N-Circle Railroad Update 29 – November 20, 2025

Farm T-Trak Module for the NWV

In a continuation from N-Circle Update 28, this update will discuss developing scenery for a T-Trak inner corner module for the NWV Model Railroad Association. This Update will also be released as “Farm Inner Corner Module Project” in the “NWV T-Trak Modules Development” section of the Education page on the NWV’s website. This is a long Update report, covering many topics on building structures and scenery details.

The first step was to build a Gloor Craft Country Barn kit that I purchased in 1993; it appears it was originally produced in 1984.

NWV_25-09-29_GloorCraftBarn-1

This is an old-style wood kit, produced before modern laser-cut kits. In the next photo we see all the parts before assembly. The scribed wall sections and doors are cut to size, but the rest of the kit is pieces of strip wood that have to be cut to length.

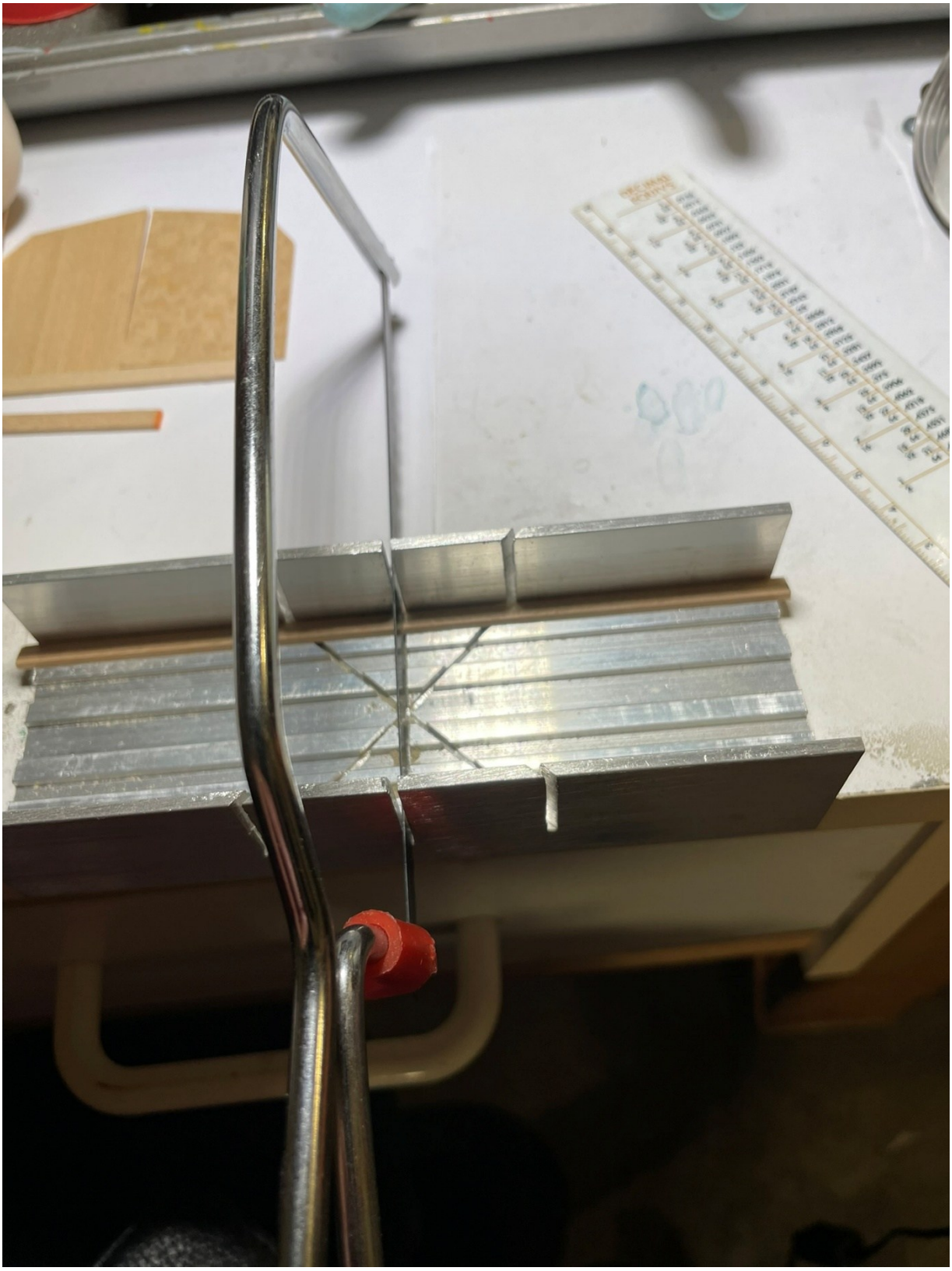
The instructions are fairly basic, but adequate, describing the lengths to cut, with four simple diagrams showing their alignment. The diagrams are hand-drawn, and it looks like the instructions were done on a typewriter…!

NWV_25-09-29_GloorCraftBarn-2

The original design is quite boring, with only large, closed barn doors on three sides. To make the structure more interesting, I did not install the large double doors on the long side and instead added a couple of windows and a small door left over from recent wood garage kits. I also wanted an open door in one end of the barn. To accomplish this required cutting holes in the thin wood panels with a sharp hobby knife before starting assembly.

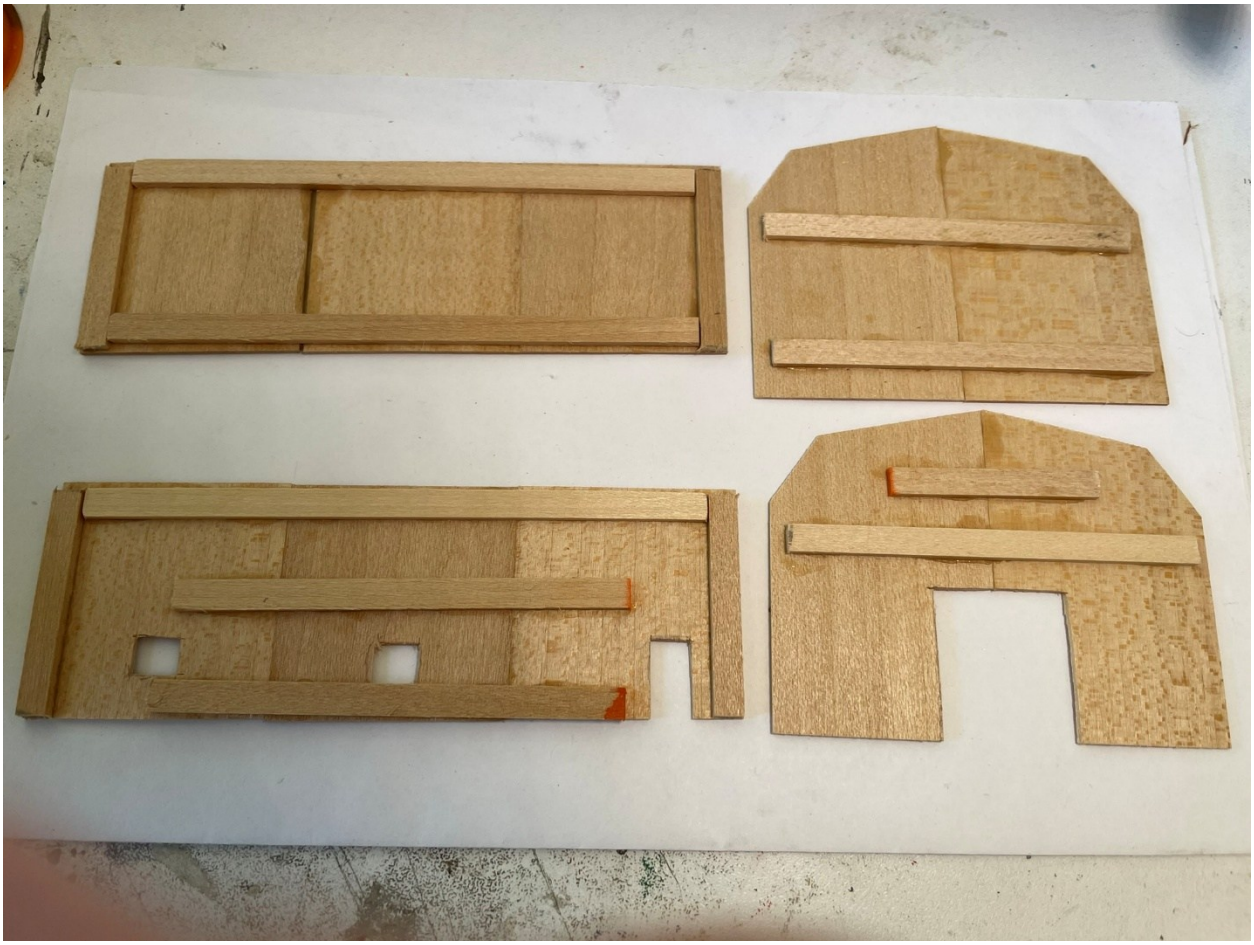
The four walls are made from multiple panels which must be assembled with supporting beams behind them. The openings for the doors and windows required changing the placement of these supports inward from the edges as originally planned in the instructions. I cut the 1/16 x 3/16-inch support pieces with a small miter box saw to ensure square, clean ends, as shown here.

NWV_25-09-30_Farm_1



I used wood glue to assemble everything - here we see the backsides of the wall panels with the supports in place, before assembly.

NWV_25-10-02_Farm_1



As with the wood kits assembled in recent N-Circle Updates, the instructions said to assemble the four walls before painting and applying the trim. But I find it much easier to work on the four walls flat on the workbench, then do any touchup painting required of the four corners after final assembly. Therefore, I painted the walls and the trim and installed all the doors and windows and non-corner trim pieces before assembly.

I used Tamiya Red acrylic paint on the walls, applied with a bristle paint brush to mostly fill the grooves in the vertical wood siding, but not completely. This produces a decent “weathered” look with minimal effort. I brushed water on the back of the panels before painting the fronts, to minimize warping. A continuation of my paint-conserving theory: “The wood is sensitive to the water; it doesn’t care if it contains pigment.” The two large doors started to warp slightly, so I placed them under a weight to dry. The four main walls were not a problem, as they already had the support beams glued to them to hold them straight.

