



Rotary fork mounts on the push blades of most small utility tractors, making it easy to spread straw in poultry barns.



It takes Campbell an hour to spread straw in a 25,000 sq. ft. building with his rotary fork.

Rotary Fork Makes Straw Spreading Easy

Canadian poultry growers are enthusiastic about a new rotary fork that makes it easy to spread straw in poultry barns. Inventor Scott Campbell plans to introduce it to U.S. poultry growers soon at the International Poultry Expo in Atlanta.

"It's like a thousand tiny pitch forks going round and round," Campbell explains. "The tines are set a certain distance from the floor. If the straw is above this set point it's kicked forward to fill in the next low spot. If the straw is below this level, it stays."

The rotary fork replaces hand spreading, tub grinding and blowing straw — dusty, labor-intensive methods that don't always leave an even layer of straw.

"Flat straw really helps the chicks. If the straw is flat, every chick in the barn has water nipples at the same level, and the starter feed set out on the paper spreads out and is easily accessible to them," Campbell says.

He uses just ½ in. of straw to start his chicks, but his rotary fork will spread straw up to 4 in. deep.

After five years of building prototypes, the Stratford, Ont., chicken producer, figured how to mount the rotary fork on the push blades of most small utility tractors - including Steiner, Ventrac, Deere and Kubota. The blade is left in place and simply slips into a C-channel at the top of the rotary fork. A couple of collars slip around the back of the blade, and the tool is secured by tightening thumb screws - no tools are required. Hook up the quick-attach hydraulics, and the machine is ready to go.

To test his rotary fork during development, Campbell spread straw for free for other poultry growers. It gave him a chance to test the rotary fork on different tractor models and different quality bedding. By early October this year he had raked 1.2 million square feet with the prototypes, and his latest design was holding up well.

"Although fine-chopped bales work best, it will spread any length of straw," Campbell says. "Since last season was such a rough year to put up good straw, I've been

challenged with lots of lumpy material but the rake handles it all quite well."

Campbell had a video made for his website to show how it's done. First he breaks apart the bales with the blade of the tractor. Then he attaches the rotary fork and spreads it evenly. Lumpy straw sometimes requires additional passes. It takes Campbell an hour to spread good straw in a 25,000 sq. ft. barn.

"The biggest benefit is you can do this yourself in a controlled environment. You don't have to rely on big equipment and high repair costs," Campbell says. One chicken producer told him it recently cost \$3,500 just to repair a tub grinder.

"Although I was raised on this chicken farm, I was educated as a mechanical engineer and I have more than 10 years experience in automotive design," Campbell says. "In automotive I learned that you need rigorous testing, bulletproof design and impossibly low cost. That was also my goal with the rotary fork."

He is working with local tool shops that once served the automotive industry to build parts for his rotary fork. He plans to assemble and market them himself.

"My goal is to have the assembled price lower than an enterprising farmer could buy the individual components," Campbell says. "Also, since I have set my eyes on a large geographical market, all parts on the rake need to be readily available at farm supply stores and dealerships."

He plans to sell the 5-ft. 8-in. wide rotary fork for \$3,500. He's also building a 7-ft. wide model. The rotary forks should be on the market by the end of this year. Campbell is interested in hearing from distributors in the U.S. and Canada.

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Tim Mack converted the factory-supplied incandescent warning lights on his tractor to mini, high intensity LED lights.

Bright LED Lights Make Road Travel Safer

"After 25 years as a paramedic, I've seen an increasing number of traffic accidents involving farm equipment. This idea greatly increases visibility on the road," says Tim Mack, who recently converted the factory-supplied incandescent warning lights on his tractor to mini, high intensity LED lights.

"We installed a 3-LED amber light head at each corner of the tractor cab, two on front and two on back, and wired them to flash at the same time. The lights are visible for a mile or more, even on sunny days. They're very durable and have a low current

draw. Makes me wonder why farm equipment manufacturers haven't yet picked up on this idea themselves."

He says his total cost was about \$250, and installation took two to three hours. He bought them from Northern Safety Technology in Farmington, Minn., (ph 651 460-1292).

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To keep valve stems from snapping off on his skid loader, Cassidy welded a threaded gas pipe nipple over them.

Pipe Nipples Keep Valve Stems From Breaking

Jim Cassidy, Nokomis, Ill., got tired of valve stems snapping off on his Bobcat skid loader, which is equipped with metal tracks over rubber tires. "To replace a broken valve stem I had to remove the tracks to take the wheel off. It was quite a job," he says.

He solved the problem by welding a threaded gas pipe nipple and protective cap over the valve stems on all four wheels.

"I even had gas pipe nipples welded onto a new skid loader that I ordered recently. It's a simple modification that totally solves the problem," says Cassidy. "The metal in the gas pipe nipple is about 1/8 in. thick so it

can take much more of a beating without breaking off."

Cassidy came up with the idea after breaking up a concrete floor. "Small pieces of concrete got trapped between the tracks and tires, snapping the valve stems off," he says.

"To put air in the tires I use a small wrench to loosen the caps on the gas pipe nipples," he notes.

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