

# Scratch Building a Rebar Load for and Weathering the Scale Trains Finger Flatcars

By

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## A little about this project

Several years ago, a friend sent me some pictures of a rebar load in a bulkhead flatcar. I thought it would make a nice load, so I purchased a flatcar, and some green florist wire. The florist wire comes on a spool, trying to straighten out the wire was a real pain. I did build a couple rebar bundles, but they didn't look to nice. So I used the flat car for something else.

When Scale Trains announced the finger flatcar, I purchased three of them. Now I had to figure out how to make the load. I found a video on You Tube where the builder used 26 Gauge Tag Wire (12 inches long). After some searching, I found the product on E-bay (where else would I find it). I ordered one bundle (1000 pieces), the price with shipping was less than \$15.00. One bundle will do three flatcars with some scrap left over.

I was talking with a friend that works in the concrete industry, he told me that they use 2 inch rebar in concrete highways, and it is painted green. The size of the 26 gauge wire is close to 2 scale inches. With this information, I started the project.

The rebar load can be used on any straight deck flat car, or bulk head flatcar. Cutting the rebar to length, building the rebar bundles, painting the load, and assembling the load; are all the same regardless of which flatcar you use.

### Items needed for this project

26 Gauge Tag Wire, # 2612TW	1 each
1/16 X 1/16 Bass wood	1 per car
Tamiya Paint # XF71, Cockpit Green	1 bottle
Drinking Straws	2 each
Scotch tape	as needed
22 Gauge stranded wire (non-copper)	as needed
RustAll	1 bottle
Pan Pastels Earth - Extra Dark Shades # 30105	1 package
Testors # 1121, Flat Brown, brush on paint	1 each
Testors # 1260 Dullcote or Krylon # 1311 Matte Finish (spray)	1 each
Testors Dullcote, brush on	1 each
Testors # 1163, Flat White, brush on	1 each
Smokebox Graphics # RV 87, Reflectors	1 package
Bob Smith Industries Maxi-Cure Extra Thick super glue	1 each
Assorted paint brushes (one old Testors brush)	as needed
Testors Enamel Thinner	1 each
Micro Brushes, Green, Walthers # 232-1302	as needed

### Tools needed for this project

Scale Ruler  
Medium duty side cutters  
Needle nose pliers  
Small Phillips screw driver  
X-Acto knife with a # 11 blade  
Northwest Short Lines Chopper  
400 Grit Sandpaper  
Small tweezers  
Kadee Height gauge

### **NOTICE:**

**All measurements in feet or feet and inches are SCALE Feet!**

## Getting Started

Use two plastic drink straws, butt them together and Scotch tape the straws together. You want them as close to perfect as possible. Measure 60 feet, mark the straw, and cut it. This is your “jig” for cutting the rebar (see Figure 1 page 3). Find a good TV show, or train video to watch, and start cutting. Cut a few wires at a time, this is going to take a bit of time. Each bundle of tie wires, will do three finger cars with about 100 pieces left over.

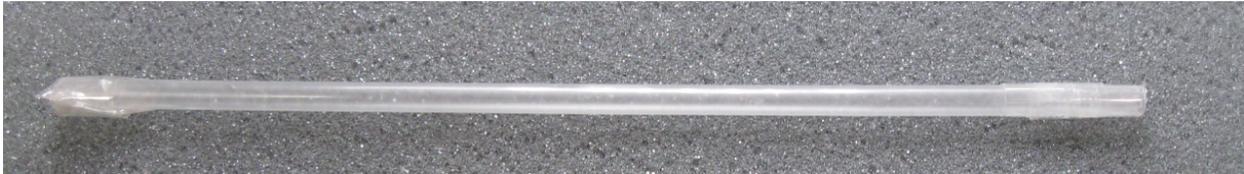


Figure 1

Start by counting out 20 pieces of rebar (I made 15 bundles for my finger car). Using the 22 gauge stranded wire, strip back the insulation about an inch and a half. Separate the individual wires. This will be the wire ties to form the bundles.

