

# THE CRANK & STOKE

T H E V O I C E O F T H E H I S T O R I C A L E N G I N E S O C I E T Y

Founded 1970

**Officers:**

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## THE PRESIDENT'S PEN

Hello all, I hope everyone had a great winter and was able to get to the projects you wanted to. I'm sure you are like me and ready to start attending shows again as the weather starts warming up

**PISTON POWER SHOW:** As of this writing, we have already kicked off the show season with the Piston Power Show at the I-X Center in Cleveland on March 31st through April 2nd. We sold raffle tickets and a few other odds-and-ends while also promoting our summer show. HES shared a space with HCEA and NEO-ATHS.

**LAKESIDE SAND & GRAVEL OPEN HOUSE:** By the time this newsletter gets delivered, we will have also attended the Lakeside Sand & Gravel annual Open House on April 29th featuring antique construction equipment.

There will be plenty of other events coming up where we will be selling raffle tickets and promoting our show.

**CAMPING AT SHOW:** Plans are well underway for the 2023 Show. If you are planning on camping at the

show, please reach out to Nicole Gruden with Farmpark at (440) 256-2122 ext. 3037 to make reservations. There will be a flat rate of \$100 and that includes water and electricity Wednesday through Saturday night. Space is limited so call soon. Camping is only available for HES members actively displaying antique machinery.

**HES ON FOX 8:** Fox 8 Cleveland's own Kenny Crumpton will once again be at our show early Friday morning on July 28th. We would love it if you could join us. Please be at Farmpark and ready to go by 6am. Everyone had a great time being on the news last year!

**2022 SHOW RECAP:** Just a recap of last year's show. We had approximately 3,500 visitors/spectators come through the gate. That's about three times what we saw in the past. We also had a record number of displays. We fully expect that there will be significantly more in both categories. Many potential exhibitors came last year just to check the new digs out and said they would

most definitely be back again to display.

**MEETINGS:** Would you like to know more about how decisions about the club are made? Whether you would like to get involved, or just listen in on what is being discussed, all members are encouraged to attend the monthly meetings held the **2nd Thursday of each month at 7:30pm** except for December through February at Lake Metroparks Farmpark. Please do not feel like you will need to volunteer for something if you attend, but would openly welcome those that would like to. By attending the meetings, you will be given the opportunity to ask questions, voice your opinion and vote on things the club needs to make decisions on. I look forward to seeing you ALL at the meetings!

**THANKS:** In closing, I would like to thank each and every one of you for all that you do, no matter how large or small the contribution. It's takes a village to make our show a success and not one of us could do it without all of you!

# SHOW SPOTLIGHT

Contributed by Donald Kuhl

## Western Minnesota Steam Threshers Reunion

Hawley, Minnesota

**Walking Amongst Giants**.....A visit to Western Minnesota Steam Threshers Reunion (WMSTR), AKA 'Rollag'.

I made the decision to attend the WMSTR (Rollag) show earlier last year. This is not a decision that should be considered lightly. It's a 14+ hour drive, one way, without any stops. The deciding factor was that they were hosting the 2022 Rumely Collectors Products Annual Convention. If you want to see the most examples of the 'King' of prairie tractors, this was going to be the place to be. I decided that I was going.

How to put the scope of this show into words? It's massive! That being said, it's not the size that makes this show unique. It's the diversity of displays and the exhibitors that makes this show amazing.

When you are driving up to Rollag, you can't help but be consumed by the virtually endless fields of corn and crops on the BIGGIE sized farms in Minnesota. When you arrive at Rollag, the view seems to be changed such that the crops are replaced with tractors, as far as the eye can see. It's an amazing sight of equipment.

