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THE CRANK & STOKE

THE VOICE OF THE HISTORICAL ENGINE SOCIETY

Founded 1970

THE HISTORICAL ENGINE SOCIETY, INC.

INSIDE THIS ISSUE:

That's a Wrap!

Hello HES members and friends! Our 2024 show was another huge success! We had a lot of fun at the show and it truly seems as though it gets even better each and every year. One notable improvement was the gas engine area. We probably had 25 to 30 engines or more with most of them right as you walk through the entrance to the showgrounds. This is great as we seemed to be lacking in that area the last decade or so. Being that "engine" is our middle name, it's good to see a renewed interest. We should see even more at the 2025 show as I know a few of you have added to your collections, including me.

Being our third year at our new location, I think we have all settled in quite nicely and it truly does seem like home. If you have not made it yet to our show since the move, you are missing an amazing venue. The grounds are beautiful with lots a great views, we have plenty of space with room to grow, we are able to do additional activities that we never had before, we have available camping with amenities and a great staff at Farmpark to work with.

As we wind down from the show season and start gearing up for those winter projects, I like to take a look back at the year. For the fall event this year, we had a few tractors and engines there. Saturday was not bad but Sunday was a bit of a washout. This event needs help as we are not getting as much participation as we would like to see. It's a very nice, laid-back weekend, we just need more participation. Please join us in by bringing a tractor or engine.

In this issue of the newsletter you will find another chapter of Adam Lang Jr.'s steam engine project, On the Road with HES which is an article about HES members going to other events as a group, an article about Muscle Tractors, an update on the 2025 Raffle and of course another edition of Engine Spotlight. I hope you enjoy the newsletter! If you have any ideas for a story or article, please let me know by calling (440) 669-2578 or you can send an email to deankirby@gmail.com.

The 2025 features are Muscle Tractors and Upright Gas Engines and the dates are July 25, 26 & 27.

