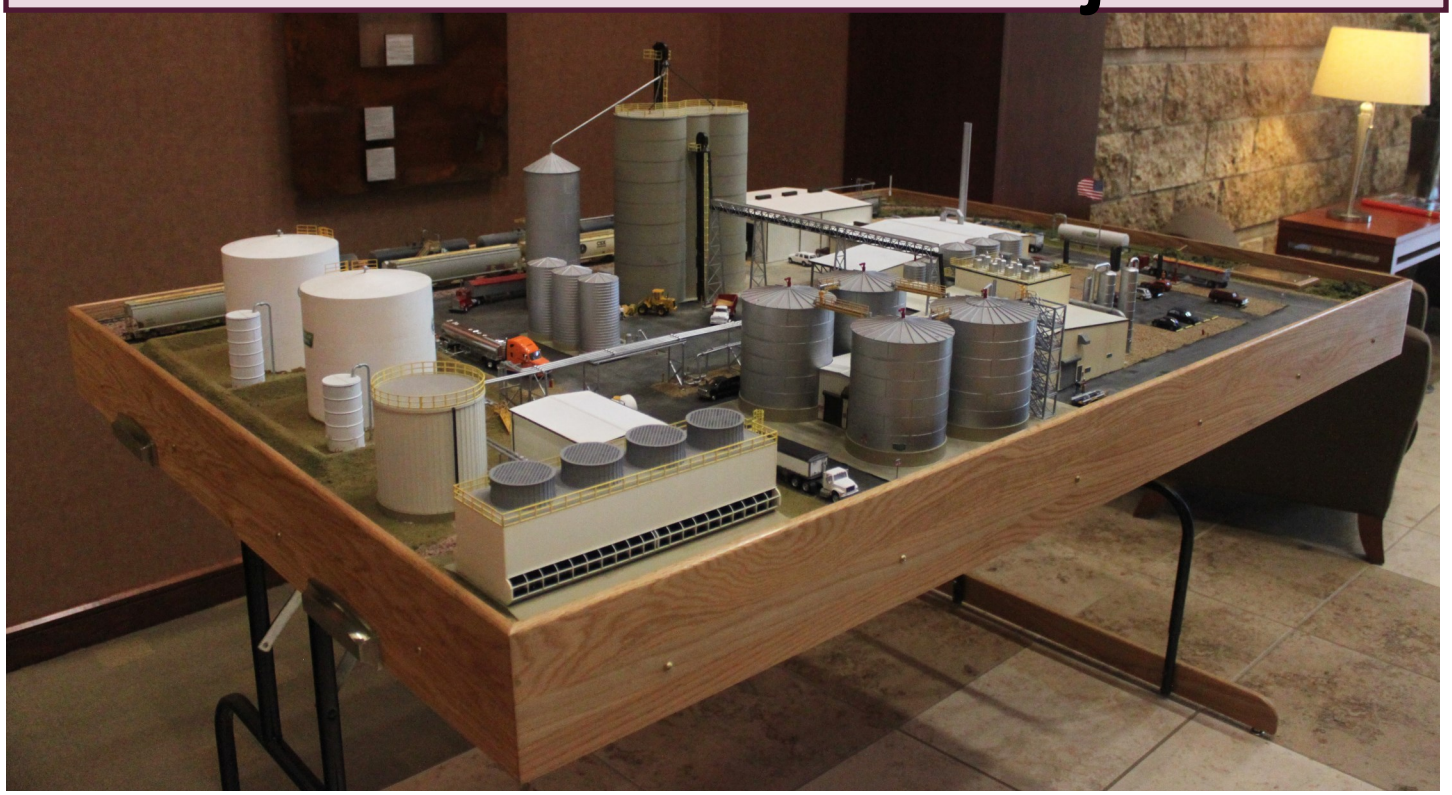
Thousand Lakes Region National Model Railroad Association

The FUSEE

Volume 70 Number 1 www.thousandlakesregion.org Fall 2022

The Ethanol Plant Project



This photo was taken before the dome was placed on the exhibit. The storage tanks, cooling tower, and facility maintenance shop are in the foreground with the fermentation tanks and processing facility behind those facilities. (Manning photo)

Jay Manning
Photos as credited

INTRODUCTION

The Dakota Southeastern Division of the Thousand Lakes Region, National Model Railroad Association was approached by a representative of the Poet Corporation in late 2013 and asked if we would be interested in building a model of an ethanol plant. The purpose of the model was education, lots of overhead and ground level pictures exist of ethanol plant but there is no complete model that shows entire process of making ethanol. One of the primary purposes of the NMRA is to support educational activities that involve railroad related activities. Every ethanol plant is supported by railroads. The sponsoring organization would provide all of the materials needed to build the model and make a contribution to the DSED treasury upon its completion. Discussion within the Division resulted in sufficient interest being expressed to accept the offer. There were no members of the Division that had any experience with the ethanol industry, but lots of members enjoy building projects as part of their model railroading hobby. The Division knew that Walthers Corporation was marketing buildings and support structures for what appeared in the advertising to be an entire an ethanol plant.

RESEARCH

Before and during the building of the diorama a great deal of research was conducted in order for the project to be a realistic depiction of the process of receiving corn and delivering ethanol for transport and disposal of the bi-products. We requested a tour of an ethanol plant from the project sponsor American Ethanol Association. They arranged a tour of a POET plant. That request was honored. We were welcomed by the plant manager in Chancellor, South Dakota and given a detailed tour of the outside of the facility and grounds. Every question we asked was answered and pictures were taken. The plant supervisor was in charge of the construction of 3 POET ethanol plants and allowed us to take pictures of the pictures he

View from the Cab

President Art Suel

I am writing this column two days after returning from the NMRA National Convention in St Louis. This first convention after the pandemic was planned in about a year's time. Not the normal three-to-four-year planning cycle. Excellent job by the Gateway 2022 committee. At the convention, the NMRA announced a new Special Interest Group, Women in Model Railroading. This is demographic the NMRA is reaching out to attract members. There were quite a few women present in St Louis and their contributions to our hobby will be immense. Some have already been modeling solo or with their significant others. Let us make them feel welcome in our divisions and region.

Second message I heard from a few national officers was getting new members involved. Involved new members need to be welcome and, in some cases, prodded to our events. Once involved, the hood of renewal increases. Division Superintendents reach out to the new members when you get the monthly membership reports.

Now on to the convention highlights for me. The first day I visited the National Museum of Transportation. Wow it was great seeing all the railcars and engines on display. I even went thru the building housing the antique car collection. To get to these collections, I had to go up a switchback set of ramps from the visitor center. It was about 70 feet change in elevation, but the temperature was 94 degrees with a heat index of 103. Whew, it was hot.

The next day was spent on self-guided layout tours. I toured nine layouts; all were tremendous and located in the basements. A couple of the basements did not have A/C and it was muggy. Why, the previous day I thought it was hot but Monday the heat index was 108. Getting out of the vehicle felt like entering a blast furnace.

Tuesday thru Thursday I attended clinics such as Jack Hamilton, MMR (the tool guy). He had two consecutive time slots for this clinic. He gave a 298-slide presentation on his favorite tools. He estimated he has 1000 tools. I attended a clinic given by a professional artist on painting backdrops. From the tips she gave, I think I will try painting a backdrop this winter.

While getting breakfast on Thursday at the hotel buffet, I chatted with Michael Gross. He was the keynote speaker at Saturday's banquet. I heard it was excellent. He took the time to chat with modelers at clinics and at the train show.

Finally, we get to the train show. Smaller than usual, but a good effort to have it. The last train show was in 2019 at Salt Lake City before the pandemic hit. I found a few items to bring home for the winter. I need to offer my congratulations to the St Louis committee who planned this convention in less time than normal. Usually there is a three-to-four-year time span to manage the preparations. St Louis jumped in when the Commonwealth Games canceled the Birmingham Convention.

Next year is in Dallas Fort Worth at the Gaylord Texan Resort and Convention Center. Its looking good that I will make the trek there especially as there are few basements in Texas. Well, that is enough for now, time to go the layout room and get to work.

had in his office of the plants that he had served as the project manager during construction. In discussing the receipt of corn, it was noted that the plant originally got all of its corn trucked in but that because of a lean year 2 years ago, the ability to receive corn transported in rail cars was added to the plant Chancellor plant.

