

TMR Mixer Made From Underground Tank

After pricing out conventional TMR mixers, Gary Lisowe, Gillett, Wis., decided to build his own out of an old underground fuel tank. He mounted it inside a two-story feed room that he added onto one end of his dairy barn.

The upper floor of the feed room houses a divided steel bin. The mixer is below the bin. The bin holds protein in one hopper and ground ear corn in the other. Slide chutes at the bottom of each hopper open up to fill the mixer below. Lisowe uses a small loader tractor to load haylage from his bunker silos directly into the mixer.

Feed is mixed together inside the mixer by a pair of 12-in. dia. augers, one mounted above the other, and by a 4-ft. reel (similar in design to a Knight Reel Auggie). A 5 hp electric motor belt-drives a jackshaft which chain-drives the top auger. The top auger belt-drives the bottom auger which belt-drives the reel. Lisowe loads feed out of a slide chute on the mixer into a feed cart which he uses to feed his 30 milk cows.

"I spent about \$150 to build the TMR mixer. A comparable commercial model



sells for about \$8,000," says Lisowe. "It's a simple set-up that eliminates the need for expensive augers, belts, and conveyors to load and unload the mixer. I got the 560-gal. fuel tank free from a neighbor in the petroleum equipment business. I used a Sawzall to cut off the top of the tank and had a machine shop convert the cut-off section into



the housing for the unloading auger. I mounted the mixer on wooden blocks so I can load directly into my wheelbarrow without the need for an elevator.

"The bin holds about three tons of feed and was built from 16 ga. galvanized sheet metal riveted together with 3/16-in. pop rivets. A weigh scale mounted on the back side of the

mixer allows me to mix feed ingredients accurately. I also mounted a magnet on the mixer slide chute to remove metal objects."

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"Side-Wheeling" Grain Auger

Clifford Craig, Galva, Ill., modified the wheels on a grain auger so they run sideways, allowing the auger to be pushed around in a circle.

"It's used to move the auger between a grain bin and a corn crib that was converted to hold shelled corn. It saves a lot of time and hassle," says Craig.

What makes the idea work is an add-on spindle that allows the wheels to move perpendicular to their original line of travel. Craig removed each wheel from its spindle, then bolted the add-on spindle to a steel

bracket that slips over the original spindle and is bolted onto it. Then he mounted the wheel on the add-on spindle. The bracket is reinforced by lengths of angle iron that bolt onto the auger frame.

"By removing five bolts the bracket can be removed and the wheels returned to their original position for conventional transport," says Craig.

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Redesigned Bale Accumulator "Works Great"

When David Jones, Reading, Kan., had trouble finding enough help to stack and haul small square bales, he bought an old bale accumulator built in Herington, Kan., by Welco, a company that's no longer in business.

The original accumulator was designed to be pulled behind the baler and had a center-mounted pivot wheel on front. Bales slid down a 2-ft. long chute above the wheel into a series of gates that automatically tripped to position eight small square bales into two rows of four. However, the automatic trip mechanism didn't work very well so he changed it to a manual system that works by pulling on a rope connected to a lever. He also added an offset hitch and a pair of 5-ft. long bale guides on front, and an axle and wheels on back.

"I like the design of this machine a lot because it doesn't have chain drives or hydraulics to maintain," says Jones. "The last bale in trips the back gate to release the stack. An unexpected advantage is that I can now line up 15 or 20 stacks in a straight line which allows me to load them a lot faster. It works fast. It takes only about 45 minutes to load 400 bales onto two trucks and trailers. By

using two loaders - one at the barn and one in the field - we can stack about 1,300 bales in only 3 1/2 hours. I used it last year on about 2,000 bales of wheat straw and 25,000 to 28,000 bales of prairie hay.

"I bought two of the accumulators - one from an individual and one at an auction. I paid about \$300 for each one. I've made several attempts to find parts and get information on the company without any luck. Before I bought the accumulator I was spending \$4,000 to put up 14,000 bales a year. My investment for two accumulators and two hay forks was only about \$1,800, and I'm now putting up 30,000 bales each year."

Jones welded the main beam and dolly wheels off an old disk onto the front of the accumulator and mounted the hitch on it. He used scrap steel to make the bale guides and cold rolled steel and heavy wall steel pipe to make the axle.

Jones says he's willing to provide plans for a fee.

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Remote-Controlled Electric Power Unit

To eliminate the need for a tractor to power his grain augers, James Juon, Stanhope, Iowa, built a remote-controlled portable electric power unit.

"I've found that to run an 8-in. auger, you need about 3 hp. for every 10 ft. of auger," says Juon, who mounted an electric motor on a simple 4-wheel trailer that's easy to roll from bin to bin. He attached a pto coupler to the output shaft on the motor.

Once he had the portable power unit up and running, Juon decided the power unit would be even more handy if he could start and stop it remotely. So he connected it to a garage door opener.

"Now, when filling trucks, a person can be up on the truck watching it fill with no need to jump on and off to shut off the motor. I just use a touch of the garage door opener.



A control panel mounts on the trailer and consists of a safety switch interlock, fuses, motor controller and garage door receiver.

"I didn't think it was that big a deal when I built it but everyone who sees it thinks it's one of the handiest things they've ever seen," said Juon.

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