



THOUSAND LAKES REGION

NATIONAL MODEL RAILROAD ASSOCIATION

The FUSEE



Volume 68, Number 3

www.thousandlakesregion.org

Spring 2021

2021 TLR Convention is ON!



The final planning is going on for the TLR 2021 Convention in Bismarck, ND, May 21 to 23. The convention committee and Board had a teleconference to determine whether to proceed with the convention, and the Board voted 8 in favor, 2 against, to proceed with the convention. Please see the COVID article for details.

We will start registration Thursday, May 20 and the Celebration Room will be open for entries. That evening will be a reception and picnic at the North Dakota State Railroad Museum in nearby Mandan, ND, 7 miles from the hotel.

Friday will consist of clinics all day, running 2 concurrently (see clinic schedule for details). Lunch and Dinner will be on your own. The Non-rail event will be touring the North Dakota State Heritage Museum, and possibly the Old Governor's Mansion. That evening, there will be a room available for individuals to show slide/photos to other attendees, and the Board will meet. A registration-only Operating Session will be at Micheal Farley's HO Yellowstone Division- see the registration form to sign up. Eleven slots are available. A second session will run on Sunday.

Saturday morning will be clinics until Noon. Lunch is on your own, and we will drive on our own to Ed Dukes Live Steam, outdoor railroad afterward. This is located about 40 minutes North of Bismarck. On your return trip, you are welcome to stop at the Wilton, ND Soo Line Depot for a tour and see their Model Railroad. The Banquet, awards and Chinese Auction will be that evening.

Sunday morning will have the General Meeting, followed by local train layout tours and a second, registration-only operating session at Farley's Yellowstone Division.

We will have all the recommended CDC safety measures in place, along with requiring all attendees to wear face masks for the indoor events.

The Convention hotel is the Ramada by Wyndam. There are rooms reserved for the convention and the room rate is \$89 for a two-queen room. The Saturday banquet is included in the registration fee. Please see the registration form for details. We will see you in Bismarck!



View from the Cab ***President Jay Manning***

Well, we have now gone past 12 months on what was to be a short journey. So, where are we today as opposed to where we thought we would be after the first 90 days of COVID? Maybe the way to get this started is with a familiar railroad saying: STOP LOOK AND LISTEN The

first step is to STOP—why??? We were trained from an early age when approaching a railroad crossing that we needed to stop---the why is the easy question—to observe our surroundings and determine if it was safe to proceed. “How” was simple, use your eyes and ears and knowledge to determine the surrounding circumstances and assess the danger of crossing the tracks. Is there a train coming? is the crossing safe to walk on? Is the property labeled NO TRESPASSING? I believe we are at that point in the COVID danger cycle. It is time to assess the state of the Thousand Lakes Region, Division by Division, and member by member. We, individually, have varying skills and interests (knowledge) that impact on the assessment, but as a whole, we have the ability to accomplish the task at hand. As we approach the next model railroad crossing, the spring of 2021 is the perfect time for just this approach. Call a time out (STOP) to think about the strengths and weaknesses that appeared in the past 12 months by taking a long look at our individual goals and development; the functioning of our Divisions, the TLR and the NMRA; and the future of the hobby.

As we LOOK at the past 12 months, let’s start with the damages that are obvious: train shows, some that had a history of years and years of existence, were cancelled; Region Conventions where individual modeling efforts could be evaluated and lessons learned from each other were lost; the NMRA lost 2 National Conventions. Business relationships with venues and vendors that had been fostered over many years were damaged and some vendors will not survive. I believe one of the biggest losses was the ability recruit hobbyists to the hobby—including the ability to recruit whole families as a family activity when first impressions are so critical. There is a common thread throughout all of these losses---the damage to the interpersonal relationships amongst the enthusiasts and supporters of the hobby.

On the flip side, there has been a tremendous increase on the need to “get a handle” on the information age, and all that it offers, to take full advantage of its potential. The use of video conferencing has blossomed, first in the work environment, which carried over to the hobby environment. It offers a way to accomplish things without meeting face to face. It encouraged more members to take advantage of the benefits of membership in the NMRA without incurring the cost of a convention. It improved the ability to view instruction in areas of interest when convenient to the viewer, and then be reviewed to pick up the finer points of the clinic offering. As individuals learned how to do presentations effectively electronically, the quality of the offerings has greatly increased. Since more people are working from home, there has been a secondary benefit to this new age- no loss of time and energy commuting, freeing up more time for the model railroading hobby.

The third element of this trilogy is LISTENING. At the railroad crossing, listening for a train coming. In the hobby it is listening to each other. The past 12 months have taken a toll on the interpersonal relationships fostered by communicating with each other and manufacturers on issues in the hobby ranging from known and unknown problems; the latest improvements in equipment and techniques to organizational issues at local, regional and national levels. The Thousand Lakes Region has emphasized the obligation to communicate to members to maintain these critical relationships, whether it is a short phone call, a meeting face to face, a ZOOM meeting or even a Division meeting. Our emphasis was members should not feel that they “are alone and the Division and the NMRA do not care about them.” During these trying times interpersonal relationships contribute to the health of our members. There have been issues that came up that needed discussion at Division and Region level that “got talked out.”

There is a second element to the listening part of the trilogy that goes beyond our circles. It is the public and its concerns. For example, there is a tremendous demand for a train show building in the community which is becoming more and more obvious the longer we go without the opportunities presented at an organized show. The last model railroad show conducted in our part of the country was in February 2020 in Lincoln Nebraska. Since then every 2020 show was canceled and a tremendous disappointment developed amongst hobbyists and suppliers. Sponsoring organizations heard “the cry” and began scheduling their annual shows in Sioux City and the DSED show in Sioux Falls in 2021. Both shows sold out ALL available vendor space within days of announcing that shows would be held. Public inquiries are being heard by members from friends that know we are involved in model railroading. At the same time, there is a constant caution requirement being heard throughout the community from health officials and organizations. Fargo demonstrated how to hold a train show safely and wrote about it. Both sponsoring activities are working closely with the facility owners, the local health officials, and their memberships.

The leadership of the Thousand Lakes Region listened to its members concerning the 2021 annual convention. You will read in this issue of THE FUSSEE that the convention is on, at a downsized level. The decision was reached after a very lengthy conversation amongst the leadership at a Board meeting. Based on direct input concerning the risks associated with holding a convention, the leadership voted 10 to 2 to conduct the convention in Bismarck. The Board carefully reviewed: current health concerns using the latest available including vaccination rates; International border restrictions; State policies and guidelines; and the financial risks involved. The position of the leadership in the end included a full recognition that many members might not attend because of the safety concerns. The convention organizers took this into account in structuring the convention. It was clearly the thought that a face to face convention was needed to “restart” the Region which could not be achieved doing an electronic convention. I want to thank the leadership for the outstanding well-reasoned inputs and discussion that went into well-reasoned decision regarding what was in the best interests of the Thousand Lakes Region.

From the TLR Convention Committee regarding COVID

The Committee wants to keep everyone safe and healthy and made a decision based on the current medical information available. The information listed below are the current results of the states affected by COVID-19 that are in our region. This information was obtained from each state Dept of Health website and is the single day results on Monday, February 9 and a rolling average. ND is at the lowest levels since last August. Iowa has the highest 14 day rate at 8.6%. Ontario was not included since the border is closed.

ND rate-

Single day 2/9, 99 reported positive, 3.5%,
14 day average 2.5% positive

SD rate-

Single day 2/7, 41 reported positive, 7%,
14 day average 7.2% positive

Mn rate-

Single day 2/9, 508 reported positive, less than 3%.
7 day average approximately 4% (the graph does not allow an actual number to be read)

IA rate-

Single day, 2/8, 411 positive, 4%
14 day average 8.6% positive, 7 day average 6.3%

North Dakota is currently at a Low Risk rating and allows venues to have 80% capacity. There is no state mask rule, and Bismarck has no mandatory mask rule.

The convention committee feels that we can have a safe convention if we continue to follow the overall prevention guidelines recommended by the CDC. This will require every person to wear masks indoors (regardless of local rules, vaccine status, past COVID illness and personal opinion), provide and use hand sanitizer frequently, have social distancing of 6 feet and not have any transportation that would put individuals into close contact.

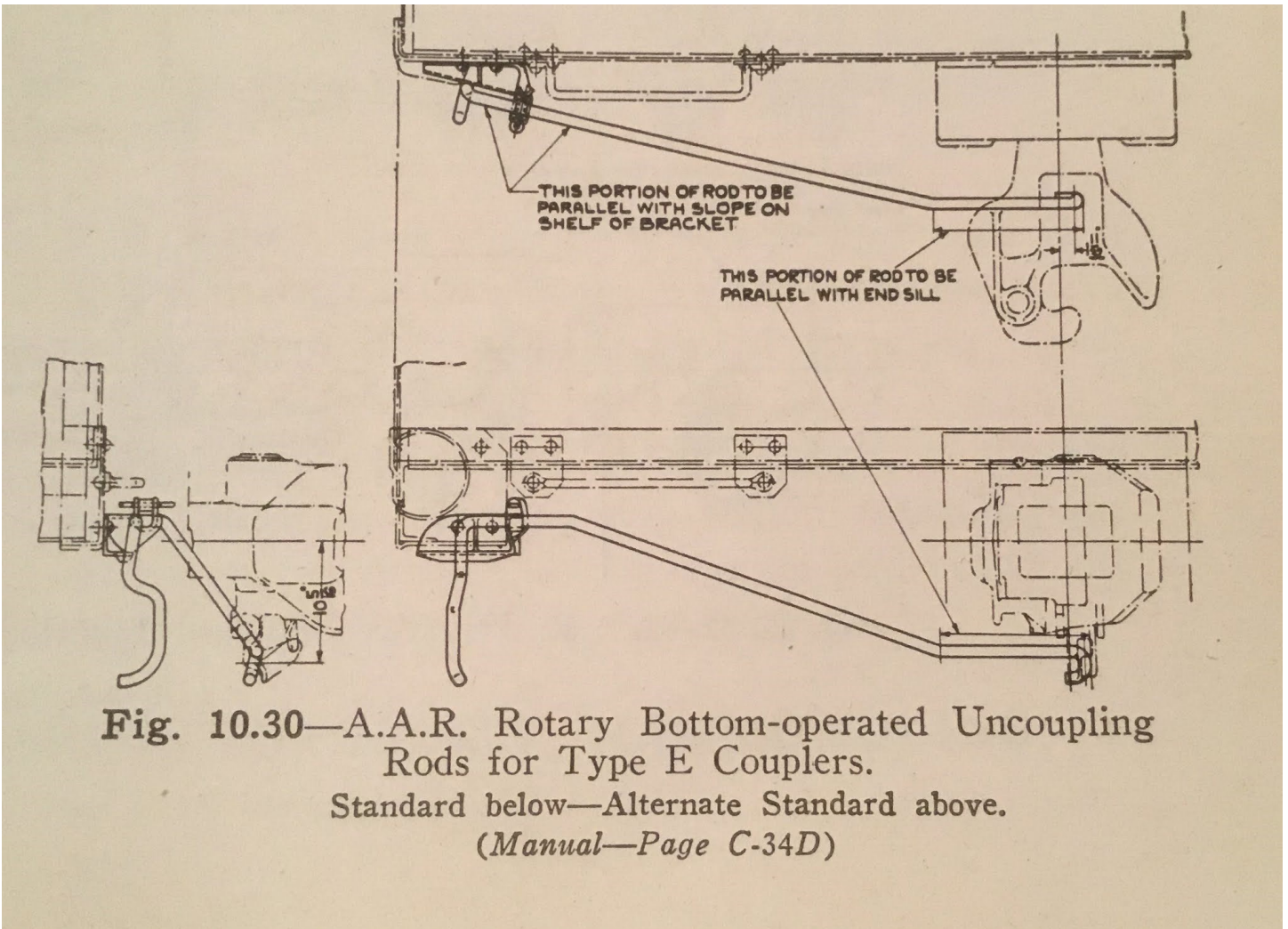
To meet these goals, we are not scheduling any industry tours. The ND Railroad Museum Open House and tours of the Live Steam railroads are outdoors. People will need to drive themselves or carpool, as will the non-rail group attending the Museums. We will plan on proceeding with the Banquet as we do traditionally and will have 4 people per table.

We encourage anyone that has health concerns to stay home, and anyone having any illness would be asked to stay home as well. We would not be able to prevent exposure to the virus from restaurants, gas stations, etc., while traveling to and from the convention. No one wants to be responsible for a friend becoming ill due to the decision to proceed with a live convention. While the current rates are not a guarantee that things won't get worse in the next 3 months, we feel, and the Board agrees, that we can have a safe convention. We hope to see you in Bismarck!

Thanks,
Tom, Don and Kevin

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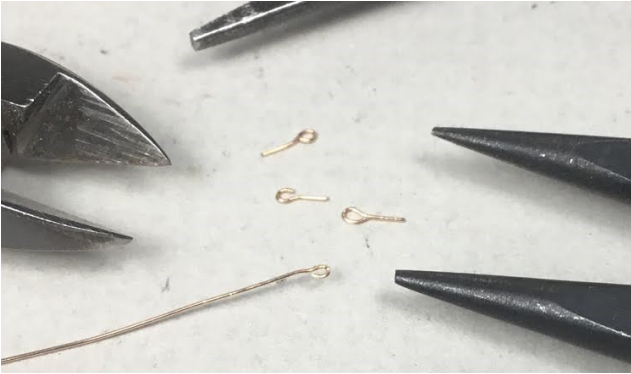


For our freight cars you can make the uncoupling lever brackets or purchase commercial ones to install uncoupling levers. The most commonly used uncoupling lever brackets are eye bolts. The eye bolts I have found available are bent from wire, made from plastic or photo etched.

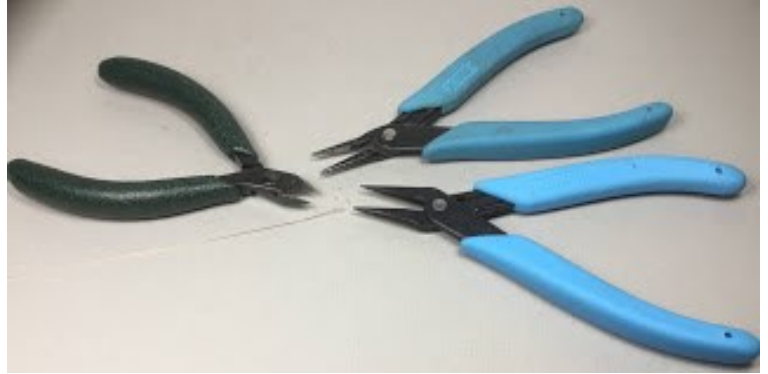


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Wire eye bolts can be bent by the modeler. I bend eye bolts from .010" diameter or smaller brass or phosphor bronze wire with a Xuron #488, wire bending pliers. I use a Xuron serrated needle nose pliers to close the eye and bend the eye shaft at times. A Swiss side cutter is used to cut the fabricated eye bolt from the wire used to bend.



Eye bolts bent from Tichy Train Group #1100 .010" diameter phosphor bronze wire.



Xuron wiring bending pliers and needle nose and Swiss side cutter used for fabricating eye bolts.

Eye bolts can be used for brackets to mount top or bottom mounted couplers. All you have to do is drill holes with a #79 or #78 drill and insert the eye bolts.



Type B, top mounted coupler with eye bolt brackets.

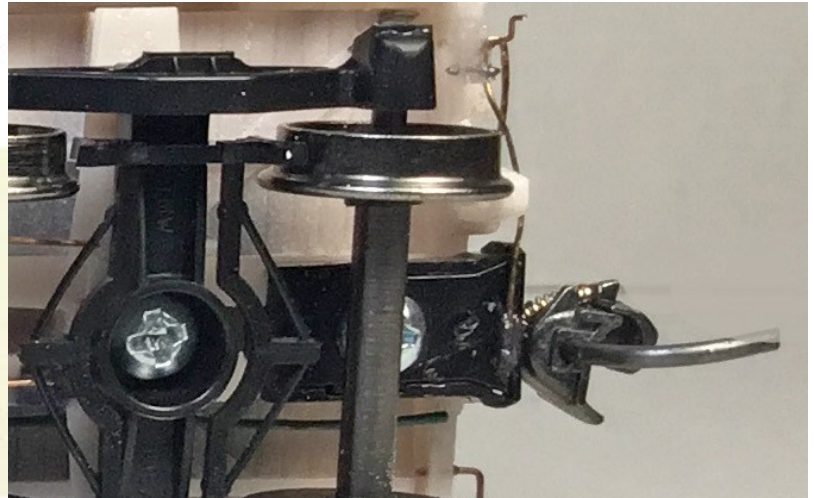
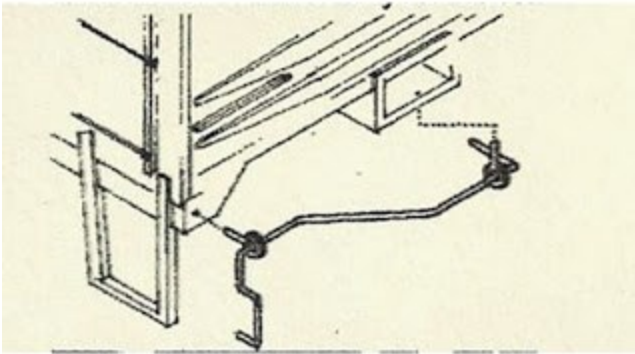


Flat car with Type B, top mounted coupler with eye bolt brackets.

A diagram showing a common way to install Type E bottom mounted uncoupling levers with eye bolt brackets was provided with Detail Associates #2615, uncoupling levers. I use this install method; however, I do not use an eye bolt in the draft gear (coupler box). I bend the uncoupling lever wire on the draft gear end in a vertical position to install directly into the underside of the draft gear (coupler box).

