



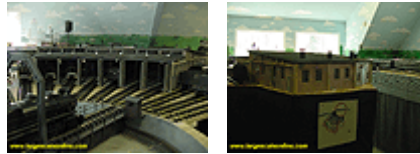
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## BUILDINGS

### A 1/29 NYC Roundhouse - Part I

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After finishing the turntable for my G-gauge New York Central Big Four railroad, I now needed a place for my steam engines to be readied for their next run. Previously, I had built a roundhouse for one of my HO railroads. It was a kit, but was a very difficult one to build. I received a lot of satisfaction from building that roundhouse, and it housed my HO steam engines for a number of years until I had to tear up the railroad for another move for the Air Force. I carried that roundhouse around with me for the next 15 years as it slowly fell apart. I finally discarded it but that made me want to build one in Large Scale even more.

#### Preparation and Design:

Before I began to design the roundhouse, I did considerable research to try and find a kit for a roundhouse that could hold at least six steam engines with an inside track length of 42 inches. I could not find any kit or plans offered for such a roundhouse. This led me to begin some basic research into roundhouse design. I researched through many of my New York Central books and found several pictures of roundhouses.

I also used the model train index of articles found at <http://www.index.mrmag.com/>. Using that index, I found one article on building a turntable and roundhouse, "Designing and Scratch-building a Roundhouse" written by Jim Findley in the August 1981 edition of Model Railroader. I had that copy of MR in my extensive collection of railroad magazines. The article and the pictures from my New York Central books gave me the basic concept to use for designing the roundhouse I wanted on my railroad.

In particular, I found some basic measurement rules about lead track length, relationships between the length of the turntable and the lead tracks, and the relationship between the length of the roundhouse and the length of the lower section and upper section of the roundhouse. There was also information about the auxiliary steam generation requirements and some limited information about the interior of the roundhouse. I was able to use some of the information gained from my limited volunteer experience at the B & O Train Museum in Baltimore to get an idea how the shop areas might have been set up.

After completing the research, I drew a freehand sketch of the roundhouse. I measured the rough dimensions and laid those out on the plywood table that I had built earlier next to my turntable. This table measured 8 feet by 6 1/2 feet and occupied the last remaining expansion space in my layout room.

I measured and drew the basic dimensions on the tabletop and made sure that I could get six tracks inside the roundhouse. The MR article had some very important ideas about the dimensions for the turntable, lead tracks and the roundhouse dimensions. I learned that the most critical measurement was the distance between the lead tracks where they enter through the doors of the roundhouse. The critical minimum distance calculated out to 6 1/2 inches in 1/29 between the rails at the door openings. I made the distance 7 inches for my roundhouse.

#### Materials and Framing:

At this point, I needed to decide what materials I would use to construct the roundhouse. I purchased some samples of Plastruct girders and beams and some wooden building materials from Garden Texture. After comparing the various options for the framework, I decided to use the 1/2" x 1/2" beams from Garden Texture. While the plastic girders and beams looked more realistic, they did not have sufficient strength to support the materials I would use for the walls and roof of the roundhouse.

The 1/2" x 1/2" wooden beams would look authentic enough and were strong enough to support the rest of the building. I cut the beams on my Micro Mart 3 inch table saw and spliced them together to form the support beams for the walls and for the beams between each of the six tracks.



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This picture shows how they went together. Since the wooden beams were 36" long, it was necessary to splice the horizontal beams with a piece of 1/2" x 1/2" wood, which can also be seen in the picture. For all joint fastening, I used steel #6 screws of 1/4", 1/2", and one-inch lengths and also used Titebond II carpenter's glue for each joint. I put the beams in place on the table to check alignment and clearances. I fastened each one in place temporarily with a single screw.

After checking the alignment and size, I used these frames to measure out the two sidewalls. I laid the frames on a piece of 1/4" birch plywood and drew the outline of the sidewall on the plywood and then cut out the walls on my 8" table saw. I then laid out the windows and doors for each wall on the plywood and traced the outside dimensions. Finally, I cut out the window and door holes with my saber saw.

Next I checked for alignment of the windows and doors by inserting them into the walls. I then placed the walls against the end frames to check for fit.



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After insuring alignment, I fastened the plywood wall to the end frame using # 6 1/2" steel screws.



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Because I wanted to have a brick roundhouse, I cut and glued Plastruct G 1/24 scale brick (PS90) to the plywood sidewalls. This required a lot of measuring and fitting (trial and error) to obtain the correct fit and look. I tried rubber cement and found that it melted and warped the brick. It just was not working the way I wanted to. So... I got a lot of advice, and the best turned out to be adhesive caulk. Visiting my local paint store and asking advice from a clerk who had helped me numerous times with paint questions, I selected a clear Acrylic adhesive caulk (White Lightning 3006) to fasten the brick siding to the plywood.

Next, I filled in the mortar lines by painting the brick siding with a thick coat of light gray acrylic paint and then rubbed it off leaving only the paint in the mortar lines and a thin wash over the brick itself. I then covered the joints between the brick sheets with 1/4" X 1/2" wood strips painted with aged concrete paint. I glued in the windows and doors and put some ventilators along the upper walls.

I used the White Lightning again for this. The windows (16 lite casement pair 48" X 72" and Window double hung 36" X 60") and doors (Jefferson Depot RGS 4 panel doors 32" X 92") were manufactured by Sampson, and I think I purchased the last sets over the Internet from Caboose Hobbies in Denver. I also used a few 21"X 45" windows by Plastruct (WIN-24B). The ventilators were from Westport Model Works. I weathered the walls and windows with grimy black, earth and primer gray.



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As you can see, I put the brick and weathering on the inside and outside walls.



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### **Interior Floor and Beams:**

I laid styrene floors between each of the tracks and between the rails of each track. I painted the floor primer gray and covered that with aged concrete paint before installing it into the roundhouse. I used .080-inch styrene for the floors



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A couple of the NYC hoppers stopped by to check out the progress after I had painted the frames with a dark gray acrylic



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Of course, I ran out of the .080 styrene before I finished the floor and had to go to the hobby shop to buy some more to finish the job. The hoppers came back after I finished the floor and put in the 1/2" X 1/2" crossbeams and painted them.



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The beams were glued with Titebond II and also fastened with more of the #6 steel 1" screws.

To check each of the stalls to be sure that the engines would fit inside, I drove one of the Pacifics from the turntable into each stall. I had done a good job of measuring, because it fit into each of the six stalls.



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The long Sampson 16 lite casement windows fit into the section where the roof raised between the lower front roof and the upper rear roof. One of the windows needed to be trimmed slightly to fit. All of the windows were glued by using the White Lightning caulk.



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