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## TRAVELS AT SPEEDS UP TO 50 MPH ON THE HIGHWAY

By Bill Gergen, Associate Editor

# “High Speed” Tractor Built For Custom Baling

“It saves time and rides much smoother than a conventional tractor. It’s also fitted with controls that make my round baler a lot easier to operate,” says custom hay baler Dan Krueger, of Shawano, Wis., about the “high-speed” tractor he built using parts from an old pickup and combine. It lets him pull his Deere 435 round baler at speeds up to 11 mph in the field and up to 50 mph on the highway.

The speedy tractor was built on the frame of a 1970 Chevrolet 3/4-ton pickup and has dual 20-in. lugged truck tires on the rear axle with single 20-in. truck tires in front. Air bags off a semi truck mount under the rear axle. The cab and hydrostatic transmission came out of a Deere 7700 combine. The hydrostatic transmission is connected to a 4-speed transmission out of a junked truck. Power is supplied by a Deere 4-cyl. turbocharged industrial diesel engine with 109 hp. All baler operations are controlled by a single “joystick” lever in the cab that’s equipped with four electric switches.

Krueger also mounted tandem axles on the baler.

“People can’t believe it when they see it,” says Krueger, who used the tractor for the first time last summer. “I built it because I bale hay over a 40-mile area and spend a lot of time on the highway between jobs. I wanted more speed on the road and a better ride in the field. My baler can handle a lot of hay, but in rough fields with a conventional tractor I couldn’t go fast because I could hardly stay in the seat. The combination of the air bags, suspension seat, dual rear truck tires, and tandem axles on the baler smoothes out the ride. The lugged truck tires provide traction and flotation.

“The 4-speed transmission has a lot of range and power in first gear which works great for baling. I can crawl along or go up to 11 mph in first gear. I can go up to 50 mph in third gear on the highway which is about as fast as I dare go pulling a 2-ton baler. I modified the pickup’s brake system to double the brakes’ stopping power and mounted a rollbar designed for a Deere tractor behind the cab so that if I’m ever forced into a ditch at high speed I’ll have roll-over protection. I also use a seat belt. The tractor has 17 in. of clearance even under the hitch so it can handle big windrows. I can control the amount of pressure in each air

bag and make the tractor lean to either side for use on hillsides.

“I simply push a hydrostatic lever ahead to go forward and pull it back to go in reverse. I can control all baler operations with my thumb by using four 2-way switches mounted on the lever.

“I bought the cab used for \$500 and paid \$5,000 for a new engine. My total cost was about \$12,000 which is less than half the cost of a comparable new tractor. I didn’t modify the baler at all so if there’s ever a problem with the tractor I can unhook it and use a conventional tractor.”

Krueger bought the junked pickup frame for \$50 and cut it off just behind the rear axle, then removed the rear coil springs and replaced them with air bags. The combine’s hydrostatic transmission ran in the opposite direction as the engine so he mounted the engine backward. The hydrostatic transmission is connected to a 4-speed truck transmission from an old 1-ton IH truck. The 4-speed transmission runs backward in order to match up with the hydrostatic transmission. Krueger tipped the differential upside down on the back axle so the tractor wheels would go in the right direction.

A 3-groove pulley bolted onto the engine crankshaft belt-drives a shaft that runs along the left side of the pickup frame back to a reduction gearbox. The gearbox chain-drives the pto shaft and reduces shaft speed from 1,250 rpm’s to 600 rpm’s. “The pto runs a little faster than the normal 540 rpm’s, allowing me to throttle the engine down and conserve fuel,” says Krueger. An air cylinder mounted next to the engine is used to control a spring-loaded idler that engages or disengages the belts.

All hydraulic controls are powered by a 2-way air cylinder mounted at the back of the tractor. The air cylinder is powered by an old air conditioner pump that Krueger converted into an air compressor. An electric clutch connected to a pressure switch kicks the compressor on or off. An electric power window control activates solenoids that operate the air controls.

The compressor and air controls are mounted in a box outside the cab. Krueger activates the controls by using the four switches on the hydrostatic lever. One switch opens or closes the baler endgate, one starts or stops the pto, one electroni-

cally controls the engine throttle, and one automatically turns the pto off as soon as the endgate is opened and turns it on as soon as the endgate is closed. The engine throttle control is powered by an electric window motor (salvaged from an old car) that’s bolted to the side of the engine.

Krueger used steel plate to close up the back of the combine cab where the grain tank had been and also the right side of the cab where the engine was mounted. He mounted a window in the back side of the cab and put a mirror in front of it inside the cab. “By looking at the mirror I can see the bale as it starts rolling without always having to look behind,” notes Krueger.

The cab has three foot-operated brake pedals - individual pedals for the rear wheels and a combination pedal for the front wheels. The steering wheel and column came out of an old Chevrolet Citation car. Electronic controls in the column are used

to operate the dimmer switch, windshield wiper, and directional lights. Krueger made the fenders by bolting lengths of 12-in. wide rubber belting to a length of curved steel. “The belting is flexible so if it hits something it’ll bend without breaking,” he notes.

He welded a tractor drawbar to a hitch he made from 3 by 6-in. angle iron and welded it to the back of the pickup frame. He designed a pattern for the hood and had it made by a local fire truck manufacturer. The 4-in. dia. muffler was borrowed from a semi truck. A 35-gal. fuel tank mounts behind the cab.

The pickup’s 17 1/2-in. wheel rims were welded into the truck tires’ 20-in. rims. He used square tubing off an old plow and a 2-in. dia. steel shaft to make the tandem axle for the baler.

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## Deere Picnic Table

Richard Bartmess got a big surprise for his 50th birthday - a “John Deere picnic table” made by his sister Jeanette. The picnic table is painted Deere green and yellow with a steering wheel and seat on one end and a muffer on the other. It all started when Jeanette made her son a picnic table from a kit. Bartmess joked that he’d like to have one like it, but that it would have to be painted Deere green and yellow. Jeanette’s husband Bill salvaged an old implement seat and steering wheel and used a broom handle for the steering column. The seat is supported by a pair of 2 by 4’s and can be folded up out of the way for mowing. Bartmess’s brother Bob welded a pipe and bracket together to make a fake muffler. His other sister Beverly helped paint the table. Contact: FARM SHOW Followup, Richard Bartmess, W. SR. 2 7488, LaPorte, Ind. 46350 (ph 219 785-2663).