



# The Yardmaster

Southwestern Michigan Division



January 2023

Website: [www.ncr-div9.com](http://www.ncr-div9.com)

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**THANK YOU, DAVE VINCI, FOR YOUR MANY YEARS SERVING AS YARDMASTER NEWSLETTER EDITOR. Your efforts are truly appreciated.**

**Great Job!**



**FYI – While Dave is no longer Editor he will continue to be involved as he has agreed to write a column for The Yardmaster titled “Ask Dave”. Members can send Dave their Modeling Questions to Dave’s email address.**

[dj.vinci@frontier.com](mailto:dj.vinci@frontier.com)



## **Division 9 Officers**

Superintendent	- Garry Johnson	<a href="mailto:elecsprk@gmail.com">elecsprk@gmail.com</a>
Assistant Superintendent	- Joel Pyard	<a href="mailto:pyardj@comcast.net">pyardj@comcast.net</a>
Paymaster	- Bob Lawrence	<a href="mailto:robertlawrence44@msn.com">robertlawrence44@msn.com</a>
Scribe & Newsletter Editor	- Alan Bau	<a href="mailto:alanwbau@gmail.com">alanwbau@gmail.com</a>
Trustee	- Doug Van Meter	<a href="mailto:vanmeterda@gmail.com">vanmeterda@gmail.com</a>
Trustee	- Casey Bartman	<a href="mailto:Casey@GR-MI.com">Casey@GR-MI.com</a>

**The Yardmaster** is the newsletter published monthly by Division 9, North Central Region of the National Model Railroad Association.

**Submissions:** Please send articles, news items, inquiries, photos and comments to the Editor of **The Yardmaster**, Alan Bau [alanwbau@gmail.com](mailto:alanwbau@gmail.com) , **by the 1st of the month** for inclusion in the current month's edition.

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## **From the Desk of the Superintendent**

Greetings fellow Division 9 members

My life has turned hectic this past month. Getting everything in order for my final house Inspection, which passed with flying colors and getting the train room ready for painting. I am so looking forward to building the benchwork which will consist of metal stud/track construction. More on this style of constructing the layout in the future. I've had two additional surgeries which have slowed but not stopped work. Another surgery is coming up the second week of January. Hopefully that will conclude surgeries for a while.

I have been watching a U-Tube video channel called Boomer Diorama/River Road. He has a wealth of modeling experience having done dioramas professionally. What I really like is his attention to detail. He demonstrates and encourages the views by showing step by step and saying don't be afraid to try; mistakes made are learning experiences which is how he learned from other masters. Two projects that I really liked was a fifteen part scratch build of a diner which he got the idea from a painting called The "Nighthawks" diner. Truly amazing, he built bar stools from scratch which looked like the real deal. Building a jukebox again is amazing. The other is "Why do I Model Scale Trees". Check these out as well as his other videos.

**Sad News** – Garry didn't mention it in his article, but his father who was 97 passed away on Thursday December 29<sup>th</sup>. Our condolences to Garry and his family.

## **Editor's Comments**

For those of you that don't know, I have agreed to take on the responsibility of Yardmaster Newsletter Editor starting with the January 2023 edition. I only hope to come close to the work done by Dave Vinci over the last eight years. There is no question in my mind I will need the support of the entire organization to continue publishing meaningful newsletters.

We are always looking for ways to improve this publication so any comments, suggestions, ideas, etc. that you come up with, please forward them to [alanwbau@gmail.com](mailto:alanwbau@gmail.com). There are many ways each of you can help, for example you can write articles, take train or layout photos, respond to surveys, tell us about your favorite modeling websites, or anything else you think of pertaining to our hobby would be helpful.

Thank you in advance for your support as we move forward into the new year.

