

Restored 830 Deere Has A V-8 Diesel

"The comment I get most often when people see my tractor is 'I didn't know Deere built an 830 with an 8-cylinder V-8,'" says Elmer Friesen, a Deere tractor collector and restorer from Rosenort, Man. "After they walk around and ask a few more questions, I usually tell them there's only one Deere 830 with a V-8, because I had it built."

Friesen's fully restored 830 has a longer frame, a mirror-smooth paint job, a chrome stack and authentic looking Deere numerals that read 83208. "My 830 has a Caterpillar 3208 Diesel in it, so I decided to give it a special name," Friesen says. The original tractor was one of 6,900 that Deere built between August, 1958 and July, 1960.

When he acquired the tractor, Friesen's 830 had its original 75 hp, 2-cyl. diesel engine and rode on well-worn rubber tires. The engine turned about 1,400 rpm's and its top road speed was about 14 mph. "It had worked hard and that hard work showed," Friesen says. "It was greasy, rusted, bent and needed help."

The restoration became nearly a full time project for a mechanic friend over one winter. "I'm sure he put in well over 1,000 hours," Friesen says, "but they were very productive hours because he was meticulous with everything. It took a lot of designing, testing and reconfiguration. He did most of the design work on the computer, so that really helped. The biggest obstacle was to design

the new crown gear and shafts to mate the engine to the gearbox. We had a founder make a special casting, then it went to machining, and that part alone cost \$4,500."

The cast iron frame and hood were extended 9 in. to make room for the larger engine. "He cut the frame apart, designed special steel extension pieces, welded them in place, then put a special coating on those small pieces so that after they were painted the finish was exactly like cast iron," Friesen says. The whole tractor was sandblasted, cleaned, primed and repainted with two coats of automotive show-quality paint plus a urethane clear coat.

When it's not working, the Big Daddy or Mr. Mighty, as the 830 was known back in its hey day, takes its place alongside Friesen's other restored 30 series Deere tractors, including a "normal" 830 diesel. He also has a 330, 430, 530, 630 and 730, all restored to showroom quality. "It's quite a lineup," Friesen says, "and I wouldn't advise the casual collector to start something like this because it gets in your blood and it gets expensive." Friesen says he probably has more than \$70,000 into the repowered 830, but he thinks it's worth every penny.

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Photos courtesy John Dietz

Elmer Friesen's Deere 830 is powered by a Caterpillar 3208 diesel engine, so he decided to give the tractor a special name – the 83208 Diesel.



Tractor's cast iron frame and hood were extended 9 in. to make room for the larger engine.

4-WD Articulated Deere Tractor

"I was told it couldn't be done, but I went ahead and it turned out great," says Jerold Raab, Tustin, Mich., about the hydrostatic 4-WD articulated tractor he built out of two old Deere 317 garden tractors.

He used most of one of the tractors on front, removing the front axle to shorten the tractor by 16 in. The rear end off the other tractor mounts behind it. Both tractors are early 1970's models. The tractor's 4 wheels are off the original garden tractors.

After cutting the front axle and wheels off from under the front model, he moved its rear end and transmission forward 16 in., which left the tractor's front end hanging out about 2 ft. He cut about 12 in. off the front of the back model. The front model's driveshaft connects the transmission in front to the back tractor's transmission in back, with a pair of universal joints in between.

To make the articulation point, he made double U-joints that fit inside a 6-in. pipe.

A lever that comes up through the right fender hydrostatically controls both transmissions. A throttle cable extends to the back transmission and is synchronized so that both transmissions pull or are in neutral at the same time.

Steering is controlled by a 6 by 1 1/2-in., double-acting hydraulic cylinder, which swivels on a steel pin that's welded to the tractor's articulation point. The hydraulic steering system is off an old combine. The tractor's front transmission supplies the oil for the steering system. "The front tractor's original steering valve control is hooked up to the hydraulic cylinder and is used to control the steering," says Raab.

"We chose these particular tractor models because both are equipped with the same



Jerold Raab built this hydrostatic 4-WD articulated tractor out of two old Deere 317 garden tractors.

hydrostatic transmission and have horizontal shafts between the engine and transmission that lined up correctly."

An Onan 16 hp engine out of an old Bobcat skid loader that mounts over the tractor's rear axle powers the tractor.

"Mounting the engine over the rear axle

balances the weight, with the operator over the front axle," says Raab. "I mounted the exhaust system off an old Bobcat skid loader on back of the tractor."

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Articulated Case Garden Tractor

Lee Matczak's 222 Case garden tractor looks bigger than its 12 hp Kohler engine would suggest. With four big wheels, 4-WD, and full articulation and oscillation, it looks toolbar ready.

"A friend of mine bought two 222 Case garden tractors 20 years ago, intending to make an articulated one," says Matczak. "He never did, so I bought them from him."

Matczak had been thinking about doing something similar with Cub Cadet tractors, but getting the driveshaft through an articulating joint always stumped him. The Case tractors had hydraulic drives, which reduced the problem to hanging hoses.

Matczak started by removing the rear end from one and setting it under the front end of the second after removing its front axle. Seeing it could work, Matczak started disassembling and cutting.

"When I got down to the bare frame, I could see where the frame channel irons were 3 1/2 in. wide at the front. By the time they go up and over the rear end, they have narrowed to 2 1/2 in.," says Matczak. "I decided to put the articulation joint at the point in the frame just before the channels begin to narrow."

Once he had cut the frame, he could see the

hydraulic valve body that provided power to the drive was exposed just ahead of the cut. He found two 3 1/2-in. channel irons and used them to extend the front end 3 in. to get it past the valve body. He then welded 3/8-in. steel plates to the ends of the exposed frames in preparation for joining them back together.

"I welded two pieces of 3/8-in. steel to the plate on the front end to form a clevis-type hitch and drilled holes for a pin," explains Matczak. "I made a second U-shaped clevis with 3/8-in. plate to fit over the first, drilled a hole and pinned the two together to get articulation. I drilled holes in the back of the U-shaped clevis and in the steel plate that closed off the frame on the rear end. A 7/8-in. pin through those two holes provided oscillation."

Matczak knew there would be room for the second rear axle and hydraulic drive under the front end of the tractor. Only slight modifications were needed. He had to trim out some of the hardware, including the spring plate where a belly mower would normally attach and the connectors for a snowplow.

Hydraulic hoses to the drive unit presented another problem. Normally they exited the



With four big wheels, 4-WD, and full articulation and oscillation, Lee Matczak's Case 222 garden tractor looks bigger than its 12 hp Kohler engine would suggest.

drive forward to the valve body. Moved ahead to the front of the tractor, the hoses would still exit forward. Not only would this interfere with the look, but would also create extra hassle in connecting them.

"I jacked the drive unit up and ran an rpm gauge on the rim and checked its top speed," says Matczak. "It ran 7 mph in both forward and reverse. This meant I could just flip it around and run it in reverse when the rear end was running forward. The hoses now exited to the rear."

"The Case 222 has a lever that sits between the operator's legs to move the drive into

high, low or neutral," says Matczak. "With a second drive at the front, I had to fabricate a second control."

With it in place, he can shift to 2-WD by putting either front or rear in neutral when turning.

Matczak also modified the steering. He swung the rod that formerly went to the front end to the rear. Once he had cut a foot and a half off, he was able to attach it to a bracket he fabricated for one end of the rear axle.

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