

Michiana Division



National Model Railroad Association
Midwest Region

FORM - 19

Model Railroading in the Digital Age



A publication of the NMRA, Midwest Region, Michiana Division

Model Railroading in the Digital Age is the slogan of the Newsletter.

In keeping with this line we will feature electronic information depicting aspects of analog and digital modeling.

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April 2023 Form-19 Superintendent's Message By Greg Bueltmann

Greetings Model Railroaders!

As the weather warms up and we venture out of our layout rooms, it is exciting to know that the calendar for 2023 is full of many railroad shows and divisional outings where we can enjoy the company of our fellow modelers and continue to expand our knowledge and experience around both model and prototype railroads. This issue of the Form-19 Newsletter contains details about the online clinics and in-person outings that are planned through June 2023. Come out and join us at these fun events!

It is wonderful to see participation in our division increasing and I am pleased to announce that John Banicki has agreed to serve as our Chief Clerk. John's appointment to this position leaves a vacancy on our board of directors. If you are interested in serving the division in this capacity, please contact me, or any member of the division board. In addition to John's appointment, the board is pleased to announce the designation of Rod Thomson as our Division Director to the Midwest Region. Our sincere thanks go to Rod and John for their service to our organization.

At our December meeting we recognized the service of our departing Chief Clerk, Neal Thomas, who has moved from our division to his new home near Detroit, MI. Thanks to Neal for his many years of service.

Our thanks also go to Jerry Peterson who served on the Midwest Region Board of Directors and concurrently served as the Michiana Division Director to the MWR for many years. Jerry's contributions at the regional level have been significant and have ensured that the Michiana Division has been well represented.

**PLEASE,
STAY SAFE AND
HEALTHY**

Welcome to the 2ND Quarter of the FORM-19 for 2023

REMINDER: *The Michiana Division has moved our regular Saturday meeting to the second Saturday of the month.*

Invitation: Please join us in our meetings for fellowship and learning with other model railroad enthusiasts. We meet on the 2nd Saturday, almost every month. See the location, time and topic at <http://michiana-nmra.org/meetings.html> as well as topics from previous meetings. The **next regular meeting** is **April 8, 2023**.

Future meetings & ideas for topics: Future meetings for the Division would like to alternate locations between eastern and western areas of the Division, attracting more members from west of La Porte. Also, we may be able to “Zoom” some meetings in the future for those who cannot attend in person. We invite you to suggest topics interesting to you. You can do this by posting your ideas on the Division’s **groups.io**. Meeting locations and other attractions are mapped at <http://www.michiana-nmra.org> just click on “Resources” “Michiana Division Interactive Map”.

ROAD TRIPS?

Train shows are continuing to come back and so are in-person conventions. So lets look at the possibilities of hitting the road over the next few months. We’ll look at both model and prototype getaways available and the opportunities to get together with old friends we may not have seen for a while and meet some new friends. Don’t forget to take your models and photos to display and/or enter into the contest rooms when attending a Region and National Convention.

MICHIANA DIVISION ROAD TRIP IDEAS

SWAP MEETS AND TRAIN SHOWS

Here is a source for train shows and swap meets that may be in the primary area of the Michiana Division and the five state areas of Wisconsin, Illinois, Indiana, Michigan and Ohio.

<https://www.trainshowlist.com>

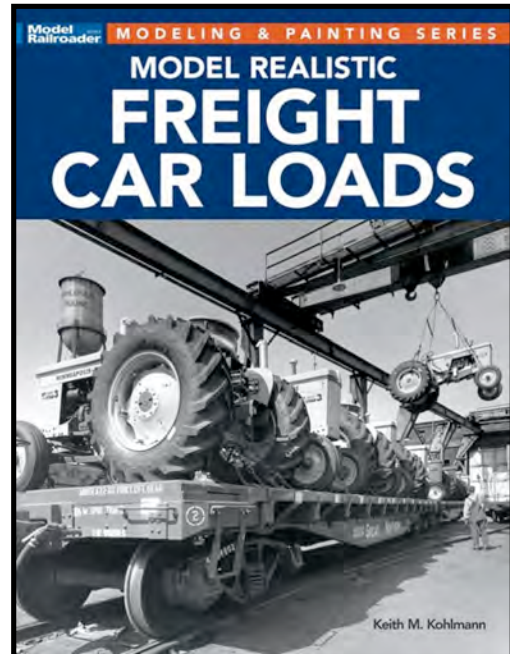
MICHICANA DIVISION AREA SWAP MEETS

4/1/23 – Kalamazoo, MI
 4/1/23 – Ft Wayne, IN
 4/2/23 – Wheaton, IL
 4/8/23 – Peru, IN