Alan Bau  
Division 9 Scribe & Newsletter Editor

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**Achievement Program** To see the requirements for AP awards see the NMRA website, or contact our Division AP coordinator, Dorman Wilson at [N8YNW@charter.net](mailto:N8YNW@charter.net)

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## **Board Meeting Notice:**

We have been meeting at least monthly over the past six months to prepare for the October Division 9 Convention. Since there is no pressing business, we decided to cancel the January Board Meeting. If any urgent business comes up, we will hold a special meeting to deal with the issue. Our next scheduled board meeting is April 2, 2023, at 2:00PM. Most likely this will be a zoom meeting.

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## **Division 9 Website**

Did you know we have our own website? Thanks to Casey Bartman for his efforts in developing and maintaining it. Casey provided an update of current developmental efforts in this edition of the Yardmaster. If you have any questions, comments ideas, etc. please contact Casey at [casey@annarborrailway.com](mailto:casey@annarborrailway.com)

The Division 9 Website address is: [www.ncr-div9.com](http://www.ncr-div9.com).

## **Upcoming Division Nine Membership Meetings & Events:**

<b>Presenter</b>	<b>Date</b>	<b>Location</b>	<b>Presentation Subject</b>
Bill Neale	Jan. 21 <sup>st</sup>	Colonial Kitchen	Upgrading and Refreshing (or what I did during Covid Shutdown)
Rich Mahaney	February 18 <sup>th</sup>	Colonial Kitchen	"Big Pipes" dealing with Modeling Details
Dave Vinci	March 18 <sup>th</sup>	Colonial Kitchen	TBD
Ralph Moxley Possibly + 1 Tour (TBD)	April 15 <sup>th</sup>	TBD	TBD
Casey Fisher &  Dale & Deb Killarney	May 20 <sup>th</sup>	305 Hyde Circle Dr., Plainwell  34228 N. Brookwood Gobles	Layout Tours  May stop for lunch at the Club Car
Maynard Mitchell	June 17 <sup>th</sup>	4228 Fawn Ct, Battle Creek, MI	Layout Tours

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### **January Membership Meeting Information**

The December 2023 membership meeting will be on **Saturday, January 21<sup>st</sup>** at **The Colonial Kitchen Pancake House**, 330 N. Drake Rd., Kalamazoo. The back room is reserved beginning at **nine o'clock** for an informal breakfast. The Colonial Kitchen is in the same building as AT&T and Art Van's Pure Sleep on the east side of Drake Road in the block south of Main Street. The restaurant faces south in that building.

We will begin with an informal breakfast (on your own) with a short business meeting to follow at **9:30 o'clock**. At 10:30am **Bill Neale will present a program about "Upgrading and Refreshing" (or what I did during the Covid Shutdown)**

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### **Winter Weather Conditions**

We never want to cancel a meeting, however, in the event we must cancel or postpone a meeting due to bad weather, I will send out an email as early as possible on the day of the cancellation. Remember to check your email on meeting days when weather conditions are unfavorable.

## Upcoming Train Shows

To encourage our members to support local area train shows the following shows are within reasonable driving distance from Kalamazoo.



Dates	Event Name	Location
January 22	Div. 6 Model Railroad Sale	Costick Comm Ctr. 28600 West 11 Mile Road, Farmington Hills, Mi.
February 5	SS Simon & Jude Railroadiana Show	Westland Mi. - SS Simone & Jude Parish Hall
February 18	Ann Arbor MR Club 53rd Annual Train Show & Sale (2 days)	Saline Middle School, 7190 N. Maple Rd. Saline, Mi. 48176
February 26	Michigan City Train Show	Laporte County Fairgrounds Community Building, Laporte, In
March 18	Elkhart Model Railroad Clubs 17th Annual Train Show	Claywood Event Center 13924 N 1100 W- Napanee, In.

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We will begin with an informal breakfast (on your own) with a short business meeting to follow at **9:30 AM**. At 10:30am **Bill Neale will present a program about "Upgrading and Refreshing" (or what I did during the Covid Shutdown)** The following is a brief description of the material Bill will discuss.

