

“Spider Hitch” Cuts Rake Time In Half

“I cut my haying time in half compared with what it took using a single wheel rake,” says Kevin Kuhn, about the double rake hitch he built to pull two New Holland 9-ft. side delivery rakes.

The Oconee, Ill., farmer built the “spider hitch” from 4-in. sq. tubing. It rides on two wheels and has five vertical legs and cross bracing that makes it look like a giant spider. The unit folds to a transport width of 15 1/2 ft. Kuhn uses his 100 hp Deere 4020 tractor to pull it.

“It allows me to rake whatever width I want. I can double windrow with it, too,” says Kuhn.

Both rakes are right hand delivery models, and each one is pinned to an L-shaped leg. A pair of hydraulic cylinders mount on stationary cross members at the center of the hitch. The cylinders are used to move the legs along a bar on front of the hitch, which causes the rakes to move in or out.

The hitch is equipped with a two-lever hydraulic control valve on back. One lever is used to extend or retract the cylinders. The other lever is used to operate the rakes’ hydraulics.

“I built the hitch because my 4020 has only

a single remote outlet, and I didn’t want to tie up my dual outlet tractor. To build the hitch, I first made a working model by using 1/9th-scale toy rakes.

“The gauge marks on the cylinders indicate where the single or double rake should go. By mounting the valve on the hitch I’m able to get by with the single hydraulic outlet.”

Kuhn says the hitch design allows him to minimize running his tractor wheels over the swaths. “I use the hitch to affect four swaths at a time. If I want I position the rakes to move two swaths onto two other swaths, and keep going back and forth that way until I reach the center of the field. Then I reverse the rakes and go back the other way. That way, the first windrow I raked was my wettest but by the time I get done the driest hay goes onto that same windrow. It lets me ‘average out’ the moisture without raking hay that’s either too wet or too dry.

“In a conventional raking system if you start raking when the hay is too wet, you finish with the hay too dry. With my hitch by the time I reach the center of the field and start going back I’m throwing dry hay onto wet hay.”



Kevin Kuhn’s “spider hitch” rides on two wheels and has five legs. “It allows me to rake whatever width I want. I can double windrow with it, too,” he says.

Another advantage, says Kuhn, is that the rakes closely follow the ground contour. “The rakes are in the same place they’d be if they were hooked to a tractor, so they follow the ground contour without gouging the ground

or missing any hay,” notes Kuhn.

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Home-built 30-ft. long, 12-ft. high elevator is used to load silage bales into Clavin’s tub grinder.



Bales are moved up the elevator by 5-ft. wide manure spreader floor chain.

By C. F. Marley, Contributing Editor

Big Bale Elevator Safely Handles Silage Bales

“I built it as a safer way to load big round silage bales into my tub grinder and also remove the net wrap from them,” says Matthew Clavin, Rosamond, Ill., about the 30-ft. long, 12-ft. high elevator he built to handle big round bales.

Clavin grinds big bales every day to feed to his dairy herd, which is kept in confinement. In the past, they used a loader tractor equipped with forks to lift the bales up to the top of the grinder, where someone removed the net wrap.

“It got to be quite dangerous. Also, when removing the covers the loosest hay would

start to fall apart, which resulted in a lot of waste,” says Clavin.

To solve the problem, he sought out Royal Weber, a well known local welder and innovator. Weber suggested building a 12-ft. high elevator using a 5-ft. wide manure spreader floor chain and flights to move the bales. He also recommended full 12-ft. length framing at the high end of the elevator to keep it stable.

To move bales at the right speed, they mounted a 2 1/2 hp single phase electric motor on the upper left side of the elevator. The motor belt-drives a gearbox that turns at a 450 to 1 ratio.

“Now one man can get into the elevator when it’s not moving and remove the bale covers. It’s a much safer procedure than before,” says Clavin.

The elevator floor is 5 ft. wide and is made from tongue and groove wood. It has sheet metal sides. At the bottom of the elevator is a pair of metal ladders and a platform, which the operator stands on to take the net wrap off the bales. He presses an electric switch to turn the elevator on or off.

“As soon as I cut the net wrap off, the bale starts falling apart onto the conveyor so there’s nothing left on the ground. It’s not

unusual for 200 lbs. of hay to fall off each bale,” says Clavin. “But the main reason I built it was for safety. It was dangerous to stand on top of the mixer, 11 ft. up in the air, while cutting off the net wrap.

“I usually load two bales at a time onto the conveyor. It takes about two minutes for the bale to reach the end of the conveyor.”

Clavin says he spent about \$8,000 to build the elevator.

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Add-On Dual PTO For Stationary Engines

Why settle for either 540 or 1,000 rpm pto shafts on stationary engines when you can have both? Heavy-duty Tayloria dual output gearboxes are available from Beiler Engine & Manufacturing.

“Our first prototype was installed in the fall of 2003, and it’s still working,” says Jesse Beiler. “Many tractors have the option of the two speeds. This gearbox lets stationary engines have that option, too. Our customers use them on both mobile and stationary power sources for use with irrigation pumps, manure pumps, silage blowers and many other uses.”

Beiler says the dual output unit is priced at

\$391 and is rated for up to 175 hp at four engine speeds - 1,800, 2,150, 2,400 and 2,600 rpm’s. The cast iron clutch housing is available in sizes no. 4, no. 3 and no. 2.

He says the unit is simple to install and fits most SA standard diesel engines. The unit is available with 11 1/2-in. single or 11 1/2-in. double plate mechanical clutches.

Beiler says they also offer a single output unit that’s rated at up to 250 hp. It has only one set of gears and can be run at either 1,000 or 540 rpm’s, depending on the needs.

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Heavy-duty Tayloria dual output gearboxes are available from Beiler Engine and Mfg.