**SATURDAY APRIL 8, 2023
ZOOM MEETING
10:00AM CT / 11:00 ET
CLINIC: MODEL REALISTIC FREIGHT CAR LOADS
BY KEITH KOHLMANN**

Keith Kohlmann, author of "Model Realistic Freight Car Loads" published by Kalmbach Publications will be our clinician for the Division April meeting.

Keith Kohlmann is an experienced model railroader and photographer whose focus is N scale modeling. He has written dozens of articles that have appeared in Model Railroader, N Scale Railroading, Railroad Model Craftsman, and other hobby publications. Keith is a middle-school teacher, and is active in the Chicago & North Western Historical Society. He has written articles for that group's magazine, North Western Lines, and has given many presentations on railroads, industries, and history to various local and national historical and modeling groups.



**SATURDAY MAY 13, 2023
DIVISION MEETING
10:00AM CT / 11:00 ET
LOCATION AND TOPIC TBD**

**SATURDAY JUNE 10, 2023
ANNUAL DIVISION MEMBERSHIP MEETING and EXTRA EVENTS
10:00AM CT / 11:00 ET
LOCATION: VALPARAISO BRANCH, PORTER COUNTY PUBLIC LIBRARY
103 Jefferson Street, Valparaiso, IN 46383
CLINIC: The Pennsylvania Railroad and other railroads of NW Indiana
BY KEN HOUGH**

The membership business portion of the meeting will be dedicated to the nominations and Division Members vote for the Division Superintendent position and 3 Board of Director positions.

See Page 14 for more information

PENICK & FORD PROJECT
8000-GALLON SINGLE DOME TANK CAR
 By RON CHRISTENSEN, MMR / PHOTOS BY THE AUTHOR EXCEPT AS NOTED



ABOVE: Lloyd Keyser collection

PROJECT START

The project started with a conversation between Lloyd Keyser and myself about the tank cars used at the Cedar Rapids Penick & Ford corn processing plant.

Lloyd grew up in Cedar Rapids and I had an Uncle that was a Milwaukee railroad engineer who worked the plant.

Lloyd and I had photos of two of the General American Transportation Corp tank cars with the Penick & Ford name on the tank. The photos we had were cars GATX 12503 and GATX 12553 both 8,000 gallon cars. Our pictures of the end of the car show a total capacity of 8040 gallons. Note the specification on the side of the car is: CAPACITY 100,000 LBS.

Tangent makes a General American 1917 design of the 8,000-gallon tank car. I could not find an undecorated car so the Tangent model of GATX 13908 would have to be the starting point.



ABOVE: Lloyd Keyser collection



ABOVE: TANGENT PHOTO, model used for this Project.

REMOVING THE FACTORY LETTERING

The first step was to remove the factory printing from the TANGENT model. The TANGENT models are pad printed, not decaled, so the lettering acts like a coat of paint. In most cases the paint on the body of the model will come off before the lettering.

I had heard that decal-setting fluid would take off the lettering. I had Micro Sol red on hand so that was what I tried.

Rubbing with a wet Q-tip was a long job that removed the lettering and seemed to be removing the body color paint.

Was the paint really removed? The black color on the tank car became shiny, but remained black. Later in the process I had to drill out a running board and the black paint was a coating on white plastic.

I tried Scale Coat paint remover. That was much easier and the results were the same; lettering and a thinned coat of the paint coating were removed. I next washed the car in warm soapy water to remove all the chemical removers. I rinsed the car with clear water and set it aside to air dry.



ABOVE: Removing the factory lettering.

DECALING

Lloyd had decals made with the correct lettering for the tank car.