I painted all the trim pieces on three sides with Polly Scale Reefer White before cutting them to length, leaving the fourth wide side clear for glueing. I did not paint all the way to the ends, so the color coding of the sizes would still be visible. These long pieces did warp with painting, so I placed them under a block to dry. They will all be glued to a flat surface, so the warpage should be correctable in the final assembly.

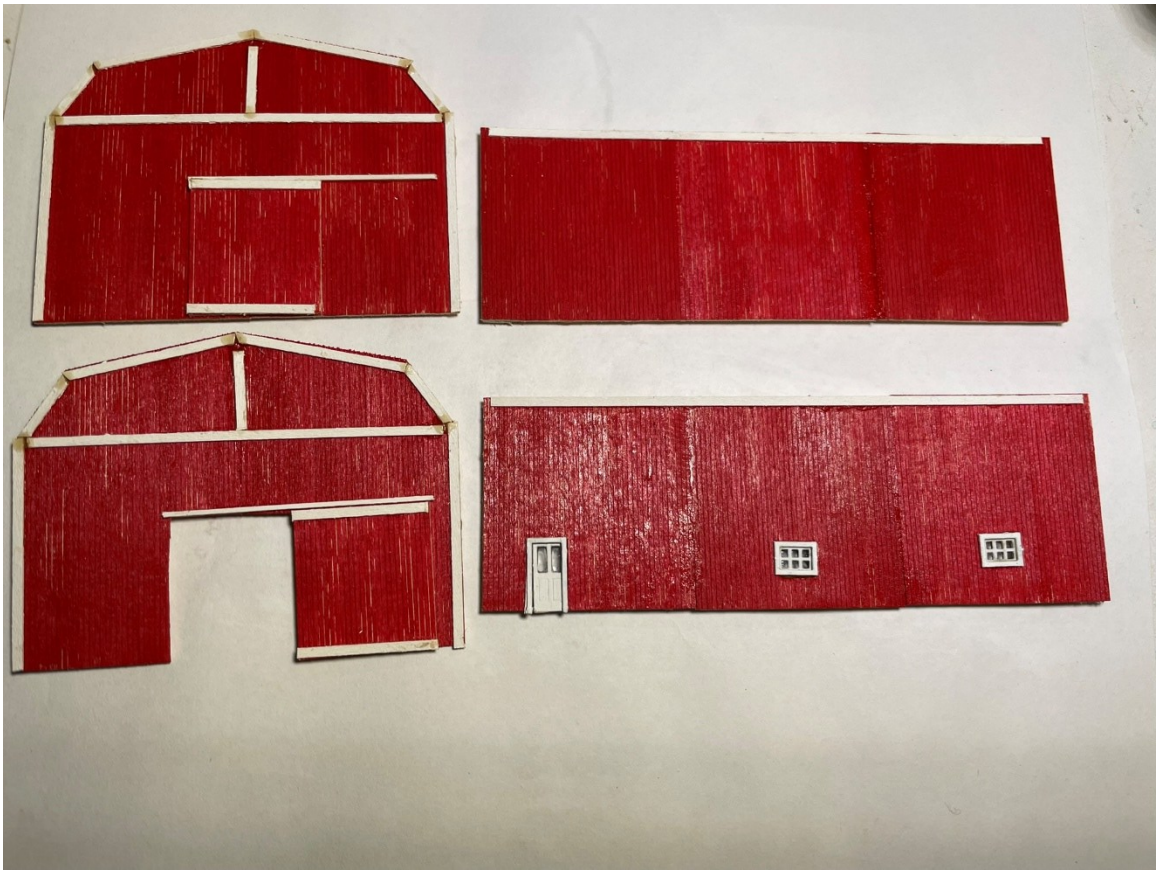
These tiny 0.020 x 1/16-inch trim pieces are so small that I did not use a saw to cut them to length, they were easy to snip with plastic sprue cutters. And given the ends of the pieces that fit into the peak of the end walls had to be cut at various angles, this was much easier with the cutter than a miter box. Even with careful measuring and cutting, I still ended up with some small gaps where pieces came together. After the glue holding the trim to the wall was dry, I filled these gaps with a drop of wood glue, then painted them over later during the final touchup of the white trim on the assembled structure.

If you examine the photo on the kit cover above, you will find that I did not add the diagonal pieces in the peak of the end walls. “Model Railroading Is Fun” … cutting tiny little pieces of wood at precise angles is not so much so…

I glued the windows and doors into their openings – I did not rely on their peel-and-stick backing. I then added clear window glaze to the insides using Micro-Scale Kristal Klear.

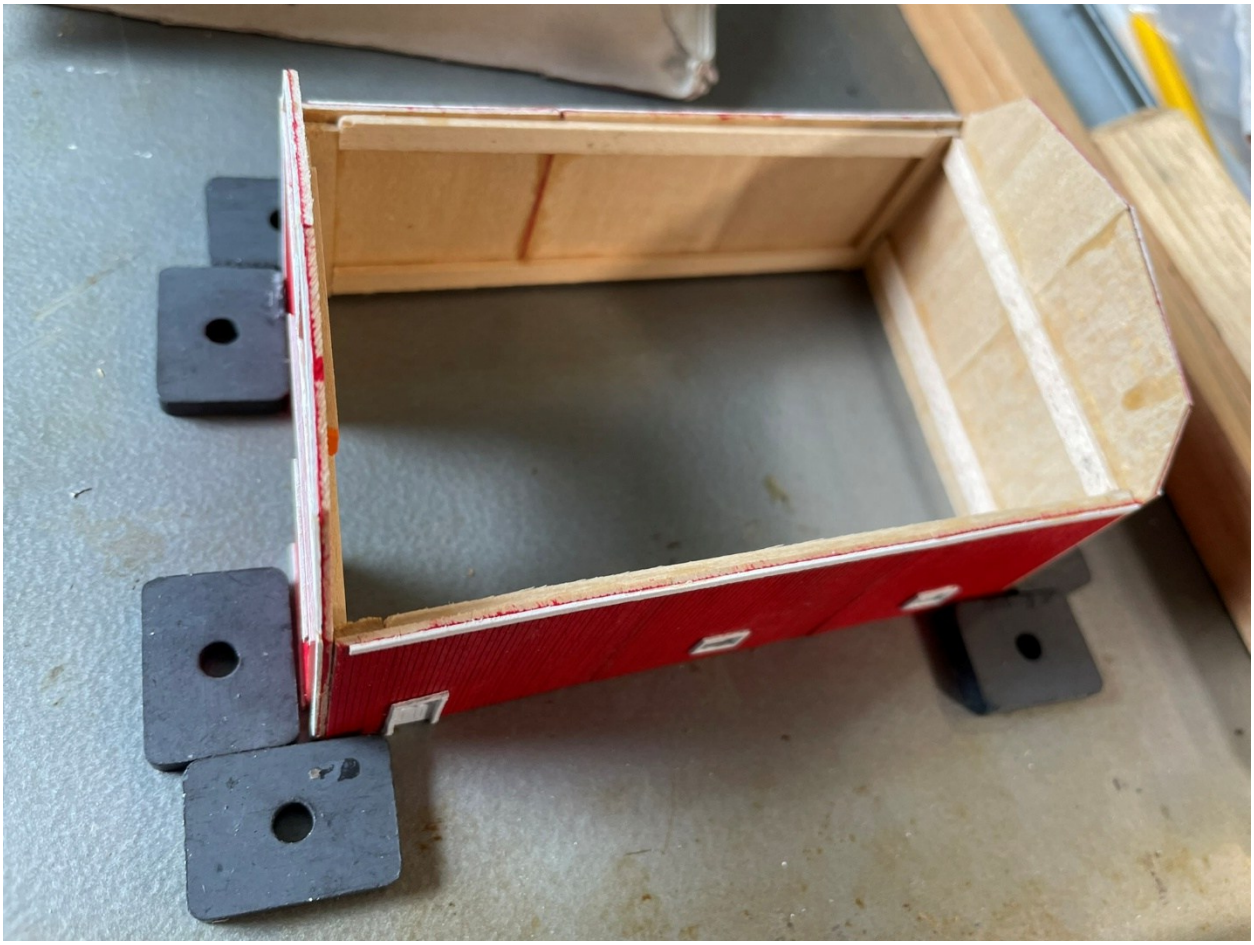
Here we see the four completed walls, ready for final assembly.

