Chevy V-8 Powers 318 Lawn Tractor

By Lorn Manthey, Contributing Editor

Because he lives with Multiple Sclerosis (MS) and has limited mobility, Dan Brotzman was looking for a way to zip around the vintage tractor shows that he loves to attend. Using his background in engine mechanics and engineering, Brotzman decided to reconfigure his 318 Deere lawn mower with a V-8 engine plucked from an old Chevy pickup. He's been turning heads with his souped-up configuration ever since.

"It's a good conversation piece," Brotzman says. "With my MS, I can't walk all day at a show. I needed a mobility aid but didn't want something boring like a golf cart or an ATV."

Dan Brotzman repowered his Deere 318 garden tractor with a Chevy V-8 engine and added a buddy seat.

After finishing work on the tractor, Brotzman replaced the old 318 identification stripe with an "8318" decal, honoring the machine's 8-cyl. engine. The tractor has its original hydrostatic drive with variable speeds forward and reverse. Since the gearing and the machine's transmission setup haven't changed, the tractor tops out at 8 mph, the same speed it had with the lawn tractor engine. Brotzman says the original engine was governed at 3,600 rpm's, but his modified setup could reach up to 6,000 rpm's before Brotzman installed a "bolt governor" on the dashboard throttle.

"The hydraulic pump doesn't like too many revs, so I set it to only run about 2,500," Brotzman says. "That keeps the ground speed down, but whatever speed I'm going, the twin stack exhaust sounds good." Brotzman says when people see the big engine, they immediately think the tractor goes really fast. He's quick to tell them the number of cylinders has nothing to do with speed.

One of the difficult issues with his project was that lawn tractor engines rotate counterclockwise while automotive engines rotate clockwise. Brotzman says he thought about that a lot and finally decided to mount the truck engine with the flywheel facing forward and the water pump and fan facing the back of the tractor.

"That worked out quite well," Brotzman says. "The tractor had a 1-in. drive shaft, so I was able to buy an adapter and hook that shaft to the front of the truck engine. Because of the added weight of a larger engine, he added power steering. He kept the original side panels for the tractor but extended the tractor's frame and placed a custom-made radiator on the front end to prevent overheating. The original Deere hood is the front nose piece, and Brotzman formed an aluminum hood behind the nose. The headlights are original.

To allow for extended driving time, Brotzman installed a 10-gal. gas tank in front of the radiator. The tractor's original 4-gal. tank is still underneath the driver's seat so he can tap into reserve fuel.

"With this setup, I can ride all day," Brotzman says. "It's harder on gas than the original 2-cyl., burning about a gallon to a gallon and a half an hour."

Brotzman says the tractor's heavy-duty 4-in. C-channel frame handles the engine torque smoothly, even though the whole rig weighs 1,750 lbs. "It's built way heavier than it needs to be, but that's okay."

As he drives around shows, Brotzman's beefed-up tractor receives all sorts of reactions, including requests to ride, which isn't a problem since he built it with a passenger seat.

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Ford delivery truck converted from a gas engine to electric power.

Truck Converted To Electric Power

"We converted our delivery truck from gas to electric power and used it for the entire 2022 season without burning a single drop of fuel," says Reid Allaway of Tourne-Sol Farm in Quebec.

Allaway says that while he and other people at the farm did the project planning, the actual conversion was carried out by a local company called Ecotuned Automobile that does mini schoolbus and vocational truck conversions, always on the Ford E and F-series chassis. "They've developed a fully integrated 'bolt-in' electric drive train that occupies the same space as the original gas engine, even using the original motor mounts and wiring harnesses," Allaway says.

Tourne-Sol's truck is an E450 DRW with a 16-ft. Unicell body. Allaway added airbags to the rear axle and a hydraulic liftgate and is hoping to also add a motorized awning to provide shade for a market-style sales setup. They use the truck primarily for local distribution of the farm's CSA basket program. The 85kWh battery pack provides a range of about 100 to 150 miles. They can use Quebec's rapidly expanding network of fast chargers (50+kW) on the road if they need to go further. The cost per km for charging is 4 to 15 cents for electricity (charge-at-home vs. fast charging), which compares favorably with the 50 cents per kilometer for the truck's original V8 gas engine.

Allaway says the conversion project took nearly two years to complete because of global shipping holdups.

Tourne-Sol raised $23,000 for the conversion from friends and supporters through a crowd-funding campaign. Allaway says that money combined with government support for electric conversion projects means the converted vehicle cost them about the same as a new gas or diesel vehicle of similar size and configuration.

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Teenager Built His Own Forge

As a 13-year-old, Isaac Voeller developed a strong interest in metal forging. His father, Jamie, says, "He started building metal parts by using the wood stove that heated our shop, but that didn't get the steel hot enough, so he looked on the internet for ideas."

Voeller says Isaac read about people who had built coal-burning forges using readily available scrap materials. He decided to try that because he didn't want to commit the money to buy a commercial forge. Isaac used a wheel rim from an old car as the coal hopper and made a frame from recycled steel tubing that came from an awning on a commercial building.

"To get air for feeding the fire, Isaac bought exhaust tubing that was bent in a way to extend out from under the wheel. He probably spent $40 on that tubing and the welding supplies to build the frame."

Voeller says his son had good results with the homemade forge, using it for small metal art projects and pen holders that he made for school. He also made custom knives out of steel from old lawn mower blades.

As his skill level expanded along with a desire to get more done at a faster pace, Isaac eventually bought a commercial forge. That one is mounted on a heavily built portable welding table that his grandfather made several years ago. Jamie says the only difference between that one and the one he built is that the commercial one generates a bigger and hotter fire quicker than his other one.

Isaac Voeller built a homemade forge out of an old wheel rim and exhaust tubing.

"The homemade forge still works fine, and he still uses it," Jamie says.

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Setcoski rebuilt an old boat hoist for use in his garage to give more storage and even stores boat motors on the side of the hoist.

Storage Loft Made From Boat Hoist

Cory Setcoski has no problem loading his storage rack with snowmobiles, riding mowers or other equipment. Made from a boat hoist, he simply lowers it to the floor, drives the equipment on and raises it back up. Best of all, raising and lowering is all done by hand; no motors needed.

"I always had in mind to make a storage rack for my garage from a boat hoist," says Setcoski. "I just needed to find one for the right price. They can go from $1,000 to $3,000, depending on the shape they are in. I pulled one from the water that was priced right."

The seller figured he needed to replace the deck, which was rotted. Buying it "as is" was fine with Setcoski as he planned to rebuild it anyway.

"My biggest expense was the 4 by 6-in. lumber I ran between the I-beams for a floor," he says. "I spaced them every 16 in. or less, notched them to fit the I-beams and friction fit them in place. I covered them with 3/4-inch plywood."

Early each spring and late each fall, Setcoski wheels the past season's equipment out from under the platform. As he turns the wheel on the winch, the platform lowers to the floor. While the large wheel on the winch has a lock, Setcoski also places a 4 by 4-in. post under one corner of the platform for backup safety.

"In the spring, I roll the lawnmower and quad bike off, drive the snowmobiles on and raise it back up," says Setcoski. "The side beam on the lift is also a great place to hang my boat motors."

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