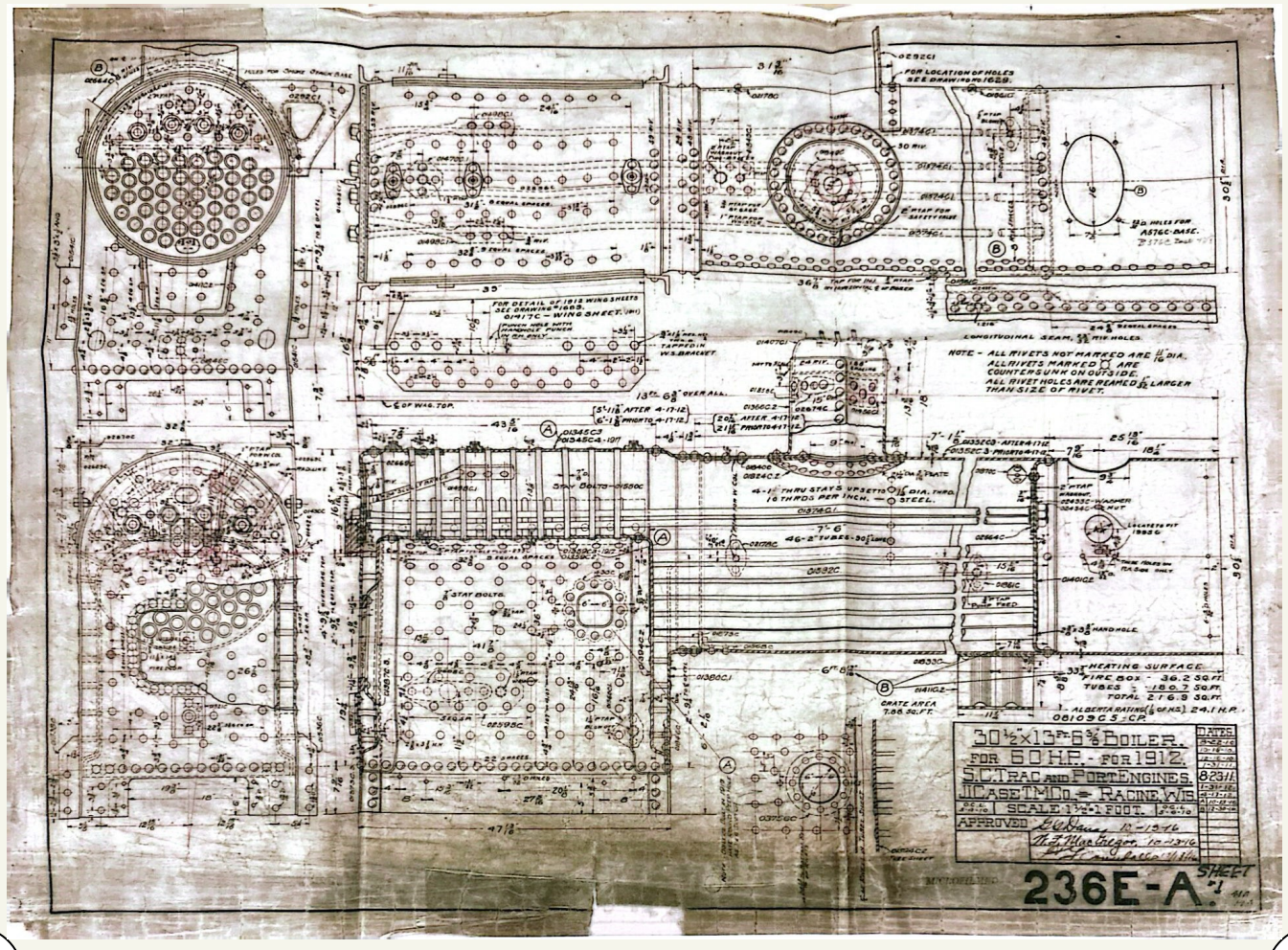
Traction Engine Flu—Part Two

Contributed by Adam Lang Jr.

With show season now at a close, project season is in full swing. Since my previous article, the 60 hp Case project has taken a couple of large strides of progress. The first of the major steps was the completion of 100 hours of boiler operation needed to apply for my Historical Boiler Operators License. This was an extensive process, starting with a class by "The Boss" Steam School. The class was followed by a written exam, which was proctored by the Ohio Commerce Department. With a passing exam score came a sort of learner's permit. This allowed me to work as an apprentice under a licensed engineer to accumulate experience. I was very fortunate to have multiple mentors throughout this experience, which allowed me to gain experience in different situations as well as on different machines. Every brand and size of engine fired and operated differently, so figuring out how to handle each machine's quirks was a challenge. Even though it is something that will not be needed until further down the road, it is nice to have this experience under my belt before I finish my own engine.

Back to the actual engine project, major disassembly has occurred since the last article. The biggest part of this was the removal of the engine from the boiler. This was a major step because now it is in a position where we can easily work on it, and the boiler will now fit in our garage. Some disassembly of the boiler has started, with the removal of most of the firebox and flues. I have acquired some original blueprints from Case IH, which is a major help with ordering materials. They will also help with the remounting of components once we receive materials. Many evenings have already been spent studying the drawings and calculating various areas and distances needed to order materials. We are looking forward to the winter months and seeing more progress before the next installment of this series.

(photos on page 4)



ENGINE SPOTLIGHT

Contributed by Donald Kuhl

DOMESTIC ENGINE & PUMP COMPANY

Shippensburg, Pennsylvania

Toward the end of the 19th century two brothers and bicycle mechanics, Charles and Harry Segner, out of Hagerstown, Maryland developed a gasoline engine. The brothers formed the Domestic Engine Company and sold their first 2.5 hp air-cooled engine in December 1899. The next engine sold was a water-cooled model in June 1900. In 1901, having perfected their design, they applied for patents for an ignition system, carburetor and governor for "explosive" engines. Their make and break ignition side-shaft engines were designed for domestic farm needs such as sawing wood, churning, separating milk, pumping water and grinding feed. This was the basis for the company's name.