Start by forming a “U” out of the tie wire. Working from one end of the rebar, put the tie wire over the bundle. Put the first tie wire approximately 4 to 6 feet from the end of the rebar. Start by twisting the tie wire by hand. Once you have the twist started, use the needle nose pliers to tighten it up. Try to keep the “twisted” part of the tie wire pointed in the same direction as all the others on the bundle. The next tie wire goes approximately 4 to 6 feet from the first tie wire. The next tie wire goes approximately 4 to 6 feet from the last one. Make sure that the ties are on each side of the upright finger and that they do not interfere with the supports on the car deck. In approximately the center of the rebar bundle, add another tie wire. At the other end, approximately 12 to 16 feet from the end, add another tie wire. The next tie wire goes approximately 4 to 6 feet from the last tie wire. The last tie wire goes 4 to 6 feet from the last. At this point, you should have seven tie wires. The tie wires should not be perfectly spaced on all the bundles. Once all tie wires are installed, use the side cutters to nip the wire off about a 1/8 inch from the rebar bundle. Don’t worry about the bundles not being straight, they should not all look perfect! The ends of each bundle should NOT be flush or squared off (see figure 2 and 3 on page 4). Repeat this step 14 more times.



Figure 2



Figure 3

Use Tamiya Paint # XF71, Cockpit Green to paint the rebar bundles, trying not to get paint on the tie wire. If you get paint in the tie wire, just use the X-Acto knife to scrape the paint off. Set aside for the paint to dry. Once the paint has dried, inspect the rebar bundles for paint scrapes or places you missed when painting the bundles and touch up as needed. Once you are happy with the bundles, Dullcote them.

### **Assembling the rebar load**

This load is easily made to be removable so you can run the load in, and the empty out! Cut the 1/16 X 1/16 bass wood to lengths of 10 feet, you will get 16 pieces out of the bass wood stick. Using the 400 grit sand paper, sand the ends of the bass wood to remove any stray wood fibers. Place five of the rebar bundles on the finger car, adjust them so they are centered on the car length wise, are sitting flat on the car, and no tie wires are on the supports on the car deck. Using the Bob Smith Industries Extra Thick super glue, place a drop on each bundle across the car, then put the bass wood atop the bundles (see Figure 4).

