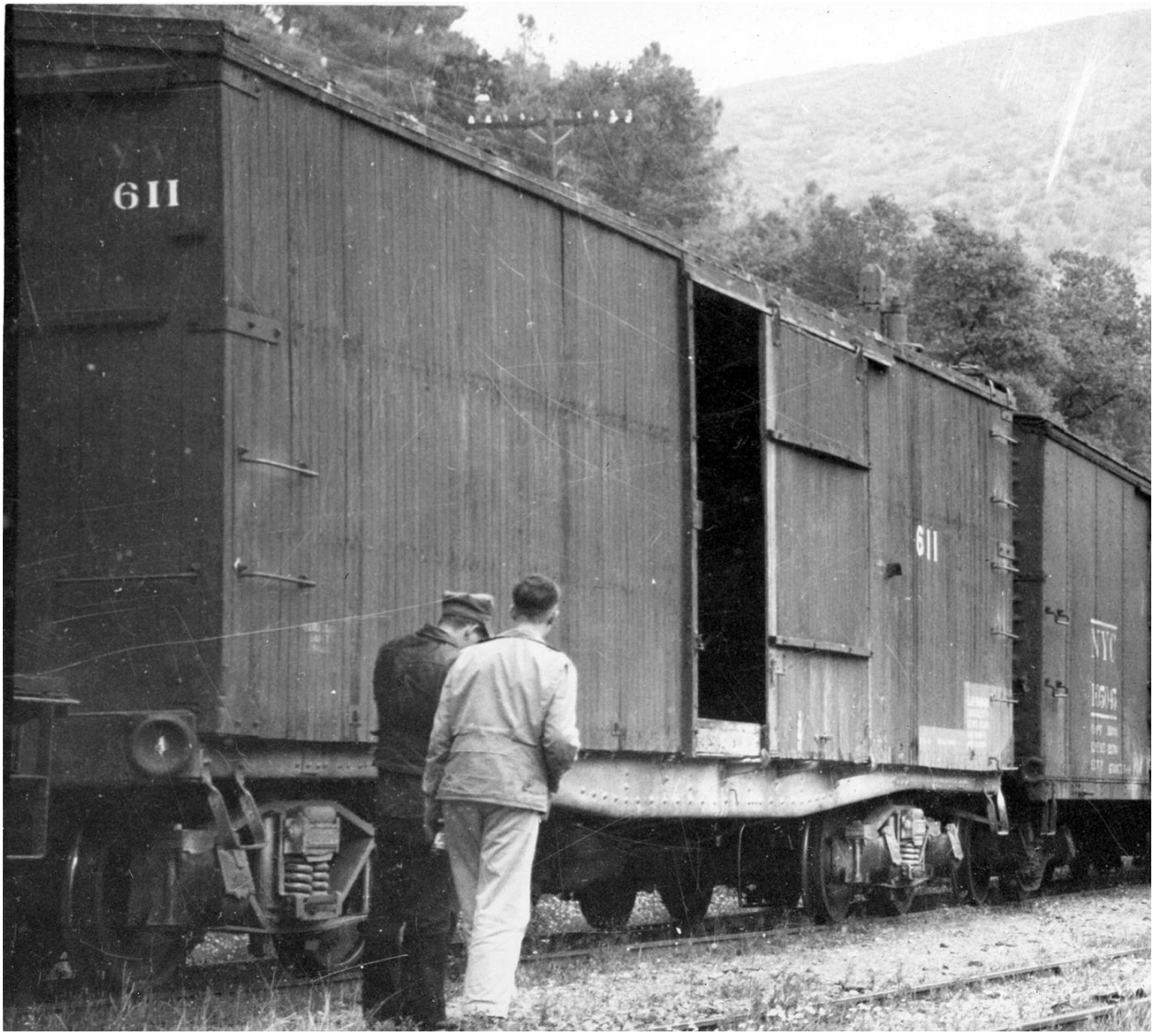
YOSEMITE VALLEY RAILROAD
BOX CARS 610-612

Contents

THE CARS

The Yosemite Valley Railroad purchased three ex-Harriman B-50-1/2/4 box cars In April 1938 and July 1939. (The railroad purchased another ex-Harriman box car in July 1939 but it was a B-50-5 and became 613.) The B-50-1/2/4 cars were numbered 610-612.

A good side view of YV 610 at an unknown date. The road name is fairly faded, the number not so much. The car may have had the car initials painted on the door but, if so, they are nearly completely faded. The car was repainted after being purchased from the SP except that the YV chose not to paint over the capacity data at the right bottom corner of the sides. - Stanley Snook photo



YV 611 at Bagby in May 1945. The "YV" on the end of the car is nearly faded out while the road name on the side of the car and door lettering, if ever painted, is gone. The area for the capacity data has, like 610, been retained rather than re-stenciled. Note the stains on the side sill under the door and on the framing exposed by the open door. - Louis Stein photo

A beautiful photo of 612 at El Portal. Given the level of weathering around the door, the photo was taken in late 1944 or sometime in 1945 prior to abandonment. The lettering on the end and side of the car are all in good condition. The lettering over the left truck is the UNITED STATES SAFETY APPLIANCES stencil with an unknown stencil under it. The car, unlike the 610 and 611, has extremely long corner braces. Note the end door which was only on the A end of the car (the brake wheel is on the B end). The weathering on this car is very interesting since the white/light colored weathering extends up to the bottom door brace and to the top of the car next to the opening. There is more information on the weathered of these cars in the section on Weathering. - Guy Dunscomb photo

THE BASICS

Westerfield Models Kit

Westerfield Models has a resin kit (#1751) which models the B-50-1/2/4 box cars. The kit will, without any additions/changes do a good job of replicating these three cars. However, there are few other things that will make it better/more accurate.

Trucks

610 and 611 - These cars need 5'-6" wheelbase arch bar trucks. These are available from Tahoe Model Works as TMW-103 with 110 wheelsets or TMW 203 with semi-scale wheelsets. TMW doesn't have a website but Caboose Hobbies carries their entire line. If the trucks you want are out of stock at Caboose Hobbies, TMW's order form is available at Jim Hayes's Sunshine Kits website as a service to modelers at:

http://sunshinekits.com/tahoe.html

Download the TMW order form to order their trucks and mail the order directly to Tahoe Model Works with payment.

612 - This car needs T-section Bettendorf trucks. Kadee has them as #511 or #554 as self-centering trucks. For years, I used these old-style Kadee trucks but finally realized that the springs don't really work like they should and they are WAY too small...you can't see through prototype freight car springs.

Kadee may (I hope) make available a new T-section Bettendorf truck without these springs but for now, similar rigid trucks (with 110 wheelsets) are available from Bethlehem Car Works (you may need to cut and paste this link):

http://www.bethlehemcarworks.com/Products/Kit_Bits/index.html

Then click on “Trucks”, the last bullet at the top of the page.

