

Best Combine Book We've Seen

"Surveyor" Measures Fields

"... I strongly disagree with the recommendations of Allis Chalmers when they tell you that you can turn the whole cylinder or the individual rasp bars end for end."

"... On the three screen Masseys, there are some problems in severe conditions that I can't always control because air cannot be controlled or forced through the chaffer. ... In my opinion the best solution is changing a three screen machine into a two screen machine. This is done by removing the top chaffer completely and pushing the second screen forward to the position where the front of the top chaffer was originally."

That's Ray Stueckle talking — telling it like it is in one of the best combine operator's manuals we've seen. Entitled "Combine Settings for Better Harvesting", it picks up where most owner's manuals supplied by manufacturers leave off. Ray's recommendations, based on his personal experience with virtually every combine made, gets down to specific makes and models. For example:

"... The major cause for upended straw in Case combines is the drag chain throwing straw onto the first 6 in. of the chaffers. To correct: Cover the first 6 in. of the chaffer in front with a flat piece of tin. This space is going to plug up anyway so you might as well cover it."

"... With a pressure type fan (fan that fits the housing) as there is in the White combine, it works better to have the chaffer and lower screen forming a wedge. The closest place should be on the back end, and the farthest opening in the front."

"... There are two major causes for upending straw in Massey 410 and 510's. (1) Dropping off the shaker pan, (2) Airborne straw striking the cross member underneath the shaker pan. To correct: Replace the wire fingers with a piece of sheet metal bent down so the straw has a sliding action. For the high air straw that strikes the cross member, pop rivet a piece of sheet metal underneath the cross member."

Ray's "combine credentials" are impressive. He grew up on a wheat farm in Eastern Washington, attended technical school, worked in the aircraft industry in California, then returned to Eastern Washington to farm a dry land wheat farm for 25 years. However, he didn't really start digging into the "nuts and bolts" of operating combines until going into business at Colfax, Wash. to market an air-foil chaffer known as the ASL.

"It didn't take me long to discover that there are tremendous differences in combine performance," he explains. "Because the new chaffer was the last thing added to a machine, it was naturally blamed for everything that went wrong in harvesting that year," Ray recalls. This forced him into the field to determine reasons for a variety of problems. Some prob-



Ray Stueckle

lems, such as loose belts or slow motor speeds, were easily detected and corrected. Others, involving very small differences in adjustments, required hours of work and repeated tests. Gradually, a pattern began to emerge and Ray soon developed a reputation for setting and adjusting combines for peak performance. Over the past ten years, he has conducted hundreds of combine clinics throughout the United States and Canada to share his knowledge with farmers. His latest book, his second, includes his recommendations for latest models of combines, and has been expanded to give more of the reasons for the combine adjustments and settings he recommends.

Here are other randomly selected excerpts from the 118 page book:

"All combine models — and there is no exception to this — will have cylinder bars that vary as much as 3/16 in. in thickness when they are new. This makes an out of round cylinder. The maximum difference that is allowable between the highest and lowest bar is 30/1000 in."

"Any time you have cracked grain or white caps, and unthreshed heads at the same time while the cylinder is loaded, it is always caused by an out of round cylinder."

"Never let the cylinder and concave get tight in the center and then open up again. In all crops except corn, always run a "zero" clearance

in the back of the concave. If the concave does not fit the cylinder properly, it is better to relinquish space in the front in order to raise the back to "zero" clearance."

"Most people think the cylinder and concaves are used to thresh the grain. This is not so. What really does the threshing is the material rubbing against itself. Everytime you run empty or go too slow, you get unthreshed heads, cracked grain and trash in the tank. As soon as you pull into the row and get pressure in the cylinder again, the grain comes out clean."

"If any shoe loses grain on the outside 2 or 3 in., yet is relatively clean in the center, it always indicates walker loss ... the only way to prevent walker loss is to keep the grain from getting on the walkers."

"The most common cause for unthreshed heads in the combine is an untrue or out of round cylinder. Another cause is from not having enough material going into the combine."

"One of the greatest causes of uneven feed is the header auger. The flighting on the outside of the header auger should be perpendicular, or leaning slightly toward the feed, but not more than 3/8 in. You can't detect this unless you use a square to check."

"99% of all damaged or cracked kernels come from running the cylinder at too high an rpm. Use only the number of rpm's necessary to thresh grain the first time without rethresh."

For most crops, Ray has developed his own "hybrid" modifications that can be used on most make and model combines to improve harvesting efficiency. For instance:

Corn: "If you can keep the cob whole, it is almost impossible to make any mistakes from there on out. This is accomplished by adding thick filler plates, leaving only about 3/16 in. to 1/4 in. of concave sticking up above the filler bar. Load them all the way from front to the back, because you do not have a walker loss of any threshed corn. Put everything on the walker to start and turn the cylinder no faster than necessary."

Alfalfa and clover: "For these crops, it is especially critical that the cylinder bars be no more than 20/1000 in. difference between the highest and lowest bar ... Cover the walkers with either no-choke screen or hardware cloth. Do this until you are carrying fine material, short stems, etc. out of the back so that the walker is losing the same amount of seed as the shoe."

Cost of the new combine book is \$16 per copy, including shipping and handling.

For more details, contact: FARM SHOW Followup, Ray Stueckle, president, R & H Machine, 115 Roedel St., Box 1348, Caldwell, Idaho 83605 (ph 208-459-1507).

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For more details, contact: FARM SHOW Followup, Distance Measurement Instruments-DMI, P.O. Box 1825, Gilroy, Ca. 95020 (ph. 408 847-2147).