Fall 2008 Baldwin Trophy Winner
Richard Walz's Roundhouse

At a hobby show about ten years ago, after decades as an "armchair rail-roader," I made my first model railroad purchase. Impulsively, I bought a craftsman kit called "The Sterling (Colorado) Roundhouse."

As I studied the kit's plans over the following weeks, I became increasingly uneasy about how the roundhouse was going to look. I began to notice that its walls seemed disproportionately high. Its overhanging eaves seemed structurally and aesthetically off. And its materials—cut stone and a huge framework of poured concrete abutting some disconcertingly dinky wood sheeting—seemed very odd.

Before building the kit, I decided to make certain that it would accurately represent the real Sterling roundhouse. Through research on the web, I learned that the Union Pacific Railroad had built four roundhouses of the same design, locating them in Sterling, Hugo, and LaSalle, Colorado, and Sharon Springs, Kansas. Though unused, the roundhouse in Hugo still stands.

I contacted the U.P. Museum, the NMRA and Sterling Libraries, and the Hugo Roundhouse Preservation Society. All provided information.

The Sterling Library provided me with a copy of "Sterling, Colorado—Crossroads on the Prairie," a photographic history of the town. The book had several photos of the roundhouse, including a side view sharp enough (as I would eventually find out) to allow the counting of bricks. The Preservation Society sent numerous current photos of the Hugo roundhouse, the U.P. Museum a photo of the LaSalle roundhouse, with the NMRA adding extensive information on interior detail.

The four roundhouses were striking. Their windows were set deeply in their brick walls. Jutting outward, a four-brick-high window sill followed the whole length of the wall. Extending further outward, pilasters sliced through the sills at regular intervals. Above the windows, an unbroken horizontal band of bricks projected still further outward. The resulting shadow lines unified the walls and filled them with energy. But the real life, soul, and epitome of these roundhouses were the four huge banks of arch-topped windows that dominated each side.

The kit got the prototypes' 85-foot length right, and the distance from the roundhouse to the center of the turntable seemed good. But in virtually every other respect, the kit differed from the prototypes, often very substantially. So I decided to put the kit aside and instead scratch build a roundhouse based on the rrreseresearch I had done. Using that information, including the actual counting of bricks when necessary, I drew complete plans.

I realized from the start that recreating the roundhouses' banks of windows would be the key to a successful model. The windows posed two related questions: what do I use to make the windows themselves, and what do I use for the arches above them?

I knew that some modelers have built windows by scratching muntins directly into their glazing material. Others have pieced together muntins with thread or tiny strips of paper, plastic, or wood. But to my eyes, these methods have never produced windows that look as good as the styrene castings of Grandt Line or Tichy. Unfortunately, the catalogue of neither of these companies included windows of the size I needed.

For arches, scratch builders in the past had often used thin, embossed brick sheets of a stuff that their maker, Holgate and Reynolds, called "vinylite." The grout lines of these sheets could be cut partially through, enabling rows of bricks to be spread like a fan into an arch shape. But the Holgate and Reynolds company had ceased to exist. Plastruct and Model Builders Supply both offered brick sheets of embossed styrene, thin enough that bricks could be spread into arches as the Holgate and Reynolds bricks had been. But the bricks of both these companies had drawbacks. In the sample I bought, Plastruct's bricks were compromised by an elevated network of extraneous lines—the result, I assume, of an imperfect production method. And the bricks of my MBS sample were oversized. Both samples suffered a defect characteristic of embossing: their bricks looked bulbous. I considered two sheets of cast styrene brick—one by Volmer, another by Walthers. Both sheets looked good. But their thickness, .040," precluded their being bent into arches.

Without an ideal solution to either of the aspects of making windows, I put my scratch building project on hold. But that was just as well. It gave me a chance to get some experience making simpler buildings before tackling my roundhouse.

About five years later, I discovered that C. C. Crow offered windows custom built by Grandt Line which, when ganged together in threes, were the size my roundhouse needed. And so, with the first part of the window problem now suddenly evaporating, my roundhouse ambitions reawakened.

While again considering the arches, it occurred to me that Evergreen's .020" thick V-groove siding of the appropriate spacing, cut into 3/64" strips, might effectively reproduce the on-end bricks that formed the prototype arches. Every other scratch builder faced with constructing arches may have reached that V-groove conclusion, too, but for me it was an "Eureka!" moment.

Because Volmer's bricks, though beautiful, were larger than scale size, I decided to build my roundhouse with the Walthers sheets.

One of the structures I had built during the roundhouse's five year hold was a rolling lift bridge. In doing that project, I has learned that I could cut styrene into circles by using a compass with a needle inserted into each of its legs. One needle would be placed at the compass's pivot point. The other needle, repeatedly swiveled back and forth along the circle's arc, would effectively cut the styrene. My first attempt to cut a Walthers brick sheet ran into trouble, because the sheet's indented grout lines threw the compass needle off. So, using a sharp pencil, I lightly drew the outline of a window and the arch above it onto the brick sheet. Then, using a pin vise, I drilled a small hole at each upper end of the arch and a third hole at the center point of the circle that formed the arch's arc. (As I had determined when drawing my plans, this point was located at the top of the window sill, midway between the window's sides.) Then I turned the sheet over with its smooth side upward and, using this last hole as my pivot point, moved the other leg of my compass between the remaining two holes and successfully cut the arch. Using a #11 blade, I then cut the five straight parts of the window and arch combination—the two ends of the arch, the two sides of the window, and the window's bottom—from the grout-lined side of the brick sheet.

Using my compass again, I cut a similar arch from a sheet of plain .030" styrene, and glued this "sub-arch" into the arch-shaped void in the brick sheet. Then I cut through about half the length of the "grout lines" in four 3/64" strips of V-groove sheeting, fanning them into an arch shape. I glued these strips onto the sub–arch, butting them tightly against the arc cut into the brick sheet. In this way, a finished arch was formed.

The windows presented one final hurdle. Though the window tops were to fit into an arched space, my castings from C. C. Crow were rectangular. I tried trimming the window tops and constructing new, curved frames for them, but soon realized that it would be kinder and quicker just to kill myself. But because my roundhouse would be detailed inside and out, including arches and walls, I was able to sandwich the windows between the inner and outer walls. In step-like fashion, I glued 015" x 020" strips of styrene to .015" x .030" strips to create false window frames. I glued these to the bottoms of the arches just in front of each window top. With arches covering the square corners of the windows both front and back, it was all but impossible to tell that the windows themselves were not arched.

There were plenty of other parts to a roundhouse, of course. But once I had drawn the plans and worked out a way to build the arched windows, everything else seemed like a walk in the park.