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Freight Car Uncoupling lever

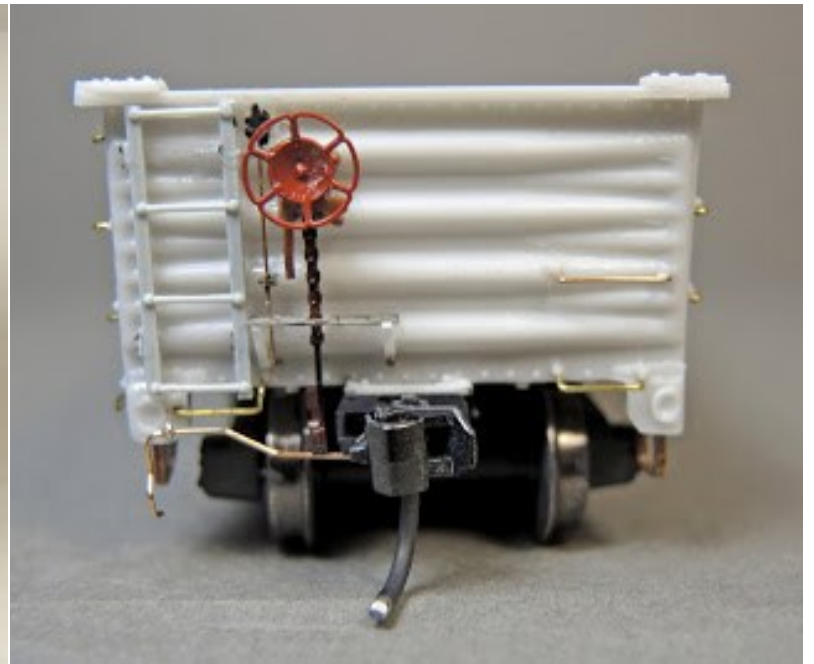


Uncoupling lever draft gear (coupler box) end mounted directly into a #79 hole drilled into draft gear (coupler box) rather than using eye bolt.

Detail Associates # 6215



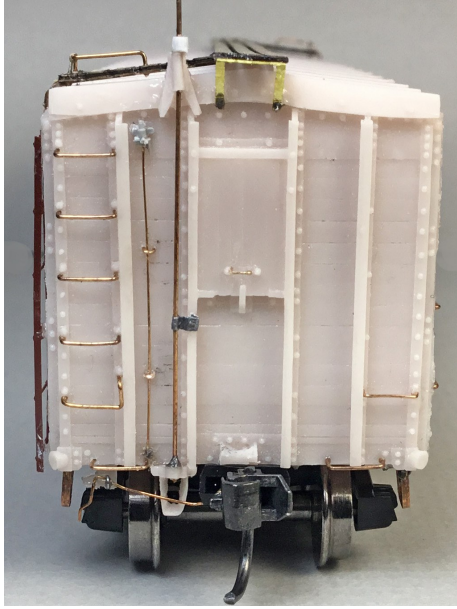
Box car with Type E bottom operated coupler with eye bolt brackets.



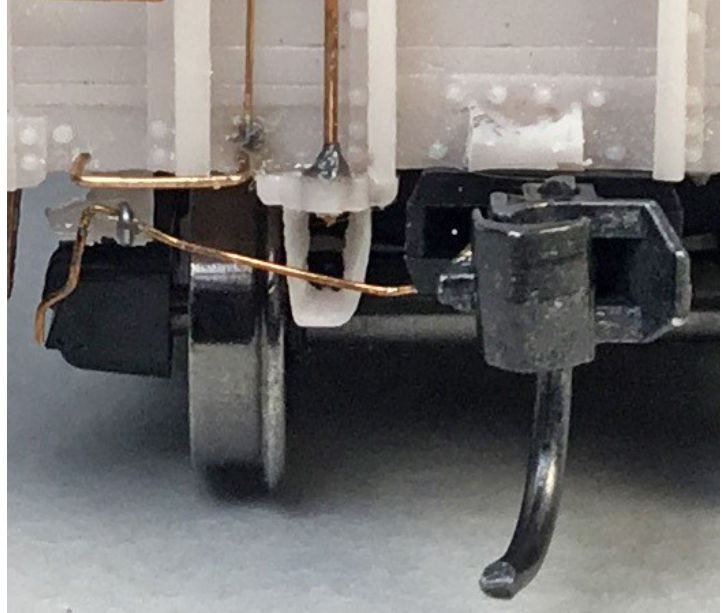
Gondola with Type E bottom operated coupler with eye bolt uncoupling lever bracket.

Continued next page

Eye bolts can also be used in conjunction with resin cast or made pieces of the mounting bracket to make a complete mounting bracket.



Eye bolt combined with resin casting for uncoupling lever bracket.



Closer view of resin casting combined with eye bolt for uncoupling lever bracket.

In addition, to eye bolt mounting brackets there are numerous other prototype uncoupling lever mounting brackets. A few examples of the prototype type uncoupling brackets.



Ed Rethwisch Photo.



Ed Rethwisch Photo.

Continued next page

Several of the other prototype type uncoupling lever brackets are commercially available or can be made.



I have tried to use each type I have found and purchased on a freight car to see if I like using them. Each type is effective.



Uncoupling lever bracket is photo-etched one from Yarmouth Models.



Front view of photo-etched uncoupling lever bracket .



Cast resin mounting bracket used for uncoupling lever mounting.

Continued next page

Besides using purchased uncoupling lever brackets I make one type of uncoupling lever bracket from Evergreen #291, .060" styrene angle. The method to fabricate the styrene uncoupling lever bracket is not an original idea. I saw this method used on a freight car in one of the many clinics I have attended and do not remember the presenter. The photos that follow show the steps I take to make the uncoupling lever mounting bracket.



Side view of Evergreen .060" angle installed.



Front view of Evergreen .060" angle installed.



Bottom view of Evergreen .060" angle installed.



Installed angle shaped with PBL #803 Gate nippers.



Number 78 hole drilled in shaped uncoupling lever bracket.



Styrene uncoupling lever bracket with uncoupling lever installed.

Continued next page

I hope you now have a greater appreciation for the simple uncoupling lever bracket supporting the uncoupling lever on your freight cars. And, I hope you will make a few of the uncoupling lever brackets using styrene angle to bottom mount uncoupling levers for your freight cars.

A "Thank You" to Ed Rethwisch for the photos to help with showing prototype uncoupling lever brackets and for permission to use photos in this blog post.

Thank You for taking time to read my blog. You can share a comment in the section below if you choose to do so. Please sign your comment with your name if you choose to leave one. Please share the blog link with other model railroaders.
Lester Breuer

2021 Modelers' Retreat

This year the TCD Modeler's Retreat will be done
via Zoom

March 12 and 13

Clinic presentations

Model displays

Modelers Forum

Registration Required

Contact Ken Zieska at

mhry19@gmail.com

Include your Name, Region and Division.

If you have photos of models or layout projects to
share, send them to TCDNMRA@Gmail.com.

You will be emailed the access codes prior to the
event.



I enjoy model railroading and want to share my experiences
with you! You can see my build of kits, how-to's, painting
information and much more on my internet blog. Check out
<http://mnrailroadcab100.blogspot.com>.

Lester Breuer, MMR

Publishing Deadlines

<u>Publishing Date</u>	<u>Submission Deadline</u>
March 1 Edition	February 1
July 1 Edition	June 1
September 1 Edition	August 1
December 1 Edition	November 1

2021 TLR Convention Schedule

Schedule and times subject to change

Thursday, May 20

3-7 Check-in
12-8 Celebration Room Check-in and Viewing
6-8:30 Reception and Picnic
ND State Train Museum 6-8:30PM

Friday, May 21

7:00-12 Registration
8:00-8:00 Celebration Room Check-in and Viewing
8:00-12 Clinics
9:00-12 Non-Rail Event
ND State Heritage Museum and Old Governor's Mansion

Lunch on your own

1:00-5:00 Clinics

Dinner on your own

8:30 Board Meeting
6:30 Yellowstone Division Operating Session (11 people, registration required)
7-9 Clinics
Open Slide/Video/Photo Room- Attendees can show their favorite pictures.
Celebration Room open

Saturday, May 22

8:00- 11:00 Clinics
8:00-9:00 Celebration Room Check-in and Viewing
10-3:00 Celebration Room judging; no viewing during judging; reopened for viewing when judging is completed
3:00-6:00 Celebration Room viewing and People's Choice voting by convention attendees

Lunch on your own

12:15 Leave for Ed Duke's Live Steam Layout (Directions for the following will be in convention book)
45 minute drive, car pool
Leave on your own and head to the train depot on your return.
2:30-4:30 Wilton, ND, Soo Line Depot
Tour on your own, Train layout for viewing.
This is ½ way between Ed's layout and Bismarck
3:30-5:30 John Beck's 12 inch gauge outdoor railroad
Located in Bismarck
6:00 Social Hour
6:30 Banquet and Chinese Auction
After Banquet, Retrieval of Celebration Room entries; claim check must be presented

Sunday, May 23

8:00 General Meeting
10:30 Yellowstone Division Operating Session (11 people, registration required)
9:00 - 2:00 Layout Tours
Micheal Farley -Transition Era BN (9-10:30)
Kent Farley
Buckstop Junction- Dakota Central and Western Railroad
Dominic Simnioniw

2021 TLR Convention Clinic Schedule

Friday, May 21

Room 1

Room 2

8-8:50 RIP Tracks
Thomas Gasior, MMR® (Zoom)

9-9:50 Researching the Prototype
Cody Grivno, Model Railroader Magazine (Zoom)

10- 10:50 Ore Operations and Car Ferries
Rich Mahaney

11-11:50 Perishable Operations of the 1950's
Rich Mahaney

Lunch on your own

1-1:50 LED Lighting on your Layout
Kevin Dill

2-2:50 Stripping and Repainting Freight Cars
Gerry Miller

3-3:50 Painting and Decaling Iowa Covered Hoppers
on a budget.
Gerry Miller

4-4:50 Weathering with Pan Pastels
Hands on clinic, No registration
Jay Manning

Dinner on your own

7:00 Hammerin' on 2926
Gordon Miller

8:00 Alaska Railroad Memories
Rich Holzapfel

Scratch Building Tips- Basics
Neil Maldeis, MMR®

Scratch Building Tips-Modeling
Neil Maldeis, MMR®

“Locomotive Power Bank®” Clinic
Pre-Registration required, \$15.00
Wes Garcia

Explore the Contest Room
Kennedy Gauger

Design, Visualize, Describe and Direct
Matthew Lentz

Saturday, May 22

8-8:50 Background Sounds on your Layout
Wes Garcia

9-9:50 Selecting Industries for your Model Railroad
Rich Mahaney

10- 10:50 Quick Industries for your Model Railroad
Rich Mahaney

Clinic Descriptions

RIP Tracks-

Thomas Gasior, MMR

Prototype practice on a Repair-In-Place track, plus how to model them and incorporate into your operation session. It should be about 45 minutes so there is time for Q&A afterwards.

Researching the prototype

Cody Grivno, Model Railroader Magazine

Accurately modeling a prototype location can be difficult, especially if you're trying to re-create a bygone era. What locomotives and freight cars are correct for the time? How many trains served the town each day? What industries were rail served, and what did they ship and/or receive? What vehicles were common? What did the street and road signs look like? In this clinic, *Model Railroader* group technical editor Cody Grivno shares the resources he's used while learning more about his hometown in the early 1970s. Many of his tips and techniques can be put to use when researching your favorite prototype location.

Ore Operations and Car Ferries

Rich Mahaney

This presentation looks at real iron ore operations and car ferries on the western Great Lakes and states (MN, MI and WI) and how various model railroaders and club layouts are re-creating those scenes and operations.

Perishable Operations of the 1950's

Rich Mahaney

This presentation looks at refrigerator cars for produce, fruit, eat and other similar materials, the supporting operations (icing, clean-out, repair, storage buildings and warehouses, brokers and customers), the paperwork involved, the application of all this for more realistic operations on model railroads and examples of what people are doing on the railroad layouts involving all these topics.

LED Lighting on your Layout

Kevin Dill

How to implement LED lighting in your buildings, signs and exterior lights. Voltage requirements, voltage step-down options and integration into standard model railroad voltages will be covered.

Stripping and Repainting Freight Cars

Gerry Miller

We will cover the different methods of removing paint from freight cars and repainting them in your favorite road. We will also cover repainting or altering RTR cars. We will also look at renumbering Accurail cars.

Painting and Decaling Iowa Covered Hoppers on a budget.

Gerry Miller

There were many leased covered hoppers lettered for Iowa CO-OP's. We'll cover painting and selecting decals to letter them.

Design, Visualize, Describe and Direct (Hands-on clinic, no additional fee)

Mathew Lentz

In this clinic you will get to try some simple techniques to improve your designs, plans and armchair model railroading. This interactive clinic will give you hands-on experience using various graphing and dot graph paper. You will need:

Pencil- H, HB and 3H recommended

Pencil sharpener

Large eraser (Hi-polymer cube recommended)

Graph Ruled Composition Notebook

Compass (optional)

Scratch Building Tips- Basics

Neil Maldeis MMR®

Discussion of tips and tricks I have learned over the past 20 years working on meeting the AP requirements for my MMR®. Topics will include getting started and planning a project, materials you can use, glues and adhesives and helpful tools. I'll also share ways to speed up the process and the valuable lessons I have learned of what not to do. I'll conclude the clinic with time for you to ask questions and do your best to stump the chump!

Scratch Building Tips- Modeling

Neil Maldeis MMR®

Continuing the scratch building discussion with more tips and tricks I have learned over the past 20 years. Topics will include paint types and painting techniques, construction materials and techniques for structures and rolling stock. I'll also share more ways to speed up the process and the valuable lessons of what not to do. I'll conclude the clinic with time for you to ask questions and do your best to stump the chump!

"Locomotive Power Bank®" Clinic Pre-registration required, NO WALK INS. \$15 Registration fee

Wes Garcia

In this clinic you will learn to build your own "Locomotive Power Bank®" circuit for your DCC locomotives or any cars that have a decoder with sound. For the most part this not a theory class but a hands-on clinic where you can build your first "Locomotive Power Bank®". As part of the clinic you will receive all the parts to make your own "Locomotive Power Bank®". Contact me via email with any questions beforehand at wesgarcia@sio.midco.net.

Tools you should bring:

- Soldering Iron or Soldering Workstation
- Wire Cutters (small)
- Needle Nose Pliers (small)
- Solder
- Soldering Tweezers
- Heat gun
- Extension Cord *
- Outlet Strip *

The price for the "Locomotive Power Bank®" Clinic is \$15, see registration form.

Note 1: Additional parts may be available for purchase at the clinic to make at home.

Note 2: This "Locomotive Power Bank®" circuit will not work on ESU LockSound decoders. This "Locomotive Power Bank®" is a two-wire system where the ESU is a three-wire system.

Note 3: I do not have enough extension cord and outlet strips to go around for everyone.

Explore the Contest Room and Celebrate Model Railroad and Non-Rail Creativity

Kennedy Gauger

This clinic explains the various categories available in the Celebration Room and is intended to foster interest in this part of the convention. There are non-competitive categories such as the Modeler's Showcase and informally ranked categories selected by convention attendees (i.e. People's Choice Award). Some of these categories are not rail related and include general, needlework, and Railroadiana, Arts and Crafts items. Others are photographs that are judged according to National Model Railroad Association (NMRA) guidelines. Finally, there are NMRA Achievement Program (AP) categories that are competitively judged according to specific NMRA guidelines. In spite of the competitive judging for AP categories, the sole purpose of the Achievement Program is to improve modeling skills of the participants and to afford these participants an opportunity to observe judging and understand why judges scored the way they did.

Weathering Model Railroad Equipment with Pan Pastels (Hands on Clinic, no additional fee)

Jay Manning

Pan Pastels are an artist's medium. Weathering with Pan Pastels is an easy way to achieve a weathered look to add realism to your equipment. There are numerous articles in the electronic medium world, including a clinic on the NMRA website that discuss how to achieve an appropriate weathered look. It does not involve oils, water, chalks or air brushes. This is a hands-on clinic with supplies furnished by the instructor. **Bring a car or a building to weather. There will be a short presentation of the process and then the participants will weather whatever they bring to the presentation.**

Hamerin' on 2926

Gordon Miller

I will discuss the restoration of Santa Fe Northern 2926. Built by Baldwin Locomotive Works in April, 1944 and retired July 12, 1956. She was ready for steam in 2020.

Alaska Railroad Memories

Rich Holzapfel

This clinic will consist of recollections from my 35 years working for the Alaska Railroad Corp. as an Extra Gang foreman and Work Train Supervisor.

Background Sound Effects for the Beginner

Wes Garcia

In this clinic you will learn the following:

Where on the internet you can find copyright free MP3 files of many different sounds that lend themselves to background sounds.

You will be introduced to Audacity a shareware program that will give you a platform where you can edit or change your MP3 files.

You will be introduced to several small amps that will take SD memory cards and how to use them for play back.

Handouts will be provided, but if you want a MSWord.doc bring a jump drive and after the clinic I will download my file onto your jump drive.

Note 1: It is not required to bring a laptop, but you are welcome to bring one if you don't hold up the clinic.

Selecting Industries for your Model Railroad

Rich Mahaney

This presentation is designed to help model railroaders select industries and community businesses for their model railroad through a systematic approach and by answering a series of questions, thinking about how railroads service their customers, increasing railroad traffic by thinking about the types of railroad cars that are used to service the needs of different types of industries. Examples of real facilities and model railroad examples are used to make the points.