The T-Section Bettendorf trucks are #1204. While they don’t roll as well as current-day trucks, they are satisfactory.

Couplers

The kit doesn’t include couplers. A couple of years ago, I switched from Kadee #5 couplers to the smaller Kadee #158 couplers. (In my experience, these couplers work together without problems.) Either of these couplers should work fine.

OPTIONAL DETAILS

Lumber doors

All of these YV cars had lumber doors on the A ends (the brake staff was on the B end) as shown in the photo of YV 612. The Westerfield kits don't include lumber doors. You could scratchbuild them from .020" Evergreen 3¼" siding (called Car Siding, Item 2037). You also need some HO scale 2x2s for the guides.

As an alternative, Grandt Line part #5001 (Colorado Style Box Car Hardware) has two end doors per package which are the same width as the ones on these cars and very close to the height. One door is needed per car so two packages would be needed for the three cars. I cut off the bottom guide and replaced it with an L strip built up from two 1x2 styrene strips.

Whether you scratchbuild the doors or use the Grandt Line ones, you need to make a small notch in a raised strip cast into the end of the car so that the end door guide rails will fit flush with the end.

Corner Straps

The Westerfield kits have corner straps cast into the sides which extend about half the way to the inside end of the grab irons. That is correct for 610 and 611. The 612 has corner straps which are about 5' long on the sides based on counting the number of 3¼" boards. You can remove the cast-on ones for the 612 and make some replacements from scale 1x2s. Another option is that Grandt Line has a set of Narrow Gauge Box/Stock Corner Irons which look like those on the kit sides. It is part #5169. You'll need four straps to extend the cast ones for 612. A package includes 4 sets of sprues with 2 medium ones and 2 slightly longer ones per sprue.

Cut Levers
Some of the upgrades to these kits are completely optional. Cut levers are in that category and many modelers dislike adding details which might be damaged on operational models. I like to include cut levers on my freight cars and all of these cars where equipped with Carmer cut levers, a very distinct type which was original equipment on the cars. The kit includes resin Carmer cut levers but they are very fragile. Photo-etched Carmer cut levers are available from Free State Systems. The owner, Michael Watnoski, doesn't have a website but here is what they look like:

Carmer Cut Levers and Route Card Holders from Free State

If the above link doesn't work, go to

http://www.steamerafreightcars.com

Then click on Modeling/ New Products/ Free State System and then Carmer Cut Levers. This photo-etched fret includes four different varieties of Carmer cut levers (they were used on a lot of Pennsylvania RR freight cars). The ones needed for these ex-Harriman box cars are style C and there are only four of these per fret. So, two packages of these cut levers will be needed to model cars 610-612. You can e-mail Michael at freestatesystems1@comcast.net. The current price per package is $20 for 9 pairs. He deals only with checks and the US mail but can send you an updated order form.

There is a good photo of how to mount the Carmer cut levers in the section of this essay on End Sills.

Brake Wheels
The kits provide Tichy brake sets which include a plastic brake wheel but I feel that plastic wheels are very vulnerable on the layout and prefer brass castings. Precision Scale Co. makes brass brake wheels and you can order them from Caboose Hobbies as Part 05853181 for a package of 16" brass brake wheels. They need to soldered to the brake staff but that is easy to do.

Air Hoses
For a long time, I used air hoses from Kadee but they were just too fragile. However, Jimmy Booth, owner of Hi Tech Details, has come to the rescue with rubber air hoses:

http://www.hitechdetails.com/Catalog/cfm/catalog-htd.cfm

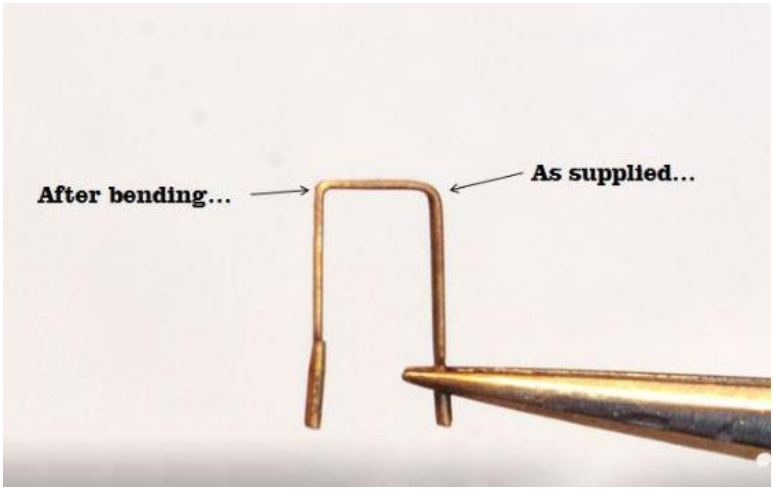
Part HTD-6040 are HO 22" AAR Air Hoses w/Separate Brackets. I have not used these air hoses with the Hi Tech brackets (I have a bunch of brass brackets from Precision Scale) but others report that the Hi Tech brackets work fine.

I glue the rubber air hose in the brass bracket using canopy glue. This glue looks like white glue and does a good job of bonding dissimilar materials. (Airplane modelers use it to glue canopies in place since it dries clear and stays somewhat flexible.) Hobby shops that sell model airplane kits should have it otherwise Tower Hobbies (http://www.towerhobbies.com/) carries it and I've purchased from them before. The canopy glue that I use is Formula 560. Note that the air hose should tip 30 degrees toward the coupler.

Corner Steps
The Westerfield kit includes corner steps but they are resin castings which must be sanded thin before adding them to the car. As such, there are very susceptible to breakage if the car(s) are to be used in

operations. Years ago, I started substituting A-Line steps. A-Line makes three variations of corner steps but the ones needed for these cars are the Style A.

One problem with the A-Line steps is that the bends are not tight. I use a pair of Xuron 575 Micro Bending Pliers to form a nice tight bend on these steps before installing them. Simply put the corner of the step in the pliers and squeeze them tight, then do the other bottom corner. The result makes it worth buying the pliers.



OPTIONAL DETAILS

Jacking Pads

YV 613, the B-50-5 had jacking pads on the side sill similar to those cast into the side sills of the Westerfield kit. However, YV 610-612 didn't have these jacking pads. There are directly in line with the truck bolsters and can be removed to more accurately model 610-612. I cut them off and scrapped the area flat while cleaning up the side sills. That resulted in removal of the rivets in that area but I replaced them with Archer rivets later. (Photos show the rivets at the bottom of the side sill rather than at the top like the castings.) I also rounded the bottom edge of the side sills more like the photos show.