We toured the ethanol plant in Le Mars, Iowa as part of a convention about 4 months into the project. This tour included the control center and lab for the plant in addition to having the ability to walk the grounds and take pictures. During this tour we observed the loading of ethanol into rail cars and were briefed on the process by the operator loading cars that day. This plant was larger than the first plant visited and had the capability to deliver either dried distillers grain or wet distillers grain. Of particular note, pictures were taken of the probe system that measures the moisture content of the corn being received, the pumping processes, the loading of railcars, and the burn tower.

As the project progressed we started using Google Earth to look at numerous ethanol plants primarily in the Midwest. Of note in the pictures was the fact that some plants had gravel roads throughout the entire site, others concrete and/or asphalt. One set of satellite pictures was from a lower horizon with shadows clearly visible for all of the overhead equipment and support structures that greatly enhanced our understanding of the nature of ethanol plant makeup. In reviewing the pictures it was clear that the basic layout of all ethanol plants is generally the same.

We were privileged to have a briefing by a POET corporate official using numerous overhead slides to explain the entire process of making ethanol. Many questions were asked and answered. As a side note, now both of us believe we could make ethanol with little or no difficulty in our garages.

We visited the Wilson Trailer manufacturing facility in Lennox, South Dakota and were provided the opportunity to take pictures of finished truck trailers and receive a briefing on how the trailers are employed. In addition we were given a sales brochure that had single line drawings with dimensions of both the inside and outside of their various trailers. Lonestar models produced a model of a Wilson trailer years ago but we were told none were available. As a result, using the dimensions and drawings, 2 trailers were kit bashed for the project out of normal semi-truck trailers. Later contact with Lonestar Models concerning what we were building and our need for additional trucks resulted in them checking their warehouse for any left-over models—they found 3 kits which were provided to us.

Here are kitbashed semi-trailers based on Lonestar Models kits. (Manning photo)

Interviews were conducted with semi-tank truck drivers who transported ethanol as a part of their regular job. From those interviews it was learned that no pumping of ethanol at a plant can take place if the burn tower is not operating—the fumes are burned off in order to prevent explosions and that tank trucks must be loaded from the bottom rather than from the top. That rule was the result of a driver falling off the top of a truck in the middle of winter and dying.

The research aspects of this project went on until the last day of work on it. At that point we were looking at the accumulated pictures and literature to support the placement of signage at the entire facility.

INITIAL EFFORT

The dimensions of the diorama were initially developed using the Walthers Ethanol Plant kit dimensions for the various facilities making up a complete plant. A decision was made that the entire plant would fit on a 3X5 foot platform which was initially laid out on a 3X5 foot piece of 2 inch dense foam. Using two completed buildings, and their dimensions for the buildings yet to be built, Several buildings were constructed, and footprints of the others were cut out of poster board. When all of these were arranged on the 3X5 platform it was clearly apparent that there would no ability to have rail car service to the facility, no ability to realistically get transport trucks in and out of the facility, and no ability to get the necessary above ground piping in place. We went back to the sponsor and explained the dilemma and requested permission to expand to 4X6 feet. That request was granted since 4X6 feet would readily fit in the back of a delivery van.

THE BASE

We were informed that the diorama was going into a corporate headquarters and would be displayed at numerous conventions. The design of the base for the project had to incorporate enough structure to accommodate the many anticipated movements of the end product. Oak ¾ inch plywood was used as the platform and all of the wood in the platform itself was oak since it is strong and finishes nicely. The underside of the platform incorporates folding banquet table legs and a system for securing them for movements. An added piece of oak was used at the floor end of the legs to prevent it from tipping over when leaned on. Adjustable feet were incorporated to handle the situation of floors that were not level.

A layer of 1 ½ inch dense foam was glued to the plywood platform leaving 3/8 of an inch between the edge of the platform and the foam in order that a Plexiglas top could be used to cover the diorama. An oak border was constructed around the platform consisting of a 6 inch wide by ½ inch thick oak was used to the boundary around the exhibit. The boundary rises 2 and ½ inches above the top of the foam which adds protection to the exhibit. All of the oak was finished with multiple coats of Varathane varnish.

INITIAL LAYOUT OF THE ENTIRE MODULE

The defined platform for the project was now ready

for the incorporation of all of the buildings, piping, and roads. Using more completed buildings and the remaining poster board footprints, we were able to confirm that a diorama that told the entire story of an ethanol plant could be accommodated on a 4X6 foot platform. The diorama had room to include two track railroad service to the facility including a tank car filling operation, space for a coherent road plan that would allow trucks to enter and exit the plant as without making unusual twists and turns, space for a coherent piping plan, and room to add extras seen in person and on Google Earth to enhance the diorama.

BUILDINGS AND STRUCTURES
(Wes Garcia photo below)

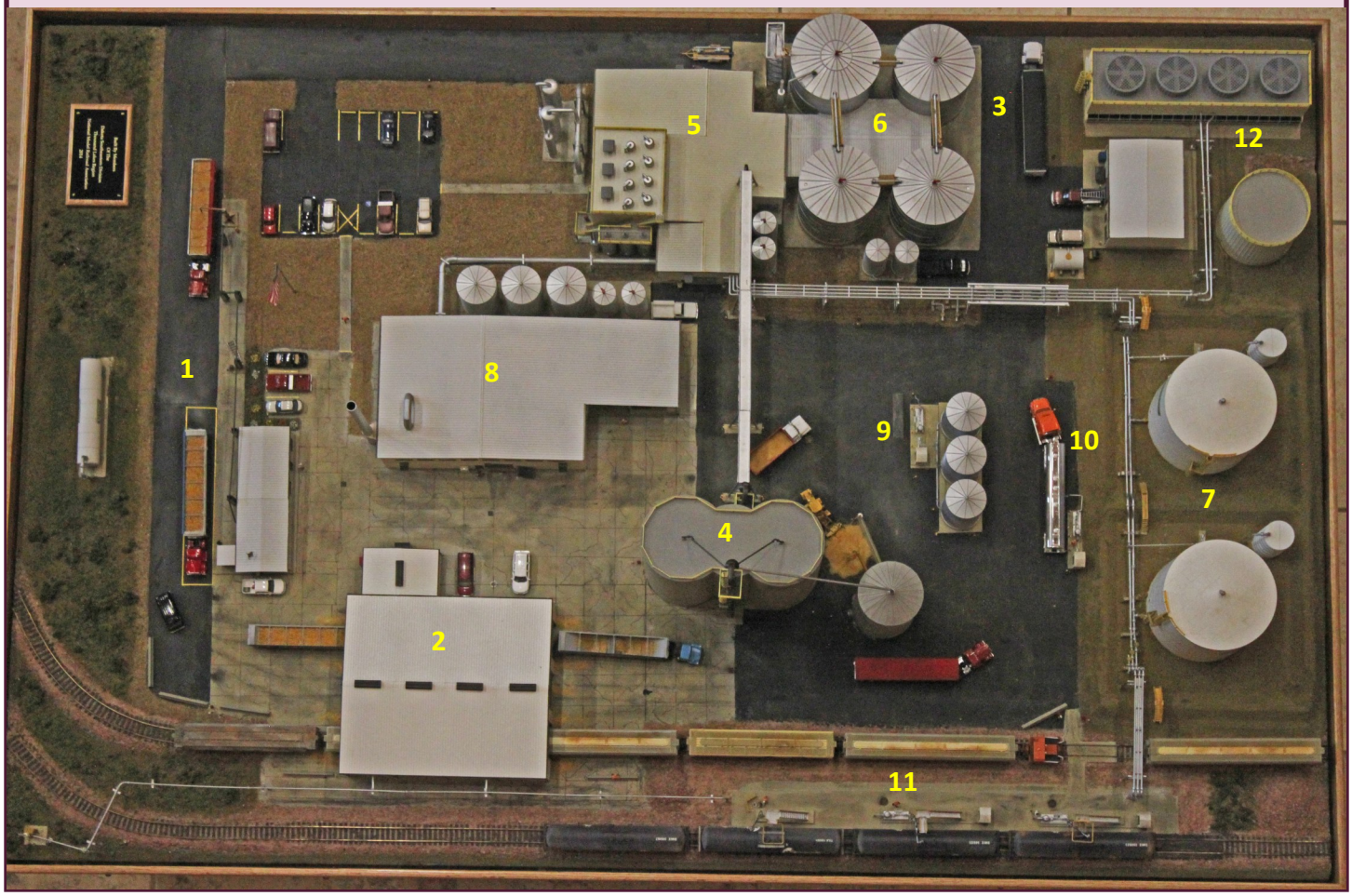
Research showed that every ethanol plant had the same basic buildings and supporting structures arranged in roughly the same pattern. See photo below. There is an entrance road (1) to the facility that has a tower with a moisture measuring system that each delivery truck must stop at, followed by a truck scale to weigh the truck prior to entering the receiving building (2) where trucks are unloaded. Payment for the load is based on the two factors, moisture content and weight. The basis for payment for diorama is that each truck making a delivery to this plant has been previously weighed empty so that it does not have to be re-weighed prior to departure. Once the delivery has been made, the trucks exit the plant via the exit by the facility maintenance office (3).