NWV_25-10-07_Farm



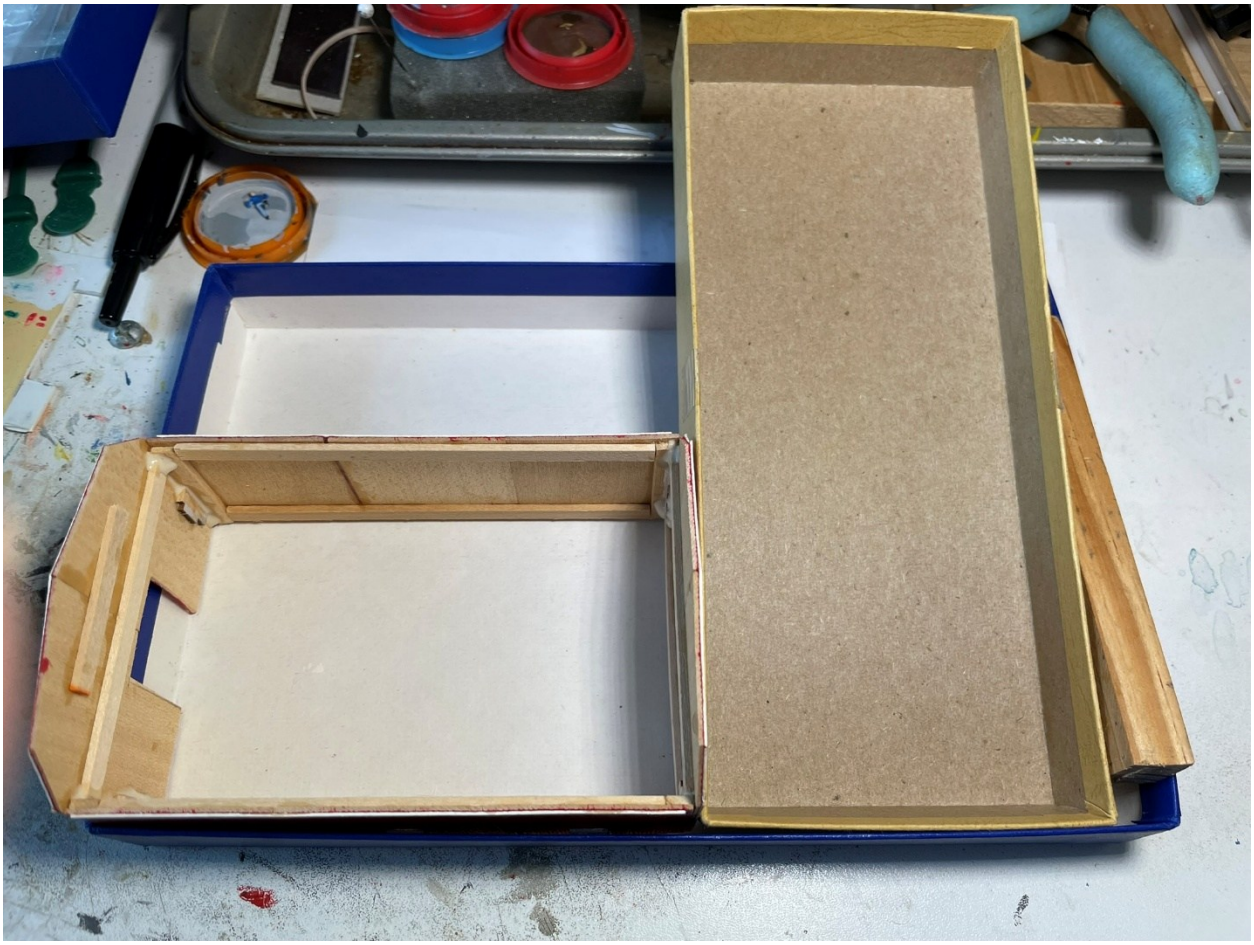
I assembled the four walls on the cookie sheet with the rectangular magnets used in previous N-Circle Updates to hold them in place, as seen here.

NWV_25-10-08_Farm_2



After the glue had dried the next day, I realized that in fact I had not aligned everything square; the corners were out-of-square by a few degrees. So, before I added pieces of wood to reinforce the inner corners, I clamped the structure square in a box top by wedging objects against it, then applied a liberal amount of wood glue on the corner joints and reinforcing pieces as seen here.

NWV_25-10-08_Farm_3



The following day the structure was square and solid, so this worked.

Somewhere it is written: “If you are not a good modeler, be a creative modeler with your repairs…”

The next step was to add the roof support beams, cut from more 1/16 x 3/16-inch strips of wood. This is perhaps the trickiest part of assembling this kit, as you have to measure and cut these pieces exactly. They do not fit into any notches on the end walls, they are just a butt-joint to the inside of the wall. I cut them to the length given in the instructions, which was about 1/16 inch shorter than the actual spacing. This resulted in having no compression to hold the beam in place with the structure upright. So, I turned it upside down so the beam would be resting on the workbench to hold it in place. I also cut reinforcing blocks from the remaining pieces of wood and glued them under the beam ends, then let the first beam dry before using a similar technique for the other two. Trying to do all three at once would be too difficult to do the second

and third without dislodging the first. This photo shows the three beams and their supporting blocks.

NWV_25-10-10_Farm_1

In retrospect, I would try cutting the beams a bit too long, then they could be press-fit between the walls and the compression would hold them in place while glueing. The kit instructions provide no guidance on how to install these beams, just a rough sketch of their placement. I really do not see how these beams would be structurally sound without the blocks beneath them.

The brown roof panels are cut to size, so they just need to be glued in place. But there are no alignment guides to do this, so you have to be very careful to align them in the wet glue. There also is no easy way to clamp them, given they are at an angle to the rest of the structure. Therefore, I used a foam block to hold the structure in place at an angle such that the roof piece would be horizonal, then placed a block of wood on top to “clamp” it while the glue dried, as seen here.

NWV_25-10-12_Farm_1

The black paper roofing has to be cut to size. The instructions do not provide any guidance, so I cut two pieces, each piece to cover both sections of a side. I created the fold in the paper at the boundary between the two sections, but anticipating the challenge of getting both sections to adhere with no easy way to clamp them, I applied white glue to attach just the large upper section and allowed it to dry before glueing the lower section down. To “clamp” the paper to dry, I used the same wood block weight technique as shown for the roof panels above.

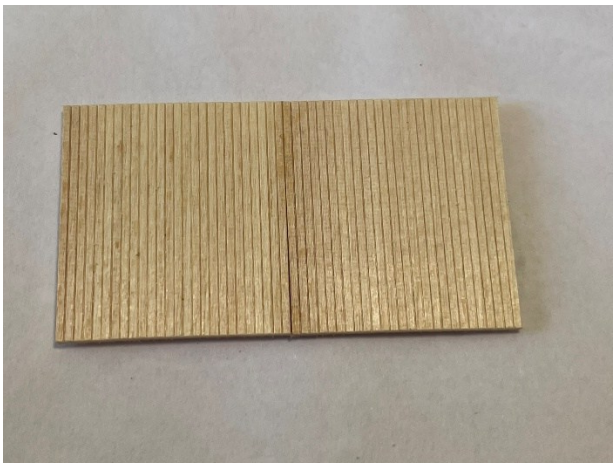
You end up with a crack at the ridgeline where the two paper sections meet. Therefore, I cut a narrow strip of the black roofing paper, folded it to fit the peak of the roof and glued it in place. This is a reasonably realistic way that the peak of a roof might be finished.

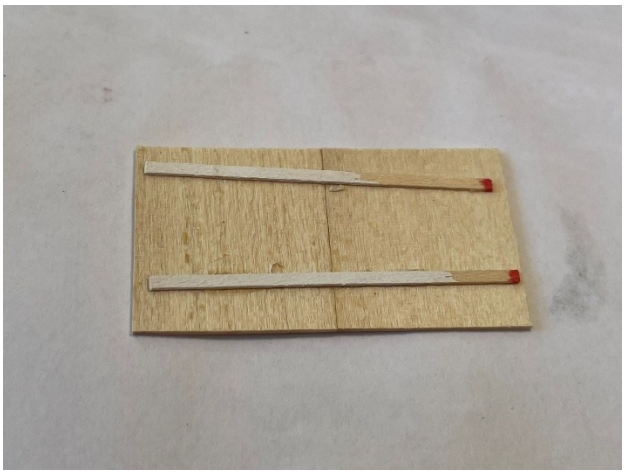
The smooth, black paper roofing is not very interesting compared to the textured roofing of later laser-cut kits, but I dressed it up by brushing on some paint weathering.

I did not add the wire lightning rods to the roof line – they just seemed like they would have a high probability of getting bent on a travel display module.

To create a wood floor visible though the open large door I glued together the two unused barn doors, with support beams on the back as shown here.

NWV_25-10-11_Farm_1
NWV_25-10-11_Farm_2





Overall, this was a fairly easy kit to build, without all the tiny peel-and-stick detail pieces of the laser-cut wood kits described in N-Circle Updates 23 – 27. But it required many steps of cutting the pieces, gluing them in place and allowing them to dry before going to the next step. And with no alignment guides on any of the pieces, one has to be very careful in measuring and placing all of the pieces. Overall, the kit required about 10 hours to complete over 23 sessions, so a bit less than the more detailed kits in Updates 23 – 27.

With the barn complete, the next step was to integrate it into the farm scene planned for this T-Trak inner corner module. The module was made by Tab-Tech, purchased from CMR Products, to which we attached the two standard Kato UniTrack mainline tracks. The module kit was easy to assemble from tab-in-slot laser-cut wood pieces using wood glue.

