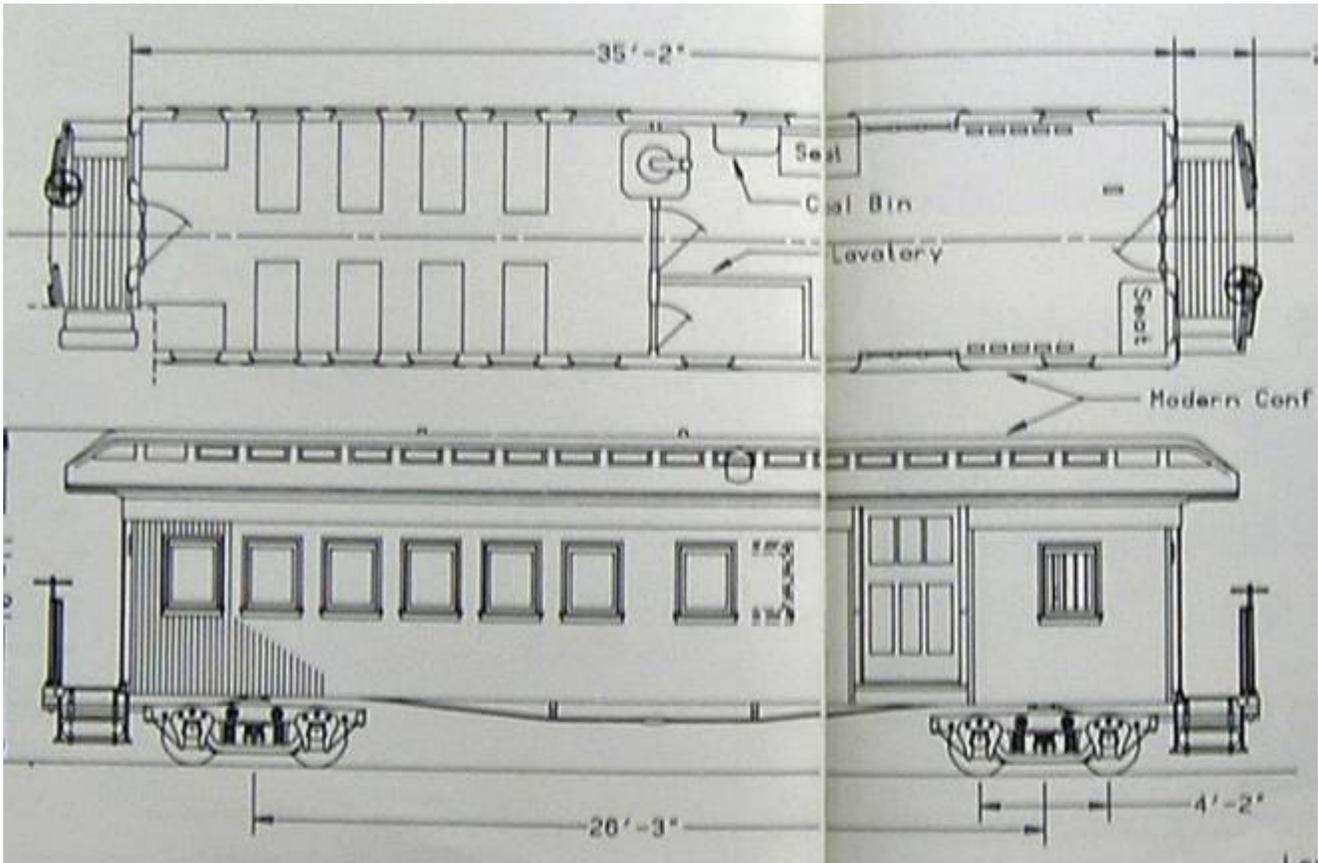


Construction Notes for the G.A.L. Combine sides Project.

Plans _____ (Apologies for the quality of the plan! This is EBT #18.



EBT #16 was similar but longer and has a 4-panel door.) The photo on the left is believed to be #16, sold after the railroad closed as a shed.

Note: The Accucraft coaches come in two versions, described in the 'General Info' notes that accompany these pages. They are referred to as (ver1) and (ver2) where differences are apparent. Basically, pre summer 2010 (ver1) the coach had a ridge along the side of the underframe that fit in a slot in the coach side. The metal floor was wider, so these sides don't fit perfectly upright on the (ver1) coaches

This document assumes you have read the "Construction Notes – General Info"- most of the info is not repeated here.