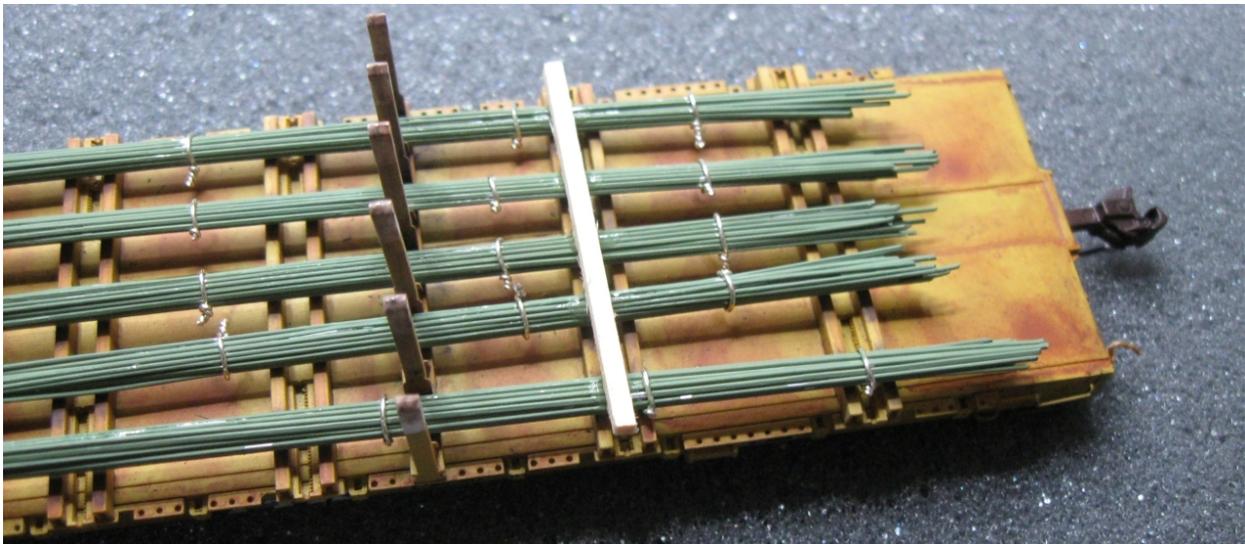


Figure 4



Figure 5

Put some weight on the bass wood to ensure it adheres to the bundles (see Figure 5). After the glue has set, add a second piece of bass wood and add weight to ensure it adheres to the bundles (see Figure 6 and 7 on page 6). Repeat this step three more times, referring to Figure 8, 9, (on page 6) 10, 11, and 12, (on page 7) and 8 on page 8). After the glue has set, add the second layer of rebar, one bundle at a time. Put a drop of the super glue on each piece of bass wood, then put the bundle on, repeat this step four more times (see Figure 14 on page 8). Once all the bundles are attached on this layer, put weight on top of the bundles (see Figure 15 on page 8). After the second layer is attached, repeat the step of gluing the bass wood to the bundles (see figure 16 on page 8). Then repeat the step gluing the last layer of rebar bundles to the second layer (see Figure 17 on page 9). After the glue has set, remove the load from the car, and Dullcote the load. Mark the bottom of the load on with a paint strip on each piece of bass wood. This ensures it will go in correctly every time. Make sure to get all sides and both ends. Congratulations! You have a good looking rebar load. Now, let's weather the car!



