Monster Auger A Match For Any Truck

By Jim Ruen, Contributing Editor

Tad Ziehm and Merrill Upchurch can move 800 bu. of grain in 10 min. with their self-propelled auger. And the 14-in. diameter auger not only moves grain fast, it moves it high, reaching up to 45 ft. above the ground. Best of all, when they need to move from one bin to another, it's a breeze. They can zip down the highway at speeds up to 22 mph.

"We were tired of pulling an auger behind a 4020 Deere in the freezing cold," explains Ziehm, who farms with Upchurch. "We had just bought a new combine and had the old 7700 combine sitting there. Merrill said he thought a self-propelled auger might be the way to go, so we sketched it out on the shop floor."

The result of Ziehm and Upchurch's brainstorming was their monster auger. Everything about it seems oversized. The frame is made from 3 by 6-in. boxed beams. The 76-ft. bin auger and 18-ft. fill auger were made from steel pipe 3/8-in. thick that weighs 70 lbs./ft. The pipe is normally used for highway billboards. Custom made flighting alone weighs 600 lbs.

A 22-ft. section at the end of the 76-ft. auger folds back on top of the main auger when in transit. An I-beam runs the length of the auger-pipe to add strength. Two steel cables suspended right above the hydraulic lift cylinder also provide support.

"It's strong enough that we could mount a fork lift or frame 'cherry picker' at the end of the main section," says Ziehm. "We plan to put a cat-walk along the top so we can climb up bins."

The big telescoping cylinder used to raise and lower the main auger was taken from a dump truck. The gearbox that runs the main auger is from a 9600 combine. The entire unit is powered by an engine and transmission from the 7700 Deere combine.

"We kept the transmission and the axles, but put the rear axle in front and the front axle at the rear," explains Ziehm.

The engine and cab were remounted on two I-beams that bolt to the machine's new frame. The engine faces forward, 3 to 4 feet ahead of the rear axle.

The transmission was reconnected to maintain the original gearshift pattern. The idler pulley is still in place, but mounted to the axle instead of the side of the combine. The drive belts had to be lengthened to account for the change in engine position.

The combine's former header cylinders are used to raise the 18-ft. fill auger on back. They made a new hydraulic fluid reservoir. The original reservoir is now a hydraulic filtering tank.

"The steering pump is used to power the steering and also to power the fill auger while the main auger is driven by the counter shaft from the 7700 engine."

One of the trickiest parts was the pivot point where the main auger connects to the machine. The men built a heavy pivot using a 6 5/8-in. dia. axle pipe secured between a framework made from I-beams and steel plate. Once the pipe was secured, they cut the center section out and mounted the 9600 combine cylinder drive gearbox at the center to drive the auger. By waiting until the axle was in place before cutting it, they knew the axle sections were in-line and true to each other.

Ziehm then used pieces of the same size pipe to make saddles or yokes for the axle. Each piece was sliced in half lengthwise, with the edges curled back to form flanges and drilled for bolts. One set was welded to the upright framework. The other was bolted down over the top of the auger housing axle. These allow the auger to pivot up and down.

The two wanted the feeder auger free to pivot into place also. This required attaching it to the auger housing with a series of plates that allow it to spin freely.

Wheels are mounted to the hopper at the lower end of the feeder auger. The mounts are at an angle that allows the wheels to roll in a perfect circle and allows the feeder auger to spin 180º on the ground. For transport, Ziehm simply pushes the feeder auger back over the hydraulic cradle to be lifted free of the ground.

Three levers inside the cab operate the hydraulics to raise and lower the feeder auger, raise and lower the main auger and fold and unfold the extension.

"In the future, we plan to mount a camera at the end of the auger to position it over the top of the bin," says Ziehm.

Another change they plan to make is to add a remote starter. This will allow a truck driver to start up the unit and engage the auger as they pull up.

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Self-propelled rig is equipped with a 76-ft. long, 14-in. dia. bin auger that can move 800 bu. of grain in 10 minutes. An 18-ft. fill auger mounts on back.

A 22-ft. section at end of 76-ft. auger folds back on top of main auger when in transit.

9-N Ford Does 50 At Drag Strip

When Del Shafer fires up his 9-N Ford to drag, it's not for fieldwork. With its Corvette engine, Shafer reports hitting 50 mph in a 1/4 of a block or so.

"I don't know what the top speed would be. I am scared to open it up," admits Shafer. "It's my Blue Ribbon tractor. With the original Ford over-and-under transmission, it can get out and move."

To ready the tractor for the 327 engine, he had to lengthen the hood about 1 1/2 in., which he added just ahead of the hood door for gas tank access. Because the axle was attached to the oil pan of the original engine, he also had to build a new frame for the front end. He started at the transmission and went forward, using 1/4-in. wall, 2 by 2-in. steel tubing. The front wheels were replaced with Ford pickup spindles and Mag wheels.

"I made my own bell housing adapter to hook the V-8 to the transmission," says Shafer. "If you wanted, you could take the 327 out and put a Ford engine back in without any more modification than removing the adapter."

The bigger engine did require a little additional cooling, which Shafer accomplished with a small fan. He welded a bracket to the radiator shroud and bolted the fan in.

He also had to bend the steering arms to clear the headers, which came from a Chevelle. Other modifications to the engine include a RV cam and boring out the cylinders to "30 over" (30,000ths of an inch over original). He also installed 4-in. exhaust pipes with the mufflers inside.

Another change to the tractor gave it its name. The gas tank for the big engine is a Blue Ribbon beer keg that sits behind the driver. He also had to add shocks to the front end to reduce hop when he fired up the big engine.

After beating several cars in drag races, Shafer now has the "hot" tractor up for sale. He is already planning his next engine swap, a Cadillac engine in an H Farmall. Shafer wants $3,500 for the little Ford, which probably isn't bad for an antique tractor with both field and road potential.

"You could still plow with it, if you didn't mind your dirt ending up in the neighbor's field," says Shafer.

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"I don't know what the top speed would be. I'm scared to open it up," says Del Shafer about his repowered Ford 9-N tractor.

To ready tractor for the Corvette 327 engine, Shafer had to lengthen hood 1 1/2 in.