Construction Notes for the G.A.L. Combine sides kit.

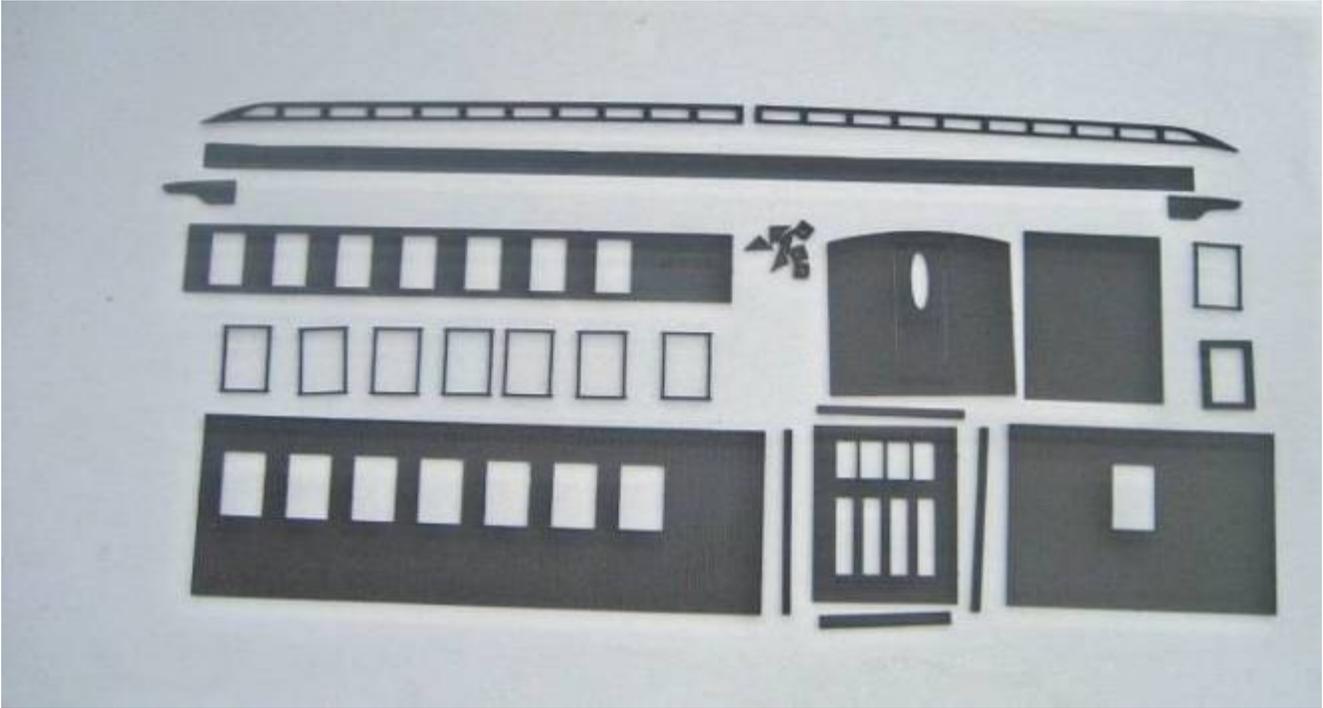


Preparing the Combine parts
(This photo is the prototype kit – there are a few extra pieces that you won't get!)

[See General Info Doc.]

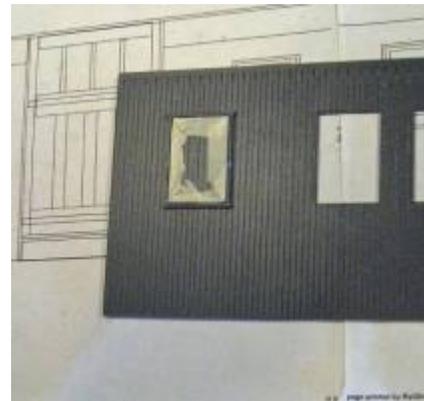
Construction Notes for the G.A.L. Combine sides kit.

You should end up with roughly twice as many parts as shown in this photo:



Window Frames

I glued the window frames next, while the sides are easy to handle. Make an alignment jig by gluing two pieces of the scrap that came out of the opening together, and wrap them when dry with some tape to make a snug fit in the window cutout. You'll find the jig makes it very easy to align and glue the frames in place.