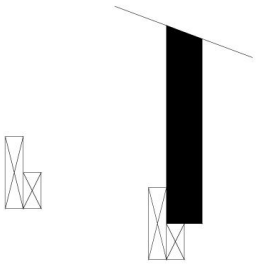
I didn't add the Archer rivets until construction of the cars was complete and the bodies had been washed prior to painting. Before applying the rivets to the side sills, I brushed on a coat of Future acrylic liquid floor wax onto each of the places where the rivets would be applied and let it dry for a day before applying the resin rivets. Future has been used by modelers for years to provide a gloss surface before applying decals. A few years ago, the company changed the name of this product to Pledge Future Shine Wood Floor Finish. It isn't that easy to find but I found my current bottle at Home Depot many years ago. Brush it on the just that portion of the side sills to receive the rivet decals. After it dried for a day, I cut pieces of Archer Surface Details #25 eight rivets long and applied them just like decals to the side sills.

Horizontal Nut/Washers

I'm not sure what they are for, but box cars 610-612 had nuts with rectangular washers along the bottom edge of the sides. (They could have been the ends of horizontal tie-rods. They were not on the cars as originally built.) These are easy to build and add an interesting detail.

There are two of them to the right of the door and three to the left of the door. Using the side view of 610, I measured these braces at 5-1/2', 9-1/2', and 13-1/2' from each end of the car. On the same photograph, I measured them to be 4" above the bottom of the sides.

It is difficult to mark the locations of these nut/washers along the bottom of the car with a pencil, so I stuck a small yellow sticky-note on each side of the door just above where they are to be located and marked the locations on the sticky note, measuring from each end. While their spacing from the ends can be slightly off and not be noticeable, the nuts/washers do need to be in line horizontally. To make them all level, I made a simple "jig" from a strip of 2x8 styrene about a real 1" long with a piece of 4x4 styrene glue to it to create an L shape as shown on the left in the graphic. That resulted in a space of 4" exposed on the 2x8. Hold this jig against the bottom of the side of the car (solid fill) as shown on the right in the graphic. That lets you mark each location with a straight pin along the top of the jig.



Comparing the washers to the siding (which is 3¼" wide) showed that the washers were about 6" long. I used 1x4 styrene cut 6" long to make the washers. For the nuts, I used Grandt 5405 1" square nuts. Holes were drilled in the center of each washer using a #77 drill bit for the Grandt Line castings. Holes were also drilled with the same drill bit in the box car sides.

With all of the holes drilled, cut a nut from the sprue (cutting on an angle will make it easier to get the washer on) and thread it onto a washer. I chose to bond the styrene nut to the styrene washer with styrene glue and, when they were dry, I inserted the assemblies into the holes in the box car sides and bonded them in place with CA. Photos show that the long sides of the washers were parallel to the bottom of the side.

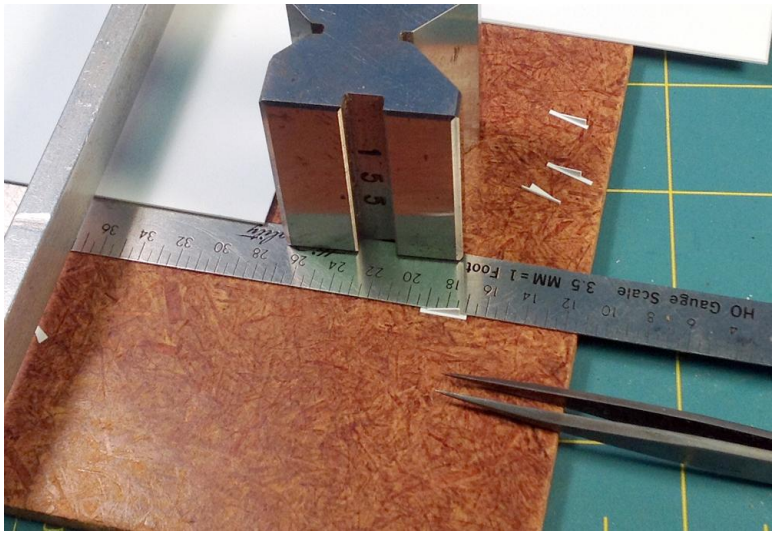
Knee Braces

These cars had knee braces as shown in the photo below which is a close-up of the photo of YV 612. They were not a feature of the cars when they were built but were added by the SP.

I estimated that they are about 18" high. Start by cutting some styrene 1x6 strips a scale 18" long and then cut these pieces on a diagonal to create two equal triangles. That last step is most easily accomplished by using a single-edge razor blade which lets you check and make sure that the razor blade is bisecting both diagonal corners.

If you look closely at the photo to the left, you will notice that each triangular brace is actually formed by bending it to create a plate which can be bolted to the end. I replicated that by gluing each triangle to a piece of styrene 1x3 which was about 24”-30” long. That made it easier to center the triangle on the 1x3.

As shown on the photo below, I put an old scale ruler on my Chopper with a weight on it and then used it to make sure that the triangle and base were at right angles. I put the 1x3 up tight to the ruler and then dipped a triangle into a pool of styrene cement (I use MEK) and then stuck it to the 1x3. MEK flashes off very quickly so my joints were not very solid. So, after these joints were dry (a couple of seconds), I held the assembly in my tweezers and added another drop of MEK to solidify the joint. I then cut off the excess 1x3. Keep in mind that you need both "left" and "right" assemblies since the flanges are always on the side away from the centerline of the car.



The prototype photo shows these braces bolted to the two boards which extend out from the rest of the ends (as modeled in the kits). It is thus important to make sure that the end sills are centered on the ends or else that error will be obvious when you later add these knee braces. I discuss how to center the end sills under Assembly Tips.

