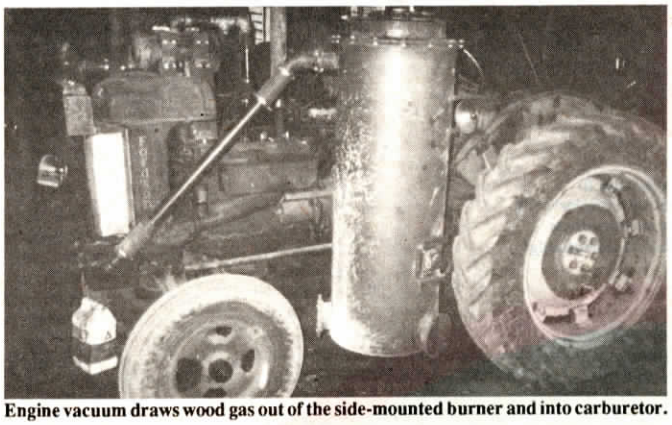

Engine vacuum draws wood gas out of the side-mounted burner and into carburetor.

BURNS 25 TO 30 LBS. OF WOOD PER HOUR

Wood-Burning Tractor Runs On "Smoke"

"A lot of people don't believe it. They think you must put something else in the gas tank besides wood," says Reis Miltenburg, Lucknow, Ontario, who converted a 1946 Fordson Major tractor to run on wood gas using equipment he first saw during World War II in Holland.

Miltenburg amazes crowds at parades and antique tractor shows in his area when he drives up in his wood tractor which runs on wood chips he shovels into the side-mounted burner.

Miltenburg's hobby is restoring old tractors. He got the idea while telling friends about the wood-powered tractors he operated in Holland during the war before he emigrated to Canada in 1949. At that time wood-burning kits were supplied at no charge to farmers by the government. Farmers were required by law to use wood as fuel. All threshing and other fieldwork was done with wood fuel. It was nearly a full-time job for two people cutting wood for fuel. When he told Canadian friends about the wood-powered tractors, they didn't believe him and challenged him to build one. He couldn't find any plans so he had to rely on his memory and solve many of the problems of operating such a system on his own.

After about 1 year of cutting, welding and double welding, the unit was ready to test. He tried several methods of getting gas to the carburetor - sucking it with vacuum versus blowing it - before settling on a combination of methods. The engine starts on a small tank of gasoline. Suction draws wood gas to the carburetor and a fan blowing into the combustion chamber also helps push the wood gas along and helps keep the fire burning. Once the engine is warmed up, however, only the engine vacuum is required to draw in the wood gas and create enough air flow to keep the fire burning. It regulates its own mixture according to the load applied by means of a one-way anti-backfire valve.

Miltenburg's son Ben, who helped with the project, says he thinks the idea would work great if we ever experience another gas crunch. "With a little modern technology, such as automatic timers and sensors to permit easier transition from gasoline to wood, you could make the units more operable. State-of-the-art filtering would eliminate the twice daily task of cleaning dirty filters. Other improvements could also be made but gas would have to get pretty expensive to make them worthwhile," he told FARM SHOW.

The unit burns about 25 to 30 lbs. of wood per hour and the Miltenburgs have run it for upwards of 7 to 8 hrs. at a stretch. Wood chips are dumped into the iron fuel chamber. The wood gas in the chamber passes through a charcoal filter to two separate radiators which cool the hot air mixture in order to boost power as it enters the carburetor. After it exits the cooling radiators, it passes through another home-built filter made up of large pine cones which are changed every 10 to 12 hours to avoid a build-up of creosote. The gas then passes to the modified carburetor and into the engine.

Contact: FARM SHOW FOLLOWUP, Ben & Reis Miltenburg, Rt. 7, Lucknow, Ontario, Canada N0G 2H0 (ph 519 529-7516).

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March-April, 1989

Wammes used the engine, drive train, cab, rear axle and fuel tank from an old Ford combine to build the grain buggy.

SELF-PROPELLED 400 BU. GRAIN HAULER

Old Combine Makes Great "Grain Buggy"

Canadian farmer John Wammes built his own "go anywhere" self-propelled "grain buggy" using parts from a 1972 Ford 642 combine.

"I kept looking at that old combine sitting out behind a shed and thinking that I should be able to find a use for it. This self-propelled grain buggy replaced a high-horsepower tractor we would have needed to pull a loaded grain cart and visibility is great for loading and unloading because of the cab and because you're driving right alongside the combine rather than up ahead of it on a tractor," says Wammes, who farms near Clinton in Ontario.

He used the engine, drive train, cab, rear axle and fuel tank from the old Ford combine. The 400-bu. grain tank was custom-built at a local welding shop. The chassis and support frame was built out of 4 by 8-in. steel tubing. The 13-in. dia. unload auger was taken from a White combine. Both the auger and the flow gate beneath the tank are operated hydraulically by control valves in the cab. He built a ladder up to the bin from the cab platform. The original combine drive tires were left in place but larger rims with 14 by 26-in. tires (front tires from a junked 4-WD White tractor) were mounted in back.

He didn't use the variable speed drive that was on the old Ford combine. Instead he went direct from the engine to the imput shaft on the transmission. The rig has a top speed of 18 to 20 mph on the highway.

One of the trickiest problems in building the self-propelled cart was driving the unloading auger. "I was going to drive it hydraulically but I couldn't find the right motor to do the job. So I made a gear drive that driven by a double V-belt pulley off the engine. It works great and I can engage it from the cab," says Wammes.

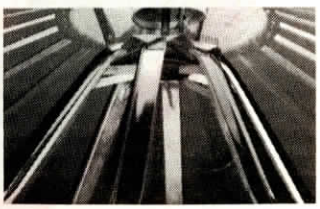
"It took two years to build in my spare time and after working out a few bugs, it's worked well with no problems," says Wammes, who's building a second self-propelled grain cart that he hopes to sell. Once again he's using a Ford combine for parts but says any self-propelled combine should work.

Contact: FARM SHOW Followup, John Wammes, Rt. 1, Clinton, Ontario Canada N0M 1L0 (ph 519 482-9117).

New Grain Spreader Has No Moving Parts

How about this — a grain spreader that has no moving parts and never wears out! It's equipped with eight 18 in. long "fingers" that adjust to evenly spread grain in bins up to 24 ft. in dia.

Designed and manufactured by North Dakota farmers Milt and Bill Voegele, it weighs only 20 lbs and is easily moved from bin to bin. Each of the eight "fingers" is 2 in. wide and has a lip on both sides to channel grain it intercepts into a separate pile. Grain is thus evenly distributed, regardless of how heavy the incoming flow, into eight separate piles, each one made by one of the eight "fingers."



Each of the eight "fingers" is 2 in. wide and has a lip on both sides to channel grain into a separate pile.

To move, you simply pull one pin and lift the spreader out of the top bin opening. Spreads all types of grain and sells for $159.

For more information, contact: FARM SHOW Followup, Voegele Brothers Sales and Leasing, 1325 17th St., Bismarck, N. Dak. 58501 (ph 701 223-9133, or 255-0874).