### Show Highlight Details:

- The parade of equipment starts at 10:00 and seemingly never ends. The hardest thing to get used to is the constant movement of incredibly BIG prairie tractors. You feel so small as you walk amongst these mechanical GIANTS.
- They have a 'Let's Play in the Dirt' area with 8+ massive shovels/excavators. Several shovels take an entire crew to operate.
- They have a steam train...wait, sorry...6 trains, and a roundhouse and turntable also. They use the train with special passenger cars to move attendees around the grounds.
- There were easily 45 steam traction engines present. It was such a large field that no one photo could do the steam guys justice. I love the smell of burning coal in the morning!
- They have 3 sawmills. One is so large, it requires a steam engine, a stationary engine and two tractors to run.
- They have a functional foundry, forge and machine shop, all on display. The machine shop is all run by antique engines and line shafts.
- There is a 600 HP Snow engine as a running display. Oh, did I mentioned they have few smaller Snow engines also? Merely 150 HP units, marginally worth mentioning.



Line Shaft at the Western Minnesota Steam Threshers Reunion

## WMSTR - CONT'D

### Steam:

- There is a twin cylinder Allis-Chalmers steam engine on display. It was originally used at the Pabst Blue Ribbon manufacturing facility in Milwaukee. It made beer! You can walk right up to the top of this thing (3 stories tall) and lick the valve mechanism.
- Corliss engines abound (I am not much of steam guy).



Allis-Chalmers Steam Engine used by Pabst Blue Ribbon

After you get over the 'Wow, this place is BIG' and get your bearings, you get more of feel of the effort this club puts into the 'display'.

- They have a well pump area where 30+ hand well pumps are set up for kids to play with. They get to pump and spray their friends.
- There is a small village that exhibit era buildings and lifestyles. I was told that one house in their village was formerly a 'house of ill repute'. We all have interesting stories in our past.
- There is a display area for small steam modelers. There were 16 some scale steam traction engines in a roped off area with scale sized threshers, bailers and fans...what a display!

### Engines (my Gig...an amazing engine display!):

- They have about 16 buildings in a forested area behind their grandstand that is their engine area. Amongst the buildings were temporary displays, but the more permanent displays were 'Over the Top'!
- There was one building named the 'Otto' building. It had nearly 30 engines of 20 HP and up on display. 15 of these were Otto engines (a very rare make), and nearly all of them were running all day long.
- One building had an impressive display of Galloway engines. There were 29 Galloway engines on display under one roof. I struck up a conversation with the owner and he said he has an example of all the Galloway's made.
- Every engine building had some really amazing collection of something engine related, running.



Otto Building

I would be remiss in my duty if I did not mention the Rumely feature. There were 65 of them present including examples of Rumely trucks and stationary units. Try to imagine the space needed for 60+ Rumely Oil Pull's to play. That's Rollag in a nutshell.

This show is well worth the journey. The people putting on the show are incredibly nice and helpful for noobs (newbies). They are really devoted to making this a pleasant event to collectors and families. Experience this show. You will not regret it.

# FLOW DAY!

The Historical Engine Society will hold its first ever Flow Day on **Saturday, May 6th**.

Members are invited to Lake Metroparks Farmpark starting at 9am. Coffee and donuts will be available during a quick safety meeting. At 10am, we will start plowing and will break for pizza around 2pm.

You don't have to have a plow as there will be plows available to hook up to your tractor. If you have never



Joe Drienka (standing)  
Mike Conti (on tractor)

Mike Conti on a 1953 John Deere 60 with a 812 mounted plow



plowed before, we will show you how. Even if you don't have a tractor to bring, come out anyway and enjoy the day.

Please enter through the east gate where we came in for the summer show.

The rain date will be the following week on Saturday, May 13th.

The Historical Engine Society would like to thank Steve Ohmes and Lake Metroparks Farmpark for hosting this event. See you there!

# GOLDEN JUBILEE

The Ford NAA tractor was introduced by Ford as an entirely new model in 1953 and dubbed the "Golden Jubilee" to commemorate the 50th anniversary of the Ford Motor Company.

This 2,800 lb. 20 hp tractor was a very versatile, easy to operate utility tractor. Ford built 128,965 tractors in 1953 & 1954 when it was replaced by the Ford 640.

On Saturday, April 15th, Tim Mansfield and Dean Kirby picked up a Golden Jubilee that was donated to

the Historical Engine Society by Kim (Brewster) Shefelton.

The tractor was her late father's who purchased the tractor from a farm near the southeast corner of 306 and Mulberry in Kirtland, Ohio in the 1970's.

