

The following information and photographs are what I did to build the kit. Your methods and needs may differ from this which is fine. There is no right or wrong way if you are used to scratch building. The idea is to make a final model that fits your railroad.

I do recommend having trucks and couplers on hand so they can be used to determine your final dimensions. Most kits include grab & step irons, truss rod wire & turn buckles and other various items for each particular car. You can add additional items as you desire. Most detail parts are available from Grandt Line, Tichy and others.

You can also modify the wood parts to get a shorter or narrower car or you might want to add a name board. The point is, make it your own. Now for my tips.

## Flatcar Assembly

These instructions are for both the wood frame and centerbeam type flatcar kits. The only difference being the frames. This is the easiest kit to build. You can make different modifications or kitbash additions to this car to fit your RR.

Make sure you have all the parts shown in the photo. Any missing parts will be sent free of cost. Also, have your trucks and couplers on hand so you can complete your assembly to work with them. Some of your parts and modifications will depend on these and on you making them match the other cars on your railroad. The procedures given here is how I built the model. You may find better methods and of course are free to use what works for you. Just try not to get ahead of yourself and get blocked into a corner.

The wood frame has the bolsters, needle beams and two styles of end beams inside the frame. These need to be carefully removed before starting the build. Newer kits also have the block left inside the coupler pocket. This is there if you need to mount your coupler lower beneath the frame to match up with your other cars. Otherwise it can be removed after you set up a trial with your trucks as explained below.

### Wood Frame Kit



### Centerbeam Kit



The first step is to drill the frame for the stake pockets. Included in the new kits are two plywood frame sides that are laser cut & pre-drilled for stake pockets and stirrup steps. All you have

to do is glue these sides to the frame and then drill right through it into the frame for your stake pockets and stirrups. These sides also add strength to the wood frame.

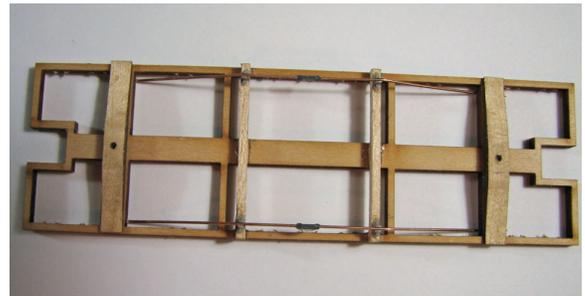
### EdgeView



Use a #64 (.036) drill for the stake pocket holes and try to keep them straight across the frame. There is a small amount of play with this size hole to adjust the pockets when you glue them on. Drill the pair of end holes for the stirrups with a #71 (.026) drill.

Now glue the Needle Beams and Bolsters to the frame. The Needle beams should be located 1/3rd of the way between the bolsters, 4'6" from the edge of the bolsters. Make sure these are glued on square to the frame. The needle beams may have to be drilled to accept the Queen Posts. A #58 (.042) drill should work OK. New kits have the needle beams with laser marked hole locations or the holes pre-drilled. And new kits also have 4 truss rods and are designed for the 4 to be used.

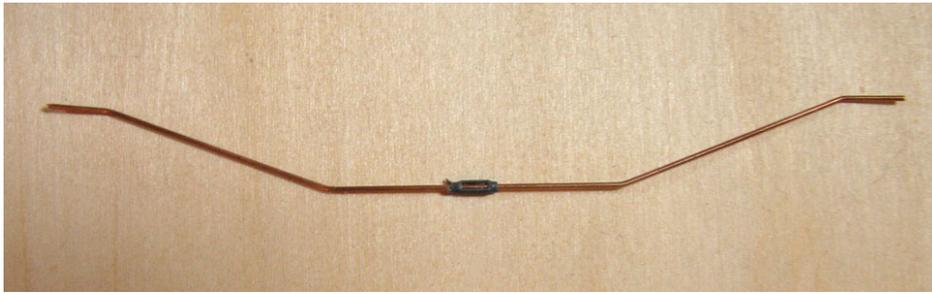
Next is to cut four shallow grooves into the top of each bolster to line up with the queen posts. This is to accept the truss rods ends and only need to be .025-.030 deep. The TOP of the frame has laser scribed lines where these shallow cuts should be located. I use my small hand saw or an Xacto #11 saw blade to cut these. Now you can glue the queenposts into the holes with CA (super glue) and make sure they are properly lined up with the end grooves to accept the truss rods.



The kit includes flat bolsters that you need to taper the ends as shown. I simply carve them with my knife and sand as needed. I leave a small flat at the outside ends (not a chisel edge). Then, glue the Bolsters in place. Next, drill the bolster for the truck screws using the top side hole of the bolster as a guide.