Each plant has a storage capacity (4) in order to receive corn on a regular schedule rather than on a just-in-time basis. The stored product is moved via a conveyor system to the processing center (5) where it is processed and prepared for transfer to the fermentation tanks (6). Once that process is complete, the product is moved back to the processing facility (5) for the extraction of the alcohol and the distiller's grain remaining is transferred to storage. (7) There is an energy center (8) at each plant to provide the required energy produce the ethanol. On this diorama the energy center has the capacity use wood chips or natural gas to generate the steam required. Each of the plants that we studied had differing arrays of supporting tanks on the grounds. The diorama facility does not have a license to ship pure alcohol so that it must be mixed with a denaturing product. That product on the diorama is received and stored in the 3 tank system in the center of the diorama prior to being mixed with the alcohol in the processing center (9).

Each plant requires storage capacity to store finished product prior to shipment, which are always inside a berm. Two tanks are shown in this diorama (7). The plant has the capacity to ship ethanol either by truck thru the truck loading facility located adjacent to the storage area (10) or ship by rail (11). The berms seen are provided with the Walthers tank kits as well as the pumping stations seen across the diorama. The berms we observed were uniformly covered with grass that was well maintained, as are the berms in this depiction.

Ethanol plants require a cooling tower to reclaim water from steam, capacity to store reclaimed water for reuse, and a maintenance shop. All three are located in one corner of the diorama (12).

The buildings and structures on this diorama are all kits available thru Walthers. The receiving facility and the office with the scale house are kit bashed structures based



on the Google earth depictions and our viewing of facilities in person. All structures were mounted on 1/16th inch styrene prior to being glued to the base. The arrangement of the structures was accomplished using the actual structures that were finished and cardboard footprints. Originally it was planned to have an electrical substation on the grounds of the plant, but there was no room for structure within the limits of the diorama. Electrical service is critical to ethanol plant operations, in this diorama the substation is located off the facility property and electrical service to the plant is via buried cable to the energy facility which controls distribution throughout the plant. Water is received at the tank facility located in the green space and piped to the energy plant using underground piping buried below the frost line.

A consistent color scheme was noted at both plants visited during the research and construction phase of the project. Commercially available spray paint colors were found that matched the colors we observed. We also noted that the buildings and grounds were well maintained. As a result, very little weathering was used in the construction of the buildings and equipment on the diorama.

RAIL SERVICE

During our visits to plants and looking at the Google pictures we observed plants with limited rail service, generally two tracks supporting the operation to a very large plant with a yard that was 8 tracks and 2 tracks for loading and unloading operated off the yard. We also observed that the trackage was not constructed and ballasted as main line rail is. We decided that within the agreed space we would use one track for unloading and filling grain cars and one track for loading out tank cars.

The road bed used was N scale cork since it more closely approximated what we observed. Three strips of cork create the width needed to serve HO scale track. Every plant we observed had curved trackage leading out of the actual facility; we put the curve in above the loading facilities. The track was ballasted with crushed pink quartzite which was obtained from a local rock quarry. When asked if we could have tailings from the quarry, the question was how much in tons. When informed we wanted a coffee can full, directions were given to get it ourselves!

The track supporting the unloading and unloading facility runs directly through the building. Rail cars are spotted inside the building over receiving pits that have a conveyor system that runs underground to transport the corn to the storage silos located on that side of the plant. Additionally, within the receiving facility is the capability to load out the distiller's grain byproduct of the manufacturing process. That product is transported via an underground conveyor systems either to the unloading/loading facility for loading into grain empty grain cars or to the storage silo located next to the incoming corn silos.

Three loading platforms for filling tank cars were incorporated into the layout. Because of Federal regulations, there must be a spill containment system where the tank cars are loaded. Using pieces and parts from a new loading platform kit as examples, a spill containment system was placed that runs the entire length of the tank car filling area.

Access to both tracks is controlled through the use of "Jersey walls" and plant regulations which require individuals not working at the facility to remain in their vehicles when on the grounds. Additionally, the facility has an operating rule that whenever tank cars are being filled, the access point to the tank car loading facility cannot be blocked. On the diorama you will note that the trackmobile is not blocking the access point.

The tank car loading platforms consist of three basic styles. The middle platform resembles the platforms observed at both Chancellor, South Dakota and Le Mars, Iowa. The first platform is the standard platform modified locally to add the additional protection barrier to prevent an individual from falling off a tank car when working in the loading area. This approach is used as opposed to an overhead system that requires an individual to be tethered to a rail running above the area. The first and second platforms have the filling controls as part of the platform system. The newest platform closest to the receiving building is a new concept being installed at this time that involves a centrally controlled filling station. This platform is still under construction with a discussion going on between an installer in the open manhole and the supervisor.

Piping for the filling system is located in a tunnel under the filling platforms as opposed to exposed above ground. This option was adopted because of the close proximity to the receiving track as a safety precaution.

The actual pipe used to fill the tank cars is a hinged pipe system that allows the filler pipe to be inserted into the tank car being filled. The middle tank car illustrates this process. The hatch was opened by using a jeweler's saw to carefully saw off the lid and raise it into its upright position. When exposed, it was discovered that the tank car still required drilling a ¼ inch hole into the car so that the filler pipe could be inserted. A ventilation system must exist to remove the alcohol fumes from the car when it is being filled to avoid the possibility of an explosion. After several unsuccessful tries to make the vent pipe out of heavy thread, it was discovered that thin solder was about the right size, held its shape and added strength to the filling pipe. At the actual sites it was observed that the vent pipe was secured to the filler pipe system and that there were joints in this vent pipe at regular intervals. The solder was attached to the filler pipe system, painted black and joints

The top tank car is being filled (the "middle" car referred to above). The raised pipes transport the ethanol to the loading facility over the tracks. (Manning photo)

painted on using chrome silver paint.
When filling a tank car, safety regulations require that the tank car be blocked and grounded. The car being filled on the diorama has its wheels blocked and a ground wire attached. The system filling the tank cart is being individually attended.

ROADS AND CONCRETE

All ethanol plants studied as a part of this project had limited access, usually one road in and one road out of the facility. Asphalt, concrete, and gravel roads were observed in various locations and in various arrangements at each separate plant. We made the decisions that all facilities would be built on a concrete sub-base and that the area encompassing the office structure, receiving facility and energy center would be surrounded with concrete roadways. The remainder of the central area would be asphalt and that the entry and exit roads would be asphalt. No gravel roads were depicted.

The entrance roadway was raised above the sub-base in order to provide for shoulders on the road. The remaining asphalt areas were first leveled and smoothed using patching plaster. Once the plaster was dry, it was sanded with 320 grit sandpaper in preparation for painting. Woodland Scenic asphalt paint was used to color those areas. When dry, it was too consistent and shiny to be realistic. A very fine clay powder was rubbed into the paint using our fingers to obtain a more realistic looking asphalt.