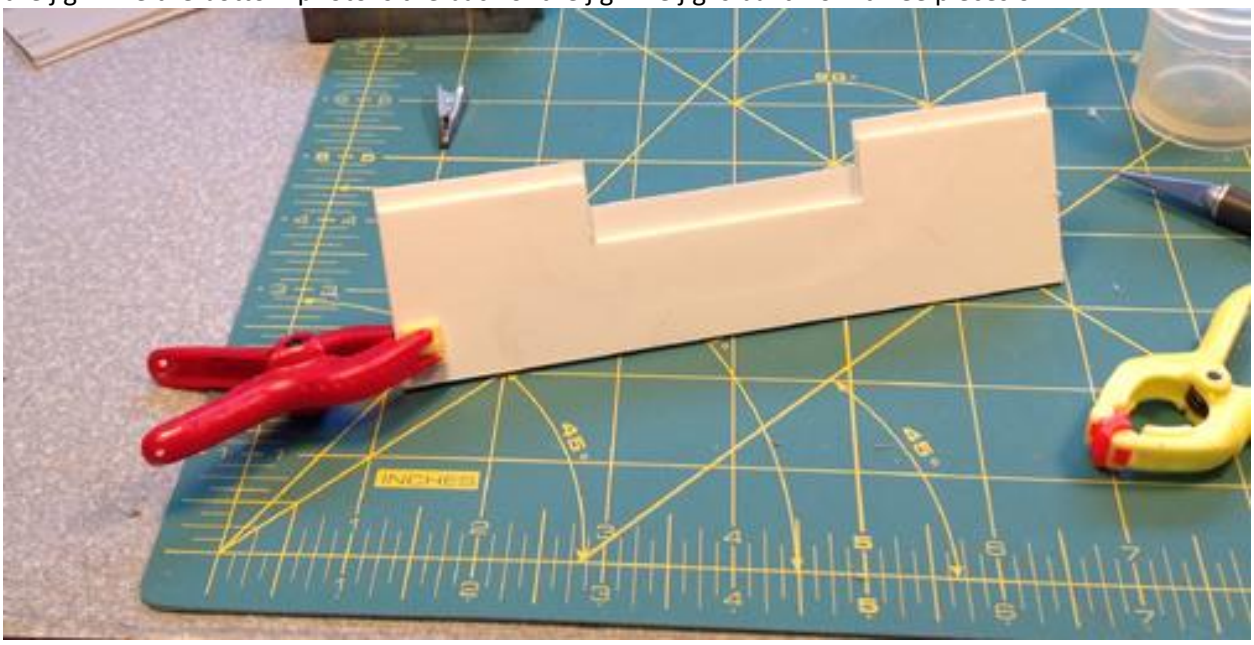
ASSEMBLY TIPS

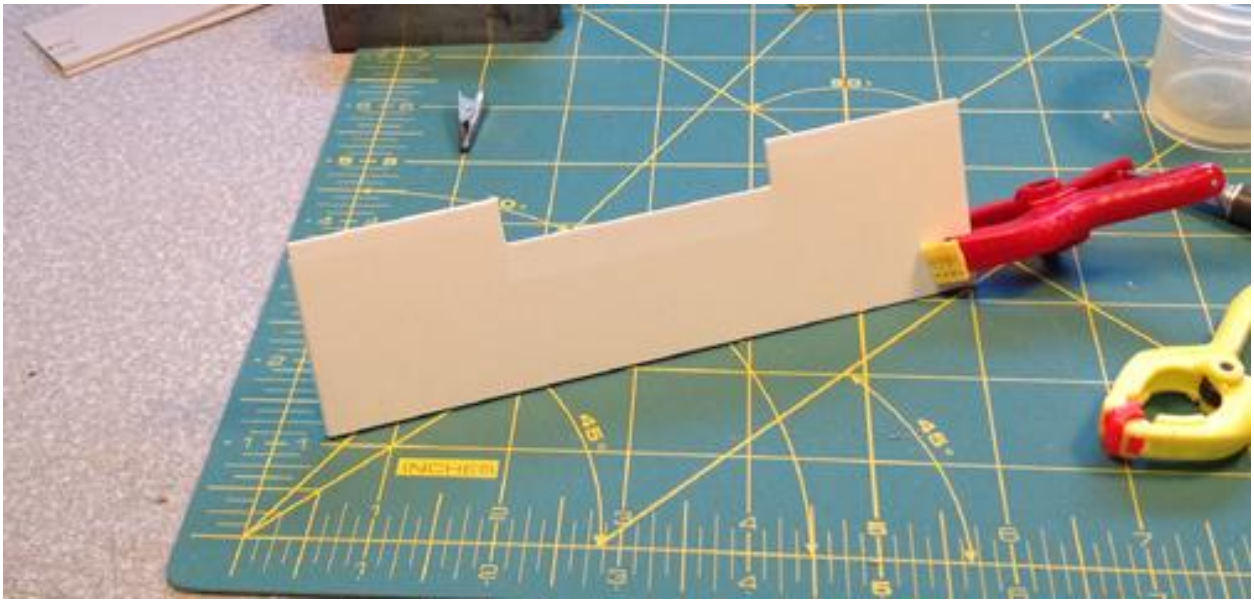
Side Sills

One of the first assembly steps is building the “box” meaning assembling the sides and ends into the basic box car body. Before gluing the side sills in place in Step 16, round the bottom edge of the side sills slightly. (Plans for the similar B-50-5 box car in show that the bottom of the sill had a radius of about 1½".) I just dragged the edge of a razor blade along the sharp bottom edge a couple of times to ease this edge.

Gluing the side sills to the sides is one of those steps that, I think, calls for a jig to help align everything. You need to hold the side sill even with the bottom of the side on each end with the door guides lined up. I also didn't see an easy way to successfully clamp things in place. Since I ultimately need to do this at least 6 times (and hopefully 2 more times if Westerfield comes out with the B-50-5 version), I figured that I needed a jig to hold things in alignment while not gluing the parts to the jig.

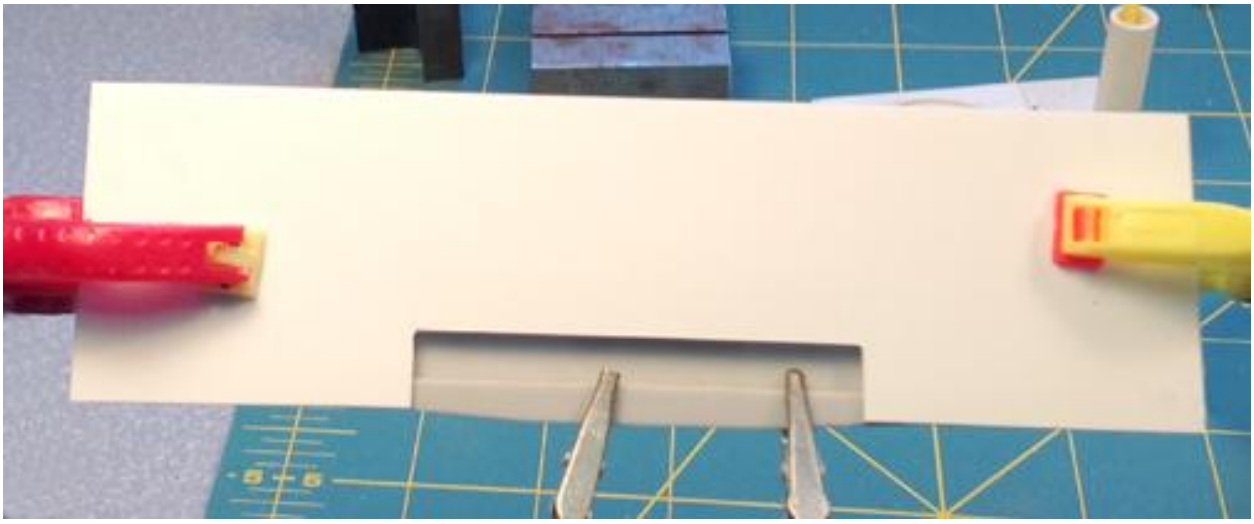
The jig is actually quite simple and is shown in the two photos below. The top photo shows the front of the jig while the bottom photo is the back of the jig. The jig is built from three pieces of





.030" plain styrene. The front of the jig is made from two pieces of styrene 6" long by 1½" high and one piece 6” long by 1¾” high. On the two shorter pieces, measure in about 1¾" from each side and ¼" down from the top and cut an opening (mine is deeper but doesn't need to be). After cutting this opening in both pieces, glue them together with the sides and bottoms even. For the remaining piece of styrene, measure in about 1¾" from each side and ½" down from the top the opening and cut an opening. Glue it to the other piece with the bottom and sides even.

