"No problems with cheap material or under-engineering when you build your own," says Chris Brunswig of his 3-pt. hitch.

Homemade 3-pt. Hitch For Farmall M

"Other add-on 3-pt. hitches for my Farmall M were much too expensive, so I decided to build my own," says Chris Brunswig, Galesburg, Ill. "It was a 9-month challenge to build the first prototype, but after that it was just the machining that took time.

"I originally bought the Farmall as a hobby restoration project. I used it to pull an old homemade water tank, but when I bought a 3-pt. blade, I couldn't use it without adding a hitch.

"Most aftermarket hitches were built too cheap or under-engineered for my liking. Mine is made from 9 ft. of 1-in. barstock and 7 ft. of 4 by 4 angle iron.

"The only part I don't fabricate myself is the Cat. II weld-on ends and Cat. I top links.

"So far I have designed three different 3-pt. hitches, one of which is easy and super cheap to build," he notes. "In the near future I will have blueprints available so people can make their own like I did."

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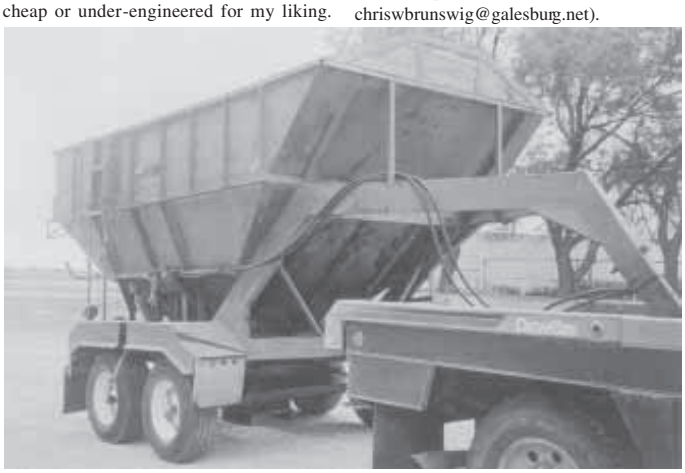

"Hopper saves me $5,000 a year, but only cost $700 to build," says Keith Kisling.

He Uses "Super Hopper" All Year Long

Fill center pivot wheel ruts in alfalfa fields with sand. Fill grain drill hoppers at planting. Haul grain from the field at harvest.

You can do all that and more with the gooseneck cart built by Keith Kisling of Burlington, Okla.

"Anyone who has pivot irrigation for alfalfa knows how much trouble irrigation tracks are," explains Kisling. He realized that with a little work on his grain cart, he could fill ruts with sand without disturbing the alfalfa on either side. Its design, with all four sides sloping to the center trap, made it ideal.

"The two-axle grain cart had a manual arm lever on the trap gate," explains Kisling. "We revamped the linkage and put a hydraulic cylinder on it so we could open and close the gate from the tractor or pickup cab."

The cylinder needed to have a long reach, but not much pressure, so he took one off an old Wilrich plow. Kisling then built a 12-in. deep, horseshoe-shaped drag out of flat iron and mounted it around the gate. He also reinforced the gate itself and the brackets it is mounted on.

"My drag is 12 in. deep, but the proper size depends on the height of the gate from the ground," explains Kisling. "I wanted it to leave a ridge of sand about 4 in. above the surface of the field. Even after I drive over it with a tractor wheel to pack it in, it leaves a ridge. As the sprinkler comes overhead, the water will run off it instead of back down the track valley."

Kisling also reinforced the fifth wheel hitch he had previously installed for safer use with a pickup.

This past summer he ran 12 semi-loads of sand through the cart.

Altering the grain cart for use as a seed cart for filling grain drills was simple. It required installing a 4-in. by 12-ft. auger through a hole cut in the hopper. A flex hose on the end makes filling the drill easy. When not used for seed, the auger is pulled out and the hole covered.

"I think it has saved me $5,000 per year on farm operating expenses," estimates Kisling. "The cart was worth about $500 and the hydraulic cylinder about $50. The metal was worth about $50 and the auger about $100."

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Air-Powered Water System

A Michigan farmer says the air-powered water pumping system be set up for his own use worked so well, he decided to put it on the market.

It consists of a windmill that drives an air compressor. The pressurized air is then used to bring water up from an ordinary well.

"With this system you always have fresh water, versus filling a cistern with water and drawing from it," he says. "There's no cost to run it and it's virtually maintenance-free."

Miller's 40-ft. windmill has a 10-ft. diameter rotor that drives a pressure lubricated, low-rpm air compressor located at the top of the windmill. Air lines run down to a 250-gal. air tank made of an old propane tank.

When Miller turns on his water tap in the house, it triggers the release of air pressure from the tank, which pushes water into the house. He says it's quiet with no electric pump running. An air-powered displacement pump down in the well brings up the water.

"If the windmill breaks down or the wind doesn't blow, you can use a small air compressor as a backup system to recharge the air tank," he says. "Our 250-gal. air tank works well, but we're planning toinstall a 2,500-gal. tank which will be enough to keep the water running for 14 to 20 days if the wind doesn't blow."

Miller's windmills all have stainless steel and aluminum frames. He purchases the rotor heads from a windmill manufacturer and buys his towers locally.

Stainless steel and aluminum frames give Miller's windmill stability and long life.

"You can locate the windmill up to a quarter mile away from the well," says Miller, who spent about $4,650 on his system. "The benefit of that is that you can put the windmill at the top of a hill or wherever the wind blows the best. This system works on any size up to 300 ft. deep."

The systems that Miller sells include the head, 200 ft. of 1/2-in. pipe, and an airlift pump. Prices range from $2,795 to $4,195.

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Home-Built Old-Time Cider Press

"While reminiscing some time back with my brother Brian we remembered how great it was to make homemade apple cider on a press, especially on cold winter days," says Jim Shephard. "By the end of that evening we had a plan to build our own press that we could share with our families for many more years to come," he says.

"The basic frame is made of 4-in. square tubing and measures 48 in. tall and 38 in. wide. The gussets, table and press plates are made mostly from 3/8-in. stock sheet steel. We used stainless steel for the guide-rods that fit in machined tubes that were bored out to accept pressed-in bearing guides. A 12-ton hydraulic jack provides the power," says Shephard.

"The juice drains out on a plywood board drilled and routed out for drainage and coated with many layers of shellac. The juice falls into a strainer funnel and through to a bucket.

"The only pre-processing we do is grinding, which is taken care of with a 1 hp garbage disposal, that's used only for the press. We lowered the height of the cutting blade by half to reduce wear on the motor," Shephard notes.

"The pulp is layered into three 42-sq. in., 100 percent cotton sack cases. The cases are placed between squeeze boards and shoved under the press plate. One switch turns the press on and produces about 2 1/2 gal. of cider per bushel. We store the cider in plastic jugs," says Shephard.

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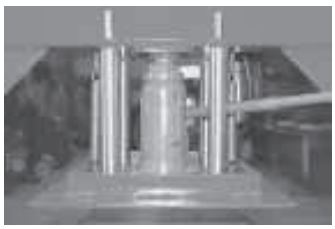
Shephard combined steel, plywood and a hydraulic pump to make a cider press.



About 2 1/2 gal. of cider can be pressed from one bushel of apples using this 12-ton hydraulic jack.

Three cotton sacks hold the pulp as it's squeezed into juice. Any juice left over is stored in plastic jugs.