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THE **M&W OIL PAN**

097
Jan/Feb 2025
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HERITAGE IRON MAGAZINE™

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FEATURES

DEPARTMENTS

FRONT COVER Jan/Feb 2025
FEATURE TRACTOR

HYDRO 100
Restored and formerly owned by
RICHARD WALKER
Current owner: **BEN BALLARD**
BOTH FROM: CHARLOTTESVILLE, IN.

BACK COVER Mar/Apr 2025
FEATURE TRACTOR

JOHN DEERE 4240
owned by
JIM LUDWIG
LANARK, IL.

PRINTED IN THE USA

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Editorial Office
PO Box 519
Greenville, IL 62246

Sherry Schaefer:
editor@heritageiron.com

Advertising Dept.:
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Man, I wish...

What is it that makes us want our old tractors and vehicles back? In the last editorial, I posted a picture of my old 1971 cabover Pete. It had no power steering and barely any air conditioning. There was a pretty good climb up to the cab and it was nearly impossible to carry a drink up the ladder with you, because you needed both hands to get up there. Then you sat right next to the engine, which was loud and hot. Sure, the view was great, but if there was an accident, you were going to be the first one there. It had straight-pipes and cackled with a full load. For a teenage girl driving a big rig when most girls my age could barely drive a car, I was on top of the world! Man, I wish I had that truck back!

Then, there was my '76 Z-28 Camaro. It was red and I could never keep tread on the back tires. It was terrible in the snow, and I ended up in the ditch more than once. It burned quite a bit of oil to the point it literally threw a rod out of the bottom of the oil pan and left me sitting on the interstate during a trip when I was wearing a dress and high heels. Dad wouldn't help me put an engine in it because, in his words, "You broke it. You're fixing it." I had to buy a new short block from the local auto parts store. Then, I had to take the heads over to the local Oliver/White dealership and learned how to grind the valves and seats... because I broke it. That stupid car cost me a lot of money! Man, I wish I had it back.

The '77 Lincoln four-door Town Car was one I thought I needed, because "Lincoln" meant class. That tank had to be 40' long! Parking it was like trying to parallel park an LST ship at the local marina. Anyplace I went, I just assumed I was going to have to park around back or stick out in the street. It had a big fuel tank, thank goodness, because that 460 was thirsty. It would pass anything but a gas station! Sitting down low in those leather bucket seats, I could barely see over that long hood. But, it floated down the highway and you barely felt a bump. If I could only have a car like that again!

Then, there was an '88 Turbo Bird! I thought that was the coolest car that was ever built at the time. To me, it was the closest thing I would ever have to a Corvette. I loved that car! I spent hours waxing it, making sure it had its Sunday shine. It had the low fairings all around it and was tough to get in some places without scraping something. It also was terrible for hauling parts and my toolbox! So, I traded it in for a pickup truck and I've missed it ever since.

Of course, there were a couple cars I hope I never see again, too. With today's modern equipment and engineering, why do so many of us wish we had our old cars, trucks, and tractors back? Obviously, they were built tougher, but they didn't offer the comfort levels we have now. They were louder, not as efficient, and often times you were tired at the end of the day. Yet, most of us wish we still had them. What is the draw?

For many, it's memories that connect us to the iron. It transports us back in time to a simpler era. I can't look at a Turbo Bird without rubbing my hand in a circular motion, then thinking about sitting on the stoop with a SKI and admiring that fine set of wheels. Even typing this, I'm smiling.

Most of us sold that older iron for a reason. Most of them had their quirks, and we were ready for them to leave… at the time. That brings us to today when so many people are looking for the first tractor they or a family member had. It's more than a piece of iron. It's a family member that created many memories, and at the end of the day, brings smiles of reminiscing. Here's to "wishing you had it back" and hoping it happens someday.

Sherry Schaefer

HERITAGE IRON magazine

Christmas 2024

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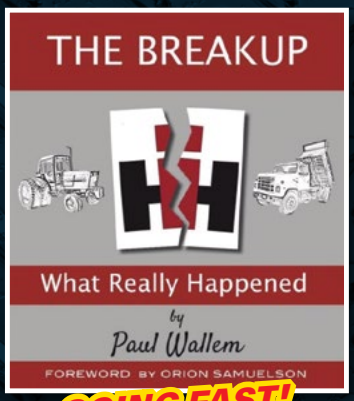

The Breakup: What Really Happened
Back by popular demand! How did one of the most successful farm equipment and truck manufacturers in history go under? Former IHC executive and former IH dealer Paul Wallem provides an insider's look at how a perfect storm of problems killed the iconic brand. 192-page, full-color, softbound book.

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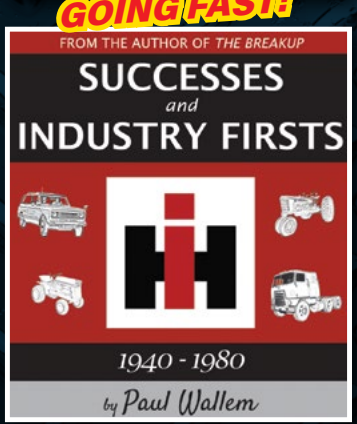

Successes & Industry Firsts: IH 1940-1980
The legacy of International Harvester often focuses on the lasting memories of the distinctive red farm machinery. Collectors and restorers have done remarkable work in keeping the IH brand alive. Wallem, shines a light on the many successful products developed by IH between 1940-1980, some that were "industry firsts."

The Big Bud Tractor Story $35
Back by popular demand and better than ever, The Big Bud Tractor Story charts the history of farming on the prairies and how the big 4WD articulated tractors came into being, detailing the origins of the Big Bud tractors from the early beginnings in 1969 to present day. 146 pages, softbound book.

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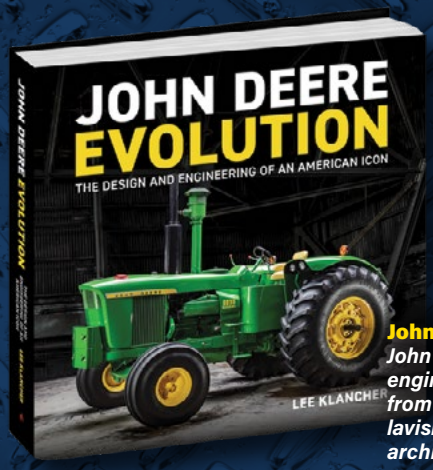
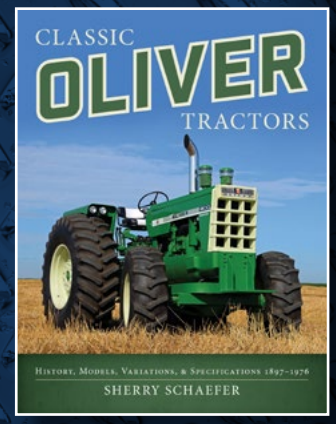


John Deere Evolution $70
John Deere Evolution chronicles the design and engineering evolution of John Deere tractors from the first models to the most current, with lavish imagery that includes contemporary and archival photography, concept drawings, and more. 350 page, hardbound by Lee Klancher.

SALE

Ultimate Tractor Power, Vol. 3 $45
Taking a look at all the high horsepower four-wheel-drive articulated machines currently produced around the world, while adding a unique look at rubber track machines, both articulated and rigid framed. 206 page, hardbound by Peter D. Simpson.



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BLOWING SMOKE

Sherry,

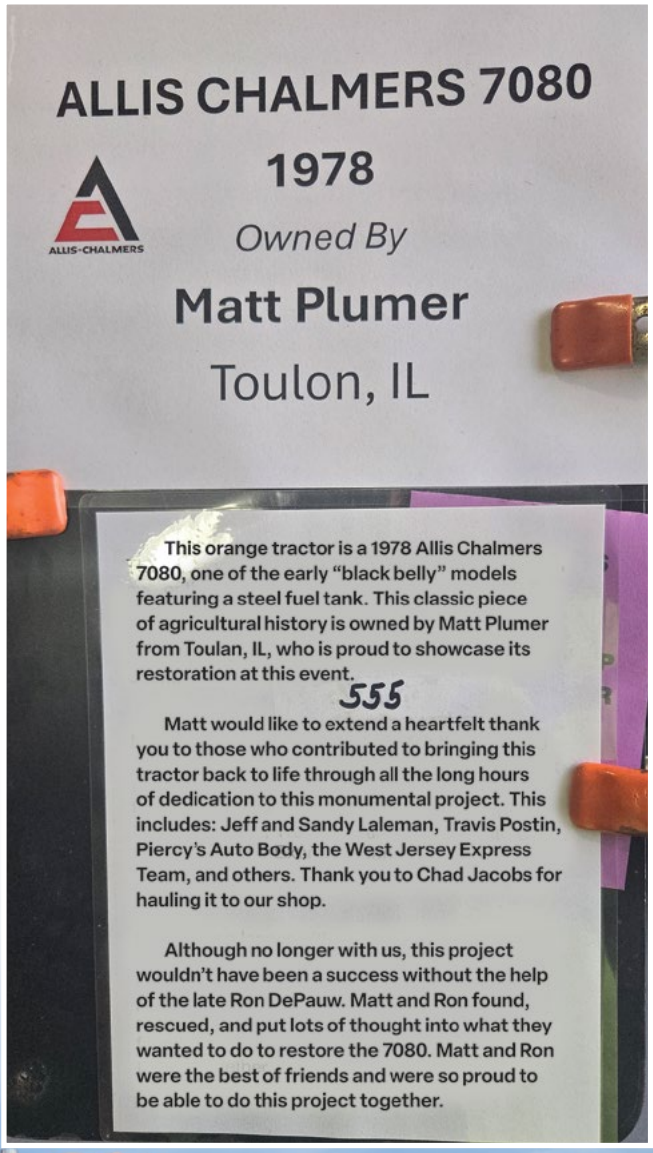
Here is a picture of the AC 7080 my wife, Sandy, painted for the AETA show in September. It was done in honor of our good friend who suddenly passed away a month before the show. This tractor was his "prom queen," and he was so excited to have it at the AETA show. Sandy is driving it in the photo.

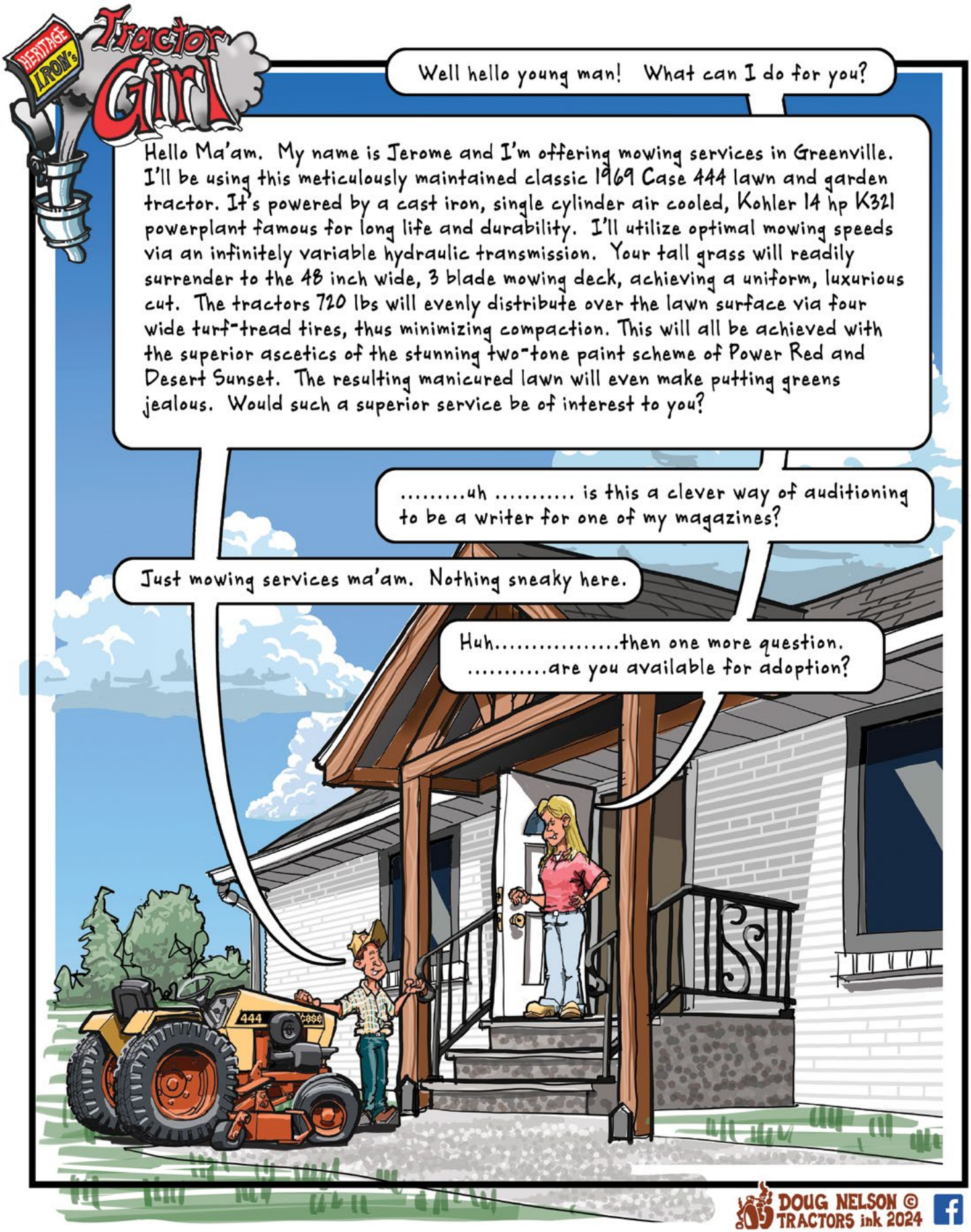
Thanks,
Jeff Laleman

Jeff,

Thanks for sharing this "tribute" to Ron. I am sorry for your loss. Hopefully the tractor will remind you of good times. The prom queen is looking great!

