

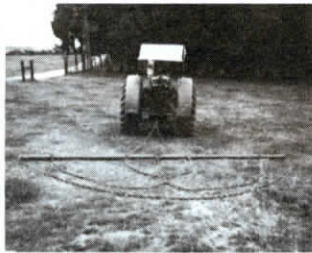
## Rust-Proof 21-Ft. Drag Harrow

"It's rust-proof and built heavy enough to do a good job," says Roslyn M. Galloway, Roebuck, S.C., who used lengths of heavy-duty chain to make a 21-ft. long drag harrow.

The drag harrow consists of a 4-in. dia. steel pipe that's closed on both ends so it can be filled with 10 gal. of used oil as well as a 2-in. dia. pipe to provide extra weight. A pair of heavy-duty chains drag on the ground behind the pipe, with the longest one extending the full length of the pipe and the other two positioned a couple feet inside it.

"It keeps the soil level and free of clods which helps keep my disc mower from getting damaged," says Galloway. "I make a pass with a disk harrow, then use my drag harrow to level the ground before I plant. I farm heavy clay soil that clods up bad so it takes a lot of dragging to level it down. I figured that if one chain does a good job of dragging, two chains would do an even better job. The entire harrow weighs about 800 lbs.

"I got the chains free from the steel



making company where I work. The chains have 6-in. long links that, when cut off, make great clevises because they don't tangle up easily."

Galloway screwed a cap onto each end of the 4-in. dia. pipe, then drilled a hole into the cap and used an I-bolt to bolt on a steel plate. To make clevises, he cuts off a link and then notches it just enough so that he can get it inside the eye-bolt.

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## Fan-Driven Grass Seeder "Does Perfect Job"

A Manitoba farmer used part of an old grain drill and a squirrel cage fan out of an old Deutz tractor cab to put together a low-cost ground-driven broadcast grass seeder.

Douglas Watson, who farms near Eriksdale, cut a 2-ft. section off the end of a Van Brunt drill and then closed up the open end. He mounted the box on a trailer frame that's supported by wheels off an old Dodge car. He then bolted a 12-volt, 2-speed fan upside down under the box, which has three seed cups. He left the middle one open and closed off the other two. A wheelbarrow wheel that runs against one of the car wheels chain-drives a shaft that belt-drives the seed box drive shaft. To engage the seeder, Watson pulls a lever that drops the wheel down onto the car wheel, then flips a switch on the tractor to turn on the 12-volt fan.

"It does a perfect job seeding," says Watson. "I use it to seed alfalfa, sweet clover, timothy, etc. The box holds about 100 lbs. of grass seed which goes a long way since I seed at about 4 to 5 lbs. per acre. I use a length of curved sheet metal to funnel the seed into the center of the 5-in. long fan blades. I usually run the fan at the highest speed. It spreads seed about 25 ft. wide. A curved section of clear plas-



tic mounted ahead of the fan deflects seed that's thrown forward. To change seeding rates I simply adjust the opening on the box. I pull a 6-section harrow behind the seeder to cover the seed and to make a mark for the next round.

"I used angle iron and channel iron to make the frame, welding the Dodge hubs to either side. My only expense was for the wheelbarrow wheel."

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## Chute Carries Hogs To Second Deck On Semi-Trucks

After he got tired of prodding stubborn hogs up ramps inside semi-trucks to get them to the second deck, Gregg Sauder, Tremont, Ill., built a chute that he can raise to the second deck level by cranking a winch.

"It lets me load hogs into any size truck with equal ease," says Sauder.

The 35-ft. long chute is raised or lowered by cable threaded through pulleys on a steel I-beam mounted across a pair of 18-ft. wood posts. A pair of angle iron brackets bolt to both posts at two different levels - one about 4 ft. high for straight trucks and the lower deck in semis and one 12 ft. high for semi upper decks. A steel pipe is inserted through the brackets under the end of the chute to lock it into position at either level.

"Hogs walk right up to the second deck of the truck without stopping at all," says Sauder, who buys 1,500 to 2,500 feeder pigs per year and feeds them to market weight. "In the past they would get inside the truck and just stop because they didn't want to go up the steep ramp.

"The cable is double pulleyed to make it easier to crank up. We use a skid steer loader to help lift the end of the chute to take pressure off the crank. The chute is wide enough for two hogs side by side so if one stops, the other one can go around him. There's room for at least 20 hogs on the chute at once. An 18-in. wide steel catwalk is mounted outside one side of the chute so I can help hogs keep moving."

The 6-in. sq. wooden poles are set 4 ft. in the ground and mounted on concrete footings. The bottom of the chute was built with 4-in. sq. steel tubing with cross members spaced 35 in. apart. Angle iron braces



are welded between them. A steel mesh floor is welded to the framework. The chute's 36-in. high tin sides are supported by vertical 1-in. angle irons. Handrails at the top on both sides are made from 1 1/2-in. angle iron. The lower end of the chute rests on a concrete pad. A pair of creosote posts keep the chute from sliding back whenever it's raised.

Inside the chute are two gates made from 3/4-in. plywood - one at the bottom and one about half way up.

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## Easy Access Tractor Step

"The steps on Deere 20 series tractors are too high for almost anyone to use comfortably," says Pat Michels, Chippewa Falls, Wis., who came up with an add-on step that makes access easier.

Michels got the idea after his brother had back surgery and couldn't get onto his 4020 tractor. The idea worked so well he's made the modification on several other 4020's and a 3020. It should also work for 3010's, 2510's, and other models, he notes.

He finds old steps at a scrap yard and makes new, heavier side rails for the exist-

ing top step. Two vertical pieces run from the new side rails on the top step down to the add-on step, which fastens to the top step with two bolts. "That way, we can quickly remove the extra step if we need more ground clearance, such as when cutting firewood in the woods," says Michels, noting that the bottom step is 20 in. off the ground.

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## Little Black Box

"I'm a fish farmer and I need power 24 hrs. a day for my operation. I put together this little black box that lets me know when the power goes off at any time of the day or night," says Doug Holmes, Gunton, Manitoba.

"It's easy to make yourself. The parts are available from any electrical parts supplier and the wiring is simple. There are no transistors, resistors or other hard parts to wire in. It simply plugs into a 110-volt wall outlet.

"It consists of a 120-240-volt coil relay and a 9-volt battery powered buzzer. The relay is wired through the coil and a regular male plug plugs into the wall receptacle. As long as the power is on, the electrical current holds the relay open. If



the power goes off, the relay closes, activating the 9-volt buzzer circuit.

"The battery usually lasts 2 or more years depending on use. Once a month, I pull it out of the wall receptacle to test it. If the alarm is ever activated because of a loss of power, there's a toggle switch on the unit so you can shut off the alarm without pulling it out of the receptacle.

"I make these units for sale for \$39.95 (Canadian)."

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