N-Circle Railroad Update 30 – January 16, 2026

Building Laser-Cut Wood Kits for Rail Yards

The next major project was to build a set of six laser-cut wood kits for use in rail yards. Some will be used on NWV T-Trak modules, the others on the N-Circle Railroad layout.

The first three, discussed in this report, are by JL Innovative Design:

- Bagwell Junction Tower - Kit 290
- East Junction Yard Office – Kit 450
- Michigan Avenue Tower - Kit 570

The next three, to be discussed in N-Circle Update 31, are by American Model Builders:

- Yard Office Building - Kit 609
- Type A Depot - Kit 618
- One Story Section House – Kit 629

In these winter months, even with the heat lamp over the workbench, I can only get the work area in the garage up to the upper 40s degrees Fahrenheit, so this is the time to work on wood kits that mostly only require low-fume wood and white glues that can be used indoors!

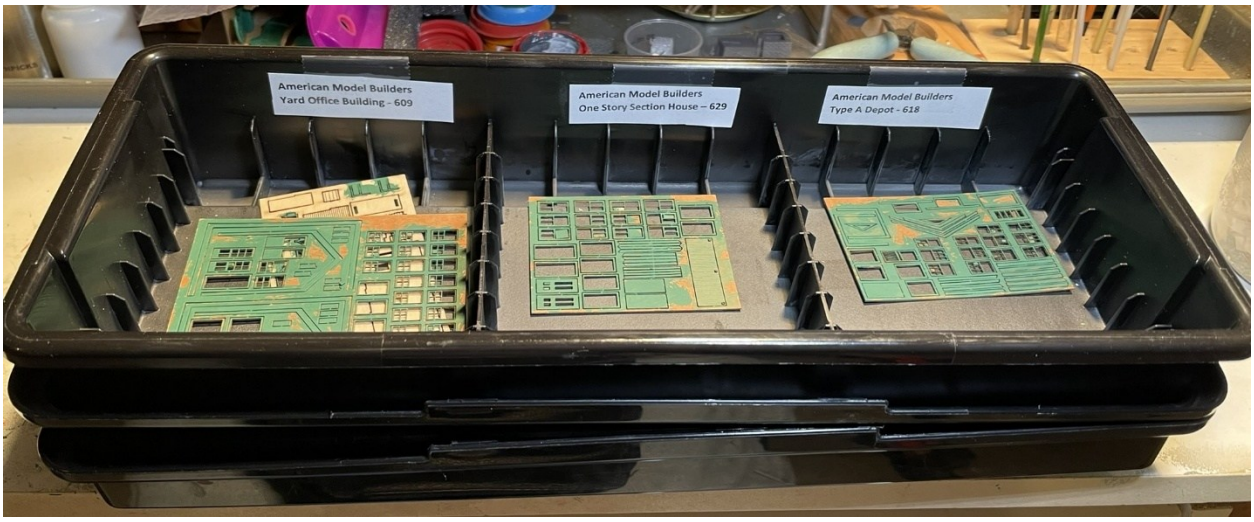
Here we see the JL Innovative Design packaging photos for the three kits for reference.

N-Circle_25-11-29_JLI_Railyards_Cropped

All of the JL Innovative Design kits are available for purchase today. These are all small structures that will be painted in similar colors with similar detailing. My initial intent was to build them all at the same time, to minimize the time for preparing the paints, etc. However, after finding the differences between the JLI tower kits, I decided to focus on these individually first, then build the three AMB kits afterwards.

The largest pieces for the yard buildings are 3 inches. To hold and separate the parts for the kits while building them in parallel, I used a couple of old plastic audio cassette cases. They conveniently already had dividers separating the length into three equal 4-inch sections. Here we see the trim pieces for the three AMB kits drying in their compartments.

N-Circle_25-12-31_AMB_All_Cropped



I painted all of the structures with Polly Scale acrylic Reefer Yellow walls and Polly Scale acrylic Vermont Green trim, consistent with the other railroad buildings on the N-Circle Railroad layout and the NWV Railroad colors. Both originate from the colors of the Central Vermont Railway.

While the packaging for the three JL Innovative Design kits would lead one to think they will be very similar and the dates on the drawings indicate they were developed around 2010, they are in fact very different in their materials.

The simple East Junction Yard Office came with the four walls all cut out and ready to go. The wood parts for the more complex Bagwell Junction Tower kit come still in the laser-cut sheets and must be cut from them. The main walls for the Michigan Avenue Tower come in two layers – a thick plywood structural wall and a thin overlay sheet of identical shape with the siding etched into it. From the dates on the diagrams in the instructions, this appears to be the newest of the designs. I have never seen this two-layer approach before!

The JL Innovative Design kits provide laser-cut walls, but the trim pieces must be cut from strip wood. The windows and doors are plastic styrene parts, not wood peel-and-stick. The kits also include some detail parts cast in white metal.

The instructions are mostly clear and complete, with good diagrams. However, given the tower kits are quite complex, you need to read them carefully, more than once! As with seemingly the

instructions for all wood kits, they provide no guidance for how to clamp oddly shaped pieces together while the glue dries, and many of the parts are butt-ended together with no structure to hold them in place. Hopefully this N-Circle Update report will provide modelers with thoughts for how to do this.

While there are differences in the recommended assembly sequences among the three JLI kits, in general, like most wood kits, the instructions say to assemble the main walls first, but I prefer to paint the walls and doors and windows first, then attach the doors and windows to the walls before the full assembly.

I used Polly Scale Reefer Yellow acrylic paint on the exterior of the walls. As with the wood kits in previous N-Circle Updates, I just applied water to the backside of the sections to reduce warping before brushing the acrylic paint on the front. This worked fine for all but the thin outer overlays for the Michigan Avenue Tower. They started to warp, so I placed a weight over them while drying and they were fine.