If your wife painted that tractor, you better lock her up! Chicks who paint tractors are a hot commodity in this hobby! Someone is liable to snatch her up at a tractor show. – Sherry




HERITAGE IRON's
Tractor Girl
Well hello young man! What can I do for you?
Hello Ma'am. My name is Jerome and I'm offering mowing services in Greenville. I'll be using this meticulously maintained classic 1969 Case 444 lawn and garden tractor. It's powered by a cast iron, single cylinder air cooled, Kohler 14 hp K321 powerplant famous for long life and durability. I'll utilize optimal mowing speeds via an infinitely variable hydraulic transmission. Your tall grass will readily surrender to the 48 inch wide, 3 blade mowing deck, achieving a uniform, luxurious cut. The tractors 720 lbs will evenly distribute over the lawn surface via four wide turf-tread tires, thus minimizing compaction. This will all be achieved with the superior ascetics of the stunning two-tone paint scheme of Power Red and Desert Sunset. The resulting manicured lawn will even make putting greens jealous. Would such a superior service be of interest to you?
.....uh ..... is this a clever way of auditioning to be a writer for one of my magazines?
Just mowing services ma'am. Nothing sneaky here.
Huh.....then one more question. .....are you available for adoption?
444
CASE
DOUG NELSON © TRACTORS ink 2024

Sherry,

Greetings from Florida. The two photos I sent are of a Steiger Panther III and International Harvester (1256?). I spotted both while driving down U.S. 441 in Okeechobee, FL. The Steiger was owned by a cabbage farm, and the International was at an auction site.

Sincerely,
Gil Partin
Kenansville, FL

Gil,

There is a lot of big iron in Florida! Unfortunately, the salt water isn't always kind to it. Still nice to find, though! Thanks for sharing your pics with us. – Sherry

Hello Sherry,

I read your last Sherry's Shop column and agree wholeheartedly! The neighbor was combining corn across the road earlier in the day before I went out to the mailbox the day your issue was delivered. The smell of the corn was AMAZING, and it wasn't even going through the dryer yet. I remember riding in the trucks that were used by the farmer renting my parents' farm; waiting to get filled in the field; delivering high moisture corn or ear corn to area farms; big trips from the Green Bay area to an elevator in Milwaukee during the off season. I would love to have a truck today like the one you're pictured with. It would make a great hobby truck for hauling tractors to shows or pulling a camper.

Keep up the great work you do with both magazines! I've been a *Heritage Iron* subscriber since the beginning.

John Krause
Seymour, WI

John,

I would LOVE to find that old Pete, but I fear it's long gone. You're right, it would make a great truck to haul tractors around. It's cheaper to buy one of those than a decent pickup truck these days. I wish the plates were the same price as they were 40 years ago!

Thanks for your support! – Sherry

Hi Sherry,

I enjoyed your Sherry's Shop message. I drove long haul for 18 years, pulling refer trailers after retiring from the Air Force. Then, I changed to hauling local, pulling double hopper bottoms, then three- and four-axle belt trailers before retiring after 23 years of driving. It was much better sitting in a wheat or corn field than at a warehouse in a city. Rolling a tarp on a 48' or 53' belt trailer that's 13.6' high was fun, especially if the wind decided to change directions.

Thanks to you and your staff for putting out a great magazine. There's a lot of old farm Caterpillars out there, too, if you ever had a chance for finding stuff on them. But, my favorites are the 706, 806, 1206 tractors, plus the 3010, 4010/20, 5010/20, and the big boy – the 6030.

Thank you,
George Rodrigues
Mountain Home, ID

George,

I sat in a few warehouses in my day, too. I'll take the dirt and dust over the stench any day.

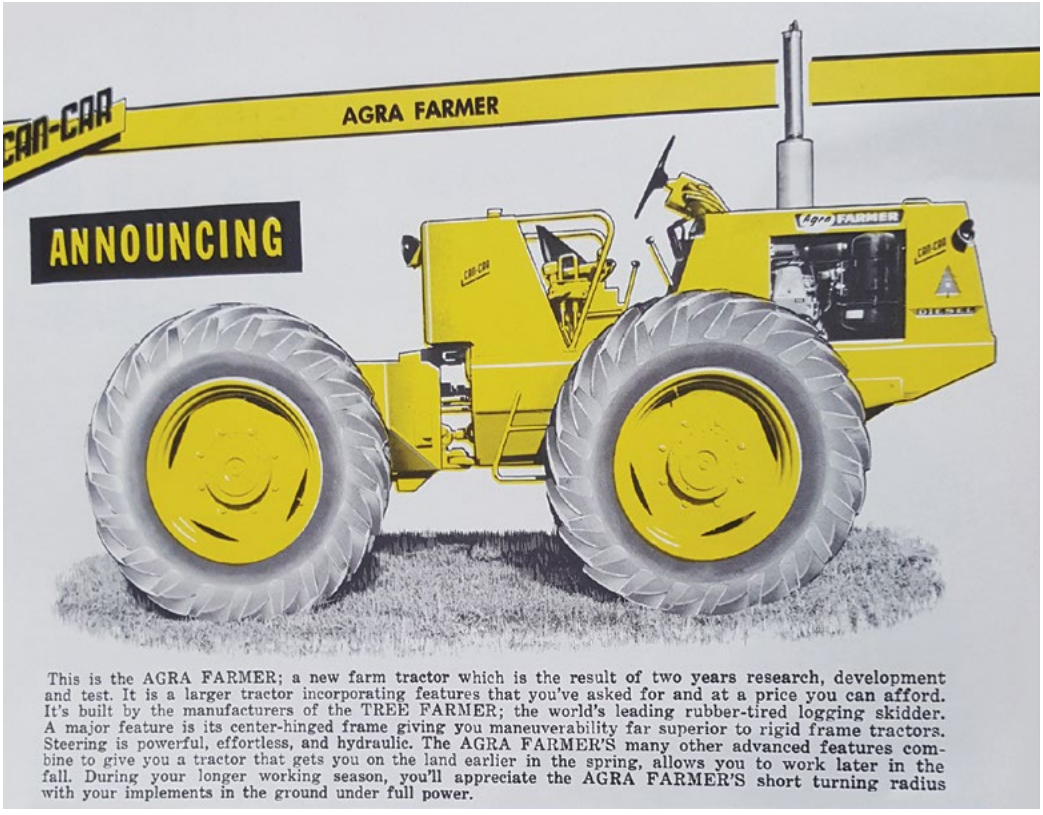
I'm sure the Caterpillars were quite popular out in your area. I really should think about doing a story on some of the models of the '60s and '70s and their competition with the wheeled tractors. We just don't see that many of them out here.

I'm glad you enjoyed Sherry's Shop. Hope it brought back good memories. - Sherry

Hi Sherry,

Here's a 4WD tractor introduced in Canada in the spring/summer of 1965. It was built using a logging skidder as the base platform. This tractor would have been introduced a year before the Canadian-built Versatile D100/G100 4WD tractors.

Jason Unger
Hague, Saskatchewan
Canada



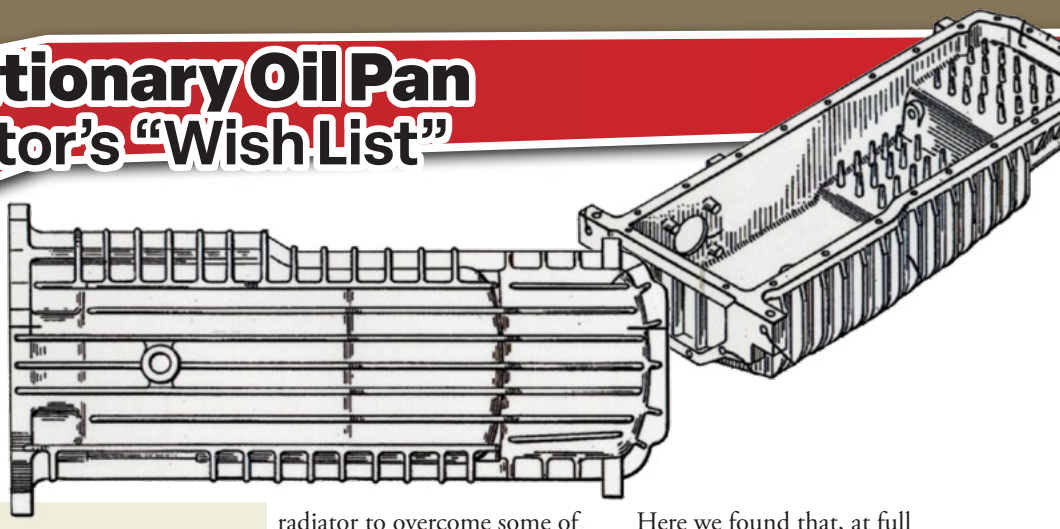
Jason,

Thanks for sharing this! It's very interesting and I had never heard of it. After doing a little more digging, it looks like it was originally built in 1963 and underwent two years of testing. Introduced to the public in 1965, it was powered by a 353 GM engine rated at 97 horsepower and the price started at $8,971. BUTH Equipment Sales in Dilworth, MN, was a dealer for them in the US.

The company started out building aircraft parts in the 1930s. In 1961, they entered a licensing agreement to build the Garrett Tree Farmer. The Tree Farmer became a success and was sold from Canada to Mexico, and all throughout the Atlantic coast states. In 1964 alone, they had orders worth more than $2 million. After proving the success of the Tree Farmer log skidder, they set out to streamline the tractor and sell a model for ag use to the North American farmers, too. The only information on the Agra-Farmer exists in 1965-1966. After that, I can't find anything. The company did heavily invest in logging equipment and sawmills, which appeared to become their bread and butter.

It would be great to find one of those! It's not likely that there are many of them left, but all you need is one! Thanks for sharing the Agra-Farmer literature with us! – Sherry

M&W's Revolutionary Oil Pan On Every Collector's "Wish List"



In issue 38 of *Heritage Iron*, we covered M&W's New Life Kit and its effects on performance. We recently discovered the Product Info bulletin sent out by Elmo Meiners himself! This bulletin talks about the testing in his own words and is more than worthy of reprinting just as it is.

NEW LIFE KIT

I know it will be interesting to many of you to hear about the test results we have had with our New Life Kit for John Deere tractors.

OIL PAN

We first tackled the oil pan on a John Deere, leaving out the patented fingers that we have which comb the heat out of the oil. Without these fingers and the added oil capacity, we got some satisfaction from our first test; however, I could see that just the pan alone and the added oil wouldn't completely solve our problem. After considerable study and thought, I came up with the idea of the fingers to comb out the heat in the center of the pan where most of the oil is naturally. Our results were amazing! We cut the temperature of the oil from the original equipment pan by as much as 50% when the engine was operating at full power. With these lower oil temperatures, I think you will find it almost impossible to have your oil break down (as most of you know, when the oil temperature reaches a certain point, the term used is oil breakdown). One of the things that happens when the oil breaks down is that it loses most of its sealing ability in the ring and sleeve, which causes a lot of blow-by in the engine. After this blow-by occurs and the oil is at an extremely high temperature, the oil pump will start cavitating, pumping air and oil, which naturally is very harmful to all the bearings and the engine. I think you will find that the oil will stay clean longer simply by better control of the blow-by. In addition, the lubricating quality of the oil will retain its value longer. It is my opinion that this is one of the best improvement packages we at M&W have ever offered our customers.

RADIATOR

Following are the results with our new radiator. What we first had in mind was to just add extra cooling to the radiator to overcome some of the John Deere 4010 and 4020 tractors running at a higher water temperature, especially in the 3500- to 5000-foot altitudes throughout the Western Plains. We accomplished this very successfully with one more row of tubes in the radiator and a seven-blade fan and a shroud designed to pull air through the entire radiator. In checking the original fan and shroud on the John Deere radiator, we found that a good portion of the four corners of the radiator lacked air flow. This can be checked very easily by any farmer or anyone here at M&W by simply shutting off the engine and taking a garden hose and running water in the fins of the radiator. Then when you start the engine, you will notice there is not enough air flow by the fan through the shroud to pull the water out of these fins in the four corners. Naturally, this effects the cooling capacity of the radiator.

We were successful in cooling the engine which, by the way, we ran a turbocharged 4020 on the dyno at 125 horsepower and brought the dyno testing room up to 110° and the tractor ran at normal temperatures. After we were successful with these tests, we went one step further and checked the cavitation of the water pump. Here we found that, at full throttle, an amazing amount of cavitation was evidenced in the water pump. So, we installed plastic hose from the block into the radiator of the engine and again we were surprised to see so much air being pumped into the block from the cavitation of the pump.

After more research, we found that the air bubbles in the water were the villain causing hot spots throughout the engine. When these air bubbles, or small whirlpools which create air bubbles, attach themselves to a sleeve when the engine is running at full power and turning at 2200 RPMs, the rings pass by the spot on the sleeve where that air bubble is located 4400 times in a minute. In just a matter of a split second when the air bubble forms on the sleeve, on the inside of the sleeve where the engine is firing dries off the sleeve, and when the ring passes over this dry spot, the results are simple – you get a scored sleeve. We found that in some models of JD 4020s, this characteristic was worse than in others, and in 1964,1965, and 1966 models, the condition was most serious.

To correct this situation, we removed the air from the block of the tractor by redesigning the radiator and putting a de-aerating tank in the top

portion of the radiator to keep top tank pressure on the pump inlet. We also put two more outlets in the manifold that takes the water from the top of the block to the radiator and ran these two hoses up into de-aerating part of the radiator. With almost 100% solid water going through the block, I think you will find that we will be able to control the hot spots throughout the engine. Also, we will almost eliminate all O-ring leaking simply because these air bubbles, or the little so-called whirlpools, do the same thing to the O-ring. Most of us always blamed the O-ring for not being of good quality. However, I think the cavitation of the water was the biggest problem.

To give you an example, on one of our tests we took a 1965 JD 4020 that a customer had replaced the sleeves in the engine twice in one year because of the piston and sleeve scoring. We replaced this customer's tractor with a new set of sleeves and pistons, installed the de-aeration system, and intentionally set the horsepower to between 130 and 140. We told him to abuse the engine as much as he could. When he got done with his work, he had almost 800 hours on the engine and reported to us that it was still in perfect condition. The set of sleeves and pistons we put in the tractors, so the owner says, was the seventh set in less than 2400 hours; some of them running only as much as 200 hours. When this product is introduced on the market, I think M&W will be thanked many times by customers who have experienced these problems·

AIR CLEANER

I know many of your wonder why I spent time and research on the air cleaner for the John Deere 4010 and 4020, but a simple test on one of our factory-equipped, non-turbocharged 4020s made me become very interested. We ran the 4020 at 88 horsepower on our dyno at outside air temperature of 72 degrees. We simply removed the air hoses and pipes from the original air cleaner and installed our straight through air cleaner on the engine. The tractor produced 94 horsepower without touching anything else on the engine or pump. The answer is very simple – when air turns corners, it loses velocity. The straighter you can direct air into the engine, the more of this air the engine will be able to suck into the exhaust chamber. This is how simple it is – just like driving your automobile down a highway without any curves. In designing our new air cleaner, we found that 25% more capacity in the filter also lets the engine breathe easier. After all, the only thing that makes a diesel engine run is fuel and air. I believe when we offer this air cleaner to the public, it can easily pay for itself over a period of time in the savings of fuel consumption and the added horsepower.