He drove the tractor to his home in Russell Township where it has been for the last 50 years. He used the tractor mostly for plowing snow in his driveway as well as on his private road. This little tractor has pulled many vehicles out that found

themselves stuck in a snowy ditch.

This tractor was a prized possession of Kim's father and she wanted it to go to a new home where it will be able to be used and cared for.

When Tim and Dean picked up the tractor, it started right up and was driven onto the trailer even though it had not been running since some time in 2022. The tractor included a back blade and tire chains.

HES will make good use of the tractor.



Kim (Brewster) Shefelton with her father's 1953 Ford Golden Jubilee



Tim Mansfield unloading the 1953 Ford Golden Jubilee



Contributed by Donald Kuhl



## Dempster Mill Manufacturing Co.

Beatrice, Nebraska

### The History:

The Dempster Mill Manufacturing Company was founded in Beatrice, Nebraska in 1878 by Charles B. Dempster. Mr. Dempster began making equipment for farmers and homesteaders populating the west following the Civil War. Throughout the company's history they have made a variety of items including windmills, water pumps, cultivators, fertilizer spreaders, gasoline engines, and recycling trailers.

History will record that this company is most known for their wind power products (pumps, power generators, etc.). The roots of the manufacturing company can be traced back to an ambitious Charles Dempster buying 1/3 ownership of a retail store servicing agricultural windmills in 1878. Over the course of the year, Mr. Dempster became the sole owner.

Dempster's plan leveraged that more people were heading west and settling vacation land thanks to land laws like the Homestead Act of 1862 (signed into law by Abraham Lincoln). The growing number of farmers would lead to a growing agricultural market. Access to water was essential for farmers and their livestock. If farmers did not have easy access to fresh water, they needed windmills to bring groundwater to the surface.

After years of shipping in parts and hauling them to his store, C. Dempster decided to start manufacturing his own products in 1885. Manufacturing is costly and Charles knew that he needed to bring in the resources of other investors to succeed. In 1886, he and local investors incorporated the Dempster Mill Manufacturing Company. With the infusion of outside money, the firm built itself a respectable factory.

The new factory opened on January 1, 1899. The land purchased by the citizens of Beatrice is where Dempsters LLC continues to operate today. At its peak, Dempster Mill Mfg. Co. employed more than 500 people throughout the country.

### Side Stories:

- We Might Move:** By 1898, Mr. Dempster planned to move the manufacturing plant to Omaha for more space. When the local citizens heard about his plan, they were not happy. They convinced Mr. Dempster to stay if the community could raise enough money to buy the land to build the new plant. Within three days, the citizens of Beatrice raised the \$12,000 needed to buy the land allowing the company to stay in Beatrice.
- World War II:** During World War II, Dempster Mill Mfg. Co. formed a war production pool titled Homestead Industries Inc. along with five local manufactures. These companies worked together to secure contracts with the government to produce goods and weaponry for WWII. Dempster Mill Manufacturing Company produced over 1.5 million 90-millimeter shells for the war. During this time, they continued to manufacture farm equipment to support agriculture for those at home and at war.
- Warren Buffet Owned the Company?:** The Dempster Mill Manufacturing Company was family-owned until August 1961. Warren Buffet acquired the company when Clyde Dempster, the founder's son, retired. Buffett had bought shares of the company beginning in 1956 until he had the majority control in 1960.

In 1963, a group of investors bought the company from Buffett and changed the name to Dempster Industries Incorporated. The company traded hands a few more times as it struggled to keep up with technological advancements and a changing US agricultural market. The company closed in late 2011. Ryan Mitchell purchased the company assets in 2013 and began manufacturing again in 2014. The company is now operating under the name Dempsters LLC.



