

# NPRHA Woodchip Gondola Extensions in HO: Instructions



We will break this overall kit assembly into several stages:

- Gondola Body – Parts Removal
- Gondola Body – Additional Parts
- Adding the Extensions
- Painting and Decaling

Parts List – this is what you will need

- Red Caboose/Intermountain Drop Bottom Gondola
- NPRHA Woodchip Gondola Extensions Kit – either **N3182 – 9 Board Extensions** or **N3183 – Plywood Extensions**
- Evergreen Strip styrene 133 (.030 x .060), only included in kit for Plywood Extensions
- Evergreen Angle styrene 292 (.080), included in both kits
- Evergreen Sheet styrene 9009, (.005), included in both kits
- NPRHA HO-Scale Converted Wood Chip Car Decals
- Tichy 24 inch and 18 inch grab irons
- Black paint, weathering supplies

## *A Note About the Resin Extensions*

When you unbox the kit, one thing you will notice right away – they stink. You have two options – just carry on modeling and deal with the smell, or you can paint them right away with a great primer like Tamiya Primer in a rattle can. The primer will seal them and mask the smell.

## *A Note About the Red Caboose Model*

The Red Caboose (now sold by Intermountain) model is not a perfect match for the Northern Pacific prototypes. In some ways, it is notably off. But until a spot-on NP model is available, this model is as close as we come. With some modifications, the overall look for an NP woodchip car is pretty good.

## *A Note About the Prototypes*

If you want to learn more about the prototypes, the NPHRA decal instructions have some photos and limited data.

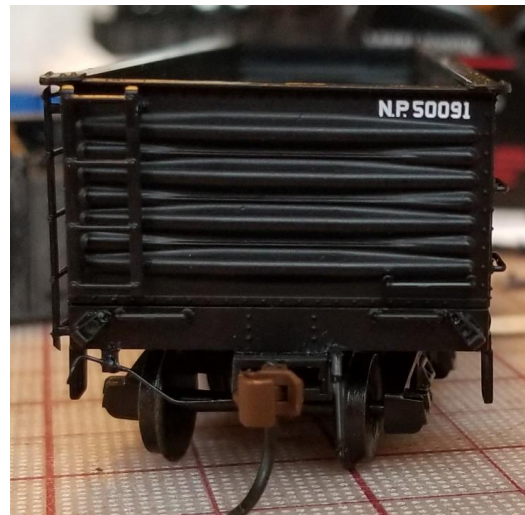
## Gondola Body – Parts Removal

We start with the Red Caboose/Intermountain gondola. Either RTR or kit. In either case, you will want to strip the lettering. I soaked the body in a bath of 91% Isopropyl Alcohol overnight, and then used a toothbrush to gently remove the lettering and quite a bit of the paint.

I did notice that the soak in alcohol for 8 hours loosened some of the glue, and 2 or 3 parts fell off. Just set them aside and apply them back to the model just before you get ready to paint. The key is to not lose the small parts.

Next, remove the ladders on the right end of both sides. If you use a nipper to cut off the mounting posts rather than pulling the ladders off, you can avoid having to fill the holes. You can also chisel off the rivets on the extreme right ends, for application of a grab iron strip in the next section of the instructions. Essentially, you strip the right end of any features. On the left end of the body side, the existing two grab irons are pretty close to the NP prototype, but you could replace those also, matching prototype location more accurately.

While the side ladders are a pretty glaring item to fix, the ends leave the modeler many fidelity choices. Beginners might just want to leave the ladders, but certainly the prototype did not have the ladders. Compare this photo of the RTR model (on the right), and the prototype (left) and model as you feel appropriate.



This is one way to modify the end of the plywood extension gondola to more closely approximate the prototype.

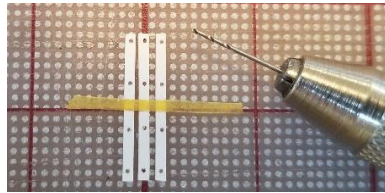
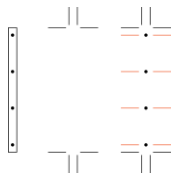
## Gondola Body – Additional Parts

Now that we have stripped the model of unneeded parts, we can add the NP specific parts. Based on the prototype, this involves a lot of grab irons.

For the 9 Board extensions, there are 4 grabs on the body, and 4 on the extension, on each right-hand side. Then an additional 6 on the ends, for a total of 28 per car.

