



# THE LANTERN



FEBRUARY 2023 VOLUME 25 ISSUE 2

## From the Superintendent

As I write, the weather is cold and rainy outside now. Perfect weather to stay inside and do some needed tasks, as to work on the layout and accomplish some items that need to be done, and ones to try and see how they turn out. I have plans but not much is being completed. I hope you are accomplishing more than I am.

We have a clinic change for February. Eric Smith was scheduled to present “Beginning Operations” but he has to be on call that Saturday and can not do the clinic. He offered to do the clinic another month and I rescheduled him for April. I was told he does a good presentation and I did not want to lose it. I asked our **John Gorman** if he could do the clinic he was originally scheduled for in April, and present it in February. John graciously said yes and I really appreciate his willingness to change dates and help me out. This situation reminded me of organizing programs for another club in Georgia where someone, usually at the last minute, could not do the program as scheduled. Stuff happens at work or in the family, and they just cannot do it, so you just move on and hope for the best for them.

February 4<sup>th</sup>, our next NMRA meeting is at 1:30 PM in the large conference room at Beaumont library. NOTICE: We will be at Beaumont library this month **John Gorman** will talk on “What are CV Variables and How to use them”. It is a good DCC thing to know. I have used CVs at times to change the volume of the horn, set the address, and adjust the speed of an engine, but there is more to CV variables and John will tell us all about it. **Bob Belt** will also do a short presentation on the Civil AP Award.

For future clinics, on March 4 we will present a couple of mini clinics describing how something works or providing interesting information. On April 1, Eric Smith will present on “Beginning Operations”. All meetings will be hybrid, both on Zoom and in person, please try to attend one of them. We want to see you.

**Cecil Hestand**, our Assistant Superintendent, has been working with different members to develop a number of

mini clinics. Basically it is a presentation of material which takes less time than a full clinic. We aim to provide useful information to the members and thought this might be a good idea. Cecil has already received commitments from a number of members to do a mini clinic on various topics. If Cecil happens to ask you to prepare a mini clinic for the members on a subject you happen to be familiar with, please consider doing one to help out the other members of the division. For our March 4 meeting, Cecil has lined up Stew Winstandley to talk on Steam Engines and **Thomas Bookout** to talk on Braking Systems.

I would like to announce that **Kevin Ellis** has agreed and has been voted in to be a Trustee of Division 10. Thank you Kevin. Trustees have the role of helping our division accomplish our goals and seeing that we stay true to our division’s purpose.

I would also like to announce we have a date for our “Trains Day at the Library”. The date is April 22 from 2 to 4 PM in the large conference room at the Tates Creek library. We hope you all can come by at that time and help to make it a success. We had a great Trains Day a few years ago and then covid hit. We are now getting back to having a public event to promote model railroading. We plan to have some layouts and exhibits available to view and interact with. Last time it was very popular and we all had a good time, and we hope to repeat that again this year. We may even try to hold another “Trains Day at the Library” later in a different county.

Layout tours have also been planned as the weather warms up. On March 19, a Sunday, from 1 to 4 PM, we have been invited to a layout tour at Bob Ferguson’s house. Bob has a great layout with many, many details and the layout has been featured in a recent issue of *Model Railroader* magazine. Bob is a great host and he may also show you how he changes scenes on his layout from time to time. It is very interesting how Bob does this. You may also remember Bob from the train shows where he has sold his N scale railroad cars.

Continued on page 3



For the NMRA MC Region officers link to [www.midcentral-region-nmra.org/bod2.html](http://www.midcentral-region-nmra.org/bod2.html)

*The Lantern* is a monthly (except July) publication of Division 10, Mid Central Region (MCR), National Model Railroad Association (NMRA). All opinions expressed herein are those of the authors, and do not necessarily reflect those of Division 10, the MCR, the NMRA, or anyone else.