The concrete areas were achieved using Red Devil Patching plaster to raise the surface to match the concrete foundations for the buildings. Once the product had dried it too was sanded first with 150 grit sandpaper then finished with 320 grit sand-paper. The area was painted with Walthers concrete paint which produced a uniform new concrete appearance. All concrete areas were air brushed with a light coating of aged concrete paint. It still looked to uniform to accurately represent concrete. An HO scale 12 foot by 12 foot styrene template was built with a peg on top for easy uniform easy movement to be used to depict uniform expansion joint patterns. A Sharpie black fine point pen was used to draw around the template over all concrete areas to create the expansion joints needed for realism. Since this plant is not brand new, cracking in the concrete was randomly depicted by drawing in lines on a random basis. The concrete still did not have a weathered and heavily used appearance. The same fine clay powder used to age the asphalt was applied by finger to the entire concrete area to create the used appearance. Since there is a lot of truck traffic through the receiving building, tire tracks needed to be added going into and out of the building. An artist's charcoal pencil was first used to attempt to draw in the tire track without much success. Using 150 grit sand-paper, pencil charcoal was deposited where truck tracks were needed. One again the now reliable "finger brush" was used to rub the charcoal into the concrete to create the desired tire tracks.

PIPING AND CONVEYOR SYSTEMS

The actual location of piping to depict support to the facility was a large concern. In reviewing the structure kits only one pipe was depicted, the steam line from the energy center to the processing plant. The building kits all contain large quantities of piping and support structures, but there are no schematics as to what and where it want. Inquiry was made to Walthers which got an insufficient response. The Google Earth images studied showed many, many arrangements for pipes, tanks, and methods of installation. The best images used for a reference were of a plant with the sun on a lower horizon which resulted in reference shadows which gave us a handle on required piping.

The piping used in the diorama consists of piping provided in the ethanol plant kits and the piping available in the supplemental piping kit for a refinery. The steam pipe from the energy center to the processing facility had towers to raise it off the ground provided in the energy center kit. A water pipe from the energy center to the processing plant was added to the elevated structures.

The piping leaving the processing center is raised and supported on heavy stations. Four pipes are depicted as the main piping leaving the energy center, two to the cooling tower and two to the storage tanks. The two to the cooling tower consist of a steam pipe to the facility and a return water pipe to the processing plant. The other two pipes carry ethanol to the storage tanks. These pipes go over the exit road from the facility. A bridge under the pipes was added to support and ensure the safety of these critical pipes. Once across the bridge, the pipes containing the ethanol are brought down to ground level. The pumping system supporting the storage tanks is all located on concrete slabs as are all of the support structures holding the pipe.

Piping was required to transport ethanol product to the rail car loading facility. The piping rises on steel towers to be above the railroad tracks. Once again a small bridge was added to support the pipes over the railroad tracks. You will note that there are 3 pipes going over the bridge but only two currently in the distribution system. The third pipe is to support the expansion of the delivery system from two tank cars to 3 with the addition of the new computer operated third filling platform. Once the filling system is in place, the third pipe will be plumbed into the filling system.

The piping transfers liquid from the production building (lower left) across the driveway to the storage tanks (left) and eventually to the filling platforms (top). (Manning photo)

There underground piping to support the semi-truck filling station and transport denaturing product to the processing facility.

The elevated conveyor system to get corn from the storage facility to the processing plant was observed in numerous Google Earth images and supplied as a part of the storage system. The system depicted in the diorama matches the shadows seen on the previously discussed use of the Google Earth images. Product is transported from the bottom of the storage facility to the conveyor system via a vertical conveyor. Product coming from the receiving facility is transported from the underground conveyor system to the vertical conveyor taking it to the top of the storage facility. That receiving system also has the capability of transporting distillers grain received from the processing facility to the top and into the pipe that is attached to the distiller's grain silo.

The distiller's grain silo has a small conveyor system that allows product to be delivered to the ground next to the storage facility where it can be loaded using the front end loader onto trucks provided by firms and individuals wanting limited quantities of the product.

BURN PIPE AND GAS TRANSPORT SYSTEM

Ethanol cannot be loaded into railcars without a ventilation system to pull the vapors from the vehicles being loaded in order to prevent explosions. The piping to the burn tower was observed as being located above ground. The burn tower on the diorama is located in the far corner of the facility away from the storage and filling stations. The vapor recovery system at the transport truck filling system is connected via underground piping to the underground recovery system piping at the railcar loading facility. It rises from the tunnel under rail loading facility and is elevated as it crosses both tracks in-route to the burn tower. We have learned that if the fire in the burn tower is not operating, no pumping of ethanol into transport vehicles, either rail or truck, can occur.

PEOPLE, VEHICLES, AND SIGNAGE

During the tours of ethanol plants one observation we made was that there was not a lot of people working outside the actual facilities at the plant. The individuals, for the most part, in this diorama all have a particular function that they are performing or in-route to perform. There are individual doing specific functions, for example, at the top of the fermentation tanks there are two individuals are doing air quality sampling as part of the effort to protect the environment.

The vehicles on the depicted premises are there for a reason. The trucks delivering grain arrive with the canopy rolled back at the moisture measuring station and it remains that way through weighing and delivery. Once a truck departs the delivery facility, the canopy is rolled back into place. The maintenance shop has its own vehicle. A pickup truck was modified to add a ladder rack and tool storage. The van at the maintenance shop is the maintenance supervisor's vehicle. Other than the 3 vehicles belonging to plant managers at the office building, every other vehicle on the diorama has a function at the plant.

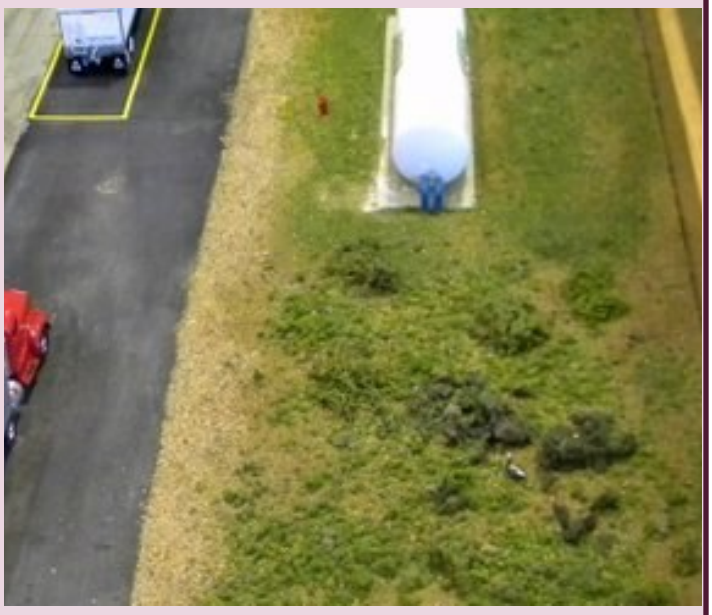
Signage ranging from the "private property no trespassing" sign at the entrance to the plant to the fire extinguisher signs throughout the facility were part of the numerous kits used in the construction of the diorama. The signs were mounted on thin styrene and then mounted on the buildings and sign posts. The American Ethanol signage was requested by the sponsor of the project. No decals existed to meet the request. The decals were custom made using the American Ethanol logo, decal paper and a laser printer.

FIRE HYDRANTS, DRAINAGE AND MISCELLANEOUS EQUIPMENT

Regulations require that an ethanol plant have numerous fire hydrants on the facility. Discussions with an industrial safety specialist told us how many and where they should be on the facility. Fire hydrants are to be approximately 100 feet apart. On the diorama all fire hydrants have a bright yellow post making their location for easy access in the event of an emergency.

With an area as large as an ethanol plant, storm drains are needed to receive and transport runoff water from storms. There are storm drains located throughout the facility.

We asked members of the DSED (Dakota Southeastern Division) to comment on the diorama as it was nearing completion. One member pointed out that there were no dumpsters to receive trash or soda machines for the employees to use. They were added. Another member pointed out that there was no handicapped parking place in the employee parking lot—it was added. A suggestion was received that a flag should be on a tall pole near the offices should be added, it was. An individual pointed out that the executive parking lot could use flowering bushes to break up the scenery—they were added. And lastly, a little humor was added to the diorama, 2 skunks were added in the grassy area by the incoming water tank—I wonder how many people will see them.



