

MOWER SECTIONS WELDED INSIDE PIPE ABOVE BLOWER

Modified Silo Blower Cracks Shelled Corn

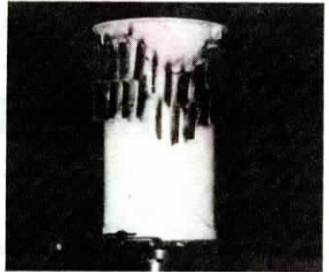
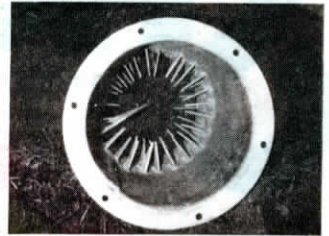
You've never seen anything like the shelled corn cracker made by Kendell Hardies, Hillman, Mich., who welded 50 sickle sections into the sides of an 18-in. long, 9-in. dia. pipe and then mounted the pipe between the silo blower and blower pipe leading up into his silo.

The cutting edges of the sections extend into the pipe where they crack high moisture corn as it's blown up through the pipe and into Hardies' 16 by 45 ft. concrete silo.

"It's an economical method of grinding high moisture shelled corn because it eliminates the need for a recutter blower or a roller mill," says Hardies. "The mower sections extend 1 1/2 to 2 in. inside the pipe, leaving a 5-in. dia. opening up the center of the pipe which is still wide enough that we can feed corn in as fast as the blower will take it. The mower sections crack at least 85% of the corn, and what's cracked is really cracked. However, we'd like 100% of the corn cracked so we may weld 25 or 30 more sections onto the pipe to avoid missing any corn."

Hardies originally tried cracking corn by using an International 650 forage harvester equipped with a recutter screen, but it went too slow and he didn't want to tie up his forage harvester at the silo. "I do own a roller mill, but it doesn't have enough capacity and a higher-capacity model would cost \$5,000 or more. I already had a forage harvester extension pipe which just happened to be the same diameter as the silo blower pipe and it was more suitable for welding than the blower pipe because it's built from heavier gauge metal."

Hardies ground the paint off the extension pipe, then used a cutting torch to cut two rows of 2-in. long slots. He inserted a mower section into each slot, just far enough so all of the section's sharp edge extends inside the pipe. Then he used a wire feed



Fifty sickle sections extend 1 1/2 to 2 in. inside the pipe where they crack high moisture corn as it's blown up through the pipe (top). Sections are staggered for better contact with corn (above).

welder to weld the sections to the pipe. The mower sections are staggered so that each section splits the difference between a pair of sections in the opposite row. To crack corn going up the center of the pipe, Hardies made two longer blades by welding the tips of four sections together. "I hoped that the longer blades would not only crack some corn, but also divert it to the other sections for further cracking, but it doesn't seem to do that. I may try to weld a small tapered cone inside the center of the pipe, just below the sections, to divert corn to them."

Contact: FARM SHOW Followup, Kendell Hardies, Rt. 2, Box 179, Hwy. 451, Hillman, Mich. 49746 (ph 517 742-3045).

FLATTENS 55 GAL. DRUMS IN SECONDS

Build-It-Yourself Can, Barrel Crusher

If you've been looking for a good way to get rid of empty chemical barrels, you'll like this giant can and barrel crusher developed by North Dakota State University ag engineer Vern Hofman.

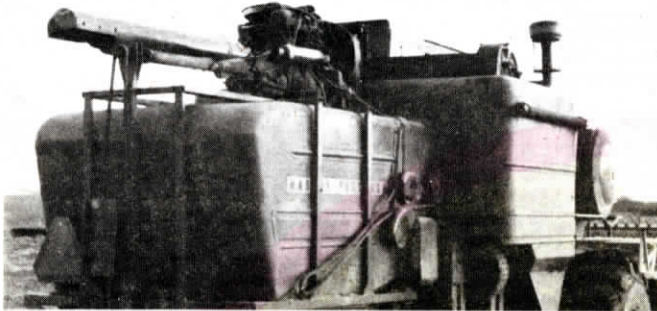
The barrel crusher mounts on a tractor 3-pt. and consists of a 3-in. cyl. with a 36-in. stroke anchored in a frame made from square steel tubing. The barrel sits on a metal base and is flattened by a cross-shaped crusher mounted on the hydraulic piston. It'll crush barrels up to 35 in. tall.

It costs about \$500 to build the crusher using new materials. Free plans are available from NDSU.

