



Protein tubs ride in channels which lower to the ground for delivery. Metal covers the trailer compartment to keep tubs dry in rainy conditions.

## Trailer Designed For Heavy Protein Tub

Lester Evans says he came up with the idea for a trailer to haul heavy protein tubs after a delivery driver told him “there has to be a better way to handle those dadgum tubs.” Evans built a prototype last year, field tested it, and now has it on the market.

“We put a lot of thought into the trailer because there are many different size tubs out there, and we wanted a trailer that could handle all of them,” Evans says. His 2-wheel trailer has a 3,500-lb. torsion axle riding on ST225/75D15 tires. It has a 2-in. ball couple and a front drop-leg jack. The closed bed trailer has a steel “easy slide” bed with a center divider so the tubs ride in a channel. Rear chutes for each channel lower for delivery and raise for driving. Metal covers the trailer compartment to keep protein tubs dry in rainy conditions.

“A delivery driver doesn’t have to leave the truck seat to unload tubs because we built in an electric hoist and remote control tub release system that only lets one tub out at a time,” Evans says. “The driver works the controls from the seat just like a garage door opener.” The trailer can also be towed by a small tractor or ATV.

Evans has three different models available sized for 8, 12 and 18 tubs. Prices range from \$5,985 to \$8,450.

“Just about anyone who’s handled full protein tubs knows it’s a back-aching job, this rig puts an end to that problem,” Evans says. “The trailer is easily loaded with a fork lift and unloading doesn’t require any lifting.”

Contact: FARM SHOW Followup, Tub Hand (ph 254 223-0490; www.tubhand.com).

## Alternative Fixes For Combine Rotors

Ohio crop farmer Ray Bok says worn parts on combine rotors and rotor cages leave valuable grain in the field, so he came up with cost repair parts that he has expanded into 3 different products.

“I came up with the idea because our Case combine was developing holes in the rotor cone after only 400 hrs. in the field,” Bok says. “Buying company replacement parts would have cost close to \$10,000, so I decided to improvise.”

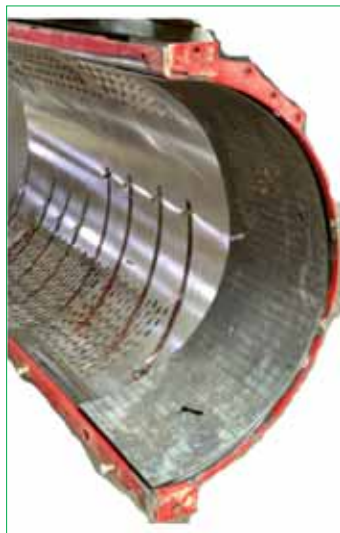
He calls his idea Cone Guard, a cone-shaped device made from 5 panels of 10-ga. abrasion-resistant steel. When the panels are installed inside the transition cone, they perfectly fit the curvature of the old cone. Bok says they provide excellent wear protection on existing transition cones, significantly extending wear life.

“We field-tested the design on both of our machines and others to prove it could prolong rotor life and save on repair costs,” Bok says. “A patented Cone Guard costs about 1/3rd the amount of an OEM repair part. It’s easy to install and provides superior wear protection.”

His second invention is the Cage Guard, which protects the front part of the rotor cage where damage often occurs. It extends 14 1/2 in. from the front of the rotor to just past the first vane. Bok says that when the Cage Guard is installed, the first cage vane still has 3-position adjustability.

A third product is the Cover Guard, a 3-piece shield that’s welded in place on the front rotor cover to overlay holes and weak spots, preventing grain loss.

“We’re farmers ourselves so we know that rotor parts will eventually wear to the point where grain is lost in the field,” Bok says. “Replacing rotor parts with OEM items is expensive. These patented solutions are a cost-effective way to prevent grain loss and



Made from abrasion-resistant steel, Cone Guard provides excellent wear protection on existing rotor cones on Case IH combines.

save repair costs at the same time.”