Figure 6

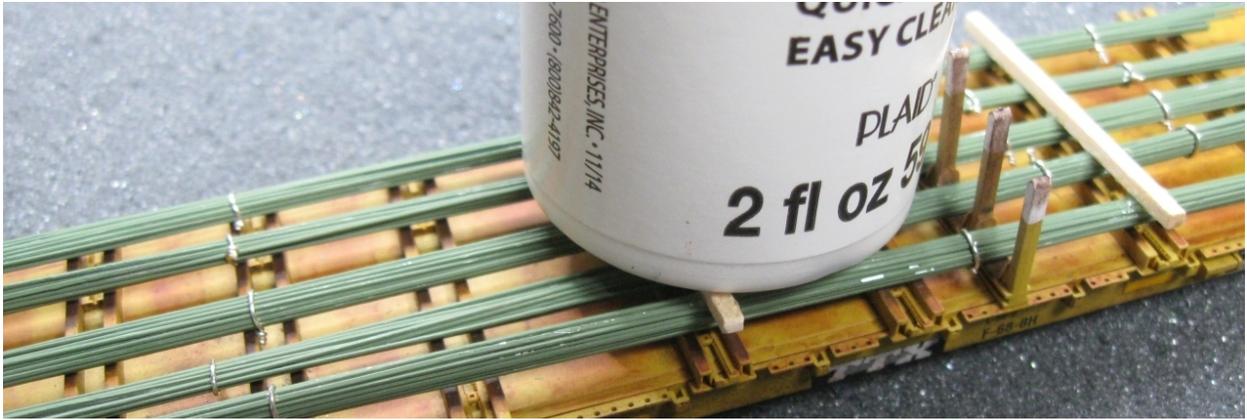


Figure 7

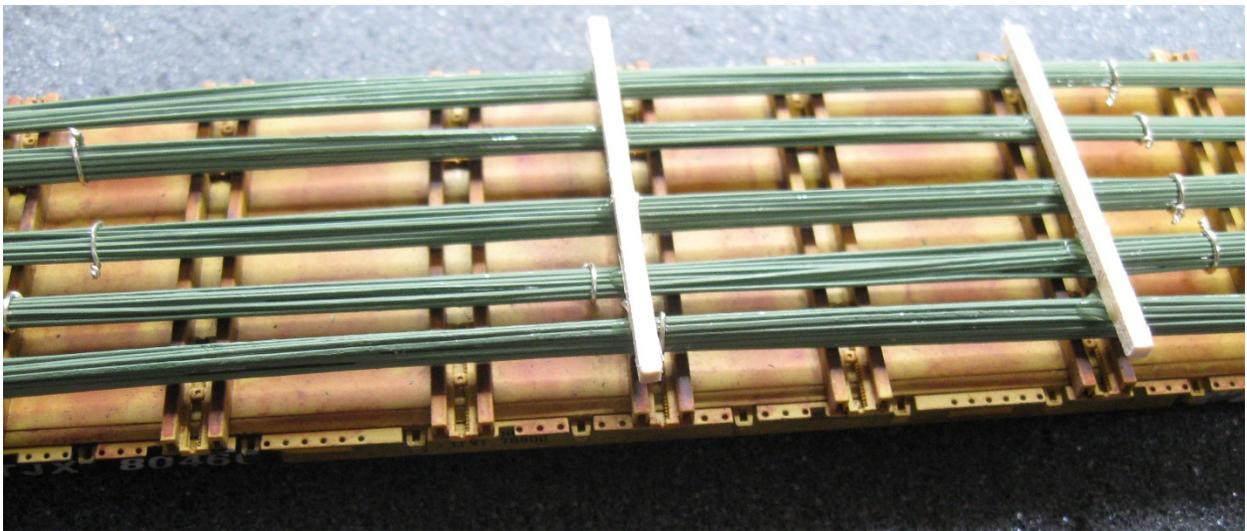


Figure 8



Figure 9



Figure 10



Figure 11

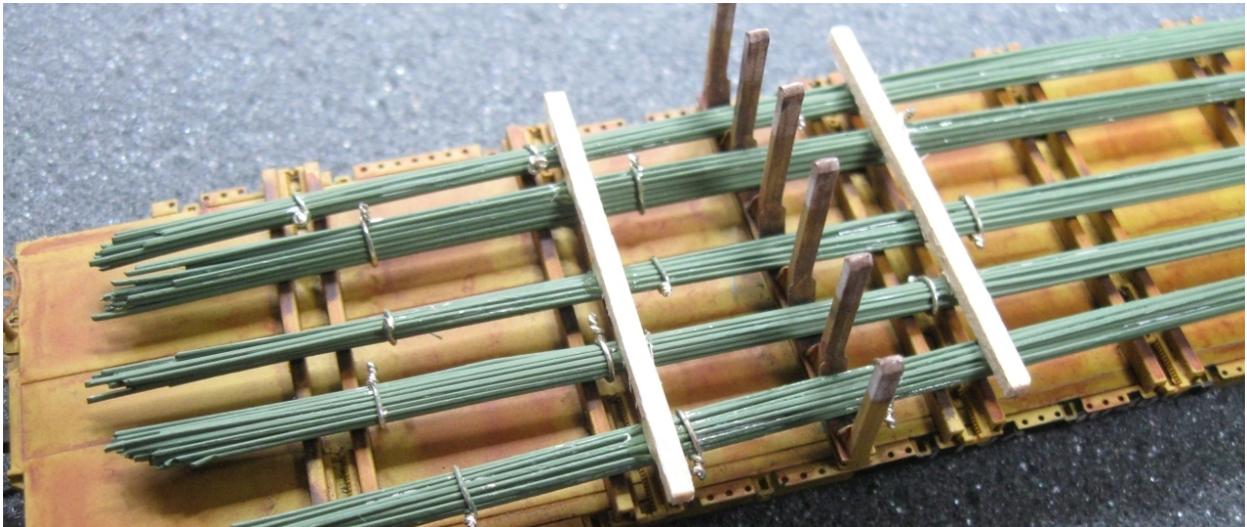


Figure 12

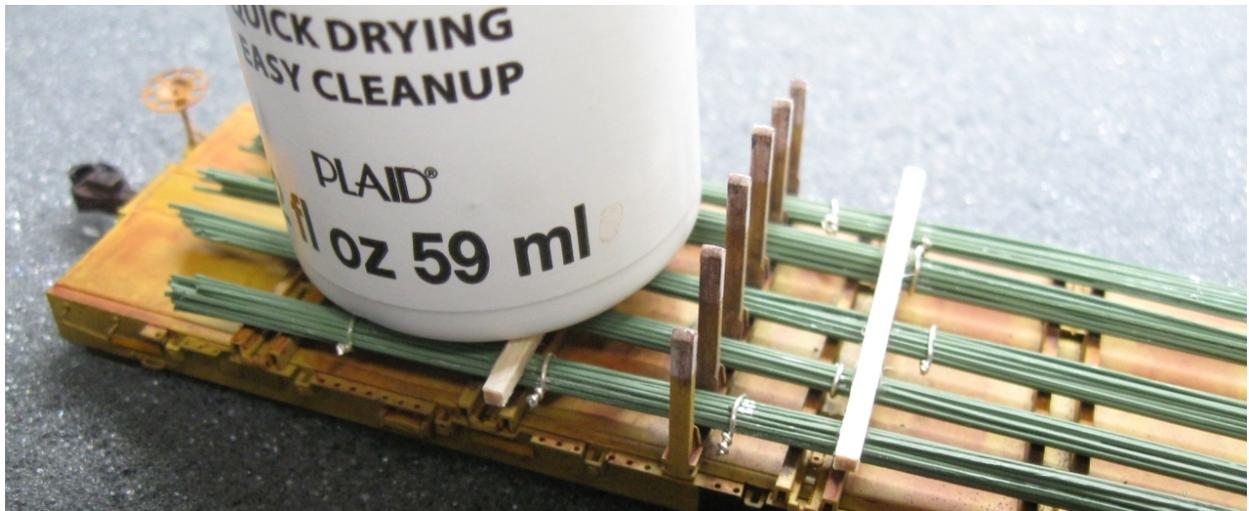


Figure 13

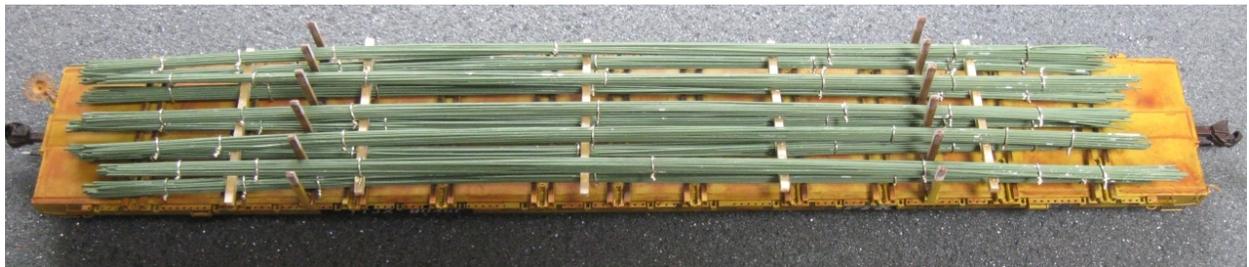


Figure 14



Figure 15



Figure 16



Figure 17

## Weathering the car

Remove the trucks from the car, and the wheel sets from the trucks. Using Testors # 1121, Flat Brown, paint the truck side frames, the wheel faces, back side of the wheels, and axle. Carefully paint the coupler also. Set the trucks and wheel sets aside to dry. After the trucks are dry, using Testors # 1163 White flat paint and a small brush, add small dots to one end of the truck on both sides (see Figure 19 on page 10). This replicates the reporting marks and road number found on all modern railcars. Using the flat white paint and small brush, put a dot on the outside face of each wheel (See Figure 20 on page 10). This replicates the “heat treating” mark on heat treated wheels, again on most modern railcars. When the white paint has dried on the trucks, use the spray Dullcote to give the truck a uniform dull covering. After the dot on the wheels has dried, use the brush on Dullcote. Paint the couplers flat brown, being careful NOT to get too much paint on the area of the hinge point of the knuckle (See Figure 21 on page 11).



Figure 18

Refer to Figure 18 on page 9, use an old Testors brush with the color marked wheels and trucks and cover the truck side frames with a heavy coating of power. After this step, spray trucks with Dullcote. Using the same color, go over the wheel face to give it that rusty look. Do not Dullcote the wheel sets. Pop the wheel sets into the trucks and set them aside until later.

Using the RustAll, cover the deck with a heavy coating. Once you put it on, DON'T mess with it, let it dry completely. Weather the deck as heavy as you want, the RustAll will give a very nice pattern on the deck. Figure 22 on page 11 is just one application of RustAll, Figure 23 on page 11 is two heavy applications.