It makes me feel very good that M&W can offer all three of these packages, any one of which is very beneficial to the farmer. I do not believe that a John Deere owner can spend any better money than on one, two, or all three of these improvement packages.

Elmo

Elmo R. Meiners
President

Summary • by **Sherry Schaefer**

The M&W oil pan was invented by Elmo Meiners of Anchor, IL, filing for patent on June 1, 1972. It would be two years before the patent was approved. In the patent, it is explained that the original equipment oil pan on a tractor would hold from 8-13 quarts of oil. The new M&W pan would hold about twice as much do to the added length. Because the depth of the pan was the same as the original equipment, the original dipstick could be used to determine the oil level.

While this unit is more frequently seen on Deere equipment, a pan was also available for select IH models. Pan #1530001 was for the 4000, 4010, and 4020. Pan #1530002 was for the 4320, 4520, and 4620. Pan #1530007 was available to fit the 806, 856, 1206, 1256, and the 1456; this pan for the IH model is the crowned jewel. While these are the part numbers listed on the price sheet, pans that I have seen in person carry different numbers. The Deere pan carries the numbers 1536600, while the IH has 1536602 on it.

While you will occasionally see a pan that has been painted, this is just a personal choice for someone not using the machine for hard labor. Painting a pan could hold in some of the heat, defeating the purpose of the cooling fins on the outside. Some people like the clean look of a painted pan that blends into the rest of the machine.

In 1972, this pan listed for $135. By 1974 it was at $180. In 1977, it had increased to $205. In 1982, it was $359. Today that pan, if you can find one, will bring in the thousands. Who knew 50 years ago that the oil pan would be one of the coolest features of a tractor! If Elmo could see it now! HI

PART NO.	DESCRIPTION	WT.	LIST PRICE
	John Deere		
1530001	Oil Pan for 4000, 4010, 4020 with Necessary Hardware	58	$205.00
1530002	Oil Pan for 4320, 4520 and 4620 with Necessary Hardware	58	205.00
1530004	Centrifuge Air Cleaner Kit for Turbo-charged 4000, 4010, 4020 Diesel Tractors	38	165.00
1530005	Centrifuge Air Cleaner for Non-Turbocharged 4000, 4010, 4020 Tractors	38	189.00
1530009	Radiator Kit with De-aerating Kit, 7 Blade Fan, Fan Shroud, for 4000, 4010, 4020 Diesels	93	475.00
1537440	7 Blade Fan	12	39.95
1532301	Fan Shroud for JD Radiator - 4000, 4010, 4020	9	19.95
	IHC		
1530007	Oil Pan for 806, 856, 1206, 1256, 1456 with necessary hardware	54	205.00

Tony Reed's John Deere 4010

Old Tractor – New Memories

by **Ryan Kelly**

"My dad can beat up your dad." That's a phrase that comes to mind when you think about little kids arguing, as kids do. Of course, your dad can beat up anybody; he's the strongest man in the world. Farm kids, though, they know there's something stronger than Dad – the big tractor. The "my tractor is stronger than yours" argument is one that some never seem to outgrow. At least there's a way to resolve this conflict: a tractor pull. Dad fights, on the other hand, never (luckily) materialize. For the record, Dad, if you read this, I'd have put you up against any of my friends' dads.

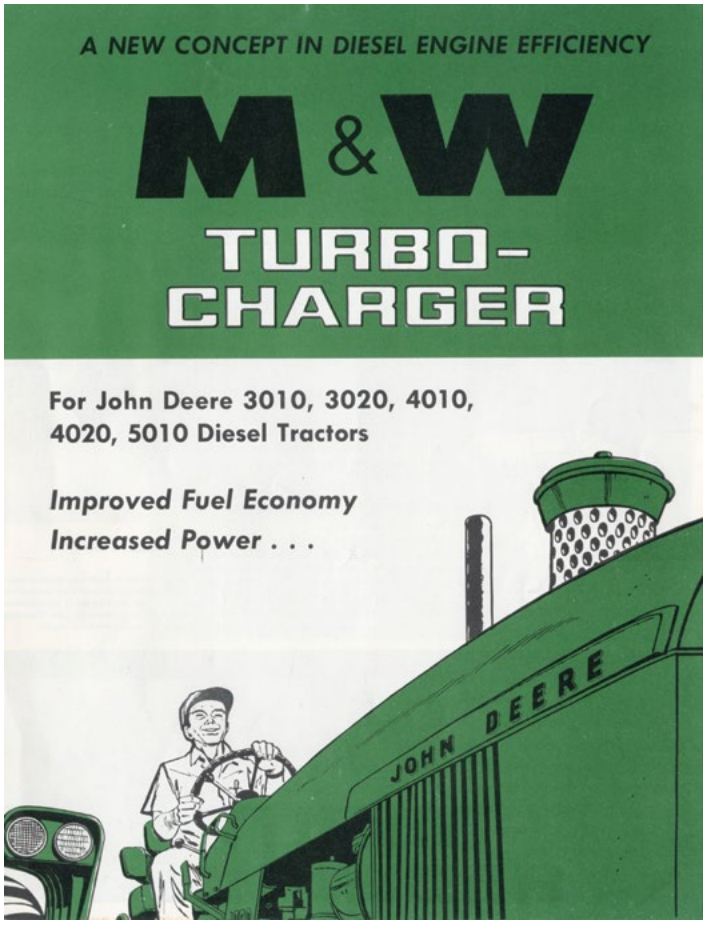
As tough as my dad was, unfortunately for me, his "big" tractor was a late model IH 656 gas. The 656 gas had an uphill battle against my friends' dads' tractors! For Tony Reed, though, his family tractor had a lot of "tough" going for it. His family tractor was a John Deere 4010 diesel. This 4010 wasn't just an average 4010, though. It had a little help from a couple of guys from Gibson City, IL. This 4010 had an M&W turbo and oil pan.

The family farm where Tony grew so fond of the 4010 was his grandfather, Steve Reed's place. Steve farmed in Beecher City, IL, growing corn, beans, wheat, and hay. The main focus of the farm, though, was a cow/calf beef operation. With a diverse operation like that, there was plenty of tractor driving to do.

The 4010 may have been the big tractor on Steve's farm, but it actually wasn't his tractor. It belonged to his son, Jim Reed. Jim purchased it at an auction in 1981, where he learned the background of the 4010. Originally, it was sold new at Sloan's in Assumption, IL. (Sloan's is a very large John Deere dealer group and Assumption was the home base.) More important than the tractor's history was what was extra on that old New Generation horse. The M&W turbo and oil pan were both a selling point and a significant addition to the value of the tractor.

Although the 4010 was Jim Reed's, his father's farm became its home. It wasn't much of a competition to be the big tractor on the Reed farm. Prior to the 4010, the big horse was an Oliver Row Crop 88, which left after the 4010 arrived. Being the big tractor on the farm made that 4010 the coolest tractor in the world to young Tony, completely outshining the other tractors – an Allis Chalmers WD and a Farmall Model H.

In a world of 400-plus-horsepower planting tractors, we take horsepower for granted. In the 1980s and '90s, a 100-horsepower tractor was fairly valuable. So, certainly you wouldn't let a kid drive the big tractor, would you? Yes, actually, you would. It makes sense once you think about it. Prior to Roundup Ready crops, there was a lot of tillage that needed to be done. In some parts of the country, tillage is still a significant piece of the crop production puzzle. What better place for a kid than doing tillage? So, while Grandpa was planting with the trusty Farmall H, Tony worked ground with the 4010.



Moments like that are what make kids fall in love with tractors and farming. There is nothing like turning dirt and working a tractor. Hauling wagons, spreading manure, and making hay are all fieldwork

and fun in their own way, but pulling an engine down to the governor turning dirt is pretty intoxicating to a farm kid!

The 4010 served faithfully on the Reed farm throughout Tony's childhood. In addition to tillage, there was feed to make for the cattle. Steve had a very nice John Deere 336 baler that he was pretty fond of, which the 4010 pulled. There were also gravity boxes it pulled during harvest. Tony can't remember the tractor ever letting them down in the middle of work. However, anything mechanical is going to need some attention at some point.

Tony remembers going to his grandparents' one day and his grandfather saying Wehrle Brothers, the local John Deere dealer in Vandalia, IL, called about the 4010, as they had it in for some work. Tony and Steve got in the truck and drove down to the dealership. When they walked in the shop, Tony's heart sank. The beloved 4010 sat in pieces. It was split and the rear end was torn apart. As a kid, Tony had never seen a tractor torn down like this. He didn't see how they would ever be able to put it back together. As it turned out, it just needed a clutch and some hydraulic work. A few days later, it was returned home all safe and sound, much to Tony's relief!

As time went by, Tony grew up and life changed. The 4010 was no longer the big tractor on the farm. A 4230 open station with a Year-A-Round cab showed up. Ironically, it also had an M&W turbo. A round baler was soon added to the collection of equipment. Kids, including Tony, were growing up and the labor for haying wasn't as plentiful as it once was. Adulthood kind of sneaks up on you. It seems to take forever to get there, and one day you wonder where the time went. Tony graduated high school and went on the custom harvest run. After that, he continued his own career in agriculture.

In the early-2000s, Steve retired and sold the equipment on auction. The 4010, though, wasn't on the sale. This is where Tony lost track of the 4010 – for a while. A new Ford loader tractor had shown up; maybe it was traded for that? The tractor was his uncle Jim's, so maybe he sold it.

The whereabouts of the 4010 were uncovered a few years ago in a Facebook post. The 4010 was never really missing. It turned out Jim still owned it! There, in a picture of his barn, was the 4010 in the background. Tony immediately reached out to his uncle, asking if that was the 4010. Once it was confirmed, Tony made sure to let Jim know that if he ever wanted to part with the tractor, he was very interested. A while later, Tony ran into a farmer Jim had been helping some, as Jim had retired from his contracting business. The famer told Tony that the old 4010 was working on an auger. Tony asked if he would remind Jim that he would still love to have the 4010. A short time later, Tony ran into that farmer again. And, once again, Tony inquired about the 4010 and his uncle. The farmer had talked to Jim about the tractor and Jim was indeed ready to let loose of the 4010.

Wasting no time, Tony went to Jim. Checkbook in hand, he asked Jim what he wanted for it. The price was absolutely nothing. Jim said the tractor probably meant more to Tony than anyone else. On a personal side, I feel that is as cool as it gets. The world needs more people who aren't as focused on the dollars as they are in helping someone. I think there are many people in agriculture who need to think about helping young farmers.

If you are wondering why Tony didn't know where the 4010 was located, or why his uncle just didn't automatically give him the tractor, you should know that Tony was not Jim's only nephew, nor his grandfather's only grandchild. Tony's grandparents had fifteen children! In a family of that size, it's hard to keep in touch with everyone – and everything.

Before we get into where the 4010 is now, I should tell you a little more about Tony. He is a farmer, but he's also a social media celebrity with a large following on TikTok, Facebook, and YouTube, in addition to a podcast with his longtime friend, Nick McCormick. The 4010 has been mentioned many times on their Straight Forward Farming podcast.

Once Tony was reunited with his childhood friend, he didn't just park it in the grove. Tony, along with friends, started right in on the 4010. At one point after it left Steve's farm, something happened to the engine. Rather than repair the original 380-CID motor, a mechanic suggested just replacing it with a used

404-CID sourced from a 4020. Unfortunately, when the engine was switched, the M&W turbo and oil pan weren't transferred. His uncle didn't know what happened to the parts, either.

Within a couple months, the 4010 was mechanically and cosmetically restored. With help from Nick McCormick, the head was pulled and inspected. It got a double split with a new clutch and a new top shaft in the transmission. Tony wanted to do as much as he could himself. When he needed some guidance, longtime John Deere mechanic, Nick Pruemer, talked him through questions and even stopped by to give the tractor the occasional inspection. The late Ferd McCormick of McCormick Diesel fame worked the Roosa Master pump over and made sure it had enough fuel to run stout.

Cosmetically, Tony went about painting the tractor itself and the wheels. The tin work was body shop worked and painted by Larry Vonderheide of Stewardson, IL. The 4010 turned out awesome but something was missing.

Tony remembered the 4010 with the whistle of a turbo, and that big aluminum M&W oil pan. These parts were a must-have. Jake Renner in Belleville, IL, hooked Tony up with a turbo kit. Russ Stundebeck, down in Salisbury, MO, had the pan. There's definitely something mean looking about that aluminum pan.

So, after all that effort at restoration, did Tony give his old friend a much-deserved retirement? Not at all, I'm afraid. In fact, in the two years since the restoration, it's had approximately 200 hours put on it. It has run an auger, a drill, and even a John Deere 7000 12-row planter. It's really nice to have a tractor that reminds you of the past, but it's really cool to make new memories with the same tractor. HI

If you enjoy these tractor stories, please check out my YouTube channel: Ryan Kelly-Wititan2.

YouTube

THE PROBLEM CHILD

by **Sherry Schaefer**

...EVERY MANUFACTURER HAD ONE — that one tractor that makes you question where you went wrong. Well, you're not alone, because every tractor manufacturer had that one tractor they wish they had never brought out. It often brought hardships, whether that was damage to the company's reputation or financial setbacks, as recalls and repairs were costly.

Recalling a tractor wasn't anything new by the time the heritage iron models came out. In fact, Hart-Parr had a recall as early as the teens. The Little Devil, appropriately named, was recalled by the company and destroyed. When idled down, the tractor had the tendency to reverse direction of the engine, which put the tractor in reverse. After several injuries involving the tractor running over the plow in reverse, Hart-Parr made the expensive decision to get them out of the public's hands. Only a few escaped the recall and live on in collections.