Cone Guard AR400 is \$1,550, Cone Guard AR500, made of heavier material, is \$1,800. Cage Guard is \$700 and Cover Guard is \$300. They’ve also just introduced a Cone Guard for Legacy Series CIH combines that sells for \$1,550. Price is the same if ordered from the company or through its dealers.

All the products are made in their Ohio shop and shipped by UPS for easy delivery to farmers throughout the country.

Contact: FARM SHOW Followup, Cone Guard, 11111 Lockwood Rd., Sherwood, Ohio 43556 (ph 419 899-3579; www.coneguard.com).



Portable dryer is powered by 2 indirect-fired diesel fuel burners, which blow heated air into the grain through a 12-in. rigid spiral pipe.

## Portable Grain Dryer Slashes Costs

Mike Duns says the portable Cyclone Twin grain dryers can dry grain at a fraction of the cost of conventional dryers. “A Cyclone Twin can pull about one percent of moisture a day from a 5,000 to 10,000-bushel bin for about \$100 worth of diesel fuel,” Duns says.

Unlike conventional dryers that run on LP or natural gas, a Cyclone Twin is powered by two 390,000 btu indirect-fired diesel fuel burners. Fresh heated air is blown into the grain through a 12-in. rigid spiral pipe. The burners cycle on and off to prevent grain from overdrying on the bottom of the bin. Duns says in a typical drying scenario the burners would run 4 to 6 hrs. until they’re turned off by grain temperature sensors. When the burners are off, air still moves into the grain, pushing the layer of heat higher into the wetter grain.

Heated air temperature is regulated by changing nozzles which control the amount of fuel entering the burners. Smaller nozzles are used when ambient air is warmer and larger nozzles for colder air. The company is working on software to automate the system with applied heat and bin sensors.

Duns had two of the Cyclone Twins drying wheat in a 60,000-bu. Saskatchewan wheat bin, reducing moisture content from 17 percent to 13.5 percent while using less than 5 cents per bushel in diesel fuel. The dual burner Cyclone Twin sells for \$22,900 (Canadian) and a smaller single burner Tornado model retails for \$7,900.

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## Water-Filled Fireplace Grate Helps Heat House



Fireplace grate made from black pipe takes heat from upstairs and sends it down to Reinholm’s basement using a small 3-speed recirculating pump.

“I made a fireplace grate that takes heat from upstairs and sends it down to the basement using a hydroponic system,” says Donald Reinholm, Oxford, Mich.

The fireplace grate is made from black pipe. A small 3-speed recirculating pump, which he bought on Amazon.com for \$60, pumps water into the grate and then down through PEX pipe to a small 12 by 12-in. “water to air” heat exchanger in the basement that he also bought on Amazon (\$90).

“When I’ve got a good fire going, I figure it generates about 20,000 btu/hr. A blower turns on at the radiator when the water gets hot enough,” says Reinholm.

He made the grate out of 3/4 and 1/2-in. dia. black pipe, forming it into a grid using T-joints and elbows, with short lengths of capped pipe as legs. Water enters the grate through the 3/4-in. crosspipe at the front, is pushed through the 1/2-in. “capillary” pipes that run to the rear manifold, and then exits through an outlet at the front. Pipes come up through the ash dump hole at the front of the fireplace. He runs 3/4-in. PEX pipe from there to the pump and radiator.

“The flow may not be exactly equal in all the capillary pipes but it’s close and if more water flows through the center pipes, I figure it’s hotter there anyway,” says Reinholm.

The radiator/heat exchanger heats the



Water enters and exits the firewood-holding grate through separate outlets at the front. Heated water is pumped down through PEX pipe to a 12-in. sq. “water to air” heat exchanger in basement (below).



basement nicely and excess heat rises to help warm the floors above.

Water runs through the system at the pump’s lowest setting, about 5.2 gpm. A thermostat that runs from the radiator fan to the hot water pipe turns on the fan when the water temperature reaches 150 degrees. Hot air is blown out through a 6-in. piece of flexible heat duct.

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