Quick Industries for your Model Railroad (part 2 of the previous talk)

Rich Mahaney

This presentation is designed to give model railroaders ideas for industries for their model railroad that can be assembled in several evenings (or days) of work. These industries can quickly increase the railroad traffic and new customers. Examples of real facilities and model railroad examples are used to make the points. Also, other details involving industries such as track work, loading docks, industry placement along the track and industry building concepts will be looked at. This is part 2 of the previous clinic.

The Dakota Southeastern Division of the NMRA invites you to the 6th annual

Greater Sioux Falls Model Train Show

March 27th and 28th, 2021

Saturday 10:am – 5pm

Sunday 10am – 4:00

**Presentations, train
layouts and vendors.
Run trains.
Fun for the whole family!**



**Come buy, sell or trade
your model train items.
Consignment Sales.
Contact DSED for info.**

**Located in the Multi-Cultural Center
515 N Main Ave - Downtown
Sioux Falls, SD**

Admission: \$5.00 per person - Children 12 and under free with paid adult

Model Railroad Layouts will be on display for viewing and operating.

Visit us: dakotasoutheastern.org; Facebook: Dakota Southeastern Division of NMRA; Email: dakotasoutheastern@gmail.com

FIRST CLASS TICKET - REGISTRATION FORM

2021 TLR Convention

MAY 20-23, 2021

Sponsored by the South Red River Valley
Division of the TLR

Ramada by Wyndam Bismarck

Hotel and Convention Center

1400 Interchange Ave, Bismarck, ND 58501

1-800-554-7077

Room Reservations

mention NMRA for \$89.00 room rate

Note: You must be a member of the National Model Railroad Association to attend. Membership will be checked!

Spouses or significant others need not be NMRA members to attend the Friday Social and Saturday night banquet meals and non-rail events.

If you have ever received an NMRA 'RailPass' membership to attend a previous TLR convention, you cannot use that again. You must sign up for full NMRA membership to attend again this year.

A 9-month 'RailPass' membership is available for new members for \$20.00. See below.

Name _____

NMRA # Required _____

Spouse/Guest Name _____

Expiration Date _____

Address _____

City _____ State/Province _____ Zip/Postal Code _____

Phone () _____ Email _____

EVENTS AND PRICING:	Price	Total
Early-bird Member/Guest/Spouse Registration (Postmarked before May 1 2020) Includes Saturday Banquet	\$80	
Registrations May 1st or later- DO NOT MAIL, see below	\$90	
Saturday Banquet only	\$25	
9-month RailPass NMRA Membership for non-NMRA members	\$20	
Keep Alive Circuit Make & Take Clinic (Limit 32 people) Bring own tools (See March Fusee). Register by April 1st to ensure parts. A second session will be added if there are enough registrations.	\$15	
	Total	

LET US KNOW WHICH EVENTS YOU ARE PLANNING ON ATTENDING:					
		Member		Spouse	
		Y	N	Y	N
Thursday	ND Train Museum Open House and Picnic 6:00 to 8:30 PM				
Friday	Operating Session 6:30 PM (Limit 11, you will receive email confirmation)				
Friday	Non-Rail Event- ND Heritage Museum and Old Governor's Mansion				
Saturday	Two Live Steam Layout Visits, Wilton Depot, Carpool or drive yourself				
Saturday	Banquet and Chinese Auction (Fee above)				
Sunday	Operating Session, 10:30 AM (Limit 11, no repeats, email confirmation)				

List any dietary restrictions (we will do our best to accommodate):

MAKE CHECKS PAYABLE TO: Thousand Lakes Region NMRA (checks deposited after the convention)
Mail completed form and payment to:
Scott and Nancy Stearns
20375 County 4 Blvd
Zumbrota, MN 55992
Scott_b_stearns@hotmail.com, 507-358-0126

SPECIAL NOTE- Do NOT mail your registration later than May 1. Any registrations after May 1 should be brought to the convention and you will be checked in on-site. CALL OR EMAIL the Stearns that you are coming so we can get you in the meal and tour counts.

DCC Clinic: Simple versus Advanced Consisting

By Jared Seliger

Digital Command Control (DCC) enabled locomotives gives modelers greater ability to replicate prototypical operations compared to traditional direct current (DC) locomotives. Taking advantage of the features of a DCC-enabled decoder can add to the realism of model railroad operating sessions. One such aspect is the ability to conduct multiple unit (MU) operations with two or more locomotives. The use of MU lashups has been prevalent throughout the history of railroading; however, its widespread use essentially became the industry standard since the diesel era began. Using MUs, or consists, on your model railroad can be accomplished several different ways. This article will compare the advantages and disadvantages of using both simple and advanced consisting.

Before getting into the details of consisting, it is important to note the limitations of this article. The information presented references a Digitrax DCC System (the Super Chief) and Soundtraxx Tsunami 2 digital sound decoders. The techniques described are applicable to other DCC systems and decoder manufacturers. It is recommended you consult the instruction manual(s) for your particular DCC system and/or decoders before proceeding.

One of the most important factors that needs to be considered before performing any MU operations is to ensure the locomotives being used have matching speeds. Meaning, the locomotives should travel at a very similar speed as you apply speed-steps on your throttle. Mismatched locomotives will travel at different speeds, thus creating a challenge to trouble-free operation. The technique of speed matching locomotives is beyond the scope of this article; however, several model railroading publications and web forums have addressed it in detail.

The first method of establishing a locomotive consist is through your DCC system. This method, reference in this article as a simple consist, utilizes the DCC command station to handle the consist information which utilizes the DCC throttle to create the consist. The DCC system recognizes the DCC address of the head unit (also referred to as the "top" unit) and sends the same commands to other locomotives added to the consist. A simple consist can be created on your DCC system in a matter of a few minutes and similarly locomotives can be removed from the consist quickly as well. The main advantage of a simple consist is that it does not require changing configuration variables (CV) on the locomotive decoders. A simple consist provides enough flexibility to run the consisted locomotives in a head-to-head (Image 1, top), head-to-tail (Image 1, middle), or tail-to-tail configuration (Image 1, bottom).

Using a Digitrax DT402 throttle, the top unit must be active on the right throttle control. The first unit to be placed behind the top unit must be active on the left throttle control. The two locomotives must be active in the same operational direction before creating the consist. For example, the top unit



Image 1- The variable positions of engines for consisting: Top, Head to Head, Middle, Head to Tail, Bottom, Tail to Tail

should be in the forward direction and if the trailing unit is going to be run in a head-to-tail configuration, it should be in a forward direction as well. If the trailing unit is going to be aligned opposite of the top unit, the throttle should be in a reverse direction. Once the orientation is set, the consist is created by pressing the "MU" button on the throttle, followed by the "+" key to add the locomotive on the left throttle to top unit on the right throttle (Image 2 left). If done correctly, the letters "cn" or an abbreviation for consist will be displayed (Image 2 right).



Image 2 showing MU button (second from left) and text prompts.

Follow this process for any additional locomotives to be added to the consist.

The most significant disadvantage to a simple consist is only the top unit will respond to the DCC functions. While being a disadvantage, this isn't necessarily prototypically incorrect. For example, on a prototypical lashup, the train horn and bell only operate on one of the units in the consist. In a simple model railroad consist, activating the horn and bell functions will result in activation of the horn in the top unit. Similarly, usually the lights (headlights and ditch lights) are active on the lead unit in a prototypical consist and the simple DCC consist only activates the light functions on the top unit.

Even with those advantages, the use of simple consists has significant limitations. The functions active on any trailing units in the consist prior to adding it to the consist will remain active for the duration the locomotive is consisted to the top unit. When creating a simple consist, before adding any trailing locomotives to the top unit, it is imperative to have the functions set on each locomotive because once added, you lose control over enabling/disabling functions. For example, if you are adding a sound equipped locomotive and want to hear the prime mover on the trailing locomotive, you must enable (unmute) the prime mover before adding it to the top unit. Conversely, if you have the headlight active on a trailing locomotive and consist it to the top unit, enabling or disabling the lighting function will have no effect on the trailing unit. To deactivate the light on the trailing unit, it has to be removed from the consist, deactivated, and then reinstalled. Similarly, the default mute function on Tsunami 2 decoders is F8. If you enable F8 in a simple consist, it will only apply to the top unit. If you have the prime mover sound activated on any trailing locomotive, it will not mute requiring you do remove the locomotive from the consist and then muting it.

The final example of limitations a simple consist is specific to my layout. For my locomotives, I change CV3

(acceleration) and CV4 (momentum) to values above 200 for each. Changing these CVs gives a more prototypical operation because there is a movement delay when applying throttle (controlled by CV3) and a coasting aspect after putting the throttle to idle (controlled by CV4). With a high value in CV4 causing the coasting, it allows for the use of the train brake to stop the train. The disadvantage of the simple consist is that when the brake is applied (F11 on Tsunami 2 decoders), it is only applied to the top locomotive and all trailing locomotives will continue to move.

Advanced consisting allows for the assignment of controllable functions to the top unit and any other locomotives in the consist overcoming the limitations of simple consisting with only the top unit responding to function commands. Advanced consisting is accomplished by changing specific CV values on each locomotive added to the consist. For Tsunami 2 decoders, the CV values that control advanced consisting are CVs 19, 21, 22, 23 and 24. This article assumes a basic knowledge of CV programming; however, a supplement is included at the conclusion of this article for a short primer on how to determine CV values.

The main difference between simple and advanced consisting is that advanced consisting assigns a new decoder address to each locomotive in the consist. This is controlled by CV19. The new address is a short address between 1 – 127 and it should be an address currently unassigned to any locomotives on your layout (e.g., it is recommended to avoid using the address of "3" since this is typically the default address for most decoders). Before programming CV19 on the locomotives, it is important to note the orientation of the locomotives in the consist. For locomotives that are in the opposite orientation to the top unit, a value of 128 must be added to the value for the consist address. For example, if you want the consist address to be 127, CV19 for all locomotives oriented in the same direction as the top unit will be 127 and CV19 will be 255 (127 + 128) for

locomotives oriented in the opposite direction from the top unit. When CV19 is active, the decoder will respond to the address entered. To disable the consist address, program CV19 to a value of zero. After setting CV19, the next two CVs to program the locomotive functions active or disabled in the advanced consist which are controlled by CVs 21 and 22. The functions covered by CV21 are F1 through F8 and the functions covered by CV22 are F0 (f and r), and F9 through F12. Each function for both CVs must be evaluated to be active

Sound Decoder Function Assignments

Function Key	HO Scale Default Effect	Function Key	HO Scale Default Effect
F0	Headlight	F15	Hand Brake
F1	Bell	F16	HEP Mode On/Off
F2	Horn	F17	Fuel Loading Sequence
F3	Short Horn ¹	F18	General Service Sequence
F4	Dynamic Brakes ² or Straight to Idle ³	F19	(Not Used)
F5	Lighting Effect 1 ⁴	F20	Steam Generator On/Off
F6	Lighting Effect 2 ⁴	F21	(Not Used)
F7	Dimmer/Cab Chatter	F22	(Not Used)
F8	Mute	F23	"All Aboard"/Coach Doors
F9	Alternate Mixer (Half Volume)	F24	(Not Used)
F10	Straight-to-8 & Sander Valve	F25	(Not Used)
F11	Brake Set/Release ⁵	F26	Engine RPM Notch Up
F12	Brake Select	F27	Engine RPM Notch Down
F13	Couple/Uncouple	F28	(Not Used)
F14	Half Speed & Momentum Override	Emergency Stop	Red Emergency Mars Light (If equipped)

1 - The short horn function can be changed to a grade crossing horn sequence by changing CV 37 to 0. If you would like to re-map the short horn function to another key using SoundTraxx' Flex-Map™ function mapping, CV 37 must also be set to 0 to prevent the short horn function from being activated with function key 3.

2 - On locomotives with Dynamic Brakes

3 - On locomotives without Dynamic Brakes

4 - If your locomotive's prototype is equipped with flashing ditch lights, they will flash when the horn button (F2) is depressed.

5 - Functional braking is not enabled by default; to enable, see "Enabling Tsunami2 Braking Rates on your Locomotive" elsewhere in this guide.

for the consist address or not, and the values for CV 21 and 22 can be different for the locomotives in the consist. It is important to know the function map for the locomotives being added to the consist. An example of a Tsunami 2 diesel function map is shown in Image 3 (Previous page). The values for CVs 21 and 22 need to be calculated for each unit in the consist, starting with the top unit and then programmed into the respective unit.

Referring to the function map in Image 3, the top unit on this consist will have the following functions active for the CV consist: headlight (F0(f)); bell (F1); horn (F2); short horn (F3); ditch lights (F5); dimmer (F7); mute (F8); straight-to-eight (F10); and brake (F11). Activating these functions for the top locomotive results in a value of 215 to be entered for CV21 and a value of 25 to be entered for CV22. On a trailing unit, the only active functions needed are F0(r); F8; F10; and F11. All of the other functions (bell, horn, lights, etc.) do not need to be active for this unit. To make these three functions active on the trailing unit, a value of 128 needs to be programmed for CV21 and a value of 26 needs to be programmed for CV22. This process needs to be followed for every locomotive in the consist. For maximum realism, it is important to ensure that the last locomotive in the consist has the function F0(r) programmed on it. Any mid-consist units should not have any light functions assigned to them. Having F0(f) programmed on the top unit and F0I programmed on the tail unit will ensure that the lights will be visible on top unit when moving in a forward direction and the tail unit when travelling in reverse.

Changing values in CV 23 and 24 are a matter of user preference. Unlike CV 21 and 22, it is critical to have the same CV values set in 23 and 24 for all units in the consist. The consist acceleration is controlled by CV23 with CV24 controlling the

coasting. As previously discussed, modify the values for CV3 and 4 for my locomotives so I do the same for the consist. I used a value of 72 for both CV23 and CV24. Unlike CV19, CVs 21-24 do not need to be changed back to their default settings not being used in a consist. When CV19 = 0, each function will respond to the locomotive address. When CV19 > 0, those functions will respond to the consist address.

While the CV values can be easily changed using a programming track and a DCC command station, it does require calculations of the values, especially for CVs 21 and 22. A more simplistic method of programming decoders for advanced consist is using the JMRI interface. While using JMRI, the “advanced consist” tab allows for setting up an advanced consist in a single area. The consist address, direction of each locomotive, the acceleration/coasting, and each individual function can be set (*Image 4, see below*). Each function has a dropdown box which allow the function to be set to the consist address or to the locomotive address. Any function set to the consist address will respond to a function command sent while using the advanced consist. Again, if using JMRI, each locomotive in the consist needs to be programmed accordingly.

It is highly recommended to take good notes when programming decoders for advanced consists. I use a simple word processing program on my tablet to record the CV changes for each locomotive and refer to that list when creating new consists. Having a good reference sheet will save time by not having to recalculate CV values each time a decoder is programmed.

Ultimately, it is up to each modeling for which consist approach is best. A simple consist can be setup within a few minutes on a command station but has some limitation while an advanced consist requires CV programming but provides much more operating flexibility.

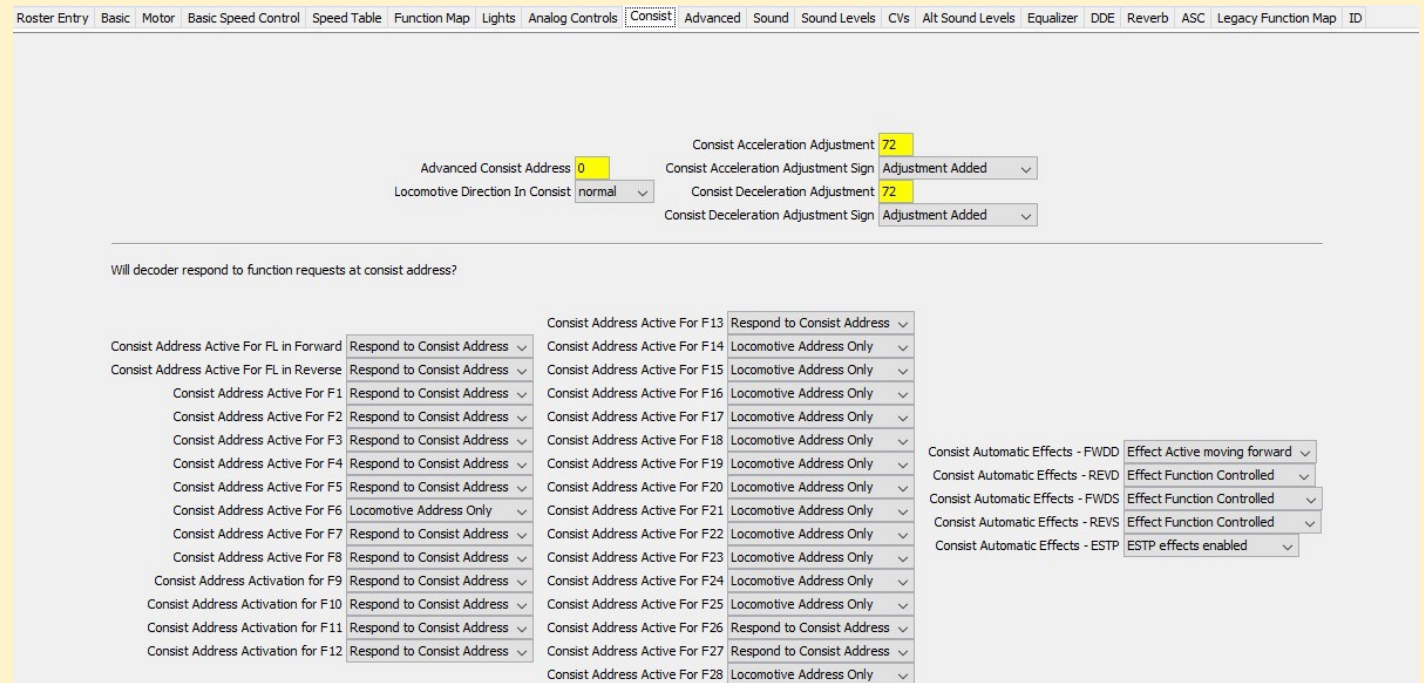


Image 4– Screen shot of the JMRI program, showing the functions that can be controlled in Advanced Consisting.