Can YOU find the skunk? (Manning photo)

When it was first finished and delivered to POET there were lots of compliments about the comprehensive display. The intended use was to display it to future investors in the ethanol industry, it has the complete process from receiving the grain, delivering it to the processing plant, generating the alcohol for shipment either by truck or by rail, and disposal of the expended grain residue. We were asked to go to the annual Iowa Farm Show in Boone, Iowa and be there to discuss the illustrated process. Poet had it shipped and sent to the show. Wes and I drove down to be with the display; we were about an hour out of

Boone when a huge thunderstorm went over the demonstration grounds. When Wes and I arrived there were no cars in the parking lot, just a lot of muddy water and muddy roads. The show was cancelled because lightning struck 2 elevated grain augers, so we headed home. About a month later we were to be with it at the Nebraska Farm Show held about 10 miles West of Columbus, Nebraska. As we approached the highway to the show site we encountered 4 state police cars with their lights flashing. We were not stopped so we proceeded to the site, the parking lots were huge lakes, there had been a massive downpour on the site the night before. The show was cancelled. It was decided that there was only one thing left for the weather, a tornado. We were not asked to go to any more farm shows. Afterward, we made one for the Dakota Southeastern Model Railroad. It was the second display of an ethanol plant that I built as a result of a donation from POET. I used lots of LEDs in this one. So having built two complete displays I have retired from ethanol plant projects!

Here are two views of the DSED Ethanol Plant built after the POET plant. (Manning photo)

Ian Plett
Photos by author

Ian was interviewed for a TMRS Radio show in 2014 because he had a HO-scale model railroad in his long-haul Semi. This is the transcript of the interview and photos of the layout (Ed.)

You CAN take it with you!
The Model Railway Show

Ian's Semi that had the model railroad. It was built in the top bunk area of the Sleeper.

A friend of mine used to joke "You can't take it with you…if you could, hearses would have roof racks". Well, maybe we will have to leave our trains behind on that final journey, but for our Earthly travels there are ways. Take our next guest for instance. Ian Plett of Winnipeg, MB is a long distance trucker. Who drives a Hwy tractor with a sleeper cab, and in that sleeper rides his model railroad. How clever is that? What a sterling idea. Wait a minute, Ian drives a Sterling.

A typical driving assignment?
Like this trip I'm leaving Saturday morning going down to Lebanon, IN and probably doing a trailer switch right back up to Manitoba.

Where did you come up with the idea for taking your model railroading hobby on the road?
A friend suggested I place a piece of track on my dash and run trains back and forth. I always thought there got to be a way to build something in the bunk area. That's where it started.

Other truckers no doubt try to personalize their space behind the cab, but what to they think of what you are doing?
I've had a few see it, mostly just friends. When it was pretty much complete I was crossing the border into the USA at Pembina ND. I had to go through the X-Ray. I have to stand in a separate room while the truck gets X-Ray. Once done they sometimes jump in the cab to look around, this time one Officer jumped in, then gets out and calls over another Officer, he jumps in and out, by the time the third Officer climbs in I knew what they where looking at. Then they call me over and ask about what they saw. That's the first time they've seen something like that and thought it was pretty cool idea.

How big a space does it occupy? Describe your layout?
Size roughly 7' x 6'. The layout sit a top the top bunk area, the layout has been in two different truck over its existence. The layout had to be removable, so it was built in section. It was built in three section. The section that spans the two side wings which crosses over opening between the cabinets to access the driving area I used 2-4 C-clamps to hold it place.

Track plan?
The track plan started similar to the Time Saver, I believe it had 4 stub ends and 1 run around so cars could be place it certain location. Its only a matter of time and you get bored of that. I was using Bachman easy track for the planning stages of the layout. So it made it easy to figure out what would work and wouldn't. The track plan is one loop around the outer edge of the bunk with another half loop across the back portion above the bed. There is one spur off the inner half loop. Pretty basic, nothing fancy here, that's for the home layout one day.

This is the back loop of the layout.

What sort of materials is it built from and what sort of problems did you have to so solve to install it inside your fiberglass sleeper?

I had to make some metal plates to offset the mounting brackets built into the bunk walls. From them I used 2x4 to build the structural frame work. On top of the 2x4 I laid ¾" plywood, Using 2' long 90 degree angle brackets I secured the plywood to the 2x4 frame. I then glued down 1' pink foam. I used cork road bed cause sound wasn't an issue, Code 100 rail was used. One other problem is the layout is in an uncontrolled environment especial when at home, either to cold or to hot, plus humidity. I would have to clean the rails every time I wanted to run trains.

Do you get long enough break periods to actively model railroad, and what's your energy level like after 11 hours of coping with traffic?

Usually after a full day of driving there wasn't much energy to run trains

How are you spending your off-time with the layout… building it or operating it.

I usually do most of my scenery or running trains when I have to kill time waiting to get loaded or unloaded or if I had a layover.

Your scenery looks simple but well executed. Are there any environmental factors that dictate how detailed you can make this layout? I'm thinking what a rough road might do to it. The more detailed, the longer the set up I suppose. You must have to pack all the loose bits up for highway travel.

Yes the scenery is very basic but it mostly for my viewing pleasure. I had to use a lot of glue to deal with the cold and bumpy roads. The building stay put, I used finishing nails placed in the corners of the building to keep them from moving. The cars, picnic tables and any other small items get removed for travel. And of course the engines and rail cars get removed otherwise they will take a tumble off.

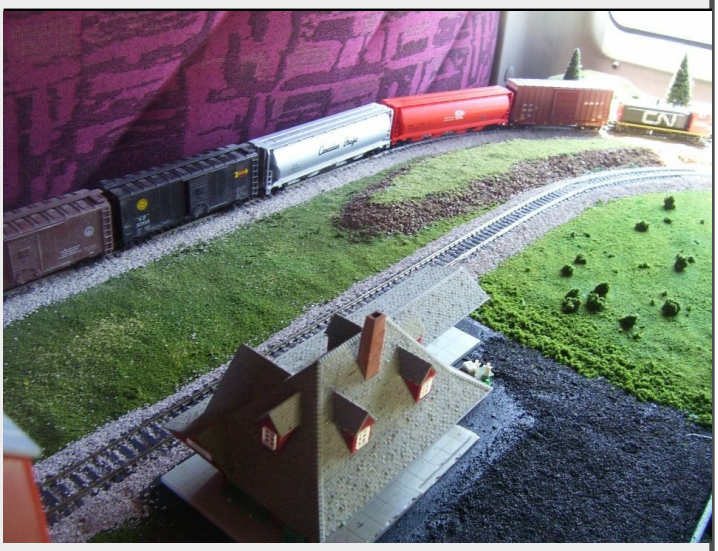
Does this supplement a home layout?

You could say that, It is my home away from home.

If you go on YouTube, type in Ian H Plett, look for HO Scale OBS Branch line, have about 6 videos there. If some of you where up in Winnipeg, MB at the TLR convention 2010, it was part of the Layout Tours. It was in a International Semi at that time with no scenery. Most of the Picture are from in the Sterling.

Ian Plett, thanks for being with us and for reinforcing the old adage that everyone has room for a layout.

This is the view looking toward the driver's seat , standing inside the layout.



We are looking at the left back side of the layout. The purple fabric is the back wall of the sleeper.

This is the right side of the photo above.

Announcing the TLR Convention in Minneapolis

May 18-21, 2023

Mike Engler and Greg Smith

We have a couple of events planned with cash bars and a couple with appetizers and/or desserts. We are still confident that our projection of a $30 convention fee and an optional banquet in the $35-40 range is doable. They will hold 25 rooms at $109 plus tax that includes free breakfasts and parking for 2 Queen bed rooms. We can add or release rooms up to April 18. Those reserving rooms will be able to add or subtract additional room days at that rate subject to availability. This is a tentative schedule and may change.

Where:	Best Western Bloomington- Mall of America. Easy freeway access in every direction.
Guest room rates	$109 plus tax for 2 queen room. Free breakfast buffet and free parking.
Layout tours	Thirty layouts plus four club layouts and the live steamers will be open Sunday
Operating sessions	Several operation sessions available by advance reservations
Clinics	Twelve live clinics each offered twice. During clinic times there will be two choices during each time slot
Contests	Model and photo contests- NMRA judging and popular vote
Mini trade show	National and regional vendors and some hands-on clinics and demonstrations. Modelers Re treat concept. Also information on local clubs and societies as well as NMRA, TLR, and TCD and local hobby shops
Modular layouts	In hotel featuring TLR modular groups
Banquet	Optional Saturday evening. All attendees can attend awards presentation at approximately 5:30pm and 6:00- 6:30 cash bar happy hour and auction and entertainment about 8:00pm. Op tional banquet will be at 6:30pm
Other attractions	Across the street from Mall of America and light rail station with access to both downtowns and Minnesota Twins; Minnesota Apple Valley Zoo; Arboretum and many more
Restaurants	Over 100 within ten minutes of hotel including over 40 in the MOA

Modeler's Tip - Staining Strip Wood

Neil Maldeis MMR©

I'm a big fan of building structures using the board-by-board construction technique and have used many methods to achieve random weathered boards. Early on my favorite method was Floquil stains which unfortunately are no longer available. I typically would stain boards individually which took a lot of time and actually wasted a lot of the stain left behind on the card board surface I used for staining. I have used various alcohol-based stains with similar results, but found they would sometimes warp the boards and can be expensive unless you mix your own stains. I have also used the method recommended by Brett Gallant (Sierra West Models) using water-based paints to soak strip wood in water mixtures in plastic bags to obtain various weathered effects. I found this method works; however, it too takes a lot of time and I got some odd color results using the newer acrylic paints rather than the no longer available Poly S paints he recommends.