For the plywood extensions, there are 4 grabs on the right-hand end of the body side and 5 on the extension. Another 9 on the end. A total of 36 per car. Because of these large counts of grab irons, inexpensive Tichy grab irons are recommended. 18 inch and 24 inch.

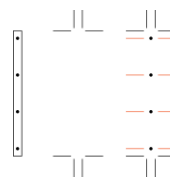
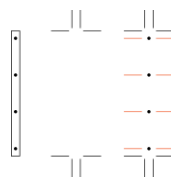
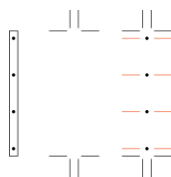
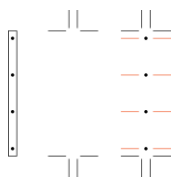
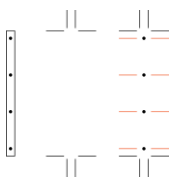
Below is a simple template for a strap that can be applied to the extreme end of the gondola side. Early NP drawings called these “Grab Iron Seating Bar.” You can cut .005 sheet styrene to .05 width, then use the dots of this template to drill holes for the grabs. A #76 drill bit was used in this image.



Once you have the strips applied, you can fully drill the holes to insert the Tichy 24-inch grabs. Obviously, you need to space the strips on the left and right to be aligned with the width of the grabs. Glue the styrene on with plastic glue and install the grab irons with CA (super glue).

For the cars with 9 board extensions, there is a small ladder assembly on the ends, which can be represented with styrene strip, and wire or styrene rod cut to length. Grab irons above and below should also be installed. It appears that on all woodchip cars, the end grabs are 18 inches.

*(extra templates)*

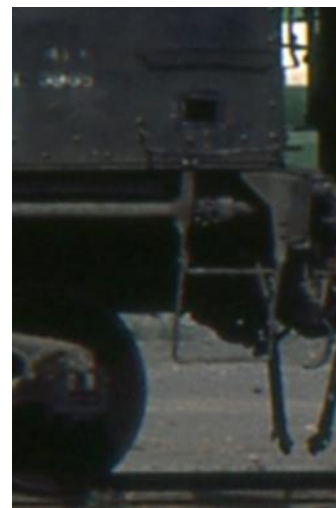
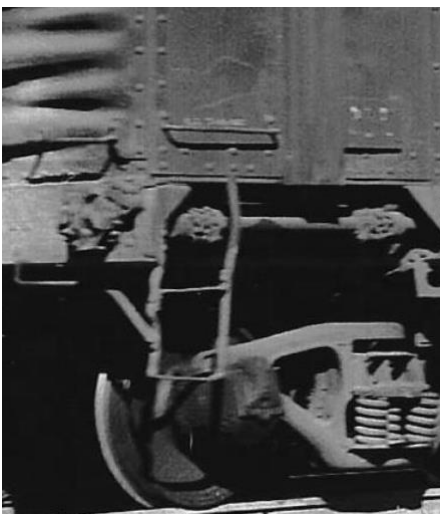




Installed on all drop bottom gondola woodchip cars, there were shaker holes on the right side of each gondola side. Here is a prototype photo, and the holes on a model. A #66 sized drill bit was used.



Also consider replacing the stirrup step on the Red Caboose Gondola – the NP stirrup step had **two rungs**, the model has one.



For the cars with 9 board extensions, you are essentially done with the car body prep – side grabs, end grabs, and shaker holes.

For the cars with plywood extensions, there is one step left. NP shops added side braces to the gondola bodies that extended their support up to the extensions. The braces are modeled by cutting a 6-inch-long strip of .005 sheet styrene cut to a width of .120 inches (very thin!). A new #11 EXACTO blade, a metal ruler, and a caliper are recommended. To the top of this strip, we will apply a 6-inch-long strip of Evergreen 133 (.030 x .060) styrene, centered. Use a paint brush to paint glue to the strip, and then layer the strip down on the sheet from one end to the other. Use two fingers to guide it to the center as you go.

