

Tandem Axle 4-WD Tractor Fitted With Dump Box

James Batchelder, West Topsham, Vt., converted his 1980's Ford 16 hp. garden tractor into a 4-WD, tandem axle model equipped with a dump box. He also built a trailer to pull behind it.

"I call it my neck UTV. I built it last spring and so far it has passed my 'take it or break it' test with ease," says Batchelder. "I use it to haul firewood and for a lot of other chores. I use a hand-operated boat winch to operate the dump box, which has a capacity of about 1,200 lbs. I locked the differentials together so the machine has posi-traction and, with 4-WD, it can go almost anywhere."

He started out with a Ford YT16 garden tractor equipped with a belt-driven Peerless 800 transaxle. He bought another identical tractor for parts and removed the transaxle, frame and wheels, then welded the 2 tractor frames together. He also welded 2 pulleys together in order to drive the add-on axle. The engine belt-drives the original pulley that powers the tractor's rear axle, and from there the double pulleys belt-drive the rear axle.

"I made a tandem gearshift lever that connects the add-on axle to the tractor's original gearshift lever. It lets me shift the gears on both axles at the same time with a single lever," says Batchelder.

He also cut the front part of the frame off the parts tractor and welded it on front of his

tractor to make room for a 2,000-lb. electric Warn winch, as well as a home-built steel push bar. "The winch is there in case the tractor ever gets stuck, but I don't think that will happen very often," says Batchelder.

The dump box measures 40 in. long by 36 in. wide and is built from 1/8-in. thick sheet steel bolted to a 1-in. sq. steel frame. The box's sideboards, headboard and floor are lined with 3/4-in. thick, pressure treated plywood, and the floor is covered by a water-resistant poly bed liner.

The hinge was made by welding 2 metal brackets on back of the frame. A 3/4-in. dia. steel rod is welded to the dump box and runs through the brackets. He cut the mud flap from a dump truck in half to make mud flaps for each wheel.

He mounted a rollbar off an old Honda 4-wheeler over the entire length of the tractor.

The back part of the rollbar is welded to steel racks that he bolted onto both fenders, while the front part is welded to a homemade pushbar. Batchelder keeps a toolbox on one rack and a chainsaw on the other. "I slipped foam pool noodles over most of the rollbar and also added lights on top," he says.

He added a 1 7/8-in. dia. ball hitch on back of the add-on axle so he can pull a homemade trailer. "I built the trailer out of an old Cushman Truckster and use it to tow my



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homemade wood splitter. It has a tailgate, and I plan to convert it into a dump trailer with a hand-operated pump so I can use it for other chores."

It took Batchelder about a month to build the unit. "I spent only about \$500, whereas commercial utility vehicles sell for up to \$18,000. I paid \$100 for both tractors. My only other cost was the steel that I used for the dump bed and for the rollbar, which I bought at a yard sale," he notes.

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He uses a hand-operated boat winch to operate the dump box, which has a capacity of about 1,200 lbs.

Hydrostatic-driven "yard truck" is designed so the operator can walk slowly alongside and control the tractor with a long lever attached to a foot pedal.



Yard Truck Has "Walk-Along" Controls

Working around the yard is easy for Elizabeth Kimball. The hydrostatic drive "yard truck" her husband Allen built for her is designed so she doesn't even have to get on as she moves around the yard.

"She can ride on it and use a foot pedal on the right side," says Allen Kimball. "But she can also walk slowly alongside and pick up rocks and sticks, controlling the tractor with a long lever attached to the foot pedal."

In addition to the dual control hydrostatic, the yard truck also features AC electrical outlets and a 30-in. long by 36-in. wide dump box. Components were salvaged from a variety of sources to make the one-of-a-kind utility vehicle for his wife.

"I started with the front axle, steering wheel, seat and frame from an old Honda riding lawn mower," says Kimball. "The wheels are from a Walker lawn mower, as is the dump box."

Kimball had previously picked up a new 11 hp. Briggs & Stratton and a hydrostatic transmission. The Briggs wouldn't fit in the original engine compartment so Kimball moved it just ahead of the rear axle. To make room for the engine, he moved operator controls ahead of the front axle with the seat just behind it. This meant shortening the hood, which now covers only the oil cooler for the hydrostatic transmission.

"Shortening the hood was one of the most

difficult parts of the whole project," says Kimball. "I set it up to tilt forward to access the oil cooler. The seat tilts forward to access the alternator and inverter."

The vertical Briggs engine is equipped with two pulleys, one to power the transmission and the other to power a 12-volt alternator. The alternator, salvaged from a car, was equipped with an inverter. A generator built into the engine supplies normal DC requirements, while the automobile alternator supplies power to the heavy-duty battery Kimball placed alongside the Briggs. The battery allows him to use the yard truck to jump start full-size vehicles.

"I installed the AC outlets on the side of the dash, as well as a toggle switch for the alternator and gauges for battery condition and charging rate," says Kimball. "The ignition is wired so it won't start unless the transmission is in neutral. I also added an alarm that will sound if you try to drive with the parking brake on."

Kimball installed an electric actuator to lift the dump box and mounted a flashing yellow light on the hood. He uses it when driving the yard truck in parades.

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Cargo box is designed to reduce overhang stress on 4-wheeler and results in minimum "squatting" when hauling a heavy load.

Heavy-Duty, 4-Wheeler "Cargo Box"

"It lets us haul feed buckets, tools, fencing supplies and other stuff without worrying they'll fall out. We've found countless uses for it," says Jesse White, Powersville, Mo., about the heavy-duty cargo box he built to mount on back of any 4-wheeler with a cargo rack and rear hitch.

He used scrap metal and the plastic lining out of an old cattle feed bunk to make the box. The top clamps onto the ATV rack and is held tight by 2 bolts with wing nuts. The bottom pins to the 4-wheeler receiver hitch.

"It's designed to reduce overhang stress on the 4-wheeler, and results in minimum squatting when hauling a heavy load," says White.

"We use it mostly to haul buckets of calf feed. The box is big enough to hold three 5-gal. buckets. If I need to I can even throw a calf in the box, shut the lid, and haul it home for doctoring."

He found most commercial ATV carriers were lightweight and too complicated to put on, and they only fit certain makes and models of 4-wheelers. "Most of them bolt on with wing nuts in about 10 different places, which is a hassle. Also, excessive overhang



Bottom of box pins to 4-wheeler's receiver hitch.

brings the 4-wheeler down even if it's loaded with only a few pounds of cargo," says White.

"My cargo box has an angle iron frame so it's built strong, yet it's lightweight since the box is plastic. And it can easily be attached to any of the 4-wheelers on our farm."

White says the hard plastic has held up, even in cold weather. "Our 2003 Honda Rincon has about 18,000 miles on it, and the cargo box has always been on it."

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