Configuration Variable value calculations.

Calculating CV values is an important tool for model railroaders which allows for customizing the operations of locomotives. Before a CV calculation can be made, it is critical to know what decoder operations are controlled by a specific CVs. Soundtraxx produces a document entitled "Diesel Technical Reference" which lists each CV and the operation it controls. The most recent version of this document can be obtained by visiting the Soundtraxx website and searching the "manuals" section. It is important to know, some CVs are locked by the manufacturer and not editable by the user. The decoder manual will specify which CVs cannot be modified.

Decoder CVs use computer programming binary digits, or bits. A bit can be assigned two values, a 0 (false) or 1 (true) and in most computer storage situations, including DCC decoder, 8 bits are placed in a cluster called a byte. Since each bit has two possible values (0 or 1) and there are eight bits in a byte, the number of unique values for each byte is 2^8 or 256. Since CVs are in 8-bit clusters resulting in 256 combinations, the range of values for each CV can be between 0 and 255. The array of bits and their weights are shown here:

Bit position	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Bit weight	128	64	32	16	8	4	2	1

Each CV value is determined by deciding what bits are enabled within the CV. To know what decoder function is assigned to each bit, the decoder documentation needs to be consulted. As described above, CV21 controls F1 – F8 activity while using an advanced consist. F1 is assigned to bit 0, F2 is assigned to bit 1, etc. For the top unit in the consist, we wanted F1, F2, F3, F5, F7 and F8 activated. To activate, the bit value should be changed from 0 to 1 which is shown here:

Bit position	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	F8	F7	F6	F5	F4	F3	F2	F1
Bit value	1	1	0	1	0	1	1	1
Bit weight	128	64	32	16	8	4	2	1

To calculate the value for the CV, simply multiply the bit value by the bit weight for all 8 bits and add them up. So in this example, the math would look like this: $(1*1)+(1*2)+(1*4)+(0*8)+(1*16)+(0*32)+(1*64)+(1*128)$ or $1 + 2 + 4 + 0 + 16 + 0 + 64 + 128 = 215$.

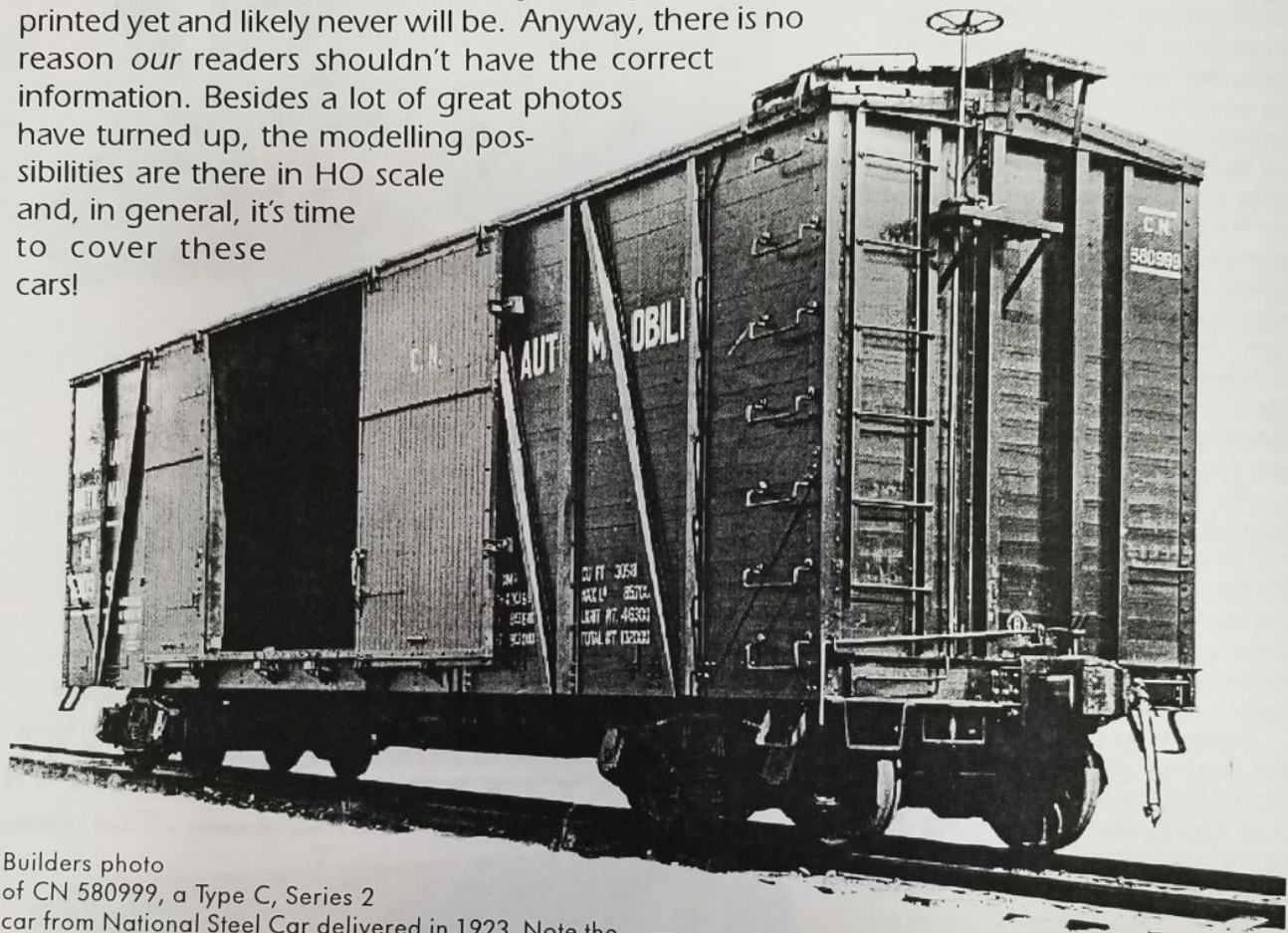
Using a spreadsheet computer program, a simple calculator can be created to quickly enter the bit value for each bit to determine the CV value to be programmed. Please email the author at ck7813@yahoo.com if you wish to have a blank CV calculator emailed to you. You can also print out the blank CV calculator below and enter the "bit value" for the CV you wish to calculate and manually calculate the value in a manner similar to what was described above.

Blank CV calculator

Bit position	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Bit value								
Bit weight	128	64	32	16	8	4	2	1

Steel Frame Automobile Cars & Rebuilds

The CN system's steel frame automobile cars are quite a puzzle as many of the cars were acquired in the 1920 to 1923 amalgamation period and there was lots of subsequent rebuilding and renumbering. If you need proof of this assertion, just consider the number of errors in the February, 1993 *Rail Model Journal* article written by well respected freight car expert, Richard Hendrickson. In the article Richard attempts to track the various renumberings and rebuilds of the 1920s and 1930's and, lacking the full data, inadvertently creates a lot of misinformation. Yes, the correction letter was sent several years ago to *Rail Model Journal* but it hasn't been printed yet and likely never will be. Anyway, there is no reason *our* readers shouldn't have the correct information. Besides a lot of great photos have turned up, the modelling possibilities are there in HO scale and, in general, it's time to cover these cars!

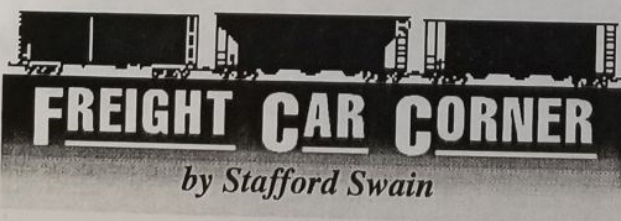


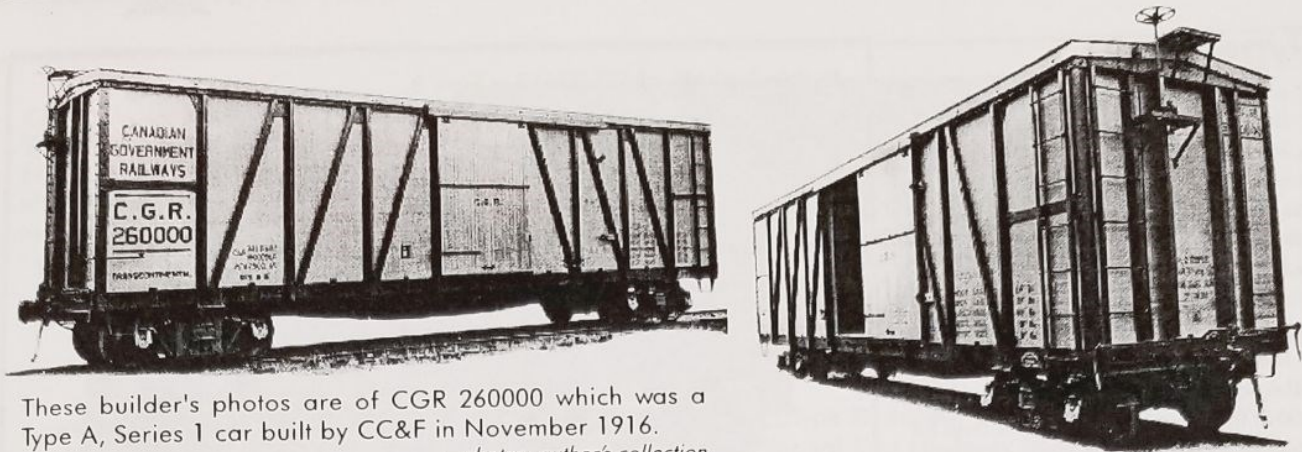
Builders photo of CN 580999, a Type C, Series 2 car from National Steel Car delivered in 1923. Note the use of grab irons on the sides and ladders on the ends. This car was later rebuilt as box car 464999 in 1939.

—photo: Merrillees Collection, Public Archives - PA 164052

Type A

These are the 1916/17 era Fowler design box cars which were built for Canadian Government Railways as 'high cube' grain service box cars for the National Transcontinental. The cars were rather out-size for the era and, with the burgeoning post world war demand for automobile cars (Henry Ford's Model T was the rage), it became expedient for the newly formed Canadian National to turn half of the original 1,000 box cars into automobile cars just three years after being built. The automobile cars conversions of 1920 to 1923 had the door opening widened to 10'2" and an extra 'half door' installed. It should





These builder's photos are of CGR 260000 which was a Type A, Series 1 car built by CC&F in November 1916.

—photos: author's collection

be noted that the 500 conversions were drawn at random from the two builder orders which, albeit very similar, had some minor differences such as the underframe. The converted cars were initially numbered in the 83100–83599 series by CN and in the late 1920's renumbered again as 590000–590499. By 1933, these cars were too small overall for automobile service so they were re-converted back into box cars with 6' door openings over the 1933 to 1938 period. This occurred at a point-in-time when there was no room in the CN number block assigned to the other 500 box cars (then in the 500000–500492 series) so the twice-converted (box to automobile to box) cars were put into the 514000–514499 series. In the end, as

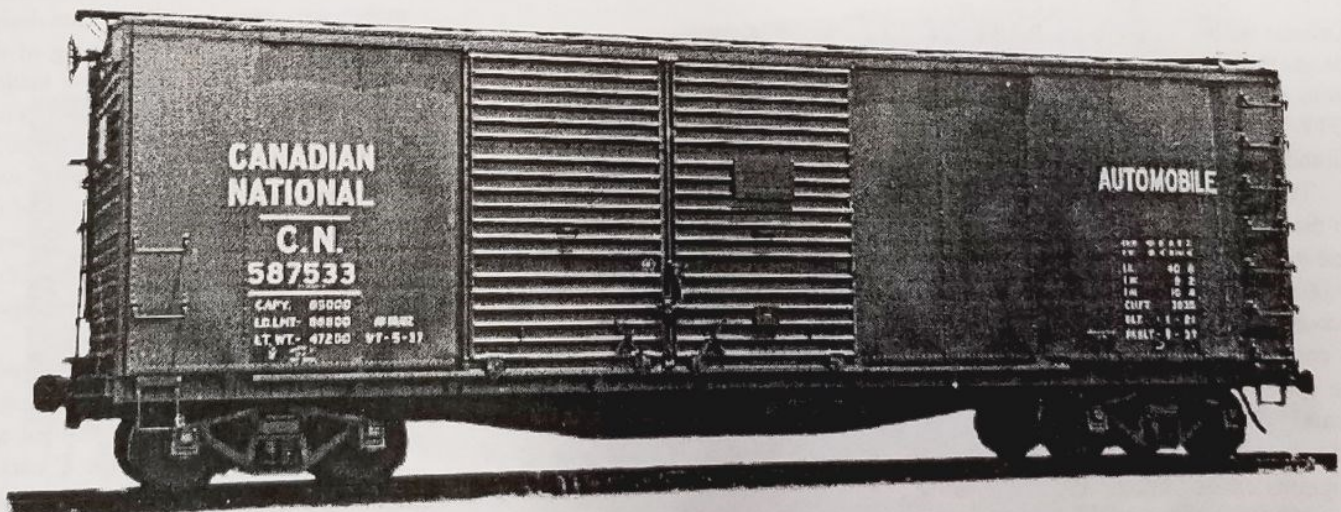
far as I know, these twice-converted box cars physically were no different than the original cars.

From a car spotting viewpoint, the Type A cars are a bit hard to distinguish from say the Type C cars. The clues are

This article originally appeared in *CN LINES*—the publication of the CN Lines SIG of the NMRA. It has been slightly edited and condensed for *The Fusee*. Back issues of *CN LINES* with the original article are still available. See ad on page 24.

the double board wood sheathed roof (all the other steel frame automobile cars had Hutchins steel roofs) and an extra six inches in width over the later, narrower cars. A number of these cars were converted (and therefore renumbered) into stock cars in the early 1960's. Some of these converted stock cars were renumbered again as part of the 1965 general renumbering scheme.

The now classic Storzek and later Des Plaines urethane resin HO kit is based on the C.C.&F. version of the cars (Type A, Series 1). The kit can be modified into the E.C.C. (Type A, Series 2) cars by (i) changing the centre sill from a fishbelly to a channel centre sill and, (ii) relocating the horizontal brace from the corner post to the first Z-brace member on each side.



CN 587533 is a Type B, Series 2 car as rebuilt with steel sides by GTW's Port Huron shops in May of 1937. Curiously, these cars carried CN reporting marks for

only a brief period after their 1937 rebuilding until early 1939. Thereafter, these cars show up only in GTW's Official Railway Equipment Register listings.

—photo: author's collection



Type D

After building the Type C cars in 1923, CN must have realized that their 9'0" inside car body height was rather restrictive for automobile service. In 1925 CN added an additional foot to the design's height and came up with Type D cars. The last cars built to the 1923 box car design were a total five series of Type D cars built between 1925 and 1927 for both CN and the GTW.

The CN versions of Type D cars largely remained as automobile cars throughout their service lives. Starting in 1937, CN opted to convert the Type D cars to double door cars with 12'0" openings with the program ending in 1939. This conversion necessitated beefing-up the lower side sill under the door opening. In the early 1960s, over 250 of the remaining cars were converted to roofless, wood chip cars. As well, a sizable group were converted into stock cars in the early 1960s.

The majority of GTW's Type D cars were converted to 6'0" single door box cars both before and after the Second World War. I haven't come across any photos of the GTW cars, so I'd hesitate to guess what these conversions looked like. Anyone out there with a good example to show us?

The modelling of one of the Type D cars would be challenging as there is no kit available. Logic suggests that using an Accurail shell or two and stretching the sides, ends and doors is the way to go in HO scale. Anyone doing this might be advised to do it right and make patterns for CRMPG so that we can all benefit from your efforts.

Type E


By 1929, Z-brace composite ends were an anachronism. CN therefore ordered a large number of seven panel side, dreadnaught end box cars over a three year period as the 503500-513152 series. Concurrently, a fairly similar automobile box car design was developed for the U.S.-based affiliates which I've designated as Type E. GTW and the Central Vermont (but not CN) became the

owners of 3,002 cars of this basic design. The 1929 design (perhaps by coincidence) had exactly the same interior dimensions as the as yet-to-be developed 1937 AAR box cars and therefore the same 3,712 cubic feet capacity. Type E cars, however, were still a steel frame car body design with the major innovations being dreadnaught steel ends, and in some cases, dreadnaught end doors. The majority of Type E cars had 10'6" side door openings (door and a half) with end doors (Type E, Series 1, 2 and 4). The remaining 1,000 cars had 12'0" openings and double side doors but no end doors (Type E, Series 3 and 5).

Type E cars were rebuilt in various ways starting as early as 1937 and continuing into the 1960s. Some of these rebuilds included steel-side conversions for GTW done in 12/46-5/47 (GTW 441500-441849), and 6/48-10/49 (GTW 585203-585885), with some ultimately finding their way to DWP's 444000 series. The rebuilds included box cars with either 6'0" or 8'0" single door openings, some automobile cars with 13'6" double door openings, and a small group of GTW stock cars. It also appears that in some cases the roof height was extended so as to increase the overall cubic capacity. Lacking photos, I'd hesitate to guess about the appearance of the various conversions. Again, anyone out there with a good example or two to show us?

The Type E cars were featured in a brief article with drawing in the December, 1987 *Mainline Modeler*. Steam Shack used this information in 1992 to issue HO scale urethane resin kits (patterns and castings by Funaro & Camerlengo) which cover both the original variations.