Now, take the truss rods (4" lengths) and lay them over the queen posts with approximately equal distance on either side. Note: New kits have 4 truss rods and appropriate queenposts and turnbuckles. Mark the wire with a marker or sharpie on the outside edge of each queenpost. This is where they will be bent. Now hold the wire in a flat pliers and put a slight bend in each side. Do NOT over bend the angle of

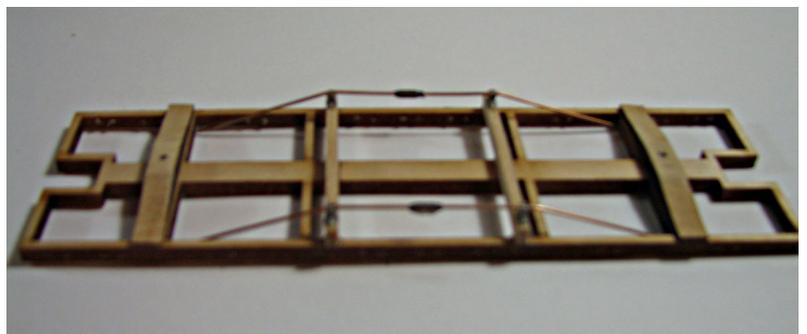
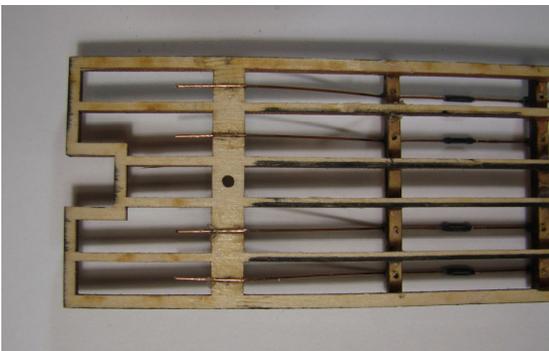
the wire, less is better. And make sure the bends on each truss wire are in line with the other. See the next photo.



Now lay the truss wire over the queenposts and behind the top bolster and mark each one at the bolster. Now make a slight bend in the opposite direction of the other bend so the ends will lay into the saw grooves you cut earlier. Try fitting the truss rods in place and modify any bends as needed. Slip the turnbuckles over the end of the truss wire and slide to the middle. Secure with a small dab of CA (super glue) at the ends of the turnbuckle. Try not to get any glue in the center of the turnbuckle.



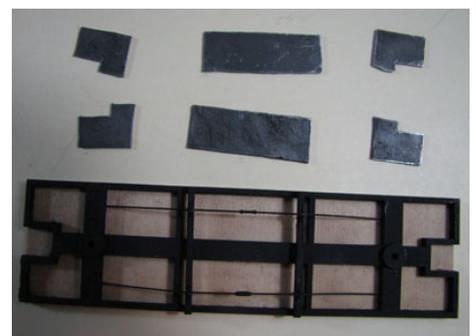
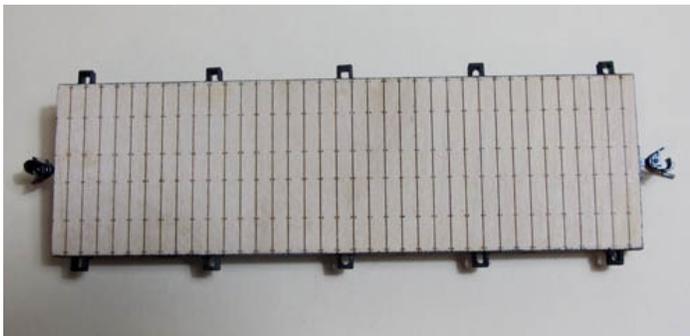
Lay the Truss Rods into the queen posts with the ends over the top of each bolster (with the frame upside down). Use CA to glue the truss rods into the queenposts and let it dry. Support the frame on a stand or block in the center while they dry. Once dry, turn the frame over and bend the ends down into the saw cut slots and apply CA to the end of each one. You may have to hold the end down while the glue sets or use an accelerator like I did.



An alternative to using the truss rod material is to use either a .022" fishing line or jewelry beading wire and feed it through holes drilled into the end beam and glued. The newest kits have a drilled End Beam and NBWs for you to use after the floor is installed.

Now you need to install the stake pockets to the frame sides. Cut the pockets from the sprues and clean up any flash. Fit them into the holes you drilled previously ( they should fit fine). Make sure the top of the pocket (with the pins) is at the top of the frame. The pocket will hang slightly below the bottom edge of the frame when installed. **Note: The new kit has the end stake pockets moved in to allow for the stirrups to be installed at the end.**

What I did was to insert two or three of the pockets half way into their holes and then apply a dab of CA with a toothpick to each pin on the pocket, and then pushed them all the way into the holes, tight to the frame. When you push them in, make any adjustments to square them up with the frame by using a slight twist. You can stick a stake (.075" sq) into the pocket to help twist and use an accelerator also if you choose. You'll notice some of mine are slightly canted which worked out OK when I installed the stakes.