The photos below show how it works. The side sill goes in the shelf created by having one piece of



styrene "taller" than the others. The thickness of the side sill casting is about .073" while the two first two pieces of styrene are slightly thicker so, clamping the box car side to the jig (shown with the red and yellow clamps) holds the side sill in place. The two small alligator clamps close the gap between the side and the side sill in the opening.

To use the jig, put the side sill on the shelf, put the side in place and align it with the edge of the side sill vertically and the door guides horizontally. Clamp it in place and make sure everything is lined up properly. Turn the jig over and clamp the center. Apply CA (cyanoacrylate adhesive) to the gap. I held the jig level and applied a drop of CA to the center and then immediately applied accelerator to the CA with a disposable Micro Brush to the joint so that the CA would dry immediately. I then tipped the assembly and applied CA to the "uphill" area of the joint and then applied accelerator. The idea is to not let the CA migrate into the area where the parts are held together in the jig. After doing the opposite end the same way, I removed the clamps and finished gluing the rest of the joint which was covered by the jig.

Grab Iron Clearances

The Standard Safety Appliances for our era specifies under item G a minimum clearance of 2" with a preferred clearance of 2½" for grab irons. However, I think that they look a little too far from the body when spaced at 2½", since we tend to use .012" wire grab irons which is an 1" in diameter while the actual YV grab irons I have are 5/8" in diameter. So, I typically space the grab irons with a .020" clearance (equal to 1¾") from the body using a piece of .020" styrene to get them all even.

APPLIANCE	DIMENSIONS	PREFERABLY	MAXIMUM	MINIMUM
BRAKE SHAFT	A	-	22"	17"
RUNNING BOARD (WIDTH)	B	20"	-	18"
" (CLEARANCE)	C	-	10"	6"
● SILL STEPS (LENGTH OF TREAD)	D	12"	-	10"
" " (HEIGHT ABOVE RAIL)	E	22"	24"	-
LADDERS (SPACING FROM ROOF)	F	-	18"	12"
" & HANDHOLDS (CLEARANCE)	G	2½"	-	2"
ROOF HANDHOLDS (FROM EDGE OF ROOF)	H	-	15"	6"
▲ HOR. SIDE & END HANDHOLDS (LENGTH)	I	24"	-	16"
" " " " (HEIGHT)	J	-	30"	24"

● ADDITIONAL SILL STEP TREAD, WHEN NEEDED, SEE TEXT.
▲ HORIZONTAL END HANDHOLDS: WHEN 16" LENGTH CANNOT BE APPLIED, 14" LENGTH MAY BE USED.

I use a piece of .020" styrene just a little narrower than the grab irons and slip it between all of the grab irons in a line and then push the grab irons down tight to the styrene. I then use CA on the inside of the side or end to bond the grab irons in place. This also helps ensure that they are the same clearance on the left and right sides of each grab iron. I actually clamp the piece of styrene to the car with some alligator clips so that it will be tight to the car end and then apply the CA. I don't worry about adding too much CA but do soak up the excess with a Kleenex tissue as soon as I apply it, mainly so that it doesn't stay wet. Soaking it up helps ensure that I don't glue my finger to the part. Once the glue is dry, I cut the grab irons more or less flush with the inside of the end and then file the ones closest to the edge flush with the part. I do that so they won't cause problems when the sides and ends are glued together.

Note that in Step 14, our prototypes had the extra grab iron on the left as mentioned for the "late 1940s" versions. If you decide to add the NBW castings above the grab iron, you need to drill a #77 hole for them.

Coffman Clamps

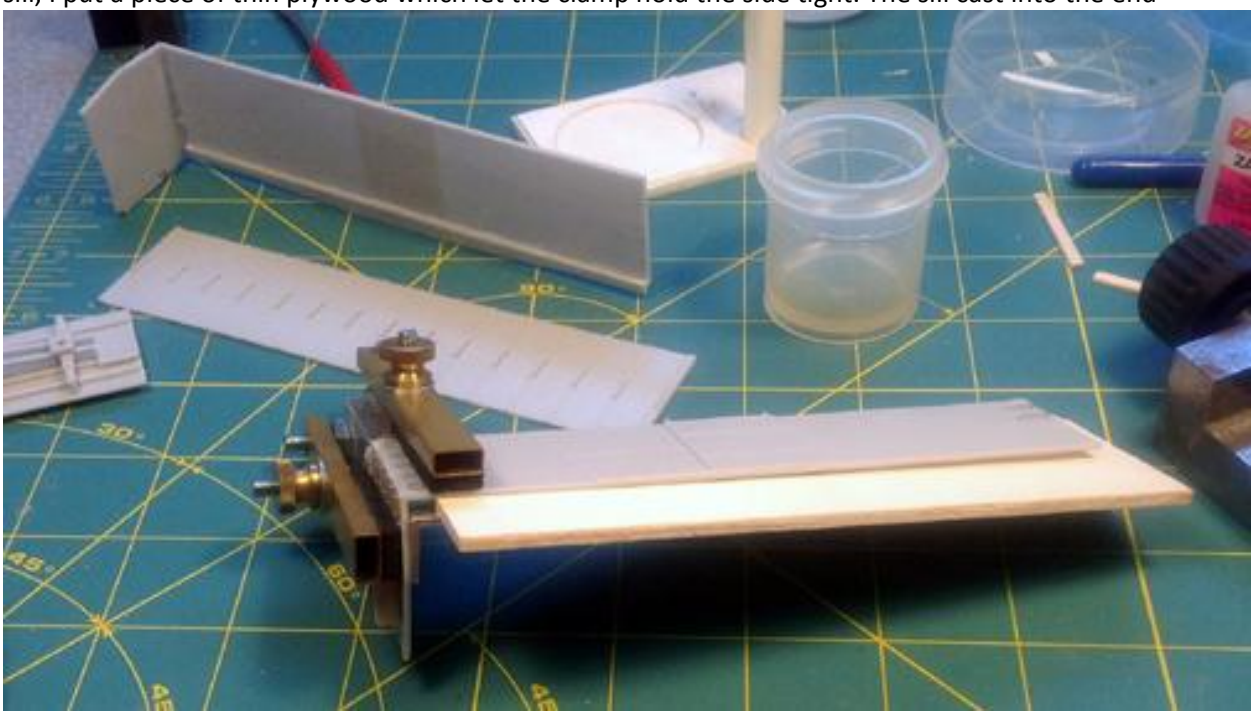
After drilling and installing the grab irons, the next major step is to "build" the "box". I use Coffman Clamps to assemble the “box” from the sides and ends. I wrote an article on these clamps for the March

2011 issue of the free, online magazine *Model Railroad Hobbyist*. You can read that article online (or download the entire issue) at:

http://model-railroad-hobbyist.com/magazine/mrh-2011-03-Mar

I always glue one side to the end right of it. And then glue the other side to the end on its right side. I then glue the two sections together.

