

Band saw cuts an 18-in. wide slice out of the bale center, and two equal size slices on either side.

CUTS THEM UP IN JUST 30 SEC.

Pto-Powered Saw Slices Bales Into Three Pieces

"We read in FARM SHOW about the Canadian farmer who built a round bale saw that cuts bales in half to make them easier to feed out in a dairy barn (Vol. 10, No. 5). We liked the idea but we wanted to cut them up even smaller so they'd roll down our feed alleys," says Jerry Nelson, Kimball, Minn., who improved upon the original "made-it-myself" idea by building a bale saw that cuts bales into three easier-to-handle pieces.

Nelson's bale saw mounts on a trailer chassis made from 3-in. angle iron and steel tubing, carried by a 3/4-ton pickup axle. Stabilizing legs drop to the ground to brace it while cutting. Using a tractor loader, the operator sets a bale on a sliding bale platform that rolls on 3-in. channel iron rails. A hand-cranked boat winch pulls the bale platform, which is divided into three separate sections, into a big pto-powered band saw blade at the front end of the trailer. The band saw makes two slices through the bale, on both the down-stroke and the up-stroke of the blade, cutting an 18-in. wide slice out of the center of the bale and two equal size slices on either side, depending on the size of the bale.

It took 12 min. to cut through a bale with the first prototype Nelson built. After

making some changes, including a switch to pto-power for the blade, his current saw cuts through even the heaviest bales in about 30 sec.

"We still can't believe how well it works. It does the work of a hired man," says Nelson, who's cut more than 300 bales without replacing the original band saw blade.

If a hay bale weighs 1,500 lbs., each bale slice weighs around 500 lbs. Nelson built an overhead track that picks the bale slices up off the saw platform and carries them right into the barn. Once inside, he lowers the narrow roll of hay to the floor and unrolls it down the feed alley by hand.

A tractor pto direct drives the band saw pulleys at about 500 rpm's. The blade's designed to be easily tightened, as needed. Nelson notes that the saw cuts through straw or cornstalk bales as easily as hay, and picks up in minutes for transport down the road.

Nelson plans to build the band saw on a custom basis.

For more information, contact: FARM SHOW Followup, Jerry Nelson, Rt. 2, Box 52, Kimball, Minn. 55353 (ph 612 398-6655 or 784-6040).



Davidson salvaged the front halves of two identical car frames and welded them together nose-to-nose.

SIDES FLARED TO HOLD 160 BU.

Grain Wagon Made From Fuel Tanks

"It's a big time saver," says Paul Davidson, Moose Lake, Minn., about the home-made dumping grain wagon he made by fusing together two 265 gal. fuel oil tanks and two 1962 Chevrolet car frames.

Four -wheel, independent suspension allows Davidson to pull the 6 by 6 by 10 ft. rig, fully loaded with 160 bu. of grain, behind his pickup at road speed.

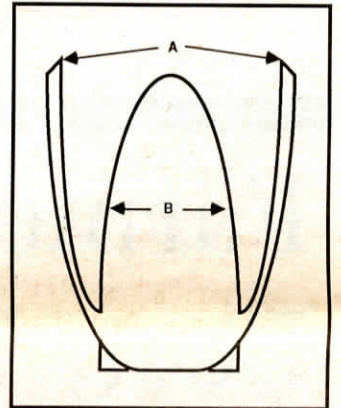
"A grain truck is too expensive to buy, maintain and license for my small farming operation," says Davidson, an electrician and part-time farmer whose only out-of-pocket cost to build the low-cost grain wagon was for welding rods and gas for the cutting torch he used to transform the two standard, oblong-shaped fuel oil tanks into a flared grain wagon that raises for fast, easy unloading.

In cutting the two tanks, Davidson first made sure they were absolutely empty and safe to torch. After cutting them into pieces (see drawing), he used a mechanical "handyman" high-lift jack to flare the sides to a 6 ft. width at the top. He then welded the two tanks together to create one large 160 bu. capacity tank with sloping, flared sides. He welded an angle iron divider (a bed iron used to hold mattresses in place) to connect the middle sides of the wagon. Diagonal iron straps — also taken from an old bed — welded in the inside corners further support the tank.

In making the running gear, Davidson salvaged the front halves of two identical 1962 car chassis, then welded them together nose to nose. He trimmed off both frames at a point just below the radiator and further shortened the frame that forms the rear portion of the running gear.

To strengthen the frames and keep them from twisting under load, Davidson welded a piece of channel iron to heavy framework originally located at point below the cars' oil pans. The original steering arms are welded solid to the frame to keep the four, independently suspended wheels permanently aligned in a straight position. "I can pull it down the road fully loaded at 55 miles an hour and it follows along perfectly," says Davidson.

A long-armed, battery-powered winch, which slips into a bracket permanently mounted on the beefed-up bumper of Davidson's pickup, is used to pick up the front of the wagon and hoist it into the air for dumping. When hooked to his tractor,



Davidson first cut each fuel oil tank horizontally along the top and completely cut out one end. The opposite end was cut along the edges from 12 to 8 o'clock on one side, and 12 to 4 o'clock on the other (see "B" above). A jack was then inserted (point "A") to flare the sides to a 6-ft. width at the top.

Davidson uses a home-made 3 pt. hitch boom to raise and lower the wagon.

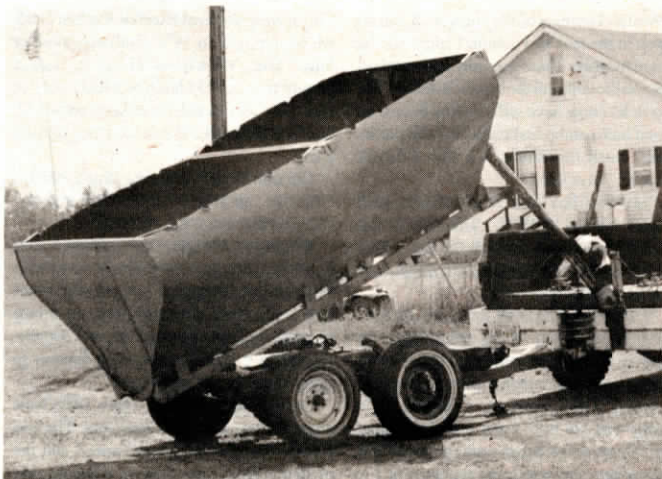
For dumping, the rear end of the wagon pivots on a hinge Davidson made by cradling a 4 ft. piece of 1-1/4 in. pipe in the "arms" of a similar length piece of 2-1/2 by 2-1/2 in. angle iron.

In the down position, the grain tank rests on two angle-iron "feet" running lengthwise, one on each side along the bottom. Davidson first welded L-shaped mounted brackets along the bottom sides, then welded the long angle iron "feet" to the brackets.

To unload grain, Davidson cut out a 6 by 8 in. oblong-shaped hole at the bottom of the rear end. A sliding metal plate inside the tank covers the hole. The plate is attached to a rod sticking out the back side of the wagon. When the rod is pushed forward, the plate slides up. "The further I push the rod forward, the bigger the opening becomes and the faster grain runs out," says Davidson.

The dump wagon is equipped with reflectors but no tail lights. However, its sloping sides allow the pickup's tail lights to shine through for rear visibility. "I don't hesitate to take it down main roads at night," says Davidson.

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Battery-powered winch affixed to pickup bumper hoists box for dumping.