## In Recognition...

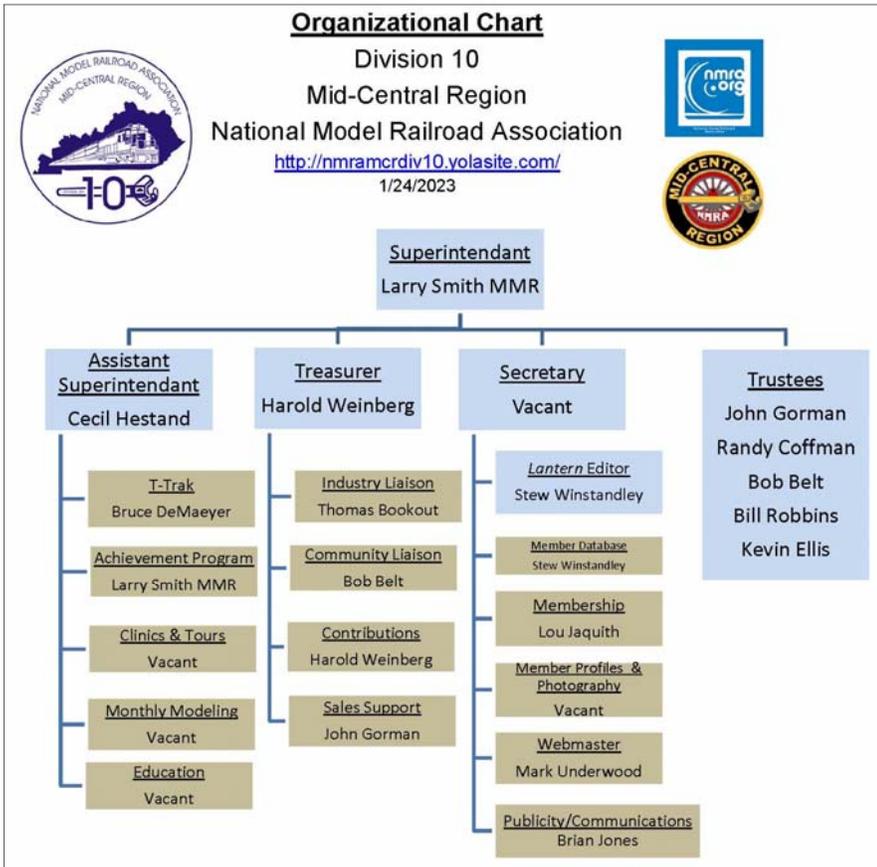
Many thanks to folks listed in the column below. They have given their support for our club. We encourage all NMRA members to help with financial support to *The Lantern* and our website and the Division 10's activities. **Send your monetary contribution to our Treasurer.**

To be listed here your contribution needs to be at least \$20 in cash, or material valued at \$50, or a total of 20 hours time within the last year. Division 10 receives NO monetary support from the NMRA or the MidCentral Region. Div.10 is recognized by the US government as a 501c3 corporation and your cash or material donations may be tax deductible.

Report materials or time to Stew Winstandley. To the right of each contributing member's name is the month of his or her latest contribution. Whenever one makes a contribution of money, material, or time, his or her date will be updated, and for new contributors, their name will be added. Anyone making a contribution will be listed below for 12 months.

Randy Coffman	1/2023
Harold Weinberg	1/2023
John Wilshire	6/2022
Clay Faulconer	4/2022
Larry Smith	4/2022

Photo below shows part of an injection mold, as described in Cecil's article on page 3. The photo was taken at the InterMountain Railway office in Colorado. To the right are slides of F units.



### Division 10's advertising policy:

1. Newsletter • \$10/month for business card • \$15/month for 1/8 page or less • \$25/month for 1/4 page • \$45/month for 1/2 page • \$80/month for full page • Multiple separate ads can be aggregated together for the above price structure.
2. Web site: No commercial ads allowed.

- Website addresses are:
- 1) above at top of Organization Chart,
  - 2) <https://www.facebook.com/NMRA.MCR.Div10/> and
  - 3) <http://ttrak.wikidot.com/nmra-mcr-division-10-the-kentucky-division>
  - 4) YouTube.com search: Division 10 Mid Central Region NMRA, Past Div. 10 clinics are available on YouTube.

**Division 10 Treasurer:** Give or send your contribution to Harold Weinberg, 8 Lansdown Estates, Lexington, KY 40502-3322.



We are also planning layout visits for April and June and I hope to have even more this year. If you would like to host a layout tour, please tell me. It does not have to be a complete and magnificent layout for us to visit. Showing such a layout may help in the flow of ideas and information to assist in planning. I like layout tours because it is a chance to get out and socialize with other members and to find out what and how other persons do with things on their layouts.

Last Saturday at Tates Creek library a bunch of us members got together to do a "Maintenance Day" on the T-Trak modules. The modules have been used on a number of occasions and it was time to fix things, replace parts, and to just check and see if everything worked and was labeled correctly. Constantly putting them together, taking them apart, loading in containers, and all the accompanying handling takes a toll on the modules. It was easier to bring them together in one place so we could make sure the work was done. We did socialize but members got the necessary tasks done so we could attend our upcoming T-Trak layout events, knowing problems had been corrected. If you would like to join us sometime at one of our T-Trak layout displays, please do. We all enjoy doing it.