Simple upgrades can make a big impact on the appearance and operation of your layout. This presentation details the improvements I have made to my layout over the past year or so. Most of these improvements can be applied to your layout and can really improve your enjoyment of the hobby. This clinic includes fascia & backdrop painting, layout lighting, control systems and the addition of a fully operational signal system.

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## Michiana Division News -submitted by Rich Mahaney

The Michiana Division has decided to change their meeting date from the 3<sup>rd</sup> Saturday of the month to the 2<sup>nd</sup> Saturday of the month, so their Division and Division 9 meetings are on different Saturdays. This allows Division 9 and the Michiana Division to not compete for people, programs and can attend each other's meetings and programs.



## **Website & Facebook Update - by Casey Bartman**

Greetings from South Carolina. Allen has asked that I write a short word about the Division 9 website. Several years ago, I started this to help distribute information about our division. It worked very well for our October convention and included online registration. I have tried to share the monthly Yardmaster in PDF format. Rich frequently provides pictures and notes about upcoming Division 9 meetings. I have tried to get these posted as soon as possible so you can make your plans. Sometimes I do get a little behind editing content to add to the pages. Just like publishing the Yardmaster, editing a website takes time. This is where your content can help Alan and me with our efforts.

Recently, there's been talk about adding information about upcoming model train shows. I am currently working to make that a reality. I have developed a schema for a database and added one test entry. I will have to format a web page to display the information. This page will auto update and not show events from the past.

The following is a list of the data items that I intend to show for each train show. If you know of an upcoming show, send me a short e-mail ([casey@annarborrailway.com](mailto:casey@annarborrailway.com)) with the below information.

The ideal format would be:

Start Date, End Date, Name, etc.

If some piece of information is missing, just add the next field.

Start Date/Time - End Date/Time - Name - Location - Web Site -Contact Name

Email - Phone - Address1 - Address2 - City - State - Zip code

If there is something you would like to see on the web page, let me know. Photos of member's layouts would be one idea. We could also do video and link from the site.

Finally, we also have a Facebook Page,

<https://www.facebook.com/groups/1553406478430531>.

I really don't do much 'social media' so help with this would be great. I have found that Facebook is a preferred method for many seeking information.

The NMRA has an active page, and this can be a good contact vehicle for new members. If you're on Facebook, check out and join NMRA

NCR Division 9. The more members in this group the better for our exposure.

**Membership Meeting Minutes**  
**NMRA NCR Division 9**  
**December 17, 2022**  
**Membership Meeting**  
**Location – Colonial Inn - Kalamazoo**

**Attendance:**

**In-person** - Rich Mahaney, Garry Johnson, Alan Bau, Joel Pyard, Rick Garthe, Bob Provot, Chuck Peterson, Greg Stonerock, Casey Bartman, Bob Kline

**Zoom** - Dave Vinci

Call to Order by Garry Johnson 9:34AM

**Officer Reports:**

**Superintendent:** Garry Johnson updated everyone on the status of his model railroad.

**Assistant Superintendent:** Joel Pyard had nothing new to report.

**Scribe:** Alan Bau reported that he is taking the place of Dave Vinci as Newsletter Editor. Alan requested that members send any newsletter articles, ideas, comments, etc. to [alanwbau@gmail.com](mailto:alanwbau@gmail.com).

**Old Business:**

Members were asking about the status of Doug VanMeter. Garry indicated he tried contacting him with no success so far. He will try to contact Doug again.

**New Business:** Rich Mahaney provided an update to the meeting schedule through June 2023.

Meeting was adjourned 10:01 AM

Joel Pyard presented a review of the Grand Rapids and Indiana Railroad.

Respectfully submitted,

Alan Bau

Division 9 Scribe

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**Membership Status**

We currently have 37 members on our roster as of October 2022. This is an increase of +3 since our April 2022 Report.