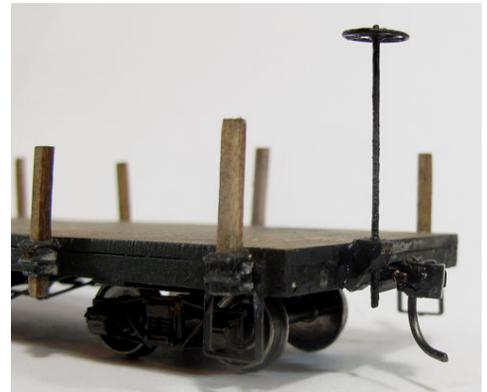
Depending on your assembly preferences, you should consider painting the frame now. I use the cheap Wall Mart flat black (or gray) paint. It adheres well, doesn't have a lot of solids to build up and is a good base coat for acrylic paints or weathering. I sprayed a coat of Badger Model Flex *Light Tuscan Oxide Red* over that. For weight, I use NMRA HO standards. I use lead sheet, cut to fit the openings, for weights on the underside of the car. Use the frame as a template and cut pieces to fit in all the panels. I actually cut the lead sheet after the car was assembled and had to make a couple pieces smaller to get them in. This will work fine too.

Now you have to decide what height you want your couplers mounted. Temporarily attach your trucks to the frame and set the car on a track next to one of your existing cars. Determine where you want the coupler box to be so that it aligns with the other car. You can then either leave the coupler pocket block in place or remove it or make it thinner to use as a spacer under the coupler box. After setting the height you can glue

the block or shim to the underside of the floor in the next step. The coupler will be installed at the end of the kit assembly.

Next, glue the floor to the frame. Just before putting the floor on, you should slip the center pieces of lead into the cutouts (they may not fit in later) and apply some tacky glue to the tops to hold them against the floor. Apply wood glue to the top of the frame and place the floor on and hold the center weight tight to the underside of the floor (use clamps and/or rubber bands). Either now or later, apply glue to each of the end panel underside areas and put the lead in place. I use Elmer's Tacky Glue but Aileen's Tacky Glue is good also. Make sure you glue any coupler shims in now also.

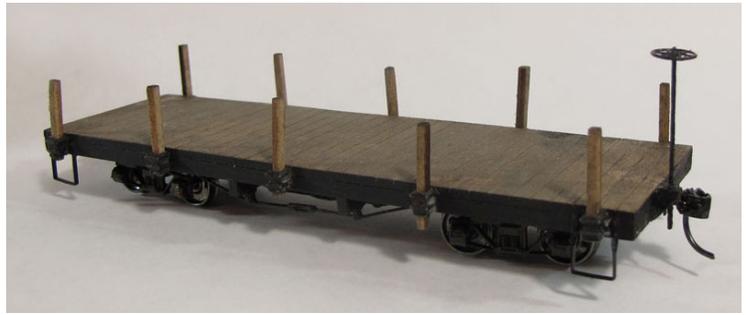
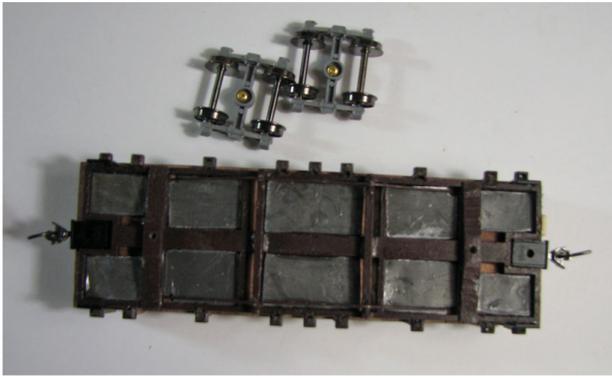
You can paint or color your floor now. Do NOT use a heavy AI wash (most alcohol contains water), it will warp and expand the floor (don't ask). I used AI on the stakes and side boards which worked fine for that.



You will need to cut your stakes to length from the 6" long by .075 square stock pieces in the kit. There are enough if you make them 7/8" long as shown. I next glued the stakes into their pockets. Try and get these as square to the floor as possible. The stirrups can also be glued into the pre-drilled holes at the corners of the frame. You're almost done.

Glue the End Beam to the frame. **Note:** The kit includes two types of end beams. The one with a notch is for use when the coupler box is mounted partially or fully into the frame pocket. The other is for use when the coupler box is mounted underneath the frame. You can install the NBWs now or later, whichever works best for you.

If you didn't install the lead pieces earlier, do so now and add your couplers and trucks. Finally, you need to drill the end beam or add a small block for the brake wheel shaft. My shaft is 9/16" in from the edge. The block can be any scrap you have, glued to the frame end beam. Then drill the #72 (.025) hole to accept the shaft. Glue the brake wheel to the end of the shaft with CA (let dry) and then slide the pawl over the shaft bottom, slip the shaft into the hole, apply a dab of CA around the shaft and hole, then slip the pawl down into the CA.



Touch up any paint and weather to suit your tastes. Add your RR logo and lettering and run this with or without a load or even as an idler car.

Any problems or missing parts, drop me a line.