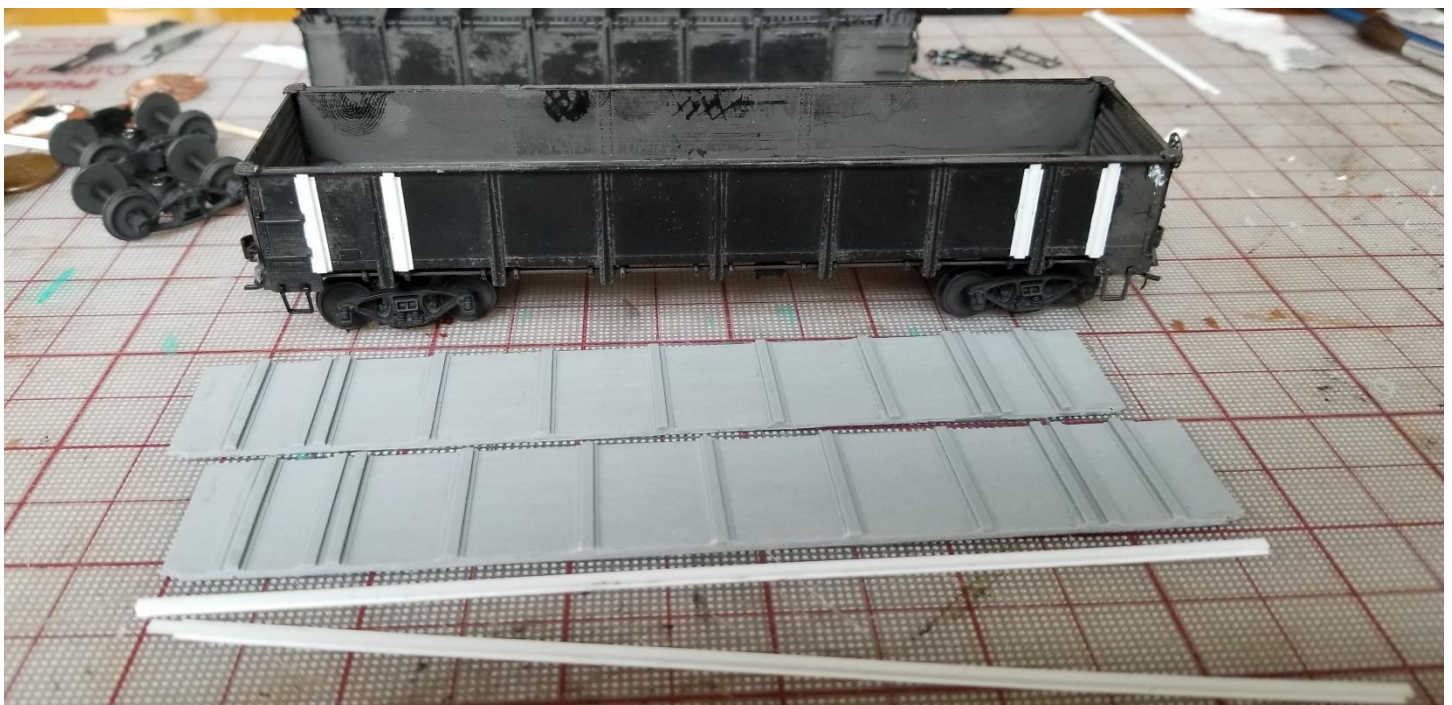
**Here is a profile:**



From this 6-inch brace, we will now cut segments that are essentially the height of the gondola side. There are two on the left side, two on the right, per the picture below. The resin extension should be used to help align the placement of the braces on the gondola sides to match the prototype. For best results, the lower strip can be cut back slightly from the top so the main strip to sit over the raised brace on the top cord of the gon. Also note on the left side, the grab irons are very snug to the braces, and you might need to notch the braces slightly for them to align with the extension. Or install new Tichy grabs that are slightly to the left. See images below.



With these side braces on the gondola body, the gon body for both extension styles are finished.