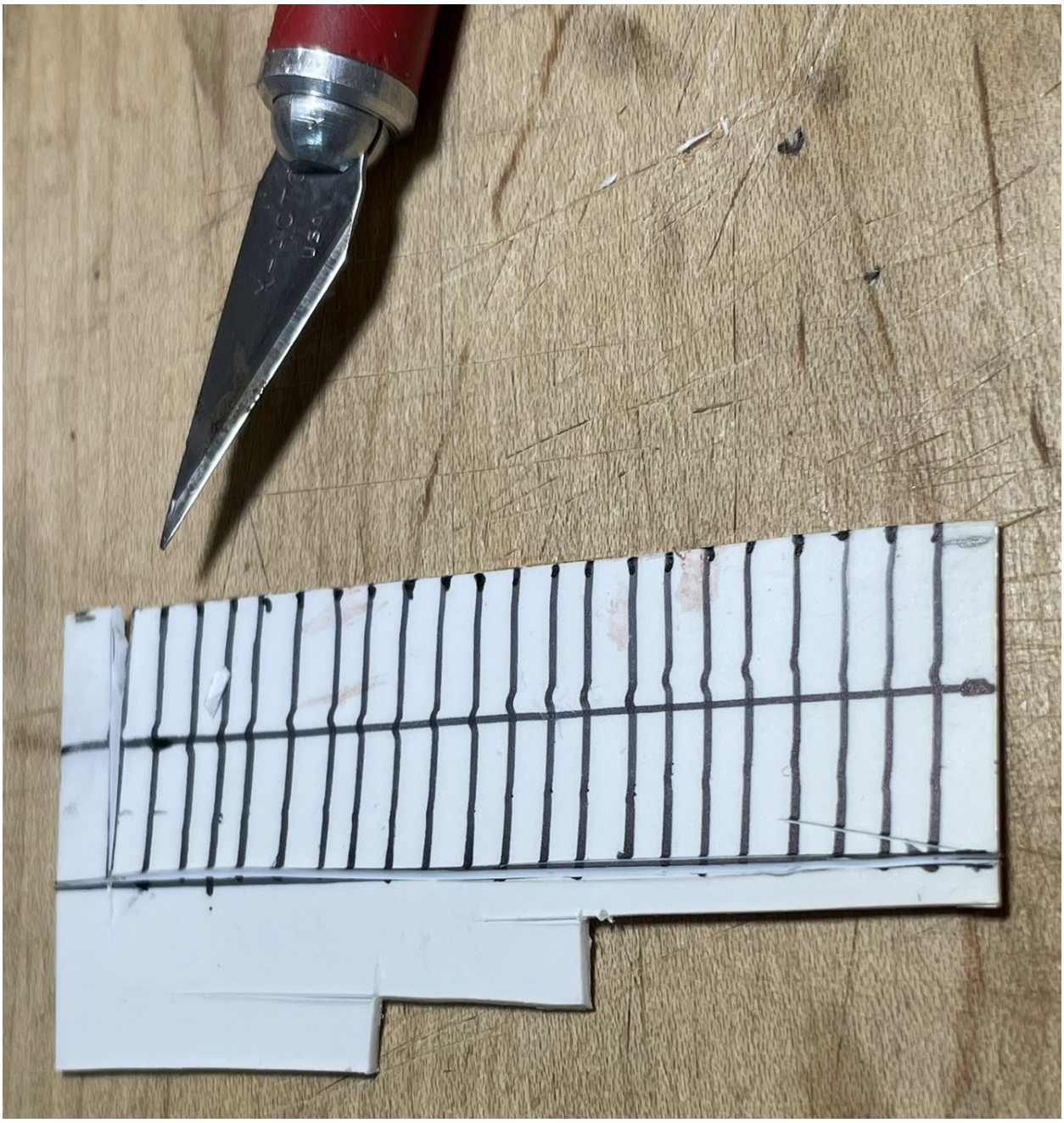
The plan was to model a simple rural farm with some cows and farm equipment around it. The scene is not intended to align to any specific adjacent module.

The module is 9 inches deep from the inner track roadbed to the rear of the module on the two sides where the track connects. It is 22 inches deep from the edges of the module which connect to adjacent modules to the center back corner. Therefore, there is a lot of area to work with for scenery.

I bought a 3-D printed farmhouse and single car garage from HD Custom Design for this project. This is the same “Sears Silverdale 1920s Kit Home” kit that I finished for the rectory in Update 26. These are fairly simple projects to finish and the 3-D printed plastic should stand up to the wear of a travel display. I used the same techniques to finish both as described in Update 26, so I will not repeat the details here. As before, I painted the pieces of the house before gluing them together, as this makes it much easier to paint the interior of the porches.

With just white paint and trim, the appearance is not very interesting. Therefore, I decided that a country farmhouse needs window shutters. I had a few in the details box, but not enough, and they were not the right height. This house needed 8.5 x 2.5 mm shutters, which I cut from a thin styrene sheet, and scored the louvers with a hobby knife, as seen here

NWV_25-10-18_Farm_1_Cropped



Cutting them all with a knife would also be tedious – I found that using plastic sprue cutters was much quicker. The jaws of cutter were wider than the 8.5 mm height of the pieces. Anticipating that the angled jaws would cause the pieces to go flying from the pressure when cut, I created the “catcher” shown here from a plastic parts box.

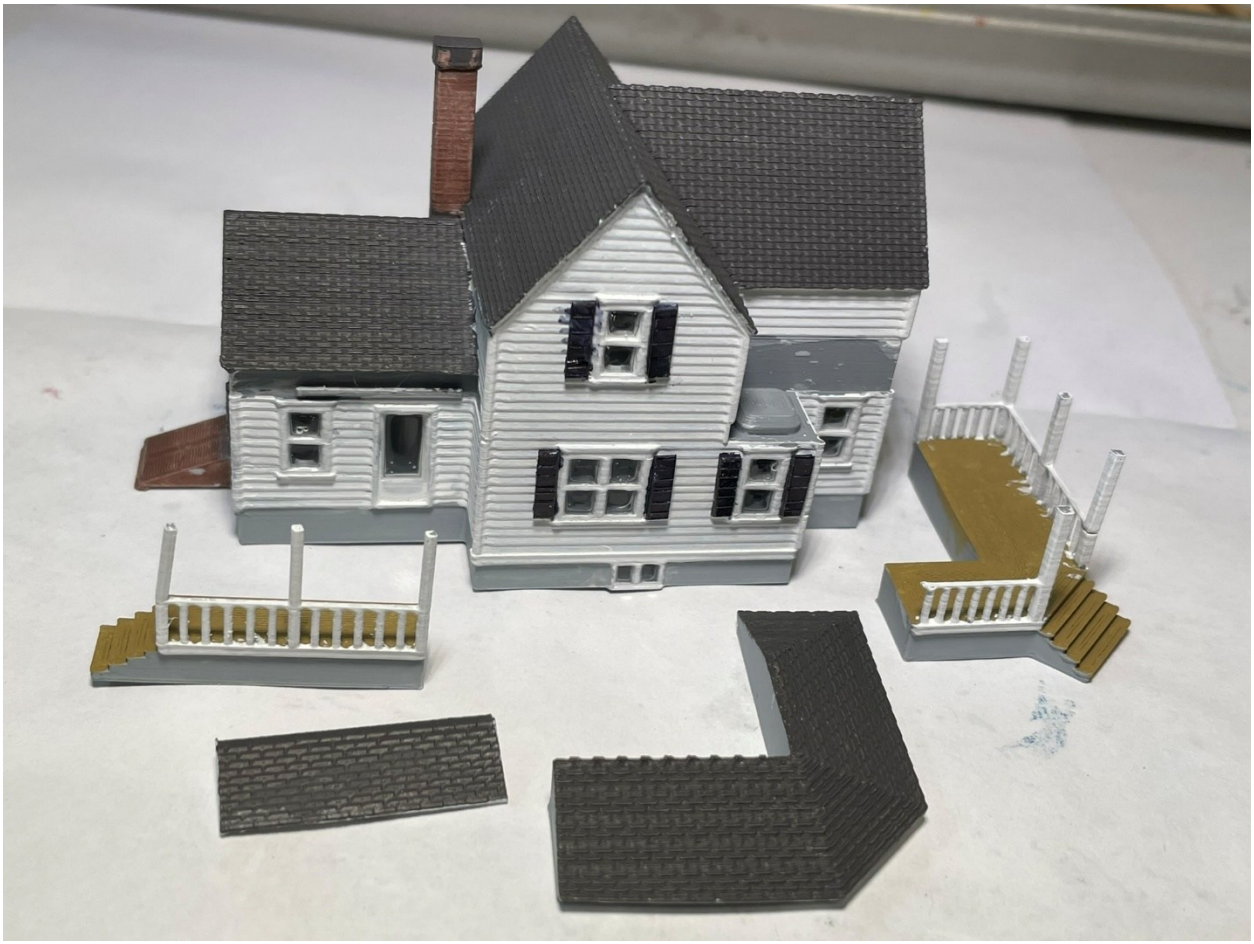
NWV_25-10-18_Farm_2

Painting them also was going to be tedious, to cover all of the edges. Therefore, I just “painted” them with a black Sharpie pen. Note that when attaching the shutters to the wall the superglue reacted with the Sharpie ink some and caused it to smear onto the wall when maneuvering a shutter into place. But this was easily fixed with a few spots of white touchup paint later.

While in production mode, I made enough shutters not only for this farmhouse, but also to go back and add to the Rectory from Update 26, if I like the look.

Here we see the pieces of the house all pre-painted and with the shutters glued in place before final assembly.

NWV_25-10-19_Farm_1



The garage was very simple – just paint it, glue the garage door in place, then glue it to its base. I used some multi-colored paint weathering on the apron in front of the door.

I also decided to add an outbuilding to the scene, given there is a lot of area on the module to work with. The NWV purchased a Sonny's Shack laser-cut wood kit by Laser Kits in 1995 which contained parts for two buildings. I built both then but only used one on an NWV layout at the time. So why not use the other on this module for the NWV. It is an old kit, but I just saw one listed on eBay!

I did not paint the wood trim at the time, and thirty years later I was not inspired to try to now, with it all attached to the structure. The green tarpaper would not be my first choice either, but again it would be too difficult to paint over now with the trim all in place.

But with all four structures completed, I decided some weathering of the roofs would be good. I bought a set of weathering chalks years ago and have made little use of them, so it was time to give them a try again.