From their packaging, it looks like JLI gets their plastic windows and doors from Grandt Line and their stairways from Plastruct, which explains why they are very different in their color and molding. Thus, they are not custom for their kits and most need to be cut or trimmed to fit on these kits. I painted all the plastic doors, windows and stairways with a quick coat of Vallejo grey primer while the parts were still on their sprues, to ensure better adherence and consistent color after application of the later green trim paint.

JLI - East Junction Yard Office – Kit 450

The East Junction Yard Office was the simplest of the three JLI kits, being just a one-story building with a few doors and windows. After painting the walls yellow and the trim pieces green, I glued the doors and windows into the openings in the walls with white glue, then attached the clear acetate windows to the inside using Kristal Klear.

Assembling the walls is different from most laser cut wood kits. The ends of the walls do not interlock at the corners. Rather, you have to cut four corner posts from N-scale 8x8 (= 0.05 x 0.05 inches = 1.25 x 1.25 mm) strip wood, then glue them to the end walls – the green corner posts seen in this photo. I placed them on a slippery plastic bin cover to dry, so any glue on the back of the joints would not attach the wall to the work surface!

N-Circle_25-12-22_JLI_EastJunction_1

The side walls then are glued butted to these corner posts. I used rectangular magnets on a metal cooking sheet to hold the walls in alignment while the glue dried, as shown in previous N-Circle Update reports. Alignment was not perfect, but fortunately the offset is on the rear wall…

N-Circle_25-12-23_JLI_EastJunction_1_Cropped

Given the fragility of the corners in this structure, it is important to glue blocks in the inside of these four corners, wide enough to span the wall edges as seen here. I used sections of the 1/8 x 1/8” (3 x 3 mm) strip wood provided in the kit.

The instructions say to use the 8 x 8 corner trim strip wood for the roof ridge pole support. I suspect they meant to use the much more robust 1/8-inch piece, which is what I used. I don't think this support is necessary, given the small span of the roof panels, which are supported on three sides, but I had the wood and the glue… I placed the structure on its angled side to hold the pole in place while the glue dried, like I did for the barn in N-Circle Update 29. Here we see the pole after gluing, with the inside corner shims in place.

N-Circle_25-12-23_JLI_EastJunction_2_Cropped

As discussed for the maple sugar house kit in N-Circle Update 23, the corrugated aluminum roofing material is tricky to work with. Any crease or wrinkle made in the surface while handling is pretty-much permanent. I foolishly glued it to the cardboard roof panel initially with white glue – the glue of course didn't adhere to the aluminum and came off after handling, so I had to redo it with superglue.

Again, clamping the roof panel to the angled structure is a challenge. Here we see my solution – a glue bottle wedged against the side of the gluing tray to align to the angle of the roof.

N-Circle_25-12-23_JLI_EastJunction_3

And remember to make a hole for the stove pipe in the roof panel before attaching the panel to the structure – it will be easier than making it after the roof is attached to this fragile structure. I inserted the pipe from inside after the roof panels were in place – it is then easier to align it vertically. Superglue applied from beneath holds it in place.

Some rust and soot-colored paints applied to the roofing and around the stove pipe completed the weathering.

JLI - Bagwell Junction Tower - Kit 290

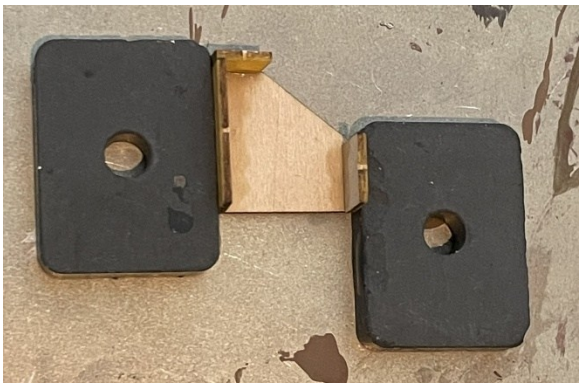
The Bagwell Tower kit is way more of a challenge to assemble with wall sections built up by gluing together rows of window units.

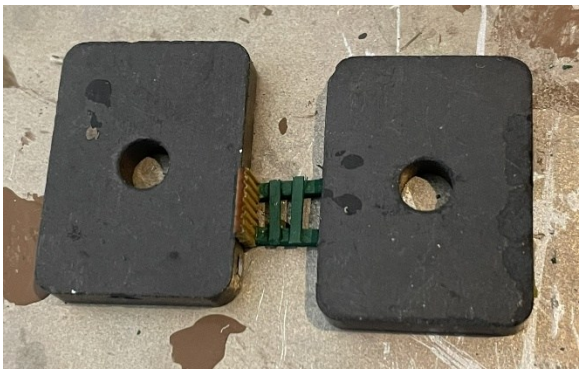
I generally followed the sequence in the instructions for this kit, building the outside stairway first. I placed the stairway landings with the smooth back side up, unless you want the scribed side up to look like boards, but I thought the scribing was too severe for this.

Here we see the stairway walls held by magnets for gluing and the gluing of the tiny support members for the lower landing. I added a second horizontal member for a bit more rigidity, since there was plenty of strip wood available to use.

N-Circle_25-12-25_JLI_Bagwell_1_Cropped

N-Circle_25-12-25_JLI_Bagwell_2_Cropped





Note that the wood glue which squeezes out of the joints will stick to the steel sheet. After carefully prying the fragile joints in the photos above off the sheet, I got out a couple of small pieces of glass to work on for glue joints that did not require strong magnets to hold. The magnets can still provide some stability through the glass, though of course not as strong as when placed directly on the steel sheet.