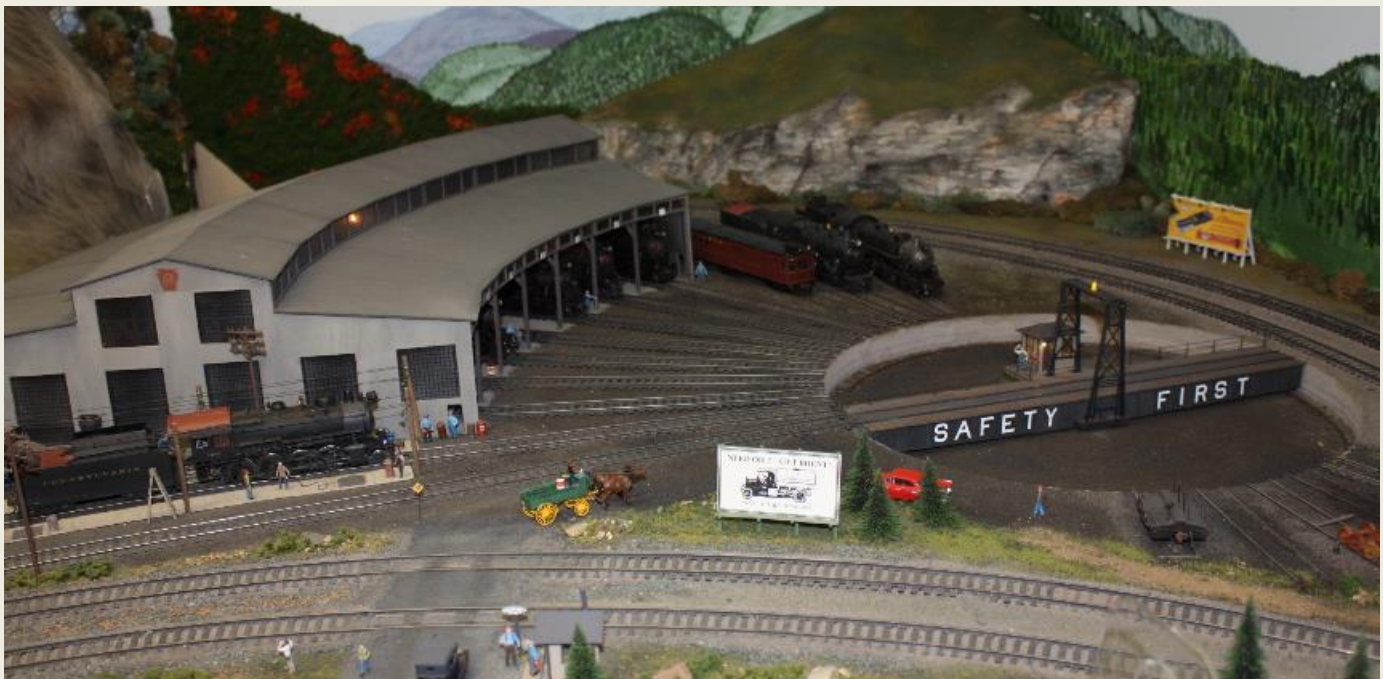
## **The Following is a new column in The Yardmaster titled**

**"Ask Dave"** The Dave in question is Dave Vinci, one of the more knowledgeable modelers in the area who has agreed to share his knowledge and expertise in helping us solve our modeling problems. Members are encouraged to submit questions to [dj.vinci@frontier.com](mailto:dj.vinci@frontier.com)

### **"Ask Dave" – January 2023**

I've been asked how the turntable on my layout was designed and built.

When I built this turntable there were very few commercial kits available and none that were the size I required. At the time the largest locomotive I would need to turn was a PRR Class M1 with a long-distance tender. That measured 16" so that set the turntable diameter. So, step 1 was to draw a 16" circle with a line drawn from the center point out 40". I used a few pieces of flex track and laid one on the line from the edge of the pit to the 40" mark. Then I set another piece of flex track next to the first with the



**Scratchbuilt 7 Stall Roundhouse with 16" Turntable HO scale**

**Figure 1**

Model and photo by D. Vinci

ends of the ties touching. I marked the centerline of the second piece of track and with the track removed, I drew a line from the center point to the 40" length. This gave me the spacing between the tracks, so I drew in the rest of the track centerlines.