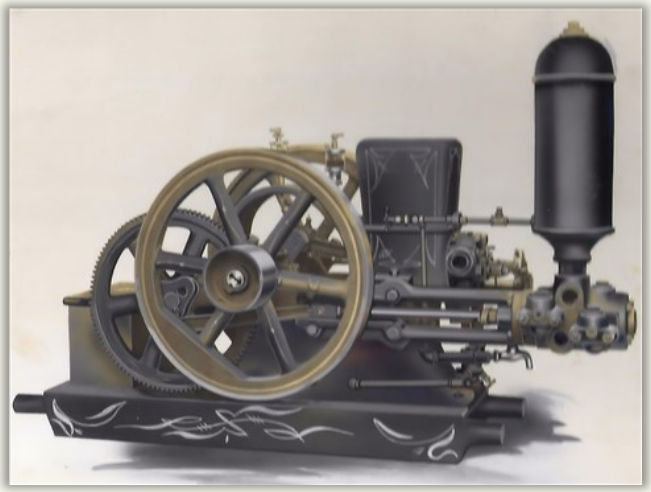
At about the same time, H.M. Etter of Greencastle, Pennsylvania designed and patented a hand pump for farm use. Etter's pump featured a rack and pinion drive which provided greater mechanical advantage than other pumps in use. His Etter Pump Company produced the "Etter Easy Running Pump," which was more functional for use with deeper wells.

In April 1904, J.E. Reisner and several other influential Shippensburg, Pennsylvania citizens purchased the Segner's and Etter's companies, incorporating them into the Domestic Engine and Pump Company with a new plant to be built in Shippensburg. Reisner was named president, with Charles Segner as general superintendent and Etter leading pump manufacturing for the new enterprise. Production of pumps and engines at the new plant began in early 1905.

For the next 10 years, the company grew at a steady pace expanding the production facilities. As of 1915, the product line still consisted only of Etter pumps and Domestic Type A gas engines. The principal innovation during this period was to use the engine to drive the pump with a belt-driven pump jack, an arrangement that led to a product line of water systems for rural homes.

The first Domestic engines bore no nameplate rating, but were probably 1.5 hp. By 1908, larger models were being added, and the Type A line ultimately ranged from 1.0 to 12 hp with about 10,000 total being produced by 1915. Although Type A engine production continued until 1919, the more advanced Type F engine was introduced in 1915. It shared many parts with the Type A, but utilized high tension magnetos and spark plugs instead of the igniter points, and it produced higher output for a given displacement. Type F models ranged from 1.5 to 15 hp. In 1915, annual production surged to more than 2,000 engines.

Prior to World War I, most of Domestic's competitors had switched from side-shaft to a less costly cam-driven pushrod engine design. As a result, Domestic's market gradually shifted from agricultural and residential water systems to commercial and industrial uses such as engine-driven pumping and hoisting rigs, many of which were used by heavy construction contractors or in marine applications.



Due to heavy competition, Domestic's single-cylinder engine production gradually diminished in the late 1920's to units equipped with direct coupled high-pressure force pumps or diaphragm, mud or trash pumps intended for pumping services in construction, quarrying and farming operations. Most engine manufacturing ceased prior to World War II. Total engine production exceeded 30,000 units from 1905 until the last unit shipped in 1952. Many Domestic-built engines bore the nameplates of other sellers, such as Bond, Leader, Schramm and Rider-Ericsson.

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Traction Engine – Photos

Unbolting the Engine

Lifting the Engine

Setting the Engine

Cutting out the Crown Sheet

Firebox Sheets Removed

Engine, Stack. Smokebox Door and Canopy Removed

2025 Raffle

Just when we thought we were setting records with the 2024 raffle, along comes the 2025 raffle. At the close of the season, we have sold an astonishing 46% of the tickets (last year was a record at 40% of the tickets).

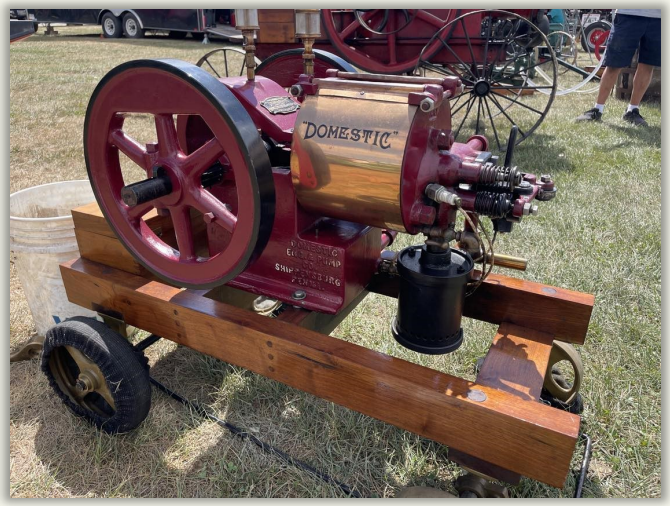
The restored 1967 Massey-Ferguson 135 tractor has 35 hp at the drawbar and 38 hp at the PTO and is powered by a 2.4L 4-cylinder Continental gasoline engine. The tractor is outfitted with the lesser-seen flattop fenders with built-in headlights. The tractor was originally equipped with a front end loader which has been removed, and was painted with the correct colors…all six, yes, six different colors!