The first attempt to glue the lower landing to the staircase wall did not go well. I laid it on its side to dry and the bottom of the legs ended up being above the plane of the bottom of the staircase walls. Therefore, I had to break the joint and redo it, this time positioned vertically on a glass plate to dry.

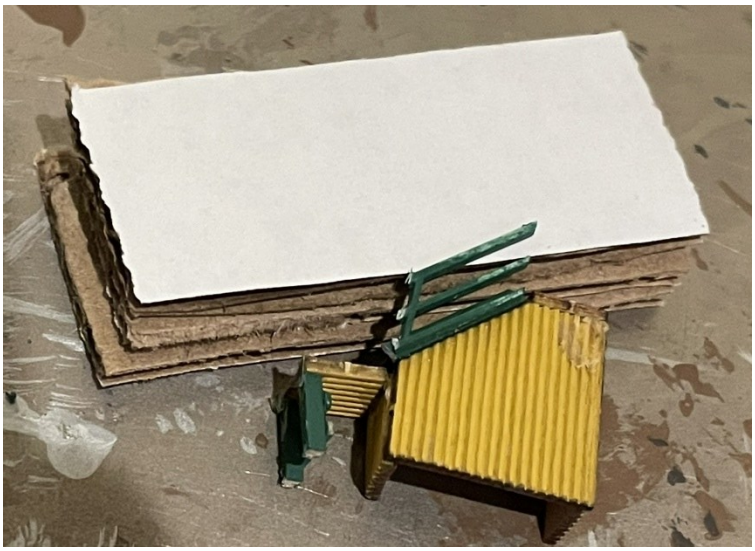
The plastic stairs come in one section which has to be cut to two lengths for the upper and lower sections. The ends need to be cut at an angle to align to the landings. I used superglue to attach the stairs, with the outer edge aligned to rest on the outer wall of the stairway. This provides a support to glue the stairs to, but results in a gap between the inner edge of the stairs and the wall.

The plastic railings come in two pieces, a straight and an angled, which need to be cut to lengths to align to the stairs and landings. As can be seen here, there are three horizontal bars in the pieces.

N-Circle_25-12-27_JLI_Bagwell_1_Cropped

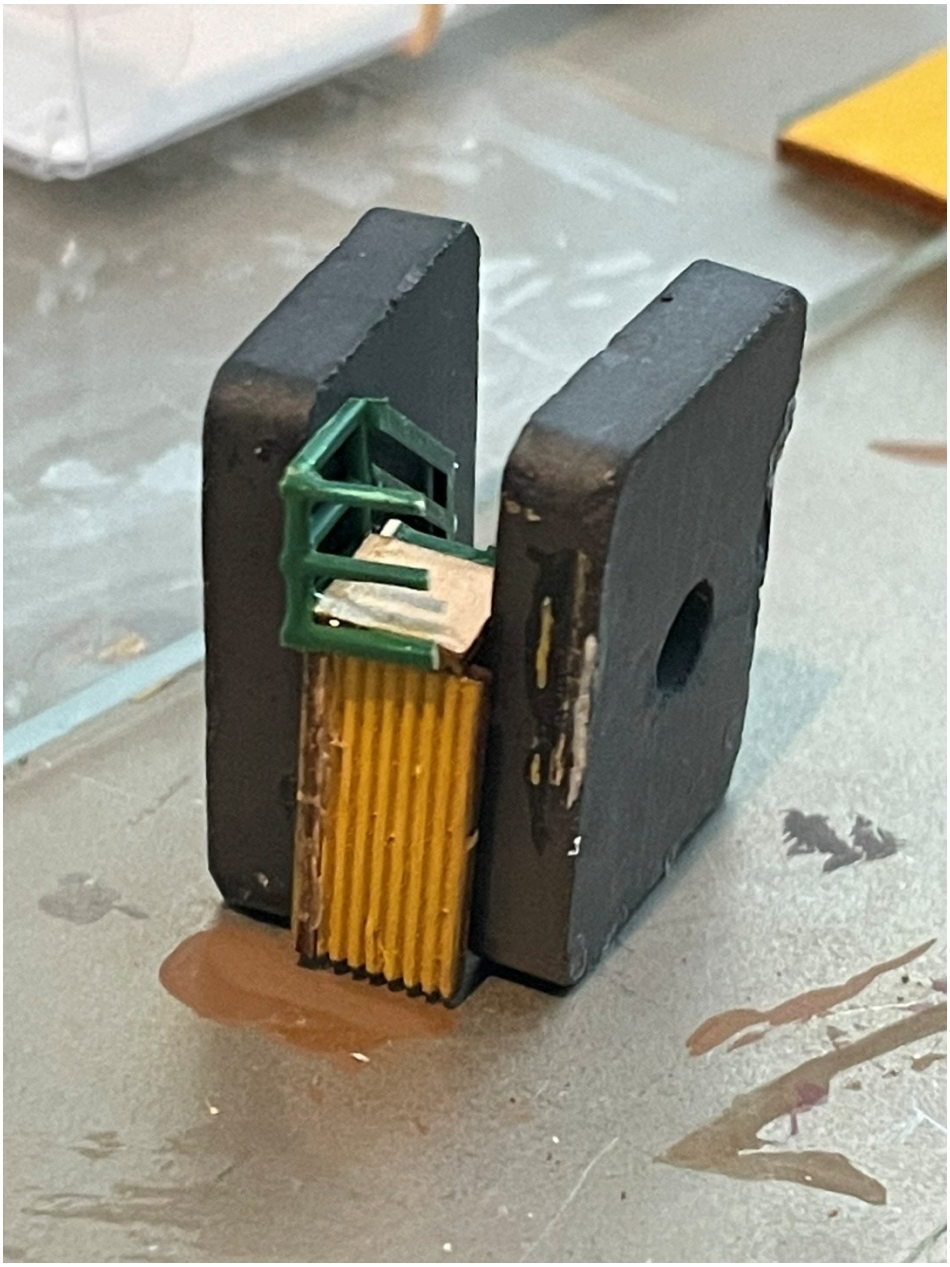
One might expect not to use the lowest, third rail, to be realistic. But the vertical pipes are so far apart that there would be no strength to the structure. Therefore, I kept the lower rail and glued it to the side of the stairway, providing a reasonable sized glued area of attachment. The trick is how to hold the piece in place to dry and set. As seen here, I made a stack of pieces of cardboard the height of the width of the stairway and laid the railing across it.