**See Figure 2.**



I drew all this on a large piece of brown craft paper and then cut it out so I could slide it around on the layout to find the best place to put it. I chose to place the front wall of the roundhouse at 8 inches from the pit wall because that gave the minimum space for the engines to pass into the building. I laid this out by eye until I thought it looked right. The roundhouse would also be 16 inches deep so any engine would fit in any track. As things turned out, I settled on 1920-24 as the time period, and the layout would be a branch line. So, it would be unlikely a new engine, like the M1, would be seen there. I could have built a smaller roundhouse, but I like the look of the 16" table. At this point I placed the paper drawing on the layout, located the center point and using a length of 1x2 with a pencil hold in one end and a nail as a pivot I drew the circles on the Homasote. Then I drew the track center lines using a straight edge. The final placement forced me to make stall #7 shorter so there was room for the tracks passing behind the house. Because of its location, the shortened stall is not noticeable.

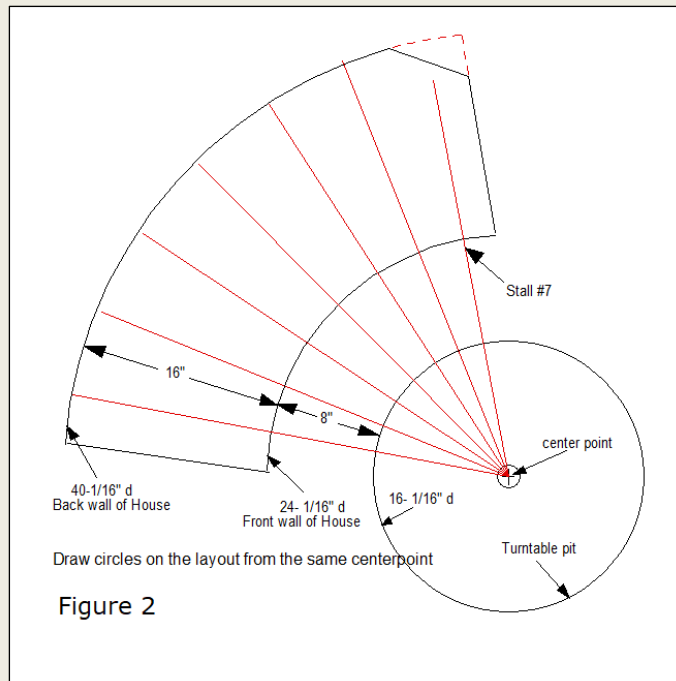


Figure 2

Next, I got out the saber saw and cut the turntable pit. The bridge I made from a length of 1x2" clear pine. The center bearing is a simple machine bolt that is held in place using some washers, a spring and 2 nuts to hold it all in place as shown in **Figure 3**. The layout is constructed of 1/2" Homasote on top of

