



Combine upgrade products from Harvest Solutions include these flat bar concaves. "One customer says they work like square bar concaves on steroids," says Randy West.



Sieve extension for Deere S-series combines greatly reduces the load on the return system.

By Jim Ruen, Contributing Editor

## He Sells Field-Tested Combine Upgrades

Randy West set out to make his Deere combines work faster with fewer problems. His fixes worked for him and evolved into a business called Harvest Solutions, which offers a collection of easily installed combine upgrades.

"My brother and I were doing custom combining, and no matter what brand of combines we were running, I was never completely satisfied," says West. "The price of these things is outrageous, and if you pay that much, you should get more from it."

West admits that he didn't do anything about his frustrations for a long time. At the advice of Mike Ellison, founder of Precision Ag Parts, that changed.

"I identified some areas that could be improved and suggested them to Mike," recalls West. "He told me to try them myself, that I could do it."

One of the first things he tried was to modify his OEM round bar concaves. He and his brother were harvesting 300-bushel per acre irrigated corn. They had to slow to a crawl to avoid rotor loss of the corn.

"I thought I would try 1/2-in. square bars,

so I cut and ground out the round bars and replaced them," says West. "They worked, and we picked up a mile an hour with less rotor loss. I was still not 100 percent satisfied, but we were getting more acres done per hour at the same cost per acre."

The square bar concaves worked well enough that West started making and selling them through Precision Ag Parts. However, after 5 or 6 years, the square bars began showing wear. West rethought the problem.

"A concave is designed to thresh with the bars and separate with the spaces," he says. "I discovered that if I went with 1/4-in. by 1/2-in. bars I could get 7 more bars and 7 more spaces into the same opening."

West sent the Flat Bar Concaves to a friend in Nebraska to try. "He ran them for a week or two and told me they were like square bars on steroids," recalls West.

West applied the same approach to other areas he felt could be improved. Most of them worked and either increased capacity, cut down fuel usage, or outlasted OEM parts.

A good example is the Fan Relocation Bracket (Vol. 41, No. 1). The simple swap

makes the fan more efficient and effective, eliminating dead spots. The S Series Sieve Extension reduces the load on the return system by half, which lets the rethresher work as intended.

Some upgrades are simply more rugged, like replacing Deere's 14-ga. STS/S Feeder House Seal with a 10-ga. seal that doubles the life of the original and prevents small grain seed loss. Likewise, West's Hinged Feed Plate replaces the OEM feed plate with its hinge exposed to wear. The Harvest Solutions feed plate has a heavier hinge that is not a wear point and will last 2 to 3 times longer.

West fixed a problem on Deere 9600 through S Series combines. A lower seal on the clean grain gearbox was exposed to grain and dirt. His simple \$55 seal stops foreign material from entering the gearbox. The 10-min. fix can prevent a \$2,000 failure. Similarly, the Elevator Drive Shear Hub replaces the OEM hub. Any number of things can cause the elevator drive belt to stop while the pulley keeps turning. With the OEM hub, this can result in expensive and time-consuming repairs. With West's shear hub, it requires a



Elevator drive shear hub replaces the OEM hub with a 5-min. bolt replacement.

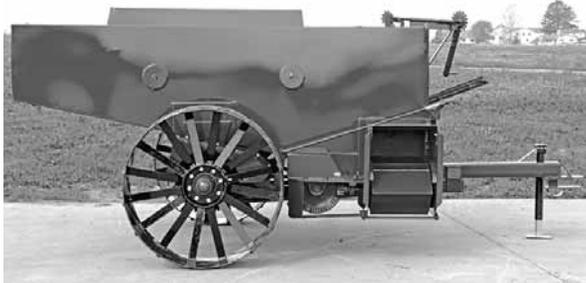
5-min. bolt replacement.

While West is no longer running combines, he is still coming up with solutions to problems with combines. It is a process he encourages other farmers to embrace.

"People need to stop and think about the problems they run into with equipment," says West. "Then, like I was told, don't be afraid to try something."

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Ground-driven, square box spreader offers more volume with less height than round tank spreaders.



## Square Box Spreader Holds More Manure

Elam Stoltzfus designed a square box manure spreader to carry more semi-liquid manure with less height than round tank spreaders. A dairyman at the time, Stoltzfus soon began making the spreaders for sale. The novel spreader design is still finding buyers 35 years later, and the company has updated the design and expanded their line of equipment.

"We've sold the square box spreader from Pennsylvania to Wisconsin and west to Missouri," says his son Lloyd, second-generation partner in E.L.S. Mfg. "My dad knew he could get more volume with a square box than with a round one of the same height."

Height is a concern for backing under chutes coming out of barns. The 600-gal. spreader is only 56 in. high, 9 ft. long and 4 ft. wide. E.L.S. also makes 700 and 800-gal. square box models, with each increase in size

adding 4 in. in height. All 3 sizes are available in either steel or aluminum. The aluminum boxes are more expensive, but lighter in weight.

"The empty 800-gal. model weighs 3,080 lbs. in steel and is priced at \$5,930," says Stoltzfus. "The aluminum version reduces the weight by 1,000 lbs. and adds a little over \$1,000 to the cost."

The basic design for all 3 models is the same with a ground drive and a floor that slopes forward to the discharge chute. Material flows by gravity to a 12-in. auger that pushes it to the discharge beater. The beater spreads material in a 7 to 8-ft. pattern. However, that can vary depending on ground speed and manure consistency. Separate levers engage the beater and auger with a third handle to slide the discharge door open.

"All 3 models are covered to prevent

## "Bucket" Trap Catches Flies By The Thousands

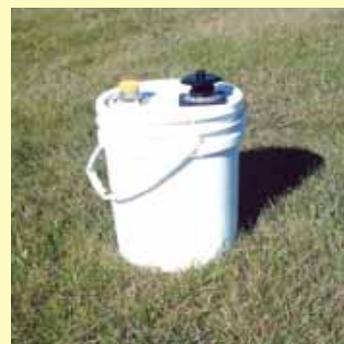
Brian Dickinson used a 5-gal. bucket and part of a commercial fly trap to make a high-volume fly trap that greatly reduced the fly population on his Alberta property.

"My homemade trap starts to stink right away and catches flies by the thousands. As soon as I put it out, the flies get busy right away, almost like I had just kicked a wasp nest," he says.

He used a keyhole saw to drill a hole on one side of the bucket lid, then cut the black top off the fly bag and screwed it into the hole. He drilled a second hole on the other side of the lid. Then he cut off the top part of a clear plastic soap container keeping the cap on, and screwed it on over the hole to serve as a sight gauge.

To produce a strong smell, he cut open another fly bag already full of dead flies and dumped them into the bucket, which covered the bottom about 1 in. deep. He also dumped in a couple more fly attractants for good measure.

Flies go in through the top part of the fly bag and can't find their way back out. "The key to my bucket trap is the smell. It's so bad that no animals will bother it," says Dickinson. "I left it out all of last summer,



Flies go in through top part of a commercial fly trap installed in bucket lid, then can't find their way back out.

and by the end of the summer there were more than 12 in. of solid flies and maggots in the bucket. I made a couple of other traps for friends and they were impressed, too," says Dickinson.

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slopping and have 4 by 3-ft. access doors," says Stoltzfus. "We commonly customize the size of the access door and add splash guards. The spreaders come with steel wheels, but we

can mount truck tire wheels upon request."

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