



Howard Elmer and his son converted a 1980's model Massey 550 combine into this self-propelled baler, cutting the combine frame off behind the cab.



They cut 3 ft. off the tongue of an IH 4650 in-line baler and coupled the 2 implements together. The combine engine powers the baler through a right angle gearbox.

Old Combine Made Into Self-Propelled Baler

"My son and I built a self-propelled baler using the frame, motor and cab from a 1980's model Massey 550 combine," says Howard Elmer, a Cove, Ore., farmer. "We tried building one using an old Hesston swather a few years ago, but the frame wasn't strong enough and the engine didn't have enough power. This machine has a 354 Perkins motor with a hydrostatic drive, so we have plenty of power."

Howard and his son, Sage, removed the grain tank, threshing unit, feederhouse and gas tank from the old Massey. They kept the engine, drive train and cab in place, including an old air conditioning unit that they mounted behind the cab. They replaced the combine's gas tank with one from a D-4 Cat and mounted it under the cab.

They cut the combine frame off behind the cab because they wanted a true self-propelled baler rather than just a combine drive train pulling the baler like a tractor.

Then they removed the baler's stationary wheels and replaced them with the combine's oscillating steering wheels. Elmer says this modification allows the re-built machine to have power steering and turn just like the old self-propelled combine.

The Elmers connected the two machines together with a sub frame they built using 5-in. channel iron. They cut 3 ft. off the tongue of their IHC 4650 in-line baler and mated the two implements together using diagonal bracing at the connection point. They also reinforced the baler hitch by adding 5/8 by 5-in. pieces of flat bar.

The combine engine powers the baler through a right angle gearbox that connects the combine's old cylinder shaft to the baler pto shaft. Howard says they salvaged pulleys from another Massey combine to convert the 700 rpm cylinder speed on the combine drive shaft to about 520 rpm for driving the baler. "Running the baler a little slower than

540 rpm's doesn't affect its operation at all. I can compensate for the slower baler speed by easily adjusting the ground speed with the hydrostatic drive," Howard says.

The Elmers have two other inline balers and say this homebuilt rig has about the same capacity as their other machines pulled by tractors. "We've had all three machines in the same field and they run almost identical across the field," Howard says. "I can turn corners faster because the hydrostatic drive lets me speed up at the ends while the tractors are in a fixed gear."

Howard says the old combine cab sitting right over the drive wheels provides excellent visibility above a windrow, but he needs to add a video camera that shows him how the baler is working. "I can see the top of the knotters and see the bales drop, but watching the hay feed in would make it easier to adjust my ground speed."

The machine's 138-in. wheelbase is shorter

than a tractor pulling a baler, and its turning radius is about the same as a combine. The baler has about 4 in. of added ground clearance because of the new wheels, but that hasn't affected how hay feeds in or how the bales drop. The 3-speed combine transmission allows them to bale at about 2 to 3 mph in first gear and travel down the road at 12 to 13 mph in third gear.

Howard says the project took a lot of planning and adds "For awhile I thought we might just have a unique piece of equipment for the 4th of July parade, but eventually we got it done and even had some friendly advice from a neighbor. We've had a few problems with a belt slipping and some leaking oil, but now that's fixed and it's working great."

Contact: FARM SHOW Followup, Howard Elmer, 67750 Lower Cove Rd., Cove, Ore. 97824 (ph 541 568-4671).

Tile Cores Make Great Tomato Cages

If you or your neighbors are having field tile work done this fall, you may want to save the plastic core that the tile comes on. Jordan and Ann Qualm of Sherman, S. Dak., cut the heavy plastic into 20-in. lengths to create cages for some of their tomato plants.

"The plants with the tubes have grown more upright and don't have a mess of vines like the plants without," Jordan Qualm notes. "With these tubes there's no need for wire cages in my opinion."

In the spring, the black color warmed the ground and plants to give them a good start, and despite a hot summer, the dark color

didn't seem to add heat stress. Instead, the cores helped shade the plants and hold water. The plants in the core tubes were the first to have ripe tomatoes, which are easier to pick as they cascade over the side of the tubes.

Instead of setting plants 2 ft. apart, the Qualms will plant them about 3 ft. apart.

Qualm used a reciprocating saw to cut the 18-in. dia. cores and plans to make more for next year's garden.

Contact: FARM SHOW Followup, Jordan Qualm, 48782 252nd St., Sherman, S. Dak. 57030 (ph 605 594-2290).



Jordan and Ann Qualm save the heavy plastic cores that field tile comes on, cutting them into 20-in. lengths to create cages for their tomato plants.

Hydraulic Power Unit Runs On Small Electric Motor

Gene Luoma has been an inventor all of his life. He recently developed a hydraulic power unit to run any tools that need a hydraulic power source.

"One day I figured out it would be nice to have hydraulic power without having to start up a tractor," Luoma says, so he designed and built a portable hydraulic unit that's powered by a 1 hp single phase motor. Its output is 1/2 gpm at 3,000 psi. The oil reservoir is made of heavy gauge steel and holds 9 gal. of hydraulic fluid. Luoma installed a suction filter to remove any impurities in the oil. The filter also protects the pump from contamination.

Luoma can run any small tool or implement with the power unit. He can regulate flow control with a valve located on top of the tank. A gauge on the pump outlet displays operating pressure. A flexible metal coupling connects the motor to the pump, which works smoothly, pumping the no. 10 grade oil that has an anti-foaming agent.

"It's like a small tractor without wheels," says Luoma, who uses his rig to run several tools in his shop. He says it's ideal for running power shop equipment like punch presses, sheet metal rollers, metal brakes and more. It's mounted on swivel casters so it's easy to move around his shop.

The hydraulic control valve has quick disconnect hoses so any device is easy to attach or detach.

Luoma says after he built the power unit and showed it to friends and neighbors they wanted to either borrow his or build one themselves. "I didn't really plan on that much interest for the machine," Luoma says, "but that got me to thinking maybe other people want to build something like this too." That thought spurred him to draw up plans for his design, which are now available on the website www.GizmoPlans.com. "I don't think there's a market large enough to warrant building a rig like this for store inventory,"



Gene Luoma's portable hydraulic power unit is powered by a 1 hp single phase electric motor and designed to run any tools that need a hydraulic power source.

Luoma says, "but I do think there are people who like to have a power unit available and would put their own rig together." Luoma's plan sells for \$14.95 and includes a complete parts list plus instructions on how to build the

machine.

Contact: FARM SHOW Followup, Gene Luoma, 4423 Normanna Rd., Duluth, Minn. 55803 (ph 218 591-4382; www.GizmoPlans.com).