If you have not worked with decals I would suggest to Google the subject, as there are some fine YouTube instructional videos.

The decal sheet of white lettering is printed on a clear base film. If you have failing eye site as I do it becomes important to coat the backside of the decal paper with a dark coating to see the small decal lettering. I used a dark blue Sharpie to highlight the smaller decal information data. Using a new Exacto blade I carefully cut the data off the decal sheet.

I used warm water to release the decals from the decal sheet.

I like to start at the bottom of a model and work up to the top. So the car detail information in the left hand corner was applied first.

This required cutting or separating parts of the decals as car structure details were in the way of the decal.

This happened several more times, making this harder then just putting on squares of lettering. Moving a decal into the correct position requires some help from decal setting solution or water. I prefer water and after it dries putting just a trace of decal setting solution on a corner of the decal. Decal setting solution can make things slick and before you know it the decal is not level and is set too firm to move again.

When that decal dries more small dabs of decal setting solution were applied until the film disappears. Each side of the car required 17 decal pieces.



**ABOVE: Decal sheet with blue color on backside.
RIGHT: End view of decaled tank car.**



ABOVE: Side view of the decaled tank car.

DAMAGE REPAIR

Two of the corner steps came off. There are four points of contact between the steps and the car. Only 2 of the points are glued. The other 2 points are stubs pushed into holes.

In order to get these back together I drilled out the holes in the running board. That was when the white base plastic was found under the factory black paint.

After all of the repairs were fixed it was time for the final coating.

FINAL PROTECTIVE COATING

I photographed the model before I applied a protective finish. The photos revealed a number of spots where the decal was not contacting the tank car body.

Making a small hole in the decal with a slit using a sharp knife or a needle poke at the affected area can help cure the bad spots. I then added another coat of Decal Set to reset the decal to the model body.

A note of caution that too much Decal Set may cause the decal color to run.

This happened to me and I had to make a small cut and remove a piece of decal where the white had run out of place.

I set the car aside for 24 hours to allow the model to dry after applying the Decal Set solution.

I washed the car, allowed it to dry again and then I sprayed the model with Dullcote.

BELOW: Samples of areas of where the decals are lifted from the model car body leaving air between the decal and the model.



THE FINISHED PROJECT OF THE PENICK & FORD 8000-GALLON TANK CAR MODEL



ABOVE: The PINICK & FORD 8000-GALLON tank car ready to roll on the next train for the delivery of Corn Syrup.

This was a challenging project. The idea of building a P&F Tank Car began during a daily email group exchange. I now have a representative model of a PENICK & FORD 8000-GALLON tank car to run on my C&NW/Milwaukee Railroad. Thanks to everyone that helped with tips, techniques and encouragement to complete the project. And thanks to Lloyd Keyser for providing additional prototype photos and the decals for this project.

LAYOUT ELECTRONICS PROJECTS HIGHWAY-RAIL GRADE CROSSING SIGNALS BY CHUCK HART

In the January Form-19 Newsletter I described how I built a controller device for my Engine Facility Track Power Control. That device allows for temporary control of an individual locomotive service track and to automatically turnoff the track power in a specified amount of time. In this issue lets look at a simple circuit you can build to generate some lighting effects on your model railroad.

From the Federal Railroad Administration.

Highway-railroad grade crossings are intersections where a highway crosses a railroad at-grade. To avoid collisions, warning/control devices are required at grade crossings just like intersecting roads need stop signs or traffic signals. Active Grade Crossings have active warning and control devices such as bell, flashing lights and gates.

CODE OF FEDERAL REGULATIONS (CFR)

Title 49 / Subtitle B / Chapter II / Part 234 / Subpart D / Maintenance Standards

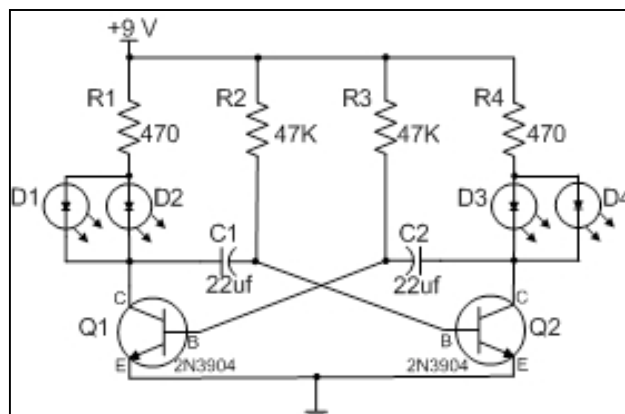
234.217 Flashing light units.