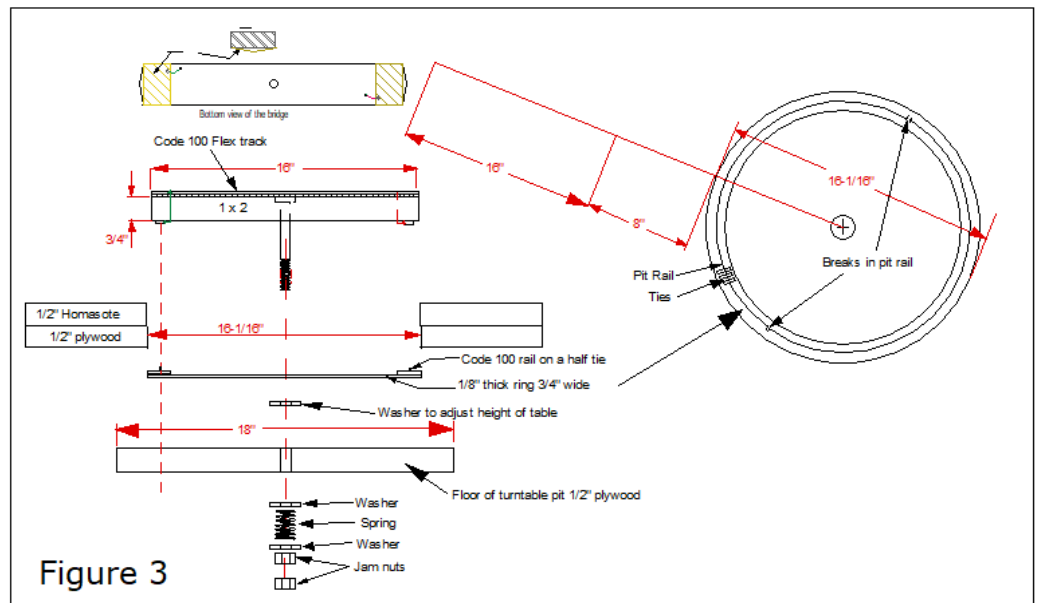


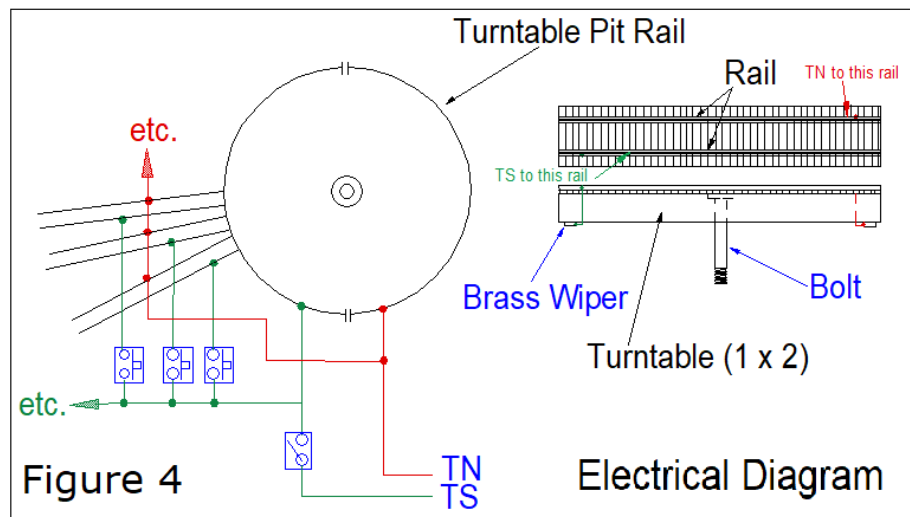
Figure 3

1/2" plywood which gives us a pit that is 1" deep. I cut the floor of the pit from 1/2" plywood 18" in diameter and screwed it in place from under the layout. The center hold was then drilled out to match the bolt. The 1x2 is 3/4" thick, so I made a ring to support the pit rail on ties from 1/8" plywood. The rail is a piece of code 100 nickel-silver rail that I glued and spiked in place. On the bottom of the 1x2 there is a piece of flexible sheet brass tacked to

the side of the 1x2. The track on top of the 1x2 is a length of flex-track. One rail is connected to the brass wiper on the bottom of the 1x2, and the other rail connected to the brass wiper on the opposite end. The pit rail is split in two pieces so as the turntable rotates, the polarity will change correctly. The gaps in the pit rail are placed 180° apart and in position where the table was not lined up with any track.

See **Figure 4** for the wiring diagram.

The wiring is set up as a common rail type so that the Turntable north (TN) is wired to the right-hand rail (if you were standing at the center point and looking at the pit edge) of each track. The Turntable south (TS) passes through a SPST switch which shuts off the power to all the tracks and the table, so you can move the table around without causing a short as the contacts on the bottom of the table pass over the gaps in the pit rail. Then TS passes through a normally open push button switch and then on to the other rail of the house track. There is a separate switch for each track. The table is powered any time the SPST switch is On. In operation, one lines up the table to a house track, throws the SPST switch, holds down the push button for the house track and opens the throttle to power the locomotive. Once the locomotive is on the table you release the push button.