N-Circle_25-12-27_JLI_Bagwell_2_Cropped



With this angled railing in place, I then used it as a guide to define the vertical alignment of the horizontal railings on the landings. Attaching the two upper horizontal railings is a special challenge. First, two sections must be cut from the long piece shown above, with a vertical post located on one end of both to serve as the corner post for the two horizontal sections and a connection point for the upper end of the angled railing. Here we see two magnets used to clamp the railings in place so they will dry reasonably straight vertically.

N-Circle_25-12-28_JLI_Bagwell_1



The final alignments of the components of my stairway to the main building are way less than perfect as can be seen here. There is a large gap between the building and the upper landing and railings.

N-Circle_25-12-31_JLI_Bagwell

I did not add the lower stairway until the structure was assembled and the main staircase structure was attached to the building, to ensure that the bottom of this stairway would be in the plane of the bottom of the building. Cutting this staircase and railings requires a lot of careful planning and measuring.

However, a strategically placed figure in the corner of the upper landing helps to disguise the alignment flaws there from the primary viewing angles.

N-Circle_26-01-09_JLI_Bagwell

As I said in N-Circle Update 29: “If you are not a good modeler, be a creative modeler with your repairs…” This makes the structure acceptable when viewed from a distance.

Hopefully this discussion will guide you to do better, as there is no guidance in the kit's instructions. The main point is that building the staircase before attaching it to the building requires very precise measuring and aligning. It may test your appreciation of "model railroading is fun." It came out okay in the end, but I am feeling better about 3-D printed resin models!

The main walls of the tower also were challenging to assemble. The windows placed side-by-side in three of the walls are supposed to align to the width of the wall. They don't. Even after carefully trimming the ends of the top and bottom sills the frames are slightly too wide, so the corner posts end up angled out some from their alignment to the wall below. More very careful filing of the entire height of sides of the window frames could correct this. Doing this an equal amount on each side would be the challenge. Like the East Junction Section House kit above, the main walls do not interlock, the corners are aligned to the corner posts glued to the ends of the walls.

Here we see the first two walls assembled and drying on a glass plate, with the partially assembled staircase drying on the plate above.

N-Circle_25-12-26_JLI_Bagwell_1_Cropped

After the wall units were dry, I used a thin hobby knife blade to release them from the glass plates. Though the white glue on the back of the joints did not stick to the glass as much as it would to a more porous surface, nonetheless, I found that even using the knife blade to work under the pieces, these fragile structures broke apart some in the process of moving them. Therefore, I have no idea how you are supposed to assemble these rows of individual windows to the walls! The kit's instructions provide no guidance on this. I tried looking for a YouTube video on how to build this kit and only found a couple on building other JL Innovative Design HO kits which do not have this challenging structure.

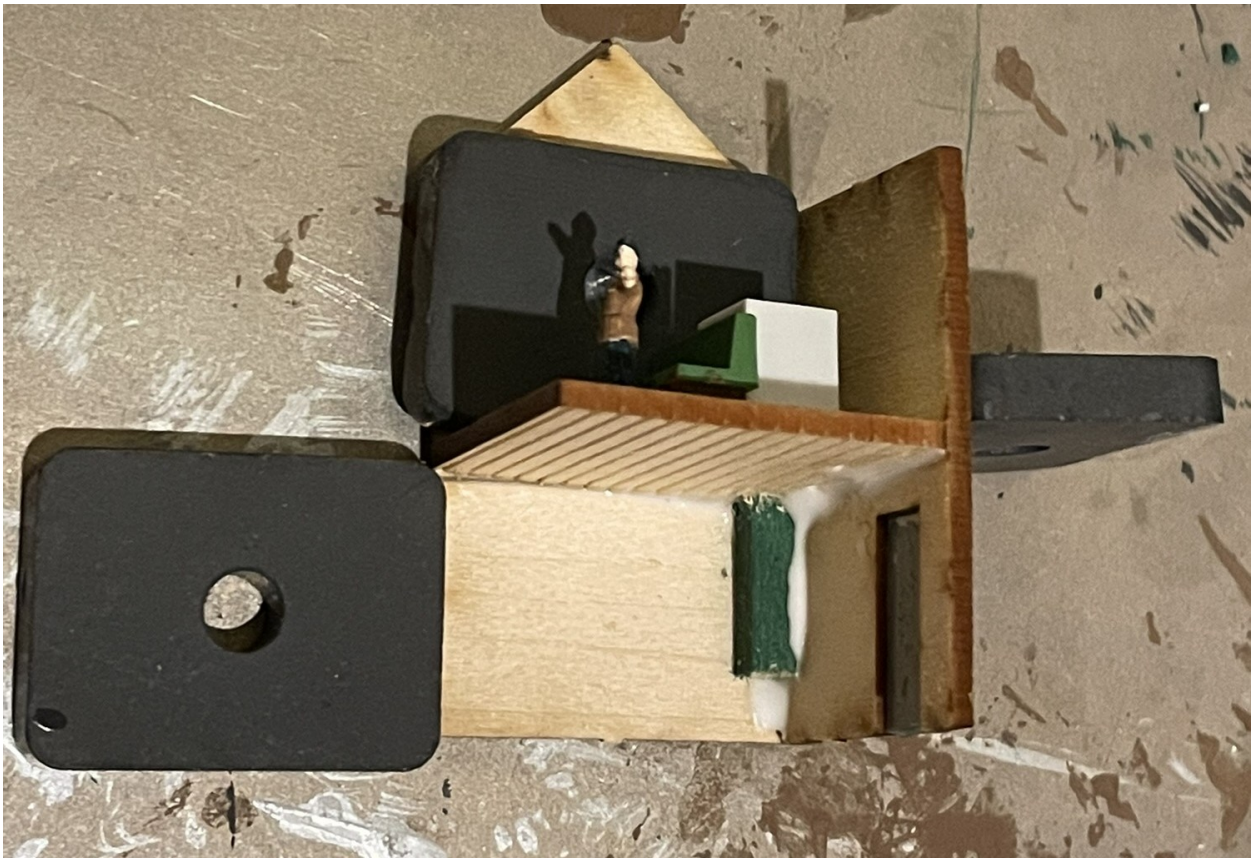
I applied more glue to the fractured joints to recover the wall units to usable form for final assembly, then attached the clear acetate provided in the kit to the inside of the windows using Micro-Scale Kristal Klear.