- (a) Each flashing light unit shall be properly positioned and aligned and shall be visible to a highway user approaching the crossing.
- (b) Each flashing light unit shall be maintained to prevent dust and moisture from entering the interior of the unit. Roundels and reflectors shall be clean and in good condition.
- (c) All light units shall flash alternately. The number of flashes per minute for each light unit shall be a 35 minimum and 65 maximum.

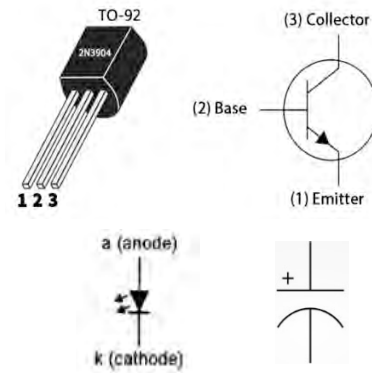
LED Flashing Light circuit – Part 1

There are many model suppliers of highway-railroad grade crossing signals available. In Part 1 of this series we'll look at a simple LED flasher circuit using a few common components and two 2N3904 NPN transistors. This is a simple circuit you can build for the crossing lights using LEDs and then install them in you own set of signal stands. This circuit may have other uses for your layout too. (i.e. Radio towers, tall smoke stacks, wind turbines etc.)

The circuit shown below will alternately flash the D1/D2 pair and the D3/D4 pair LED's at about 47 flashes per minute. This puts the flash rate about mid range of 35-65 per the CFR Requirements.



Electronic components for this circuit.
 Q1/Q2, 2N3904 NPN transistors in a TO92 case size.
 D1-D4, Red LED's.
 C1 & C2, electrolytic capacitors measured in microfarads.
 R1-R4, ¼ watt resistors measured in ohms.
 Power is supplied from a 9 VDC wall wart.
 Note the specific pin connections in the picture to the right.



So what's happening in this circuit and how does it work?

Electronic components of the same style and part number are slightly different in construction due to factors such as the manufacturing process and the raw material used. We can take advantage of these imperfections, as they are essential in the case of the astable multivibrator to get it to start working.

When power is supplied to the circuit let's assume transistor Q1 turns on first. It only takes about 0.7 volts to turn on one of the transistors. When Q1 turns on it acts like a switch and allows current to flow through it, turning on LED's D1 & D2.

LEDs D1, D2 on the left side will light when the transistor Q1 is ON.
 LEDs D3, D4 will light when the transistor on the right side Q2 is ON.
 Resistors R1 and R4 are the current limiters for the LEDs.
 The remaining six components make up the astable multivibrator:
 Q1, Q2, C1, C2, R2, and R3

By the value of R2 and R3 and the charging and discharging action of capacitors C1 and C2 and their value in microfarads, the capacitors will be changing their voltage levels and control the transistors turn on and off sequence. A change in voltage on the left side of C2 controls the voltage level at the base transistor Q1 and a change in voltage levels on the right side of C1 controls the voltage level at the base transistor Q2.

Initially if transistor Q1 turns ON, it changes the voltage of C1 so that Q2 is off. Later, when transistor Q2 turns on, it changes the voltage of C2 so the Q1 turns off.

Since the transistor Q2 is off, its base must be lower than the 0.7V required allowing it to turn on.

The right side of C1 is connected to the base of Q2, so that means it is also lower than 0.7V. The right side of C1 is also connected to +9V through the resistor R2, which means it's charging. So the voltage is rising.

When the right side of C1 reaches 0.7V, the base of transistor Q2 gets 0.7V on its base and turns on which means the LEDs D3, D4 also turn on.

