

Scratchbuild a handcar house



Learn how to build a great-looking lineside structure using styrene, paper shingles, and a few simple techniques

By Jack Burgess • Photos by the author

A handcar house is a common lineside structure on many prototype railroads, especially in the days before hi-rail trucks, and is an interesting detail to add to a model railroad. The simple structure doesn't have a large footprint, so it should fit on any size layout. This handcar house is also relatively easy to build using sheet styrene and paper shingles. If you're new to scratchbuilding models, this handcar house makes a great first-time project. You can apply the techniques that you learn to structure models in other scales, too.

This handcar house is based on one found along the Yosemite Valley RR, the railroad I model. Along with a couple of prototype photos, I found a 1914 California Railroad Commission report giving the dimensions of a handcar house on the YV. Although based on a

YV prototype, this handcar house is similar to the lineside sheds found on railroads around the country and in many different eras.

Styrene sheets are available in a variety of textures, which are fine for a generic structure. However, by using sheet styrene, rather than Board and Batten styrene sheets, I was able to match the walls of the YV prototype. You can adjust the dimensions in the plans to fit your particular layout or prototype.

Follow along as I show you how I scratchbuilt this structure model in nine basic steps. **MR**

Jack Burgess is well known for his multi-deck, prototype-based Yosemite Valley RR, which is set in August, 1939. Though the layout was started in 1981, Jack has been modeling the YV for more than 40 years.



A photo of a Yosemite Valley RR handcar house inspired Jack Burgess to scratchbuild this HO structure.

►► Materials list

Evergreen Scale Models styrene

- 291 .060" angle (door trim)
- 4050 V-groove .040" sheet (.050" spacing) (door)
- 8103 1 x 3 strip (battens)
- 8104 1 x 4 strip (end and door trim)
- 8106 1 x 6 strip (door bracing)
- 8204 2 x 4 strip (rafters)
- 9030 .030" sheet (roof)
- 9040 .040" sheet (main building)

Paper Creek Models Works

www.papercreek.com

204 HO scale shake shingles

1. Cutting styrene

Using the plans as a guide, I drew the wall sections on a sheet of .040" styrene sheet. Since the eaves obstruct the top of the front wall in the front view of the plans, I used the end view to determine the correct height for the front and rear walls. On my plan, the wall battens are 12" on center.

Following the lines that I'd drawn for the wall sections, I lightly scored the styrene several times with my hobby knife and snapped the pieces apart. I also cut out the door opening in the front wall. In the final stages, the door appears slightly open. Then I used a single-edge razor blade to scrape the edges of each piece to smooth them.

Yosemite Valley RR handcar shed

Ratio 1:87,
HO scale

TO CONVERT HO SCALE
DRAWINGS TO YOUR SCALE
COPY AT THESE PERCENTAGES:
N 54.4 percent S 136.1 percent O 181.4 percent

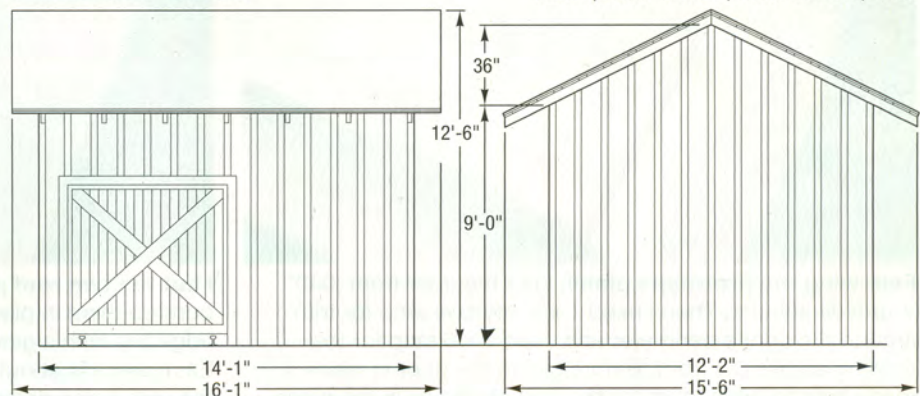
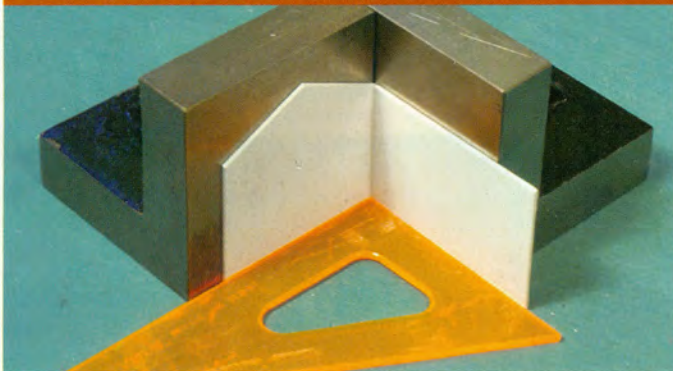