I built a simple interior with a few parts from my details box: A grey plastic block for a counter, a park bench and a guy standing pointing somewhere… I did not add a lot of detail, as I did not add interior lighting to make it visible. I also did not paint the interior, as the light natural wood color of the inside of the walls will provide contrast to these few interior details, given the limited visibility of the interior without lighting.

N-Circle_25-12-28_JLI_Bagwell_2_Cropped

Here we see the gluing of the first joint of the four main walls. Inserting the interior floor at this point provides a square corner to align the two walls. The magnets then hold the pieces in place, without having to rely on them to ensure that things are square. I added the interior corner shim at this point, rather than waiting until later like I usually do, because with this technique the interior floor hopefully has ensured that the walls are square from the start.

N-Circle_25-12-29_JLI_Bagwell_Cropped



Gluing the remaining two walls in place was fairly easy, using the magnets again to hold them in place to dry. The staircase unit is then glued to the side of the building. It does not appear to be tall enough – the upper landing is quite a bit lower than the threshold of the upper-level door. I added corner shims under the staircase where it meets the main wall to ensure that it remains attached to the building.

The roof panels are simply cut from thin cardboard. However, the roofing is thin strips of stick-on shingles, similar to the Country Barn kit in N-Circle Update 24. This is a very tedious task and the material is white, so it must be painted black later, at which point the vertical cuts in the shingles are partially filled in and obscured. I really have no idea why this approach is considered superior to a simple plastic roof with the shingles all perfectly aligned in the mold…! But after this experience, I ordered a sheet of Chooch Enterprises plastic shingles roofing, which you may see used on wood kits in future N-Circle Updates!

To cover the gap at the peak of the roof, I cut a 4 mm wide strip of paper from the “tarpaper” sheet provided for the shed/garage structure in the kit. To fold this very narrow strip down the middle, I placed it between the two glass sheets used for gluing, with 2 mm extending from the

edge which could then be folded over straight and clean. I used superglue to attach it, to obtain a quick and secure attachment of this folded piece without clamping

The separate shed/garage that comes with the kit is a simple build, using the same corner posts joint structure design as the main tower. I replaced their scribed wood garage door with a modern plastic garage door with windows from my detail parts box.

The roofing for this structure is also thin cardboard panels, to which you glue strips of paper to be painted black to look like tarpaper. However, be advised that the wet glue can cause the cardboard panel to warp some, even though I had it between two glass plates to dry, though not weighted. So be sure the panels are flat before attempting to glue them to the walls. Some gentle pressure should straighten them without bending.

After some weathering, here is a close-up photo of the final finished tower kit.

N-Circle_26-01-12_JLI_Bagwell_1

JLI - Michigan Avenue Tower - Kit 570

The Michigan Tower also was a challenge to build, with a complex outside stairway structure similar to the Bagwell Junction Tower above in addition to two-layer main walls. But at least the windows and doors are simple glue in pre-cut holes assembly, not the rows of unsupported pieces like the Bagwell Tower.

The instructions say that to look like the protype, cut the dividers in the eight-pane windows to make only two large panes. While undoubtably this provided better visibility for the tower operators, these are tiny, fragile pieces and this looked like a task that may not go well… I don't think anyone will notice or comment if this tower is used on the N-Circle layout or an NWV module with eight-pane windows – they were common in Vermont architecture.

For this kit, I reverted to my old ways with wood kits and ignored the assembly sequence in the instructions, which say to assemble the four main underlay walls together first, before painting then adding the siding and doors and windows. I find it much easier to assemble the wall panels individually on the workbench first.

