Fertilizer Applicator Built On Tracks

Andy and Tony Mulvihill are just a few years removed from their high school classrooms, but they're not afraid to tackle major repair or build-it-yourself projects. The Hampton, Minnesota brothers, with help from their father Tim, built a dry fertilizer applicator that rides on a custom-made frame and tracks. The base of the tank rides on a frame almost 4 ft. high so they can broadcast dry fertilizer on bare fields or side-dress urea in waist-high corn.

The Mulvihills started their project with tracks and a custom frame built by Lyn Rosenboom, creator of Landluvr™ track systems in Clifton, Ill. The tracks have a 20-ton load capacity and use 14 ½-in. belts. Rosenboom builds a similar version for grain carts and other heavy applications using Case-IH Quad-Track belts. For Mulvihill's rig he built a frame to their specifications so it would carry a dry fertilizer tank that had previously been mounted on wheels.

Rosenboom also built a reinforced articulating hitch that allows the cart to follow in the tracks of the Mulvihills' Cat tractor as it turns, damaging less corn at the end of the fields.

The brothers assembled the track and hitch components, then built an elevated frame made of 2 by 6 and 2 by 8 box tubing. That created a sturdy and tall platform for the 5-ton fertilizer tank. Weight is distributed 2/3rds on the tracks and 1/3rd on the tongue.

The Mulvihills added a divider at the center of the Pro-Force so they could apply two different products in one pass if needed. They rigged up two hydraulic control gates to replace the old gear crank door. The old wheel-drive mechanism was replaced with a hydraulic motor that allows variable speed controls for the apron and the twin 30-in. dia. spinners. Andy uses a variable rate controller in the cab to accurately dispense dry products, matching field requirements and ground speed.

Tracking through waist-high corn at speeds of 18 to 20 mph, the rig sends fertilizer flying across a 90-ft. swath. Their Cat tractor has auto steer and GPS mapping that allow precision application with variable-rate electronics and hydraulics. Tim is quick to say the brothers did a great job on the hydraulic and electronic calculations. After covering 120 acres of corn with side-dress nutrients on a warm June evening in 2009, less than 10 pounds of fertilizer remained in the tanks.

When the tanks are empty, filling them takes less than 10 min. with a 24-in. apron elevator that slides right under the hoppers of their semi-trailer. The Mulvihills found the rig on an internet auction and knew it was just the ticket for loading fertilizer. After towing it home 400 miles, they renovated the frame, tuned up the motor and the hydraulics and it runs like a new one at 1/4 the cost. Their final touch of hands-free operation is a simple electric motor with a hand-held remote to open and close the hopper gate on the semi. In this age of speed, economy and precision, the Mulvihills have dry fertilizer application down to an exact science.

Dry fertilizer applicator rides on custom-made frame and tracks. Articulating hitch allows cart to follow in the tracks of the Mulvihills' Cat tractor as it turns.

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For information on the track systems Contact: FARM SHOW Followup, Lyn Rosenboom, Landluvr, 129 East 3rd Ave., Clifton, Ill. 60927 (ph 815 252-2622).

Bed Skins Protect Pickup Cargo

To test the Bed Skins her husband designed, Pat Burkey bought groceries and put them in the back of her pickup. After covering the bed with a Bed Skin, she went through a car wash. Her groceries remained perfectly dry.

Burkey's husband, Robin, came up with the idea to protect cargo he carries as an industrial insulator in the oil business. Load sizes vary and he needed a way to keep everything dry.

Bed Skins are based on a 5-point design that's similar to the shape of an animal skin. Each cover contains two different kinds of vinyl — a soft poly-lined vinyl that stays supple down to minus 40 degrees covers painted surfaces while the center part is made of heavy-duty 18-oz. vinyl. They don't stretch but are big enough to cover large loads such as furniture, an ATV, or bags of feed.

"If you have a toolbox or rails that it goes over, the Bed Skin eventually shrink-wraps around them," Burkey says.

"The covers are easy to attach. There are quick release buckles in stirrups. They extend down under the truck and have 1,000-lb. vinyl-coated hooks that hook on the truck frame," Burkey says. "A touch to the quick release opens up any one of the five points for quick access to your cargo."

That makes it handy to open and to slip in groceries or grab a tool, for example. When not in use the Bed Skin can be stored behind the truck seat.

Burkey was so impressed with her husband's invention a few years ago, that she started making them. She has customized patterns for each make and model pickup.

She sells 8-ft. pickup bed skins for $400 and smaller bed sizes for $375 (including shipping) through the business's website.

Bed Skins don't stretch, but they're still big enough to cover large loads such as furniture, an ATV, or bags of feed.

"To this day, when someone brand new calls for one, I still get excited because I know they are going to love this product," Burkey says.

There is nothing like it on the market, she says, and she would love to hear from anyone interested in working with her to expand the business.

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Loader Backhoe Built On Riding Mower

"It's a narrow, low profile machine that can go just about anywhere," says Matthew Strauch, Washburn, Ill., who used parts from several machines to come up with a one-of-a-kind tractor with a loader and backhoe. It's only 4 ft. wide and painted Caterpillar yellow.

He started with a 1970's Jacobson riding mower which he got free from someone where he works. The original 16 hp gas engine was worn out so he replaced it with a Kubota 25 hp diesel engine. He lengthened the frame by 1 ft. to make room for the bigger engine. To support the weight of the front-end loader he replaced the tractor's original spindles with heavier duty spindles off a Deere 318 riding mower. He bored out bigger (1-in. dia.) holes in the tractor's front axle to mount the Deere spindles.

He used 2-in. sq. tubing to build the loader and welded it onto the tractor frame. The loader is equipped with a 42-in. wide bucket and uses four 2-in. dia. cylinders to raise and lower the arms and tilt the bucket. The cylinders are operated by a hydraulic pump that controls the loader and backhoe operations. The control valve that was originally used to raise or lower the riding mower's deck is now used to steer the rig.

"My dad and I built it together. I use it to do jobs on the side such as tearing out bushes, putting in water and sewer lines, backfilling ditches, and so forth. The Ingersoll backhoe is mounted solid to the back of the tractor and can dig almost 6 ft. deep," says Strauch. "The machine is so narrow that I can fit between houses that are close together and where a conventional machine can't go.

"I spent only about $3,000 to build it whereas even a used commercial machine like mine sells for $15,000 or more. The hydraulic cylinders are from a Deere skid loader and the hydraulic pump is off an old street sweeper.

"People often ask me, 'where's the steering wheel?'. I tell them there wasn't room for one because that's where the hydraulic pump and a homemade oil reservoir and fuel tank are located. To steer all I do is move a lever back and forth. I used 1/8-in. thick steel to make the loader bucket and backhoe bucket and made two different buckets for the backhoe, one 1 ft. wide and the other 18 in. wide."

Matthew Strauch used parts from several machines to come up with this one-of-a-kind backhoe tractor.

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