

## Add-On Mower Saves Time

When the width of his trailer limited the width of the belly mower on his Cub Cadet to 48 in., Michael Frisk found a low-cost solution. He built an add-on mower and modified the drive pulley on the belly mower to power it. Quick attaching brackets make it easy to mount for mowing and remove for transit.

"It hooks on in seconds and swings into place," says Frisk. "I pin the brackets, slip the belt on, and I'm ready to go."

To make his add-on mower, Frisk mounted a salvaged mower head spindle to the dome side of an old car wheel. He cut an old mower blade down to 12 in. to fit and cut an exit chute in the side of the wheel.

"I went to a tire shop and said I needed an old beater wheel, even if it had a bend in it," says Frisk. "They were happy to get rid of it. I cut it down to the dome side and filled in the spokes with flat bar steel, spot welding it in place."

The retired heavy equipment mechanic is no stranger to machining and metal fabrication when finding low-cost alternatives. He previously modified a Craftsman riding lawn mower deck to serve as a belly mower for his Cub.

"Cub belly mowers are hard to find in my area and expensive when you do find them," says Frisk. "The Craftsman worked fine with the Cub's belly drive belt system. All I had to do was to add some mounting tabs to the mower deck to match the Cub."

Mounting the add-on required significantly more work. His first step was to weld a 4-in. long, 1-in. pipe in a vertical position to the belly mower deck. It would serve as the main support. Once he figured out how he wanted the add-on to pivot into place for a continuous 60-in. cut, he cut a triangle-shaped support arm out of 3/16-in. thick flat steel. He welded a 3/4-in. rod to the point of the triangle and welded a portion of one edge of the triangle to the add-on mower deck.

"I had to design the support arm so that when I dropped the rod into the pipe, the cutting blade matched the height of the belly mower blades," explains Frisk. "The support arm also had to be long enough for the add-on



**Both add-ons have half-round lawn mower deck wheels for height adjustment. Having them has reduced Frisk's mowing time.**

to pivot sufficiently for the cuts to overlap."

At the point he wanted the two mowers to meet, Frisk welded flat steel bar to each with a gusset to reinforce the bar on the add-on. When the wheel/mower is swung into place, 5/8-in. holes drilled through the flat bars overlap, and he slips a clevis pin into place.

To drive the add-on, Frisk mounted a pulley to the spindle and a matching pulley to the drive pulley on the belly mower. Frisk cut the center out of the latter pulley before spot-welding it to the drive pulley.

"I needed to be able to reach the original pulley bolt head," says Frisk. "I also added an idler pulley with a bungee cord for tension to the Craftsman deck."

Frisk mounted the drive pulley for the add-on to the drive spindle for the Husqvarna's left side blade. He decided he didn't need an idler pulley on the belt.

"The mower head on the Husqvarna droops ever so slightly, eliminating the need for a tensioner," says Frisk.

"It takes 6 1/2 hrs. for one person with a 48-in. mower to do the job," says Frisk. "With 60-in. mowing swaths with our Kubota and Cub and the help of a friend with another Cub, it goes fast."

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## Winch Helps Mini Excavator Remove Trees

Mark Yax figured jerking logs out of the woods with a 6-ton winch on his 5-ton CAT mini excavator would be a piece of cake. Mounting the winch on the excavator house was an afterthought that just made sense. Of course, doing so created complications of its own.

"I've lost many ash trees to the emerald ash borer, and they either are fallen or hung up in the surrounding canopy," says Yax. "I figured adding a winch to my mini excavator would allow me to pull these trees down and out. It rotates 360 degrees with the cab to locate and pull out logs."

Yax's only concern was clearance. There was only about 2 in. of clearance between the bottom of the house and the tracks. There was even less clearance between the house and the bracket for the cylinder that lifts the front blade.

"It was tight but doable," says Yax. "I made a winch mount that was offset and kept the mounting part less than 1 3/4 in. high."