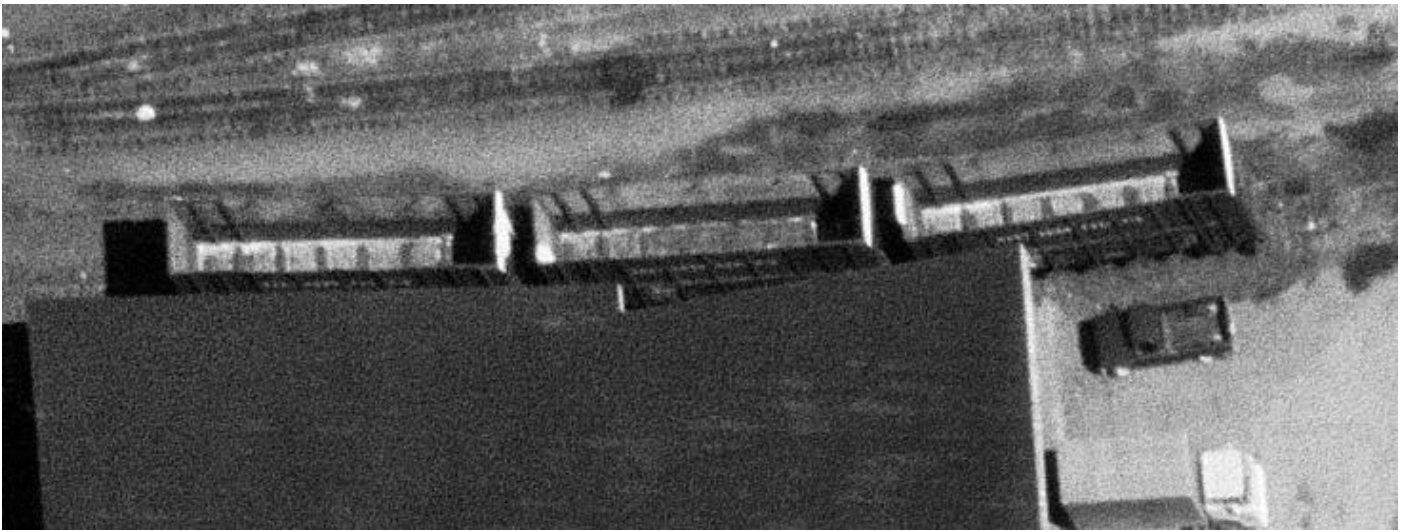


## Adding the Extensions

To prepare the extensions, sand or file the bottoms of the extensions so they are 100% flat on a piece of glass or window, and fit flush to the top of the gondolas. Ideally you won't see light shine through if you hold the parts up to a light. The extensions are slightly notched, so they fit over the top corner plates/braces on the gondola corners. If you want to remove the top corner braces, just pop them off and fill in the notches with a little modeling putty once the extensions are on the model.

The extensions consist of two identical sides and two identical ends. NOTE – you might need to sand the ends of the sides or ends (which are beveled at 45 degrees) to get the “box” of the extension to match up flush with the insides of the gondola “box”. Your goal is for the insides to be flush as you transition your finger from gondola to extension.

The plywood extensions have an additional brace on the inside of the car, and that is why you might need a second, 6 to 7 inch strip of bracing material. These will extend down the inside of the gondola, to the top of the extension. They mirror the outset braces, just on the inside of the car. Here is a photo showing the insides of the plywood extensions.

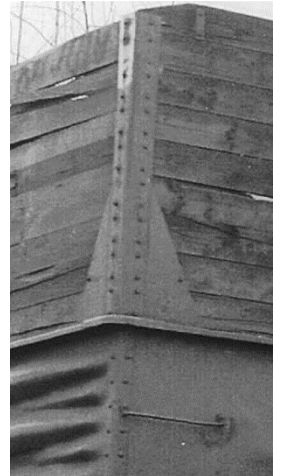


You can assemble the four sides in a rectangle as a stand-alone unit, and then apply to the gondola. This provided reasonable results. The sides and ends will need to be sanded to fit flush with the inside walls of the gondola.

