

# Made It Myself

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## Low-Cost Battery Charger

A 12-volt transformer and a pair of large power diodes mounted on an aluminum "heat sink" makes a low-cost 70-amp battery charger for Charles Yokimas, Victoria, B.C.

Yokimas paid \$20 for the transformer and \$10 for each diode. He mounted the diodes on top of the heat sink, then bolted the transformer and heat sink to a wooden board. To charge a battery he simply plugs the transformer into an electrical outlet and runs jumper cables from the charger to the vehicle's battery.

"It does the same job as a \$300 commercial fast charger," says Yokimas. "I bought the transformer used for \$20 at a local surplus parts store. A new transformer would cost about \$200. I bought the aluminum heat sink and diodes for \$20 at a computer surplus store. The heat sink prevents the diodes from getting too hot. The only limitation is that it has no controls. I have to make sure I don't leave the transformer on too long or I could damage the vehicle's battery."

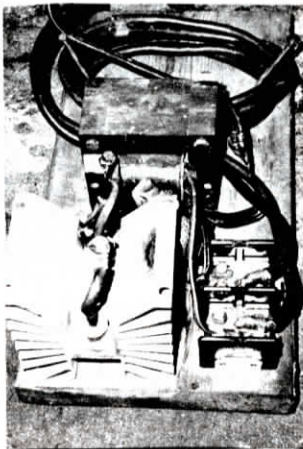


Photo courtesy Grainews

Contact: FARM SHOW Followup, Charles Yokimas, 2770 Ronald Road, Victoria, B.C. Canada V9B 4K1 (ph 604 474-5230).



## Rotary Hoe Grass Seeder

Allen Johnson, Cedar, Minn., uses a home-built rotary hoe grass seeder with a double row of car tires on back to seed bluegrass at about 1/4 the normal recommended rate with good results.

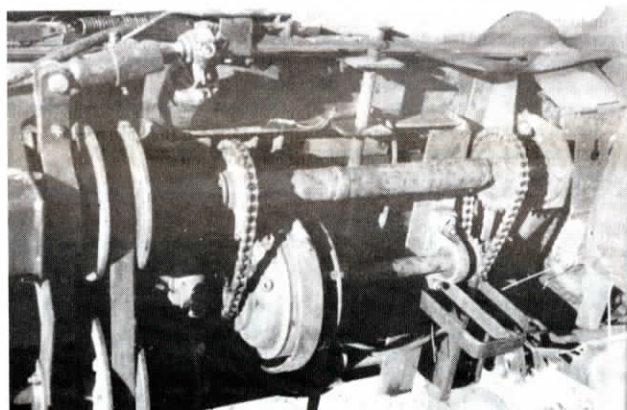
A 14-ft. wide Gandy seed box mounts on the front of the heavy frame, which Johnson built from scratch. The box simply drops seed on top of the ground just ahead of a rotary hoe mounted right behind it. The hoe buries the seed as deep 3 in. "Despite 'expert' opinion to the contrary, grass seed will come up very nicely from 3 in. down, thus covering most moisture conditions at seeding,"

says Johnson.

Right behind the rotary hoe, 24 tires are mounted in two overlapping ranks to tightly pack the seed. "If you recall the days of horses, the first grass or grain to emerge was always in the hoof prints," points out Johnson.

The rotary hoe can be removed with four pins for other work. "I seed at 20 lbs. per acre with good results even though seed companies recommend 80 to 120 lbs. per acre," says Johnson.

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## Non-Hydraulic Header Reverser

"I've used this idea for years to reverse combine headers," says Gordon Rasmussen, Standard, Alberta, about the "no hydraulics" reverser he made for Massey headers on MF 760 and 860 combines.

When he first came up with the idea a number of years ago, Rasmussen says many neighboring farmers were using orbit motors to reverse drive on headers. But he says he didn't think his self-propelled MF had enough hydraulic capacity to effectively run a big enough motor to do the job. He also wanted to avoid the expense of a hydraulic motor and the controls needed to run it. Instead, he built his reverser entirely out of salvaged parts.

Key component is a planetary drive from a self-propelled swather. The drive originally mounted on one of the swather's drive wheels and was used to steer the rig. There was one on each drive wheel. Each planetary drive had forward, neutral and reverse and two levers were used to steer the swather by shifting the wheels in and out of forward and reverse.

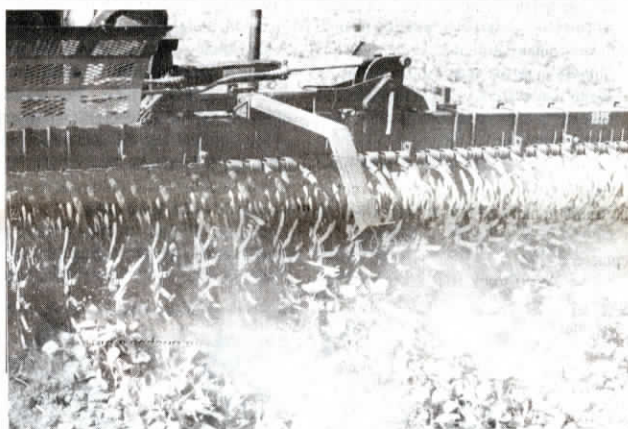
Rasmussen mounted the planetary drive

on a shaft below the main header drive shaft. He cut the main shaft in half and mounted two drive sprockets on the shaft.

The main shaft is driven by a variable speed pulley (from left in photo) which turns the shaft and sprocket above the planetary gear. The drive goes down by chain through the planetary drive and then by chain back up to the original drive shaft. When Rasmussen shifts the planetary gear into reverse - from the cab via hydraulic cylinder attached to the planetary gear shift lever - it simply reverses direction of the output drive shaft, unplugging the feederhouse.

The planetary gear mounts near one end of the header right next to the variable speed drive. The split shaft rides in a "bushing" Rasmussen made out of a long piece of heavy pipe fitted with grease zerks. The only time the shaft turns in the bushing is when the header is reversed.

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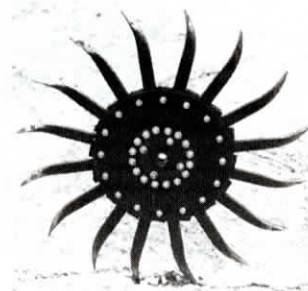
## Rubber-Mounted Rotary Hoe Wheels

Illinois farmer Fred Kestel has come up with a way to get more "ground action" out of the tines on his rotary hoe. It worked so well he's patented the idea and plans to bring it to market.

Kestel put small blocks of rubber between the tines so that as they go into the ground they're bent back slightly - about 1/8 in. - and when they leave the ground they spring backwards, kicking weeds and crust up into the air.

"They're more gentle on the crop because they don't work as deep as regular fixed wheels but do a better job on weeds, which grow closer to the surface," says Kestel. "The tines have more 'float' - moving forward and back and from side to side. In two years of hard use, I've never had a bent tine, even on rocky ground. Because of its effectiveness in killing weeds, it's the best alternative to chemicals yet developed.

"These new hoe wheels are a lot easier on corn and bean crops because they flex and float as opposed to conventional rigid tine wheels and do most of their digging in the top inch or two of the soil, where most weeds are. Corn and beans are



usually rooted deeper than one or two inches, which prevents them from being dug out."

Tines attach to a center metal plate with a 1 1/2-in. rubber block between each pair of tines. Prototype wheels are about an inch larger in dia. than standard hoe wheels.

Kestel is looking for a manufacturer or he may produce them himself.

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