

"I'VE SEEN JUST AS MANY CUMMINS ENGINES BLOWN UP AS DEERE"

Reader Questions Need To Repower Deere 4-WD Tractors

I am writing in regard to an article in the Vol. 12, No. 6 issue of FARM SHOW entitled "Repowered Deere 4-WD runs Better Than New". (Editor's note: The story tells how John Kinzenbaw of Kinze Manufacturing repowers Deere 4-WD's with a Cummins engine using a rebuild kit he has developed.) Somebody did not do their homework. The early 619 engines did have some problems but when Deere replaced them with the 50 Series 619, the problems were overcome. Deere made a lot of changes to this engine. The 5020 engine had a displacement of 531 cu. in. - not 535 as stated in the article - and had 133 hp. in early models and 141 hp. in later models, not 125 hp. as Kinzenbaw stated. The article also talks about the new generation 4-WD's in the mid-1970's, which must refer to the 7020 and 7520. They did not use a bored out 5020 engine as stated. The 7020 had a 404 cu. in. engine, turbocharged and intercooled. The 7020 had the same engine as the 4620 2-WD. The 7520 had a 531 cu. in. engine, turbocharged and intercooled, the same engine used in the 6030 2-WD. This 531 engine is not the same engine as used in the 5020, as Kinzenbaw states. When Deere turbocharged and intercooled this engine they did not just add these to the engine. The engine was completely redesigned throughout to handle the increased horsepower, and they do because I own one of these engines in a 6030 tractor and have had no trouble.

Deere's new 60 series tractors use a 466 cu. in. engine in the 8560, 619 cu. in. in the 8760, and a Cummins in the 8960. The article makes out that Deere engines are no good and that Cummins are the way to go. I've seen just as many Cummins engines blown up as Deere or any other engines.

I really enjoy FARM SHOW but I now question the credibility of other articles in your magazine.

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Kinzenbaw Responds

I'd like to address some of the issues brought up by Chris Olson in his letter. He is absolutely correct on the displacement of the 5020 engine. I got the information from a local Deere mechanic. I should have looked it up myself, so I'll take the blame for the mistake.

Mr. Olson states the early 619 engines did have "some problems"? I think he understates the situation. Any time a company offers a complete engine swap at prices nearly 1/3 of what they sell for new, or when a company still negotiates special deals for customers even today on these early models, there must be more than "some" problems. Not only the 8630's that were built 10 to 13 years ago, but later 8640 customers

still can negotiate engine repair deals with Deere. Lately, I'm told the company is offering to match the dollars the dealer is willing to take off the repair bill on these tractors. One dealer in Story County, Iowa, sold four 8650 tractors. As of last fall their mechanic told me he has already replaced the head gaskets in all four of them. If Mr. Olson would do a little more homework he would find out that the 50 series 619 must also have "some" problems.

As for the horsepower of the 5020 tractor, there are different ways to rate horsepower according to Nebraska tractor tests, including drawbar hp and pto hp. Their published ratings vary from 113 hp. for the 5020 to 141 hp., depending on method and year. So

my statement of 125 hp. was not that far off.

The 6030 tractor used two 531 engines - the 531A and 531D. The A engine was turbocharged and intercooled, and it also used the Bosch fuel system. The 6030 didn't have many problems, as Mr. Olson says, however there were very few 6030's sold.

Mr. Olson misunderstood the statement "their new generation 4-WD's in mid-1970's". He thought it referred to the 7020-7520 tractors. It didn't. The 7020 and 7520 were introduced in 1971 and 1972. The article referred to the 8630 which was introduced in the fall of 1974 for sale in the spring of 1975.

As far as the bored-out 5020 engine, it's very hard to find any completely redesigned version. (The 6030A engine is modified, not redesigned.) Let me make a comparison so that you can better understand the modification processes. Deere, like Chevrolet, has had two basic engines for many years. In 1955 Chevy introduced the 265 cu. in. V-8 which later became the 283, 305, and 350 engines, all considered the "small block" engines. In 1958 they introduced the 348 engine which later became the 409, 427 and 454, all considered "big block" engines. Deere started with the 6-cyl. diesel in the 4010 which developed with one modification after another from 380 cu. in. to 404 and later to 466 cu. in. These engines all have the same overall length, rear, sides and front, bolt patterns, and 4 3/4-in. stroke. I consider this Deere's "small block" series. The 531 6-cyl. diesel was first used in the 5010. I call it the "big block" engine. It was designed with a specific bolt pattern on front and rear sides to fit in the larger tractors. It still has the same length, same center-to-center dimension from one piston to the next. The 5020 through the 8630 uses the same casting number on the crankshaft with, obviously, the same stroke. The same camshaft will fit the 5010 to the 8630, using the same part number. There have been so many modifications to this engine that it