Contact: FARM SHOW Followup, Vern Hofman, Agricultural Engineering Dept., NDSU, Fargo, N. Dak. 58105.



The 3-pt. mounted barrel crusher uses a cross-shaped crusher mounted on a hydraulic piston to flatten the barrel.



Driveshaft off the transmission powers a pair of sprockets that chain-drive the pto.

Second Engine Powers "Mud-Proof" Combine

(Continued from cover page)

combine equipped with a Mud Hog hydraulic-assist rear axle drive system asked me to put a 4-WD system like mine on his combine. It outperforms a Mud Hog-type drive system because I can operate the rear axle independently and at any speed. On Mud Hogs the rear axle always turns with the front axle and at the same speed. Whenever I turn in mud at the end of the field, or when I come to a wet spot and the front axle bogs down, I just start up the engine and the wheels push me right through.

"I use this modified combine mainly to harvest wet fields. When we have dry conditions I use a newer and larger combine. However, my modified machine does work well on dry ground and I can drive the combine without even starting the main engine by letting the rear axle provide the power. I didn't want to spend the money on hydraulic components but it would be possible to drive the rear axle with a hydrostatic motor instead of the Pinto engine for better control and an infinite range of speeds. The best thing about the conversion is that I spent about \$3,500 compared to \$9,000 for a new Mud Hog system. I paid \$1,600 for the combine and spent about \$500 to repair it. I paid \$100 for the rear axle, \$150 for the Ford Pinto engine and transmission, and \$250 for bearings, sprockets, and roller chains. The rest of the cost was for frame-work, cables, and cab controls. The combine paid for itself the first day when I harvested 1,000 bu. of soybeans. The biggest problem is that we often have to pull trucks out of the field with a 4-WD tractor."

To support the weight of the add-on engine, Greenlee welded a frame made from 1 by 2-in. sq. tubing along the sides, rear, and top of the entire rear half of the combine. He welded a sprocket to the end of the driveshaft off the transmission. A roller chain runs from the sprocket on the drive shaft to a 6:1 gear reduction sprocket assembly half-way down the rear of the combine. A second chain runs from the gear reduction sprocket to the pto shaft mounted beneath the straw choppers. Spring-loaded idler pulleys keep the chains tight. The pto shaft, borrowed from an old self-propelled mower, is supported by a pto housing removed from a Minneapolis Moline tractor. When Greenlee doesn't need 4-WD, he simply removes the pto shaft.

The military truck drive axle is equipped with 18.4 by 16.1 tires removed from an old self-propelled swather. He split a pair of pickup wheel rims in half and welded in spacers to widen them to 16 in. He then installed the engine throttle, shifter, ignition switch and starter in the cab. He uses the same fuel tank, electric fuel pump, and battery for both engines.

Contact: FARM SHOW Followup, Robert Greenlee, Rt. 2, Box 1410, Okmulgee, Okla. 74447 (ph 918 733-2667).

Vol. 13, No. 6, 1989

**Publisher and
Editorial Director** - Harold M. Johnson
Editor - Mark Newhall
Associate Editor - Bill Gergen
Office Manager - Joan C. Johnson

FARM SHOW is published bimonthly for \$11.95 per year (\$14.95 in Canada and foreign countries) by Farm Show Publishing Inc., P.O. Box 1029, 20088 Kenwood Trail, Lakeville, Minn. 55044. Second class postage paid at Lakeville, Minn., and Madelia, Minn. **POSTMASTER:** Send address changes to FARM SHOW, Box 1029, Lakeville, Minn. 55044 (ph 612-469-5572). Single copy price is \$2.00 (\$2.50 Canada). **Publication No. 470870**

FARM SHOW does not accept advertising and focuses exclusively on new products and product evaluations.

FARM SHOW does not charge for new products or services featured in the magazine. Anyone with a new product or service of interest to farmers - whether inventor, manufacturer, marketer, distributor or whatever - is invited to contact FARM SHOW regarding possible publication.

AS A SERVICE TO READERS, Farm Show publishes newsworthy products and ideas. Because of possible variance in the quality and condition of materials and workmanship, Farm Show cannot assume responsibility for proper application of techniques, or proper and safe functioning of manufactured or reader-built projects resulting from information published in this magazine. Farm Show attempts to verify product claims in editorial reports and adheres to rigid standards. However, the publisher assumes no liability for accuracy and validity of claims.

Printed in U.S.A. All rights reserved, including the right of reproduction, in whole or in part, without written permission.

Nov.-Dec., 1989