When Q2 turns on, the right side of C2 suddenly goes to 0 volts and the left side of C2 is now a negative voltage being applied to the base of Q1 turning Q1 OFF and turns off LEDs. D1, D2. The left side of C2 starts to charge again through resistor R3. Because it connects to the base of transistor Q1, when it reaches 0.7V, Q1 turns on again. This keeps repeating as long as power is applied to the circuit.

The flash rate of the LEDs in the circuit can be increased or decreased by changing the values of capacitors C1 and C2 which again will change the charge and discharge rate of the circuit operation and the ON / OFF cycle of the transistors.

I have described a simple explanation of the action of the circuit. For a detailed explanation search Google for 'astable multivibrator theory of operation'. There are many animated videos that show the circuit in action. In Part 2 we'll look at another method to build the Flashing Signal Circuit.

The parts below are catalog numbers from All Electronics <https://www.allelectronics.com/>
Parts list

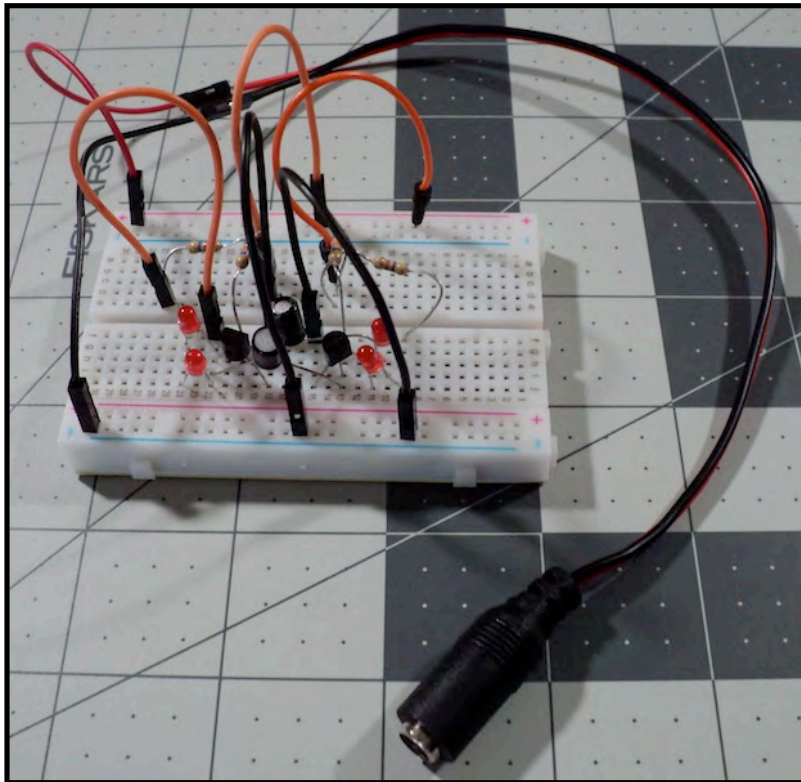
- | | |
|--|-----------------|
| 9VDC 1A WALL TRANSFORMER | CAT # DCTX-9111 |
| TWO HOLE PAD, SINGLE-SIDED BREADBOARD | CAT # SB-2H1 |
| 2N3904 NPN TO-92 TRANSISTOR | CAT # 2N3904 |
| 22 MFD 25V RADIAL ELECTROLYTIC CAP, 105C DEG | CAT # 22R25-C |
| 470 OHM 1/4 WATT RESISTOR | CAT # 291-470 |
| 47K OHM 1/4 WATT RESISTOR | CAT # 291-47K |
- Red LED of your choice for size fit into your signal mast.

Notes:

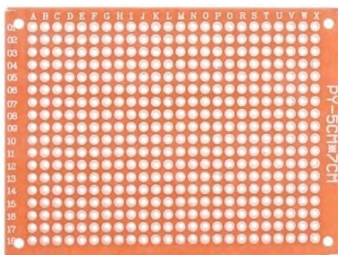
The 1-amp power supply will power many circuits of this type.

Some components are supplied in multiple quantities.