FORD 6000

Fast forward to 1960 and you will see several recalls. One of those was the Ford 6000. At the time, Harold Brock was working at Ford as Chief Engineer. They were working on a powershift transmission that was known as the Select-O-Speed to come out in the new Model 6000. Still preliminary in testing (and failing), Ford wanted to get the jump on the competition and introduce this transmission before it was ready. Brock strongly opposed this decision and told the powers that be that if they proceeded without the necessary changes, they would need a new engineer. Ford proceeded with their introduction, which ended badly. Brock left the company and went to Deere.

The Ford 6000s were pulled back in for rebuilds but not without damage to the company's reputation. While the 6000 initially came out with a red-belly and gray sheet metal and wheels, it was that red model that put them in the red and no one wanted to touch that model. To distance themselves from that model, those tractors rebuilt from the factory were then painted Ford blue where the red color used to be. If the fixes were done at the dealership, they were not necessarily painted blue. All production models that came out with the modifications were also painted blue and gray. Ford was able to correct the problem with the 6000, but not without damage to what would have been an exciting and modern model with the Select-O-Speed powershift transmission and superior hydraulics.

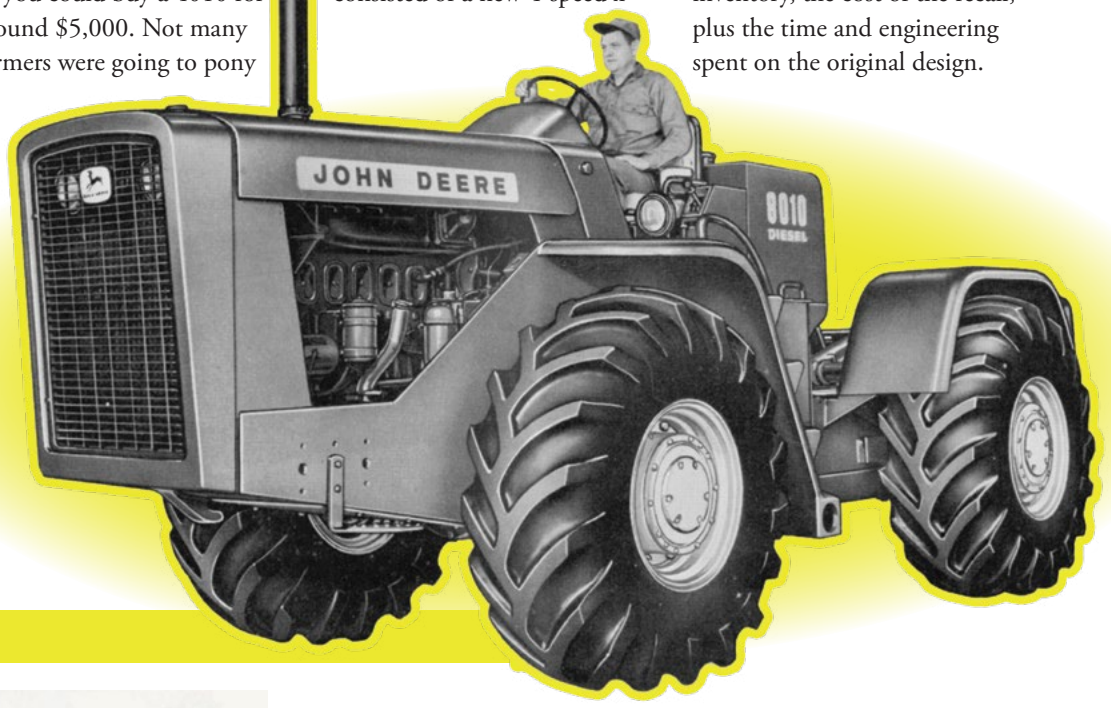
JOHN DEERE 2010 AND 8010

If you talk to a JD dealer or user, they might tell you the 2010 was the worst tractor Deere built. However, if there was a problem child that cost the company money and grief, that designation would probably go to the GM-powered 8010.

Introduced in 1959 to a crowd in Iowa, this monster of a machine was built for the big acreage farmer but had many reasons for weak sales. Additionally, it was one of those doomed for a recall and rebuild. Rushed into production to round out the New Generation series, the excitement over the 8010 fell apart… literally. The transmission, which was a standard 9-speed truck transmission, could not hold up to the heavy loads of an agricultural application. As if the transmission getting hot wasn't enough, it was so hot that it would melt the seal between itself and the clutch, allowing fluid from each side to run together.

The price of the 8010 was astronomical when compared to the two-wheel-drive models. An 8010 listed for around $30,000, or you could buy a 4010 for around $5,000. Not many farmers were going to pony up $30,000 for a tractor that was designed to do one thing – heavy tillage. There were still new tractors in inventory even years later, and they hadn't been built since early-1961.

The 8010 models that had been sold, and even the new models, were recalled for a factory upgrade. That consisted of a new 4-speed x 2 transmission, a new seat, modifications on the steps, and other upgrades. This resulted in a new badging of the tractor as the 8020 and another extended effort to sell these monstrosities. The decision to push these tractors into the market early was costly for the company in the time it took to get rid of the inventory, the cost of the recall, plus the time and engineering spent on the original design.



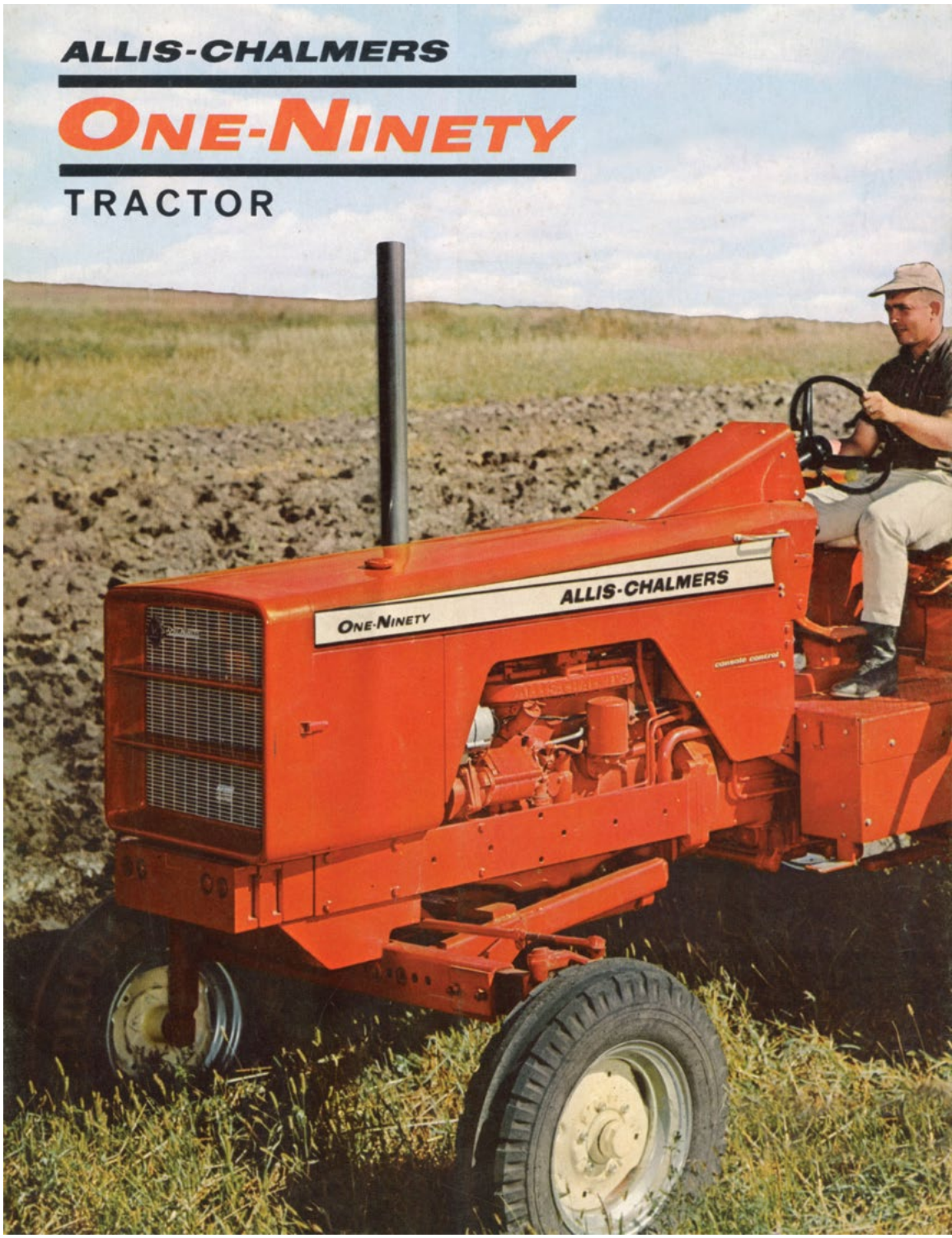
IH 560

IH was not alone in the battle with the problem child. Paul Wallem, former IH dealer and President of the National Dealer Council, responded to our question with the following. "The 560 probably got the most widespread criticism because it was sold nationwide in big quantities. Some other models did poorly, but because sales were low, so was criticism. I couldn't sell the 4100 in South America because of poor features."

"There were around 66,000 of the 560 models built from 1958-1963," Paul continued. "As with most manufacturers, companies were looking to squeeze everything they could out of a tractor before a redesign was needed. The 560 was one of those, but it ended up costing them dearly. A redesign might have been cheaper than what it cost them."

The 560 used the rear-end from the 450, which was powered by a 6-cylinder engine. The engine in the 560 was a 6-cylinder and proved to be too much power for the drivetrain. In mid-1959, a heavier rear-end was designed. This massive recall was both costly to the company and damaged their reputation at a bad time. Times were already tough in the farm economy in late-1959/1960. By the time things improved, Deere had introduced their new 3010 and 4010 models, which were a radical change for the green line. Undoubtedly, the timing of this introduction could not have been better if they were aiming to take more of the market share from IH.

ALLIS-CHALMERS ONE-NINETY



The AC One-Ninety was another one of those models that could not handle the extra power going through the drivetrain. The early One-Ninety models used the same rear-end as those used in the D19. But now, the D19 rear-end had a few more ponies going through it, along with another 1,000 pounds to carry. The One-Ninety used a 262-CID gas engine; the same as the D19. However, the engine in the One-Ninety diesel was a 301 naturally-aspirated engine. Initial horsepower ratings were 77 PTO. The industry standard at that time was closer to 90, so the One-Ninety seemed to be behind the 8-ball before they even started to play. To catch up, the gas and LP engine was increased to 301 CID. The diesel engine was then turbocharged.

The original One-Ninety production began in the fall of 1964. With the revised engine, production did not start until the next year. These models would then be called the One-Ninety XT. While these tractors performed well in the field, they were often turned up. The rear-end of the D-19 with two-spider gears then was not enough. This tractor also had 2 5/8" axles, another weak link.

Failures became common and a recall was issued. The fix, however, was limited because the axle size could not be changed. This drivetrain failure did initiate a redesign. In 1966, the One-Ninety came out with transmission improvements to fix the weakness in the drivetrain. To further strengthen this model, they added a four-spider-gear differential along with 3" axles in 1968. While this fixed many problems the tractor had, the reputation of the One-Ninety was tarnished. The best thing to do was come out with a new model, so the One-Ninety was replaced by the 200 in 1972.

Former Allis-Chalmers dealer, Brad Howell, said that if the One-Ninety had stayed in the field, he thinks it would have put the company right up there with Deere in market share. The tractor was modern; it was the only one with a flat platform; it had a console with all the controls on the right side, and everyone loved it. Brad remembered one field demonstration to a customer when they ended up having to pull the tractor out of the field with an 806 because the rear-end locked up. He said even with that disaster, the customer STILL bought the One-Ninety.

OLIVER TRACTORS

1755/1855/1955

Oliver 1855

Oliver had a long-running association with Waukesha Motors. Together, they built engines based on Waukesha models, but they were to Oliver's specifications and designs to accommodate Oliver's accessories. Oliver even owned a large share of Waukesha during the 1950s.

Engine testing was done at the Waukesha Motors facility in "the blue room." (It was called the blue room due to the haze of smoke and fumes.) Engines were run for a four-hour break-in period. That was all well and good, but it did not compare to a long day in the field with heat, dirt, and varying heavy loads. That was the true test, and for the 310 in the early 1855s, it failed…miserably!

The 310 engine was used in models from the 1750 through the 1955 in various configurations. Obviously, the smaller models were not pushing as much fuel and load through them as the higher horsepower models. When the 55 series tractors came around, the 1755 used the naturally-aspirated 310 with 86-PTO hp. The turbocharged 1855 diesel was pushing out 98-PTO hp, while the turbocharged 1955 was certified at 108-PTO hp. The biggest problem in the lineup was the 1855 due to the lack of oil cooling.

The turbocharger on the 1855 created more heat for the 310. Heating of the oil created breakdown, which decreased its lubricity. Bushings and wrist pins failed when this happened, and soon, rods were looking for an exit. A 310 block with windows is a common sight. (While writing this story, I asked for a few pictures of windowed blocks on Facebook and received dozens and dozens!)

The turbocharger on the 1855 created more heat for the 310. Heating of the oil created breakdown, which decreased its lubricity.

The 1955 with the turbocharged engine and full fuel did not have the same problem, but it had an oil cooler. Oliver had a big problem with the 1855 and they knew it. They initiated a program that would replace 1855 engines with 1955 engines. The other fix was an update kit that had an external oil cooler, heavier connecting rods, one-piece bushings, and stronger rod bolts. The 1855 engine was eventually fixed but not without much damage to the company and loss of market share.

Oliver knew there was a problem with this tractor. With White Motors in charge and the struggle between the power of Oliver and Minneapolis-Moline, reaction was slow. According to a former Oliver territory manager, it seemed they didn't WANT to fix it. MM wanted their engines in the next series of tractors, and the 310 failing would just strengthen their position with the future engine choice. During that time, there were more MM men in control than Oliver men and it showed.

MASSEY-FERGUSON 2805

The Massey-Ferguson lineup proved to be reliable machines. If you could pick out the one in the family that might have been a problem, it would have been the 2805. This tractor was brought out into the market before it was ready, and it had not been thoroughly tested. The cab, however, was one of the most modern and comfortable on the market. Introduced in 1978, the Perkins engine was rated at over 200 horse. Putting all that power through the 2805's transmission did not work out well. There was just too much motor for the drivetrain when it was used hard.

