



Pedal-powered pto work station can be used to operate any low rpm tool, including alternators, grain grinders and even power shop tools.

## Pedal-Powered Pto

Darren Holliday's pedal-powered pto work station can be used for any low rpm needs from alternator to grain grinder and even to power shop tools.

"Pedals drive the flywheel which is fitted with a roller chain sprocket that connects to a sprocket on the main shaft," says Holliday. "The shaft can have multiple sprockets or pulleys mounted to it to power different devices. If attachments are installed around it, switching from one to another is as simple as removing a belt or roller chain and attaching another."

Holliday has used the work station to grind wheat and charge batteries with an alternator. The two jobs can even be done simultaneously. He plans to try it with an air compressor and possibly a small hydraulic pump, as well as a pulley-driven table saw. The 240-lb. work station consists of a 12-in. high, 28 1/2-in. long, 10 in. wide, 1/4-in. thick steel base. A flange edge on either side of the base allows it to be bolted to a larger workstation surface.

The 20-in., 28-lb. flywheel projects toward the person pedaling. A no. 40 sprocket shares its short 1-in. diameter shaft. A second shaft 26 1/2 in. forward is attached to the sides of the base with pillow block bearings. It extends 10-in. to either side of the base. A smaller #40 sprocket on it gives the user a 3:1 mechanical advantage. A guard covers the connecting chain between the two sprockets.

"The driveshaft is long enough to mount up to three pulleys or sprockets between



Unit's 20-in. flywheel projects toward the person pedaling.

the sides of the base, as well as multiples to either side," says Holliday. "To add or replace hardware, simply unbolt the pillow-block bearings and slide out the shaft. Make changes, return the shaft, and tighten down the bearings. It only takes about 5 min."

Holliday has the Pedal-Powered PTO workstation priced at \$1,295. It comes with a 6-in. "starter" belt pulley.

"There is no limit to how the work station can be used," says Holliday. "For heavy-duty work, it may be necessary to bolt down not only the workstation and the accessory, but also the chair the person pedaling is sitting in. I like to use one that reclines to let me use back pressure for more force when pedaling."

Contact: FARM SHOW Followup, Well WaterBoy Products, P.O. Box 702, Myrtle, Mo. 65778 (ph 417 938-4991; darren@wellwaterboy.com; www.waterbuckpump.com).

## Old-Time Weed Killer Making a Comeback

"While I was searching for a natural weed killer to use in my garden and orchard, I found out that there is something called Agricultural Vinegar, or what some people call 20 percent vinegar," says Brad Miller, Ohio. Unlike household vinegar, which is 5 percent vinegar, it will kill any weed it touches. It works by drying out the plant. It's non-selective and is not systemic so it's safe to use around the woody trunks of shrubs, vines, and trees.

"It needs to be sprayed when there is no chance of rain for at least 48 hours after application, and the higher the temperature the better. I've found that it works much faster than any other weed killer I've used. The weeds start withering in minutes.

"It's safe for the environment, very economical and can be purchased from many different vendors. Most agricultural supply stores can order it in for you or it can be found on-line or mail ordered. Size ranges from gallon jugs to industrial-sized totes. Prices range anywhere from \$13 to \$15 per gallon but is lower if bought in larger quantities.



Agricultural Vinegar kills on contact by drying out the plant.

Contact: FARM SHOW Followup, Maestro-Gro, 613 Colorado St., Justin, Texas 76247 (ph 940 648-5400; cbeckett@maestro-gro.com).



Thanks to the connecting hub design, one person can assemble the frame for a 16-ft. dia. Zip Tie Dome within a couple of hours.

## "Zip Tie" Chicken Domes, Greenhouses

If you can work with 1-in. pvc pipe and close a zip tie, you can build a geodesic dome portable chicken coop or greenhouse. What really sets Zip Tie Dome™ kits apart is the connecting hub designed by John Hurt. The struts (1-in. pipe sections) that form the triangles slip into holes on a 4-in. pvc collar around the hub. Heavy-duty zip ties (120-lb. tension) slip through holes in the pipes and around the hub for a secure connection.

Within a couple of hours, one or two people can assemble a frame for a 16-ft. diameter dome with an 8-ft. tall center. In another couple of hours they can zip tie chicken wire over the surface and a tarp on top to complete a 113-lb. Jumbo Coop, with enough room for 50 to 100 chickens.

That's about half the weight of a typical mobile chicken coop built out of wood, Hurt says, which is why he came up with the idea.

His family liked the idea of raising chickens on pasture. But the first coops they made were too heavy to pull by hand and not tall enough to stand up inside. Pvc structures are not a new idea, but ordinary plumbing connectors crack and break under the stress of frequent moving.

"My hub design has lots of flexibility," Hurt says. And it can be easily adjusted if a pipe breaks and needs to be replaced. After a couple years of testing, and with a patent pending on the hub connector design, Zip Tie Domes went on the market last May.

Hurt, his wife, Carolyn, and their six sons fabricate the parts on the family's Buffalo Valley, Tenn., property. Currently they offer three sizes: Small (10 ft., \$295), Medium (13 ft., \$325) and Jumbo (16 ft., \$365). Prices include shipping, and kits include all the struts (with two extra to create a door), connectors and zip ties for the frame and attaching chicken wire. The dome kits come with a 90-day, no-questions-asked return policy and a 2-year warranty."



Dome's struts slip into holes on 4-in. dia. pvc hub. Zip ties slip through holes in struts for a secure connection.

Customers buy the chicken wire, tarp and whatever they need to secure it to the ground locally. The Hurts place two concrete blocks on opposite ends and secure them to the dome with bungee cords. Just unhook the blocks when moving the dome, then secure them again, Hurt says.

He adds the shape works well for housing chickens, as they never get trapped in a corner.

The domes also make great greenhouses, and the Hurts made a smaller version for a dog house next to the chickens to acclimate a Pyrenees puppy that will be their future guardian.

Hurt expects there will be many more applications for his domes, which excites him.

"Our philosophy is that this is more than just a business," he says. "Zip Tie Domes is what we do to improve the lives of other people."

The business's website includes several videos that show how to assemble the domes.

Contact: FARM SHOW Followup, Zip Tie Domes, 1857 Brindley Hollow Rd., Buffalo Valley, Tenn. 38548 (ph 931 858-6892; contact@ziptiedomes.com; www.ziptiedomes.com).

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