Illustration by Rick Johnson

2. Assemble the walls



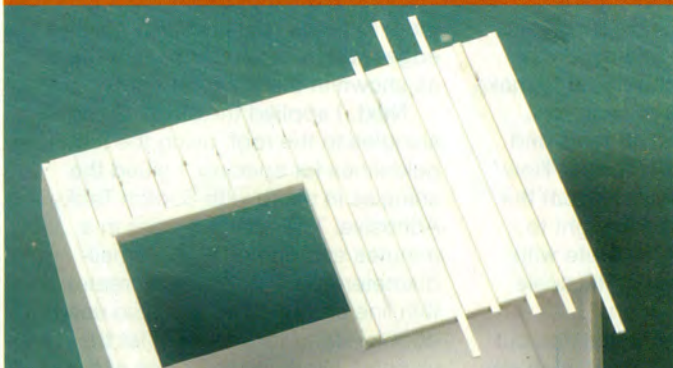
I used a pair of 2" angle plates and a small drafting square to hold the rear wall and end wall in alignment and then added a drop of liquid plastic cement to the top inside corner formed by the two wall sections. Capillary action pulled the cement into the joint. I repeated this process to bond the other end wall and front wall together. After the cement dried, I joined these two subassemblies to form the building.

3. Frame the door



I used .060" styrene angle as trim around the door opening, mitering the corners with a NorthWest Short Line Chopper. Then I cut the top and side pieces, leaving them long. I bonded these pieces around the door opening with plastic cement, making sure the top piece was parallel to the wall's top edge and the side was vertical. After the cement dried, I flipped the building on its back and used a single-edge razor blade to cut the excess trim flush with the bottom of the wall.

4. Add the roof trim and the wall battens



I added the 1 x 3 battens by marking their locations for the front and rear walls. I cut the battens long and bonded them in place with a drop of plastic cement. Then, I trimmed off the excess. I applied the 1 x 4 styrene trim along the roof line. An angle plate like the one I used when gluing the walls makes it easy to ensure that this trim will be tight to the roof. I then cut the trim long and bonded it in place.



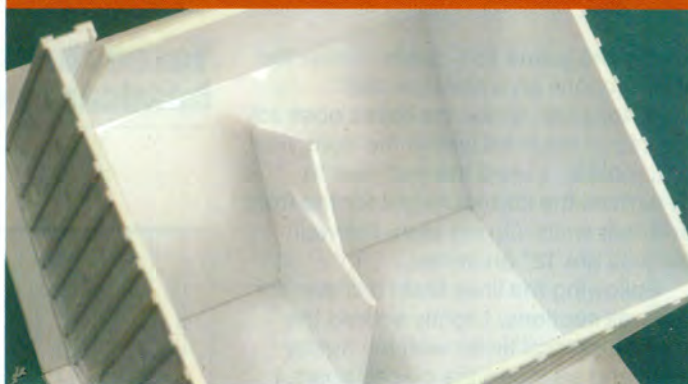
For the end walls, I cut the battens so they fit tight against the end trim. To do this, I made a custom "fence" by cutting a piece of styrene to the same angle as the roof in the end plan view. I then mounted this fence on my NorthWest Short Line Chopper and cut the 1 x 3 battens to this angle. I cut the battens long and attached them to the end walls with plastic cement. I then trimmed the bottoms of the battens flush.