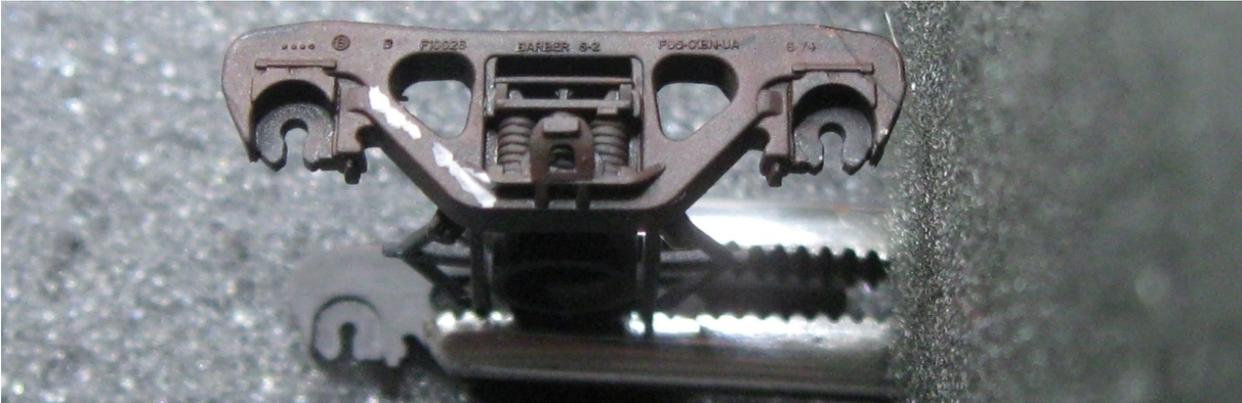


Figure 19



Figure 20



Figure 21

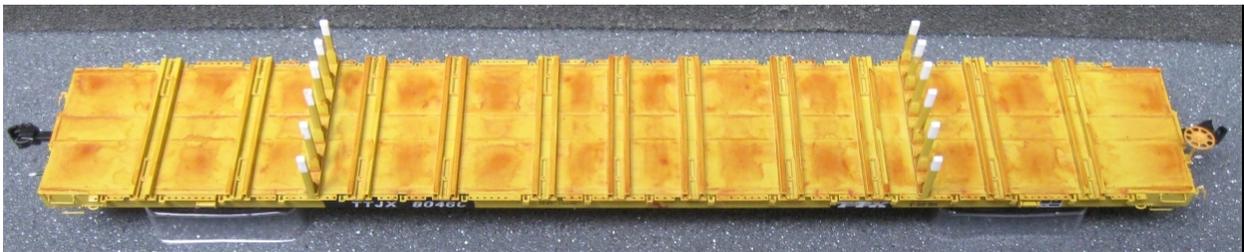


Figure 22



Figure 23

Using the Pan Pastels Earth - Extra Dark Shades, weather the car deck and under frame. In reference to Figure 23, I labeled the colors that I used and where I used them. Starting with the deck, using the color marked underframe and deck; darken the area where the rebar would rub against the raised supports (see Figure 24 on page 12). Use the lighter brown on the fingers to weather them, do this to all sides of the fingers. On the bottom of the saddles, use black to darken them, blending as you go up the fingers (see Figure 25 on page 12). Once you are happy with the weathering, Dullcote the model.



