



To keep the cutterbar clean on his New Holland mower, Dale Rogers modified the air reel from an old combine and then added a blower off a Gleaner sidehill combine.



To mount the air reel, he fabricated a support using the boom off an old crop sprayer. "If the boom hits a solid object, it's designed to break away," says Rogers.

He Uses Air Power To Keep Cutterbar Clean

Dale Rogers uses air pressure to keep his cutterbar clean. The retired farmer and avid ultralight pilot keeps his runways clipped, and the short grass can clog up a cutterbar.

"I noticed that if mowing into a strong wind, the air kept the cutterbar clean," says Rogers. "I figured an artificial wind would work just as well."

So he picked up an air reel from a junked combine and modified it to match his 9-ft. New Holland mower. A blower for the air reel was salvaged from an L Gleaner sidehill model.

The New Holland was ideal for the retrofit as the drive pulley for the sickle bar is mounted to a pto shaft that extends out from the pulley. Designed to allow a second mower

to be connected in series, it was perfect for mounting a drive pulley to the air reel blower.

"I used a 16-in. pulley for the drive and a 4-in. pulley on the blower, but I'm going to replace the drive with a 19-in. pulley for more air power," explains Rogers.

Rogers mounted the blower to the mower frame. To mount the air reel, he fabricated a support boom using a length of boom support from an old crop sprayer.

Rogers first mounted a stub shaft to either end of the cut down air reel. Adjustable pipe in pipe shafts mounted to the stubs and to knuckles on either end of the cutterbar keep the air reel and tubes in position. A turnbuckle on the mower frame end lets Rogers adjust the distance of the tubes from the cutterbar.

"The boom mount is designed to let it pivot vertically and horizontally," explains Rogers. "If the bar hits a solid object, it's designed to break away. The boom mount lets the air reel break away with it."

The support boom pivots on a double action mount at the mower frame. At the far end of the cutterbar, the air reel is suspended from the boom by chain links. The links provide added flexibility when the boom lifts the air reel.

To get the double action pivot, Rogers mounted a square tube with a yoke end to the mower frame as a vertical leg. A short length of pipe on a bolt through the yoke serves as a bearing for vertical pivots. A steel rod welded to the pipe extends up and through a

short length of pipe welded to the ends of the support boom. That length of pipe serves as a bearing for horizontal pivots.

Lift is provided by a heavy-duty coil spring mounted from the mower frame to the end of the rod. When the cutterbar lifts, the spring contracts, lifting the boom.

"The trickiest part was getting the lift while keeping it in line with the mower," says Rogers, who started flying ultralight aircraft when he turned 60. He has two 1/4-mile runways.

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Minnesotan Designs A Safer Hitch Pin

Justin Kelzer has been thinking about making a safer hitch pin since 1999. This February, the 32-year-old Minnesotan introduced the fourth version of his Keep-In hitch pin at the 20th Annual Commodity Classic in Phoenix, Ariz., as one of two finalists of Successful Farming magazine's Innovation Showcase Contest of 2014.

"The main advantage is that it's all self-contained. The key is a safety stop. You're not putting a separate pin in it. A lot of people have told me that when driving in corn stalks and hay fields hitch pin clips get pulled out," Kelzer says. His father had two experiences with pins coming out, causing damage to equipment and a tractor, which led to Kelzer's interest in making something better.

Instead of slipping in a separate pin, Kelzer's Keep-In hitch pin has a handle that you squeeze to retract a key at the bottom.

The pin is a shaft (3/4, 7/8 or 1-in.) with a machine-drilled 1/8-in. hole through it that is counter-bored close to the end for a compression spring and plunger; the plunger is counter-bored so the knob of a bike cable fits flush inside.

"The key has a slot cut into its end for a torsion spring which is held in place by a screw that goes through the shaft," Kelzer explains. "When you squeeze the handle, the cable pulls the plunger up into shaft and the torsion spring makes the key retract."

After receiving input from a manufacturer at an Iowa event that was part of his contest winnings, Kelzer modified the handle to be less bulky.

"I made the handle tougher (3/8-in. rod and flat steel) to stand up better to use and abuse," he adds. "I included a hole in the plate for a padlock; the key can't be pushed in with the handle locked. A lot of farmers need to leave their equipment in the field for



Squeezing the Keep-In-Hitch's handle causes a key at bottom to retract. There's no pin clip that can accidentally get pulled out.

days at a time, being able to lock the pin will hopefully deter thieves and vandals. Also, it will keep children from pulling the pin out of the hitch and causing damage or injuries."

With a patent pending on his design, he welcomes calls/emails from anyone interested in manufacturing it.

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ZTR Puffer air-ride seat can be used on everything from lawn tractors to zero-turn riding mowers and even small compact tractors.

Convert Zero-Turn Mowers To Air Ride

"When my kids got older, I took over mowing and realized how rough our Deere lawn tractor was," says Richard Buehler, who set out to develop an air-ride seat that he calls the ZTR Puffer. "It took a while to find the right airbag. I just remove the mechanical spring and installed the airbag on zero-turn mowers and lawn tractors."

He installed a small compressor and a control valve to adjust pressure. Buehler was impressed enough with the way it worked that he invested in a patent for the idea. Meanwhile, he continued to use his prototype on his 455 Deere.

Initially he intended to license the air ride seat to a manufacturer. "One manufacturer said it was a great idea, but didn't want to put one on until the competition did," recalls Buehler.

He then took it to Auglaize Erie Machine, New Bremen, Ohio. They added the finishing touches, such as powder coating, solid welded construction, laser-formed 11-gauge steel body and a built-in safety valve to prevent overfilling. They make and market the ZTR Puffer for Buehler.

"They've done a nice job with what I started," he says. "The kit has a mounting

plate to fit different makes and models. It's a simple installation. Any guy with a little mechanical ability could put one on in about half an hour."

Buehler reports the ZTR Puffer's being used on everything from lawn tractors to Kubota compact tractors.

Buehler quotes one customer as saying he regularly mows a 5 to 6-acre lawn. Before converting his zero-turn to the air ride seat, he had to quit half way through and walk around.

"Now he mows the whole thing in one session," says Buehler. "One guy put one on his bass boat. He said he had to get the air adjusted just right or a wake would launch him out of the boat."

When a 400-lb. prospect asked if the ZTR Puffer would hold him, Buehler assured him it would. He would simply need to add more air pressure than a man who weighed 150 lbs.

The ZTR Puffer is currently priced at \$399.00.

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