I installed LED lights in the operators shed and on top of the bridge so there would be a visual indication that the track power was on or off. The power for the LEDs was picked up from the table rails and each LED has a 2K resistor to limit the current to the LED. I also placed a diode in the + side of the lighting circuit which effectively drops the current in half to 6 or 7 volts and the resistor limits it more.



Figure 5 - Model and photo by D. Vinci

The side of the table are 1/16" card stock with 1/16" square basswood trim to make it look like it's made of a steel girder. The decking is scribed wood stained with diluted India ink. The center bridge over the track is made from parts of a plastic signal bridge.

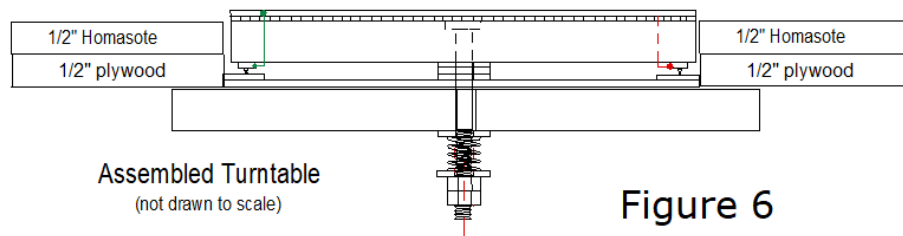


Figure 6

Here's a drawing of a cross-section of the finished turntable.

The more you compress the spring, the tighter the table is held in place. Just adjust it to your liking. I also found that if you file the ends of the rails on the table and the house tracks, it makes the alignment a little less critical. One more thing, make sure the rail sizes and track manufacturer are the same for the table, the house tracks and the approach tracks. All code 100 rail sizes do not have the same height, base width, rail top width or tie thickness. At one time I thought I would devise some way to power the turntable, but it was simpler to make it manually operated. It's been proved reliable for 30+ years so there you have it.

The roundhouse is also made of 1/16" thick posterboard with the interior bents made of 1/8" square stripwood. See **Figure 7**. The windows were made by printing a grid on plastic film used to make overhead slides. Mine were made on a regular copy machine but you can do it with any jet ink printer. The lights inside the house are grain of wheat bulbs and I didn't use enough. If I were doing it over, I would use LEDs. I also should have made the roof removable so the lights could be replaced. It's all a continual learning process.



Figure 7 - The roundhouse

Model & photo by D. Vinci



## Low Pressure/Non-Pressure Tank Cars

- By Rich Mahaney

Across North America, the most common tank cars transporting products are called "non-pressure tanks". Sometimes they are also called "general service tank cars". About 75% of all tank cars fall into this category. Because a tank car full of water sitting out in the sun will create or have pressure, you really can't label these tank cars "non-pressure", which is why most instructors and hazmat responders call these tank cars "low pressure tank cars" as compared to the tank cars that transport propane and anhydrous ammonia, which are called "high pressure tank cars". Low pressure tank cars have an operating pressure from 0 to 100psi.

Low pressure tank cars transport food products, chemicals, petroleum products, corrosives, and many other products that people and industry need to make "stuff"! The tank car designs and construction are based on the needs and the hazards of the products transported, but also includes how to safely transport the products and how to load and unload the "stuff" into and out of the tank car.

Tank cars are designed for safe transport of products, but derailments over the years have caused the redesign of tank cars for different products. The tank cars redesigned the most have been the tank cars that transport flammable/combustible liquids. The liquids that have caused the biggest problems have been crude oil and denature alcohol. These liquids are now part of a group of chemicals called "High Hazard Flammable Liquids" (HHFL) and the trains that transport them have a new name and identity called a "High Hazard Flammable Train" (HHFT). The "HHFT" means a single train transporting 20 or more tank cars loaded with a Class 3 flammable liquid in a continuous block or a single train transporting 35 or more tank cars loaded with a Class 3 flammable liquid throughout the train consist.

