

Low-Cost, Multi-Purpose Hoop Storage Building

“Our new low-cost, multi-purpose hoop storage buildings are easy to put up and cheap to maintain. They’re ideal for the do-it-yourself person looking for backyard storage,” says Darryl Enns of Stream Shelters, a farm-based manufacturer of innovative, low-cost hoop-type shelters.

Silver Stream makes the innovative wood-truss hoop buildings first featured in FARM SHOW two years ago (Vol. 25, No. 2). Laminated wood “hoops” are covered with canvas so they look like other “hoop” buildings but cost less and can be more easily finished off inside.

The new multi-purpose Heritage Series buildings are made of wooden 2 by 6’s with slots cut into them where a 2-in. dia. pipe is inserted lengthwise down the building, along the peak, as well as at two side points. The canvas touches only the pipes, not the wood corners, so there’s no wear. Three pipes keep

the canvas off the rafters. The purlins consist of 1 by 4’s which are installed from the inside. The walls and ends of the building are made of wood and tin.

The company supplies pre-manufactured rafters, purlins, pipe, pipe and ratchet tie, and tarps in various colors.

“With a silver tarp, it looks like a metal-clad building but at a fraction of the cost. These buildings work great for use as a garage or garden shed, or to house livestock or store bales or feed, etc.,” says Enns.

Sizes available are 16, 20, and 24 ft. wide by 24 ft. long. The 16-ft. wide model sells for \$1,450; the 20-ft. wide model for \$1,775; and the 24 ft. wide model for \$1,950.

Contact: FARM SHOW Followup, Darryl Enns, Silver Stream Shelters, Box 393, Neche, N. Dak. 58265 (ph 877 547-4738 or 204 324-4592; website: www.silverstreamshelters.com).



Multi-purpose hoop buildings are made of wooden 2 by 6’s with slots cut into them where pipes are inserted lengthwise down the building (above). The canvas touches only the pipes, not the wood corners, so there’s no wear. You end up with a metal clad building with a silver tarp, at a fraction of the cost of conventional storage sheds.



Wood Stove Heat Storage Tank

A New Hampshire-based company has hit on a new way to make wood-fired furnaces more efficient.

The idea is to heat water in a large insulated water tank and then pump that water into the house or shop as needed. The advantage is that it lets you run your wood furnace at full capacity and capture all the heat.

The tanks, which range in size from 400 to 1,500 gal. in size, contain two heat exchange coils connected in parallel. One set of coils heats water in the tank. The other set picks up heat from the tank to carry into the house. A third coil can be used to heat domestic hot water.

“Because of the buffer provided by the heat storage tank, you can fire the boiler whenever it’s convenient for you. As a result you can use wood for all your heating needs all year long, without having to feed wood into the boiler every few hours,” says company representative Jim Nichols.

“Another advantage of this system is that the boiler doesn’t have to cycle ‘on and off’ all the time to maintain a constant water temperature. As a result, it can operate at maximum output until the wood is completely consumed which greatly improves efficiency.”

The storage tank can be used with most wood-fired boilers on the market. The wood-fired boilers that Farm offers range in size from 100,000 to 198,000 btu/hour. They sell for \$3,195 to \$8,995 apiece. A storage tank, heat exchanger, and various control valves sell for \$3,100 to \$4,000.

Contact: FARM SHOW Followup, Tarm USA Inc., Box 285, Lyme, N.H. 03768 (ph 800 782-9927; fax 603 795-4740; website: www.woodboilers.com).



Wood-fired furnace heats water in a large insulated water tank. It stores the heated water until it’s needed to heat the house or shop. It lets you run your wood furnace at full capacity and capture all the heat.



Tank contains two heat exchange coils connected in parallel. One set of coils heats water in the tank. The other set picks up heat from the tank to carry into the house.

He Built His Own Hot Water Heater

“It should last for as long as I’m around,” says Mahlon Palmer, Clinton, N.Y., who built his own low-cost hot water heater out of a plastic tank.

He built it because he was having a lot of problems with conventional electric hot water heaters.

“I’ve gone through 8 or 10 electric hot water heaters over the past 25 years. Each tank lasted only about 2 1/2 years, and they cost about \$200 apiece. I finally had my water tested and it turned out to be high in chlorides.

“I talked to a chemist at the test lab, who said he recommended using only a hot water heater made of fiberglass or a plastic that would not react to the chloride. The problem was I couldn’t find one like that on the market so I decided it was time to build one.”

Palmer bought a polypropylene high temperature tank from United States Plastic Company that’s designed to withstand 200-degree temperatures and is resistant to corrosive chemicals. He then built two coils that he placed inside the tank. Both coils are made from 3/4-in. dia. copper tubing and are 60 ft. long. One coil is 22 in. in diameter and extends about halfway up the tank. This coil connects to an oil-fired boiler and heats the water. The second coil is 10 in. in diameter and runs from the bottom of the tank to the top. Water for the house runs through this coil. The tank is insulated with two layers of foiled-back insulation. The water inside the tank is never replaced. A remote bulb thermostat is used to control an additional zone on the boiler, thus maintaining a constant 130-degree temperature inside the tank. The hot



To build his own hot water heater, Mahlon Palmer bought a polypropylene high temperature tank that’s designed to withstand 200-degree temperatures.

water heater produces a constant 125 plus-degree water temperature at the faucet.

“I installed this hot water heater about six months ago and it has worked great ever since,” says Palmer.

The oil-fired boiler provides backup heat for his geothermal heat pump system, which he designed and installed himself. “I use this system to heat my entire house all winter long and to cool the house all summer,” he says.

The heat pump is located in his basement and obtains its heat from 2,000 ft. of plastic pipe that’s buried in his backyard. The closed loop system circulates 18 gal. of water per minute through the loop, extracting 4 degrees of heat from that water during the winter.

“In most years I can air condition my house all summer for only about \$50,” says Palmer.

Contact: FARM SHOW Followup, Mahlon Palmer, 6885 State Route 5, Clinton, N.Y. 13323 (ph 315 853-5949).

“Tractor Lift” Made From Old Forklift Parts

Using an old forklift mast and hydraulics, John Rissler, New Enterprise, Penn., built his own “service lift” for riding mowers.

Rissler started with an electric forklift that didn’t work any more. The mast, pump and valves were still in good condition. He added heavy wall square tubing to his own forks, which he mounted on the forklift mast. Each fork consists of two lengths of tubing spaced about 6 in. apart. The mower’s front and rear wheels rest between the two lengths of tubing. He used more tubing to build floor supports at the base of the mast that extend out as far as the forks.

“It works slick and didn’t cost much to

build,” says Rissler. “A trucker friend picked up the mast and forklift on the East Coast and paid \$100 for them. I paid him \$250. My total cost was about \$700. I had to build a short ramp onto both sets of forks so I can get the mower decks over them.

“The forklift pump was originally operated by a DC electric motor which I replaced with a 110-volt AC motor. Otherwise I used all the forklift’s original hoses, controls, and hydraulic reservoir,” notes Rissler.

Contact: FARM SHOW Followup, John Aaron Rissler, 3409 Brumbaugh Rd., New Enterprise, Penn. 16664 (ph 814 766-2117).



Rissler used an old forklift mast and hydraulics to build his own “service lift” for riding mowers. Mower’s front and rear wheels rest between two lengths of tubing.

