



The "Keck/Deere 5950" features an 855 cu. in., 400 hp diesel out of Kenworth semi.

## CUTS 35% FASTER

# Repowered Deere 5830

By Jim Houtsma, Associate Editor

When you cut 60,000 to 70,000 tons of silage a season, you need all the performance, speed and capacity from your forage harvester that you can muster.

That's why Fairview, Okla., custom cutter Randy Keck and his company repowered his 1991 Deere 5830 self-propelled forage harvester with a big Cummins diesel out of an over-the-road semi tractor.

"We simply needed more horsepower and torque than the 290 hp Deere diesel was capable of delivering," says Keck of GRK Enterprises. "In 25-ton per acre corn silage, we're now able to fill one of our shop-built, 22-ft. long by 8 1/2-ft. wide by 7 1/2-ft. high truck boxes in just six minutes. Before we modified the forage harvester, it took eight minutes to fill one of the boxes."

Keck and associates repowered the forage harvester, which they call a "Keck/Deere 5950", with an 855 cu. in. 400 hp diesel out of a wrecked Kenworth semi. Before installing it, they completely rebuilt the Cummins to farm engine specifications. This included replacing the original fuel pump with a variable speed pump with 35% torque rise.

Fitting the bigger engine into the harvester required stretching the frame 9 in., then fabricating a longer, higher hood to cover it.

"The biggest part of the job was engineering an adapter plate out of mild steel to adapt the Deere main drive clutch, which is 12 in. in dia., to the Cummins flywheel,

which is 14 in. in dia.," Keck says.

"We kept the Deere's lower fuel tank but replaced its top plastic tank with a 130-gal. steel tank, increasing total fuel capacity to 200 gal.

"We added two 6 by 12-in. blower paddles fabricated out of abrasive-resistant 1/4-in. thick plate inside the blower, increasing the number of paddles to six. We also made a 15-ft. long discharge spout out of abrasive resistant metal. It's 1 1/2-ft. longer than conventional blower spouts.

"On the main drive pulley on the blower housing we went from a 3-groove 14-in. dia. pulley to a 4-groove 16-in. pulley to add an extra drive belt to speed up the machine's four feed rolls and cutter head by 25 percent. The extra horsepower increases cutting speed by 35 percent.

"We also installed a 48-knife cutter head drum in the harvester instead of the standard 40-knife drum. That's to help get a more uniform 3/8-in. long cut."

The machine is equipped with a German-built Kemper 4500 6-row (30-in.) or 5-row (40-in.) head.

The project took a couple of months last winter and cost \$15,000 to \$20,000. The company plans to do a limited number of conversions in 1997.

Contact: FARM SHOW Followup, Randy Keck, GRK Enterprises, Rt. 1, Box 56, Fairview, Okla. 73737 (ph 405 227-2903).

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The rig allows Klompmaker to put up silage with only two people.

## MORE CAPACITY AND LESS EXPENSIVE THAN SELF-UNLOADING WAGONS

# Self-Unloading Forage Truck

By Bill Gergen, Associate Editor

"My two self-unloading forage wagons were 20 years old and worn out. I didn't want to spend the money on new ones so I converted a truck into a big self-unloading rig that lets us put up silage with only two people and works fast," says Gerben Klompmaker, Saint Quentin, New Brunswick, Canada.

Klompmaker already had the 1971 White 7-ton single axle truck. It was equipped with a 21-ft. long, 8 1/2-ft. wide, and 6-ft. high home-built steel box. He used sheet metal to build a "blow deck" that bolts onto the back of the truck and delivers silage into a silo blower. The "blow deck" is equipped with a floor chain, beater, and rubber conveyor belt that are operated by separate orbit motors. The orbit motors are powered by a chain-driven hydraulic pump that's powered by the truck transmission. To unload the truck, Klompmaker raises the hoist, then uses a valve mounted on back of the deck to activate the floor chain and another valve to activate the beaters and conveyor.

"It works great and cost only about \$2,000 to build," says Klompmaker. "I use a 14-ft. long high-dump wagon behind my pull-type forage harvester to fill the truck. I can keep up with the forage harvester with just one truck and dump wagon without needing two or three wagons and tractors and drivers to pull them. I have five silos and three silo blowers. When one silo is full I can start filling the next silo immediately instead of having to spend two hours moving a blower deck to the next silo. The beater and conveyor are on the same valve so if the silo blower plugs up I can stop both of them at the same time. I use another valve to control the floor chain speed.

"I used parts off an old Dion self-unloading forage wagon to make the floor chain and beaters. The beaters were only 7 ft. long so I had to lengthen them about a foot. The rubber conveyor belt is from a potato handling machine.



"Blower deck" delivers silage into a silage blower.



Deck is equipped with orbit motor-driven floor chain, beater, and rubber conveyor.

"I can remove the blower deck to haul small square bales, grain, fertilizer, etc."

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Truck is equipped with a 21-ft. long, 8 1/2-ft. wide, 6-ft. high home-built steel box.