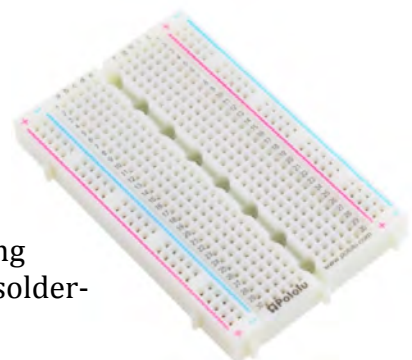
Search Google for 'prototype board' for other choices of the prototyping board size.



ABOVE: I used a prototyping breadboard to test different component values to obtain the LED flash rate desired for this project.



ABOVE: Prototyping board with solder pinholes



RIGHT: Prototyping breadboard with solderless connections



NMRA NEWS

Join the new NMRA Interchange

From: Speed Muller
IT Manager, NMRA

Have you joined the Interchange yet? If not, follow this link to get connected!

Go to www.nmra.org/nmra-interchange

NMRA Digital Magazine

We hope you are all are trying out and enjoying the launch of the NMRA Digital Magazine as much as we are. So far, we have provided the basic information in terms of dues, availability and general benefits.

On mobile devices, laptops, and desktops, the magazines are available as full pages as if reading the print version, as well as a special flowable text version. The flowable text makes it easier to read individual articles by enlarging the text and placing it into one continuous column for easy scrolling. It is simple to go back and forth between the versions.

The digital NMRA Magazine is searchable by keywords so it is easy to find your favorite railroad or topic. You can also bookmark articles for quick access later.

Members are able to save issues offline for viewing when Internet access is not available. This means you can access current and back issues of the NMRA Magazine anytime and anywhere.

Did you miss it?

Thanks to volunteer Tom Bensberg, all NMRA eBulletins and NMRA Dispatches are archived on the NMRA website in the Members Only section.

Are you taking advantage of the NMRA Partnership Program?

The NMRA has partnered with model railroad manufacturers of all sizes who have agreed to give discounts to NMRA members. To see the current listing, log in to our website and visit the Partnership page in the Members Only section: www.nmra.org Membership, Member Home, Benefits, NMRA Partnership Program. **There are now more than 50 Partners participating in the program. Conowingo Models is the latest to manufacturer to join the partnership program.**

It just became easier to purchase stuff from the NMRA

The NMRA now accepts



Renewals, Memberships, Books, Donations, Online store, EVERYTHING



National Model Railroad Association, Inc.
New Member Application

Name:		
Address:		
City:	State/Country	Zip:
Phone:	Birth Date:	Scale:
Email:	Occupation:	

Membership	1 Year	2 Year	Total
Member - All rights & benefits as well as the digital NMRA magazine access.	\$68.00	\$136.00	
Member with Printed Magazine Subscription - All rights & benefits, digital NMRA Magazine access and the Printed Magazine.	\$92.00	\$184.00	
Family - Spouse or minor child of above member. No magazine, no voting rights, not allowed to hold office.	\$10.00	\$20.00	
Sustaining - Mandatory for group memberships (Clubs, Business, Associations). All rights & benefits, digital NMRA Magazine access and the Printed NMRA magazine.	\$120.00	\$240.00	
Student - Between the ages of 19-25 years of age. All rights & benefits, digital NMRA magazine access.	\$40.00	\$80.00	
Membership			\$
General Donation			\$
Merchandise			\$
Region Subscription			\$
Total			\$

Thank you for being a member of the NMRA! It is extremely important to have your current email address on file. This is used for access to the member only section, turntable, ballots, voting, annual donation statements, online renewals and communication. Please be sure to note your email address below.

Email:

Region Subscriptions			
If you do not see your region listed, there is no charge for region subscription! Most regions offer the subscription online on the website.			
21 Northeastern Region	\$12.00	28 Midwest Region	\$6.00
23 North Central Region	\$10.00	33 Southeastern Region	\$10.00
26 Pacific Coast Region	\$8.00	36 Sunshine Region	\$12.00

Make Checks Payable to NMRA. We accept MasterCard, Visa, Discover, and American Express.

