

Replacement Concave Reduces Deere Rotor Loss

A new concave grate from CM Welding replaces the rear concave in Deere STS rotors. The grate is fitted with “disrupter” add-ons, which have been available for Case IH combines for years.

“There are two reasons for rotor loss with Deere STS rotors,” says Don Estes, who designed the grate and disrupter for CM Welding. “One is overloaded separation sections or grate sections. The other is corn shucks with kernels still on them and beans hidden in green stems and leaves passing through the rotor.”

Estes believes he has solved the first problem with a replacement grate for the rear concave. He explains that the problem with high yielding varieties is the large quantity of material that has to be processed. While corn and beans get threshed out in the first half of the concave, they travel to the separation section before separation can start. This can

overload the separation section, resulting in grain passing out with the trash.

“The problem with the round bar concave in the Deere STS rotor is that there isn’t enough space between the round bars to let grain out,” says Estes. “The new grate has 1/2-in. square keys installed instead of the round bars, with a 1 1/2-in. space between them for 68 percent greater openings.”

With his replacement for the rear concave, the grain begins separating sooner, reducing the load on the separation section. Estes says the replacement concave has been designed for foolproof placement.

To solve the second problem, Estes has redesigned his disrupter lugs, previously used in more than 20,000 Case IH rotors. The new design was used in Deere STS rotors for the first time this fall. Estes has now fine-tuned the lugs to be even more effective at breaking up and threshing out corn and beans.



CM Welding’s concave grate replaces the rear concave in Deere STS rotors. It’s fitted with “disrupter” add-ons to reduce grain loss.

“The 14 disrupter lug spikes are installed in the separation section of the rotor at a 90 degree angle to crop movement,” explains Estes. “The crop material is pulverized by the disrupter lugs as it passes through.”

Estes has priced the new grate at \$747. The 2011 Disrupter set for Deere STS combines has 14 cutting edges with a new locking bolt

design and a provision for easier tine location. The STS Disrupter set sells for \$417. Estes is offering a combination price of \$1,050.

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Rotating Trellis Makes Berry Crops More Profitable

An innovative new trellis system makes growing high-quality berry crops more profitable, says Trellis Growing Systems (TGS) about its rotating trellis that protects canes in winter and gets them going faster in the spring.

“Our trellis articulates, so the grower can rotate the canopy into a horizontal position for the winter and early spring to protect the canes,” says Jerry Branstrator, TGS. “Once the buds are set (on the exposed side), the canes are rotated back up. That puts all the flowering buds on one side of the canopy.”

Branstrator explains that having all the buds on one side (preferably east or north facing), produces a crop that is denser and easier to pick. Canopies are narrower and easier to control, and fruit is easier and faster to harvest. Pickers don’t have to reach into the center of the canopy for the 20 to 30 percent of the berries that are hard to find. Developing berries are also spared damaging, hot, afternoon sunlight.

Branstrator and his TGS partner, Richard Barnes, worked closely with USDA researchers to refine the design. They developed two systems – one for blackberries and one for raspberries. Both are modular units offering 25-year warranties.

“Blackberries aren’t normally raised in the Midwest but our trellis makes it possible,” says Branstrator. “Midwest growers can produce berries when growers in other areas are no longer producing.”

TGS offers growers a package that includes site and plant selection, trellis equipment and installation, as well as planting, harvesting and marketing consultation. Branstrator estimates per acre costs of \$15,000 to \$20,000 and potential revenues of \$45,000 or more per acre.

“We encourage a plot size of 10 acres or more to facilitate a strong marketing position for our growers,” he says. “We have more than 40 growers now using our system in the Midwest and elsewhere across the country.”

The trellis developed for red raspberries offers a wide base for either 18 or 24 in. row widths. Not only does it offer increased yields, it also allows closer row spacing for greenhouse and high tunnel production.

Both trellis units are made from fiber reinforced plastics and other lightweight, weather resistant components.

“One person can rotate the arms down by simply walking down the row and pulling a pin on each trellis,” explains Branstrator. “In



Rotating trellis puts all the flowering buds on one side of the canopy, producing a crop that’s denser and easier to pick.



“Blackberries aren’t normally raised in the Midwest, but our trellis makes it possible,” says Trellis Growing Systems.



Trellis articulates, so the grower can rotate the canopy into a horizontal position during winter to protect canes.

the spring, it takes two to rotate the canopy back to the upright position.”

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Solar “concentrator” uses curved panels to capture the sun’s rays at a precise focal point to generate heat.

Solar “Concentrator” Makes Heat For Farm Buildings

Instead of electricity, Craig Murray’s solar “concentrator” captures the sun’s rays at a precise focal point to generate heat. That heat is transferred to water that’s pumped to radiators inside buildings — similar to the way outdoor wood boilers are set up. Murray’s first Ontario customer is a poultry farmer who heats a 60 by 300-ft. barn.

“I’ve measured temps as high as 600 degrees at the focal point,” Murray says pointing to a vertical unit connected to two 12 by 12-ft. solar panels. “It’s like a great big mirror that takes the rays from the sun, and directs them to a focal point.”

The panels are curved and have dual access tracking so they move with the sun from east to west as well as up and down. At night they reposition themselves toward the east. They are also programmed to go into a safe, horizontal position if winds reach 40 mph or more.

The concentrator contains 50 ft. of copper tubing which heats a mix of food-grade glycol and linseed oil that runs through pipes 4-ft. underground (below the frost line) to a 500-gal. holding tank of water with a heat exchanger. The water heats up to a maximum of 220 degrees and flows through a radiator attached to a fan.

In the barn Murray helped set up, 12 radiator units generate 360,000 btu’s of heat. A backup radiant propane heater provides heat on cloudy days. The farmer hopes to save about \$8,000 annually in heating costs and believes the \$80,000 investment in the solar system will pay for itself in less than 10 years.

Murray hopes to make the solar concentrator useful year round, by producing steam to



Heat is transferred to fluid that’s pumped to radiators inside buildings.

power a steam generator for electricity. The London, Ont., entrepreneur says his systems can be designed for agriculture, commercial, business and even residential customers. He is open to hearing from dealers/distributors in Canada and the U.S. interested in his system.

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