This model, which started out as a 2800, was plagued with recalls and problems over many different areas of the tractor. The 3-speed models had the most problems, and those were the ones sold the most. The damage was done to the 2805's reputation, but just as important was the cost that was lost in market share in the large two-wheel-drive market in the US.

BROUGHT OUT INTO THE WAS READY, AND IT HAD NOT TESTED.

Minneapolis-Moline G-1000

In the Minneapolis-Moline line, one of their biggest failures came early in the production of the G-1000. The race was on to cross the 100-horsepower line, and the G-1000 was going to be the answer. Like most models that were rushed into production, this one had its flaws. During testing on the chassis dyno, there were more failures than had ever been seen before using that test machine. On average, the driveline failed after roughly 50 hours. Modifications were made, but it appeared that was not enough. Mike Verhulst, a young engineer at MM, went over to the plant to inspect the first batch of newly machined final drive castings. They were covered in red "reject" tags. Pressure was on for Verhulst to make an exception and approve the castings. He refused to do so. Because of the race between other manufacturers, upper management did not head his warnings and they forged ahead with production.

The defective parts started failing in the field quickly. The fall tillage of 1966 brought about major failures, including bull gear pinion bearings. This was remedied early in the production of the G-1000 but not before many setbacks, which allowed the competition to gain momentum. It also cost a lead engineer his job. Verhulst, the man who warned of the failures, was forced to take the blame. (Verhulst was terminated from MM but moved into the White Advanced Products Division and later developed the A4T line of four-wheel-drive tractors.)

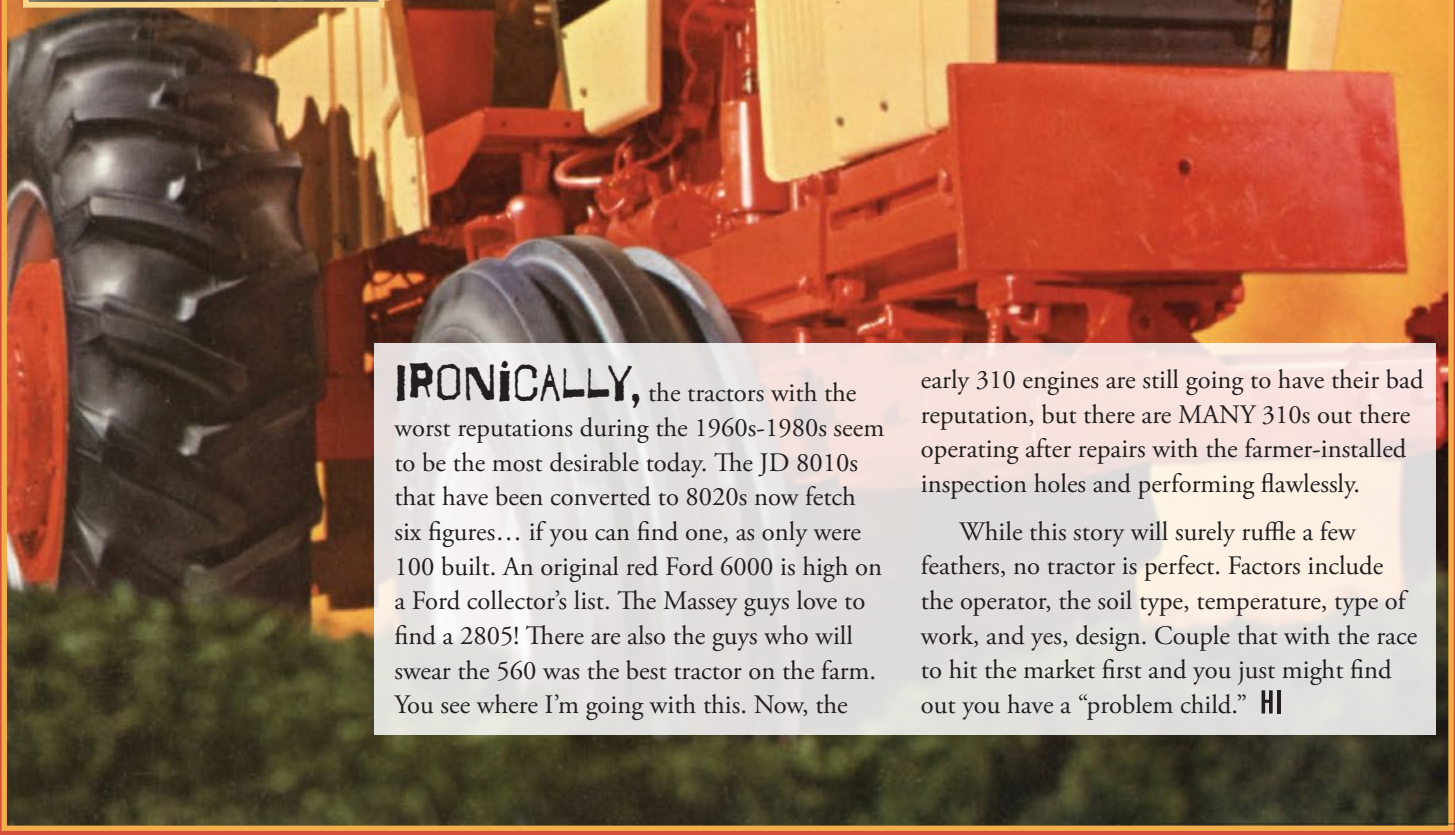
As most know, the G-1000 went on to be a legend in the MM lineup, especially with the Vista model. This was one problem child that got straightened out early.

CASE 1170

If you ask a Case guy to name a Case tractor that should not have been built because of problems, he will tell you they didn't have problems. However, social media wasn't around back then to help spread the word. The 1170 was one of those models that could have used a little more testing, because it did have a few issues. There were problems with the differentials due to heat-treat issues. There was also a parking brake problem that caused burnt-out brakes since it was easy to leave them engaged and drive off.

While some will argue the 1170 was a great tractor, it was only built for one year. That should be enough of a statement. Though the problems were worked out of it, its reputation was slightly tarnished. It wasn't going to sell well, so they moved on to another model.

While some will argue the 1170 was a great tractor, it was only built for one year.



IRONICALLY, the tractors with the worst reputations during the 1960s-1980s seem to be the most desirable today. The JD 8010s that have been converted to 8020s now fetch six figures… if you can find one, as only were 100 built. An original red Ford 6000 is high on a Ford collector's list. The Massey guys love to find a 2805! There are also the guys who will swear the 560 was the best tractor on the farm. You see where I'm going with this. Now, the early 310 engines are still going to have their bad reputation, but there are MANY 310s out there operating after repairs with the farmer-installed inspection holes and performing flawlessly.

While this story will surely ruffle a few feathers, no tractor is perfect. Factors include the operator, the soil type, temperature, type of work, and yes, design. Couple that with the race to hit the market first and you just might find out you have a "problem child." HI

HYDRO 100

FLUID IN MOTION

by **Kenneth Updike**

The IH Hydro 100 tractor replaced both the 966 Hydro and 1066 Hydro tractors in 1973. IH was getting complaints from tractor buyers saying the hydrostatic drive versions of the 966 or 1066 were not as good as the gear drive versions and didn't have the lugging power. This was true. Because of how a hydrostatic drive is constructed and designed, they don't transmit engine torque like that of a direct gear drive. To find out why, read on and learn a bit about IH and its hydrostatic drive tractor designs. The Hydro 100 tractor itself will be covered later in this article.

HYDROSTATIC DRIVE

The basic concept of hydraulic propulsion is quite unique. Liquids are not compressible and therefore can be used to transmit mechanical energy. The onset of World War II only forced researchers and industrial designers to rapidly advance their work on using high pressure fluids to transmit mechanical energy in a compact, simple form. The "medium" used to transmit this energy was typically a refined oil. By not using water or alcohol, many of the limitations of these fluids could be avoided. Oil offered a cheap, readily available form for power transmission that performed well in all climates.

A basic hydrostatic drive system contains an oil reservoir, variable displacement pump, and a fixed displacement drive motor. The pump is connected to the tractor's engine via a driveshaft or gears and contains several pistons inside. These pistons pump oil to the drive motor, which in turn, drives the tractor's wheels.

The travel speed and direction are controlled by a single lever. By moving this

hydrostatic drive

No clutch, shift without stopping– with plenty of power at all speeds

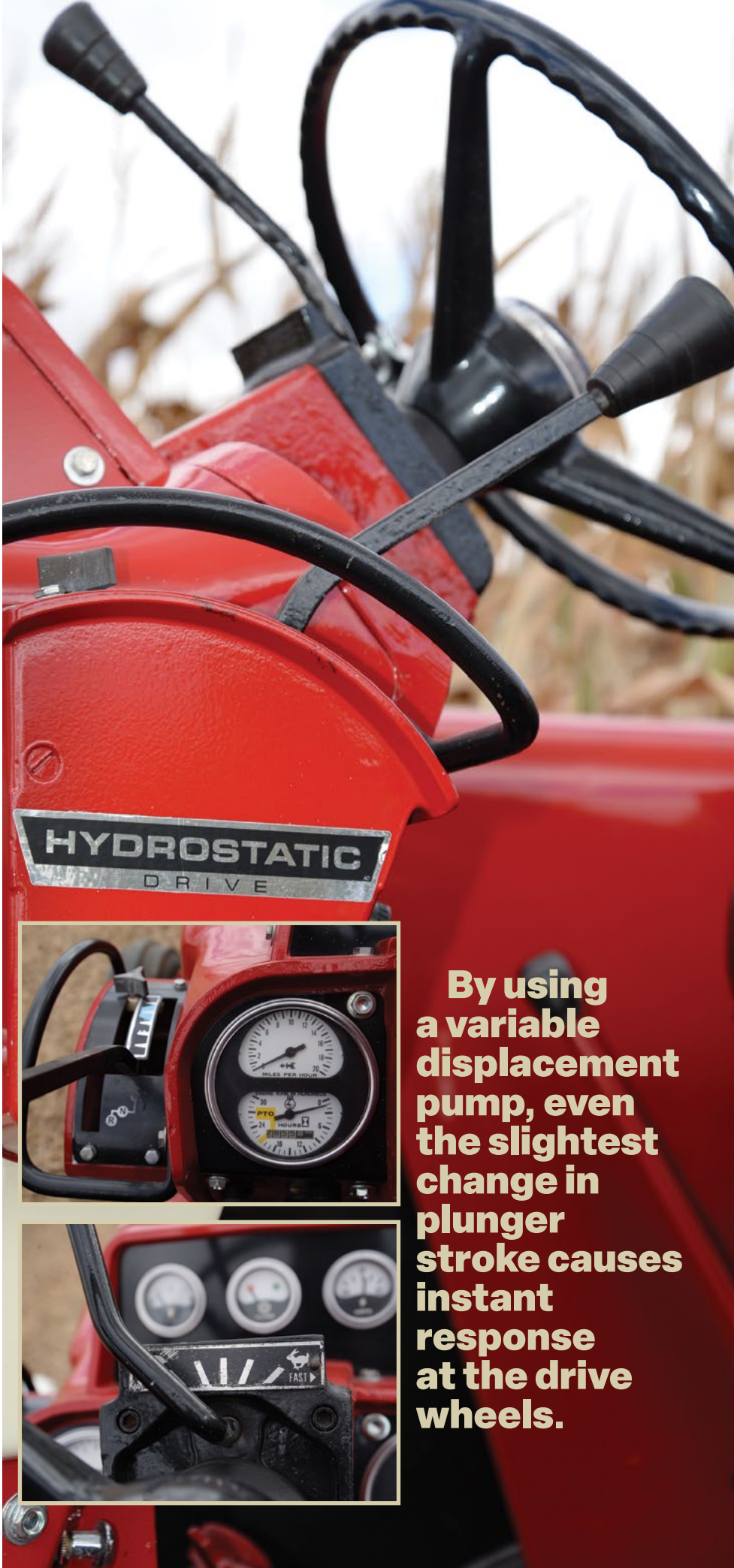
control lever, a swash plate on the pump is angled, allowing the pump to create a variable displacement. The farther the swash plate is moved, the faster the tractor travels. This happens because as the control swash plate moves, the pumping piston stroke increases. This means more oil is being pumped and the tractor moves faster. When the swash plate is moved back to a neutral position, the tractor stops. Because no pressure energy is being made, the oil creates a positive braking action. By moving the control lever in the opposite direction, the tractor changes travel direction.

By using a variable displacement pump, even the slightest change in plunger stroke causes instant response at the drive wheels. Because oil is incompressible and used as the driving "mechanism" in the hydrostatic system, the connection between the engine and drive wheels is positive.

During testing, IH engineers found the benefits of a clutch-less tractor could be unmatched in field conditions. For example, a farmer operating a baler could set the tractor's throttle for maximum output and be able to vary the tractor's travel speed without power loss to the implement. By making the travel speed infinitely variable, the farmer could creep through heavy windrows avoiding plugging the baler and speed up in lighter crop conditions; no clutching or gear shifting needed to get the job done. Jobs get done faster with less wasted stops and fuel.

The jobs a hydro could do were nearly limitless. Using a hydrostatic drive tractor for any application that required frequent change of direction (front end loader, for example) really displayed the hydro's ease of operation with clutch-less forward and reverse changes without gear clashing or stopping. Farming operations that needed ultra slow creeper speeds, such as transplanting, chemical application, or close cultivating, also benefited from hydrostatic drive.

With a single lever located on the left-hand side of the dash that controlled both travel speed and direction, the operator had two speed ranges (High or Low) available with infinitely variable speeds of 0-9 mph in reverse or 0-20 mph forward. The Range lever was on the right-hand side of the dash and had High, Low, and Neutral range. A hydro



By using a variable displacement pump, even the slightest change in plunger stroke causes instant response at the drive wheels.

tractor could be towed only if the Range lever was in Neutral.

IH replaced the operators "clutch pedal" with what was called the "foot and inch" pedal. This was not a clutch but it acted similarly. This pedal could be used for emergency stops, as it stops all hydrostatic power being transferred to the wheels when depressed. (IH retained dual brake pedals for in-field steering and stopping, also.) This also could be used to "feather" the Hydro when operating in very close areas, such as backing up to a wagon or implement. Before starting a hydrostatic drive tractor, the "foot and inch" pedal must be depressed to activate a safety starting switch.

