

## Rebuilt "Double Frame" Drill Clears Trash, Folds Hydraulically

"My rebuilt drill folds easier, and does a better job clearing trash than any drill on the market," says David Anderson, Dresden, Kan., who converted his 32-ft. three-section Crustbuster hoe drill to a "double frame", hydraulically-folded model.

The drill, whose side wings fold vertically, originally folded forward by hand and had problems in the field, says Anderson. "The universal joint at the hinge wore prematurely, causing the outside seed boxes to plant unevenly. Also, the configuration and spacing of the drills' "C" shanks often caused trash clog-ups. To keep the shanks from plugging up, I had to disk ahead of the drill, which wasted soil moisture.

"Adding a second toolbar ahead of the frame helped in several ways. It let me mount the outside seed boxes ahead of the center boxes so I could fold the drill hydraulically, and it let me spread shanks out for better trash clearance. I rebuilt the original "C" shanks, lengthening them by 12 inches and straightening them for better trash clearance. The drill now plants all kinds of grain uniformly, works well in heavy trash, and is easy to fold."

Originally, the drill was equipped with two rows of staggered "C" shanks with 10 in. of lateral clearance between shanks. When Anderson added another frame in front, he moved some of the shanks ahead. There now are three rows with shanks

spaced 30 in. apart in each row. There's still 10 inches of lateral clearance between shanks, but the shanks are spaced further apart, front to rear, for better trash flow.

Anderson cut off the bottom 4 in. of each "C" shank and replaced it with a 16 in. length of 1 1/4-in. dia. pipe. Then he welded an Acra-Plant drill point on the bottom of each pipe. "The rebuilt shanks let us raise the drill 12 inches higher, allowing thistles and weeds to pass through instead of clogging up like they did before," says Anderson. "The shanks double as seed delivery tubes, eliminating the need for boots. The rebuilt shanks have seeded about 4,500 acres with no breakage and the Acra-Plant points show hardly any wear."

A pair of 24 by 4-in. hydraulic cylinders is used to fold the drill.

The drill originally folded to a 17-ft. width. It now folds to 15 ft. 6 in. wide.

Weatherstripping and latches, installed under the lids of the outside seed boxes, keep grain from leaking out during transport. Anderson put together a second rebuilt Crustbuster drill, which folds forward, for a neighbor. He says he'll build the drills on a custom basis.

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Note the high clearance of rebuilt drills and the 1 1/4-in. drop pipes welded to bottom of "C" shanks.

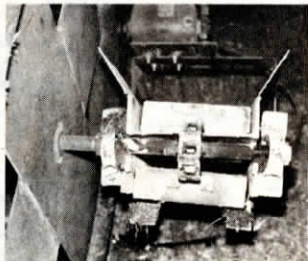
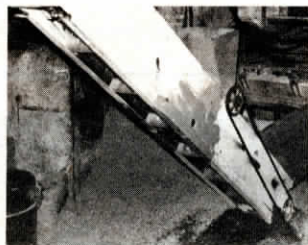
## Heavy-Duty Feed Conveyor

"At 1/3 the price, I think my home-built feed conveyor-elevator will outlast 3 other conveyors and have 3 times less trouble," says Louis Wuest, Oshkosh, Wis., about the 16-ft. long feed conveyor-elevator he built to carry haylage, corn silage and grain from his silos to bunk feeders.

"I fashioned the trough and chain return out of 10 by 6 by 1/4 in. I-beam, 2 1/4 by 3/16-in. angle iron, and 4 1/2 by 1/8-in. flat iron. The I-beams were laid back-to-back to form an H-beam. I then welded the flat iron pieces to the top side of the H-beam at a 45° angle out from the sides of the beam to form the feed trough. I welded the angle iron to the bottom side of the beam to form the chain return. The chains and paddles were made by a local chain supplier. The shafts, gears and bearings were all bought off-the-shelf from local suppliers.

"I attached angle iron brackets to the driven end of the beam to support the bearing blocks and sprockets. The electric motor belt-drives a home-built 38-in. dia. pulley, which I used to obtain the proper chain speed and to reduce the number of parts required. I made chain tighteners by slipping 1-in. sq. steel stock into square metal tubing and installing adjustment bolts. I cut into the beam on either end to install shafts and sprockets. There's a feed drop-out door at center which can be opened with a sliding plate."

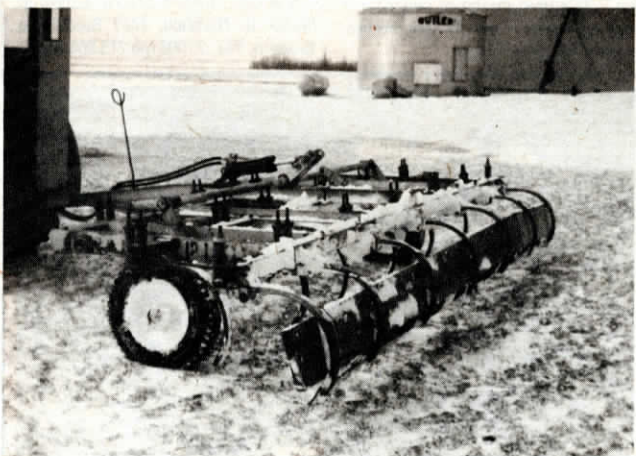
Wuest also built his own supplement feeder and mounted it a few feet from the base of the feed conveyor. "I cut grooves in a wringer roller from a wringer-type washing machine and mounted it in the bottom of a U-shaped metal hopper that's



got an open slot in the bottom. A pulley on the end of the wringer roller is driven by a shaft off the conveyor chain drive to evenly apply supplement to feed.

"We built our own feed elevator because we needed a heavily-built conveyor that would last longer and not wear out as fast from barn and feed moisture. It's 16 ft. long and cost about \$400 to build. We've used it for 6 mos. with no problems."

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## Chisel Plow Scraper Blade

"You can use any high-clearance chisel plow to make a handy, effective scraper blade for clearing snow and grading dirt," says Charles Rader, Cando, N. Dak., who used a Graham Hoeme plow to make his home-built rig.

"I first removed all the shovels, leaving the shanks in place. Used steel grader blades were then bolted across the full width of the rear row of shanks, matching the shank holes to holes in the blades. Just above the blades I attached 2 by 12-in. wood planks. (Since the accompanying

photo was taken, Rader has replaced the wood planks with 30 gal. spray barrels. He cuts the barrels in half and bolts them in place. He says they work great because they fit the curvature of the shanks.)

"No changes were made in the hydraulic lift. You just raise the chisel plow to unload. The shanks left in place ahead of the rear blade break up packed snow and dirt to make the unit more effective."

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