Credit Card Number:

Expire Date: CVV Code: Signature: _____

Mail To: NMRA, P. O. Box 1328, Soddy Daisy, TN 37384-1328
Email: HQ@NMRA.ORG
423-892-2846

JUNE 10, 2023**ANNUAL DIVISION MEMBERSHIP MEETING and EXTRA EVENTS**

The Division is planning a full day of railroading and lunch opportunity for the membership. We'll kick off with a short business meeting for the elections of officer for new terms. Then Ken Hough will present a clinic on the Pennsylvania Railroad operations in Northern Indiana and how it interacted with other railroads in the area.

Next we'll meet for lunch at one of the local eateries in Valparaiso.

Then it's off to visit some of the local model railroads in and around Valparaiso.

These include:

The Porter County Model Railroad Club

The G Scale Club at Sunset Hill, Sunset County Park

The G Scale Railway Garden at the Purdue Gabis Arboretum

A handout will be available during the business meeting with the addresses for the restaurant and layout locations.

Thursday Evening Zoom Meets

We began meeting on Zoom every Thursday evening back in May 2020 during the Pandemic and we've kept a steady pace since that time, delivering over 125 online clinics and layout visits in just less than three years. These meetings are open to all modelers and attract visitors from all over the country. Following the call, a video recording of the event is posted on our YouTube channel. The NMRA Michiana Division YouTube channel now has 313 subscribers and receives over 3,700 views and more than 600 hours of watch time each month. A directory of available videos is provided on our division website at www.nmra-michiana.org. If you would like to receive the weekly invite that is sent out for these sessions, please contact me at greg@uncleheavy.com.

MICHINANA DIVISION ELECTIONS FOR 2023**From the Nominations Committee**

1. *Michiana Division Board Of Directors Elections* will be held during the 2023 Annual Membership Meeting in June 2023. There are three openings for the Michiana Division Board of Directors. The Nominating Committee is soliciting for candidates at this time. This is a two-year term position. If you are a current paid-up member of NMRA MWR Michiana Division in good standing and are interested in serving as a Board Member, please submit your name before April 30, 2023 to the Nominating Committee Chairman: James Temple, email: jngtemple@yahoo.com
2. *Michiana Division Superintendent Election* will be held during the 2023 Annual Membership Meeting in June 2023. The Nominating Committee is soliciting for candidates at this time. This is a two-year term position. If you are a current paid-up member of NMRA MWR Michiana Division in good standing and are interested in serving as the Michiana Division Superintendent please submit your name before April 30, 2023 to the Nominating Committee Chairman: James Temple, email jngtemple@yahoo.com

Michiana Division YouTube Channel is now live!

You can now view videos from our Division ZOOM meetings and other event videos. Check out our YouTube channel at <https://www.youtube.com/channel/UCbvaWZMhVoRweILW3aiXZlQ>

YOUR Michiana Division needs a Membership Chairman.

Neal Thomas has left the MWR Michiana Division and has moved to the NCR. Neal contributed to the Division as the Membership Chairman. If you have experience with Microsoft products including MS Word and MS Excel please consider filling the position for the Division Membership Chairman. Only a few hours a month are required fro this important member position. Please contact Superintendent Greg Bueltmann.

Michiana Division - 2815

The Michiana Division was activated effective September 13, 2009. Includes the following Counties in Indiana: Elkhart, Fulton, Jasper, Lake, La Porte, Marshall, Newton, Porter, Pulaski, Saint Joseph, and Starke and the following Counties in Michigan: Berrien and Cass.

Michiana Division Committees

AUDIT COMMITTEE	JIM TEMPLE
NOMINATING COMMITTEE	JIM TEMPLE
ELECTION COMMITTEE	JIM TEMPLE
MEMBERSHIP COMMITTEE	VACANT
CLINIC COMMITTEE	RON CHRISTENSEN, MMR
INTERNET COMMITTEE	GREG BUELTMANN
PUBLICATIONS COMMITTEE	CHUCK HART
CONVENTION COMMITTEE	VACANT
MEET LOCATION COMMITTEE	JOHN BANICKI
AP CHAIRMAN	RON CHRISTENSEN, MMR

We are always looking for help with organizing and making the division stronger from within the membership. Please consider taking the load off by volunteering a small amount of your time.

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