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Evans can steer the twinned tractors from either seat, using either engine. He can only power up one of the tractors at a time.

## "Hybrid" Tractor Combines Deere And IH Models

First David Evans learned how to "twin" a pair of Farmall H's. Then the York, Penn., man put his knowledge to use on a pair of Farmall C's (Vol. 30, No. 4). But for his latest effort, he decided to try something different. He put together a 1942 Farmall H and a 1945 John Deere B.

"I call it the Hybrid. It was a challenge to build, since these were two completely different tractors. The axle housing of the Deere B is part of the main tractor. The axle sizes on both tractors weren't the same, either. But I can drive the finished product and steer the

unit from either seat, using either engine," says Evans. "Each engine has its own clutch and transmission. However, I can't run both tractors at the same time because the two engines run at different rpm's and it would be too difficult to get the transmission gears and engine speeds to synchronize."

The steering ratio of the gearboxes on both tractors was different so that was another challenge to overcome. "Like the Twin H and Twin C, this unit measures less than 8 ft. to the outside of the rear wheel so I can haul it on either a truck or a trailer," says Evans.

The Twin H and Twin C have been in many shows and parades in Pennsylvania. They're real crowd pleasers. Evans is sure the new Hybrid will be, too.

A chain connects the two steering columns together. "The gear ratio on the steering shafts is different for the two tractors. So in order to make the two steering wheels turn the same, I had to use different size sprockets," says Evans.

"When I drive the tractor I drive one tractor for a while, then put that tractor's transmission out of gear, slide over onto the other

tractor, and put its transmission into gear."

The Hybrid is quite a conversation piece at antique tractor shows, says Evans. "Whenever I go to an International Harvester show, the people there say it's a shame that I put the two together. Deere people say the same thing at their shows. I drive the IH tractor at IH shows and pull the Deere tractor with me, and I do the opposite at Deere shows."

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Adjustable bale feeder is designed with a pair of panels on opposing sides that lay over bale and are let down by turning a crank.

## Adjustable Bale Feeder Minimizes Waste

Bill Kurtz got tired of watching hay go to waste outside his round bale feeder. Horses would pull large amounts of hay out which would fall onto the ground to get stepped on and wasted. So he came up with his own patented "waste less" bale feeder that's different from any we've ever seen.

"It allows you to control the amount of hay your horses have access to by simply turning a crank. The animals will use much less hay than before or only as much as you allow them to eat," says Kurtz.

The patent pending bale feeder was designed for horses but could be adapted for other livestock, says Kurtz, who also plans to develop feeders for both large and small square bales.

The feeder is designed with a pair of panels on opposing sides that lay over the bale and are let down by turning a crank. The panels are equipped with vertical metal rods. The space between the rods can be easily changed to accommodate large or small animals by removing two bolts and sliding them closer together or farther apart.

"It allows animals to eat only as much as you want them to because the animal can only

get its muzzle in between the rods. It can't reach down and bury its head in the hay, then pull out large amounts," says Kurtz. "The horses eat over the top of the bale and pull very little out. If they do pull some out you don't have to let the panels down until they clean it up. In most cases you only have to turn the crank down a half turn once or twice a day, depending on the number of horses you're feeding."

The feeder is designed so that one end of it opens via a pair of doors. That way you can place the bale into the feeder without having to go over the top. Or, with the doors open, you can use a vehicle or winch to pull the feeder over the bale. An automatic control will be available later, allowing you to leave for several days and not have to manually let the panels down. Or, you can just let the panels fall uncontrolled. However, then the animals eat and waste more.

The bale feeder sells for less than \$1,500. No plans for building your own are available.

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Merge a garden cart with a mountain bike and you get this 3-wheeled, pedal-powered "chore bike", says Keith Ferdon, who says it's a fun way to move big loads.

## Pedal-Powered "Chore Bike"

Keith Ferdon, Motley, Minn., merged a garden cart with a mountain bike to build a 3-wheeled, pedal-powered "chore bike" that he uses on his farm.

"It comes in handy for hauling loads around our yard. My daughter and her cousins also enjoy getting rides in it," says Keith. "The idea is based on some bikes that I saw in Europe while in the military."

The chore bike rides on the cart's two 28-in. wheels on front and on the bike's rear 26-in. wheel. It steers on a homemade pivot point that's located just ahead of the front axle.

He started with an old adult-size mountain bike that he already had and bought a kit to build a garden cart. He cut off the bike's frame just ahead of the seat post and threw away the handlebars and front wheel.

He used the bike's front fork assembly and a pipe to form the pivot point. He cut the front forks down flat, placed them upside down, and welded them to a steel plate that's bolted to the bottom of the cart. A pipe goes down from the center of the bike's steering column and between the forks. The garden cart's axle is welded to a metal frame that's bolted onto the rear part of the bike's frame.

The garden cart was originally designed with a metal handle that came straight out from the bottom side of the cart. The open end of the cart faced the operator. He turned the cart backward so the open end is now in



Chore bike steers on a homemade pivot point located just ahead of the front axle.

front, and he relocated the handle, bolting it on back of the cart and bending the handle at a 45 degree angle toward the operator.

"It works great for carrying bulky items and anything else that's hard to haul such as insulation, garbage cans, etc.," says Ferdon. "I've even used it to haul up to 200 lbs. of firewood. I made another chore bike for my daughter out of a little kid's bike, and she really enjoys riding it. It was my prototype to see if the idea would work."

"The bike's shifter was broke so I left it in the lowest gear. It pedals fairly easily and I can go up hills if they're not too steep, even with a load," notes Ferdon.

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