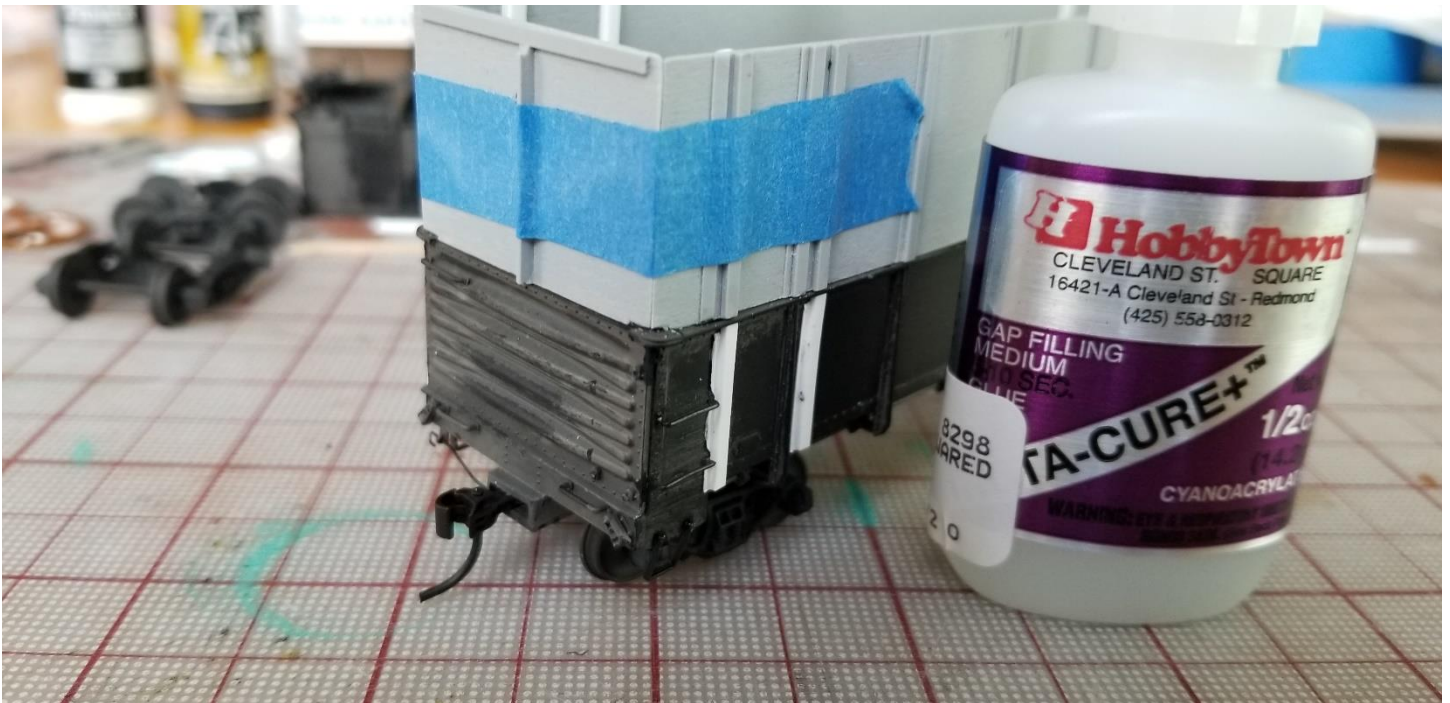
A second approach that also worked was to super glue one side onto the gondola, so it's perfectly aligned with the gondola side. The braces that extend down to floor of the gondola help with positioning. Next apply the other side, and then sand the two ends so they fit just right between the sides to fit exactly over the corners of the gondola. “Tac” glue the ends to the sides with AC glue. One of the keys during this step is to hold the sides tight to the gondola body, so any gaps between the extension and gondola are minimized.

Once all the sides are attached, the corners are covered in angle styrene (Evergreen 292) which is included in the kit. Cut to length. The insides of the extension corners can now also be strengthened with a little added ACC, to really firm-up the overall extension sides.

A nice touch to add at this point are the triangular gussets on the sides and ends of angle iron bottoms, as shown in these images:



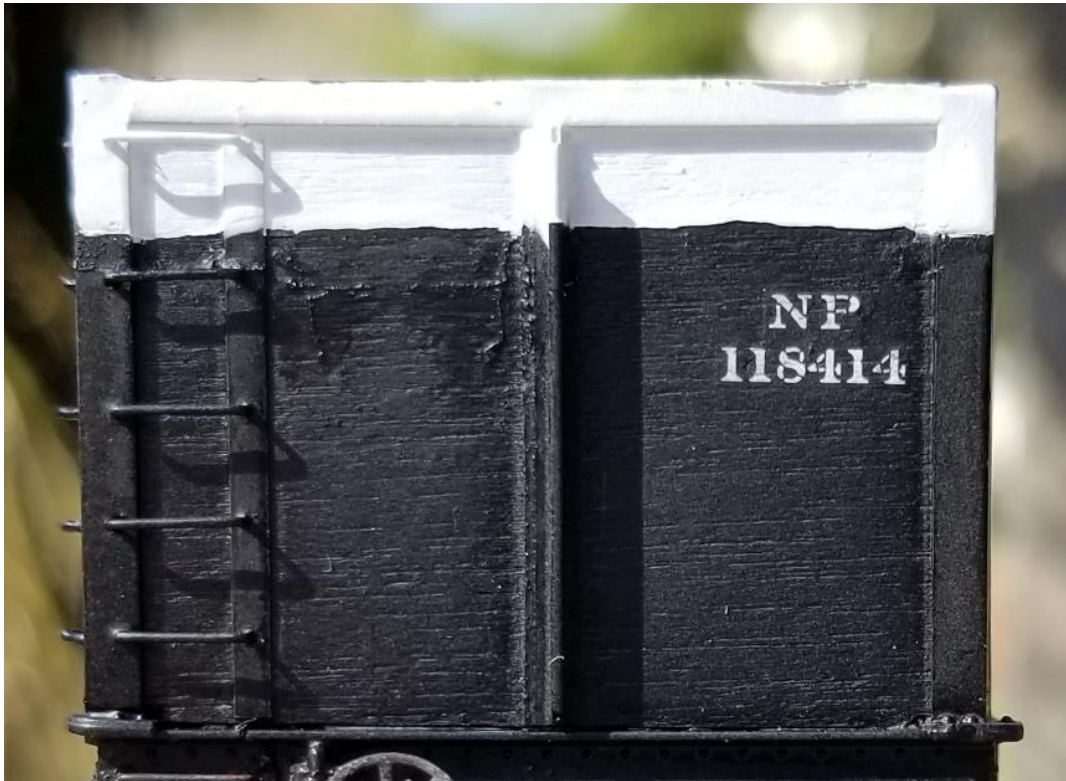
This image shows the ends being tac glued into position between the sides, before the angle iron is applied to the outside corners.