The photo below shows using a Coffman clamp to glue a side to an end. Because of the protruding side sill, I put a piece of thin plywood which let the clamp hold the side tight. The sill cast into the end



causes the same problem so I got the clamp fairly tight and then used a wedge of large stripwood to push the top of the end down tight to the joint. I then applied CA to the joint from the inside (hold the assembly vertically so that the CA runs down away from the clamp) and added accelerator to instantly dry the CA. (While building the remaining two box cars, I realized that a simpler solution would have been to just turn the Coffman clamp around and insert it into the joint from the top.)

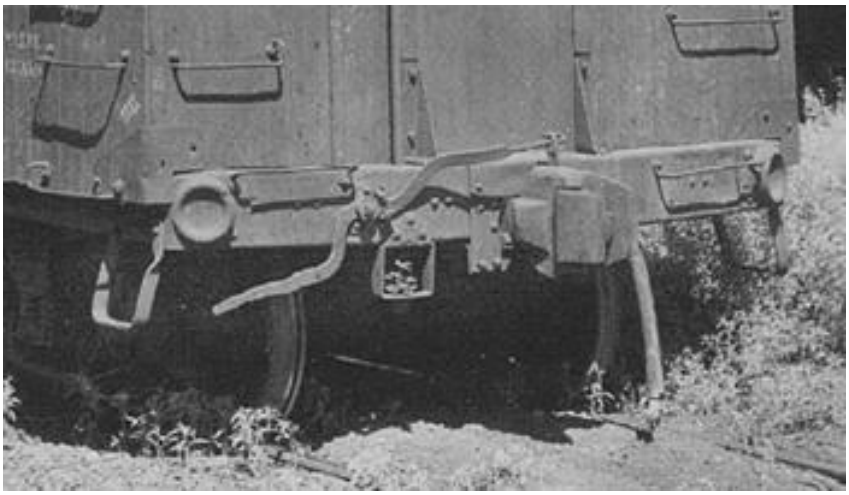
You can see one of these two side/end assemblies in the background of the above photo. After completing the second assembly, I then glued the two assemblies together.

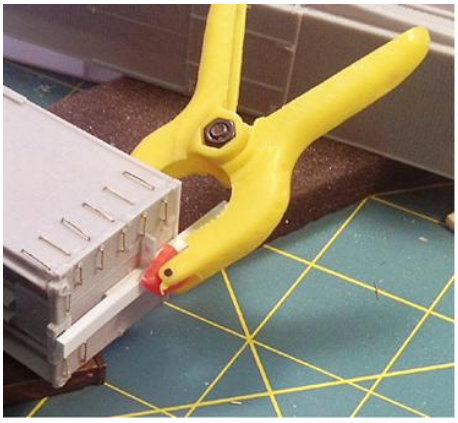
Weight

In Step 19, I used foam-back double-sided tape to bond the weight in place since I don't like using contact cement. I also didn't want to wait for the contact cement to out-gas.

End Sills

YV 610-612 had the "above" and "below" grab irons on the end sills as shown by the photo on the next page from Tony Thompson's book on SP box cars. This is a B-50-5 car (like 613) but it does show how the grab irons were mounted. The triangular knee braces mentioned previously are visible above coupler pocket. After you clean up the end sills, drill them out and install the grab irons. You need to then file the back flat and then glue the end sills to the ends of the car.





That is one of those tasks that is easy to mess up. I took a piece of thick styrene (.080"x.156 is what I used) and glued a short piece of 4x12 styrene to it. That let me clamp the end sill in place with a clamp in the middle of the end as shown on the left in the color photos. There was enough pressure on the end sill that it could be moved side to side to center it and rotate it as needed to make it parallel to the bottom of the car but it still stayed in place without moving on its own.

When I was satisfied, I added a drop of CA from the bottom to the joint just at center of the end sill. Once that was dried, I used a pair of alligator clips as shown in the photo on the right to clamp the ends of the end sill tight to the end and bonded those in place. Note that the end has a pair of protrusions which help ensure that the end sill is in the correct position.

Reinforcing the Box

The sides of resin box cars can warp over time. I use a pair of styrene “triangles” to prevent any warping. Download my article from RMC from my website at:

Reinforcing Resin House Cars Apr 2012 RMC

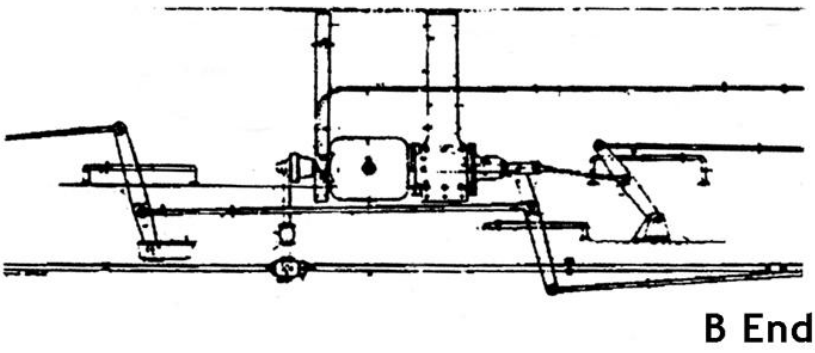
Underbody Brake Gear

Even though it isn’t normally visible, I always model all of the air brake components on the cars that I build including the rods and pipes. However, the brake cylinder mounting is different on these cars compared to other house cars I've built. On the first of these cars that I built, I used the resin casting to support the brake cylinder per the instructions. But the brake cylinder ended up not being level side to side. Below is the first car that I built from this kit using the resin casting to support the brake cylinder.

The problem is that (unless I misread the instructions) using this support casting results in the brake cylinder being too close to the centerline of the car. The position of the brake cylinder is about right (end to end) since a reference specifies that the center of the air tank should line up with the centerline of the car. On subsequent builds, I didn't use this casting and glued the air brake cylinder to a piece of strip styrene bonded to the center crossties.

The instructions mention cutting off the rod from the cylinder and shortening it. You need to do this in order to have the brake levers fit. With the rod and clevis stock length, the hand brake lever was way out beyond where it should be.