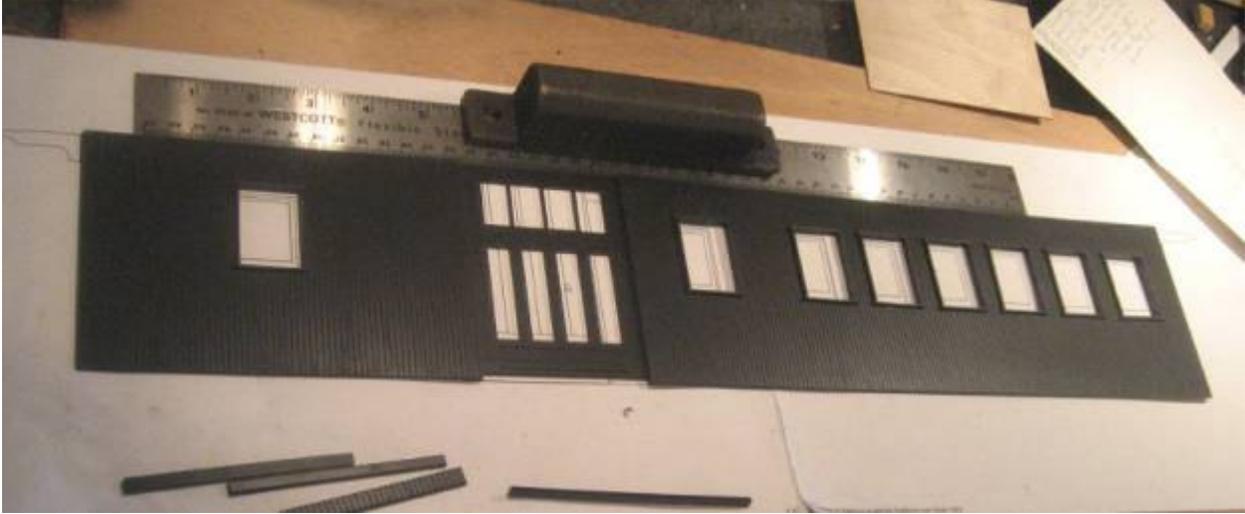
Making the sides

The door is going to sit on top of the floor behind the sides, which extend down to the bottom of the underframe, so the door isn't as deep as the sides. Cut and glue a thin (0.5mm) piece of styrene behind the lower panels in the door. Make sure it extends all the way down to the bottom of the door - you have to glue a tab onto the bottom and that needs a flat surface.

Note that the passenger window sections are not mirror images - one has a window in the baggage compartment that is significantly further back than the other (LH) side. Not a problem unless you try to glue a side upside down. The baggage sides are mirrored, as the rear window beyond the baggage door is directly opposite the one on the other side.

There are two scribe lines down the sides of the front of the door - they are pretty much where the sides fit to overlap the door. There are 4 pieces of 2mm styrene that are 3mm wide to make the door frames, lintel and threshold.

Construction Notes for the G.A.L. Combine sides kit.



The door is flush with the top of the sides. Arrange the sides and the door on top of your template (that you checked against the original sides when you took them off - right?) Put a straight edge along the top line, and support the ends of the sides with some scrap styrene - the rectangles you popped out of the window work - so they rest on the door sides and all is flat and square. Glue the sides to the door, checking the length again before the glue dries.

Door Frames

With the new side flat on the bench, using the lengths of 2mm x 3mm strip, glue two strips at the door opening sides (and to the door below.) Cut and glue the top strip between the sides, and cut the sill and the scribed strip to fit at the bottom of the door. The scribed strip should be flush with the bottom of the sides, and the sill strip goes on top of it. Before you glue the sill, take the side to your underframe and check the fit - the door is resting on top of the floor and the sides are extending down the side of the underframe. You may have to trim/file the side frames of the door to clear the ridge on the underframe if you have an older (ver1) coach.

The sill strip should be lower than the door, against the ridge, on top of the scribed strip (as are the sides.) When you are comfortable that the fit works, place the side back on the bench and make a support for the scribed strip, as it has to be flush with the sides, as well as aligned with the bottom. I used a couple of scrap wood bits to lift it to the correct height.



Construction Notes for the G.A.L. Combine sides kit.

Glue on the sill - be careful to make it upright, at right angles to the sides (this is tricky, as there is nothing to hold it at the right angle. You could put a thin piece of scrap along the inside top of the scribed side piece to give you a wider gluing surface.) Again, clamps and scrap will help keep it in place while it dries. When you pick up the side, run your glue along the joint(s) behind the side to strengthen it. Test it again on the underframe, and file to fit if necessary.