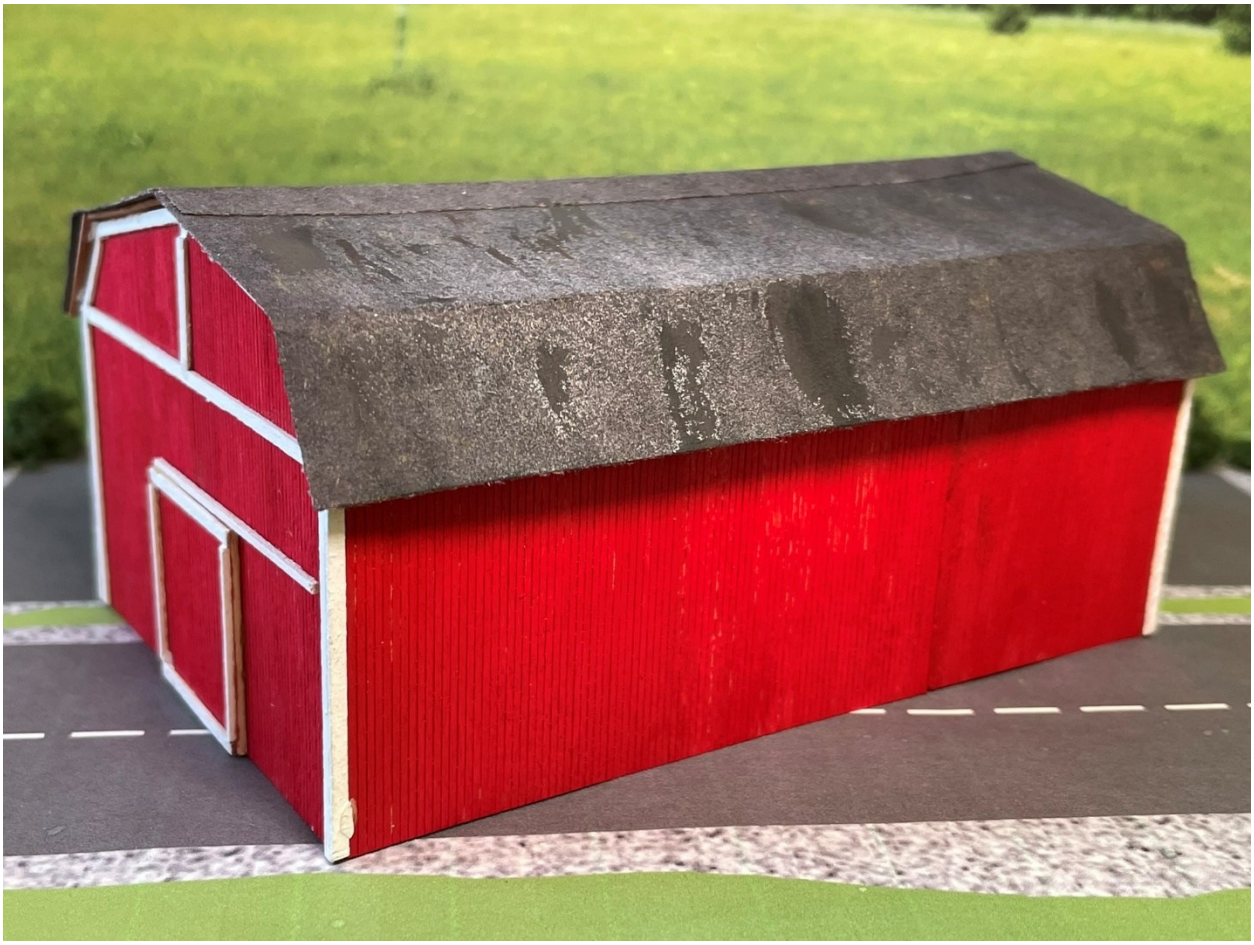
I applied black and brown chalks using a cotton Q-Tip stick. Most sources recommend using a bristle brush, which I have done in the past, but the Q-Tips worked fine for daubing patches of color on the roofs, and don't require cleaning for re-use. I also added some brown chalk to the tires of the tractor, to make it look like it had been out in the fields.

As a final touch on the barn, I added a Hereford Cows sign from Blair Line on the wall next to the door and a Waynes Feeds decal from Dave's Decals further down the wall.

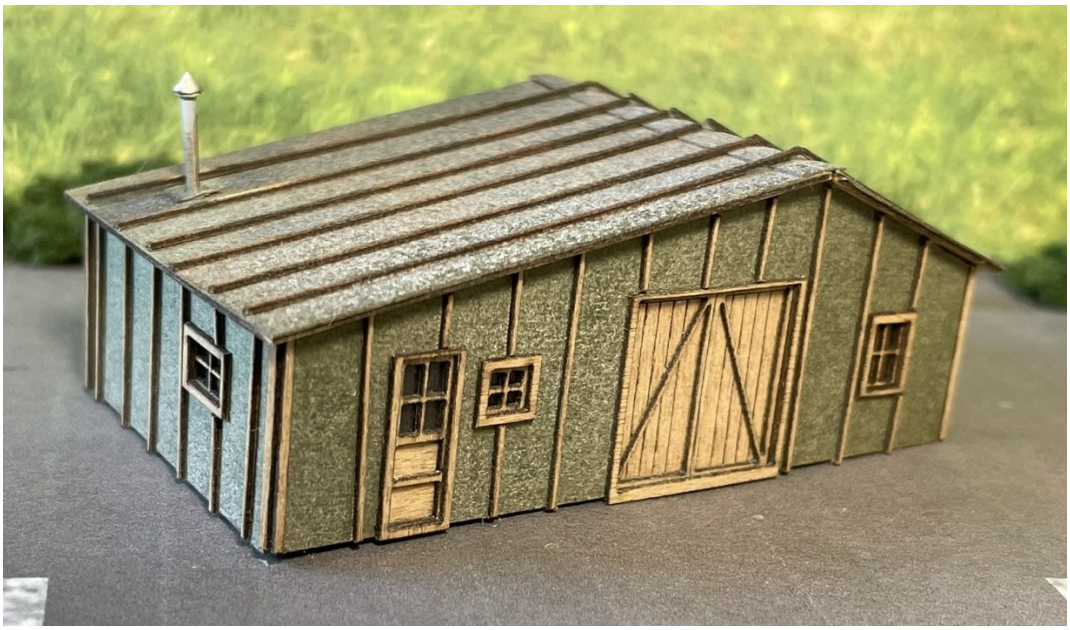
With all of the detailing complete, I sprayed Testor's DullCote on all four buildings to protect the weathering chalks and decals on the barn and to reduce the paint gloss on the house and garage. Here are closeup photos of the four structures before placing them on the module, using the usual N-Circle projects backdrop.

NWV_25-10-28_Farm_1

NWV_25-10-28_Farm_2



NWV_25-10-28_Farm_3_Cropped



NWV_25-10-28_Farm_4_Cropped

NWV_25-10-28_Farm_5_Cropped

NWV_25-10-28_Farm_6_Cropped

NWV_25-10-28_Farm_7_Cropped

NWV_25-10-28_Farm_8_Cropped

The weathering chalks do not show up well in these photos and the barn roof and shed show some white chalkiness from the DullCote which is emphasized by the LED light used for the photos. It was not as noticeable on the shed in natural light, but it was on the barn roof, so I repainted the whole roof surface with dark grey paint. The DullCote may not have reacted well with the paper roof and it may have been too cold in the garage when I sprayed it. But the roof looks better now, as will be seen in the later final photos.

And I liked the look of the shutters on the farmhouse, so I did add them to the Rectory from Update 26, as seen here in this updated photo of the N-Circle layout. The advantage of never actually attaching a structure permanently to the N-Circle layout – it was easy to put the Rectory back on the workbench and glue on the shutters!

N-Circle_25-10-28_Rectory_1_Cropped

This will be a simple farm raising beef cattle and having placed a Hereford sign on the wall above, it needed Hereford cows. Therefore, I painted some 3-D printed cows produced by igmakes to be Herefords. I first painted the entire cow brown, to be sure that there would be no patches of the grey plastic showing through. I used Tamiya acrylic Flat Red Brown, which was a little darker than a Hereford, but I thought it would be close enough. I used a micro brush as in Update 15 to be able to easily cover between the legs. The most difficult part is how to hold these tiny figures without ending up with them stuck to your fingers during the initial full-body coat.

However, after the paint was dry, it was clearly too dark. Therefore, I applied a second coat using Polly-S Rust with a few drops of the Flat Red Brown mixed in. This came out better, though there probably should be a bit more red color mixed in. But this time: “close enough.” The only time I can imagine the color matching on these cows will be an issue is if we include this module in our annual display at the local county agricultural fair…

After the brown paint was dry, I added white on the heads and underbellies. The border between the brown and white is different from cow-to-cow on real Herefords, so this does not have to be as exacting as applying striping on a diesel locomotive! But if you are really paying attention, the ears should be left brown, and the tip of the tail should be dirty white!

NWV_25-10-31_Farm_Cropped

I later added eyes with a tiny drop of dark paint applied with the tip of a metal straight pin. A day later the white paint cracked on some of the heads and underbellies, perhaps it was too thick, but it is not too noticeable.

As with the Fast Food Restaurants module described in N-Circle Update 28, after the buildings and most of the detail pieces were completed, I started adding ground cover using Woodland Scenics Scenery Cement and standard techniques for scenery. Again, I started by using official Kato ballast between the mainline tracks to match the color of the roadbeds

I decided to have a road running next to the tracks like the modules discussed in N-Circle Update 28, though dirt this time, as this is a rural scene and these modules will not necessarily be placed adjacent in display layouts. But I used the same 55 mm road width separated by about 15 mm from the railroad track roadbed.

Here we see the buildings placed temporarily on the module to then lay in the gravel road and driveways.

NWV_25-10-29_Farm_Cropped

We of course now need a barnyard for the cows. For this, I created a “micro scene” like the construction scene in Update 20, where small figures and scenery details are glued to a solid styrene sheet, which cannot be easily done on the solid wood surface of this T-Trak module or the Power Point printed paper sheets on foam core board which cover most of the N-Circle layout.

I used a laser-cut wood fence kit from Monroe Models, kit 493-9310. The kit comes with more length than needed for this module, so I built a barnyard for the farm on the N-Circle layout at the same time, as that was why I bought the fence kit in the first place.

NWV_25-11-02_Farm_1

The first step was to carefully measure out the dimesons for both styrene sheets, based on alignment to the respective barns and nearby roads or railroad tracks and placement of gates to enter the barnyard from logical points in the scene. Here we see the sheets laid in place for alignment verifications.