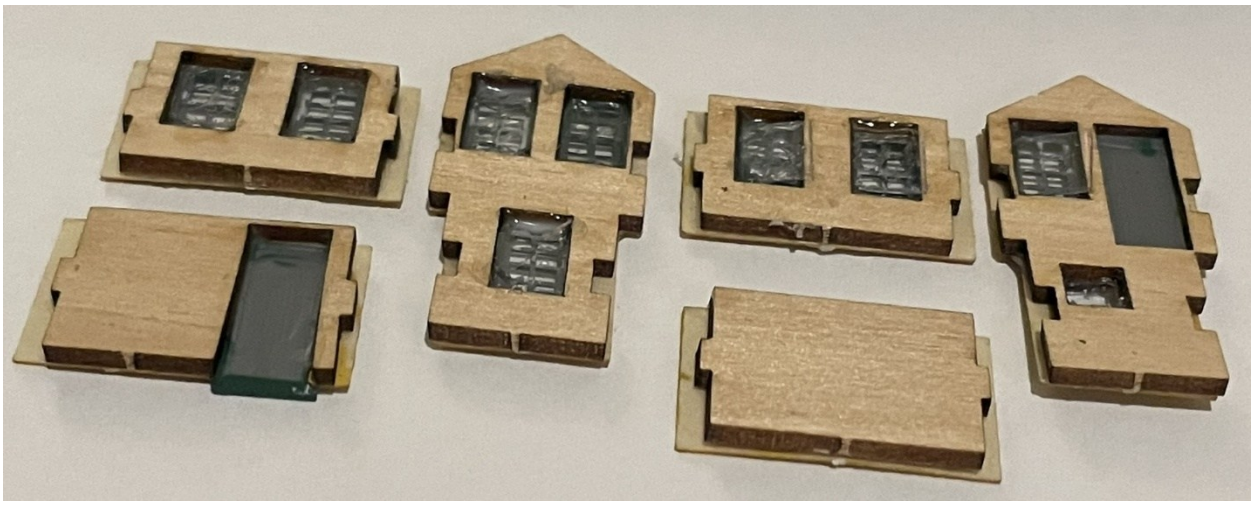
After painting the siding sections yellow and the trim green, I glued the siding panels to the underlay walls. I inserted the doors and windows immediately during this process, as they ensure that the holes in the two wall layers are exactly aligned up front. This process worked very well, and the siding panels were well aligned to the underlay walls.

Inverted-V trim pieces are provided to go under the peaks of the roof on both ends. However, these pieces are extremely thin and fragile, and both broke while cutting them from the wood plate, so I discarded them. They do not contribute to the structural strength of the building and would not be visible from most viewing angles, so I do not think they will be missed.

The window glass must be carefully measured and cut from the clear acetate sheet provided. I glued them onto the backside of the frames with Micro-Scale Kristal Klear.

Here we see the backside of the wall panels with all the windows and doors in place. Note the alignment notches in the thick underlay walls, the overlapping siding panels can be seen extending beyond them.

N-Circle_25-12-31_JLI_Michigan_1_Cropped



The Michigan Avenue Tower is much smaller than the Bagwell Junction Tower and has much more limited visibility of the interior through the windows. Therefore, I only inserted a simple interior with a bench and figure. A floor piece is not provided in the kit, so I cut one from cardboard. While it will be minimally visible from outside, it provides a light block so that light from the first level windows cannot be seen through the second-floor windows, which can happen when no interior floors are placed in a kit. This photo was taken before the white glue dried…

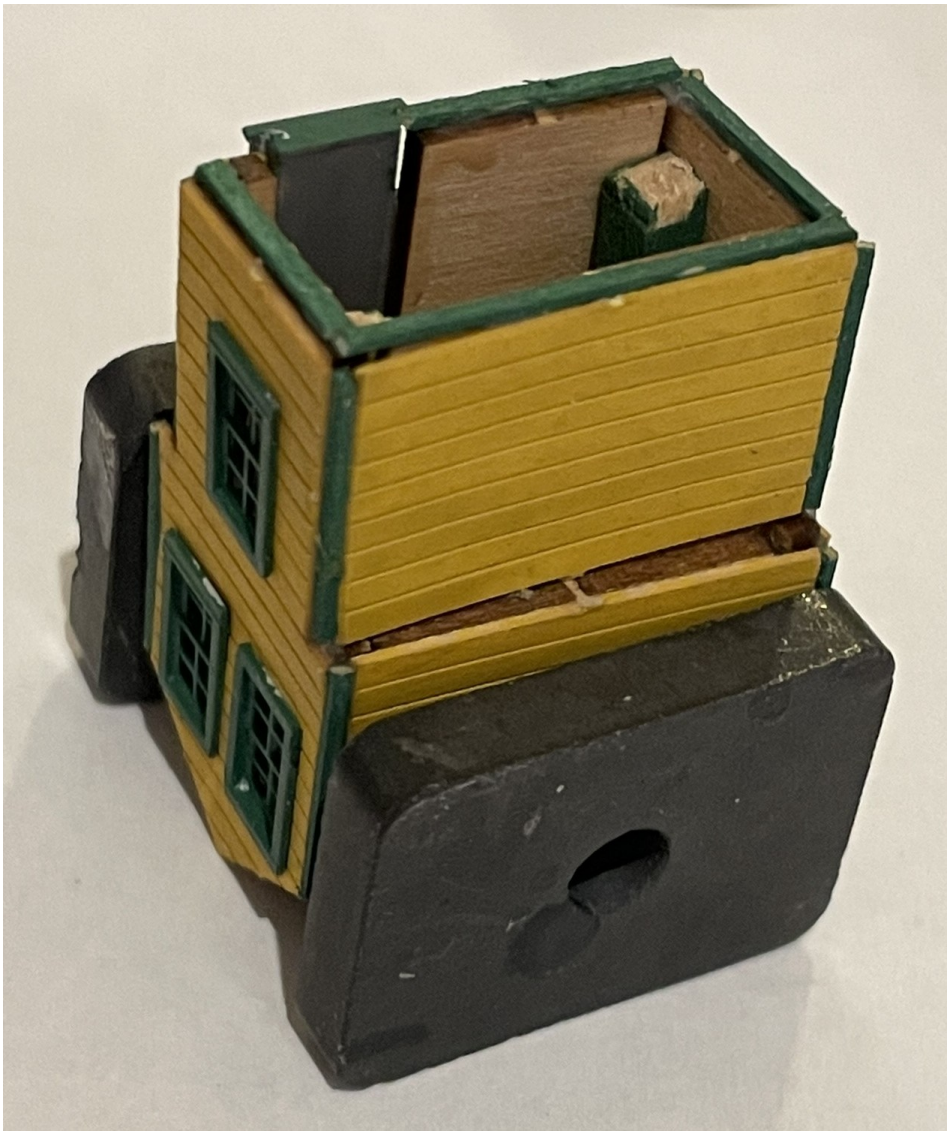
N-Circle_25-12-31_JLI_Michigan_2_Cropped

The tall end walls unexpectedly warped a little, apparently from the white glue used to attach the siding sheets. However, the robust notch-in-groove structure of the corner joints allowed this to be overcome. The four corner joints went together with white glue fairly easily, with some care and patience. I used a couple of magnets to hold the tower together while the glue dried, but in general the interlocking notches hold everything together, so I won't show photos of this process, as they would not be different from the photos for previously discussed kits.