Conclusion

These steel frame automobile cars were created to fill an emerging traffic need and then recycled into more generic service when traffic requirements changed. It's no surprise the development of these cars followed a logical design sequence over time. Perhaps a more in-depth, separate treatment of each type can follow later. 

Dakota Southeastern Division
National Model Railroad Association
presents

**Model Rail '97
Show & Swap Meet**
September 20 & 21, 1997
at the
Western Mall
41st St. & Western Ave.
Sioux Falls, SD
Saturday, 10 am - 5:30 pm
Sunday, 12 noon - 5:00 pm
featuring


- Swap Tables ◦ Operating Layouts ◦
- Popular Vote Contest ◦
- Clinics ◦ Door Prizes ◦

for information contact:

Terry Anderson
109 Milwaukee Ave.
Harrisburg, SD 57032
605-743-5423

The Dakota Southeastern Division is seeking retailers to come to Sioux Falls the weekend of September 20-21, 1997 for its first Mall Show. The Division has had numerous shows at other venues, strictly for model railroaders, but this year will move to the Western Mall where the layouts and vendors will set up in the corridors to be more accessible to the public.

Table charges are set at \$15.00 for the first table and \$10.00 for each additional table for BOTH days. In addition to the swap tables, several fine modular layouts from Minnesota and Iowa, as well as local, have been invited to participate in the show.

On Saturday the meet will include clinics by expert modellers, model and photography contests and many valuable door prizes. The Sunday hours will be dedicated to modular displays and vendor sales. 



**Let NMRA
Put You
on the
Right Track**

Number One Northern Arduino Course

By Neil Carleton, No. 1 Division

A group of Number One Northern members have been getting together weekly on Zoom to learn how to add animation to our layouts using "Arduinos."

Arduino is the brand name for micro processors that can control lights, sounds and motion. The circuits and software are open source so many companies sell clones. Open source software means anyone can write programs, although as we have learned programming ability is not required to use the processors.

Member Larry Skoglund has been getting help from his friend Sean Conway to build animation for his latest Freemo module. Sean is a retired IT Security Specialist and, while not a model railroader, he enjoys creating animation simulations for layouts belonging to friends. He accomplishes this using single board computers like Raspberry Pi's and Arduino microcontrollers. Sean graciously agreed to deliver a class that will get us up to speed on these amazing little circuits. He started by accumulating and delivering kits with a generic "Nano" processor and everything else we need to get started.

He sourced the kits from inexpensive suppliers and it was \$30 for everything needed to get us started. The members were required to provide a computer with USB port, a 9 Volt battery and small speaker.



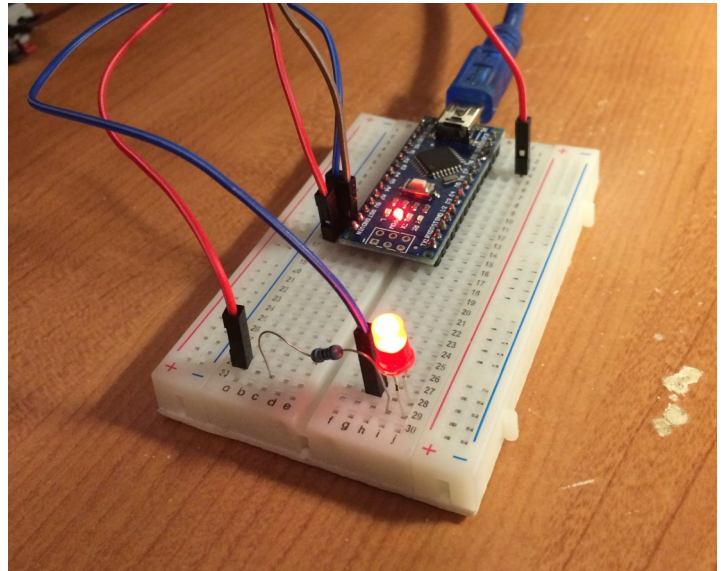
The kit provided to each member participating in the Zoom presentation on Arduino controllers.

A few of the class have prior knowledge of Arduinos but most are neophytes so Sean's patience is both needed and appreciated.

One of the first steps was to download the free operating program to our computers, plug in the Nano using the provided USB cord and load our first "sketch", which Arduino speak for a program.

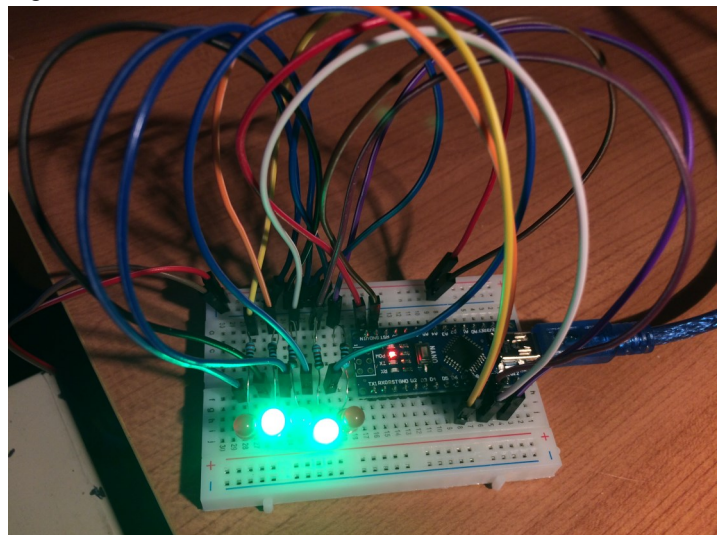
The initial sketch made a small LED on the Nano board flash at one rate then we changed the rate. A subsequent lesson showed us how to attach a separate LED to the board and a make it fade up and down.

Neither sound too exciting but showed how to download the "sketches" and once verified upload them to the Nano, which then caused the effect.



The first "sketch", or program that was learned was to adjust fade an LED, simple but educational!

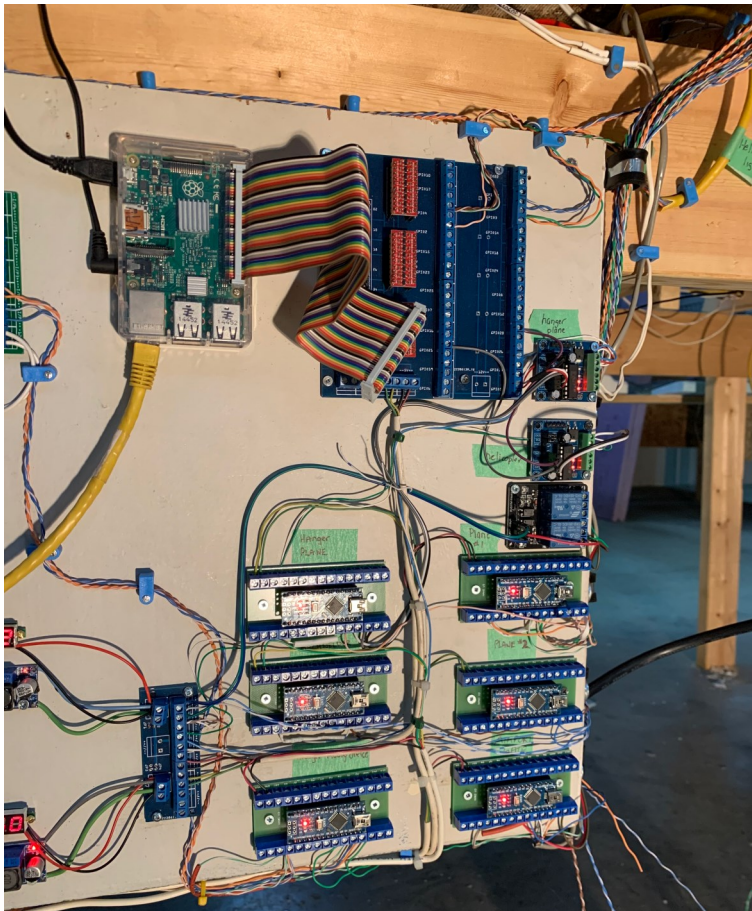
Too makes things more interesting we plugged 5 LEDs to the breadboard and once the sketch was loaded, the lights flashed in random order. Useful if a modeller wants to illuminate an apartment building to make it look occupied. One Nano can be used with up to 15 LEDs, so a pretty big building.



The next step was using multiple LED's and programming a random pattern of blinking.

Shown on the next page are the multiple processors Sean and Larry have installed on Larry's layout and the hanger with an "arc welder" and plane that prepares to take off.

While each effect require specific programming it is good to know that hundreds of sketches have been written and are freely available. Once found the sketch can be "cut and pasted" into the Arduino app and once uploaded the magic happens. Except when it does not.



Some sketches may have incorrect coding, something like missing a colon or bracket. The good news if you “verify” the sketch, it will indicate whether it will work. Often highlighting the fault and with a few clicks you are in business.

The course is scheduled for five sessions. By the end we will be building a sound effect using a micro SD card inserted into a very small mp3 player, allowing sound effects to be played through a speaker.

The final project will be connecting and controlling a small motor, useful for making something move on a layout.

The course has been fun, educational and a great way to use remote learning.

For more information go to:
<https://www.arduino.cc>

Some online electronic resources
Asian

<https://www.banggood.com/>

<https://www.aliexpress.com/>

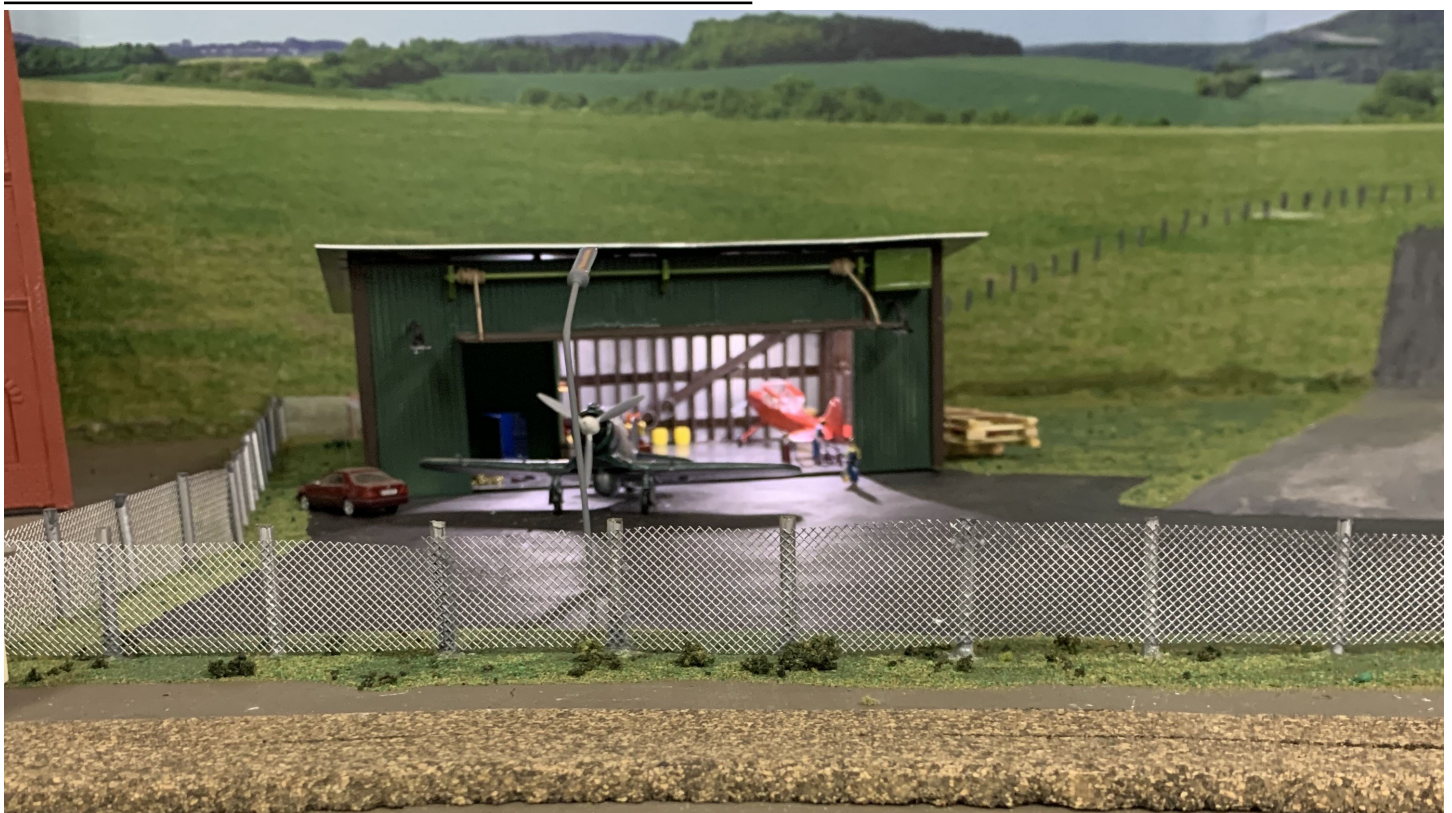
<http://www.icstation.com/>

North America

<https://www.digikey.ca/>

<https://canada.newark.com/>

The multiple Arduino controllers that Sean Conway installed on Larry Skogland's layout.



And arc welder flickers in a hanger while an airplane prepares for take-off. This controlled by an Arduino unit.

Contest Rules for the Thousand Lakes Region (TLR) Celebration Room

This document summarizes the rules for entries made to the Celebration Room during TLR conventions or for judging conducted within the TLR independent of conventions. The TLR rules follow those of the National Model Railroad Association (NMRA), are adapted from rules established by the Mid-Continent Region (MCoR) of the NMRA, and include TLR-specific additions.

All entries require the specified form, in addition to the "Entrant's Intent Form", which specifies in which contest category the entrant wants her/his entry placed.

Judging is closed to the public but "Shadow Judges" (those learning about the judging process by following the judges during contest judging) are allowed and encouraged to participate. Shadow judges also serve as scribes by recording notes for each of the entries submitted. These should be shared with the entrant after judging. Judging is closed to the public to ensure that the Contest Room is quiet and to allow judging teams to concentrate. However, entrants seeking AP Evaluation may be in the Celebration Room to observe the process BUT they are not allowed to speak. This allows those who desire to have their entry evaluated by judges to learn from the process. Any disputes among judges or during entry of models will be resolved by the Contest Director who is the final authority.

Submission by proxy. When an TLR NMRA member is unable to attend a convention or other TLR event where model contest judging is occurring, the individual may submit the entry by proxy, whereby another person who is attending the event can submit the entry on the member's behalf. The TLR member is responsible for completing the entry paperwork as if she/he were attending the event in person.

Events –

1. Judged Model Contest -- For models in this section (Section 1) submit NMRA Forms 901, 902 and supplemental information.

- 1.1 Definition - Competitive events for models: all entries are technically judged by teams of experienced judges using a point scoring system based on a standardized matrix.
- 1.2 Scale - All models shall be judged separately in each classification and category without regard to scale.
- 1.3 The model must have been made by the entrant and cannot have won a first place at any previous National or Regional Convention.
- 1.4 Classifications
 - 1.4.1 Scratch Built - This class is intended for models built largely from basic or scratch materials. However, any model may be included in this classification. The decision is up to the entrant. Entries in the scratch built class are eligible for full point scores on all factors including scratch built which has a maximum score of 15 points for a total of 125 points. The focus in judging is the model, not the tools to build the model. For example, the term "scratch built" carries the implication that the builder alone has accomplished all of the necessary layout and fabrication, which establish the final dimensions, appearance, and operating qualities of the scale model. This definition does not prevent the use of any tools or jigs as long as the builder alone has done the work necessary for the tool to make the part. This would include drawings or computer files to run computer numerical control (CNC) machining, automatic lathes, laser cutting machines, 3-D printers, and other tools. If a third party changes the builder's inputs, then the parts are not considered to be scratch built.
 - 1.4.2 Kit Built - This classification is intended for models comprised of more than 50% kit or largely commercial parts to allow them to compete with similarly built models rather than typically higher scoring scratch built models. However, any model may be included in this classification. The decision is up to the entrant. *Entries in this classification are eligible for full point scores on all factors except scratch built which is limited to 8 points for a total of 118 points.*
 - 1.4.3 Merit Evaluation -- (Form 901, Form 902, and supplemental information, required for all)
 - 1.4.3.1 Definition – Entrant seeks input from Judges regarding entry placed in Categories 1,2, 3, or 4 of these TLR Celebration Rules. The intent of the modeler is to obtain feedback from evaluators regarding aspects of the submitted entry. Specifically, what is good about the entry and what might be done to improve the entry (or documentation). This allows a modeler to "get their feet wet" in the contest room with the goal being to have the modeler go through the merit evaluation process and subsequently getting a merit award for their model when improvements are incorporated.
 - 1.4.4 Categories
 - 1.4.4.1 Steam Locomotives - All types of locomotives powered by steam. The model must include an electric motor or other means of propulsion and be capable of operation to be eligible for the category
 - 1.4.4.2 Diesel & Other Locomotives - All other types of locomotives except those powered by steam and passenger revenue carrying types. The model must include an electric motor or other means of propulsion and be capable of operation to be eligible for the category. In the case

of multiple joined locomotives, at least one of the units must be powered.