NWV_25-11-04_Farm_2_Cropped

NWV_25-11-04_Farm_3_Cropped

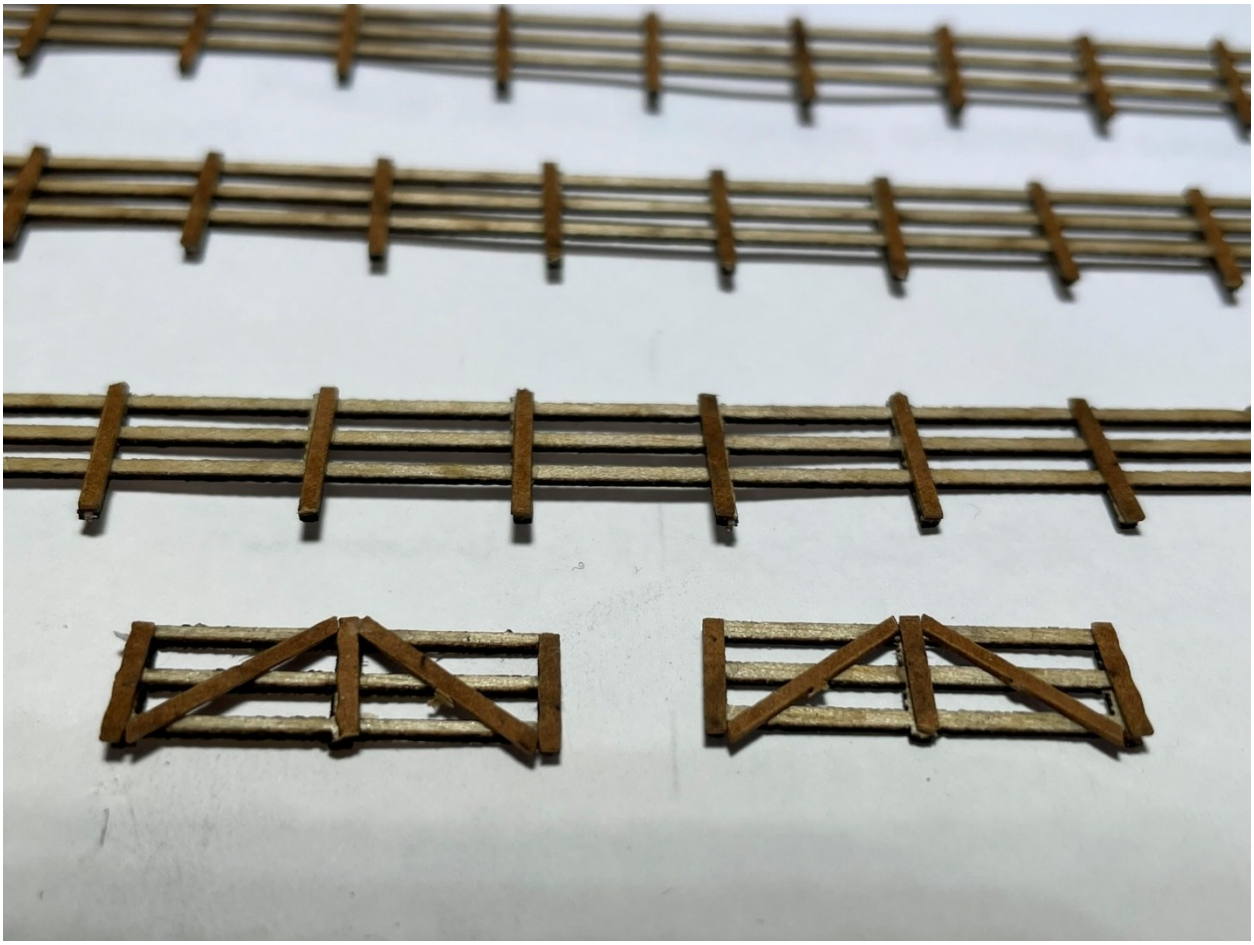
The next step was to cut the fence sections from the wood sheet. With a sharp hobby knife and patience, this can be done fairly easily without damaging the pieces. The next step is to glue faces on both sides of each vertical fence post, to create posts thicker than the horizontal fence boards. For this I used white glue and a fine-point wood toothpick. Apply all of the posts on one side and let them dry before turning the sections over to do the other side. Otherwise, you will most surely dislodge the first set while doing the other side.

The diagonal boards in the gates are a special challenge. The pieces were about a half millimeter too long – a tiny amount, but enough to make them not quite fit between the vertical posts without increasing their angle.

The kit comes with only two gates, and I wanted four total for both barnyards. Fortunately, you can create a gate by shortening the posts on a standard fence section and there are extra diagonal pieces in the kit for use on corner sections.

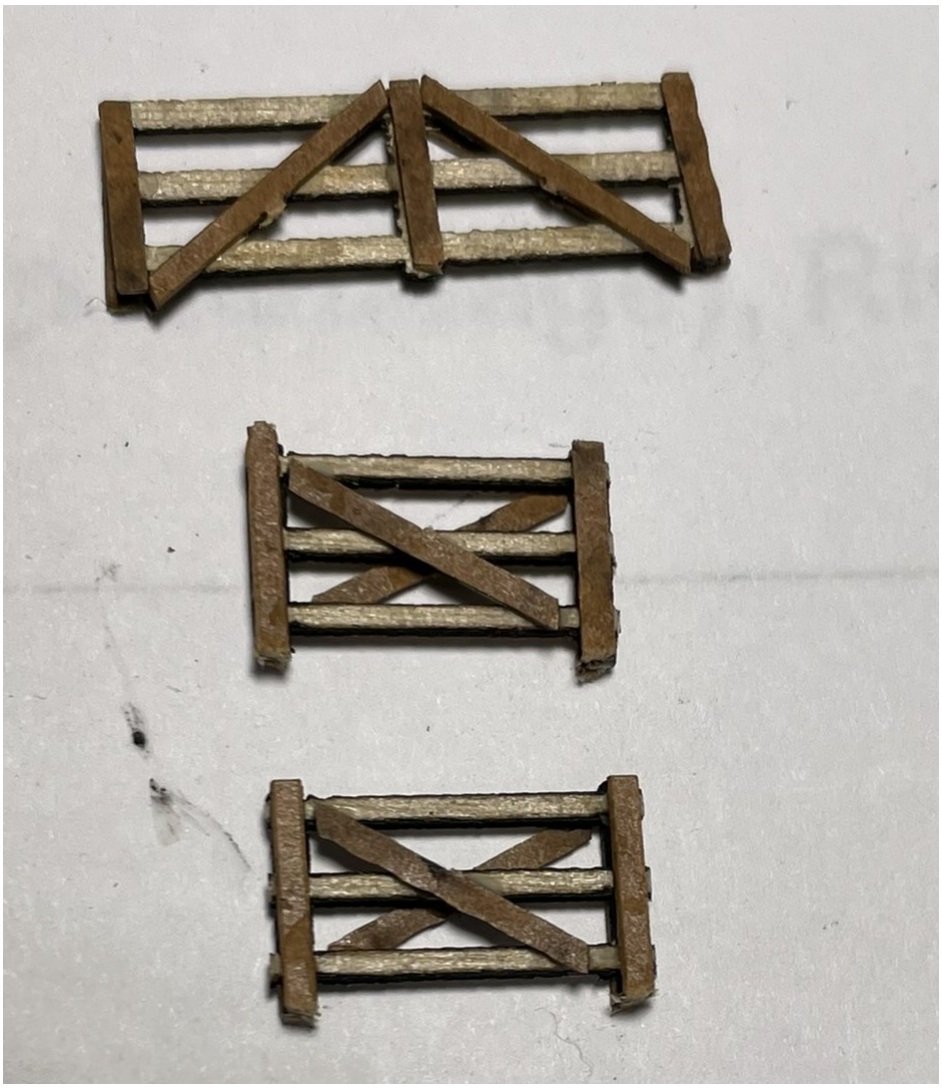
Here we see the sections after adding the posts on one side.

NWV_25-11-02_Farm_3



I wanted a couple of half-width gates on the ends of the barnyards where people would pass through but not cattle. For these I cut out one segment of the main fence and added diagonal bracing. The diagonal boards in the kit are not quite long enough for this purpose but are “close enough” as seen here.

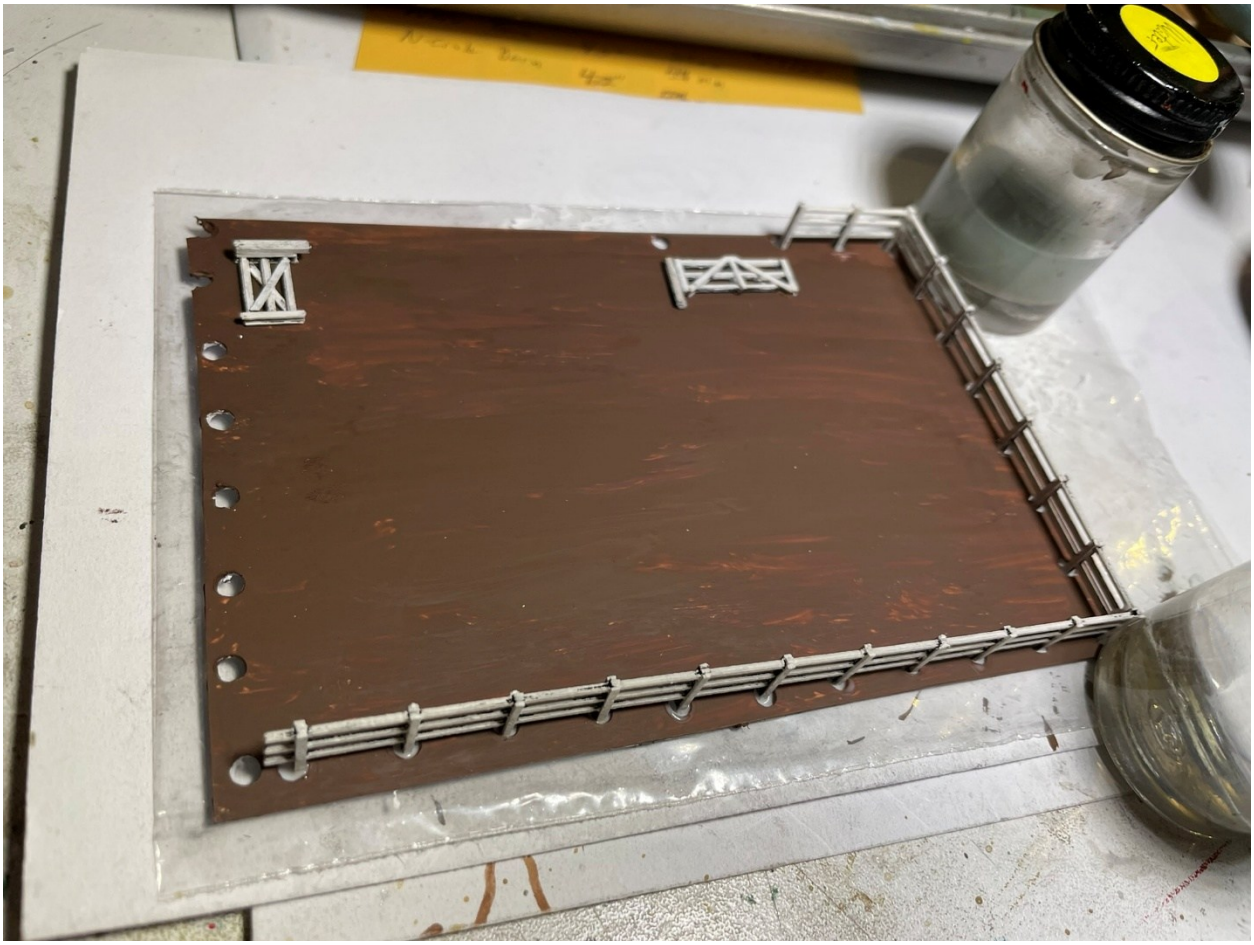
NWV_25-11-04_Farm



I painted the fence with acrylic white paint to match the trim on the barn but applied roughly so that the wood shows through in places, creating an easy “weathered” fence look. The wood fence sections did not warp due to the paint, so that was good.