Hydro tractors were nearly identical to their gearbox counterparts in basic tractor appearance and features, except for the center transmission housing that contained the hydrostatic drive unit. Since the hydro was contained in a single housing, assembly and repairs were easy to perform. This also made retooling of the assembly process less costly.

A unique item found on the IH hydro drive farm and industrial tractors is its two-needle combination of tachometer/speedometer gauge. This gauge is mounted in the tractor's left-hand dash (where the engine tachometer is normally located on a gear drive model), and it reads both engine RPM and ground travel speed. The ground speed is driven by a cable connected to the High-Low range transmission gears.

The main "downside" to a hydro drive tractor was a reduction in fuel economy when compared to similar-sized gear drive models. This was because of the parasitic power loss that hydros have (mechanical energy that is lost because it is required to pump oil). Gear drive tractors also suffer from some mechanical transfer efficiency loss. No tractor can transfer 100% of its engine horsepower to the driving wheels.

Some claim the "fix" to this is to get a power shift transmission. That may sound fine, but the power shift still suffers from parasitic power loss. It is ironic to note that the power shift transmission offered by other competitors to IH not only have fixed forward and reverse speeds but also greater fuel consumption than a standard manual shifting transmission. They suffer from parasitic power loss that is caused by the gear synchronizers and hydraulic drag of the clutch packs.

If the hydrostatic pump and drive motor are the "heart and soul" of a hydro tractor, the "lifeblood" is its drive system oil. This needs to be serviced at regular intervals as the owner's manual specifies. With IH hydro tractors, the recommended oil to use is Hy-Tran oil. There are several other oil brands that claim to be "equivalent" to Hy-Tran, but none of them have the corrosion resistance, water absorption, or contaminant suspension properties of Hy-Tran. Checking the oil level on a Hydro 100 requires the tractor to be parked and RUNNING. Reading the oil level with the engine off will give an inaccurate reading of the oil level.

If the hydrostatic pump and drive motor are the "heart and soul" of a hydro tractor, the "lifeblood" is its drive system oil.

HYDRO 100

In 1973, IH replaced both the 1066 Hydro and the 966 Hydro tractors with a new model called the Hydro 100. By doing this, IH helped erase the stigma of direct comparisons of gear drive and hydro drive tractor models that have the same model number. The Hydro 100 was basically a 1066 Hydro with new striping and a larger engine. The engine was now the naturally aspirated IH built D-436, not the turbocharged IH built DT-414 used in the 1066. A factory turbocharged version of the Hydro 100 was not offered by IH. Aftermarket companies such as M&W Gear offered an engine turbocharger attachment as a field add-on/conversion kit for those who needed more power from their Hydro 100.

Built and tested at IH's Melrose Park, IL engine factory, the D-436 naturally aspirated engine had a displacement of 436 cubic inches. This engine had low noise levels, low smoke, and exceptionally

HERITAGE IRON

ROCKSTAR

INTERNATIONAL HYDRO 100

owned by:
BEN BALLARD
CHARLOTTESVILLE, IN

Restored and formerly owned by:
THE LATE **RICHARD WALKER**
CHARLOTTESVILLE, IN

Photos by

SUPER T Farm Power

high torque rise. It quickly set new standards for durability, reliability, and excellence. The wet sleeve design featured plateau honed sleeves. This was a special process IH used to give the engine cylinder walls a smoother surface for a cleaner running engine that lasted longer. The D-436 had an induction hardened crankshaft fitted with seven main bearings. The rod bearings used on the D-436 were larger than some competitors' main bearings in diameter size.

The D-436 was the medium-sized member of the 400 series diesel engine family. The other sizes included a 414 and 466 CID models. All three engine sizes had an 85% parts commonality rating. This means that parts like the crankcase block, water pump, manifolds, front and rear engine plates, and oil pan were the same among the three sizes. This not only aided in parts availability, but also kept parts costs low by having less unique parts.

IH used dual spin-on style oil filters for maximum engine oil protection and ease of service. An externally-mounted engine oil cooler along with a high-capacity crankshaft-drive gerotor oil pump kept the D-436 fully lubed.

The fuel system had two spin-on style replaceable filters mounted on the left-hand side of the engine making them easy to service. An Ambac rotary style injection pump with a single plunger, distributor style head made for quick starts and high-power output.

A large, dual element air cleaner lets the engine breathe clean air. A dash mounted warning light alerts the operator if the filter becomes restricted.

One feature of the Hydro 100 was it came standard equipped with a pressurized two-door factory cab. This cab could be equipped with factory installed A/C and your choice of radio equipment including AM, AM-FM, and 8-track tape player. The cab was heavily upholstered to absorb sounds and featured over 40-square-feet of tinted glass for greater visibility in any direction. A hydraulic seat suspension was optionally available to smooth over any rough field for the operator. Open station (non-cab) Hydro 100s were either special ordered from IH or created when someone de-cabbed the tractor.

The Hydro 100 could have been factory or field equipped with an all-wheel-drive front axle attachment. The factory installed axle was supplied to IH by American Coleman. IH engineering also approved the field installed FWA axle which was built by Elwood Mfg. of Elwood, IL. This axle was tested and approved by IH engineering to be installed at a dealership if the customer desired to do so. By using the proper Elwood Axle kit, the IH new tractor warranty was not voided. The Elwood front axle was not installed at the Farmall Works by IH.

It is quite easy to tell the American Coleman axle apart from the Elwood. The axle's final drive hub cover is the key indicator. The American Coleman has a smooth,

Get more for less with Hydrostatic Drive

rounded (baby moon hubcap) shape. The Elwood does not. Both brands of FWA axles were driven by a driveshaft on the left-hand side of the tractor that was connected to the range transmission drive gears. A single control lever engaged/disengaged the FWA axle. A warning decal stated to ALWAYS be stopped when doing this to avoid range transmission gear damage.

Either axle attachment is fairly rare to find today, as very few hydrostatic drive tractors were fitted with this. The axle from a gear drive would not be compatible to use on a hydrostatic drive, as the transfer case gearing is different on the hydrostatic versus gear drive tractors.

A dual speed 540-100 RPM rear PTO had a hydraulically engaged clutch pack on the Hydro 100. This allowed the operator to "feather" or gradually engage the PTO for smooth starts on the implement. This was especially helpful on balers and forage harvesters. With two output shafts (540-1000) tools were not needed to change PTO output shafts or speeds like other makes. If the PTO required servicing,

Run at speed which keeps pickup filled to capacity. You'll kick out substantially more bales per hour.

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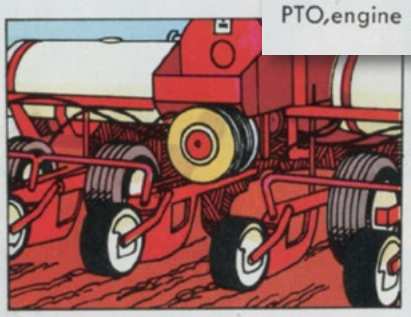

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the component designed unit could be removed without major disassembly of the tractor. IH offered up to two remote hydraulic valves to power implements.

A Category II rear 3-point hitch was also offered. When fitted with this, the tractor used IH's exclusive torsion bar draft sensing. This works by an internal torsion bar connected to the lower hitch arm shaft internally in the rear housing. This torsion bar senses the change in draft load (resistance the attached implement creates to being pulled by the tractor) many times per second.

The hitch has a position control lever that controls the position of the hitch (raise or lower). A second lever controls the draft sensing. It can be set to light or heavy depending on the implement. A moldboard plow would have the draft control set to heavy. A mounted rotary mower would be set on light.

The Hydro 100 tractor was produced by IH from 1973 to 1976 with 5,431 units being made. The approximate list price of the Hydro 100 was $ 21,700. In late-1975, IH introduced its new (updated) tractor line called the Black Stripe Series. These tractors had a large black with white trimmed hockey stick style stripe on the hood and an all-red paint scheme. The Black Stripe look was designed by noted IH Industrial Designer, Greg Montgomery.

The Hydro 100 Black Stripe tractor production range was from serial no. 12235 to 12932. With only 697 Black Stripe Hydro 100s made, they can be quite hard to find now. HI

The Hydro 100 tractor was produced by IH from 1973 to 1976 with 5,431 units being made.

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Museum open to public


Overview of field display setup

Hopefully, you've had a chance to read the story in the last issue of *Heritage Iron* about Potentate, the tractor built by Dale Hawbaker and Francis "Hans" Busch. As you may recall, I mentioned two tractors had been built, one for Dale and one for Hans.

The first tractor was built in the winter of 1967/68 and used by Dale Hawbaker. The plan was to build Dale's tractor that first year and build Hans's the next winter. However, things don't always go as planned. Francis Busch was a World War II veteran, serving in the South Pacific as an aircraft mechanic. As the crew chief for a C47 cargo plane, he had contracted malaria during his service. Thankfully, he recovered from the illness and served out the remainder of his military commitment before returning to North Dakota.

Upon returning home after his discharge from the military, Hans continued to farm for many years. In the fall of 1968, and prior to beginning work on his tractor, he had a relapse of malaria and spent most of the winter hospitalized. He did recover, but this second round of the disease took a toll on his body. The malaria caused him to be stricken with severe rheumatoid arthritis, leaving him unable to do many physical tasks. Despite now having difficulty with certain things and the limited use of his hands being the biggest obstacle, he was still not deterred from building the tractor of his dreams.

Hans had also bought two Euclid coal haulers from the same coal mine as Dale. These Euclid trucks were equipped with a fifth wheel style hitch and pulled large belly dump trailers. After removing the trailer, they resembled an oversized tractor with large rear drive wheels and smaller front steering wheels. Knowing Dale needed his tractor built first, Hans slightly modified one of his into a large two-wheel-drive tractor to be used temporarily before building a four-wheel-drive out of it. He put dual wheels with new Firestone agricultural style tires on the back and used it this way to do the heavy tillage work for two years. This tractor had no power steering and very poor hydraulics, but it worked for the time being.

In the winter of 1969/70, Hans's health had improved enough that he and Dale began to tear this one apart, along with the other one he had bought. They started building another tractor very similar to Dale's. This tractor was also powered by a 238-horsepower, inline 6-71 Detroit Diesel engine and 5-speed Eaton transmission; both being taken from one of the Euclids, along with the inboard planetary axles equipped with air brakes from two of the Euclid trucks.

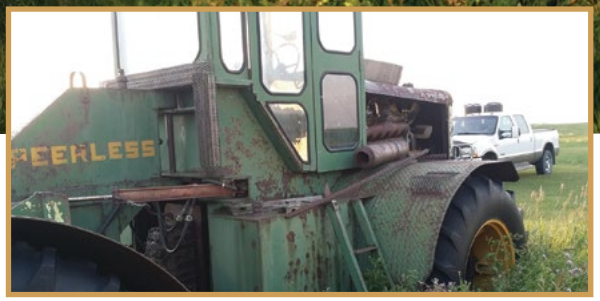
Though both tractors were very similar, Hans did make a couple changes to the design of his. For instance, he decreased the size of his side-mounted fuel tank to provide a spot for the batteries. This placed the batteries lower, making the servicing of them much easier. Another noticeable difference was that in place of the single Industrial style tires on Potentate, Hans bought eight new 18.4 x 34 Firestone Agricultural tractor tires. These tires offered far better traction and more flotation on soft ground.

Because this tractor had dual wheels, the fenders were also built wider to fully cover them. Like the first tractor, most of the steel was bought new at Porter Brothers in Minot, ND. Porter Brothers also did much of the steel forming work, such as the rolling of the fenders and other bending of sheet metal. Just like Potentate, the center hinge also served as the hydraulic oil reservoir.

Due to having larger tires and a taller cab to accommodate Hans's height, this tractor ended up being slightly taller than the first. It was built in the same shop on Dale Hawbaker's farm where Potentate was built. However, when they went to

LESS

by **Jesse Henderson**



drive this one out, it wouldn't fit through the door. They lowered the air pressure in the tires as much as possible but even that wasn't enough. Finally, they had no other option but to cut a board from the top of the door opening, allowing the tractor to be driven out.

As each of these tractors were slightly different and not owned by the same person, it was decided this tractor would be painted a different color and given its own name. Rather than the yellow that Dale used, Hans decided to paint his tractor similar to a John Deere with green being used for the main body of the tractor and yellow for the wheels and cab roof. Dale Hawbaker named his tractor Potentate, meaning ruler with unlimited power. Hans named his tractor Peerless, meaning to have no equals. Peerless was used for major tillage work and easily pulled a 28-foot Graham-Hoeme chisel plow and 35-foot field cultivator.

The Achilles heel however, was the truck-style transfer case used in both tractors. Peerless experienced the same problems that Potentate encountered, though unlike Dale, Hans never did build a better one to replace it. Due to severe crippling in his hands from the rheumatoid arthritis, it became increasingly difficult for him to perform major work on his tractor. Because of this, Hans decided to retire Peerless after about four years of use. He then purchased a G1350 Minneapolis-Moline two-wheel-drive to use as his main field tractor. If it broke down, he could just call the dealer for repair.

After being taken out of service, Peerless sat in a shed on the Busch farm until the mid-1980s, at which time it was driven outside to provide space for machinery being used on the farm. After sitting out in the elements the last 40 years, it has shown some deterioration, but it has held up remarkably well overall. Eventually, the rear fuel tank was removed and used as a field service tank, and a couple of tires were taken off for use on another tractor. Aside from that, it is still complete.

Francis Busch's arthritis was aggravated by the cold winter weather in North Dakota. He and his wife eventually moved to the more favorable climate of Arizona, turning the farm over to his son, Greg, when he turned eighteen. Approaching retirement himself, Greg plans to someday restore Peerless to its former glory and take it to local threshing shows and other events for people to enjoy. HI

The COCKSHUTT 1350
A Yellow Tractor in the Big Red Line

by **Sherry Schaefer**

During the mid 1960s and early '70s, the lineup of equipment under the White Motors flag was all over the place. The rainbow of tractors included green, yellow and red and the crossover of equipment intertwined between all. While Oliver had been the primary source of tractors for Cockshutt during the 1960s, a yellow tractor got mixed in the lineup for a short time.