- 1.4.4.3 Passenger Cars - All types of passenger revenue carrying equipment, including coaches, observation, mail/RPO, baggage cars as well as powered rail buses and RDC cars. Express reefers and Drover Cabooses are included.
- 1.4.4.4 Freight Cars - All types of freight revenue carrying cars, not including express reefers.
- 1.4.4.5 Caboose - All types, including traditional, bobbers, and transfers type (not Drover, see Passenger Cars, above).
- 1.4.4.6 Non-Revenue - Right-of-way, track maintenance vehicles, rail and inspection cars, railroad cranes and others not considered directly involved in revenue service.
- 1.4.4.7 Traction - All equipment associated with urban, suburban and interurban electrically powered railroads.
- 1.4.4.8 Structures - This category is intended for all individual structures or buildings either on-line or off-line; however, it also includes non-powered locomotives, ship models, freight car loads, cars and trucks, track components such as switches and diamonds and other unusual models that do not fit within other categories at the discretion of the Contest Director. Multiple structures such as a house and garage must be physically connected to be considered a single structure. Likewise, only a detail or details in, on, or otherwise connected to the single structure will be considered during the judging. Any detail not connected to the single structure, will **not** be considered during the judging. A single structure contained within a display may be entered in the structure category in which case only that structure will be judged.
- 1.4.4.9 Display – A display constitutes scenes or dioramas which may include multiple structures, locomotives, rolling stock, scenery elements and other detail. All elements will be judged as a part of the entire scene. (Note that scenery guidelines apply: <https://www.nmra.org/sites/default/files/education/achievement/pdf/2019-scen-eval.pdf>)

2. Module Contest (NMRA Form 901 required for all; does NOT include Merit Award – Judged items, #1, above)

- 2.1 Definition - Competitive Event for modules: all entries are judged by a team of experienced judges using a simple ranking system.
- 2.2 The module must have been made by the entrant (s) and cannot have won a first place at any previous National or Regional Convention.
- 2.3 Module Definition - A small model railway which includes supplemental scenery and track work which is designed to attach to and operate with other similar modules.
- 2.4 Scale - All scales shall be combined in each of two classifications.

2.4.1 Classifications

2.4.1.1 Module - Individual - A module entry built by an individual person.

2.4.1.2 Module - Group - A module built by a group of people.

3. Photo Contest -- (Form 901 required for all; special photography guidelines apply: <https://nmra.org/national-photo-contest-judging-guidelines>)

- 3.1 Definition - Competitive event for photographs, exclusive of slides which are not permitted.
- 3.2 Photos produced using either film or digital cameras are permitted.
- 3.3 Each entrant shall be limited to a maximum of ten (10) entries with a maximum of five (5) entries in one category.
- 3.4 Prints shall be mounted on flat, rigid board or matted with similar material. No folders or glass frames are allowed. Photo and mount shall not exceed 12" x 16" (30cm x 40cm) in size. Minimum mount size is 8" x 10" (20cm x 25cm) and minimum print size is 5" x 7" (13cm x 18cm).
- 3.5 Prints shall have entrant's name on the back. Prints may be titled on the front. Prints with entrant's name on the front will not be accepted.
- 3.6 Exposure of the original slide or photo must have been made by the entrant and cannot have won a first place at any previous National or Regional Convention.
- 3.7 Categories - Each entry shall be placed in one of the following categories:
 - 3.7.1 Model - Black & White Print
 - 3.7.2 Model - Color Print
 - 3.7.3 Prototype - Black & White Print
 - 3.7.4 Prototype – Color Print

4. Pass Contest -- (Form 901 required for all; does NOT include Merit Award – Judged items, #1, above)
 - 4.1 Definition - Competitive event for entrant-made railroad passes: all entries are judged by a team of experienced judges using a simple ranking system.
 - 4.2 Two (2) entries are required in order to show both sides of each pass entered.
 - 4.3 Any type of railroad pass is eligible in the form of a business card or flash card size. All other forms, letters, documents, stock certificates, etc. will not be allowed and will only be accepted as display-only (non-contest) entries.
5. Model Showcase. (Form 901 required for all)
 - 5.1 Definition - Non-competitive display events for models, photos, Arts & Craft or any railroad-oriented display, complete or in process.
6. People's Choice (Popular Vote) -- (Form 901 required for all)
 - 6.1 Definition - Competitive event for models, photos and arts & crafts including direct entries (i.e., People's Choice only) and those also entered in the judged model and photo competitions as well as those entered solely for AP evaluation.
 - 6.2 Entries shall be displayed for evaluation and selection by popular vote by convention attendees. Selection and ranking of the winning entries for all awards shall be determined by the number of votes received. Convention attendees shall be permitted to submit one ballot voting for one entry in each category and for each special award.
 - 6.3 Entries from Sections 1, 2, 3, 4, and 5, above.
 - 6.4 Rail Related
 - 6.4.1 Favorite Train

An assembly which must include one or more locomotives(s) and at least one piece of rolling stock and/or at least one caboose.
 - 6.4.2 Locomotives

All types of locomotives including those powered by steam, diesel, electric and other means. The model must include an electric motor or other means of propulsion and be capable of operation to be eligible for the category.
 - 6.4.3 Rolling Stock (all types)

All types including passenger, freight, non-revenue cars and powered rail buses and RDC cars. Caboose are not included in this category.
 - 6.4.4 Caboose

All types including traditional, bobbers, drovers and transfers types.
 - 6.4.5 Structures

All types of structures. No detached detail or scenery or other scenery material shall be allowed.
 - 6.4.6 Display/Module

Modeled scenes which may include structures, detached detail and other scenery elements.
 - 6.4.7 Most Humorous (Thumbs)

This comprises a special category open to all types of humorous models and whimsical creations (Subject to availability of award). First, second and third places are awarded in this event.
 - 6.4.8 Photo Match Model

This comprises a special category that selects the model which most closely matches the supplied photograph. All categories of models are permitted.
 - 6.4.9 Special Category

Often, special categories are indicated in advance with special requirements. Like the other categories in the People's Choice component of the Celebration Room, these are voted on by convention attendees.
 - 6.5 Non-Rail Related (except for Railroadiana)
 - 6.5.1 Definition – these items need not be prepared for the upcoming Celebration event. Items made earlier, that have not been competitively submitted elsewhere, are eligible for submission.
 - 6.5.2 General

General craft entry of any theme
 - 6.5.3 Needlework

Needlework of any theme
 - 6.5.4 Railroadiana

Craft Entry (General needlework, or other creation) with railroad motif.
 - 6.6 Photographs
 - 6.6.1 Model Print

All photographic prints of models.
 - 6.6.2 Prototype Print

Arts and Crafts Rules -Thousand Lakes Region (TLR) NMRA

(adapted from the Lone Star Region, NMRA)

A. General Rules

1. Any conflicts in judging or registration/entry will be resolved by the Contest Director who is the final authority.
2. The Arts and Crafts Contest is open to anyone who is registered at a TLR Region Convention. Entries may be made by proxy as long as the forms are properly completed by the entrant.
3. Each entry must be accompanied by the NMRA Contest Entry Form (Form 901) signed by the entrant along with the TLR Arts and Crafts Judging form.
4. There will be no restriction on the number of articles entered by a single entrant, nor shall any entry fee be charged.
5. Articles will be displayed to permit the maximum inspection (based on space available). If you have a large entry (taking up ten (10) square feet or more) please check with the Region Contest Director to make sure appropriate space will be available.
6. Items that have won First (1st) place at a previous Regional or National NMRA contest are ineligible.
7. The claim check from the NMRA Contest Entry Form (Form 901) must be presented to obtain the article after the contest.
8. Reasonable care and protection will be provided for entries by the Host Committee and the Judges.
9. Neither the TLR nor the Host Convention Committee can assume any responsibility in the event of loss or damage to an article beyond the insurance carried by the NMRA and then no more than the dollar value that is shown on the NMRA Contest Entry Form.
10. No entries will be accepted after 3PM on Friday (unless otherwise posted). This will allow the Region Contest Director and the Host Convention Committee time to ready the room for judging.
11. The Celebration Room will remain closed to viewing during judging (Saturday 10AM to 4PM) (unless otherwise posted). The room will reopen Saturday following judging for viewing.
12. For the protection of the entries, no bags, purses, camera bags, or drinks will be allowed in the model/photo display area. You are welcome to take photos for your personal use.

B. Categories

1. Arts and Crafts General – Other than Railroadana, Needlework can be from a kit (which includes plans, instructions and materials), Pattern (where the entrant acquires materials separately), or an original design from the entrant. Please specify kit, pattern or original on entry form.
2. Arts and Crafts Railroadana – Same as General except entry must have a railroad motif. Please specify kit, pattern or original on entry form.
3. Arts and Crafts Needlework – Same as General except entry is a type of stitchery (knitting, embroidery, needle-point, sewing, etc.). Please specify kit, pattern or original on entry form.

C. Judging

1. Judging will be done by a team of judges.
2. Points are awarded in the following categories listed on the TLR/NMRA Arts and Crafts Judge's Score Sheet.
 - A. Construction and Materials (maximum of 50 points)
 - B. Difficulty/Complexity (maximum of 30 points)
 - C. Finish and Display (maximum of 25 points)
 - D. Neatness (maximum of 20 points)

D. Awards

1. A plaque will be awarded for First (1st) place in each category.
2. Certificates will be awarded for Second (2nd) and Third (3rd) place in each category.
3. Best of Show will receive a plaque. It is the entry receiving the highest point total on the judges score sheet, from all the entries in the Arts and Crafts contest.

Entry No. _____

TLR Arts & Crafts Contest Judges Score Sheet

Entry Description: _____

Category (check one) **General** **Needlework** **Railroadiana**

Describe your entry in detail. Add other information you feel necessary.

1. **Construction and Materials** (Maximum of 50 points) **Points Awarded** _____
Describe in detail how your entry was made. Note any special materials used.

2. **Difficulty/Complexity** (Maximum of 30 points) **Points Awarded** _____

Kit _____ (10 points Maximum)

Pattern _____ (20 points Maximum)

Original _____ (30 points Maximum)

Describe the complexity of the entry. Note any special techniques required or used. If Pattern or Kit, were any changes made? Was the project adapted from one medium to another?

3. **Finishing** (Maximum of 25 points) **Points Awarded** _____
Describe how the item was prepared for display/use (type of materials, matting, etc.)

4. **Neatness** (Maximum 20 points) **Points Awarded** _____

Judges Comments: _____ **Final Score** _____

Thousand Lakes Region Celebration Room Entry Form Supplement
Entrant's Intent Form First and Last Name Must be Printed and Legible

This entry is being submitted by _____; Member NMRA ID: _____

Entry Number Assigned by Contest Director: _____

Judged Model Contest. Submitted for Achievement Program (AP) Judging to obtain for Merit Award (87 ½ points or higher). (Add initials here: _____)

Other Forms and Documentation

Form 901

Form 902

Supplemental Information

Module Contest. **Not** submitted for AP Judging, but competitively evaluated by simple ranking done by judges.

Other Forms

Form 901b

Any elements of the module (e.g., structures, etc.) maybe submitted separately for AP Judging.

The following item is being submitted for AP Judging:

_____ (Add initials here _____); Supplemental ID Number: _____

Form 901

Form 902

Supplemental Information

Photo Contest

Model Black and White Print: _____ (number of photos)

Form 901 for each photograph

Model Color Print: _____ (number of photos)

Form 901 for each photograph

Prototype Black and White Print: _____ (number of photos)

Form 901 for each photograph

Prototype Color Print: _____ (number of photos)

Form 901 for each photograph

Pass Contest

Front Side of Pass Included

Back Side of Pass Included

Form 901

Modeler's Showcase

Form 901

People's Choice (Popular Vote)

Rail Related Subcategory _____

Form 901 (for each subcategory submitted)

Non-Rail Related Subcategory (**Includes Arts & Crafts**) _____

Form 901 (for each subcategory submitted)

Photograph

Model Print: _____ (number of photos)

Form 901 for each photograph

Prototype Print: _____ (number of photos)

Form 901 for each photograph



NMRA NATIONAL CONTEST ENTRY FORM

NMRA Form #901 Rev I, 10/27/2019. All previous forms obsolete
Please Print All Information

Entry No. _____

ENTRANT / MODELER

Name _____ Group Name _____ Age (if<30): _____
Address _____ City _____ NMRA #: _____
State/Province _____ Zip/Postal Code _____ Country _____ New Modeler: _____
Phone: (____)____-____ Cell Phone (____)____-____ Email _____ Region: _____

CONTEST EVENTS

MODEL CONTEST

(Judged)

Classification

- Scratch Built
 Kit Built

Category

- Steam Locomotive
 Diesel & Other Loco
 Traction
 Passenger Car
 Freight Car
 Caboose
 Non-Revenue Car
 Structure
 Display

MODEL SHOWCASE

(Display only, all categories)

- Entry

PHOTO CONTEST

(Judged)

- Model, B&W Print
 Model, Color Print
 Prototype, B&W Print
 Prototype, Color Print
 Working on the Railroad Print
 Panorama Print

RAILROAD PASS CONTEST

(Judged)

- Entry

PEOPLE'S CHOICE AWARDS

(Popular vote - Direct entry)

Model

- Favorite Train
 Locomotive*
 Rolling Stock*
 Caboose
 Structure
 Display

Arts & Crafts

- General
 Needlework
 Railroadiana
Photo (B&W or Color)
 Model Print
 Prototype Print

Special Award Categories

- Photo Match Thumbs Award

Note - Judged entries are also eligible to be chosen for People's Choice Awards
* - Loco includes steam, diesel & traction; Rolling stk. includes, freight, pass & non-rev.

ENTRY NAME _____

CONDITIONS OF ENTRY

1. First place or Gold Award winners from previous NMRA National Contests are not eligible.
2. This Entry Form (# 901) must be completed for all entries. Judge's Score Sheets (# 902 for Model Contest and # 903 for Module Contest) must also be completed for each entry.
3. Supplemental information, including plans, photos and other supporting documentation may be submitted. This should be organized in order by judging factor (Construction, Detail, Conformity, Finish & Lettering and Scratchbuilt). However, judges are under no obligation to review this material, and the Contest Chairman may limit this information.
4. The Contest Chairman reserves the right to determine how to display entries. Removal of entries from the Contest Room without approval of the Contest Chairman and presentation of the claim check is prohibited.
5. All entries must have a declared value. (See below.)
6. After filling out this Entry Form and the Judge's Score Sheet, if applicable, return both to the Contest Staff who will provide an Entry no. for the Entry Form, Judges Scoring Sheet, Claim Check and Entry Identification Tag. Place entry with Identification Tag attached in the designated location. Retain the Claim Check, which must be signed and presented to pick up the entry at the end of the contest.
7. I hereby certify that this entry is entirely my/our own work or that the original exposure was made by me. I also hereby release the NMRA and all persons connected with this Contest from any liability due to damage to or loss of the entry greater than that covered by the NMRA insurance coverage.
8. I hereby grant the NMRA photo reproduction rights for publication of this entry in NMRA Magazine or any other publication of the NMRA.

Entrant / Modeler Signature _____

Proxy Signature _____

Entry Value
\$ _____

NMRA CONTEST CLAIM CHECK

I hereby certify that entry # _____ entered the Contest and has been returned to me in satisfactory condition

Entrant / Modeler / Proxy Signature _____



NMRA NATIONAL CONTEST JUDGING FORM

NMRA Form #902 Rev. E, 6/16/11 All previous forms obsolete. Please print.

Entry Name _____

Entry No.

1. CONSTRUCTION (Maximum 40 points) (*May qualify for AP scratch built) Points Awarded

Model Basis – Select the description that best applies to your model

- Scratch Built (Complete) *– SB struc. + details (>90%) Kit Bash – Multi kits/ comm. parts assem. not per kit plan
- Scratch Built (Partial) – SB struc.; comm. details (<90%) Kit Built – Per kit plan (> 90%); few modifications
- Mod. Comm. – Shells, frame, struc. or major parts (>50%) Mod. RTR – Some mod. (<20%) to finished comm. model

Name kit or major comm. parts & manufacturer _____

Construction Techniques – Select all methods & materials that apply to your model

- Drew own plans Followed construc. article Cut & fit wood Soldered metal
- Used proto/comm. plans Cut & fit metal Cut & fit cardstock Made patterns
- Used kit plans Cut & fit plastic Cut & fit glass Made molds

Describe in detail how model was built, its complexity and the methods used. _____

2. DETAIL (Maximum 20 points) Points Awarded

Describe complexity, difficulty, refinement & quantity of detail parts added. Identify all commercial parts.

3. CONFORMITY (Maximum 25 points) Points Awarded

Describe prototype design. Include prototype documentation (beyond what may have been supplied in kit).

4. FINISH & LETTERING (Maximum 25 points) Points Awarded

- Weathered Hand Lettered Decals Dry Transfers Spray Airbrush Dry brush Stain

Non-Weathered - Describe methods & materials _____

5. SCRATCH BUILT (Maximum 15 points) - Kit Built Classification Points Awarded

List all parts scratch built; note special refinements _____

6. TOTAL POINTS (Staff only) - **Final Score**

Tabulated by _____ Verified by _____

Building Celebration Room Photography Stands for the TLR: Part 2

By Kennedy Gauger

Introduction

In the Winter 2020 issue of the Fusee the first part of this article was presented. That article documented the Design, Materials and Equipment, Wood Preparation, and Woodworking undertaken to prepare the components needed for three photography stands being made for the TLR to display photographs in the Celebration Room. Part Two of this article presented in this issue of the Fusee describes the steps to complete the three photography stands for ultimate use at a convention or other display event..

Completion

Completion involved several distinct steps which were performed. These were:

- Filling of defects in the wood
- Sanding to accept a finishing material
- Initial assembly to ensure proper alignment of components
- Finishing all wood components with Tung Oil
- Final assembly of the finished photography stand and display its future use in the Celebration Room

Also, the following will be discussed:

- Lessons Learned
- Final Hardware Parts List
- Acknowledgements

These elements will be discussed individually in the sections that follow.

