



When the gearbox wore out on his windmill, McKee rebuilt it using an automotive rear end. It powers a driveshaft that runs down to a compressor at ground level.

Rebuilt Windmill Runs On Auto Parts

"I used an 8-ft. dia. windmill for 30 years to pump water. When the gearbox wore out, I rebuilt the windmill using an automotive rear end and other auto parts," says H. McKee, St. Norbert, Manitoba.

The auto rear end powers a driveshaft that runs down to a belt-driven compressor at ground level. He uses the compressor to pump air into his fish pond to keep it from freezing over in winter.

McKee likes having the compressor at ground level where it's easy to service.

McKee's son Lloyd did much of the conversion work. He stripped the windmill down to the tail and 4-ft. long blades. He U-clamped the blades to an automotive wheel hub that in turn bolts to a car rear axle with its differential locked. The axle is equipped with a torque tube that's connected to a 35-ft. long, 1-in. dia. steel rod that serves as a driveshaft. A pulley at the bottom of the driveshaft is used to belt-drive the compressor. A 100-ft. length of line runs from the compressor to the bottom of the pond. He made an aluminum cover for the compressor and pulleys to keep snow and rain off them.

"It runs all year long to aerate the pond but could be used to belt-drive any piece of equipment," says McKee. "Overall I think it's a stronger windmill than most commercial models. The driveshaft rotates five times faster than the blades do so it has no trouble operating the compressor. The top end of the driveshaft has sealed ball bearings that run continuously in the axle's gear oil, so it runs very quiet and should last a long time. We mounted the windmill on a wood power pole that's buried 10 ft. in the ground. It takes up a lot less space than a normal windmill tower."

McKee says his windmill design is actually an old idea that's gone out of use. "Power windmills like mine were built back in the 1800's to operate small grinders for grain and other power tools."

Contact: FARM SHOW Followup, H. McKee, Box 233, St. Norbert, Manitoba, Canada R3V 1L6 (ph 204 256-0586).

Compressor pumps air into McKee's pond to keep it from freezing up.



Windmill blades are U-clamped to an automotive wheel hub that in turn bolts to car's rear axle.



Axle drives a 35-ft. long, 1-in. dia. rod that runs to the base of pole.



"Unplugger" Opens Up Compacted Septic Drain Fields

Here's a quick and relatively inexpensive fix for plugged-up septic systems. It's a process called Terralift™ which is said to revitalize and rejuvenate troubled septic system leachfields.

Terralift, Ltd., Stockbridge, Mass., owns the patents on the process and the machine. They've been selling franchises to run the machine across the country.

When Wayne Baird, Newberg, Oregon, retired after 45 years as a plumber, he bought a Terralift™ machine and he's been busy ever since. "Leachfields eventually become saturated or sealed and water no longer percolates down. In many cases, effluent from the septic tank seeps to the surface, leaving wet spots and even standing smelly water in lawns," he says.

Done the traditional way, rebuilding a septic drainfield can cost from tens of hundreds to tens of thousands of dollars and take several days to complete.

"With Terralift, it's all done in less than a day and any lawn over a drainfield is left intact," Baird says.

Price depends on the size of the leachfield but Steve McBrien, president of Terralift Ltd., says a job usually runs from 30 to 50 percent of the cost of rebuilding the leachfield the normal way.

Here's how it works: A long narrow probe and a pneumatic hammer penetrate soils three to six feet deep, depending on the depth of the leachfield. Once the probe is in the soil, air is forced through it a high pressures, loosening compacted soil and creating a network of cracks. These cracks, Baird says, break up the 'biomat' pan that develops over years in the drain field. The same high-pressure air that fractures the soil also blows polystyrene beads into the cracks. These beads hold open the cracks, maintaining passages for liquids to percolate away from



Terralift polystyrene blends into the cracks to create a network of open passage ways for liquid to drain away.

the drainpipes. This process is repeated every 4 ft. throughout the entire drain field.

Terralift, Ltd. franchises machines and business territories under the name Sgt. Septic. To find a franchise near you, call the company or look up dealers on their Website at www.terralift.com.

Contact: FARM SHOW Followup, Terralift, Ltd., P.O. Box 532, 104 East Main Street, Stockbridge, Mass. 01262 (ph 413 298-4272; fax 413 298-3481; E-mail: terralift@bcn.net; Website: www.terralift2000.com); or call Wayne Baird at 503 554-0915.

Run-Flat System Protects Tires, Vehicle

When a tire blows out or just goes flat, it's usually not the loss of air that leads to steering problems and damage to wheels and tires, says Paulo Marin, vice president of Tyron Automotive Group, USA, Burbank, California. More often, problems result from the deflated tire breaking loose from the wheel.

The new Runflat Tire Protection System holds deflated tires on the rim, helping prevent loss of control, even in high speed blowouts. The system allows the driver to slow down and run at low speeds for a short distance.

The Runflat Tire Protection System consists of zinc-plated steel bands that fit into the well between the wheel's rims. It was originally developed for NATO peacekeeping forces and has been tested in numerous off-road situations with light trucks and utility vehicles. Marin says it's been used by all British fire brigades and police departments for several years and is now being adopted by a number of U.S. public safety and emergency response departments.

The system can be used with all passenger vehicles, trucks of all sizes and motor homes. Installation, which can be done without removing the tires from the wheels, takes only a few minutes. There's no need to rebalance wheels.

Suggested price for the Tyron Runflat Tire



Metal band holds deflated tire on rim if it goes flat.

Protection System is about \$600 for a set of four bands for the average sized passenger car. Marin says the system is available at some automobile dealerships and many more are now considering it. Check the company's Website for more information or to locate dealers.

Contact: FARM SHOW Followup, Paulo Marin, Vice President of Operations, Tyron Automotive Group, USA, 500 Victory Boulevard North, Burbank, Calif. 91502 (ph 818 954-0400; E-mail: info@runflat.com; Website: www.runflat.com).