



## Big Tractor Built From Semi Truck

"It's comparable in size to a big Steiger, but without the duals and without being articulated," says Homer Jennings about the big powerful 2-WD tractor his neighbor built out of an old semi tractor and trailer that Jennings owned but had not used for 10 or 15 years. His neighbor Jim Koper bought it from him.

"I hardly recognized my old truck after he got through," says Jennings. "He's a real artist with a cutting torch and welder."

Koper runs a welding shop in Decatur, Tenn. "When I told Homer I was going to make a tractor out of his old semi, he looked at me as though I'd lost my marbles," Koper says.

But seeing is believing. "He brought it over last fall to work about 10 acres of wet ground with an old 12-ft. Deere disk harrow," Jennings says. "It runs like new and makes an impressive-looking tractor."

Others apparently agree. "I finally had to park it out behind the house instead of in front of it as a safety precaution," Koper says. "People driving past on the road were always slamming on the brakes, stopping and backing up to get a closer look at it."

The big tractor's built out of a late 1950's Diamond-T cab-over semi and is powered by the truck's original 280 hp, 855 cu. in. Cummins diesel engine, 10-speed transmission, and front and rear axles.

He fabricated almost everything else - hood, grille, roll bars and canopy, exhaust pipe, fenders, front-end loader, 3-pt. hitch, and backhoe.

"I had to redo just about everything for the conversion," he says. "For example, I had to pull all the operating controls

back 5 ft. from over the front axle. I also had to move the rear 2-speed differential up about 8 ft. to shorten up the chassis so I could make tighter turns."

The tractor has a 14-ft. wheelbase and is 7 ft. wide, 11 ft. high and weighs well over 12,000 lbs.

Koper made a pivoting front axle out of the truck's original 23,000-lb. capacity front axle and direct coupled the differential to the truck's transmission, to help tighten up turning radius. He also geared down the transmission (he won't say exactly how) to better equip it for heavy pulling and lifting. (Top speed of the tractor is still a respectable 50 mph).

The tractor's rear tires are 16.9 by 24-in. road grader tires mounted on heavy-duty, 3/8-in. plate homemade rims that are designed to handle a lot of weight. Front tires are standard 11.0 by 20-in. truck tires mounted on original rims.

Koper's hydraulic system, which uses a 45-gal. reservoir mounted on the right side of the tractor, operates the 7 1/2-ft. wide by 3-ft. deep front end loader bucket. When fully extended the bucket reaches 18 ft. high.

Koper also built a backhoe with 14-ft. reach for taking out stumps and digging ditches. From the front of the loader bucket to rear of the extended backhoe bucket, overall length of the tractor with attachments is 46 ft., Koper says.

"It has tremendous power. I can even pick up a car using lift forks that mount on the bucket.

"I'd turn it loose for the right price - it wouldn't be cheap - then I'd just build another one," he says.

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## Photo-Electric Row Guidance System

"My beet harvester came equipped with a mechanical row finder, but I was never really satisfied with its performance. The mechanical switches have a tendency to wear out quickly and as they wear, their sensitivity changes and reaction time slows way down," says Keith Brohaugh, who built a sophisticated photo-electronic guidance system for his planter and sprayer.

He put the system together with off-the-shelf parts available at any electronics store.

It consists of a lightweight log chain that runs in the planter's row mark. The chain attaches to a shaft, which swivels with the chain as it moves left or right.

A sealed control box is attached to the shaft. It emits a light beam that turns as the shaft turns. When the beam hits one of two photo-electronic switches, one on each side of the shaft, it closes an electric circuit.

When used with Brohaugh's Deere 71 flex planter, the electric current activates a set of indicator lights on the tractor dashboard. The lights tell the driver which way to steer to get back on the row. The system is set to warn the driver if the tractor moves more than 1/2-in. off the mark.

When used with his 24-row (22-in.) sprayer, electric current triggered by the guidance system shifts the sprayer back and forth by activating hydraulic cylinders.

"I've been able to cut my spray band by 3 in., from 10 to 7 in.," he says. "So the

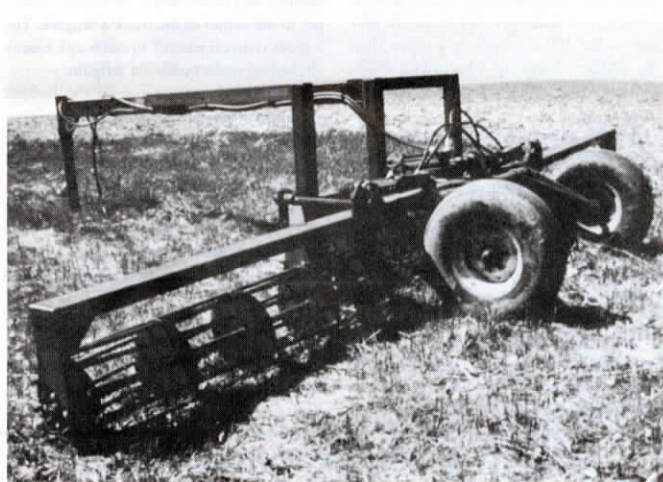


Brohaugh built a sophisticated photo-electronic guidance system using off-the-shelf parts available at any electronics store.

system has paid for itself many times over since I built it five years ago."

Brohaugh estimates he has about \$1,000 invested in the system. He now plans to try the system on his beet harvester.

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## "Clodbuster" Hitches Behind Field Cultivator

"I looked at a couple of commercial clod crumblers but didn't see one that was going to work for me, so I built my own," says Jim Vorwald about a "clodbuster" he built to firm up seedbeds in the spring.

He pulls the clodbuster behind his 18 1/2-ft. wide Krause field cultivator. It features a heavy-duty 18-ft. long gooseneck hitch made out of 3 by 4-in. channel iron and 4 by 6-in. steel tubing. Because the cultivator already had 3 harrow rakes on back, the crumbler needed an extra long hitch so Vorwald could still turn short at the end of the field.

"I can turn as short as I could before I added it to the cultivator," says Vorwald who farms near Epworth, Iowa.

The clodbuster is 21 ft. wide. It has three 6-ft., 8-in. rolling baskets 17 in. in dia., with 7/8-in. dia. rods made from concrete rebar

welded on. The baskets rotate on 1 1/2-in. center shafts that run through the tool's main frame. The rolling action after cultivating breaks clods, improves seed-to-soil contact, and reduces erosion by leveling the field, according to Vorwald.

The wings of the crumbler fold hydraulically for transport. It also raises and lowers hydraulically on lift assist wheels and stub shaft axles that Vorwald made. Tires, which lift completely off the ground when the clodbuster is being used, are 11L by 15-in.

Vorwald has about \$1,200 invested in the tool.

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