Filling defects in the wood

In nearly all woodworking projects there are parts of the wood that may become chipped during handling of the wood. In this project, this occurred when drilling the holes with a bit or when placing the screw-in inserts. For example, in the latter situation and depending on how the grain of the wood is oriented, the screw-in insert may cause lifting of the wood. The author found that it was cleaner to remove the lifted grain and/or chips and to fill the wood with wood filler. In other situations, a knot fell out of the wood during the process and the hole needed to be filled.

Because Ash has a color gradation from nearly white to a brown hue, the author chose to make wood filler using fine Ash wood powder, mixed with wood glue. Figure 1 shows the powder that was collected.

This powder was prepared by taking material collected in the vacuum system or collected from sanded dust and passing it through a fine-mesh kitchen strainer. It was transferred to a silicon tub designed for storing and mixing glues used in woodworking (Figure 2). The advantage to using this silicon tub is that the Ash filler could be mixed and used for several sessions. The tub has a silicon lid that prevented the filler from rapidly drying out so all filling could be performed with the same material as long as the wood filling was performed within a few days. The other advantage is that only silicone adhesive sticks to silicone, so the tub was easily cleaned out because the



Figure 1. Ash wood powder used to repair woodworking defects



Figure 2. Silicon tub and mixing tool depicting filler mixed with wood glue

wood glue did not stick to the tub. The tub was cleaned using hot water.

The Ash powder and wood glue were uniformly mixed using a silicon mixing stick, also shown in Figure 2. The filler was applied to the wood using a standard spatula used for applying spackling paste. The spatula was cleaned after each use.

An example of the filler applied adjacent to drilled holes and to fill a knot in a pair of the photography stand

uprights is shown in Figure 3. This filler was applied immediately prior to the taking of this photograph. It was allowed to dry and then sanded after 48 to 72 hours to ensure that it had completely dried.



Figure 3. Filler surrounds defects in drilled holes and a knot in a pair of upright boards

Sanding of photography stand wood components

Safety Equipment Used

Because of noise associated with sanding (i.e., the sander and the indoor-outdoor vacuum) hearing protection was worn.

When sanding, the boards were held using the left hand and the sander was moved using the right hand. Gloves were worn to protect inadvertent “sanding” of the hand.

Eye protection was provided by wearing safety glasses that met the ANSI/ISEA Z87.1 standard.

Through the dust collection system of the sander, combined with the indoor-outdoor vacuum, dust levels were minimal. However, because many sanding passes for all of the boards to be sanded, and to ensure that extraneous dust was not inhaled, a 3M respirator fitted with a 3M combination P100 Particulate Filter and Organic Vapors cartridge was worn. The organic vapor cartridge was not required for this application, but it is what the author had available.

Extent of Sanding Conducted

Sanding of all of the wood parts of the photography stands for finishing was the most laborious aspect of the completion process. Each photography stand had the following wood parts that required sanding.

Four upright boards

Six horizontal top cross boards for photographs to lean against (three per side)

Six horizontal bottom cross boards to support the photographs (three per side)

Two end braces (one on each pair of uprights)

One diagonal brace (spanning between the two pair of uprights)

This represents 19 boards for each stand, or 57 boards for all three stands. Each of these boards had four faces to be sanded. This represented 228 faces in total that were sanded. To expand on this, each face was sanded with P60, P100, P120, and P180 grit sandpaper until the boards were ready to be finished. In total, 912 passes were performed to complete the sanding process.

Sanding Tools Used.

Given that Ash is a hard wood and because extensive sanding was required, a power sander was used to accomplish this task. The Festool Rotex RO 125 FEQ sander was used (Figure 4) fitted with 5” diameter abrasive pads. The Rotex RO 125 sander has the capability to remove wood in two modes:



Figure 4. Festool Rotex RO 125 FEQ sander used to prepare photography stand boards for finishing (Note: The green button in the top left of this photograph is the on-off switch)

Aggressive mode, and
Random orbital mode.

The aggressive mode was used with the P60 pads and was effective in removing excess filler and preparing the wood surfaces for finer abrasives. The random orbital mode was used with the P100, P120, and P180 pads. A selector switch on the sander is used to select between these modes. It is the left of the two green buttons on the top of the sander. The sander is in the “random orbital” mode in this photograph indicated by small indentations when viewing the mode selection switch, and from the operator’s viewpoint it is positioned to the left. It can be seen in this photograph that there are large indentations, too. From the operator’s viewpoint if the mode selection switch is in the righthand position, the sander operates in the “aggressive” mode. The green switch behind the indentations toward the operator is the on-off switch, also shown in Figure 4.

Another feature of this sander, which was extremely useful during the extensive sanding required for this pro-

ject, was the ease of changing abrasive pads. The sanding system uses a hook and loop method of attaching the abrasive pads to the sander. The “hook” element is on the bottom of the sander (Figure 5).

The following series of photographs depict the various abrasive pads that were used for this project and these also illustrate the “loop” aspect of attachment to the sander. In this series of photographs, the abrasive side of the pad is on the bottom and the loop side of the pad is on the top. The loop side also shows the grit number.

There are two colors of abrasive: red and light blue. Festool designates the red as Ruben 2, which is an aluminum oxide, synthetic resin, closed coated abrasive which was developed for natural woods and equally is effective for hardwoods and softwoods according to the manufacturer. The coating facilitates shedding of wood fibers from the abrasive so they can be taken up into the vacuum system. The light blue abrasive is called Granat. It is composed of hardened aluminum oxide, synthetic resin, and closed coated. Festool indicates that this is their “most long-lasting” and best performing abrasive. This was observed during this project. Both of these abrasives worked well and were effective for sanding the Ash wood. Ruben 2 abrasive was only used for P100 grit, whereas Granat was used for the other grits.

Figure 6 shows the P60 (blue, Granat) abrasive and P100 abrasive (red, Ruben 2).

Initially it was expected that sanding using P220 or P240 abrasive would be necessary. After sanding with P180, it was evident that it was not necessary to use a grit smaller than P180 because the wood was smooth enough to take a finish well.

When sanding with a palm sander, the person operating the sander tends to apply pressure to the top of the sander. The actual process of sanding using the Rotex sander required to user to “unlearn” that practice. The most effective way to sand is to hold the sander at the back of the sander (see Figure 5) where the electrical cord and the vacuum hose attach to the sander. The weight of the sander controls wood removal. The operator guides the sander back and forth in a manner that keeps the abrasive pad level with the surface being sanded. If weight is applied to the top of the sander, excess wood will be removed, and the surface will be damaged.

It took about three weeks of sanding on several days per week to complete the sanding process. After this portion of the project was done, each of the photography stands were assembled, unfinished, to ensure that everything fit together as intended. This is the subject of the next section.

Initial assembly to ensure proper alignment

Assembly of each stand involved several steps for which the order of assembly makes a difference. Note all hardware must be kept loose. Firming everything up is the final step.

Place all of the hardware required for assembly close to where assembly will occur

Select an upright pair and align the pair so legs that have extra holes are on the same side (front)

The bottom extra hole should be on the left upright pair

The top extra hole should be on the right upright pair

Place the upright pairs on the ground and assemble a horizontal cross brace on each pair.



Figure 5. Bottom of sander showing the “hooks” used to attach the pads to the sander (Note: the larger holes are where sawdust exists the sander into an attached vacuum)

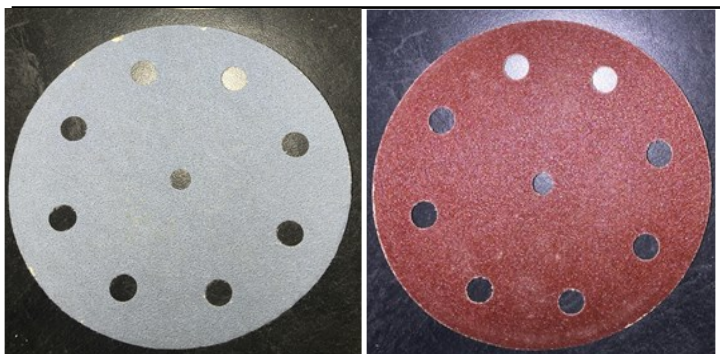


Figure 6: Orbital sander pads, P60 on left and P100 on right. The reverse has the hooks for attachment, and comes in 120, 180, 220 and 240 grit as well.

- The first cross brace should be on the outside of the upright (i.e., outside left for the left upright pair; outside right for the right upright pair)
- With the help of another person who is holding the two upright pairs vertically:
 - First attach the diagonal cross brace in the bottom (left, front) side.
 - Then attach the diagonal cross to the top (right, front) side. The photography stand, although not very stable, should stand on its own.
- Beginning on the front of the photography stand
 - Attach a bottom cross board to the front side
 - Repeat this on the back side
- Beginning on the front of the photography stand
 - Attach a top cross board to the front side
 - Repeat this on the back side.
- Complete adding the cross boards, front and back until all have been added between the upright pairs

Tighten all screws to firm up the photography stand
 Repeat for the remaining stands
 These steps were identified for the unfinished stand. Key steps will be shown using the following figures.

when facing the front of the stand, is on the front left, leaning against the back upright pair. This orientation is necessary to properly assemble the photography stand. The middle hole drilled in the pair against the wall, is for placement of the top of the diagonal cross brace. The front upright pair has an extra hole drilled near the bottom for the diagonal cross brace (not shown).



Figure 7: Hardware and tools required to assemble each photography stand



Figure 8: Upright pair/s for a single photography stand

Hardware and tools placed to be readily accessible.

The hardware and tools needed for assembly of a single photography stand are shown in Figure 7. All of the bolts are sized using 7/16" heads to minimize tool needs, thus, both the driver and combination wrench fit 7/16" hex bolts. Two sets of the hand tools are available in the tool kit so assembly can be completed by a team of two people.

For each stand the following hardware is needed (Figure 14):

- 1/4" x 2" bolt with 7/16" hex head, 26
- 1/4" flat washer, 34
- 1/4" x 3" bolt with 7/16" hex head, 4
- 1/4" flat washer, 8
- 1/4" wing nut, 4

For all three stands:

- 1/4" x 2" with 7/16" hex head, 78
- 1/4" flat washer, 78
- 1/4" x 3" with 7/16" hex head, 12
- 1/4" flat washer, 24
- 1/4" wing nut, 12

Tools available for assembling all of the stands (Figure 14):

- 7/16" nut driver, 2
- 7/16" combination wrench, 2

Upright Supports

Uprights come in pairs and need to be arranged in a particular way at the beginning (Figure 8)

When viewing Figure 8, the right-hand upright pair, when facing the front of the stand, is on the back right – against the wall -- in the photo. The left-hand upright pair,

Assemble a horizontal cross brace on each upright pair

The next step in the assembly was to put the horizontal cross brace near the bottom of the upright pair (figure 9, next page). This cross brace ensures that the uprights form a stable triangle.

Attach the diagonal cross brace

After the horizontal cross braces are in place the uprights are held vertically and the diagonal cross brace is installed on the left side of the stand at the bottom (Figure 10, next page). In this photograph the horizontal cross brace appears to be pointing toward the floor. It is installed using a 2" hex bolt into a 1/4" screw-in insert (not seen). During the next step it is raised diagonally and installed in the upwardly into the front side of the right-hand upright pair (Figure 11, next page).

At this point the two uprights will stand alone. It is still a bit wobbly. Avoid tightening all of the bolts going into the inserts. Slack is needed to make adjustments with the addition of cross boards.

Attach a bottom and top cross boards to the front and back sides of the photography stand

At this point and continuing toward completion the photography stands became more stable with the addition of each cross boards. Begin with a bottom cross board (Figure 12). This appears as a board that has a trough to hold the photograph (i.e., trough was) and in one-fourth inch from the outside edge of the board. This is repeated



Figure 9: Horizontal cross brace near bottom of upright pair using 3" hex bolt and wing nut. (Note: both uprights have a brace, located on the outside of the uprights as they are being faced)



Figure 10: Left upright pair with horizontal brace (back) and diagonal brace held by 2" hex bolt



Figure 11 Diagonal brace from the lower left (bottom of left upright) to the upper right (top of right upright)



Figure 12: Bottom cross board used to support photograph

for the back of the photography stand.

Next do the same thing for the top cross boards and begin going up each side of the stand alternating between bottom and top cross boards. An appearance of the stand with the first top cross board and the second bottom cross board is shown in Figure 13.



Figure 13: Placement of cross boards in alternating manner from the bottom to the top

A photograph of the end view of a completed stand is depicted in Figure 14. When one stand was completed, the other two stands were assembled to make sure all of the boards fit. They did without any issues and it was time to finish the stands with Tung Oil. Before this was done, all of the stands were completely dismantled.

Finishing all of the wood components with Tung Oil

Finishing the Ash wood involved two steps:

Removing residual sawdust using a microfiber cloth

Finishing all of the wood using Watco Tung Oil

Sawdust residual.

Removal of any sawdust adhering to the Ash was accomplished using a microfiber cloth. Particular attention was made to ensure that sawdust in the bottom cross board grooves was removed. All edges and ends of the nearly 230 boards were also cleaned using the microfiber cloth. In spite of the attention to sanding using a vacuum system, a fair amount of sawdust was removed.

Ash Finishing.

When the Ash boards were ready, a 6' x 30" table was covered with plastic sheeting overlaid with butcher paper. Nitrile gloves were worn as a safety measure. Tung oil was applied to the boards resting on the table. Watco Tung Oil was used for this project. It was selected due to its broad availability, ease of application, penetration into the wood, color stability with age, and rapid drying time. Appli-

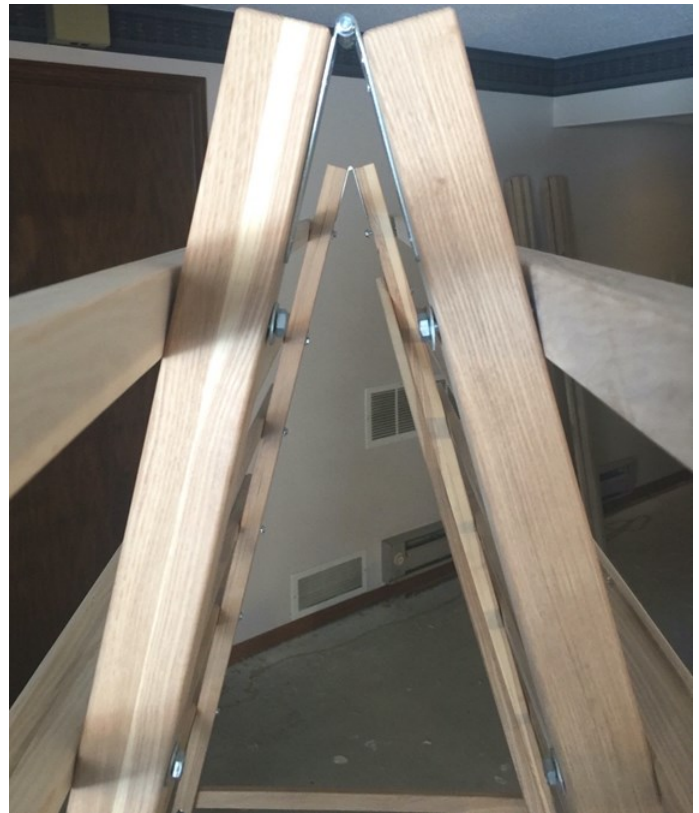


Figure 14: End view of completed assembly

cation of this finishing material was easy and straightforward.

The Tung oil was placed in a glass dish that was placed in a disposable aluminum pan (Figure 15). The purpose in doing this was to minimize spillage and still retain ease of application. A non-lint cloth was used to wipe the oil onto the ash boards as shown in Figure 15.



Figure 15: End view of completed assembly

Particular attention was paid to ensuring that the routed trough the bottom cross boards received adequate Tung oil and that the corners within these spaces were completely treated. All of the boards were allowed to dry for 24 to 48 hours before being handled, subsequently. They were inspected to ensure that each edge had been treated. Figure 15 depicts all of treated boards for a single photography stand.



Figure 15: Full complement of finished Ash wood components for single photography stand.

These finished wood pieces were moved to a room where they could be assembled into a finished stand and set up outside for viewing. This stand was put together with all of the bolts tightened as they would be in the Celebration Room. After this some items were placed on the stand. A copy of a recent NMRA magazine and several model railroad books were also added (Figure 16). A cross stitch such as that which might be displayed with Arts and Crafts is also on the photography stand,

Final assembly of the finished photography stand and display its future use in Celebration Room

Lessons Learned

The project was completed pretty much as anticipated, however during the process the author made several changes in the plan. Chief among these was:

Use of screw-in wood inserts wherever possible.

The author viewed these stands as pieces of furniture that would need to be assembled and dismantled with some frequency. Because of this, it was necessary that the “nuts” to be stable and out of view to ensure that the photography stands were visually appealing. The two screw-in inserts were placed on each of the twelve cross boards and the diagonal cross brace (26 screw-in inserts per photog-



Figure 16: Completed photography stand with items as they might be displayed in the Celebration Room

raphy stand. This way the hex bolts with a washer were only placed on the backside of the uprights with the exception of two hex bolts used for the diagonal cross brace. The use of the screw-in wood inserts also eliminated the use of T-nuts which are difficult to place in a hardwood like Ash and are more prone to dislodging over time.

Selection of rough-sawn wood for uprights.

There was slight warping of some of the wood boards, which was expected due to the fact that all of the boards were six feet in length. It turned out to not be extensive and twisted boards were not encountered. The most extensive warping was observed in uprights glued together using two single boards. If this project was to be repeated, besides 5/4 rough sawn lumber, either 9/4 or 10/4 Ash boards would also be obtained to make the uprights. These would then be planed to the desired dimensions to make the uprights (see Part 1 of this series for details). It would avoid the gluing step as well.

Selection of Watco Tung Oil for finishing.

This Tung Oil turned out to be ideal for finishing these stands and featured characteristics that were beneficial in attaining a desirable finish.