Contrary to the instructions, I did not add the corner trim boards until after the walls were assembled. This allowed me to use them to fill the gaps in the corners.

After the structure was dry, I realized that the first-floor door did not fit into the height of the wall opening and thus extended a bit below the bottom of the wall. This caused the building to not sit square and straight vertical. Therefore, I cut shims from the 1/32-inch trim pieces leftover from the Bagwell Tower and glued them to the bottom of the four walls as seen here, with the structure held upright to dry with two magnets.

N-Circle_26-01-03_JLI_Michigan_3_Cropped



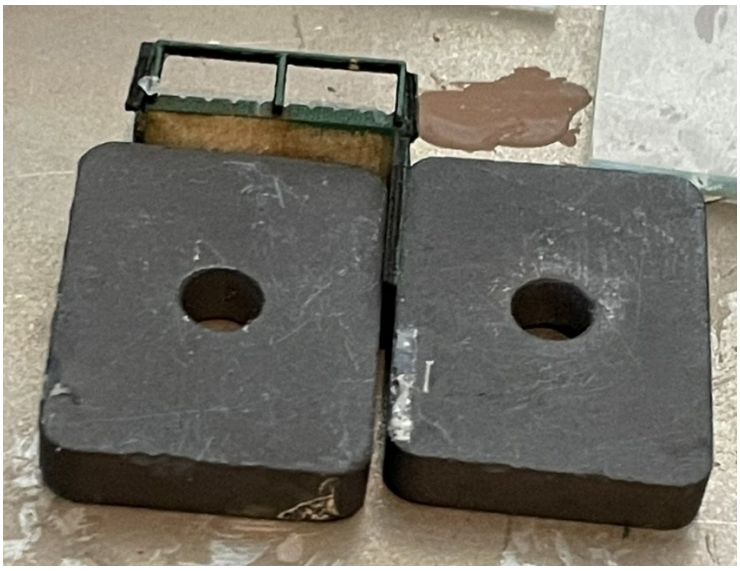
This brought the building back to square upright. The shims should not be too noticeable under the walls, depending on where the tower is placed on the layout. And don't ask about the angled gap between the upper and lower walls – it also won't be noticeable from typical viewing angles from above. But obviously the notches in the edges of the wall panels do not guarantee perfect alignment of these small pieces.

The external stairway for this tower is similar to the Bagwell Tower – it uses the same plastic stairs that must be cut to length, but the upper horizontal handrails are thin laser-cut wood. They attach at just two points with tiny drops of glue – here we see them set to dry with the main railing pressed up against the glass gluing plate and the end rails held by two magnets.

N-Circle_26-01-02_JLI_Michigan_Cropped

The Z-supports under the landing are especially flimsy – made from very thin laser cut wood. One broke in the process of cutting it from the sprue plate and had to be glued before assembly. They also attach with a single drop of glue on the two uprights – here we see the first side clamped to dry square.

N-Circle_26-01-03_JLI_Michigan_1_Cropped



I added shims under the landing to strengthen the attachment of these uprights. I also added a horizontal board between the two Z-supports, cut from a piece leftover from the corner trim boards. This was not in the prototype building or model design, but I am hoping it keeps the support legs from breaking off before the structure ever makes it to the layout... Here we see these added corner shims and horizontal support before the final green trim touchup painting.