I drilled 1/8-inch holes in the styrene base for the fence posts. This is larger than the size recommended in the instructions necessary for the size of the posts, but allows some alignment tolerance if your holes are not perfectly aligned to the fixed increment in the fence sections – which mine were not… After painting the styrene with a brown underlay. I attached the fence sections by placing the styrene sheet on a plastic bag, then filling the holes with white glue before inserting the fence. The plastic bag prevents the whole assembly from being glued to the workbench and is easily peeled off the back of the styrene. A couple of water bottles held the sections vertically in place to dry.

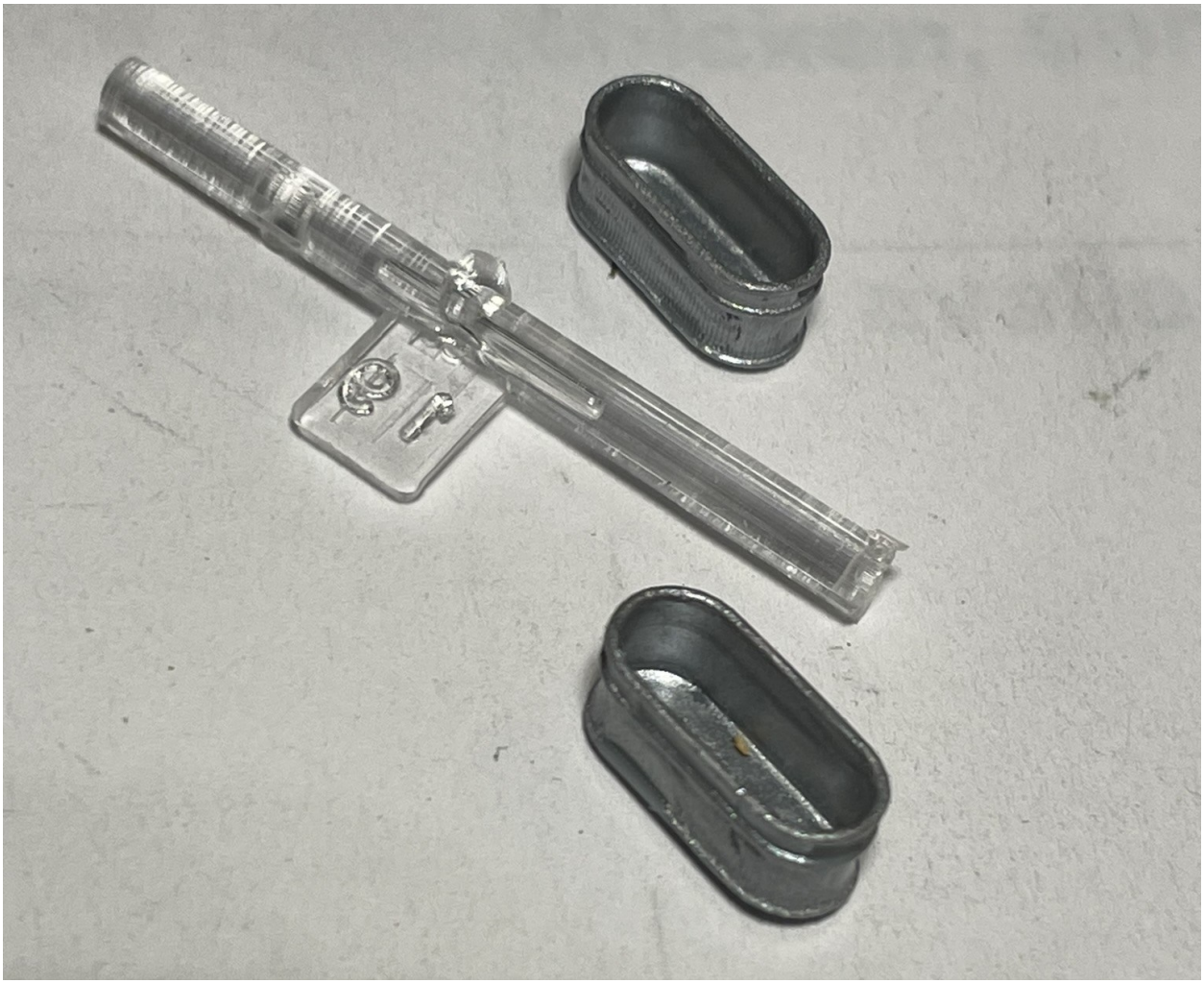
NWV_25-11-07_Farm



While the glue partially filled in the extra space of the holes, I added more glue later where holes had not filled in, then added more brown paint around the post bases. The later addition of ground foam will further disguise the holes.

I added 3-D printed watering troughs painted silver. I filled them with Kristal Klear to look like water but first placed a piece of clear plastic sprue in the bottom, to reduce having to consume Kristal Klear to fill the whole volume. From directly overhead one can kind of see the outline of the sprue, but if you don't know it's there, from normal viewing, it looks like a tub of clean, clear water!

NWV_25-11-05_Farm_Cropped



I added some earth-colored ground turf around the gates and watering trough, then glued the cows in place to the painted styrene using superglue and allowed them to dry before adding green turf around the cows. I did not apply the turf for total coverage, to look like a somewhat muddy yard where a lot of cows have been walking around. While it is probably better to glue the cows in place before applying the ground foam, the trick is not then to end up with green cover on the cows! When this occurs, remove it with a soft pointed wood toothpick before the scenic cement hardens.

In the end, two cows are enjoying a cool drink of water, one looks like longingly out the gate, while four appear to be waiting to see the next passing train!

NWV_25-11-11_Farm-2_Cropped

I did not extend the barnyard all the way to the edge of the module, as it would be easy to damage this delicate fence while transporting the module. So, like most model railroad layout scenes, this farm is a “compressed scene,” with an unrealistically small field for the cows, no equipment sheds to store field implements to go with the tractor, etc. But hopefully it captures the feel of a small rural cattle farm.

Here we see the barnyard for the farm on the N-Circle Railroad layout. This is a dairy farm, so the yard is full of black and white Holstein cows, with a couple of brown and white Ayrshire cows that I painted from the set used for the Hereford cows above.

N-Circle_25-11-14_Farm-1

Here again, this “compressed scene” has the cows very close to a mainline railroad – not good for calm cows and milk production! But it creates a scene that portrays the overall intent of a small dairy farm.

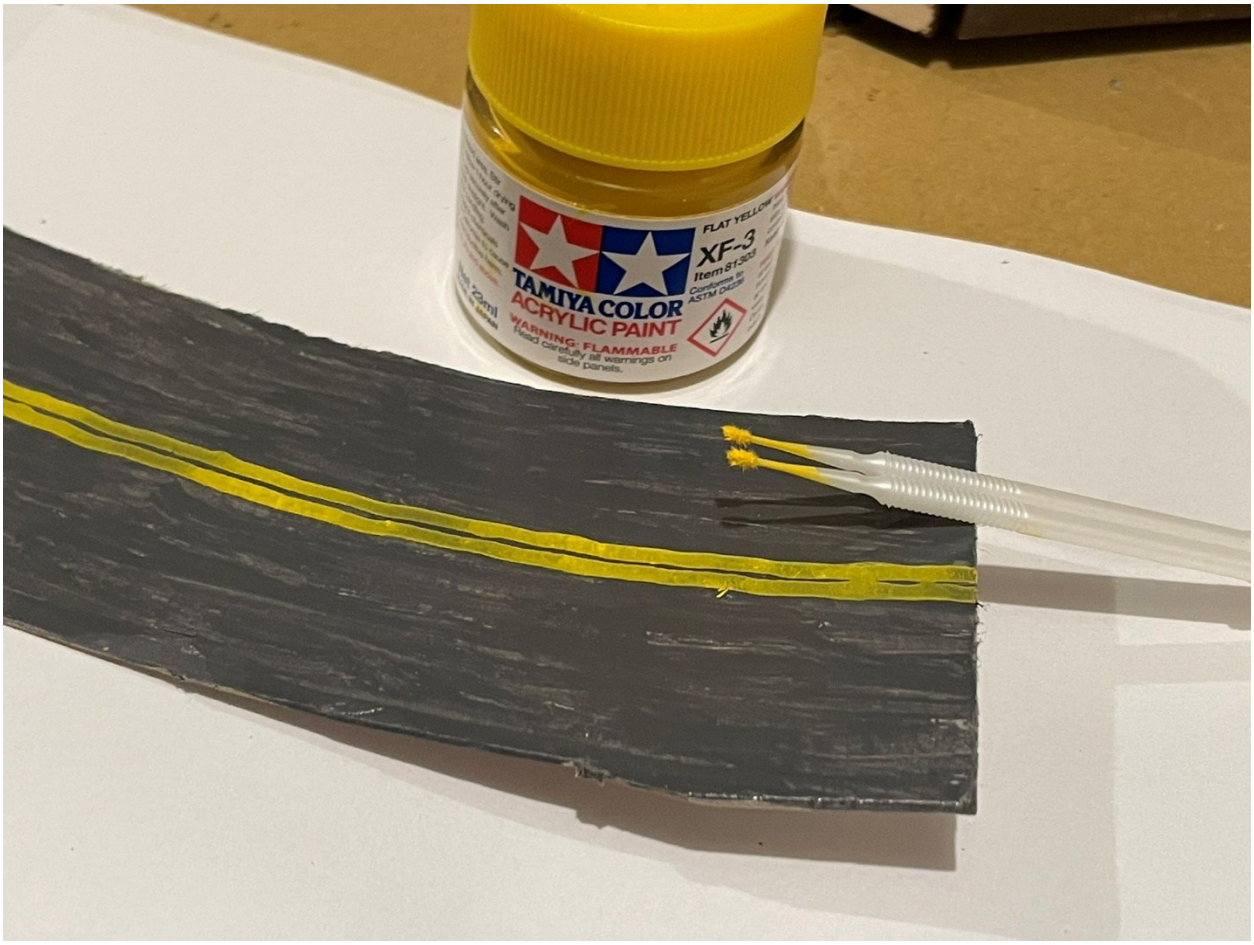
So…in the end, after multiple hours of glueing double faces on the fence posts and all, do these laser-cut wood fences look better than a plastic fence with its details all precisely defined and aligned in the molded pieces…? Hard to say…

