HE MANUFACTURES ADD-ON PARTS

Self-Taught Expert Boosts Combine Performance

"I've worked with them so long I know them by heart," says self-taught combine expert and manufacturer George Kuchar of Kuchar Combine Performance, Carlinville, Ill., who travels all over the U.S. and Canada as a combine specialist, adjusting, rebuilding and working with all types of machines. He also gives "how to" seminars to farmers, sometimes tearing down a combine on "stage" to illustrate his ideas for boosting capacity and performance of combines.

"For the most part, today's combines are well designed but there's room for a lot of improvement. I've worked with some of the biggest and best farmers and custom harvesters in the country and they agree with me," says Kuchar, who was a farmer and custom harvester until 1983 when he started selling the Woodward Governor, a computerized load control device for combines that matches ground speed to the volume of material entering the combine. While demonstrating and installing the system, he heard about other problems his farmer-customers were having with their machines and set out to find solutions.

"We're always experimenting with new ideas. We're not after more speed. We're looking for increased quality and reduced losses in the field because elevators don't pay for speed, they pay for quality and bushels," says Kuchar. "We personally test all new ideas and equipment in different areas of the country before we recommend them. What works in one area might not work in another area due to differing levels of humidity, crop residue, and other conditions."

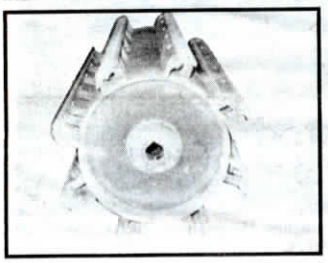
Although Kuchar specializes in Deere combines, he works with owners of any machine and is adapting his equipment add-on's to fit other makes and models. Many of his ideas come out of the free seminars he gives to farmers. Some of them include: "Auger flighting should be angled toward the direction of travel; removing some slats from the feeder chain will improve feeding; shim rasp bars out within 30/1000-in. of each other and make sure there isn't more than 2 oz. difference in weight between the 2 bars that make up a pair; trim excess flighting on the header cross auger."

What the biggest combine problem he's working on now?

"We're working to increase air flow and the location of air flow in Deere, IH, and other combines. There's a lot of room for improvement," he says.

Following are some of the combine add-ons Kuchar manufactures and sells.

For more information, contact: FARM SHOW Followup, Kuchar Combine Performance, P.O. Box 595, Carlinville, Ill. 62626 (ph 217 854-9838 or 217 229-3220).



Solid Cylinder

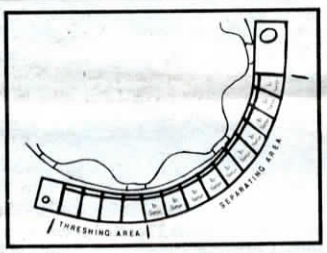
Heavy solid replacement cylinder replaces Deere's open cylinder. "It's much stronger and at least four times heavier than the original cylinder but it's perfectly balanced. Drive belts and bearings will last longer because the heavy cylinder runs so much more smoothly than the lightweight original cylinder, without the hammering action most operators experience," says Kuchar.

The cylinder uses original equipment rasp bars but holds them at a more level angle than the factory cylinder. "They're angled so sharply when they come from the factory that they pinch. These run more smoothly over the concave and do a better, more consistent job." Sells for $1,800 for an 8820.

Hillside Kit

Leveling kit for Deere 100 and 20 series combines consists of long 2 1/2-in. wide metal plates that stop grain from shifting to one side or the other in the conveyor augers. Kuchar says the kit increases the capacity of your machine by more evenly distributing grain onto the shoe for better separation.

"The problem is that in big crops, like 150 bu. corn, the augers get bogged down and tend to push grain to the side. These divider plates are easy to install - they clip into place with one bolt - and can be left in place for all crops," says Kuchar. The kit sells for $80 for an 8820.



New 15-Bar Precision Bored Concave

"It's never been beat in field tests by a Deere concave or any other concave on the market and we harvest 1/2 to 5 bu. more per acre because it gets grain away from the concave faster without grinding it up and sending it out the back of the combine," says Kuchar, whose new 15-bar concave weighs 100 lbs. more than factory units.

Bored to form a perfect circle with the cylinder, the concave is made out of the hardest steel that can be machined (1045). "Most manufacturers use softer 1010 steel, which can warp when welded. There's 1 3/4-in. spacing between rods and the concave is bigger so that at least two rasp bars are always in contact with the concave and sometimes three, unlike the smaller factory concave where only one or two bars are ever in contact at any one time. It's much gentler on the crop and you can run the cylinder at a slower speed. The back of the concave is 2 in. lower than the factory unit to feed better to the beater," says Kuchar, who sold 65 of his new concaves last year. He also sells the Niehaus concave for Case/IH, New Holland and White rotary combines. It has a similar design and allows operators to slow the cylinder down about 25% for less wear and tear. Like Kuchar's concave, the Niehaus unit has the bars on the surface so trash can't collect, reducing plug-ups. Niehaus concaves sell for $1,500.