# THE BOSS STEAM SCHOOL

Contributed by Vince Kibby

In November of 2022, a number of HES members joined their efforts with the Harry Young Chapter of the HCEA to host a class learning about the basic operating principles of steam boilers. Lakeside Sand and Gravel donated their training facility and the class was put on by "The Boss Steam School", instructed by Joe Harrison and Todd Young. The class opened up with a brief history as to why the class and state licensing came to be. At the start of the Medina County Fair in July 2001, a 110 HP Case traction engine suddenly exploded killing five people, and injuring at least fifty others. It was learned after a thorough investigation by the state of Ohio that a low water condition likely existed in the boiler causing the explosion, and that the boiler lacked many of its required safety devices. Following the explosion in Medina, the state was lobbied to create a regulatory system requiring training and licensing for operators as well as state required inspections of historical boilers in an effort to prevent another catastrophe from occurring. They then looked to those within the steam hobby to assist with experience and knowledge to help develop an exam to test new operators. Both Joe Harrison and Todd Young helped develop the examination that continues to be given by Ohio today to test operators on the care, maintenance and knowledge of historical steam boilers.

The fun began as we fired up the various presentations learning different facts about steam power. Did you know that the steam energy in a typical boiler at 150 psi has over 1.3 million foot pounds of force, or that one gallon of water multiplies at least 1,700 times its original volume when turning into steam? It is amazing how much power these old machines can produce! After learning the basics, we stepped outside to see an actual boiler that the Baxter family had generously brought with them. Being able to visualize the components greatly helped our understanding of boiler design including its crown sheet, stay bolts and fusible plug. The instructors helped the students develop a greater understanding of what the different components of a boiler are, how they operate, and most importantly, how the individual safety devices will assist in proper operation.

Overall, this was a great experience! I took a lot of information away from it and gained even more respect for the craft. Many times we take for granted how easy it is to turn an ignition key and go on our way. These old machines took a lot of time, effort and care to produce useful power for folks in the days gone by.



Class of 2022 Steam School

# WHERE THE RUBBER MEETS THE DIRT

Contributed by Pat Shelby - Agricultural Products Specialist, Titan International

## Part 2 – Tire Use and Care Tips

### Proper Inflation Pressure

The absolute most important thing an end user can do to ensure maximum farm tire life and performance is set inflation pressures to match each application their machine will be operating in, check often, and adjust as application changes. Over-inflation of tires will result in a smaller area of tread contact with the ground and irregular and/or rapid tread wear. Under-inflation results in too much deflection of tires (excessive sidewall squat) and sidewall cracking is likely to develop. It is helpful to obtain a tire manufacturer’s data book with load tables included for each tire size. Most all major tire manufacturers adhere to Tire & Rim Association standards when designing tires and developing the corresponding load tables, so these tables can generally be used across matching tire sizes regardless of the manufacturer. It is best, if possible, to weigh a machine with the heaviest implement(s) attached that will be used and obtain these ‘worst-case’ axle loads rather than guessing on how much load the tires are carrying. In the absence of modern on-board Central Tire Inflation Systems that can vary inflation pressures on the go and respond to changing axle loads as implements are raised, lowered, or changed from field to transport mode (safe to say no one is converting antique farm equipment over to use these inflation systems), inflation pressure must be set to the conditions in which the tires will see the maximum load.

### Ballasting

Adding weight to a desired axle on a tractor has long been achieved by filling tires with fluid. Plain water can be used in climates that don’t experience freezing temperatures. Calcium chloride added to water was used initially in cold climates to prevent freezing but also because of the increased weight of CaCl<sub>2</sub> in the solution. Today, most favor products like Rim Guard (beet juice) or windshield washer fluid as they do not cause rim corrosion like CaCl<sub>2</sub>. Titan encourages end users to use bolt-on wheel weights or weights hung from brackets on the frame of machines. Tires are designed to be filled with air, not fluid. Filling with fluid is especially detrimental to radial tires. All of the more expensive benefits of radial tires go out the window when they are filled with liquid ballast, essentially turning them back into bias tires due to the stiffening of the sidewall and body plies.

### Lead-Lag

On MFWD (Mechanical Front Wheel Drive) tractors with front driving axles, it is important to use tires on the front and rear axles that stay within the tolerable ranges of rolling circumferences as engineered by the equipment manufacturer. A chart called the Rolling Circumference Index assists in these selections and shows rows of tire sizes grouped by their rolling circumference (distance a tire travels in one revolution) and overall diameter measurements.