Future use of the photography stands can also be used for Arts and Crafts entries as well as for Photography entries.

Final Hardware Parts List

The final hardware components used for this project are presented below (Table 1). This list reflects a modification of the original plan. The items in Table 1 represent hardware used for a single photography stand. For the TLR stands constructed and described in Part 1 and Part 2 of the Fusee articles, quantities should be multiplied by three.

Table 1. Hardware used for single photography stand

Entry No.	Description	Quantity
1	#6 x 3/4" wood screws	12
2	4" hinge	2
3	1/4" x 2" bolt with 7/16" hex head	26
4	1/4" x 3" bolt with 7/16" hex head	4
5	1/4" flat washer	34
6	1/4"-20 wing nuts	4
7	Furniture type screw-in slotted insert nuts (Type IB, 1/4-20 thread, 0.472")	26

Item 7, above replaced T-nuts indicated in the original plan (reported as Part 1 in the 2020 Winter Fusee issue). Items listed in Table 2 were obtained for use with all three stands:

Table 2. Tools required for all three photography stands

Entry No.	Description	Quantity
1	7/16" hand driver	2
2	7/16 combination wrench	2
3	Tool bag for all hardware, and included extra bolts, washers, and wing nuts	1

Acknowledgements:

The author wishes to acknowledge the Thousand Lakes Region (TLR) of the National Model Railroad Association for approving this project and for providing funds to purchase the Ash hardwood and hardware for these photography stands.

Fallen Flag– Miles Rohn

By Jay Davis

Back on December 24 I lost a mentor and friend Miles Rohn. He fought a long battle with pancreatic cancer. Miles was a big part of our PLD's core group and was one of the founding fathers. He served as superintendent for many years and was always a fixture at PLD events. He also served as TLR president. In 2019 he was awarded the NMRA's Presidents award for Division Service. Several years ago he took over control of the Smokey Mountain Railroad. This is a large permanent display railroad at the Clay County fairgrounds in Spencer, Iowa. The layout was in need of some TLC and a modeler's touch.



Miles (right) and Dick Williams at a TLR Banquet.



Miles (left) operating on his home layout.

Miles recruited many great local modelers and brought this railroad up to a new level. Miles home layout the Rusty Spike is a great operating railroad with exceptional track work, automated signaling system and dispatching panel. I was lucky enough to have operated on his layout countless times. He was always willing to share his knowledge of model railroading, life experiences and his mastery of DCC. It was a pleasure to have known him and traveled with him to many great railroad activities. He will be missed.

THE TLR BOARD of DIRECTORS IS LOOKING FOR A FEW VOLUNTEERS

All positions up for reelection this year due to not having a convention last year due to COVID.

The following will be rotating of the board due to fulfilling their term limits. Art Suel (Secretary), Scott Nesbitt (Convention Director) and Tom Gay (Treasurer).

We will need to find volunteers to fill these 3 positions.

The TLR is a volunteer origination and without volunteers we will not exist. Serving on the Board of Directors will qualify you for the AP incentive. If this is your first AP certificate you will receive \$50.

If you are interested in running or have questions about one of these positions please contact TLR President Jay Manning, or TLR Nomination Chairman Gerry Miller

The list of duties for the positions up for election and reelection are listed below.

President -

1. Preside at all meetings of the Region and of the Board of Directors
2. Be an ex-officio member of all committees
3. Be the official representative of the Region on the N.M.R.A. Board of Trustees.
4. Perform such other duties as, by custom, devolve upon a President or are conferred upon him by the Region or the Board of Directors.

Vice President -

1. Takes on the functions of the President in the event of absence or incapacitation of the President.
2. Keeps in touch with the superintendents of all TLR Divisions. A written report must be provided to the Fusee once a year.
3. Chairs any caucus of the Advisory Council, consisting of the Vice-president and the Division Superintendents.

Secretary -

1. Be responsible for the administrative functions of the Region
2. Keep minutes of all Region meetings
3. Provide an agenda for all meetings
4. Notify members of meetings
5. Have charge of all correspondence

Treasurer -

1. Have charge of the Region finances.
2. Keep accurate records reflecting monies received, monies disbursed and balance on hand.
3. Collect all revenues from any Region sponsored activity.
4. Ensure that the books are ready and available for audit.
5. Provide a report and financial statement at the General Business Meeting.

Contest Director -

The Contest Director shall direct all regional contests in cooperation with convention chairmen and their committees.

Convention Director-

1. Be a representative of the President in working with convention chairmen.
2. Determine feasible sites for future conventions and approach appropriate persons to bid for conventions.
3. Be in contact with all active convention chairmen, to ensure that planned conventions are financially sound and all aspects are properly planned and executed.
4. Maintain a list of clinicians willing to present clinics at annual conventions.
5. Ensure fair rotation of conventions throughout the Region.
6. A written report must be provided to the Fusee once a year.

Public Relations Director

1. Welcome new members.
2. Induce former members to restore themselves to good standing.
3. Secure as much good publicity for the Region as possible.

**Board of Directors Meeting
Thousand Lake Region, NMRA
February 9, 2021 7:00PM
Via Conference Call**

1: Call to Order – President Jay Manning called the meeting to order at 7:00 pm.

2: Roll Call - Secretary Art Suel conducted a roll call. Present were President Manning, Vice President Caleb Van der Brink, Secretary Suel, Treasurer Tom Gay, Public Relations Director/Fusee Editor Kevin Dill, Convention Director Scott Nesbit, and Contest Director Kennedy Gauger. Superintendents present were PLD Jay Davis, Southeastern Gerry Miller, SRRV Matt Lentz, DSED Nesbit and TCD Suel.

3: Approval of Minutes

A: BOD October 22, 2020 were moved as written by Miller and Seconded by Gauger. Motion passed.

4: Treasurer's Report – Tom Gay presented the treasurer's report to the board. Any member wanting a detail copy of the report, contact Gay for a copy. Dill made a motion to accept the report as written and was seconded by Miller. Motion passed.

5: Convention Director's Report –

A: 2021 Bismarck ND Nesbit had Dill explain the options available. First Dill reviewed the current medical information available at this time. Then the options were put forward. Option 1-Live convention with COVID-19 protocols in place. Option 2- Cancel live convention and stream the clinics. Option 3- Cancel the convention and wait for 2022. Option 4- Postpone until September 2021.

The Board discussed the options. Nesbit asked if the hotel is available in September? Unsure currently. After more discussion, Dill moved to hold the convention as planned, second by Miller. Manning asked for a roll call vote. Voting in Favor were Manning, Van der Brink, Gay, Dill, Gauger, Nesbit, Lentz, and Miller. Opposed were Suel and Davis. Motion passed.

6: Contest Director's Report – Kennedy Gauger summarized his January Contest Director report he submitted to the board. The major item of his report is to have a modified Contest Room/Celebration Room at sub regions events in the various divisions. This would give people who wants their models judged for AP Achievement program not competitively for a contest. After some discussion, Manning told Gauger to make a presentation to the Annual General Membership meeting in May.

7: Public Relation's Director Report – Kevin Dill reported that the only activity has been the Fusee.

8: Division Superintendent Reports

A: Dakota Southeastern – Scott Nesbit reported that the division completed the track work on the n scale T Trak modules and are at individual homes getting scenery and details. Two more racks were constructed for the trailer to hold more modules.

B: Prairie Lakes - Jay Davis stated that the division has been inactive during the pandemic. Tentative planning for a spring meet in Sibley Iowa. Division lost a long-time member and mentor in Miles Rohan on December 24, 2020.

C: Southeastern – Gerry Miller said members are working on their individual modules while practicing sheltering in place.

D: South Red River Valley – Matt Lentz reported that two members have received their AP certificates in the

Chief Dispatcher category.

E: No 1 Northern – no report

F: Minnesota River Valley - no report

G: Twin Cities – Art Suel summarized the divisions activity since the last meeting by making their monthly meetings digital via zoom. Averaging around 50 viewers each meeting.

9: Canadian Director Report- Director John Bates was not present but had submitted a report to the TLR Board. National is reviewing the Layout Command Control (LCC) since it has been 10 years since it started. Has not been widely adopted and is perceived to be difficult to use. With the increase in online meetings, intellectual property issues have arisen. National is working on standards to be used.

With the 2021 convention cancelled due to the pandemic and Birmingham England (2022) cancelled because of the pandemic and the Commonwealth Games the convention will be in St Louis Missouri in August 2022. A new version of the NMRA store is now live on the NMRA website. NMRA looking for individuals with skills for their NMRAX team. The January/February ebulletin for details.

10: Old Business

A: Bob Dew Sr Award- Manning asked that board members look over the list of officers who qualify and send their choice to him.

B: Stafford Swain Lifetime Achievement Award- Manning asked BOD to do the same as for Bob Dew Sr award.

Gauger asked if any progress has been made on what platform the region should use, i.e., zoom etc. for presentations. Dill and Lentz have been investigating possible platforms that work on both Mac and PC. Zoom and Skype are the only two found so far. This item will be brought up to the membership in May at the AGM.

11: New Business

A: Membership Boundary Adjustment- Suel asked for the board to approve the adjustment in boundaries as outlined in his memo. To summarize, 1 member residing in Watertown SD would be transferred to DSED, 9 counties in SD would be transferred to DSED from SRRV. The proposal to move the members in division 50 to SRRV (division 35) was withdrawn when Lentz pointed out to the board those members belong to the Spud Valley Model railroad Club.

B: AGM, when and what format - item withdrawn from agenda

C. Elections- Miller reported that the whole board is up for election this year. Three members are term limited, Suel, Gay and Nesbit. One member is interested in the Convention Director role but still need two to fill the spots occupied by Suel and Nesbit.

12: Other Business/Comments- none

13: Adjournment- Dill moved and was seconded by Miller to adjourn. Motion passed.

Respectfully submitted.

Arthur C. Suel

TLR Secretary

Minutes of the Annual General Membership Meeting
Thousand Lakes Region, National Model Railroad Association
May 19, 2019

1: Call to Order. President Jay Manning called the meeting to order at 8:00 am

2: Roll Call. President Jay Manning, Secretary Art Suel, Treasurer Tom Gay, Contest Director Kennedy Gauger, Public Relations Director Kevin Dill and Convention Director Scott Nesbit. Also, in attendance were NMRA National Vice President for Special Projects Gerry Leone MMR and NMRA Canada Director Fred Headon MMR. Twenty-two members were present.

3: Approval of minutes. Secretary Suel recommended approval of the minutes from May 29, 2018 Annual General Meeting held in Sioux Fall, South Dakota. Duane Durre moved to approve, second by Gerry Miller. Motion passed on a voice vote.

4: Treasurer's Report. Gay reported that the regions fund balance is healthy. For members desiring to see the actual report, please contact Tom Gay. Tom Ford moved to approve the report, second by Gerry Miller. Motion passed on a voice vote.

5: President's Remarks. President Manning expressed the gratitude of the board for the great work done by Peggy Miller and Gerry Miller in chairing this convention. Members present broke into a round of applause for the Miller's. Manning expressed a concern for the slowness board members had this past year in responding to requests. Membership in the region is growing but we need to get members involved especially new members to retain their memberships.

6: Director's Reports

A: Convention Director.

1: 2018 Convention. Director Nesbit reported on the soon to be completed 2019 convention here in La Crosse Wi. The operating sessions had 110 spots for members. The Modeling With Masters had 44 participants. Where feasible, would like to continue having operating sessions and Modeling With Masters at future conventions. Reid Karnes did a fantastic job of coordinating the clinics including having to fill a couple of spots after a clinician cancelled.

2: 2020 Site Update. Dakota Southeastern Division will host in Sioux Falls May 14-17, 2020. Major tour will be the Prairie Village in Madison SD. Gerry Miller suggested having a Saturday fare price on the registration form. Possible tour is the cold storage facility. More details as they are firmed up will be in the Fusee.

Bismarck/Mandan will host the 2021 convention May 20-23, 2021. Twin City Division will explore hosting the 2022 convention. Need to keep on the 2-year plan for conventions. The region does have a Convention Handbook.

B: Contest Director. Director Gauger that the entries were split 50/50 between the Thousand Lakes Region and the Midwest Region. Lessons learned were that need to have separate contests for popular vote between non rail and rail entries. Need to coordinate with the contest judges on what forms to use. Thousand Lake Region follows the national protocol for contest.

C: Public Relations.

1: Public Relations Recap. Director Dill review the past year of activities. All Divisions now have a banner to display at events. He is working on sending out a flash drive to divisions with recruiting information and programs from national for their use. Would like divisions to send him information on

where modeling supplies can be purchased. That would include hobby shops, craft stores and any other business that sells supplies that can be used in model railroading.

2: Fusee. The transition from print to digital has been smooth with only a couple of bumps. Instead of posting it on the web site, he will be sending the Fusee out to each email address the region has. The region email list is incomplete. NMRA Vice President Gerry Leone recommended members to notify national when their email changes. Publication deadline is the 1st of June, August, November and February for articles submission.

7: National Officer's Remarks.

A: NMRA Vice President for Special Projects. National VP Leone MMR said that the projected opening of the Magic of Scale railroad is September 2019. Among the displays will Malcolm Furlongs' San Juan Central model railroad. The Partnership program is growing, check it out in the Members' Only section of the NMRA website. If you know of any hobby stores that give NMRA members discounts, send that information to Gerry.

B: NMRA Canadian Director. Director Fred Headon, MMR stated that Leone covered a large portion of what he was going to speak on. National is working for you, the member. Data Sheets are in the process of being reviewed and rewritten. Please read the ebulletin, contains great information in it. Keep headquarters aware of your correct email address.

8: Old Business. There was no old business.

9: New Business.

A: Grant Request Report. Manning reported that the board approve two grant requests Friday night. The first grant went to Dakota Southeastern Division for \$1500.00. This will be used to purchase a larger trailer to transport their modular model railroad to events. This has been a great recruiting tool. The second grant was to the South Red River Valley Division to help construct a section(s) of their T Trak modular railroad. The amount approved was \$500.00.

10: Elections. Nomination Chair Gerry Miller reported that four board positions are up for election. The incumbents are all eligible for reelection. Kevin Dill, Tom Gay, Art Suel and Scott Nesbit were nominated. There were no other nominations. All four were re-elected by voice vote. All board members will continue in their current roles. Dill and Gay will have two-year terms while Suel and Nesbit will have one-year terms due to term limits.

SRRV Superintendent Matt Lentz announced that if any person has spare n scale track etc. they are no longer have a need for, SRRV will gladly take it.

11: Adjournment: Duane Durre moved and was second by Nesbit to adjourn. Motion passed on a voice vote.

Respectfully Submitted

Arthur Suel

TLR Secretary

Region Round-up

South Red River Valley Division
Mathew Lentz, Supt.

In the South Red River Valley Division, we had two members complete the AP Chief Dispatcher – Kevin Dill and Tom Gay. This is a great achievement for not just individuals, but the Division as a whole. We're actively promoting the AP program and the spirit of earning these achievements. One of the more important aspects of the program, that is often overlooked, is that you are not alone in your quest to become a Master Modeler. There are many pieces of the puzzle that you can do with the help of your friends. We'll be demonstrating this at the Bismarck convention in May.

We've prepared a workshop to bench lay 3 pieces of trackwork that can go into the contest room and be judged for merit awards. This will satisfy the section of the Civil certificate on track laying. We're going to do it individually, but together in one place at one time so we can help each other. I expect that this will prove to be an important modeling and social event. The trackwork that we create is not specific to the contest only, rather it's intended to be installed on layouts. The idea of accomplishing something for both merit awards and actual use is motivational. We all need some exciting motivation from time to time and doing these things in a small group setting helps us keep each other on track, so to speak.

We contacted Oak Hill Model Railroad Track Supply in Wisconsin and purchased a large bundle of 12" PCB ties. Jeff from Oak Hill, as many of you already know, is an exceptional craftsman when it comes to building complex track work. He has several templates that you can download for free from his website – which you will find by searching Oak Hill Model Railroad Track Supply. We're also hoping that he may have something for the Chinese Auction in Bismarck.

For those of you who have never been to Bismarck, there are some great photo opportunities. There are a couple places where you can sit on a hillside overlooking the BNSF yard and get photos and videos all day. The DMVW usually has locomotives parked outside their shop that they are in the process of rebuilding and you can just park on the street next to it and not even need to get out of the car to get great closeups of some cool stuff. There's a place where you can watch a car shaker unload open hoppers, also without leaving your car. There are enough trains going across the Missouri river bridge that you can spot them a couple times in an hour. If you like, you can wade in the river to the sand bar and get some good photos or video of the bridge and the trains that cross it. This should be a very relaxed and excellent convention for seeing old friends and having a much-needed social event.

Prairie Lakes Division
Jay Davis, Supt.

The PLD has been in hibernation since the pandemic began with our past two events beginning canceled. We have still been reaching out to our membership through our newsletter and social media outlets. We are still tentatively planning to have an event this spring in Sibley, Iowa. The safety of our members is our first priority. So we will have to see what the spring brings for COVID cases and state guidelines to make a decision on if we have it or not.

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

March 12-13	TCD Modeler's Retreat via Zoom	Contact Ken Zieska, mhry19@gmail.com Registration Required by Email
Mar 27-28	Greater Sioux Falls Model train Show	Multicultural Center, Sioux Falls, SD
April 10	Greater Upper Midwest Train Show	Century College, White Bear Lake, MN
April 17-18	Titletown Train Show	KI Convention Center, Green Bay, WI
May 16	Twin Cities Model Railroad Club	Education Building, MN State Fairgrounds
May 20-23	TLR Annual Convention	Bismarck, ND

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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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		Business	Business	Railroad Ad	
		Rate	Rate	Rate	
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.	Full pg	9 5/8 x 7 1/8"	\$145.00	\$50.75	N/A
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