It was 1962 when the board of White Motors initiated a takeover of Cockshutt Farm Equipment of Canada. White was in need of a new combine design and manufacturing facility at the time and Cockshutt had just what they needed. With the acquisition by White, they shut down operations of the Cockshutt tractor plant and supplied them with Oliver-built tractors built in Charles City, Iowa. They would be painted the Cockshutt red colors but "all Oliver" under the paint.

By the mid 1960s, every manufacturer was building a tractor to fit every horsepower range. John Deere had their "Long Green Line". There was the "Big Orange Line of Allis-Chalmers" and Cockshutt had their "Big Red Line". That Big Red Line consisted Oliver-Built tractors from the 2150 down to the 1550. This covered the horsepower line from 131 to 53 PTO horsepower. But there was still a needed for the smaller tractor and since they were sold in smaller numbers, White had turned to Fiat to provide those models. Since both Oliver and Cockshutt and Minneapolis-Moline were owned by White, those Fiat-built models all crossed over. Minneapolis-Moline had their own line of high-horsepower tractors so they took care of their own during this period.

The 55 PTO hp model 1450 was offered with both Oliver and Cockshutt branding but built by Fiat. The 1255 with 38.5 PTO hp followed the same trend. However, the mid-range model, the Fiat-built 1350, was only sold under the Oliver brand.

Here's where the confusion lies. The Cockshutt 1350 was NOT provided by Fiat like the Oliver 1350, but instead was provided by Minneapolis-Moline. Why would Minneapolis-Moline build a smaller model for their sister company when Fiat could have provided it just like they did for Oliver?

In the yellow paint scheme, this tractor was the Jet Star 3 Super. Evolving from the straight Jet Star model, the original model had been in production since 1950. Then it was the Jet Star 2, the Jet Star 3, then the Jet Star 3 Super. It was a proven model and would require minimal changes to be sold as another brand. Knowing that sales of the Cockshutt branded tractor would be fairly low, perhaps this was the simple fix they needed to fill a void for a short time model. Or Minneapolis-Moline was trying to squeeze Fiat out of the line and replace it with their own. No matter what the reason, the Jet Star 3 Super fit the bill for a Cockshutt model.

The Jet Star 3/Cockshutt 1350 was built in Hopkins, Minnesota. It was offered in gas, diesel or LP. According to MM, the 206 CID engine was "big 4-plow power". Cockshutt advertised it as a good second tractor or utility power for the small farm. The LP model was not offered in the Cockshutt colors. According to MM enthusiast Brian Gonyea, production records for the Cockshutt 1350 show that all models were gas-powered. This makes perfect sense as the gas engine would have been a better choice in the cold northern regions.

Cosmetically, most of the tractor remained the same for both brands. A fiberglass grill was built to match the rest of the Oliver and Cockshutt line.

Often referred to as the egg crate grill, or checkboard, these are hard to find if needed. The Cockshutt 1350 also included the name spears down the side, which ironically came from Cockshutt originally anyway!

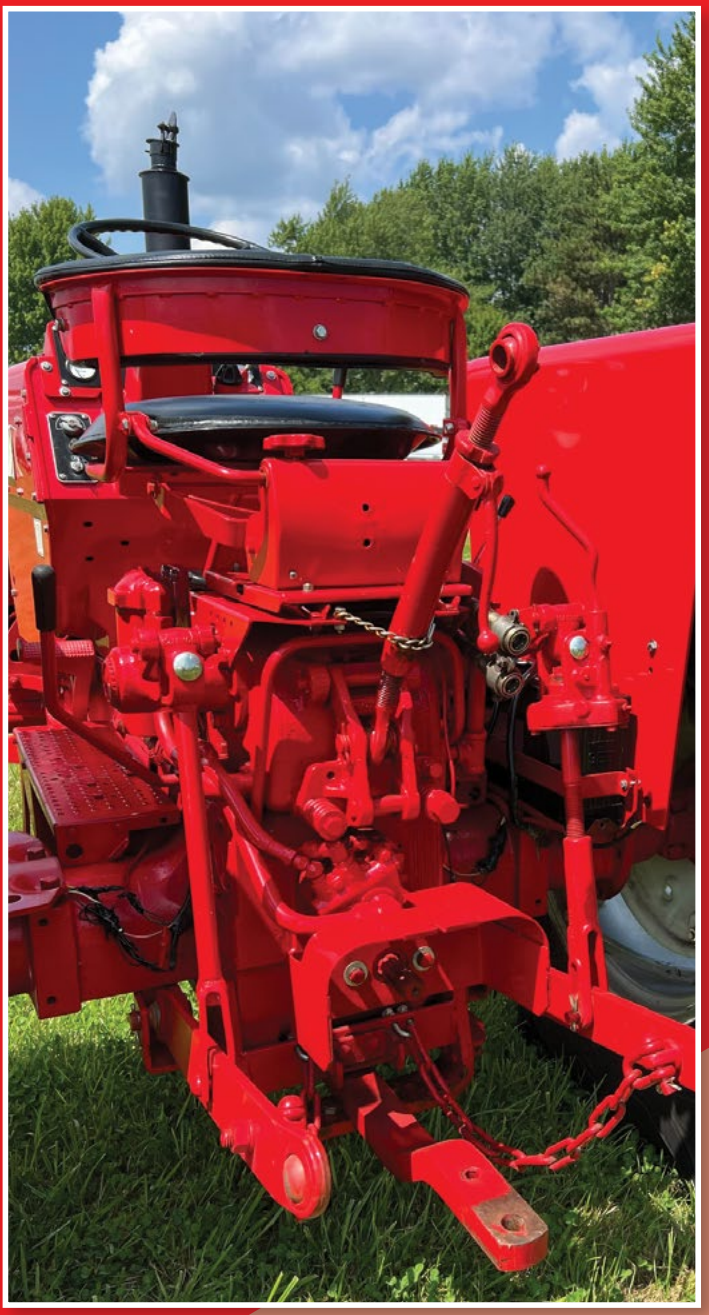
Certified Horsepower was a marketing plow initiated by Oliver that was slapped on every tractor with the introduction of the 50 series models in late 1964. This same sticker carried through on the Cockshutt models but of course it said Cockshutt and not Oliver.

A Minneapolis-Moline feature was the shift-on-the-go Ampli-Torc Drive. This transmission which was essentially a 5-speed with a high/low, permitted ten forward speeds and two reverse. The low end of each gear would reduce ground speed by as much as 48% while keeping full PTO speed.

The gas model weighed in at 3630 pounds while the diesel was 3730 pounds. Standard equipment included power steering, PTO, Tel-O-Flo hydraulic system with 3-point hitch and depth control (on the row crop), double valve hydraulic system (wheatland model), a deluxe upholstered seat, key ignition and a 12-volt system. Optional equipment included power adjust rear wheels, front frame for weights, weights, belt pulley, hydraulic jack, 3-point hitch and 3-point hitch drawbar.


1350 COCKSHUTT


COCKSHUTT 1350




Before
1350 COCKSHUTT

Production was quite low on the Cockshutt 1350. Only built for three years, they were built in four different lots and were consecutive serial numbers in each lot. In 1966 only 50 were built and the serial number block was 28302844-2893. The 1967 year was the biggest year with tractor being built in two separate lots. The serial number range for those was 28303141-3390. The first lot of that year consisted of 100 units. Then another 150 were built but both lots were consecutive serial numbers. The final lot was built in 1968, 28304546-4625, and consisted of 80 units. In total, there were 380 with 250 units and in 1968, there were 80 built. There were no separate serial numbers for these tractors as they all fall into the same numbers as the Jet Star 3 tractors.

The tractor in this story is owned by Bruce Naas of Oakfield, NY. The tractor spent its entire life on a tomato farm in Canada where it had been since new. Bruce bought it several years ago at an auction where it had been brought south of the border. He decided to use it for a while to make sure it didn't have any problems before tackling a restoration. It was used to pull a sprayer for a few years and had no issues. In fact, Bruce said, "It's a handy little gas job." With around 3700 hours on it, it was painted to its former glory, although he said it wasn't bad when he got it. This 1350 is a 1967 model and a great example of three companies sharing equipment to make "The Big Red Line." HI

Special thanks for Brian Gonyea for his expertise with production numbers.

Before/After pictures: This original Cockshutt 1350 is part of the Brian and Dave Gonyea MM Collection. The "after" picture is following a lot of elbow grease over the original paint and painting the wheels. This could be one of the nicest originals left.

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From the HISTORY VAULT

by **Sherry Schaefer**

60 YEARS AGO

January-February 1965

Deere announced their new hydraulically propelled combine, claiming it was an industry first. This "hydrostatic drive" system would be incorporated into a limited number of Model 55 and 95 combines in 1965. Deere engineers stated the biggest advantage of this system was being able to get the exact speed required to do the best possible job of threshing. By picking one of four transmission gears, the speed control lever could then control the speed up to 15 mph, or 9 mph in reverse.

Ironically, IH introduced their hydrostatic drive on the No. 403 and 503 combines in 1965, also claiming an industry first. Oliver introduced the hydraulic Vari-Drive on their combines as an option in the mid-1950s, but that debate is for another story.

The January issue of *Agricultural Engineering* announced that J.I. Case had entered the garden tractor line with the acquisition of the Colt Manufacturing Co. of Winneconne, WI. The Wisconsin plant would continue to manufacture the garden tractors there under both the Case and the Colt names.

On January 23, the first of three new Field Boss tractors rolled off the assembly line in Charles City, IA. Powered by a 354 Perkins engine, the White 2-105 replaced the Oliver 1855. Oliver was on the way out and it was a new World of White.

50 YEARS AGO

January-February 1975

M&W Gear introduced a new radiator for John Deere tractors. The radiator was redesigned to increase cooling ability and provide a less restricted flow of air and water. Two de-aeration tubes were provided to siphon bubbles into the top of the tank.

Allis-Chalmers announced design changes had been made to the 440 articulating tractors built by Steiger. The oil cooling system now cooled both the transmission oil and drop box oil. A heavy-duty, four-button clutch was added as standard equipment, and a hydraulic valve bank cover was utilized to keep dust and dirt out of the cab. Other changes included an additional gauge and warning lights on the instrument panel to monitor temperatures and pressure of the engine and power train components. Heavier foam padding insulation and floor matting were applied in the cab and the engine transmission. Power steering motor and valve units were also rubber-mounted to minimize noise.

Hinson announced they were manufacturing a 400-bushel, self-unloading grain cart. A division of Royal Industries (maker of tractor cabs, also), introduced this cart with a 12" unloading auger that could be unloaded in three to four minutes. The Model 812 could also be unloaded through a sliding gate in the front section. The cart used aircraft tires and had a capacity of 25,000 pounds.

Deere & Company announced a reduction in their work force by slightly over

HINSON 812

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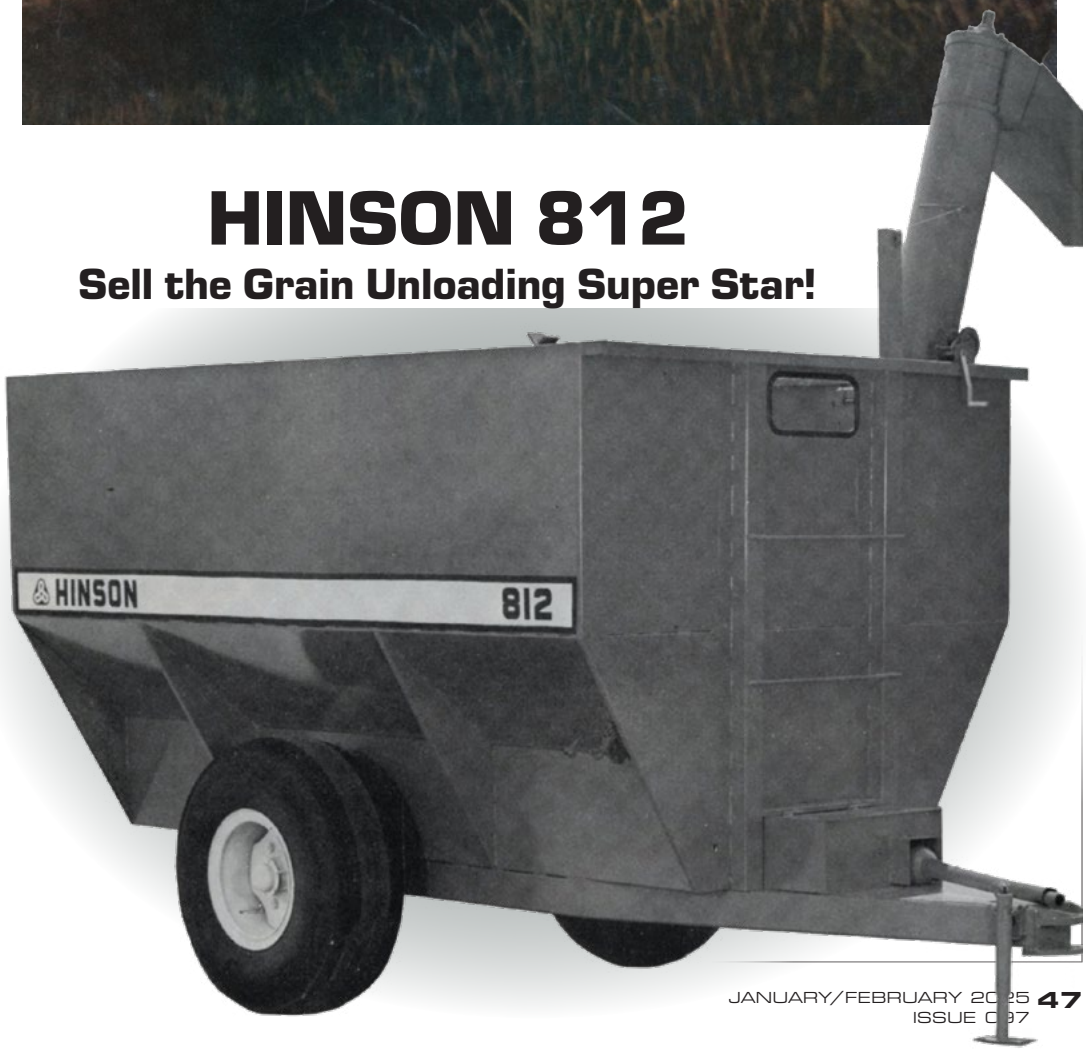


100 persons at the hay and forage plant in Ottumwa, IA. That brought down the total number of employees there to 2,200. In mid-January, Deere also announced it would reduce its work force in Dubuque by 300 persons. By the end of the month, they reduced another 500-600 employees at Dubuque. Deere blamed the Ottumwa cuts on problems being faced by livestock and dairy producers. Dubuque's reduction was due to the production schedules used to reduce inventories.

