Pickup-Mounted Fencing Rig

Getting ready to put up a new fenceline is no sweat for Edwin Egli. He throws what he needs in the pickup and then mounts his hydraulic-powered post hole auger and driver on the side of the truck.

"It takes 15 min. or less to mount it," says Egli, who says his pickup-mounted unit is more versatile and works better than 3-pt. mounted post hole augers. His unit has down pressure, which speeds both drilling and driving.

"In soft ground, I can just use the down pressure to push the post in with the driver," says Egli.

To get that down pressure, Egli designed a vertical leg to mount an old 3-pt. auger with an orbit drive motor. The leg is a length of 3-in. sq. tubing with two pieces of 3 1/2-in. sq. sleeves over it. A set of roller chains and sprockets attached to the sleeves raise and lower the auger mount arm via a hydraulic cylinder.

"The placement of the sprockets and the roller chains gives me 4 ft. of lift with the 24-in. ram," explains Egli. "Because the leg is attached to the bumper of the truck, when the auger/drive is lowered, it has the weight of the truck behind it."

For added flexibility in the field, the arm that the drill/driver is mounted to turns up to 90 degrees and can also extend away from or closer to the leg. To turn it, Egli simply pulls a pin and swings the arm to the desired position. Holes every 3/4 in. on the arm's resting plate give him lots of options. The horizontal portion of the arm consists of 4-in. sq. tubing with a slightly smaller tube inside for a telescoping action. An 8-in. hydraulic cylinder moves it in and out.

"The pivot lets me swing the auger from directly behind the truck to alongside the truck, which is handy for working on a fence line," notes Egli. "The telescoping arm lets me easily adjust to line a post up with the fence line."

To secure the leg, a brace runs from the top of the leg to a ball hitch in the center of the pickup bed. A second brace runs from the top of the leg at an angle to the bumper for added side stability.

Once a post hole has been drilled, Egli replaces the auger head with a post driver he also fabricated. The driver is powered by an orbit motor with an eccentric drive plate. As the plate turns, the pounder is drawn up and attached springs tighten. As it's released, the springs help drive the pounder against the post.

"It pounds the post every 3 to 4 seconds," says Egli. "My son has driven 30 steel posts in 45 min. with it. The heaviest thing he had to lift was the post."

To supply hydraulic power, Egli installed a belt-driven hydraulic pump on the crankshaft and valves and a reservoir in the pickup box.

"It's handy to have for fencing and other stuff, too," says Egli. "I bought the pump and controls. Most everything else was salvaged from older equipment."

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Egli's pickup-mounted, hydraulic-powered post auger (left) and post driver.

Old-Style Windmill Produces New-Style Electric Power

Old-style windmills with four legs and a wheel full of blades will soon be back in style, says C.D. Smith, Triad/Merrick Machine Co. The company recently introduced the Triad WindGen, a 10kW turbine with an old-fashioned design. Smith says it will keep producing electricity when two and three-blade turbines shut down. As a bonus, it's quieter too.

"There is a reason those old windmill designs lasted as long as they did," explains Smith. "They were dependable and efficient with a lot of torque.

When company engineers began examining wind turbine designs, they noticed that efficiency comparison studies were common between one, two and three blade designs. However, there were virtually no studies that compared heritage style windmills to the newer designs.

"Water pumping windmills have been around forever," notes Smith. "We realized that if we could incorporate state-of-the-art equipment into a legacy windmill design, we would have a winner."

The company settled on the wheel design and made some changes in it that improved efficiency. It is designed to begin producing power in 7 mph winds and is rated at its full 10kW production at wind speeds of 25 mph. The Triad WindGen is also designed to never run with a hub speed in excess of 65 rpm's, significantly reducing wear stresses that shorten high-speed turbine life. Even in gale force winds, the Triad/Merrick turbine continues producing its rated full load of power.

"If turbine shaft speed starts to exceed 65 rpm's, the computer controls begin to furl the tail on the wheel, turning it away from the wind so shaft speed stays at 65 rpm's and maximum production," explains Smith. "When newer style turbines have to be shut down, ours will keep working."

He adds that the Triad WindGen is user friendly too. "We wanted to build a wind generator that was dependable and low maintenance," he says. "However, if something does goes wrong, owners can order a part and repair it on site."

Triad WindGen will keep producing electricity when 2 and 3-blade turbines shut down, says the company.

Currently the company is only building a 10kW turbine. The tallest four-legged tower is 80 ft. at the hub, so with the largest 25-ft. dia. wind wheel keeps total height under the 100-ft. limit set by federal regulations. The company also offers 40 and 60-ft. towers, but encourages customers to go as high as possible for the strongest and most consistent winds.

"At less than 100 ft., we avoid FAA and other federal regulations," says Smith.

Currently a grid tied Triad WindGen with an 80-ft. tower is priced at $59,640. Smith points out that various federal, state and local incentives can lower that by 50 percent or more.

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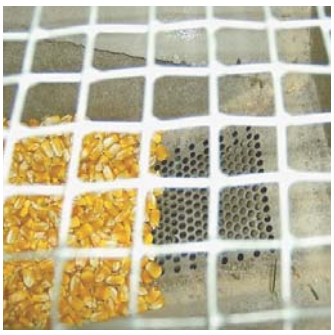

Top of corn cleaner box has a screen selected for its kernel size. The sloped bottom is also a screen.

Cleaner Makes Corn Furnace Burn Hotter, Last Longer

A simple way to get debris and fines out of corn going into his furnace makes corn burn hotter and reduces maintenance, says Larry Grose. He got it with his handy corn cleaner. Best of all, he made it with a few old parts and a bit of welding.

"It only cost $50 and has paid for itself with better heat and less wear on my auger," says Grose. "It also means I only have to clean the ash out once every three days instead of daily."

Grose notes that a guy he knows who bought the same corn stove at about the same time has already replaced two augers. Before making the corn cleaner, he says he could hear the auger grind down when a piece of corncob or other objects got caught in it.

"The auger has zero tolerance, and when a piece of cob or stick or rock hits it, it binds up," he says. "If the material can get through my cleaner screen, it's too small to affect the auger."

The corn cleaner is a box 2 ft. by 16 in. by 3 ft. high, with a slanted bottom. The top of the box holds a frame with a screen selected for its kernel size. The sloped bottom is also a screen, one Grose salvaged from the bottom of a combine auger that carried grain into the hopper bin. Corn bounces off the sloped screen, through a sliding door and into a 5-gal. bucket.

The first year I had the furnace, I went through each pail of corn by hand," he recalls. "Now I just pour it through the cleaner into an empty pail."

The device also provides Grose with a fire starter and bird feed. He picks out the larger bits of cob and sets them aside to use as fire starters. The fines get set aside as bird feed.

Corn bounces off the sloped screen, through a sliding door, and into a 5-gal. bucket.

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