The tractor has received many compliments including a gentleman that had a dealership that sold these tractors when new stating that rarely are all the colors accurate after a restoration. Be sure to get your tickets at any event we attend or at our annual show the last full weekend in July.

Domestic – Continued

Charles Segner, vice-president and general manager, died unexpectedly in 1936, as did Harry Segner, plant superintendent, in 1937. Reisner remained president and chairman of the board until 1947, when the company was sold to Empire Industries. Notably, the company was still manufacturing H.M. Etter's original pump at the time of his death in 1949 at the age of 90. In 1972, ITT bought the Domestic Engine and Pump Co. and changed the name of the operation to ITT Domestic Pump.

5 hp Domestic Running a Foos Pump



Example of a "Stove Pipe" Domestic

On the Road with H.E.S.

Contributed by Adam Lang

As the 2024 show season has come to a close, it's nice to take a moment and look back at the passing year. While most of us were able to gather at our own July and September events at Farmpark, many of us also enjoyed traveling together in what I'm referring to as "HES On The Road".

Certainly it's true that our club has become recognizable almost anywhere in Ohio. In the last 15 or so years a shiny tractor, Dean's face (and hat full of buttons) has become synonymous with our organization. However popular raffling a tractor has become at other shows and events, it lacked the participation and help of many other members in our group. Initially in an effort to lighten up a little bit on Dean, we started traveling to a few events with him and displaying some machinery alongside the raffle tractor. It didn't take long before we realized how much fun it was to actively display equipment at other shows in addition to selling raffle tickets and extra help became easier to find! No doubt, traveling in a group was way more fun than attending shows alone!

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National Pike Steam, Gas and Horse Association — Brownsville, PA

Stumptown Steam Threshers, Inc.— Cadiz, OH

Muscle Tractors

Contributed by Adam Lang

When the question of the 2025 show feature came up in our meeting a few months ago, I suggested featuring “Muscle Tractors “. Much to my surprise the majority of those present quickly replied “what’s a muscle tractor”? I said that it’s a term used in the antique tractor hobby that aligns with the era and ideals of the American muscle car, starting in the early 1960’s and continuing through the mid 1970’s and usually includes high powered models featuring things like turbochargers and power shift transmissions. The era spurred the race to 100 horsepower, made the diesel engine standard, brought on modern advances like mechanical four wheel drive and high flow hydraulic systems. And let’s not forget the safety and creature comforts like roll over protection and fully enclosed cabs emerging as standard equipment by the close of this era. In-line with muscle cars like the Mustang and GTO and Challenger, the tractors typically look powerful, husky and modern!

Sherry Schaefer, founder and editor of the magazine Heritage Iron, focuses specifically on these tractors and is closely associated with defining the term. While an exact definition doesn’t formally exist it generally includes tractors and equipment built from the early 1960’s through the mid 1980’s, a bit longer than the muscle car era lasted. It was during this time that the American farming industry had almost completely settled into mechanized farming and post-world-war manufacturing was at an all-time high. Add on the massive amount of research and development in engineering practices related to machinery during World War II plus a booming post war economy. Farmers were needing and able to purchase new and bigger equipment spawning the perfect situation for industry growth.

As the 1950’s came to a close most manufacturers of farm equipment were realigning themselves to fit the new landscape of family farms. The great depression and World War II had seen a population shift from small family farms to inner city and suburban communities that worked in the industrial businesses centered there. This left fewer family farms, but those that remained were growing substantially and were quickly requiring larger and more efficient equipment to keep up with the growing size of their operations. While farm equipment companies had tinkered with many of the technologies during the 1940’s and 50’s that ended up making muscle tractors, it wasn’t until the early 60’s that the technology was refined enough to work properly and be affordable. Welcome, American Muscle Tractor!

