



Hardesty has been driving and restoring Ford tractors for decades.

50s Ford Tractors Converted To FWD

Charlie Hardesty says his 7-decade love of Ford tractors began when his dad acquired a Ford 8N in 1965 to keep him and his brother out of trouble. “We were typical junior high kids who weren’t afraid to take anything apart, so fixing up that 8N was perfect. We helped Dad overhaul it, painted it with spray cans, and put it at the end of the driveway with a for sale sign on it. It sold quickly, and we soon got others to work on, making money on restorations.”

Ten years later, after Hardesty’s father passed away and his 28 tractors were sold at auction, Charlie decided it was time to start his own collection. He bought an old Fordson to restore and, as he says, “was hooked.” Over 40 years, he’s owned several Ford 8 and 9Ns, 600s, 800s, 900s, and

Jubilees. He’s repainted, restored, and taken many of those to shows. He’s sold several, while others remain in his Ford stable. Two of his favorite projects are Fords with Sherman-NAPCO front wheel drive (FWD) conversions.

“I was at a show in Portland, Ind., where a collector had an FWD kit that I’d never seen before,” Hardesty says. “I bought it not knowing if it was aftermarket or just from someone’s backyard. It turns out it was a Sherman-NAPCO, just right for my 1955 model 650. It was missing a part that I bought from Damon Bruns in Arizona. He told me he’d buy the tractor as soon as I finished it because he’d never seen that setup.”

Over the next 6 years, Bruns frequently contacted Hardesty to buy the 650, but

Hardesty always turned him down. “I was just having too much fun driving and showing it,” he says. Hardesty needed almost a year to install the kit on his tractor, which required splitting it in half so new drive gears could be placed between the transmission shaft and pinion output. He removed the original PTO lever assembly and installed a new transfer case on the outside of the transmission. That’s driven by a double row of chains connected to the internal drive gears. He swapped the standard front axle for a modified version driven from the transfer case. After installing the FWD, he installed the LP kit.

“In 2022, I had the tractor at a show in Minnesota and met a collector from Iowa who owned a fully restored 841 with a Sherman-NAPCO,” Hardesty says. “I bought it and completely checked it over, did some detailing, then called Damon and told him he could buy it. He gladly accepted my offer, and now it resides in Arizona.”

Hardesty says his 650 with a 134-cu. in. engine is an agricultural model that carries a Ford 3-14 mounted plow. The 841 he sold

was an industrial model with a 172-cu. in. engine. When Ford built that model, the wheel tracks weren’t wide enough for a plow furrow, so the tractors were used as loader tractors or to operate forklifts. Both are finished to nearly “factory-new” condition. Each one had two coats of primer, two coats of acrylic enamel, and one coat of hardener without wet sanding or brushing.

“Where I grew up, we didn’t see these FWD conversions on farms, even though Sherman-NAPCO and ELENCO made kits,” Hardesty says. “They’re very unique tractors that I really enjoyed working on.”

Now retired from working as a tractor mechanic for several years and for municipal water departments, Hardesty has plenty of time for more restorations and serving on the Ford Tractor Collectors Association board. His current project is restoring an 8N orchard model.

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1955 model 650 restored by adding a Sherman-NAPCO front wheel drive and an LP kit.



3A, Advanced Automation & Autonomy, is a collaboration between Claas, AgXeed, and Amazone.

European Companies Boost Automation

Claas, AgXeed (Vol. 48, No. 2), and Amazone (Vol. 40, No. 2) are collaborating to accelerate the use of automated and autonomous farm machinery. Entitled 3A, Advanced Automation & Autonomy, the aim is to accelerate the use of semi and fully-autonomous tractor/implement combinations. A key feature is the expanded use of advanced planning, analysis, and on-the-go adjusting to real-time field conditions. The companies have dedicated their expertise to the effort and opened it up to other companies to join.

The technology developed by the 3A group involves design and implementation software previously available only on autonomous field robots like AgBot. It uses a standardized ISOBUS interface and the AgXeed box technology to run a tractor like a robot. The technology opens up previously limited field use with a robot to other vehicles and implements.

Initially, the effort is a European one. “Plans are to introduce it in the North American market as well,” says John Schofield, Claas of America. “The timing hasn’t yet been announced. The collaboration is open to others and already includes Mühling, a German company specializing in mulchers.”

The first few products developed by 3A are

the Amazone AutoTill for mulch cultivators and Claas Autonomy connect. AutoTill uses an electrified mulcher by Mühling. The mulcher is equipped with sensors that communicate with AgBot or a tractor.

Claas Autonomy connect incorporates the entire tillage planning and implementation process.

There are many advantages to 3A technology products. All operations are performed as planned, and the best possible route is calculated, ensuring optimal tractor-implement combinations and settings. Sensors detect errors in the machine combination and correct them on the go, such as adjusting the working depth and speed if the cultivator is at risk of clogging. Operations are more energy-efficient and cost-effective. Autonomous systems allow operators to be freed up for other tasks while on non-autonomous tractors. Less skilled or experienced operators will be able to produce optimal results.

The 3A companies advise that product range and feature options may vary by country.

Contact: FARM SHOW Followup, Claas of America (www.claasofamerica.com), Amazone (www.amazone.net), or AgXeed (www.agxeed.com).



A key feature that caught farmer interest is the parallellogram-guided suspension of the tools. According to product manager Ole Denker, this ensures uniformly shallow processing.

Ground-Driven Surface Tiller

The Saphir GrindStar mixes soil and residue in the top 3/4-in. of the field surface to speed post-harvest residue breakdown. Two rows of ground-driven, counter-rotating 30-in. diameter rotors offer ultra-shallow, full-surface stubble cultivation. Unfortunately, the silver medal winner from the 2023 Agritechnica farm show isn’t yet available in North America.

“Due to incredibly high demand and sales that have already taken place in Europe and especially in Germany, we’ve had to postpone our activities for Saphir GrindStar in North America,” says Stefan Schröder, Saphir Maschinenbau. “We’ve had requests from farmers in North America, but we don’t have dealers who could support introducing the new system into the market short-term.”

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A specially developed pressure relief

system in the rotors lets them float across the ground’s surface and up and over rocks or other obstacles. Cuts are made just below the soil surface, shredding crop residue without pulling the root ball to the surface. At the same time, it crushes any large clods or soil lumps at the surface.

The GrindStar 300 has a working width and transport width of just under 10 ft. Working speed is 7 to 11 mph and requires 60 to 80 hp. Each of the eight rotors carries seven blades. The implement weighs around 2,000 lbs. It’s priced at approximately \$25,000 USD.

The GrindStar 600 has a working width of 20 ft. and a transport width of less than 10 ft. Its working speed is also 7 to 11 mph, with a total weight of around 4,000 lbs. and a power requirement of 88 to 120 hp. The 600 is priced at approximately \$43,400 USD.

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