After further thought, I decided to replace the gravel road parallel to the tracks with a paved road, consistent with the modules discussed in N-Circle Update 28. I cut the arc for the highway from thin carboard, allowing a 15 mm ditch between the railroad track roadbed and the pavement, and a 55 mm wide road. I painted the road first with an acrylic medium grey, then added a dark grey for accents on the edges and center, where the pavement would not be as worn, with lighter “dry brush” strokes in the wheel travel paths, to let the lighter grey show through for a worn look there.

The street on the fast food module in Update 28 was printed from a Power Point sheet, so the double yellow line down the center was easy. But creating a similar overlay for this large radius curve would not be easy. Therefore, how to paint the centerlines? I came up with the “double-headed paintbrush”! Two micro brushes taped together produce a 6 mm outer edge spacing of the two lines, a bit wide for an ideal 4 mm N-scale centerline, but “close-enough.”

Here we see the brush and the end result – not great, the clean, crisp striping on my N-Circle Railroad Power Point streets is much better. But at least with the double-headed brush, where there are squiggles in the two lines, they track together!

NWV_25-11-13_Farm



In retrospect, a better technique would have been to cut a piece of cardboard to the radius of the center of the highway and use that as a solid guide for the brush around the arc. Next time…

I scraped off most of the gravel where the road will go with a 1-inch putty knife. This was fairly easy. I did not take it all the way down to a perfectly clean surface, I just needed an even surface to glue the cardboard strip to. Here we see the highway glued down with weights in place to keep it flat.

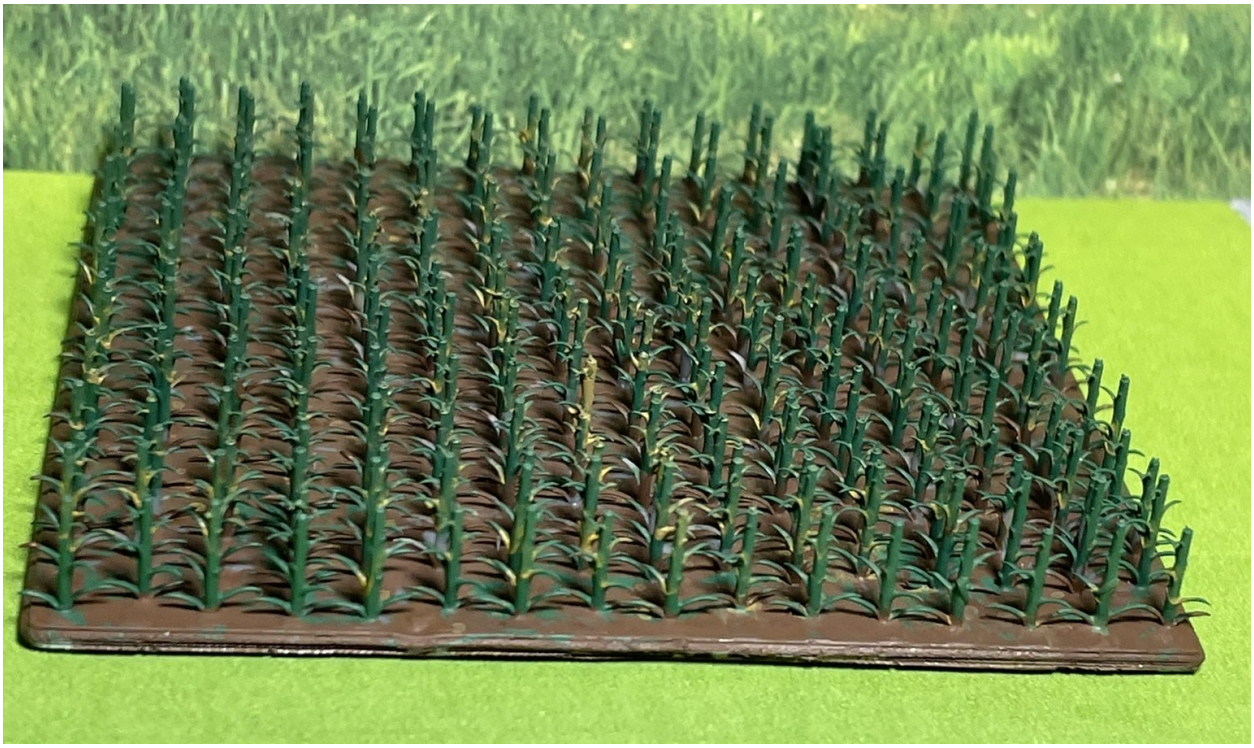
NWV_25-11-14_Farm

I added a 3-D printed corn field recently purchased from Whistle Stop. Unfortunately, while most 3-D printed detail parts have very nice detail, the vendors rarely provide guidance on how to paint them to look like the photos in their advertisements.

This corn field was a challenge. I used a micro-brush to paint the base earth brown first, as the narrow neck of the brush allowed reaching through between the rows of stalks. This process might be easier using an airbrush – just paint the whole thing the base color, as you will paint the corn afterwards. To paint the green corn, I found it worked better to use a small traditional bristle paint brush, as the bristles would splay out, applying paint to all of the stalk and leaf

surfaces. While the end result is not a very convincing corn field, it will add some visual interest to the module.

NWV_25-11-11_Farm-1_Cropped.



To create some topology on the module, I added a hillside to fill the corner behind the buildings. I carved the shape from packing foam, then covered it with Sculptamold mixed two parts Sculptamold to one part water, pressed over the foam base and smoothed with fingers. I painted it with the same dark brown as used elsewhere, to disguise any gaps in the ground foam applied afterwards.

I applied Woodland Scenics earth and green turf blends using Woodland Scenics Scenic Cement and standard techniques which can be found in many places on the web, so I will not repeat the details here. On most surfaces I brushed on a layer of cement with a 1/4-inch-wide brush, sprinkled on the turf, then added a soaking overlayer of cement with an eyedropper. While most flat surfaces are green grass, I used a brown blend on the hillside to look like dead leaves and needles from the trees.

I used pre-made trees purchased through eBay from Sky and Land Scape and from Trainscapes and Collectibles. The pine trees on the hillside had very small trunks, so it was easy to dip the base in some white glue, then press them into the Sculptamold and foam. I had to drill holes into the wood module top to attach the larger elm trees behind the buildings.

I added three utility poles from Model Power between the highway and tracks. They were just solid brown, so I painted the insulators white before drilling holes in the module top and glueing them in place.

I placed the other 1996 Taurus purchased for the Fast Foods module on the roadside with a photographer figure – “Hey, isn’t that those NWV railfan guys from Update 28 again?!”

NWV_25-11-18_Farm-1

Lesson to be learned: when we later placed this module in the NWV’s layout, on the first round of track cleaning, we knocked off the photographer in this scene. We glued it back in the same position for now, but if we knock it off again, we should re-attach it on the other side of the car. So never place delicate scenery details too close to the tracks where you will be rubbing a cleaning block. And yes, the railfan shouldn’t be that close to the railroad’s mainline property in the first place!

Next came one of my custom painted 1980s Wayne Feeds trucks from Update 13, with the farmer next to it, talking to the driver. A sharp-eyed observer will note the Wayne Feeds sign on the side of the barn in the barn photos above – the farmer is a loyal customer! A modern Wiking John Deere tractor in the yard completes the scene.

NWV_25-11-18_Farm-2

In a moment of remembering Vermont farms from my childhood, I couldn't resist adding a couple of junk cars in the foreground field. These are low-quality cars from an old Bachmann auto-rack rail car. I repainted them in dark grey to cover their original garish colors and added Kristal Klear windows and a few details and rust patches. They are glued down securely, as they may be the first thing exuberant children reach for on the front when viewing the module!

A couple of modern cars from Herpa provide the farmer a car and traffic on the highway.

NWV_25-11-18_Farm-3

Here we see an overhead view of the completed module. The nameplate on the front is the same design as on the module in Update 28, using a plastic plate from eBay, with graphics designed in Power Point. As can be seen in some of the previous photos above, I actually attached this to the module before adding the scenery as it is easier to turn the module on end to attach the nameplate before all of the scenery is in place.

NWV_25-11-18_Farm-4

And in this final photo, we see the finished module placed with others in the NWV's layout. The blue-sky backdrop is the back of another module placed-back-to-back to this one. A convenient coincidence for this photo!

NWV_25-11-19_Farm-1

This module required about 42 hours to complete over 84 sessions of work, not including the time to assemble the wood module base and the sub-scenes for the N-Circle Railroad layout. Significantly more than for the smaller and less complex Fast Food module described in N-Circle Update 28. Much of the time was consumed with building the barn and detailing the other three structures, as well as creating the detailed barn yard and cows.