That brings us up to now and the I method I have been using for the past few years and I really like the results the best out of all the methods I have used. The method is a hybrid soak approach that uses an Acetone based solvent paint (Tru Color) that is quicker than any of the previous methods. The wood dries very quickly and I have seen minimal to no warping.

A huge warning/caveat here, this method may not be suitable for everyone as it does require proper ventilation and the handling of what can be considered hazardous materials. You have been forewarned; I'll assume you have assessed your own situation and have made good choices if you choose to use this method!

The following is the basic formula I use for mixing get a weathered wood color effect. I like a more "brownish" look, you certainly can add/adjust colors if you desire a different color/look.

Weathered wood formula (Tru Color Paints)

1 Part - Roof brown – TCP 823

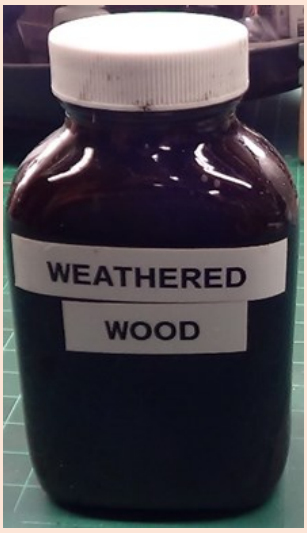
¼ Part - Flat black – TCP 805

1 Part - Railroad Tie Brown – TCP 822

½ Part - Grimy Black – TCP 804

Thinner as required (Acetone)

I typically will mix up a batch that I keep in a larger bottle to have ready to use when I need it. It stores fairly well; however, I do check it periodically and add acetone as it does seem to dry out over time. I have found you can thin the mix down quite a bit and it will go a long way. Experiment with thinning the mix when you stain to get the best economical use of the paint.



The staining process is not hard, however can be messy, I do this in my workshop, but, note that I have a spray booth to exhaust the fumes. If you don't have a spray booth you should consider doing this outside or in a garage with plenty of ventilation.

I have an old baking pan I use that is wide enough to accommodate the length of the strip wood and start by pouring a small amount of stain in the edge of the pan tilted up at 30-45 degrees rather than having it flat. Since the solvent is acetone, it does evaporate fairly quickly and doing this slows the evaporation rate down. Next, (I use tweezers to handle the wood strips, acetone will melt latex gloves) place 6-12 pieces of wood into the stain. Roll/swirl them around for a few seconds and pull a piece out, it usually only takes a few seconds for the stain to soak in. If the effect looks like you want, pull the pieces out and place in a box to dry. Repeat this for as much wood as you have to stain.

The longer you keep the wood in the statin the darker it will get. Experiment with soak times to get the effect you desire. The stain itself is forgiving, if you get your wood too dark, add some acetone and thin it out, typically it will also lighten up the wood you may have gotten too dark (As long as the paint hasn't totally cured).

I have stained hundreds of strips of wood in ½-1 hour. The only issue I have had is having enough space to put the wood to dry. So far, this process has also proved fairly economical for me as I have stained hundreds of pieces of wood and only have used a bottle of each of the color mix.

I would encourage anyone that has a large amount of strip wood to paint/stain to give this method a try. It beats the heck out of painting/staining strip wood with a brush and is a lot faster. Remember it can be messy (not a dining room table project) and be careful of the fumes (Inhaling and open flames).

Pliers For Freight Car Builds

Lester Breuer, MMR
Photos by author

In recent months I have received several emails asking if I would write a blog entry on the pliers I use when building a freight car for my Minneapolis & Northland Railroad Company. I thought I can do that. And, here it is.
I opened the tool drawer at my work bench to show you the pliers it contains. Of the pliers in the drawer I use three or four every modeling session. Other pliers in the drawer are used when needed.

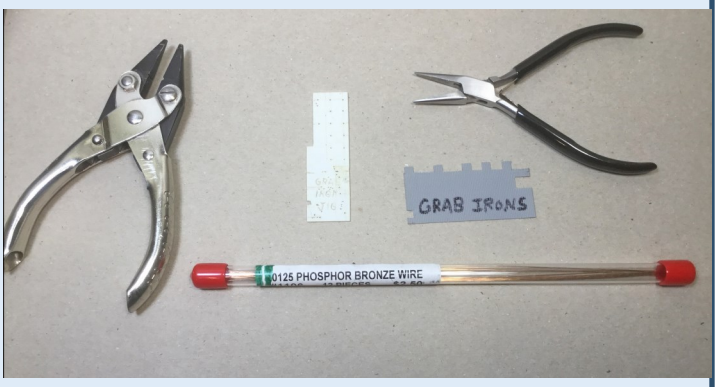
Tool drawer with pliers

The three pliers that are on the bench during every build are a BeadSmith fine nose (no serrations), a Xuron 450S (with serrations) fine needle nose with "tweezer" like tips and a Xuron 450 (no serrations) fine needle nose with "tweezer" like tips. Both Xuron pliers have soft rubber handle grips for comfort and control. All three pliers will handle the most delicate parts but are strong enough for forming and bending operations.

My three most used pliers

A closer look at the plier tips

My BeadSmith plier was purchased at a Hobby Lobby in the craft, specifically bead, section of the store. The Xuron pliers as other Xuron tools were purchased directly from Xuron at a show booth or mail order. The BeadSmith, my first choice due it having the smallest needle nose jaw, is used for bending wire grab irons, wire ladder rungs, and bending uncoupling levers; however, not for installing the bent parts. The Xuron 450S with the serrated jaw is used for that. Why? The part before install, if held with non serrated jaw may be sent into one of the "black holes" under or near my workbench for lost parts. For install of small plastic and resin parts the BeadSmith or Xuron 450 (no serrations jaw) is used to prevent serration



Pliers and jig used for bending grab irons.
Normally .010" phosphor bronze wire is used for grab irons and ladders rungs rather than .0125" in photo.

marks. And, yes the sending of the plastic or resin parts into one of the "black holes" before install also exists.
If the freight car I am working on needs to have drop type grab irons, the flat nose pliers comes out of the plier drawer to help with the bending task. After bending a wire grab iron with the BeadSmith plier, it is inserted into a flat nose pliers on side or nose to the depth of the drop grab iron

portion and jaw is closed to hold the grab iron while the legs on the exterior of the jaw are bent down. Now when the bent jaw is opened you have a formed drop grab

Bottom two flat jaw pliers used most

Closer look at plier jaw tips

iron. The depth of the grab iron into the flat plier jaw can be determined by a mark or a piece of tape on the inside of the flat plier jaw.

In addition to grab irons, ladder rungs and uncoupling levers there are other parts that require bending as bends in under body piping. I make these bends with a Xuron 488 Round Nose bending pliers used for looping and forming wire. Plier blades are round at the tip and transition to an elliptical shape for multiple forming possibilities. Although delicate in appearance, the pliers blades will

Loop bending pliers

stay aligned (not cross) when in use, unlike less expensive alternatives. I also have a BeadSmith round nose bending plier that I may use for underbody piping bends.

Closer view of jaw tips

I also use the Xuron 488 Round Nose bending plier to bend two other parts that require bending a round eye as on an eye bolt or the eye on the underbody brake rod that holds the chain that attaches to the brake cylinder lever. The eye on the brake rod that holds the chain is always bent with the smaller tip of the Xuron 488. If I decide to

Eye bolts and loop on brake rod to hold chain bent with Xuron 488 in lower right corner.