Letterboard/Roof

Cut the letterboard to clear the door frame. I put the new side down on the roof and marked where I thought the doors would fit into the letterboard. (Mark the end where the lighting wires come down from the roof, so they will be in the baggage compartment.) I then took the original side, put my new side on top of it, marked the door again, and tested the old side in the roof to make sure both marks were the same. (This also makes sure the side fits longitudinally, as the old side already has tabs - make sure they are aligned as you mark the roof.) A ruler will also work!



Cut the letterboard down to the roof but no more with a small saw. Make it slightly smaller than marked - you can always widen it but it won't be easy to make it narrower. I snapped out the strip by scoring along the edge of the roof with a sharp knife, and then I gripped the end in pliers and carefully bent it until it started to break. Repeat at the other end and the strip will pop out. File the rough bits down and check the fit.

Attach the sides to the roof [See General Info Doc.]

Construction Notes for the G.A.L. Combine sides kit.

Here's how it looks when you flip it over and place the assembly over the underframe:



Windows and Partition

The window strips should be cleaned as needed and test fitted behind the sides. I painted mine before gluing them - they can even be painted a different color. I also cut one window so it was open (widen the open part so it is flush with the wall.) However, you can glue them in now and paint them at the same time as you do the sides if they are all the same color.

The partition fits between the 6th and 7th windows on each side - though the 7th window is quite a long way back on one side. You don't really want to glue it in place, as it will make future disassembly more difficult. I marked where it fit on the window strip and glued some scrap to hold it in place. I spray painted it with some brown primer to match the rest of the interior. When you are comfortable with the location, mark the seating/floor where the partition will fit, as you need to get rid of some seats.



Seats and lights

The seats are also held in place by the screw through the voltage regulator in the center. Take it out and remove the (floppy) seat unit. Cut the seat floor close to your partition mark, and figure out what you are going to do with the interior. The EBT #18 had only 4 pairs of seats, with a space behind them and the stove splitting the partition (see floor plan. We assume #16 was similar.) Two smaller seats were placed behind the door. I don't recommend the two small seats or the stove, unless you are a diehard EBT fan. Note that one pair of tabs from the sides is almost under the front seats, so it is easier to attach the body while there are no seats! On that subject, there are two more tabs further

Construction Notes for the G.A.L. Combine sides kit.

back - look for the holes in the metal floor. The tabs will also interfere with the seats if you put them (seats) in the wrong place.

I have cut seats to make them narrower to fit by the passenger end door, as shown in the floor plan, but they interfere so much with the tabs that I left them out of the prototype. The door in the passenger end opens and causes more trouble. I suspect they'll have to be glued to the side walls to avoid the interference. If you want to put the stove in the partition then maybe cutting the stove in half will keep the more rigid partition. Or leave the stove in the corner by the door.



The old bathroom can be installed behind the partition – see the plan. The seats in the baggage compartment can also be installed, but they are probably invisible.

Painting

Unscrew the sides out of the roof and reinforce any tabs that fall off or break off, but don't unscrew the ends yet. Put the box of sides and ends carefully over the underframe (it's not well supported without the roof, so handle it carefully.) The ends should drop into the slots behind the end platforms, and the sides should drop over the sides of the underframe until the doors sit on top of the metal floor. Adjust the tabs holding the ends to make it all fit - mine didn't so I had to cut off a tab and re-glue it.

At this point, before attaching the tabs to screw to the floor, I did the final paint job and glued in the windows. Floquil Pullman Green is a good match for the Accucraft green, which saves repainting the ends and platforms. My trucks were C&S green, so they got a coat of engine black and some grime. I painted the wheels grimy black by spinning them against a lightly held brush. Using masking tape, remember to paint the letterboards (if you sanded off the lettering, as I did,) and the opening for the baggage door that you chopped. Don't forget the clerestory parts - they aren't in my photo as I didn't use them on this prototype.

Construction Notes for the G.A.L. Combine sides kit.



Clear styrene (not supplied) was glued behind the window and door frames to represent glass.

Clerestory Insert

A two-part insert is supplied for the clerestory sides - it fits over the original windows. (The EBT variants had 21 windows, hence the strip.) Here's a photo of a test fit:



Many of these cars had screening in front of the windows, so the second easiest option for the windows is to paint some strips of cardboard or styrene black and glue it behind the supplied strip. (The easiest is not to use the strip at all!) Real screening can be fixed using an old ladies stocking/-sock or similar (or a new one if you don't have a lady friend around!) With the original windows behind, you might still get a better result by gluing the material to cardboard or styrene so the interior lights don't shine through.