N-Circle_26-01-03_JLI_Michigan_2_Cropped

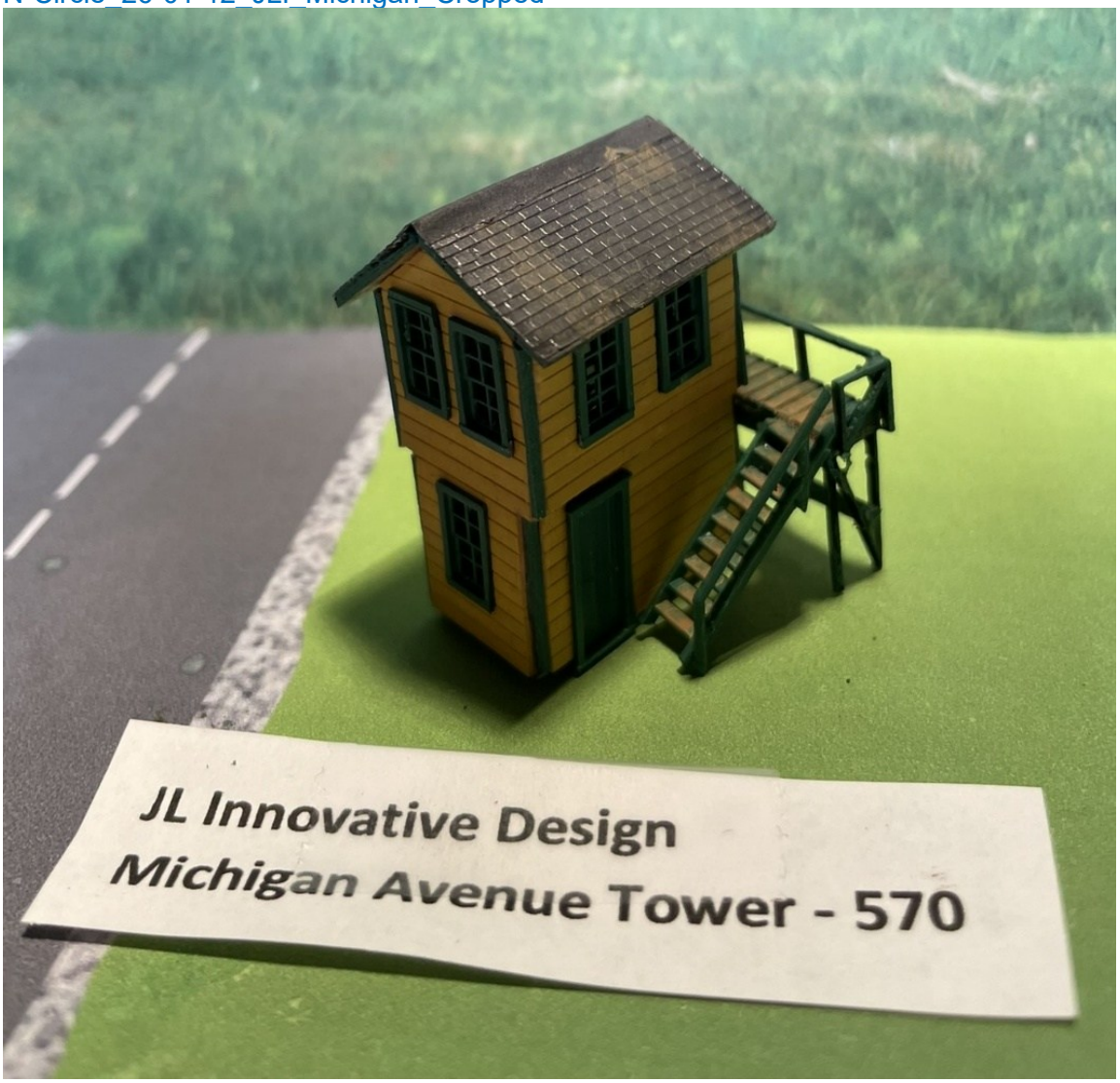
The instructions say to cut the plastic stairway to eleven steps, but this will make it too long and it will extend in front of the lower door, so I cut it back to nine steps. To superglue the handrail to the side of the stairway, I rested the railing on a stack of material the height of the width of the stairway laid on its side in the same manner as shown for the Bagwell Tower railing above.

Attaching the top of the stairway to the landing is just a narrow butted joint. I used a couple of drops of superglue and braced the bottom of the stairs against an alignment magnet to hold it in place. After this joint was dry, I turned the unit over and added a narrow wood shim cut from the leftover trim pieces to the underside of the joint to give it more strength.

The roof uses more stick-on strips of shingles like the Bagwell Tower above. But this kit includes wood roof panels, which are more rigid and thus did not bend like the cardboard panels on the Bagwell Tower kit. To cover the gap at the peak of the roof, I used the same technique as for the Bagwell Tower, with a 4 mm wide strip of “tarpaper” folded between the two glass sheets.

After some weathering, here is a close-up photo of the final finished kit.

N-Circle_26-01-12_JLI_Michigan_Cropped



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After all three kits were complete, I added 3-D printed gooseneck lights over the doors of the Michigan Tower and garage, as lights were not included in the kits, then applied watered-down Polly-S Mud and Rust paints to the roofs and stairways for weathering. I have not added signage to the buildings yet; it will be added later after they are located on the N-Circle layout or NWV modules. Here we see front and rear quarter shots of all four completed structures.

N-Circle_26-01-12_JLI_All_1_Cropped

N-Circle_26-01-12_JLI_All_1_Cropped

The JLI Bagwell Tower kit required about 10 hours to complete over 25 sessions. The somewhat simpler Michigan Tower required about 8 hours over 19 sessions. The Yard Office only required about 5 hours. By building the three kits together with common colors and techniques, the number of sessions at the workbench between paint and glue dryings was greatly reduced.

The Michigan Tower was somewhat easier to build than the Bagwell Tower, due to its more robust main walls structure. But the stairway was a similar challenge.

I would not recommend the JLI Bagwell Tower kit to any but the most experienced N-scale modelers – which probably I am not. Or unless you need to model this specific tower design for your layout. All the JLI kits require a lot of thought, planning and patience to glue all the tiny pieces together correctly, but the staircase on the Bagwell Tower is an exceptional challenge. While these are nice kits to replicate the intended prototype structures, I don't think much thought was given to how a modeler is to successfully build them.

If you just need a decent yard tower for your layout and are not looking for a major modeling challenge, I recommend the Atlas plastic kit described in N-Circle Update 21.

All three JLI kits included extra detail pieces to use around the structures. Since I was not integrating these structures into scenes immediately, they went into the parts box for possible use later. But for reference, the parts included in the kits were:

Bagwell Junction Tower - Kit 290

- Plastic utility pole
- Long section of plastic fence
- Metal utility box

East Junction Yard Office – Kit 450

- Short section of wood fence
- Metal barrels
- Metal tank
- Plastic fence gate

Michigan Avenue Tower - Kit 570

- Plastic utility pole
- Metal utility box
- Metal box
- Metal lumber stack – railroad ties

The two yard towers and yard office may be used on the NWV Model Railroad Association's T-Trak yard modules, but I am keeping the Bagwell garage for use with the yard tower on my N-Circle layout, as seen here in front of the tower from Update 21! This structure was intended to be a shed, not a garage, so it actually is a bit too small for a garage as can be seen next to this N-scale truck.

N-Circle_26-01-12_JLI_Garage