Commercial eye bolts if not bent with loop bending pliers.

bend rather than use a commercial eye bolt for the mount-

During the build of a freight car there are times the part to be installed on the freight car is so small that the jaws on the already mentioned pliers are too large to hold it. If this is the case, I reach for an ultra fine tweezer like point needle nosed polished stainless steel pliers with serrated jaws. In the past I used this plier to bend tiny eye bolts; however, I broke a tip off in an attempt to bend an eye bolt from too heavy wire so I purchased a second one. I purchased these pliers from the Tool Man (no longer in business); however, MicroMark has this plier available.

Ultra fine tweezer-like with serrated jaw

On all freight cars I build Kadee couplers are installed in the coupler pockets. I add an additional slight upward bend to the trip pin with a stainless steel wire loop bending plier for better operation. I purchased my plier from the Tool Man (no longer in business). Kadee has their version of this plier available as does MicroMark.

Pliers to adjust coupler trip pins if used

On many freight cars I build I install A-Line metal sill steps to replace molded plastic sill steps that have been cut off. The A-Line metal sill steps have a slightly round bend rather than a true right angle bend at the corners as a prototype may have. If I want the sill steps installed to have a true right angle bend I use a Xuron 575 Micro Forming plier to make the corner bends a true right angle. I do not heat the sill step in a flame prior to bending as other modelers have suggested. The Xuron 575 micro forming plier has unique forming blades to shape wire and light gauge strips of brass and aluminum. It can also be used for adjusting trip pins on Kadee coupler trip pins.

Xuron plier I use to square A-Line sill step corners

Of course, there are many pliers on the market that could perform some of the tasks mentioned above and I have purchased a few. .

Needle nose plier in lower left corner I have used for many tasks before finding a better tool to perform the task

There is one more plier that I use; however, it is not for bending. Rather the plier was and is still used for breaking loose bottles caps on PollyScale and Floquil paint bottles for cap removal. My way of getting to the paint to hand paint details added to a freight car or to use with an airbrush to spray a freight car. The channel lock plier I call "the persuader."

Channel lock "persuader" plier

44th Annual
Spud Valley Hobby Show

Sunday, October 16, 2022
9:00 am to 3:00 pm

(under 12 free with paid adult)

*****NEW LOCATION*****

Red River Valley Fairgrounds

Hartl Building

1805 Main Ave W.

West Fargo, ND

- Large and small operating model Railroads
- Vendors selling farm toys, plastic models, model railroad items, die cast vehicles, old toys, railroad collectibles and more
- Door prizes
- Valley RC Flyers display their planes

Call Don—701-234-9351 or email spudvalley@hotmail.com

Region Roundup—model railroad-related events in and around the TLR

2022

Sept 17	Twin Cities Model Railroad Club	MN State Fairgrounds – Education Building MN State Fairgrounds, St. Paul, MN 9-2 PM
Oct 8-9	West Wisconsin Railroad Club Annual Show	LE Philips YMCA Sports Center Eau Claire, WI Sat.,10-5, Sun.10-3
Oct 17	44th Annual Spud Valley Hobby Show	Red River Valley Fairgrounds (New location) West Fargo, ND 9-3 PM
Oct 30	North Central Iowa Model Railroad Club Show	Franklin Cty Convention Center Hwy 3 West, Hampton, IA 9-3 PM
Nov 5	Granite City Train Show	River's Edge Conv. Center 10 4th Ave S, St. Cloud, MN, 9-3 PM

2023

March 10-11	Twin Cities Prototype Modelers Meet	Mount Olivet Lutheran Church, Plymouth, MN
May 18-21	**TLR Convention**	**Bloomington, MN**
August 20-26	**NMRA National Convention**	**Grapevine, TX**

GROWING A DIVISION

Jay Manning

The growth of the Dakota Southeastern Division (DSED) of the Thousand Lakes Region of the National Model Railroad Association proves you must get in front of the public. You can't build a division simply by having operating sessions in your basement with friends.

The DSED started out as a group of model railroaders who were members of the Sioux Valley Model Engineers Society (SVMES), a long-standing group with an operational model railroad located on the fairgrounds in Sioux Falls, South Dakota. A member urged this group to form an NMRA Division. In 1981 the DSED was recognized by the NMRA as a new member of the Thousand Lakes Region.

As time passed, the division attendance ebbed and flowed but with slow growth. In the mid-1990s the DSED organized a couple of small train shows in church basements and the center court of a mall in Sioux Falls. Small layouts were featured and the gatherings attracted a small number of vendors. A decision was made to sponsor a full train show in Sioux Falls with vendors. Several different venues were used over a period of years. As time passed, the different venues grew too small. Larger facilities were found, but they had a requirement for proof of insurance which the DSED provided with the NMRA insurance certificate. This required all members to join the NMRA. This and other issues caused the Division to lose members.

The Division survived and the first "Trains at Christmas" show was held. Eventually, the show grew to the point that the DSED did not have the manpower to support it. Trains at Christmas was taken over by the SVMES. It had the manpower to support the growing effort and the financial resources required to underwrite a full show and to meet the mandatory insurance requirements of the host facility.

The DSED continued to shrink in membership; at one annual meeting only three members showed up.

The DSED was offered a portable HO scale modular model railroad by a club in Iowa consisting of four corners and four straight sections. It was purchased and became a part of the assets of the DSED. The model railroad was displayed at the Trains at Christmas but it had little or no maintenance done on it. A specific discussion was held by members of the DSED to abandon the modular-model railroad and relying on member's home model railroads for membership activities. The DSED began holding a once a year open house tour activity to allow the public to view various members-model railroads in Sioux Falls and surrounding area. The open houses were advertised using flyers available at the hobby shops. This activity generated sufficient funds to keep the DSED a viable activity, but not much of anything else.

In 2008, Jay Manning and his wife attended the open house tour. Jay, a recently retired government contracts attorney, had moved back to Sioux Falls. He asked if there was a modular model railroad layout in Sioux Falls. The couple had been deeply involved in both HO and N scale modular groups in Virginia and brought several of their modules with them. Some members of the club wondered if Manning's modules were of good enough quality to be matched with the DSED modules. The issue turned out to be the exact opposite, the DSED modules required complete modernization.

Twice a year the Sioux Falls Parks and Recreation Department publishes a list of seminars and activities they sponsor throughout the city. The DSED chose to advertise a four-session class on model railroading, starting with a basic discussion of the hobby and ending with tours of model railroads in the Sioux Falls area. The classes and tours were very well attended and resulted in the DSED gaining several new members.

The DSED existing modules were merged with the Manning modules and work was begun to upgrade the clubs existing modules. An open house was held that included an N-scale modular model railroad, a G scale Christmas model railroad, and a small Z-scale model railroad. With good weather, attendance was up and the DSED heard lots of positive comments. The revised DSED HO scale offering was displayed at the Trains at Christmas show. "Where did the new model railroad come from?" was a common comment. A Boy Scout volunteered to man the model railroad. He ran trains throughout the show along with DSED members. After the first day, DSED members brought trains and ran on the-model railroad who had never done so before. Enthusiasm spread among club members.

At the same time, new interest in model railroading occurred and monthly operating sessions were held. Invited guests came to a DSED member's house and participated in planned operations at each operating session. The list of guests and invited participants steadily grew. Many individuals who never had the opportunity or the desire to participate in an operating session found a new way to enjoy the hobby and the DSED.

Sioux Falls has an energetic library system, with a main library and four regional libraries. The DSED received an invitation to bring its modular model railroad to one of the four regional facilities for a railroad themed celebration. Members of the DSED operated the HO scale modular railroad and discussed the importance of railroads to Sioux Falls and the model railroading hobby. A scenery building workshop entitled "Mountain Building" was conducted where children actually built a mountain using dense foam board and Sculptamold. The adults watched as the children crafted a mountain—the idea being "if my child can do it, so can I." The DSED approach was so popular that the

effort was done in all the Sioux Falls regional libraries and at a library in a small town in the Sioux Falls area.

