



Mel Primrose drags an 8 by 10-ft. nylon tarp along one side of his riding mower to catch leaves as they're chopped up by the mower deck.

Easy Way To "Rake" Leaves

Mel Primrose got tired of lifting heavy bags of leaves in the fall. So he came up with a leaf collecting system that eliminates the need to get off his tractor.

Primrose simply pulls an 8 by 10-ft. nylon tarp along one side of his riding mower so it catches leaves blown onto it by the mower deck. A metal bar extends out from the tractor loader on front of the tractor to hold it.

Lengths of chain on the sides of the tarp provide a bit of weight and keep the tarp flat and straight as it's dragged along beside the tractor.

As Primrose drives along with the mower blade turning, all grass clippings and leaves are propelled onto the tarp and continue to build up there until it's full.

He then drives to his compost heap and raises the front-end loader up high. As Primrose puts the tractor in reverse and starts to back up, the tarp slides out from under a neat pile of debris.

Because the system is 12 ft. wide, he says it works best in large areas of grass. Before hooking up the tarp to his lawn tractor, he goes around his trees and smaller harder-to-access areas, and blows the leaves out in the open. Then, Primrose can later pick them up with the tarp.

"This project was really easy to do," he says. "I like how I can make quite large piles because of having the system hooked up to the loader."



Metal bar extends out from tractor loader to hold tarp.



To unload leaves, he raises the loader up high and puts the tractor in reverse. As he starts to back up, tarp slides out from under the pile of leaves.

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"Steerable" Push Mower

What if cutting the lawn with a push mower could be made a whole lot easier? Thanks to its ultra-maneuverability, an invention by 80-year-old Furney Eubanks of Trenton, N.C. accomplishes that.

"I got tired of tilting the mower every time I wanted to turn," he explains. "My Easy Mower also almost eliminates the need for a weed eater."

The central concept of Eubanks' patented "Easy Mower" is a unique steering system. "The handle swivels and the deck slides left or right, so you can get close to obstacles and don't have to tilt or lift the mower when turning around corners," Eubanks explains. "When you twist the handle, it swings out sideways 6 1/2 inches. It works real sweet – it's just like driving a car. It cuts so close no other trimming is necessary."

The unit has one wheel in the front and two at the back.

Eubanks spent three years of trial and error modifying an old mower, and says it cost him about \$10,000 to build and patent his prototype.

In July, he was featured on the ABC reality show, "American Inventor," where he and his invention gained national exposure in his quest to win the \$1 million grand prize and the AMERICAN INVENTOR title.

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Furney Eubanks shows off the steering system he developed for push mowers. As the handle swivels, the deck slides left or right, so he can get close to obstacles without having to tilt or lift the mower.

Update On Hydrogen Power System

In 2003, FARM SHOW featured a revolutionary "Hydro Power Pak" system for powering vehicles with hydrogen (Vol. 27, No. 4).

The system passes an electrical current through a solution of purified water mixed with an electrolyte, splitting the water into hydrogen and oxygen. These separate gases are then injected into the engine's combustion chamber along with the diesel fuel for cleaner, more efficient performance with higher horsepower.

We recently checked with HyPower to update progress on the commercialization of the system, which is primarily aimed at the agricultural and semi tractor market.

Although HyPower expected to begin marketing the system early in 2004, this didn't happen, and the company is currently still working to perfect their product.

HyPower president Doug Bender says he remains confident that the company will achieve success, but for the past few years, there have been a number of obstacles that have slowed progress.

"In a sense, we've been shooting at a moving target because, although we had developed a unit that worked very effectively, we've had to continue experimenting with newer engines that came onto the market. Engines have changed dramatically – computerization has resulted in a whole different combustion cycle with vastly reduced emissions," Bender explains. "Another roadblock that we hit was the changes in formulation of fuels for diesel engines – for example, low sulfur fuels. Also, different technologies have been released such as exhaust gas re-circulation. Because of these things, we haven't yet been able to achieve a consistent and sub-



It generated a lot of interest but the "Hydro Power Pak" system for powering vehicles with hydrogen is not yet ready for market.

stantial result that we feel is marketable.

"We're continuing to research and are confident that we'll get a product that does overcome these obstacles," he adds. "Unlike some other companies, we want solid scientific research and engineering, so along the way, we've gone to independent third party verification from reputable engineering firms to evaluate our progress."

One positive development is that HyPower has had "very promising results" working with biodiesels. Bender says the company has developed its own process of producing biodiesel mixed with hydrogen that creates "a very intense heat source."

Bender says hydrogen power continues to generate a tremendous amount of interest, and he looks forward to the day when the Hydro Power Pak is finally ready for market.

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A Nebraska cooperative says recycled anhydrous ammonia tanks work great for hauling fuel.

Old Anhydrous Tanks Make Great Fuel Trailers

Want a low cost farm fuel trailer? Check with your local cooperative or anhydrous ammonia supplier. If they have old tanks sitting on the back lot, you could get yourself a deal. Cooperative Producers, Inc., a south central Nebraska cooperative, has found recycled NH₃ tanks to be really popular with their customers.

"We have recycled 35 tanks this year that had no value for anhydrous application anymore," says Steve Rath, Mid Nebraska Lubricants, a division of Cooperative Producers. "Farmers and commercial users alike love the mobility these tanks offer."

Rath says the cooperative has eliminated all its old tanks this year, including any that were questionable. Converting them to haul fuel was easy and took only a few hours of labor.

"Our maintenance crew took out all the valves and put plugs in at the bottom so it would be convenient to drain out any moisture that collected," says Rath. "They steamed them out and let them sit with all the holes

open. Then they welded 2-in. fittings for a vent cap at one end and mounted either 12 or 20-volt pumps on the other end. Once the tanks were sandblasted, a primary epoxy coat and a finish coat were applied."

For the cooperative, it meant investing a couple hundred bucks in labor on pieces of fully depreciated equipment. The buyer gets a fuel tank he can transport and one that, at least in Nebraska, doesn't require a containment area.

"A new 1,000-gal. tank equipped to go on an irrigation pump will cost a farmer \$1,000," says Rath. "We can send these out for \$650. With a high speed pump on it, it will run \$1,230 to \$1,300. I've had guys who wanted 8 to 10 of them, if we had them."

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