Figure 24

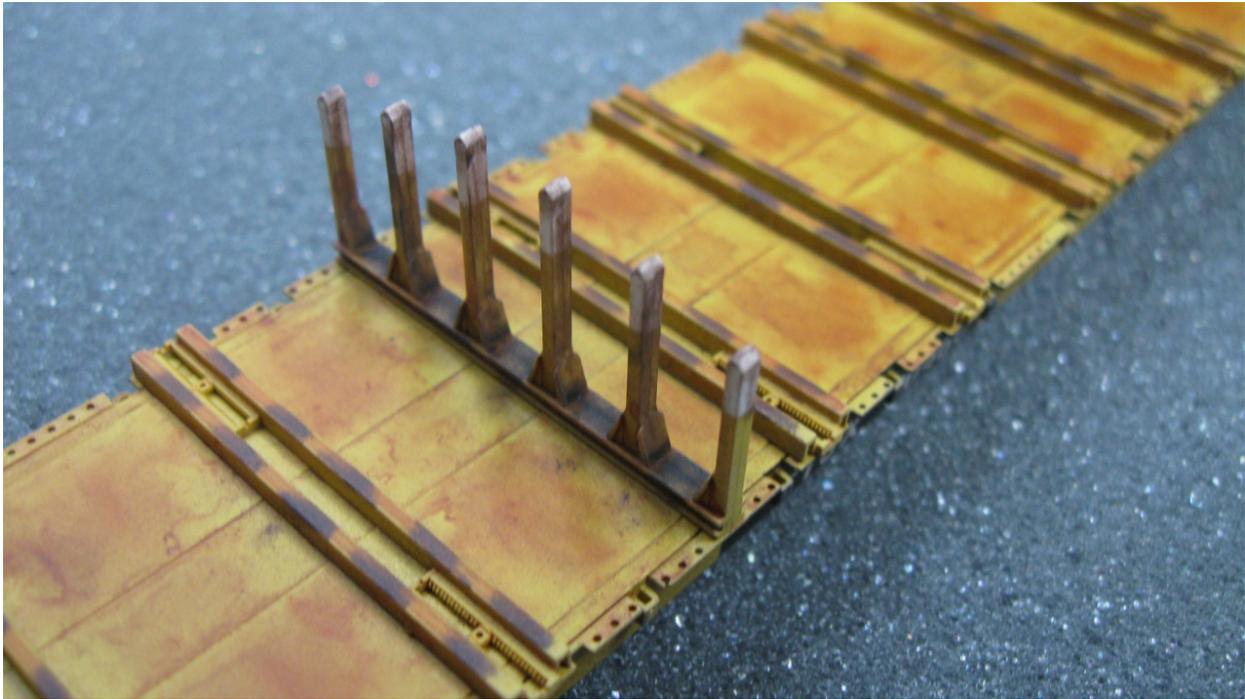


Figure 25

Once the Dullcote has dried, use the color marked as deck and underframe to weather the underframe, sides, and ends of the car. Be careful not to damage the detail on the bottom and ends of the car (see Figure 26 and 27 on page 13).

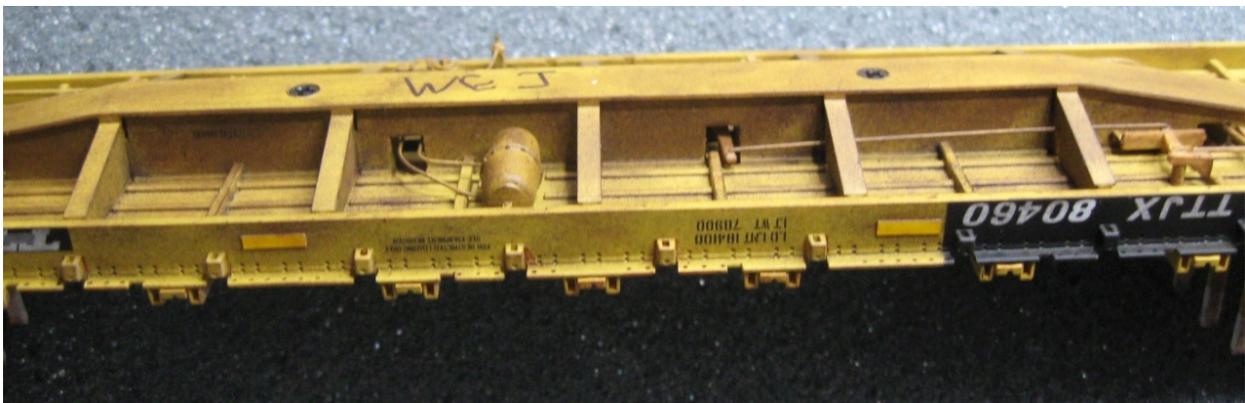


Figure 26



Figure 27

Once you are happy with the weathering, Dullcote the bottom of the car. When the bottom is dry turn the car over and spray the top of the couplers. Again, be careful NOT to get too much on the hinge point of the knuckle.

Using the Smokebox Graphics RV87 reflective strips, the A-Xatco knife, and tweezers; put on the reflective stripes using Figure 28 as a guide. Once the stripes are on, burnish the stripes with the back side of the A-Xatco knife. Once in place, Dullcote the sides of the car. Using the color marked trucks and wheels, go over the reflective stripes to weather them. Spray the car sides with Dullcote and set aside to dry.



Figure 28

## **Assembling the car and load**

With the car upside down, notice the key located next to the pin that limits the swing of the truck (see Figure 29 on page 14). Look at the truck itself, it has a notch for this key to go into (See Figure 30 on page 14). Make sure the key and notch are lined up, or they will not fit. Install the trucks and screw that attaches them. Put the car on the rails and check the coupler height with a Kadee Height gauge. The empty car weighs 4.45 ounces, the NMRA Standers for a car this long (9 3/8 inches) is 5.36 ounces. The car with the load, weighs 7.27 ounces. At this point, you are ready to install the load. Make sure the bottom of the load is in fact down. Center the load on the car, just like you built it. The car is now ready to be placed in service!



Figure 29



Figure 30

Figure 31 is of the second finished model.



Figure 31

Thanks for attending my clinic! I hope you enjoyed learning how to build the rebar load. The process is NOT as hard as it first looks. If you have questions after you leave the convention, please feel free to call or e-mail me. If you call and I don't answer, PLEASE leave a message and I WILL get back with you. With all the junk calls I get, I don't answer my phone unless I recognize the number. All of the other clinics that I( and my wife as well) have done, are on our website under "Modeling/DCC Tips." My contact information is below. Enjoy the rest of the convention!

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