He used 18-in. long, 8-in. channel iron. He removed one 2-in. flange, leaving it about 6 in. wide. It would be bolted to the underside of the house's baseplate.

Yax fashioned two sets of 4-in. wide, 3/8-in. thick steel legs with about 1 1/2 in. of the width extending under and welded to the channel iron. They formed the frame for mounting the winch. He added steel round stock between the sets of legs for added strength and welded right-angle winch mounting plates between the leg pairs.

He drilled four holes in the horizontal part of the plates to mount the winch and two in the vertical part for winch guide rollers. He added 3/8-in. thick gussets out between the leg pairs and the vertical legs.

"I wanted to keep the control box out of the weather, so I mounted it behind the front panel," says Yax. "I did have to move the horn out of the way for the needed clearance."

Another change Yax realized he had to make was to remove a guard over the front



**Yax mounted a winch that rotates with the cab to his mini excavator to clear fallen trees on his property.**

blade cylinder that would have been in the way of the winch mount. He also turned the lift cylinder piston 180 degrees so the grease fitting would clear.

"It would have interfered with my winch bracket when the blade was in the full upright position," explains Yax. "I also added some disconnects to the battery when hooking up the cables, so the winch will only be powered when needed."

"Aside from pulling out logs, if the machine should ever break down, I could disconnect the final drives and winch its way back for repairs or onto a trailer," says Yax. "I figured that if I had to run the cable to a snatch block and back to the machine, I could hook it to the round bar."

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## Battery-Powered Cart Saves Your Back

"I had some back and hernia issues and needed something to help me," says poultry farmer Ken Haller of Lebanon, Penn.

"I came up with the Power Cart Pro, a self-propelled, battery-powered cart that can hold four 5-gal. buckets," Haller says. "The buckets can hold feed, water, and even any dead birds you may find in a chicken house."

The cart is battery-operated and self-propelled, and the farmer can walk behind or in front of it as the cart moves.

It travels forward or in reverse, is made of durable aluminum, has a heavy-duty DC motor, and fits through any door at least 28-in. wide.

"You can run the motor with power tool batteries," he says. "That includes brands like Makita, DeWalt, or Milwaukee, which you may already have on your farm."

The cart has already been a hit with friends and neighbors who've tried it.

"I've made a few for other people, and they loved their carts," Haller says. "I buy the components and put them together myself."

"At this point, I'm shipping them out



**Cart is made of durable aluminum, has a heavy-duty DC motor, and fits through any door at least 28-in. wide.**

locally, but would like to extend that and ship them farther," he says.

The Power Cart Pro sells for \$2,100. Contact: FARM SHOW Followup, Ken Haller, Ken-Di Farms LLC, Lebanon, Penn. (ph 717-228-8267; kendihaller@verizon.net).



**Distance between rotors is adjustable through actuators which allows operator to optimize for any type of grass.**

## Prototype Electric Hay Tedder

In 2018, Frandent, an Italian agricultural equipment manufacturer, began a project to build the E-Spander 600, a completely electric hay tedder.

The 3-pt. hitch-mounted machine with a working width that can be varied between 5 and 6 1/2 meters, is driven by electrical power supplied by a generator connected to the front of a tractor. The generator provides 700 volts to four individual rotor motors sitting atop the tedder.

"The rotation speed of the engine is continuously adjustable from the tractor cab," says Mondino Marco, Frandent's Research and Development manager. "The distance between one rotor and the next is adjustable through 48-volt electric actuators."

He says this allows the operator to vary the crossing between adjacent rotors, maintain-

ing the correct angle between the ground and the machine and optimizing the work for any type of grass or working condition.

The E-Spander 600 will be produced at Frandent's production plant in Osasco in the province of Turin, Northern Italy.

"This machine is a first prototype on which we are carrying out several tests," Marco says. "It's difficult to say exactly when it will be ready for the commercial market, but it will be available in North America."

Interested customers are asked to contact Frandent directly through their website for more information.

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