To no surprise, industry leader International Harvester lead the pack with the introduction of the 60 series in 1958 and was clearly leading the race to 100 horsepower in 1959 with the introduction of the 95 hp model 660. Sadly, they were a bit too quick with the introduction of their flagship model 560 and final drive failures left them reeling backwards in the marketplace. Runner up Ford Motor Company also dropped the ball focusing on warmed over versions of their popular 1950’s utility tractors that featured the new Select-O-Speed transmission and a new high horsepower model 6000 but both were dubbed failures due to unreliability. Many were returned to dealers for repairs and

updates. Distant third place Deere and Company, long associated with ultra conservative management and antiquated technology who had been content existing in the doldrums behind the other leaders soon found themselves completely reinventing the farm tractor. They emerged as THE industry leader by the end of the muscle tractor era and remain there to this day. Their introduction of the New Generation in 1961 and Second Generation tractors brought not only horsepower in excess of 100, but true power shift transmissions, roll over protection (ROPS) and Sound-Gard cabs. J.I. Case was unable to reclaim the top spot they had long enjoyed during the Steam era struggling to find their look and building bulky tractors that were mediocre in the marketplace. However, they focused on their line of industrial, heavy equipment and are a strong contender in that field currently. Canadian builder Massey-Harris joined forces with Ferguson and went on to build a very successful line of utility tractors that rivaled Ford in the marketplace, and also introduced good looking high horsepower tractors such as the 1100 that cemented them as an industry leader as well. Oliver was largely considered high quality and expensive equipment leading into the muscle tractor era, and the introduction of the 1850 showed the world what high speed plowing was all about. And who could leave out the Allis-Chalmers D-series, with many considering its D-21 the poster child of all muscle tractors! It's flamboyant Persian Orange color, husky and "tuff" appearance and 127 hp making it one of the most prized and collectible models of the time.

While there are many other brands and models not mentioned here, each and every one played a significant role on the farm scene. By the time the farm crisis hit in the late 1970's the industry had already seen many familiar brands collected up into conglomerates or acquired by larger parent corporations. By the mid 1980's, some of the biggest players in the business no longer existed. As enthusiasts of antique tractors and farm machinery, or maybe just the engines that power them, we can look back at the "Muscle Tractor Era" as the time when big power came to the farm. And we can also include the little brothers of these models as representatives of a powerful era!

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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.

On The Road – Cont'd

The first time we really set up as a group was at the "Country Crossroads" show in Dresden, Ohio a couple of years ago. Several families from our club set up together with the HES banner and tent proudly displayed as our centerpiece. When the show concluded on Sunday afternoon, we helped each other load equipment, then all pulled out of the driveway together and formed a procession that stayed in-line for almost 75 miles. Since then, we have discussed these events at the meetings and the following seems to be getting bigger!

In 2024 we attended the "National Pike Steam Gas and Horse" show in Brownsville, Pennsylvania where gasoline engines were being featured. The show officers were ecstatic that we travelled from the greater Cleveland area to display our engines! About a dozen HES members were in attendance. One of the next stops was "Stumptown Threshers" annual reunion and again we had a nice display and good representation. We topped off the season late in October with a grand finale in Dresden, Ohio at Country Crossroads. To date this was our most successful event together on the road with about two dozen HES members and a rather large display of engines, tractors, vehicles, and belt driven machinery.

It's well known that many people in the Historical Engine Society have attended and displayed at other events for many years. We typically have a strong crossover of membership with the Ashtabula and Trumbull county clubs, as well as LaGrange and the Harry Young chapter of the HCEA (based at Lakeside Sand and Gravel). These are all great organizations, and we promote supporting them. Our raffle tractor will continue to make its regular stops in 2025 as usual. Promoting our club at other groups events is not only a lot of fun, but it also advertises us in a way that can't be overlooked. We help each other unload and load equipment, share food, drinks and an occasional splash of gasoline, and look after each other's machinery allowing time for everyone to see the rest of the show, visit with friends, and maybe even sell a few tickets! We've also made some friends out there, and we look forward to welcoming some new faces (and machines) to Farmpark in 2025!

Country Crossroads Education of Yesterday — Dresden, OH