

## Portable Cattle Chute Built From Junked-Out Combine

Campbell McMaster, Douglas, Ontario, built an 8-ft. long, 30-in. wide, 3-pt. mounted cattle chute from the straw walker housing of a junked-out Cockshutt self-propelled 132 combine.

McMaster bought the combine for \$200 from a salvage yard. He removed the straw walker housing and stripped away all of its internal components including driveshafts, straw walkers, and sieves. He welded on sheet metal to patch any holes, then welded three drawpins onto the side of the chute for 3-pt. hookup. He bolted a new Martin headgate onto 4 brackets that he welded on front of the housing and built his own rear gate. To form a floor he removed all of the bottom sheet metal and replaced it with 2 by 8 wood planks bolted to crossmembers. He nailed a set of 15-in. wide snowmobile tracks onto the floor to provide firm footing for cattle.

"I had been borrowing a neighbor's cattle chute, but he lived five miles away and the chute wasn't always available," says McMaster, who built the chute two

years for \$600. "Most commercial models cost more than mine and their sides are built from horizontal 1-in. steel tubing spaced at intervals. Unless you line the sides with tin, cattle can get their feet caught between the bars. The sides of my chute are solid, except for a triangular-shaped hole that I cut at cattle neck height into one side that lets me vaccinate or dehorn. The only drawback is that the chute is a little too wide for small calves and allows them to turn around inside."

The headgate is equipped with an opening and closing lever on each side and locks in the middle. To build the rear gate McMaster welded 30-in. lengths of 1 in. sq. steel tubing between a pair of 5-ft. long angle irons. The gate slides up and down between the end of the chute and the angle irons. A lever bolted onto the top of the chute holds the rear gate open until the animal is safely inside.

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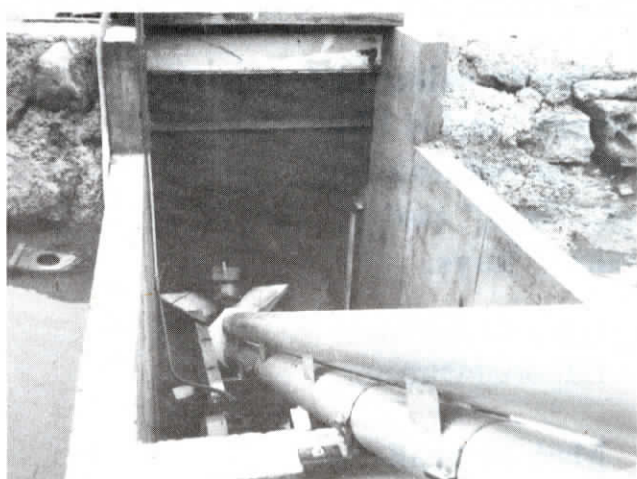


## Add-On Round Bale "Kicker"

Richard Godbout, Cromwell, Minn., made a low-cost bale kicker for his Vermeer 605D round baler that pushes the bale far enough backward so he can close the rear door without backing up before he dumps the bale.

The kicker is activated by the lift of the rear door. It consists of a wrap-around frame that attaches to each side of the

door and a 3-ft. long horizontal roller under the baler axle. Two 7-ft. long, 4-in. wide channel irons are hooked onto the sides of the baler with a clevis and pin, as are a pair of 8-ft. long rods. The 8-ft. long rods are free to slide through brackets welded onto the door. When the door opens to drop a bale, it hits a stop on the rods about 1 ft. before the door is fully



## "No Rust" 400 Bu. Grain Dump Pit

"My 400 bu. grain dump pit consists of a steel tank enclosed in concrete. It never touches soil or water directly so it'll never rust," says Duane Riddle, Rochester, Ind., whose high-capacity grain dump pit empties in just 4 to 5 min.

The concrete "jacket" enclosing the painted steel tank is 8 ft. long, 10 ft. wide and 10 ft. deep. The bottom of the bin is positioned above a concrete floor which is 15 in. above a 6-in. layer of pea gravel. The tank is emptied out by a 10-in. dia. horizontal auger that dumps grain into a hopper at the bottom of a 92-ft. long, 8-in. dia. Hutchinson "grain pump". The grain pump runs at a 35° angle to the top of a 36-ft. dia. bin. An inclined gravel driveway leads to the pit's drive-over dump grate. Tile surrounds the concrete enclosure to drain excess water to a nearby field.

"I wanted something better than simply installing an old gravity box wagon in the ground or some other kind of steel pit covered by a cement cap and backfilled with sand," says Riddle. "Putting steel in the ground, even painted steel, is asking for trouble because it'll get scratched and corrode."

"I used my dump pit for the first time last fall and it was the first harvest I've had that wasn't a hassle. I had been using a 400-bu. straight truck and an above-ground 10-in. dia. auger, but it took too long to unload. I farm 1,300 acres by myself on 14 different farms so I don't have much time to waste. When I built this pit I sold my old truck and bought a 1,000 bu. hopper bottom semi-trailer which I use along with a 500-bu. grain cart. It takes less than 10 min. to dump the semi-trailer because the grain pump that empties the dump pit is rated at 4,000 bu. per hour. I can keep my 6-row combine busy with just the one truck and grain cart. And the dump pit slopes at a 45° angle so even 35% moisture corn won't hang up."

Riddle used a backhoe to dig the dump pit hole and hired a contractor to pour the 8-in. thick concrete walls, then had the steel tank custom-built to fit. He made a frame to support the steel tank out of 8-in. wide channel iron anchored in concrete footings and in the concrete walls. Lengths of angle iron welded to the sides of the steel tank rest on top of the beams. Five I-beams set into the top of the concrete walls support the drive-over grate which is made up of 1/2 by 2-in. bar stock.

"We couldn't set the dump pit more than 7 ft. below ground or water wouldn't have drained by gravity into our field tile drainage system," says Riddle. "So we had to build the top 3 ft. of the pit above ground and build a driveway up to the pit."

The 8-in. dia. Hutchinson grain pump, powered by a 15 hp electric motor, is housed in a concrete enclosure alongside the dump pit. "The grain pump cost almost twice as much as a 10-in. dia. auger, but it has more capacity, requires less than half as much power, and reduces grain damage," says Riddle. "The 10-in. dia. pit auger is powered by a 5 hp electric motor. It runs at almost 100% efficiency because it's flat and is always loaded down with grain. In fact, I had to install a gearbox to slow it down. If I could do it over I'd install an 8-in. dia. pit auger and build a 500 bu. pit for more capacity. I plan to install an automatic switch which will let me empty the truck and leave immediately. The pit auger will shut off automatically, then after a 15-second delay the grain pump will shut off."

Riddle says the pit cost \$5,000 to build which included \$2,300 for the concrete enclosure and \$1,000 for the drive-over grate. The I-beams were salvaged from an old building.

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open, causing the bale to fall to the ground. During the last 6 in. of door movement, the arms are activated and the roller kicks the bale clear. When the door closes, it pushes the kicker arms to the neutral position and the roller slips over a ball welded to the center of the axle to hold the door against the arms.

"Before I had to stop, clear the bale

chamber, kick the bale out, then pull ahead far enough to clear the gate. Now I can stop and kick the bale out without having to back up," says Godbout. "The best part is that it cost only \$120 to build."

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