Flammable liquids in tank cars means liquids with a flash point below 141 degrees F. Combustible liquids have a flash point above 141 degrees F.

Most tank cars are identified as a Department of Transportation (DOT) design and construction of a DOT 111 design. Their design, features, valves, frames, construction meet a specific design and construction standard, that has been around for years. Because of the failure of tank cars transporting HHFL liquids for a number of years now, a new design was chosen called a DOT 111-CPC 1232. These tank cars ended up with a "half head shield" on each end of the tank cars to protect the tank. While this design was being chosen and used, there was work being done on new head shield designs, new valving on top that would be inside a protective housing, and thicker steel shells for the tanks. Because this did not stop

tank car failures involving HHFL, fires and derailment damage, new designs were coming out. All tank cars are required to have "double shelf couplers" which has reduced the puncture of the tanks transporting the products.

The latest tank car designs for HHFL are the DOT-117 and the DOT-120. You will see lots of DOT-117 tank cars traveling through Michigan transporting crude oil (United Nations 1267), denatured alcohol (UN 1987), gasoline (UN 1203), gasoline with more than 10% alcohol in it (UN 3475) and other products. The DOT-120 is constructed more like a "pressure tank" and is more environmentally safer in derailments. You will find more DOT-120 tank cars transporting HHFL along the west coast of the United States where environment rules are tougher. These trains quite often start in North Dakota or other oil fields and then head to Washington and down to California. Some tank car companies were taking DOT-111 cars and retrofitting them into the DOT 117 design. They are then marked as DOT-117R on their specifications label. The DOT 117, DOT 117R and the DOT 120 tank cars now have full protective headshields on each end of the tank cars, just like "pressure cars".

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Low pressure tank cars have different ways of releasing pressure that might build up inside of the tank cars. They may have a "Pressure Relief Device (PRD) that is a spring-loaded device and will open based on the pressure inside the car so the tank will not rupture. Or they may have a "rupture device or rupture disc" also on the top pf the tank car that will burst or rupture when the internal tank pressure gets too high. The rupture disc and the Pressure Relief Device are rated to operate at a specific pressure. The pressure rating is listed on the right side of the tank car with other tank car design information.

Other types or Department of Transportation low pressure/non-pressure tank car designs are known as DOT 115. A slight change in the DOT-111 tank car design and equipment will give you what is known as a AAR 211 tank car, which transports corn syrup, class 9 products (UN has 9 categories of hazardous products), clay products for paper making and other products.

Watching trans go by may give you a chance to see a DOT-111 with multiple tanks or compartments. I have seen tank cars with 2, 3, 4 or 5 compartments in DOT-111 tank cars passing by or at industry spurs.

What follows is a series of tank car pictures supplied by Rich Mahaney.



## DOT-111 Tank Car



## DOT-111 Tank Car transporting corrosives



DOT-111 Tank Car transporting corrosives with valve protection on top



DOT-111 CPC1232 Tank Car (half external head shield and valve protection)





## DOT-117 Tank Car



## DOT-117R (R means retrofit car, 111 to a 117)



DOT 120 Tank Car (considered a pressure car)



DOT-111 Tank Car with 4 compartments





AAR – 211 Tank Car



DOT-115 Tank Car





## Division 9 Calendar for January 2023

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
8 Board Meeting Cancelled	9	10	11	12	13	14
15	16	17	18	19	20	21 Division 9 Meeting w/ Zoom
22	23	24	25	26	27	28
29	30	31 Yardmaster Articles Due				

## Division 9 Calendar for February 2023

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19 Division 9 Meeting w/ Zoom
20	21	22	23	24	25	26
27	28 Yardmaster Articles Due					