You may have to file the center vertical joint to make it snug, and also the top of the curved ends. (The philosophy is to make parts too big, as you can always sand them down.) If you don't like the etching around the windows, the strips can be reversed and they will fit more easily, due to the slight camber on the edges where the laser cut.

Construction Notes for the G.A.L. Combine sides kit.

Fit the floor tabs [See General Info Doc.]

Once the tabs are glued and you are satisfied with the fit, you should carefully unscrew the sides from the floor and see if you can lift the body off around the seats. It can be a tricky fit. If not, re-arrange your seats; moving the tabs is a lot more difficult (but not impossible - just re-drill the holes in the metal floor, but make sure you clear the plastic underframe.)

Final Assembly

That's just about it. Time to put the trucks back on the underframe and re-connect the wires, if necessary. With the roof upside down again, re-fasten the sides in the slots with the screws. Turn it over carefully. Reconnect the wires for the lights, and re-seat it back on the underframe on those tabs you just installed. Then, using both hands to keep sides/roof and underframe together, flip it over again so you can insert the screws through the floor into the tabs. (Note - those trucks unbalance it, so be careful.) Test the lights, add decals, and you're done.



Construction Notes for the G.A.L. Combine sides kit.

EBT #16

The 'generic' combine is based on East Broad Top's #16 and #18. The former is in Allaire State Park, in storage without trucks, (but FEBT has made some trucks and negotiated a 99-year lease, so some day it will (hopefully) return to Orbisonia.) Combine #18 was bought at auction from the failed railroad in CO, and is now back home. Both need a significant rebuild to make them operational, but we have plenty of prototype information. There's even a scratch-built model of #18 in CO, done by Kevin Strong after he helped pack #18 for the trip home.

[http://www.mylargescale.com/Community/ForumArchives/tabid/100/Default.aspx?ARCHIVE=true&TOPIC_ID=20913]



We chose #16 as it is 1' longer than #17 or 18 and has a 4-panel door, as shown in the photo. We assume that the truckless #16 was rescued from the location shown at left where it was used as a storage shed.

We stretched the side very slightly so the proportions are the same - every part of the side (e.g. windows) is a few % wider on this kit. There are no photos that I know of for #17, so you can easily pick that one to model and claim to be absolutely correct!

Construction Notes for the G.A.L. Combine sides kit.

There are lots of detail differences on the EBT coaches as you'll note when you start checking photos. Steps for the end platforms, end windows, poling pockets, and bars on the baggage windows are some obvious ones. The roof needs different chimneys and vents in other locations. The amount you add is entirely up to you. This is Geoff Ringlé's superb model.



My major change is the roofline. The EBT coaches have straight roofs, as they were originally simple curved roofs without a clerestory. I've had some success holding the end of the Accucraft roof in a toaster oven at 350 deg to soften it, then pressing it down over a "former" - a piece of 2x1 pine that was cut to the curve of the roof behind the droopy ends. (I doubt you will get a good roofline without a former like this?) The clerestory portion will deform slightly as you bend the ends up, but that will be covered when you put fake tarpaper over it later. Repeated heating and careful shaping seem to work.

Another technique, from friend Geoff, is to cut off the trim under the roof end and all the way back to where the sides fit, and bend just the corners up using heat as above. You'll have to glue a new strip under the ends but the side is covered by the letterboard end brackets.

Construction Notes for the G.A.L. Combine sides kit.

The EBT combines have a trim strip above a much deeper letterboard. When the roof has cooled, I cut the letterboard off using my small table saw leaving a 1/6" edge as the trim. I then add a deeper letterboard made from wood, at the same time re-working the sides to make them exactly upright.

It is also useful to lower the coach on the trucks using one or more of the following techniques. There are a couple of clearance issues – small tabs stop the truck rotating completely and shorting the track due to the wires for the lights. The plastic sway bars on top can be thrown away and replaced by suitable washers. The truck top pivot plate can be dropped a little (??) The metal tube that it bolts into can be shortened.

If you lower it, remember to raise the coupler back to your railroad's official height. You may want to replace the coupler with a 1/32nd scale coupler, as EBT used 3/4 size couplers on all their stock.