Rock Trap Filler Plates

Filler plates for Deere combine rock traps help feed crop material more evenly to concave, especially in corn. "There's less friction so the cylinder can grab material and pull it into the concave better," Kuchar points out. He recommends filler plates only for fields without rocks.

Designed for Deere combines, it sells for $110 for an 8820.

Elevator Chain Tightener

Designed for Deere 100 and 20 series, chain tightener for return and clean grain elevators tightens chain more evenly and eliminates the need to get under the seat. Welds right to the elevator housing. Sells for $120.

Straw Walker Kit

Kuchar's new straw walker kit for Deere combines consists of 5 component parts designed to reinforce and improve the efficiency of straw walkers on 100 and 20 series combines.

"In normal use, straw walker blocks crack and break apart due to vibration and wear. Our reinforcing blocks and reinforcement plate beefs up straw walkers for increased life expectancy. 'Shoe kickers' mount along the sides of the walkers to kick crop material back out onto sieves when it piles along the sides while combining on hills. The shoe shield mounts between the auger pan and walker and keeps grain from getting down into the fan. The speed-up sprocket simply replaces the factory drive sprocket on the walker, speeding it up about 10%. It improves performance in all conditions, providing better separation on the walkers and moving material along faster," says Kuchar.

Complete kit sells for $160 for an 8820. Parts can also be purchased separately.

Slow-Down Sprockets For Sickle, Auger

"Sickles cut better and platform augers feed better if you slow them down," says Kuchar, who simply replaces the factory drives with his own larger "slow down" sprockets and pulleys.

The pulley for sickle drives slows down the sickle 15%, or about 100 strokes per minute. "If your sickle sections wear only near the points, you'll get better performance by slowing the sickle down. This allows stalks to get furthur back into the 'V' of each section so that you're cutting with the entire sickle," says Kuchar. He says the slow down kit works especially well in conjunction with Tiger Jaw and Crary add-on sickles which have more sections than normal. "Slowing down the sickle works on any size machine under any conditions. Just because you get a bigger machine doesn't mean the sickle has to run faster. On the contrary, slowing down increases capacity and reduces maintenance and wear. It also causes less shattering in beans and other crops, reducing losses."

Kuchar also slows down feeder augers to improve flow of material. "Look at the paint on the auger flighting. If it's worn off only 1 to 2 in. from the edge of the flighting, it's running too fast which means it doesn't have time to grab onto crop material properly. We slow it down 17% for operation under all conditions. It feeds smoother without feeding chunks into the combine like it does when running at factory speeds."

Slow down kit for auger and sickle, designed for all Deere 100 and 20 series combines, sells for $150 for an 8820.

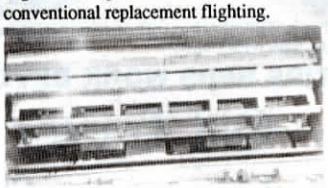
Concave Adjuster

"Our concave adjuster is twice as strong as the factory adjuster and much easier to turn because we replace the 1/4-in. factory bushing with a 1/2-in. bushing. We also reinforce the adjuster bolt with steel plate. Because the force is spread out over a larger bearing surface, it adjusts much easier," says Kuchar. Sells for $65 and fits all Deere 100 and 20 series machines.

Curved-Edge Flighting

Augers work better if they've got a slight curve along their outer edges, according to Kuchar. "Our curved-edge flighting grabs onto crop material and pulls it into the center of the flighting rather than moving it only along the outer edges, the way augers usually work."

Kuchar's special-made flighting has a "nickle curve" along its outer edges (a nickle is just the right size to fit into the curve). "Our flighting boosts capacity and operates with less binding and less cracking. It also requires less power to operate. Makes everything run smoother." Kuchar recommends replacing flighting on the feeder auger, clean grain auger, and unloading auger. The price is about the same as conventional replacement flighting.



Curved Filler Bars

Kuchar replaces flat plate filler bars on the cylinder with curved bars to help stop cob breakage and increase capacity of Deere combines. "Curved plates require a lot less horsepower because they roll cobs through the cylinder rather than grind them, plus you get less cracked grain," sasy Kuchar, noting that the curved plates also cut down on rasp bar wear. "You can increase capacity up to 25%, use less fuel, increase production and eliminate a lot of dust in the cylinder because the curved plates create a suction atmosphere which keeps dust to a bare minimum and helps keep the cylinder in balance."

Filler bars are designed to fit Deere combines 1970 and up. A set of 8 bars for an 8820 sells for $355.

"Shear Bar" For Deere Cylinders

"It prevents back feeding on Deere combines," says Kuchar about his "shear bar" that reinforces the rubber seal above the cylinder. It attaches to the back side of the rubber to strengthen it so material can't push by. Sells for $25.