The next step on the extensions is to apply the grab irons to the sides and ends. The sides have dimple marks to align the grab irons. There are many approaches to applying grab irons. The following technique worked pretty well on this model.

1. Clean the grabs in isopropyl alcohol to eliminate any oils used in manufacturing. This will ensure paint adheres well.
2. Drill holes at the dimples, use a #76 drill bit
3. Use a wire cutter to nip a grab iron so the rods are much shorter, only roughly  $1/32^{\text{nd}}$  left to stick into the model.
4. With the grab held in tweezers, dip the outside in a small amount of black paint. While holding the grab level, poke the grab into the dimple hole, leaving the outside grab end to MARK the angle iron hole location. Repeat for all grabs, so angle iron locations are all marked (4 or 5). Now drill those holes, and then install the grabs with CA glue.
5. For the ends, use the now installed side grabs to visually align the end grabs, as they are horizontally aligned with the sides.

Here is an image of the end grabs on the plywood extensions.



A final item to add to the **9 Board Extensions** – internal tension rods. These appeared to vary from one car batch to another. From what we could gather, there are three tension rods near the top, one connecting the two mid-car posts, two others connecting each of the post sets two in from the ends. They roughly divide the top view in thirds. They look to be bolted from the inside to the steel posts, roughly 12 inches below the top of the side extensions. The attachment points are not visible from the outside face of the extensions in most photos, apparently hidden by the post U sections. Including them might be a pain for those who want to model loads in their cars but will be quite visible from top view in empties.

The **Plywood Extensions** did not have internal tension rods, instead being reinforced by the vertical braces inside.



## Painting and Decaling

Take some time now to get all the parts that might have fallen off during striping and modification glued back onto the core model.

The whole outside of the gondola body and the extensions need to be painted black. But with white styrene sitting on top of a black car body, even with an excellent black paint you might have some coverage issues on the white styrene. Consider painting the whole model with a primer, or hand painting the styrene black first. The general point is to avoid putting on 3 or 4 layers of black to get everything to match, as too much paint will hide detail on the gondola body and the extensions.

Once you have the body painted black, it is time for decaling. Here is just the gondola with woodchip decals applied:



There are lots of approaches to painting, decaling, and weathering. Here is what worked for me (pictures in this article):

1. Strip the model overnight in alcohol, to remove factory lettering and some/most of the paint
2. Build the model
3. Hand paint the white styrene, so only one coat of black paint is needed
4. Paint the whole model (trucks and couplers done separate) with a Tamiya "Black" rattle can, which has a VERY nice gloss finish for applying decals
5. *Optional* – paint the interior gray (common for woodchip cars), or weathered wood.
6. Decal the model, using guidance from NPHRA Woodchip decal instructions
  - a. NOTE – you might have better results apply the decals to the plywood extensions with the "pool of Pledge" method, because the plywood extensions have authentic wood texture, even after painting. The texture can cause decal film to 'silver' because of air trapped underneath. But applying the decals with a small pool of Pledge *glues* the whole decal down with zero decal film silvering.
7. Apply the 18 inch "Top End Stripe" to ends of extensions. This is not easy to mask.
8. Apply Model Master Luster to seal the decals
9. Apply black, rust and other various washes to model to cut down the decal white, etc.
10. Apply Model Master Lusterless Flat to flatten the paint
11. Apply weathering chalks to finish it up the look
12. Ideally, the inside of the wood extensions will have a weathered wood look.

DONE!

## Prototype and Model Photos – Ed Austin Prototype Photos





