

Remodeled barn is fitted with an 18-ft. wide folding door that's 14 ft. high. Door is built in 4 1/2-ft. wide sections that manually fold sideways like closet doors.



"Because of the design, we didn't have to hang anything on the front end of the barn and put stress on the trusses," says Verne Schlueter. "The door is big enough for our combine with 6-row corn head."

## Folding Door Fitted To Remodeled Dairy Barn

"We no longer had a use for our old 30 by 50-ft. dairy barn. It needed to be rebuilt but we wanted to keep the barn's original look. As part of the remodel we fitted it with an 18-ft. wide accordion-style folding door that's 14 ft. high. That's big enough for our combine equipped with a 6-row corn head," says Verne Schlueter, Arlington, Minn.

"We had to add heavy duty trusses so we could raise the hay mow to 14 ft., high enough for big equipment. We also re-sided the barn and installed a metal roof," says Schlueter.

"The barn was built for dairy cows in 1912. In the 1970's we converted it into a farrowing barn and added an 18 by 50-ft. lean-to hog nursery on the west side. By 2000, the barn

was no longer used and provided very little storage space.

"We thought about tearing it down and building a big shop, but then got quotes from contractors and found that installing a new roof would cost much less than tearing the barn down.

"The posts on the east side of the barn were retained, along with the hay mow floor. This 6 by 50-ft. area has an 8-ft. high ceiling and gives us room for work benches and all our other shop tools including a drill press and welder. We removed the posts in the rest of the barn. It now has a 14-ft. ceiling after we added the heavy duty trusses.

"The 18-ft. wide bifold door is built in 4

1/2-ft. wide sections. It consists of 2 bifold doors that manually fold sideways like closet doors. Because of this design we didn't have to hang anything on the front end of the barn and put stress on the trusses. If we would have used a conventional hydraulic-operated bifold door we'd have lost a foot of head space. Our Case IH 5140 combine's 6-row corn head just fits through the door. We had Crown Door in Plato, Minn., custom build the bifold doors for us (ph 320 238-2616; www.crowndoors.com).

"We installed a new concrete floor that slopes toward the center and installed a drain and holding tank for the water so we can wash equipment inside the building. We re-wired

the barn and installed 2 banks of lights on the 14-ft. ceiling. We also added a bathroom in the nursery lean-to that makes use of the hog nursery's original manure holding tank.

"We hired contractors to install the new trusses and roofing but did the rest of the work ourselves. Our total cost to remodel the barn was more than \$20,000, but a new shop of comparable size would've cost \$60,000 to \$70,000 or more."

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Dave Nicholas set out to learn how jail cell bars are made and then built a 28 by 14-ft. locked enclosure inside his pole barn. He uses it to keep antique collectables secure.

## "Jail Cell" Built Inside Barn Protects Collectables

If jail cells can keep thieves in once they're arrested, Dave Nicholas figured they could also be used to keep thieves out. So he set out to learn how jail cell bars are made and built a cell to protect his collection of antique tools.

He built the 28 by 14-ft. enclosure inside a pole barn, based on jail cell plans he saw while working in western South Dakota and Wyoming. The bars are hollow pipes with solid bars inside that spin if someone attempts to cut them, Nicholas says.

He used 3/4-in. conduit with 1/2-in. rebar inside. He drilled holes in 2 by 6's between

pole barn posts to slip the conduit through, and didn't attach the conduit at the top so they can spin. Nicholas even ran the bars in the ceiling for added security. He notes the walls can be insulated and finished normally, if desired. His final touch was a 980-lb. double vault door on the opening.

He admits he revels in doing things differently and on the cheap. Knowing his antiques are secure makes his cell creation even more valuable.

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Bars are hollow pipes with solid bars inside that spin if anyone attempts to cut them.



## Sump Saver Keeps Grain Flowing

Install a Sump Saver and eliminate a plugged auger and potentially hazardous grain bin conditions. Robert Stahl invented it to solve his own problems with plugged augers in big bins. Now he is solving other people's problems as well.

"I had issues with plugged augers and started working on a solution," says Stahl.

He considered alternatives like a grain cage that sits over the auger. He realized that if it plugged up, the problem was multiplied. He needed something to physically break up the clumps causing the blockage.

His Sump Saver consists of 4 rotating fingers on a central axis mounted in a heavy-duty steel frame. It can be placed over a bin auger intake on the floor or next to an above floor auger mouth. The problem was getting the torque needed to start it up and keep it going to chip away at a plug.

"When you have hundreds of thousands of pounds of grain on top of the clump, you need a lot of torque," says Stahl. "I have a dumpster full of prototypes that didn't work. I started with electric gear motors, air cylinders, air motors and more, but none provided enough torque."

Early on he considered hydraulic power and finally went back to it. The hydraulic motor he selected provides 6,000 inch/pounds of torque and operates in both forward and reverse.

Hydraulic hoses lie on the floor of the bin and run to a fitting on the bin side. When grain flow slows or a plug occurs, the operator connects the exterior hoses to tractor hydraulics.

"We suggest starting the motor when the flow starts to slow," says Stahl. "Most of the time, you only need to run it for a few minutes until the grain flows again. However, we've also used the Sump Saver to remove 300 to 400 bu. of damaged material."

Short hoses inside and quick couplers allow



Robert Stahl invented the Sump Saver to solve problems with plugged augers in big bins. Four rotating fingers break up clumps.

the hoses to be removed for storage when the bin is empty or being cleaned. Brackets inside and out allow hoses to hang safely when not in use.

The Sump Saver is priced at \$1,500 with all hoses and connectors included. Stahl notes that stopping harvest to unplug an auger can cost a good deal more. So can not being able to empty a 50,000-bu. bin.

Being able to solve a plug problem from outside the bin also can prevent a tragedy. When a plug occurs, it is tempting for an operator to go inside a bin and use a rod to break up a plug.

"In 2013 in North Dakota, we had a perfect storm with late harvest, light weights and wet corn," says Stahl. "As a result we had a lot of bin tragedies. We want people to buy the Sump Saver because it is a good economic decision, but safety is another aspect to consider."

See the Sump Saver in action at FARMSHOW.COM.

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