Since the front and rear tires are different sizes on MFWD tractors, the fronts have to rotate faster to cover the same distance as the rears. This is all brought into synchrony by the tractor’s drivetrain gears and is expressed as a gear ratio, usually in a range of 1.2 to 1.5. Most equipment manufacturers design tractors to operate with +1-5% front tire over-run. Positive over-run or ‘lead’ above 5% can cause the front tires to wear faster than normal and/or irregularly because they are rotating too fast relative to the rears. Negative over-run or ‘lagging’ below 0% can reduce steering ability and cause serious damage to the tractor drivetrain as it tries to compensate for the front tires being ‘pushed’, or not rotating fast enough to match the rears.

### Mounting / Dismounting

When mounting or dismounting farm tires, it is important to use the right kind and amount of lubricant. I see many instances in the field where a tire technician used gobs and gobs of a product like Murphy’s Tire Mounting Compound to get the tire to mount on the wheel and take air and then a problem arose later. Too much lubrication that stays in the bead area can cause a tire to slip on the wheel once it goes into service.



THE VOICE OF  
THE HISTORICAL  
ENGINE SOCIETY

PO Box 892  
Chardon, OH 44024  
Phone: 440-669-2578  
Email: info@historicalengine.org

**Meetings will be held the 2nd Thursday of the month  
(except December, January and February) at 7:30pm  
in the Theater at Lake Metroparks Farmpark  
8800 Euclid Chardon Rd. (Route 6)  
Kirtland, OH 44094**

The Historical Engine Society is a non-profit organization whose purpose is to provide a focal point for people interested in the machinery of a bygone era. We encourage the collection, preservation, restoration, and exhibition of power producing devices and the machinery driven by these units.

Society fellowship consists in the sharing of knowledge, ideas and educational programs. Work parties, picnics and field trips make this a truly family oriented organization. The annual show is a year-round effort, culminating in a gathering of people and their machines. Visitors are treated to the sights, sounds and demonstrations of the power of the past.

## TIRES CONT'D

On wheels with knurling (indentations to provide more grip for the tire bead), as soon as the tire slips it is usually ruined because of the knurling tearing into the bead rubber. A light lubricant that dissipates after the tire is mounted is preferred.

Something as simple as dish soap will work, or specially designed products exist on the market such as Lube-Zit or Tire Cream by Fuller Brothers, Inc.

Safety is paramount when mounting or dismounting farm tires, or any tires for that matter. The stored energy in inflated tires is enormous and if something fails and you're in the wrong place, it can be deadly. Using proper tools, Personal Protective Equipment, and staying out of the trajectory zone can all help prevent injury or death. Some safety information is molded right into the sidewalls of tires, but Titan and most other manufacturers publish a detailed safety section within their product data books. These can usually be found in digital format on company websites or in print at a local tire dealer.

### Tire Storage

Tires are highly engineered products constructed of many different rubber compounds in the tread, sidewall, plies, bead, and tire interior. All of these compounds require the addition of protective chemicals at the time of mixing to prevent as much cracking damage as possible from oxygen, ozone, sunlight (UV), and heat buildup. As a tire is used, these chemicals will 'bloom' to the surface and continually protect the rubber. A tire in storage is subject to these chemicals being stripped away from the surface and not replaced by the exercising of the tire. Because of this, end users should avoid storing tires, especially over winter or other extended idle periods near electric motors, generators, lighting equipment, and welding equipment as these are all sources of ozone. Tires should also be stored away from sunlight and sources of heat. The best practice is to store tires in a cool, dark place. If storing tires mounted on rims, reduce inflation pressure by 10 psi and store upright on the tread. If dismounted, tires can be stacked on their sidewalls. If storing mounted on rims and installed on a machine, it is preferable to block up the machine to reduce stress on the tires. If this is not possible, increase the inflation pressure by about 25% to decrease the amount of stress on the sidewalls and move the machine periodically. Additionally, avoid storage where tires will come into contact with oils, grease, fuel, and any other harsh solvents as these are easily absorbed and can interfere with the protective chemicals in the rubber compounds as well.



Part 3 coming in the next Crank & Stoke