White Construction Equipment, a division of White Motor Corporation, announced the availability of a Model 4-50AL (articulated loader) with a 40-degree center-pivoted articulation and hydrostatic four-wheel-drive. It was powered by a 50-horsepower Ford 172 four-cylinder engine. These units were actually built by Dynamic Industries of Barnesville, MN.

40 YEARS AGO

January-February 1985

IH+Case+? was the headline in the Machinery Update of the January *Farm Journal* magazine. "Rumor mills haven't quit humming since the news that the agricultural division of International Harvester was sold to Tenneco, the owners of Case tractor, for $260 million in cash and $170 million in preferred stock. What does a diversified company like Tenneco see in mixing the orange and white of Case with the red – in more than one sense of the word – of International Harvester? Believe it or not, it's green – as in money. Tenneco officials believe by combining both equipment and dealer networks they will create a healthy nationwide parts, sales, and

service organization that will be competitive, even in today's machinery market."

"Tenneco is the 19th largest corporation in the US, and by purchasing IH's agricultural equipment division, it has an even higher involvement in US agriculture. Tenneco also owns Monroe brand shock absorbers and Walker brand mufflers. It also holds government defense contracts for nuclear submarine and aircraft construction."

A revolutionary design in farm tractors was being tested by Caterpillar Tractor Company called the BAT (belted agricultural tractor). The experimental machine could make the crawler tractor practical for general farm use. According to a spokesman from Caterpillar, "This is strictly an experimental process." However, a source with Cat who was familiar with the BAT project confirmed the company was taking a serious look at getting into the ag market in a bigger way, and the BAT looked like their best shot.

In January, Steiger sent out a report to shareholders, customers, and employees. The report stated 1984 fiscal year sales had increased over 12% from the previous year. Despite the discounts they were forced to give, they were still about to achieve sales gains in both the North American and Australian markets. The Canadian Steiger dealer network had also expanded by 21% in 1984. The new tillage line, especially the double offset disk, had proven especially popular in Canada, and they expected increases in sales from the entire tillage line in 1985. North American OEM sales increased sharply primarily due to a manufacturing agreement with Ford Tractor under which a limited quantity of tractors was produced for a select market. It appeared things were looking up. HI

MINI MUSCLE

by **Fred Hendricks**

SMALL FARMER TRACTORS
Miller's Elite Pedal Tractors

Fred Miller grew up on his family's farm in Marshall, IL, gaining an appreciation for quality machinery. A memorable experience came as a teenager when he first drove the family's dependable Farmall Model M. Through Fred's lasting memory of that tractor, he acquired an admiration for quality farm equipment that has since carried over to collecting elite custom and scratch-built pedal tractors.

Driving the Farmall M instilled a passion for the model and any version thereof. "I don't know why, but that 1946 Farmall M has remained a favorite. To this day, I'll grab onto nearly any version of the Model M, whether a full-size, pedal tractor, or 1/16 scale. I have about a dozen scale Model M tractors in my collection. Small farmers may have pedaled them, but big farmers like collecting them. I strive to collect the more unique versions."

Collection Launch & Composition

Fred's wife, Brenda, well remembers her husband's favorite tractor. In 1992, she gave him a 1/16 scale precision replica Farmall Model M for Christmas. Three years later, a similar classic showed up in the from of a pedal tractor. "With those special models, I caught the collecting bug. If you ask Brenda, she may admit to having second thoughts about launching my hobby. I'm fortunate that she is very supportive, however."

While Fred has identified his favorite tractor, there is no limitation as to brand preference in the scale model assemblage, and the scope is extensive. There are approximately 500 1/16 scale models that include three dozen puller versions. The pedal tractors number well over 200, and among those are six puller tractors. "Those models are all special, but the two antique Farmall tractors are favorites. They include my dad's original 1946 Model M and the 1952 Model M that I bought later."

As with most hobbyists, Fred's collection has swelled and continues to grow. A dedicated building measuring 36' x 48' was constructed to contain it all. The 12' ceiling allowed for upward growth. It started with four shelves to accommodate pedal tractors. A fifth shelf has since been added. The pedal tractors occupy space on shelves from floor to ceiling along the walls.

As the Miller collection grew, their son, Cary and his family, joined the excitement. "It's been fun collecting alongside Dad. I've probably added a little diversity with puller versions, a few trucks, and some unique memorabilia," Cary said.

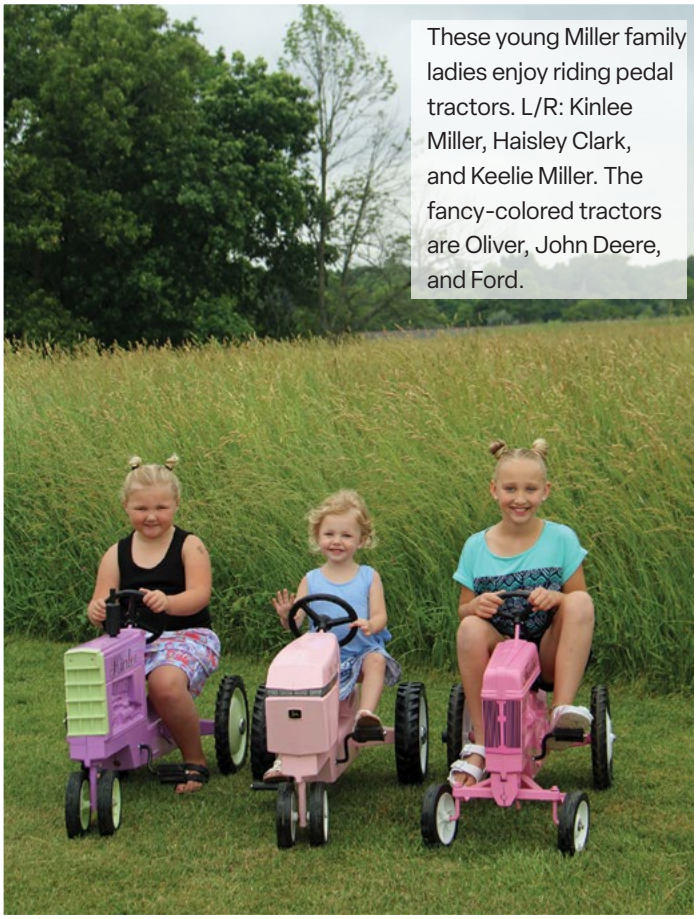
Unique Pedal Models

For the visitor viewing the Miller pedal tractor collection, it is challenging to identify the unique models. They are plentiful, as Fred and Cary pointed out. A very rare and highly valued tractor is the Farmall M mid-size with an open grill. "As noted, I really like the Farmall M tractors. This special model was made by Eska in 1951. It will always occupy a preferred place on the shelves," Fred commented.

Unique among the rare pedal tractors is the all-wood Ford 8N. "This tractor originated from Ford's Dearborn, MI, factory, so it's one-of-a-kind. It should be noted that some of the components are not wood. The pedal tractor changed hands several times via Aumann Auctions and Mecum Auction since leaving the Ford Museum. We're fortunate to own this rare gem," said Cary.

Another prized tractor is the Ford Model 900. Made in either 1953 or 1954, this Eska

These three limited edition puller tractors were scratch built by David Reid. Fred is pictured with an International 1466 (Mad Dog), Brenda with a Minneapolis-Moline UB (Allison Team Tractor), and Cary with an International 1066 Rooster.



These young Miller family ladies enjoy riding pedal tractors. L/R: Kinlee Miller, Haisley Clark, and Keelie Miller. The fancy-colored tractors are Oliver, John Deere, and Ford.

A small portion of Fred Miller's extensive pedal tractor collection. The wall at the back is also covered with rare collectables. Throughout the collection building are display cases that contain 1/16 scale model tractors, many of which are customized.

prototype has been maintained in its original condition. The *Revised Criswell's Pedal Tractor Guide* noted that Graphics Reproduction won the contract to make the prototype. Supposedly, the prototypes were never sold to the public by Eska. However, Miller's tractor may be one of two that exist as of the guide's publication date.

David Reid of Lucky, OH, builds high-detailed pulling pedal tractors. The Millers are fortunate to have three unique models in their collection, consisting of an International Model 1466 (Bad Dog), a Minneapolis-Moline Model UB (Allison Team Tractor), and the International 1066 Rooster (original pulled by Danny Dean). "All three puller tractors are limited edition and scratch built. The body of the Minneapolis-Moline has been stretched like the original that the Allison Team pulled with," the Millers noted.

The John Deere 4430 is a customized pedal tractor. "Brent Clark of Terre Haute, IN, customized this tractor for me, so it's one-of-a-kind. It started as a Model 4420 made by Ertl. Rear wheels and tires were added to resemble aftermarket, worn duals. Weights were also added to the front and rear wheels," Fred said.

Gene Gregory of Loudonville, OH, was an early trendsetter in making custom pedal tractors. Among the several Gregory models in the Miller collection is a Fordson Model F. It was revamped to emulate a 1925 Model F. Among the numerous details added by Gregory are fenders with toolboxes and a wood pulley.

Notable Background

As noted, Fred grew up on the family farm in Marshall, IL. The early Miller farm consisted of 300 acres of corn, soybeans, wheat, and hay. In addition to the acreage, the family ran a sizable beef cow-calf herd. "As income supplement, my family baled the straw for resale after neighbors harvested the small grain. Those small bales were quite popular back then."

Tractors used on the family farm included the Farmall M, Case, and a Massey-Ferguson. During his youth, Fred was active in both 4-H and FFA. His projects were garden grown produce. "It was fun working the garden and growing different things. I generally entered them at the county fair where they were very competitive."

After high school, Fred worked at Commercial Solvents in Terra Haute, IN, for several years. Soon after marrying, Fred and Brenda assumed the family farm in 1983. "We enjoyed farming, and it was a great place to raise our family. It was confining and hours grew exhaustive, but working alongside Mother Nature was a wonderful lifestyle. As the result of narrowing margins, we had to end our farming in 1997. That's when I started driving truck," Fred says.

Fred drove trucks while still farming and continued for many years after they quit farming. His truck driving was primarily a day job. "Fortunately, I was able to be home most every night. I eventually retired from truck driving in 2014. That experience helped gain an appreciation for scale model trucks. In retirement, I'm enjoying my freedom and the opportunity to travel and round up more unique pedal tractors."

Reflections

When Fred started collecting pedal tractors, he was drawn to those made commercially. He

Gene Gregory of Loudonville, OH, was an early trend setter in making custom pedal tractors. This rare customized Fordson Model F is one of several Gregory models in the Miller collection. fenders with toolboxes and a wood pulley.

Tom Brunner of Verona, WI, scratch-built this New Ideal mounted corn picker. It is mounted on a Massey-Harris Model 44 pedal tractor built by Scale Models. Bruner also custom built the New Idea grain wagon. The corn picker is fully operational by a cordless drill buried in the body.

This rare and highly valued mid-size Farmall M with an open grill was made by Eska in 1951.

This International 1486 Redline Fever pedal pulling tractor was customized exclusively for the Millers. Paul Callan of Assumption, IL is credited with the high-detail custom work derived from an International Model 766.

This rare, wood Ford Model 8N pedal tractor originated in Ford's Dearborn, MI, factory so it's one-of-a-kind.

This John Deere 4430 was customized by Brent Clark of Terre Haute, IN, from a Model 4420 made by Ertl.

Another prized tractor in Miller's collection is this Ford Model 900 prototype built by Eska.

soon struck a different course. "At first, I was familiar with those made by a few companies. They made nice toys for small farmers. But most collectors ended up with the same things. I started coming across customized and scratch-built pedal tractors. Through networking, I learned who made them. That set me on course to track them down. Because they hold their value better than commercially made versions, I started collecting limited production custom models."

Networking requires traveling to other parts of the country, and it provides the opportunity to interact with other likeminded collectors. "We enjoy attending auctions, meeting people, and seeing other collections. On a trip to Minnesota, we brought seven pedal tractors home."

The Millers are gracious about sharing their collections with visitors. They hosted the Clark County Antique Tractor Club soon after the display building was completed, and the collection was ready for viewing. The same tractor club hosts a fall festival in Marshall. "We secured numerous pedal tractors to tiered shelves on a flatbed wagon. The display wagon was pulled in the festival parade by our Farmall M tractor. The pedal tractors are also available for viewing following the parade."

The Millers thoroughly enjoy the collector hobby. "My only problem, since collecting this long, is I don't know enough to quit. Brenda reminds me constantly that I need to slow down. That's easier said than done. When I've heard about a new and exciting pedal tractor, I can't wait to see it."

"Most people have not seen a pedal collection this big. Often visitors will see a tractor that triggers a memory, and that always creates a good discussion. When visitors express an appreciation for the collection, that is sense of fulfillment," Fred said with humility. On a special occasion, Fred and Brenda's gracious spirit showed through. "We gave a John Deere pedal tractor to a youngster. Both the child and parent were tickled with that gift," he said.

Fred and Brenda Miller welcome your inquiry about their extensive collection. They can be reached by phone at (217) 826-2467. HI

About the author: Freelance writer Fred Hendricks of Mansfield, OH, covers a vast array of subjects relating to agriculture. Email Fred at fwhendricks@gmail.com.

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January 3-4, 2025: Save the date. American Agriculture Movement's annual meeting, held at the MCM Eleganté Hotel & Suites in Lubbock, TX. For more information, contact AAM President, David Senter, ph. 202-256-1406 or email dls@kscstrategies.com. (TX)

February 8, 2025: Tractor pull and parade. Kids' tractor drive. Antique gas engine displays and demonstrations. Classic and antique tractors, all makes. 9 AM to 4 PM, Sahuaro Ranch Park Historic Area, 9802 N. 59th Avenue (between Olive and Peoria), Glendale, AZ. Admission: adults $5, children 12 and under free. Sponsored by Arizona Early Day Gas Engine and Tractor Association. For more info: 623-435-3955, www.aedgeta.org. (AZ)

February 12-15, 2025: National Farm Machinery Show, Louisville, KY. (KY)

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