would take a book to list of them. It's too bad Deere didn't completely redesign an engine for the 86 series tractors. Deere bored out the block to make this series engine into 619 cu. in. The counter bore is in fact so large that the sleeves almost touch.

Deere has one of the finest diesel engines built when you consider the later "small block" 404 and 466 engines. I have had excellent experience with these engines myself. If the article gave Mr. Olson the impression that I think all Deere engines are bad, he read beyond what was stated. As far as the 619 engine, he should talk to a few of the people who own them with a rod sticking out the side, a sleeve settled, water in the oil, a broken head, or a broken block. He should then compare Deere prices with Cummins.

Is Cummins the way to go in big 4-WD's? Deere & Co. has one of the most modern engine facilities anywhere and they designed and built a 955 cu. in. V-8 diesel that was used in their 8850 tractor. Now, however, it appears they have now abandoned the engine. Although they don't like to talk about it, Deere recently introduced the 8960 4-WD with a Cummins engine. Case/IH and White tractors, Dodge trucks, and many other manufacturers use Cummins engines. If Cummins had the problems that Deere has had with their engines, freight would be backed up all over the country. Mr. Olson says he's seen as many "blown up" Cummins engines as Deere engines. I'm sure that's true but think how many more Cummins engines are operating on highways and in fields than Deere engines.

We've had so much response from FARM SHOW readers all over the country who own Deere 4-WD's that we'll soon be starting a new division of our company to handle these long-needed conversions.

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Pull-Behind "Stripper" May Be Combine Of The Future

A new pull-behind mini version of that "stripper" combine we first told you about three years ago (Vol. 10, No. 3 and Vol. 11, No. 5) may be the combine of the future, according to reports from the European farm press.

The stripper combine was developed by a national research center in England and is being sold by Shelbourne Reynolds. It consists of rows of plastic teeth that spin at speeds of 500 to 750 rpm's to strip grain off stalks so that only the grain and chaff go through the combine. It doubles the capacity of conventional combines and stalks remain standing in the field. Shelbourne Reynolds has been selling a stripper head to mount on a conventional combine but researchers say there's no need for a combine in the field because grain is harvested so much cleaner. They've now developed a pull-behind self-contained machine that simply strips the grain off stalks and runs it through two threshing cylinders. Here, according to the British magazine Power Farming, is how it works:

"The stripping rotor combs the crop and shears off the heads with rows of plastic teeth. Behind the rotor lies the crop delivery

auger. It separates out up to 50% of the grain threshed by the stripping rotor. This is made possible by replacing the auger pan with a round-hole sieve. The crop then passes to a conventional threshing drum and concave. Separation efficiency at this stage is about 95%. From the drum, the grain and remaining chaff and other chaff flow to an axial flow rotary separator for the final separation."

A load-out auger conveys grain to a trailing wagon. The entire pull-behind harvester is not much bigger than a grain head and is expected to sell for a fraction of the cost of a conventional combine.

In 1987, Massey Combines in Canada brought one of the first stripper combine prototypes to North America for testing. When Massey Combines went out of business last year, the stripper header technology was transferred to Vicon Canada. Contact: FARM SHOW Followup, Vicon Canada Inc., P.O. Box 1240, Cambridge, Ontario N1R 6C9 Canada (ph 519 622-2800)

The stripper header is on the market in England. Contact: FARM SHOW Followup, Shelbourne Reynolds Engineering,



Photos courtesy Power Farming

New pull-behind "stripper" combine, above, is not much bigger than a combine header and requires only a medium-sized tractor to operate. Photo at right shows keyhole-shaped plastic fingers that strip grain from stalks, putting much less straw and trash through the combine and leaving stalks standing in the field.



Shepherds Grove, Stanton, Bury-St-Edmunds, Suffolk, IP31 2AR England (ph 0359 50415).