Take care of yourselves and the ones around you. Please consider being more active in the division if you are not already. Feel free to contact other members to learn what all is going on. As always, contact me if you have any question or concern you feel I can answer.

— Larry Smith

Three subjects are to be reviewed over three months.

1. Plastics. (January *Lantern*)
2. **Injection molds & parts design.** (This month).
3. Injection molding process.

There are many ways to make a plastic part. There is blow molding (for milk jugs, gas cans & coke bottles). There is a process called rotational molding, mainly for making larger parts ( kids toys). The newest is 3D printing. And others. But by far, for high volume production, most of the plastic parts we see daily are done with a process called **injection molding**. Next month I will explain the injection molding process.

Injection molds can be very simple or very complicated. Cost varies widely, from several thousand dollars up to over half million dollars. First thing you need to build a mold is a CAD drawing of the part. Then figure out how much the part will shrink after it come out of the mold. The mold is made larger, taking this shrinkage into account. As the plastic flows into the mold, it shrinks upon cooling.

There are two parts to a mold. One half forms the inside of the part (core) and the other half forms the outside of the part (cavity). Almost all the parts are drafted, keeping the cost down. A draft angle is a taper applied to the vertical walls of the injection mold. The angle of the draft is different depending on the resin. The draft allows the part to come out of the mold (off the core). A square part will not come out the the mold. Ninety degree corners are pretty much avoided, since a 90 degree part makes the mold very expensive. This is an example of limitations to building an injection mold. Some things are impossible to design and make. This is where 3D printing is great, in that you can make parts not possible with injection molds.

Example for us train guys: Look at a box car. The walls of the car are at an angle to the roof. The inside opening near the roof is smaller than the opening at the bottom. Most molds have a 1/2 degree draft. Fitting a side to the base of the car requires taking this into account. A lot of side walls have details, or what is called undercuts. These features are made with a slide in the mold. It also allows the making of a 90 degree corner. Nicer, but costs more to make. Most molds only make one part. Some molds can make two or more different parts. Our model kits contain many parts.

The other thing that affects the mold and resulting part cost is how many parts you get out of the mold per cycle. A one cavity mold gets one part per cycle. Cycle times also vary but most are under one minute. A four cavity mold produces four parts per cycle. The higher the cavitation the higher the cost of the mold, but the lower cost per part. Typical time to build a mold varies, but most are around three months. Mold life depends on the number of parts made and the quality of the mold itself. Some molds are made with aluminum. Others with prehardened steel, which are the longest running.

— Cecil Hestand, Jr.

# THE LANTERN

NEWSLETTER FOR NMRA MCR DIVISION 10

210 BRANNON RD.  
NICHOLASVILLE, KY 40356-9711  
nmramcrdiv10.yolasite.com



Photo below: On January 21st, The Division 10 T-Trak modules were checked at the Bates Creek Library. Attending, left to right: Alan Bourne, Bruce DeMaeyer, Brian Jones, Cecil Hestand, and Bob Belt. Harold Weinberg and Frank Stevenson were also there. Photo by Larry Smith

**FEB. 4, 1:30**

ZOOM & IN-PERSON, BEAUMONT  
BRANCH LIBRARY, 3080  
FIELDSTONE WAY, 40513

**SHORT PRESENTATIONS**

CIVIL AP

**MEETING AGENDA**

DCC CV VARIABLES, JOHN  
GORMAN

**TOURS**

NONE



## AROUND THE BEND

MON.	DAY	HOST	PLACE	EVENT / PROGRAM	TOURS	Short Clinics
Feb.	4	Div. 10	Beaumont Library and on Zoom	CV Variables and How to Use Them, John Gorman	None	Civil AP
March	4	Div. 10	Tates Creek Library	Scratchbuilding	Bob Ferguson's, March 19, 1-4	Steam Locomotives and Brakes
March	18	Div. 8	3938 Poplar Level Rd, Louisville 40213	Train Show & Sale, 10 to 3	Layouts	
April	1	Div. 10	Tates Creek Library	Beginning Operations, Eric Smith	None	Electrical AP
April	22	Div. 10	Tates Creek Library	Trains Day at the Library	T-Trak Layout 2-4	

<https://zoom.us/download> - The web browser client for Zoom meetings will download automatically when you start or join your first Zoom meeting. Whether you are doing a Zoom for the first time or have done it before, use the link (web address) that will be emailed to you the first week of February for the meeting.