I used the resin brake levers. I thinned them by holding them down on a fairly coarse sanding stick and moving them back and forth. Note that the graphic on the last page of the instructions labeled as AIR BRAKE SYSTEM is actually looking down on the brake system from above (typical on real railroad equipment drawings). The drawing to the left shows the brake gear as if looking from the bottom of the car. The B end is the end with the brake wheel. However, the graphic shows the clevis on the push rod from the brake cylinder at an angle to the connection on the brake lever, something I've never seen and what seems somewhat suspicious.



The "top" of the lever on the right in this graphic goes to the brake shaft. The "bottom" end of this lever is bolted to the frame. I couldn't find any resin casting for this brake lever to be mounted to. It is about a scale 12" above the center sill so something is needed. I gave up and chopped off a piece of Evergreen .080" Angle, glued that to the center sill and then glued the brake lever assembly to this angle iron. I did basically the same thing for the lever to the left of the brake cylinder.

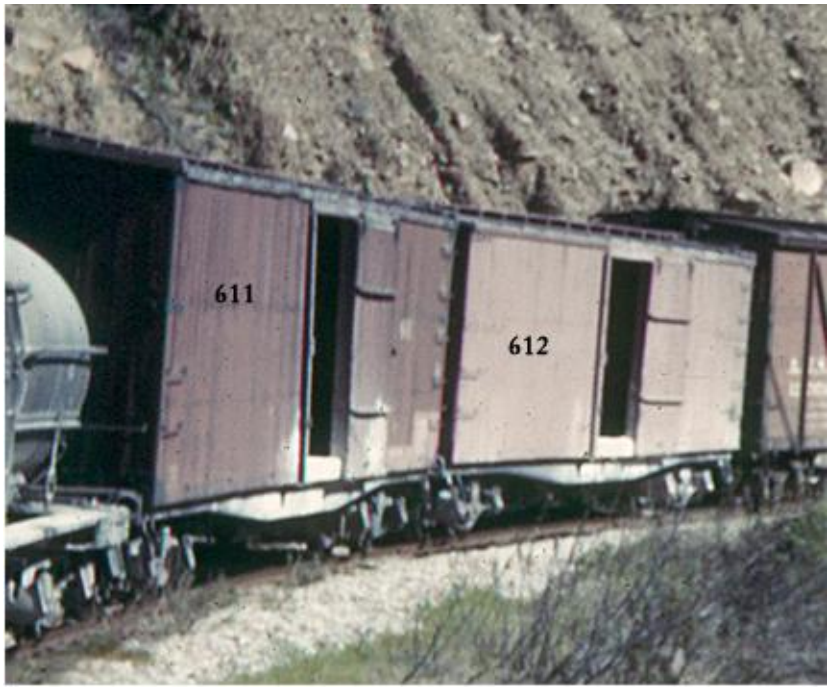
PAINT AND DECALS

Paint Scheme

There are only a few color photos of these YV box cars but those which exist prove that these cars were all painted boxcar red with black side sills. It is logical that the trucks and steel underframes were also painted black.

Color photos also show that, at least when the photos were taken, the cars had faded to different shades of boxcar red. The photo below shows two of the YV box cars on the Exchequer Bridge during the September 1944 fan trip. Based on the difference in height between the two cars, the one in front is 613 (that B-50-5 was 14" taller than the B-50-1/2/4 box cars). The second car is 612 since the longer corner braces are visible. Both of these cars had fairly faded paint, at least in late 1944, with the 613 slightly lighter than the 612.

The picture to the right was taken in March 1944 and shows 612 with either 610 or 611 since both of those cars were the same height. I think that it is 611 since the car number is visible but not the road name.



While there are no color photos which show 610, based on B/W photos I think that 611 has the darkest shade of boxcar red, 610 is somewhat lighter, and 612 is closest to "pink".

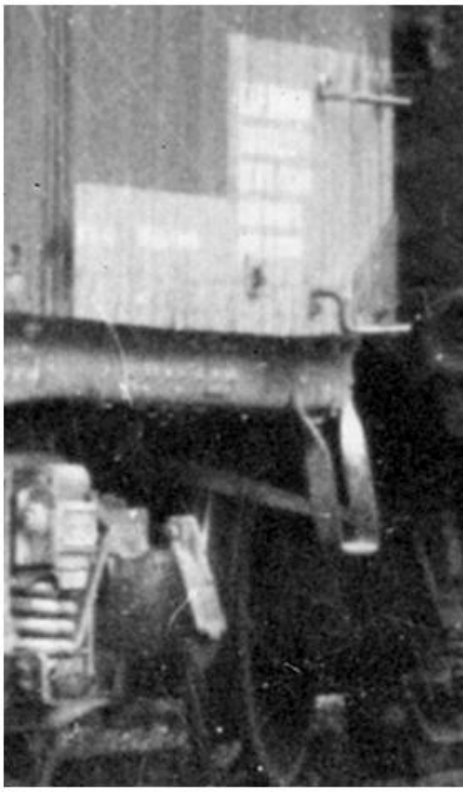
While I use Floquil paints, the following paint recommendations should work with other paint brands. Based on the above color photos, I painted my box cars with these approximate formulas:

YV 611 - Since the paint on this car seemed the darkest, I started with it. I mixed Floquil Boxcar Red and Roof Brown at a ratio of 1 part Boxcar Red to 1 part Roof Brown (in other words, about half and half).

YV 610 - After painting the 611, I lightened the mixture for the 611 with Reefer Yellow at the ratio of about 4 parts mixed Boxcar Red/Roof Brown to 1 part Reefer Yellow.

YV 612 - I usually lighten Boxcar Red by adding Reefer Yellow since using white to lighten boxcar red results in an unnatural pink color. Although I didn't keep track of the actual proportions, I added a lot of Reefer Yellow to the color used for YV 610 to paint this car. It takes a little experimentation to get a color which is light enough but not too pink.

Before decaling the cars, the original paint "patches" on 610 and 611 need to be added by masking and painting these areas a lighter color (close to the final color used on 612). Here is a close-up of this area on these two cars:



In addition to the five lines of data on these cars, there is some lettering to the left of that data. The lettering directly above the bolster is the built date (1904) but the lettering to the left is unreadable.

In the above photos, YV 610 is on the left and 611 on the right. I believe that the YV repainted these cars after purchasing them from the SP but chose not to repaint over this capacity data. So the color under the capacity data would be the color of the cars when the YV purchased them which, when compared to the colors of the cars when they were in service on the YV, would be fairly light. Note that the un-repainted area on the 610 extends to the left of the left truck journal box and just short of the grab irons on the right. That area on the 611 stops about on the centerline of the trucks but extends all of the way to the corner of the car. The capacity data on 612 looks exactly like the 610 but there is no "patch". So, apparently, the paint on the 612 faded to the color under the dimensional data since no original paint is visible on that car.

