

Chuck Misek wanted an easier way to move big round bales. So he converted an old Deere 6600 combine. It can move two bales at a time


Double forks that replaced header were made with $1 / 2-\mathrm{in}$. steel.

## Deere Combine Moves Two Bales At Once

Chuck Misek used to dread the task of moving big round hay bales. Then he started using a combine to move them and suddenly the job became fun.
"I'm getting older so it was becoming harder to turn around and pick them up with a 3-pt. mounted bale fork," the Schuyler, Neb., farmer explains. "I wanted to figure out an easier way. I had an unused Deere 6600
that my wife wanted me to get rid of. I loved that old combine and didn't want to take it to the bone yard."
Misek convinced a friend to build double forks out of $1 / 2-i n$. steel. He removed the combine header and used part of it to weld a frame to hold the tines, which are bolted on.
The sets of tines are spaced far enough apart to pick up the bales easily and set them
down with a space between them.
"You don't even have to stop to pick the bales up," Misek says. "I never have to look back. It cuts my time in half, and I enjoy doing it."

He bales between 550 and 600 bales a year. Before he kept the bales on the field as long as he could, with the combine he moves them right away. The job is also more comfortable
because of the air-conditioned cab.
Misek's wife, Glenetta, doesn't bug him to get rid of the combine any more. "She says now I'm civil after moving bales," Misek laughs. He estimates he spent about $\$ 200$ on the combine makeover.

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## Powerful Hydraulic Shear Cuts Railroad Ties

Railroad ties are notoriously difficult to cut up so when Art Linsenmeyer was offered a free stockpile of them, he knew he'd have to get creative in order to find a use for them.
"They tore out a railway line near me and I ended up with about 5,000 ties," he says. "There are some good ones that I'm able to sell but I decided to use the rest for firewood in my shop furnace. Since ties would ruin a chain saw or buzz saw blade, I started looking at another way to cut them up.'
The Wymore, Neb. man came up with a powerful hydraulic shear that slices through them like butter.
"So far, I've cut between 500 and 600 ties, each into five pieces," he explains.
Linsenmeyer's shear uses a $4-\mathrm{in}$. dia. by 24-in. long 3,000 psi cylinder and a Chevette engine power plant, hooked onto a 10 gal . per minute hydraulic pump.
"The bed of the shear is an $8-\mathrm{ft}$. piece of 8
by $8-\mathrm{in}$. H-beam, and the knife's located between two $1 / 2$-in. plates that are roughly 12 in. wide. These plates support the knife and the cylinder. They're cut in such a way that they keep the tie from slipping out as the knife comes down," he says. "The knife itself is a 3 -ft. section of 1 by 8 -in steel, sharpened on one side. It does stand up quite well but the first couple knives that I tried weren't thick enough and had a tendency to bow."
The unit has a rack on one side, onto which Linsenmeyer loads 10 to 15 ties at a time with a skid steer loader. He then rolls them one at a time onto the H -beam bed so he can push them into the knife.
He mounted the rig on 2 wheels and put a hitch on one end, so it's portable.
"I guess I've got almost $\$ 300$ invested, but I figure the firewood should last me about 20 years," he says. "The unit has a cycle time of about 15 seconds so I can make about 4 cuts

## Build Your Own Mini Backhoe

If you have $\$ 1,800$ and about 45 hours, you can build your own mini backhoe with Lonnie Green's Cad plans. Green used his engineering background to design and build his first backhoe when he and his wife purchased some fixer upper homes. The 6 - in . wide bucket takes about three shovelfuls of dirt at a time and works well for digging water, septic and power lines as well as foundation trenches. An optional 12 -in. bucket is available.
"I dug a $500-\mathrm{ft}$. waterline, laid the pipe and buried it in 8 hours," Green says.
With a 4-point stabilized design and 360 degree swing, the 480-lb. backhoe will do the same work as a $2,000-\mathrm{lb}$. towable backhoe. Green's design has three valves (boom, crowd and curl) and the operator uses his feet or legs to swing the backhoe. The bucket reaches 6 ft . and digs up to $41 / 2 \mathrm{ft}$. deep.
"Most important, the modular power plant design allows the machine to run on a gas engine, battery or household electricity," Green says.
The machine can be towed by hand into
place, then the bucket is used to move backward as the trench is being dug. Besides digging lines, customers have other uses, such as a miner who plans to use it to dig for gold. "The only thing it can't do is dig when dirt is so hard you can't pick it with a pick," Green says. He's used one machine on digging projects for three houses without any problems. He built two more machines to test the accuracy of his 45 -page plans, which he sells for $\$ 80$ and includes Cad plans, visuals and materials lists.
"My goal is to help the builder create an efficient, trouble-free excavating machine with easily accessible parts. The machine is extremely economical to build and operate," Green says.
No special tools are required. Just a welder and something to cut steel. Green uses a chop saw.
Green notes that his $\$ 1,800$ cost is based on purchasing all new material, but resourceful farmers may have many of the parts on hand. For example, the bucket is made out of a $20-\mathrm{lb}$. propane tank.


Art Linsenmeyer's powerful hydraulic shear "slices through railroad ties like butter".

## a minute."

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Lonnie Green used his engineering background to design and build backhoes for his own use.

A video on Green's website shows the
backhoe in action.
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