As the opportunities to make public presentations grew, the DSED encountered another difficulty. It now took a minimum of four pickup trucks to get the equipment to a show site. The Thousand Lakes Region has a grant program where a Division may request a grant of money for a specific purpose. The DSED requested a grant to purchase a trailer to assist with doing shows on the road. The grant was approved. A member of the DSED built rolling racks to maximize the use of the enclosed trailer space. In addition to being used as a single method to get equipment to train shows, the trailer4 also serves as a secure storage space for the club modules. The grant generated the ability to participate in more shows, including shows outside the Sioux Falls area. An invitation was received and accepted from a town in Minnesota about 100 miles from Sioux Falls to participate in the town celebration of railroad days.

As enthusiasm for the modular model railroad grew, it also unified the DSED members. It became obvious that the DSED model railroad needed a center yard module for loading trains for running so that the public would not be inconvenienced by members loading trains onto the model railroad in the aisles surrounding the display. At a Division meeting discussion about the need for a center modular yard, agreement was reached on a concept, and before much else got decided, members took out their wallets and covered the costs of the entire yard effort without being asked. The vision of a truly viable organization was alive.

As improvements to the model railroad, including a center yard module, were made and more appearance requests accepted, membership started growing. Background boards were added to each module, skirting developed, Digital Command Control revised and enhanced. The DSED started receiving unsolicited donations of buildings, rolling stock, and scenery from the public. There is a common thread, “dad had a model railroad and died, none of the family wants it, will you accept it.”

Participation requests and sites grew. The DSED model railroad is now a regularly invited guest to train shows in Sioux City, Iowa; the greater Omaha-Council Bluffs area; and Lincoln, Nebraska. Additionally the DSED participates in the annual Threshing Bee in Granite, Iowa, and has participated in the railroad days in Madison, South Dakota.

We were invited to participate in the annual Christmas show at the Center for Active Generations in Sioux Falls, a show where grandparents are encouraged to bring their grandchildren (and their parents) to a celebration of the holidays with lots of activities for the kids. The HO-model railroad and the G-scale Christmas train were very popular with the attendees; we had over 250 visitors in a three hour period. By far the DSED activities were the most popular activities at the show. We were immediately invited back to be a prominent activity the following year, including being allocated more display space.

In addition to the Trains at Christmas show and the Center for Active Generations, the DSED received and accepted invitations to do a show in Watertown, South Dakota and a show at a local country club in support of their annual family Christmas activities.

The DSED has reached the point where it has more requests than can accommodated. Recently the group had to turn down two additional requests for the model railroad. Even with the increased membership, we did not have the manpower to handle any more activities. We informed requestors to ask well in advance of the desired time for a DSED display.

In March of 2018 the DSED was approached by the leaders of two local Boy Scout Troops to do the Railroad Merit Badge program. The request was granted, Scouts invited to a home where they could operate HO scale and N scale model railroads and the portable DSED switching layout. Layout owners were augmented with other DSED members. The DSED membership includes a railroad engineer who works for the Dakota and Iowa railroad who discussed actual train operations and a Deputy Sherriff who presented the Operation Lifesaver program. Remaining merit badge requirements were presented by teams of DSED members.

Several things have evolved. A member volunteered to repaint all of the backboards to add scenic interest to each module. Members have been improving individual buildings and adding the latest lighting technology. Four new members joined the organization in the last six months. There are at least four new modules being constructed. The DSED has gone from an organization that operated a 12 foot by 12 foot model railroad to one that currently can go 16 feet by 36 feet with the added capability of adding an inside corner to form a “P” shaped model railroad. In addition, the DSED now has 2 switching layouts for children to operate. They generate family interest in model railroading. If a child follows directions, they are issued a DSED driver’s license which entitles them to run a train on the big layout.

In 2015 the DSED was approached by a representative from the American Ethanol Association asking if we would build a diorama of a complete ethanol plant that could be transported around the country for display. The members built a 4X6 foot diorama that has the entire manufacturing process from grain being received to ethanol being shipped. A builder’s plaque is incorporated in the diorama giving credit to the DSED for the diorama. The display has traveled the Midwest and several conventions before being placed in the Corn Place Museum in Mitchell, South Dakota.

The lack of train shows in the upper Midwest was addressed by the DSED starting in 2017. The DSED organized a public train show and swap meet conducted in late March—after the large winter shows had moved on from the area. There was 100 percent participation by club

members. The success of the show resulted in the membership agreeing to do it again in 2018 and several new members joining the Division.

The DSED began a concentrated effort to use social media to promote its activities. An informal survey of guests at the 2018 show revealed that many of them had found out about the show through social media outlets. Even with a blizzard the first day of the 2018 show, the public came. Although attendance was hampered by the bad weather, the number of vendors went up. When asked, one of the largest vendors in the upper Midwest remarked that the DSED has a reputation of running a quality show in a quality facility and doing a good job of taking care of the vendors.

There are fundamental lessons that resulted in the growth of the Dakota Southeastern Division. First, a public presence must be generated. Finding and using local available resources and opportunities to gain that presence is critical. Once before the public, there must be a quality product manned by members who are proud of what they represent and enjoy talking about the hobby. The Division must be willing to travel to participate in other Division's activities. Attendance at large regional train shows is key to getting vendor and hobbyist participation in your shows.

Within the Division membership there must be a common purpose. For example, in 2010, the growing membership of the DSED voted to bid on holding the 2012 Thousand Lakes Region convention in Sioux Falls. The membership took on the challenge and ran a very successful convention that included a train ride, tours of railroad support activities in the area, a bus ride to the bottom of a large open pit rock mine, and clinics. The convention was a huge success. The DSED just successfully hosted the 2018 Thousand Lakes Region Convention, another unified membership effort.

Last year the DSED approached the Sioux Falls School System which runs an adult education program in the evenings about offering a course on T track module building. The offer was accepted and promoted by the school program in its semi-annual publication of upcoming classes. Three people signed up, but that was not enough to offer the class. The DSED annual train show included a T track layout and discussion of the class. The following Monday, the class was old out (12) and a waiting list started. The class has been offered 3 times and will be in the fall offerings in 2022. Participants assemble their own T track module. The last night of the class all the newly constructed modules are hooked together and an N scale train is run on the layout built by the participants. Out of the classes over 30 individuals, including 16 young family members, were introduced to the model railroading hobby and the DSED gained 4 new members.

The Dakota Southeastern Division has shown that it is possible to grow a Division and promote the growth of the hobby. The key is to explore your community for opportunities to take model railroading to the public. Using enthusiastic, knowledgeable members to speak about the hobby and demonstrate various aspects of it, an organization builds a solid reputation. As your clubs reputation grows, more opportunities become available. Public appearances generate interest; appearances find new members; your Division grows and the hobby grows.

Publishing Deadlines

Publishing Date	Submission Deadline
March 1 Edition	February 1
July 1 Edition	June 1
September 1 Edition	August 1
December 1 Edition	November 1

Model Railroad Advertising

Advertise your railroad here! Send me a photo, business card or whatever contact info you want to provide. This a service for the TLR and there is no charge for the ad.

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701-298-0132

Dakota Division of Soo Line Railway
Thomas Gay

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701-219-0300
tomandkath@hotmail.com

Burlington Northern Yellowstone Division

An HO scale model railroad in Bismarck, ND
representing the Bismarck-Mandan area
and branchline to Killdeer in the 1975-1980 timeframe.
Regular operating sessions using computerized switchlists.

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The FUSEE is a quarterly publication of the TLR and emailed to all subscribers.

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Advertising should be mailed to THE FUSEE editor as camera-ready artwork or electronic files (jpeg, tiff, gif, or EPS with outlined fonts).

Enclose payment in U.S. funds, international money order, or by check drawn on U.S. banks. Checks should be made out to **TLR**. Contact the editor if you have questions.

Fusee Advertising

Commercial advertising from hobby shops, manufacturers, and businesses associated with model railroading interests are accepted. All ads can be run in a single issue at 35% of the annual rate.

Railroad ads are for individual layouts, model railroad clubs, or other non-commercial groups and are FREE.

	Ad size (HxW)	Annual Business Rate	One-Time Business Rate	Annual Railroad Ad Rate
Full pg	9 5/8 x 7 1/8"	$145.00	$50.75	N/A
1/2 pg	4 3/4 x 7 1/8"	$90.00	$31.50	N/A
1/4 pg	4 3/4 x 3 1/2"	$45.00	$15.75	N/A
1/6 pg	4 3/4 x 2 1/4"	$35.00	$12.25	N/A
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1/12 pg	2 3/8 x 2 1/4"	$18.50	$6.50	Free
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