5. Finish the door



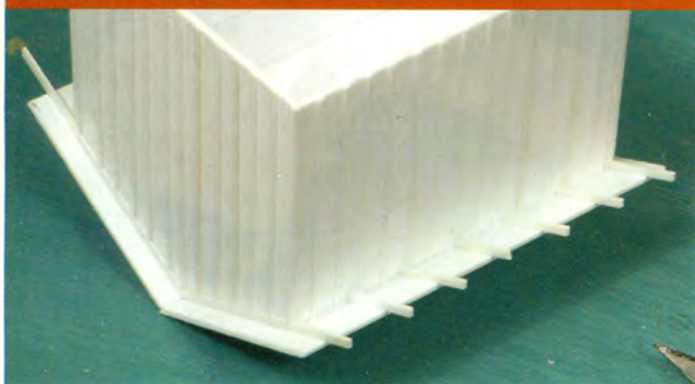
Following the prototype plans, I cut the door from .040" V-groove styrene. Then I used 1 x 4 styrene strip for trim around the door's perimeter and used 1 x 6 strip for the bracing across the front. Before gluing the door in place, I made sure to leave room for the rails as shown in the plans.

6. Roof



I cut the two roof pieces from .030" sheet styrene and bonded them in place with plastic cement. I reinforced the ridge line with a gusset made from two pieces of .040" sheet. Each piece is about $\frac{3}{4}$ " square and cemented at the center of the roof. I also cemented the gusset pieces together.

7. Rafters



I laid the model roof on the plan and marked the locations of the rafters. I then cut the rafter tails from 2 x 4 styrene strip, using the Chopper and the fence that I used for the end trim. Then I cemented the rafters in place. With the building right side up, I cut off the excess. To cut the rafter tails straight, I kept the sprue cutter's jaws parallel to the walls.

8. Paint



For my YV RR layout, the California Railroad Commission report notes that the building was painted yellow, and a photo of the building from 1945 shows that it had light yellow walls. I added a few drops of white paint to Floquil Depot Buff until the color looked close to that in the photo. I then airbrushed my model with this color.

9. Shingles



The prototype roof had wood shingles. I used shingles from Paper Creek Model Works, which are printed on heavy paper and laser cut.

To align the shingle strips evenly on the roof, I made a template using

Microsoft Excel. To do this, I first highlighted a group of cells 9 columns wide by 14 rows deep and used the Format/Cells/Border command to make lines along the bottom of each row. Next, I selected the first 13 rows and changed the row height (Format/Row/Height) to 8.5. By highlighting just the 14th row and changing its height to 12.75, the result was a template with the bottom row 15" high in HO scale and the other rows 10" high.

I printed out two templates and cut them on the bottom of the 15"-high row. Then I applied the templates to the roof using 3M 77 spray adhesive. It's important that the lines run level with the building to keep the shingles straight, so be sure that the template's bottom edge is carefully aligned with the edge of the roof.

Once the templates dried, I trimmed them to fit the roof and then colored the edges with a black permanent marker, as shown in the photo at right.

Next, I applied the strips of paper shingles to the roof, using the template guidelines for spacing. I glued the shingles in place with Scotch Tacky Adhesive. This product dries in a minutes and comes with a small-diameter applicator, which creates a thin line of glue. [You can also used double-sided tape. – Ed.] I let the shingles overhang the sides of the roof and trimmed them after they dried.

I finished the model by lightly weathering it with black and brown powdered pastels. I gave the walls a roof and light dusting of each color and sealed each application with a light mist of clear matte sealer.