I used these two photos to determine the limit of masking for these patches. However, when I started decaling the cars, it was obvious that the size of the available lettering was too large. If you look at the photo of the 610 above, there are five lines of data and the top line is in line with the second grab iron.

The data from top to bottom is:

CAPY
LD.LMT
LT. WT.
LENGTH
CUBIC CAP

While some of this data is available on the YV box car decal sheet, that data includes only CAPY, WT., and LENGTH. I therefore decided to start with the data on the SP decal sheet which comes with these kits. That data includes the first three lines listed above. Unfortunately, the spacing of these three lines is too wide. The CUBIC CAP is also on the sheet but with the dimensional data. So, my approach was to 1) use the SP lettering for the top three lines but cut the lines apart and space them closer together when I applied the decals, 2) use the LENGTH 41 FT decal from the YV box car sheet, and 3) use the CUBIC CAP lettering from the SP decal sheet.

But, since all of the decal lettering was too tall, there was no way that all five lines of data would fit in the painted patches based on the above photos. My solution was to use only three lines of data on the 610 and 611. I used all five lines on the 612 (no paint patch) but the top line is in line with the third grab iron, not the second. One way or another, you'll need to compromise. If you make the patches large enough to match the data, they will be much too large. I think my compromise is the best choice.

One more comment on the size of the original paint "patches". In order to fit three lines of data onto the patch, the top of the "patch" needs to be at least 2'-3" from the bottom of the side. In addition, the patch must extend to the left of the rectangular washer above the bolster or the lettering will run into the grab irons.

Decals
Decals are available for these box cars from my website under Store and scroll down to the decal section:

http://www.yosemitevalleyrr.com/store/yosmtmdl

A single decal set will provide enough decals for all of the YV box cars. Unfortunately, I forgot to include end lettering for 611. But there is extra end lettering for most of the rest of the box cars. For the end lettering for 611, I used the extra end lettering decals for 610, removing the "0". Once the decal had set, I added a "1" from the extra end lettering for 601.

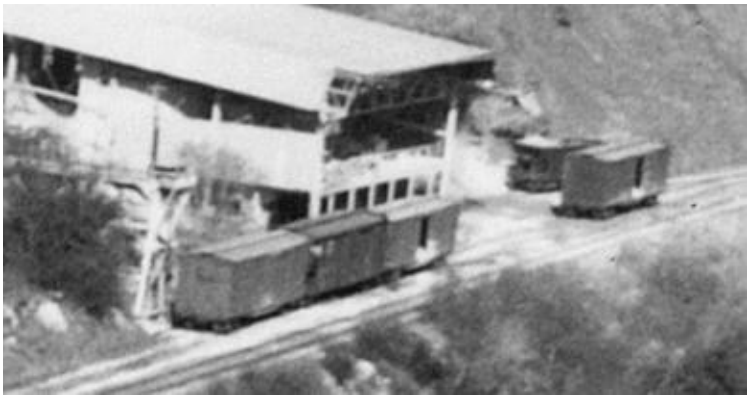
After painting my box cars, I airbrushed a coat of Pledge Future Shine Wood Floor Finish (undiluted) onto those areas where I would be applying decals and let it dry for a day. Once the decals were applied and had set for a day, I airbrushed a flat coat over the whole car prior to weathering.

Weathering the Cars
Most photos of these cars (some which aren't dated) show some light-colored "weathering" below the doors on all three cars. Weathering also shows clearly in the color photos of the cars which were taken in 1944.

The weathering appears to be from loading something light-colored which might have leaked out of bags or been loaded directly into the cars in bulk. I have some YV switch lists and extracted the information from these switch lists related to these box cars:

From YV Switch Lists					
Date		**From**	**To**	**Contents**	**Location**
Aug 9, 1945	610	SP Transfer	76	Mty	Nat Lead
Aug 9, 1945	612	SP Transfer	76	Mty	Nat Lead
Aug 10, 1945	611	Mer Yard	SP Transfer	Ore	
Aug 10, 1945	610	Team Track	76	Mty	Nat Lead
Aug 10, 1945	612	Team Track	76	Mty	Nat Lead
Aug 14, 1945	611	SP Transfer	76	Mty	Nat Lead
Aug 15, 1945	611	Team Track	76	Mty	Nat Lead

The "To" column on the original switch lists is the milepost. National Lead near El Portal is at milepost 76. It produced barite which was used in drilling mud and the barite was shipped bagged from the plant. At least one photo (right) shows what appear to be two ex-Harriman box cars at National Lead. White residue is obvious on the two cars. That, plus the above switch list information proves that the YV some of these YV box cars were used in some type of service for National Lead. However, when did that begin and what was going on?



The Yosemite Portland Cement plant in Merced was sold to the Henry J. Kaiser Company in June 1944. But the YV Board of Directors actually authorized the commencement of abandonment proceedings four days before the YPC stockholders approved the sale of the YPC plant to Kaiser. Sometime later, the YPC warehouse facilities were leased to National Lead and were used to bag barite shipped from the plant near El Portal. Maybe, knowing that the YV would be abandoned slightly over a year later, National Lead decided to continue to bag barite at their plant but also convinced the YV to let them ship barite in bulk via YV box cars from the plant to the YPC shipping warehouse where it was bagged and shipped out over the ATSF or YV. Given the weight of the barite, the material could logically be loaded directly into YV box cars by hand and unloaded at the old YPC plant. (The YV didn't have any gondolas and using gondolas from another railroad would result in per diem charges. In addition, a gondola would have reached its weight limit long before it was completely loaded.) Maybe that resulted in the light-colored residue below the doors of the YV box cars used in this service and also explains the photo of what appears to be two ex-Harriman box cars at the National Lead plant.

All of this seems to be correct except for one detail. The second color photo on Page 16 shows 611 and 612 in March 1944 when the YPC plant was still in operation. So, while the light-colored weathering on the later photos of these cars could have certainly been due to their use by National Lead, something else created the light-colored weathering of the cars before the YPC plant was closed.

I'm going to assume that the light color of the black side sills was because the YV didn't repaint them and was therefore a result of service on the SP. Likewise, several of the photos of these cars in service

on the YV before the YPC was shut down have these side doors open and the framing exposed by the open doors also appears to be very light colored. Therefore, I think that the light color on the framing normally covered by the doors on these cars was also due to service on the SP.

On the other hand, I believe that the extreme amount of light-colored material on YV 612 (Page 4) both on the door and along the left edge of the door opening as well as to the left and right of the door on the side sill was from loading bulk barite into these cars at National Lead. That operation probably didn't start until late 1944 or early 1945. So, the amount of weathering on these cars should be restrained unless one is modeling them that later in their career.