

Modified Outdoor Furnace Burns 33 Percent Less Wood

Jim Eshleman says he improved his outdoor stove's efficiency and reduced firewood consumption by about a third.

He bought a HEATMOR outdoor furnace 20 years ago that heats his 4,000-sq. ft. home and 40 by 40-ft. shop. The stove's stainless steel liner is what sold him on it and he hasn't been disappointed.

However, when he saw flame coming out of the chimney the first couple of years, he knew he was losing heat.

"I installed a 3-ft. triple wall pipe. It's insulated and so it gets a better draw and makes the stove run better," Eshleman says, noting the chimney holds a steady heat, which also eliminates creosote.

He also installed an adjustable air damper on the intake blower fan. It slows the flow of air before it hits the fan, which was always idling and sending heat up the chimney. As a retired diesel mechanic, Eshleman compares it to adjusting the carburetor and choking the air intake.

Eshleman also made a baffle to slow the exhaust in the water chamber and keep the heat in the stove. He used 3/8-in. steel to create three baffles welded on a rod in a staggered pattern. It fills about 2/3 of the space of a rectangular opening on the back of the furnace and he can pull it out to clean the baffles off.

Finally, Eshleman installed a temperature switch that shuts off the blower fan when the water is below 130 degrees. Without the fan the wood doesn't burn as fast.



Jim Eshleman modified his outdoor furnace to retain more heat by adjusting air flow and controlling exhaust, resulting in up to 1/3 less wood consumption.

Despite reducing wood use by 30 percent, there's still plenty of heat for Eshleman's home and shop during the coldest months in Garfield, Ark.

"It runs for 3 mos. steady. I burn 4 to 6 cords a year, depending on the season," he says.

Contact: FARM SHOW Followup, Jim Eshleman, 11581 Walnut Hill Rd., Garfield, Ark. 72732 (ph 479 925-3956; keshleman17@gmail.com).

Crop Sensors Designed For Smaller Farms

MidAtlantic Farm Sensors recently introduced scaled-down temperature and humidity sensors that provide smaller operators with the same kinds of sophisticated remote controls that big greenhouse operators take for granted.

Bob Siegfried of MidAtlantic works directly with farmers to help them determine what sensor setup makes the most sense for their business. He is a certified retailer of Monnit sensors, a professional-grade system made in Salt Lake City. These sensors operate on a 900MGz signal with a transmission distance of over a mile, a range unmatched by most competitors.

So long as you have a Wi-Fi router, the gateway plugs into the back through an ethernet connection. Battery backup ensures the system will operate for 24 hrs. during



With a transmission distance of over one mile these sensors work with Wi-Fi to remote monitor temperature and humidity.

you receive products that are already optimized and set up for your specific situation, at no additional cost. Once you start a conversation about your farm needs, Siegfried will figure out your precise sensor requirements, down to measuring your property on Google Earth, to determine which system will fit your needs. He programs each sensor before shipping, including creating logins and passwords, so they are ready to go when you receive them.

To date, MidAtlantic customers have put the sensors to use in greenhouses, high tunnels, walk-in coolers, seed starting chambers, and even potato barns. Most farmers can get started for under \$500. Once installed, the system requires a subscription that ranges from \$39 to \$59 per year.

Contact: FARM SHOW Followup, Bob Siegfried, MidAtlantic Farm Sensors, LLC, Richmond, Va. 23112 (ph 804 920-5091; bob@midatlanticfarmsensors.com).



MidAtlantic Farm Sensors include an easy-to-use app to remote monitor sensors.

a power failure. Cellular gateways are also available for farms without reliable Wi-Fi.

Most models include an easy-to-use app that lets you monitor the sensors remotely. If temperatures get outside your pre-set range, you'll get a text alert or phone call. This makes it possible to address the problem before systems go awry by directing someone on-site to check out the situation. "For some farmers, these sensors have given them their first chance in a long while to leave the farm for a few days on vacation," says Siegfried.

It's possible to purchase Monnit sensors directly from the company and set them up yourself. But by ordering from MidAtlantic,



Brett Howerton circulates water in his above-ground pool with an old swimming pool pump.

Pool Heated With A Stock Tank Heater

Brett Howerton of Longdale, Okla., used a livestock tank water heater to create a heated therapy pool in his backyard.

He wanted to warm up the water in his wife's pool for his sister to use for water therapy after her hip surgery. He started with an old swimming pool pump and a propane Trojan stock tank heater. Howerton bought a new livestock tank and drilled holes that he fitted with electrical conduit fittings to run 2-in. pvc pipes through.

After priming the water from the pool into the tank, the pump circulated the water back into the pool. Howerton quickly discovered that he had to trick the heater's thermostat. To keep the heater running he pulled its remote bulb out of the tank and put it in ice water.

"In 5 hrs. we raised the temperature 2 degrees. The concept worked but it would work better in a smaller pool or a hot tub," he says, noting that it took a while to warm his 16 by 32 by 4 1/2-ft. above-ground pool.



A propane-powered livestock tank heater warms the water.

He only spent about \$110 on the project and used very little propane.

Contact: FARM SHOW Followup, Brett Howerton, 249839 E. Co. Rd, 58, Longdale, Okla. 73744 (ph 580 278-9180; zarahowerton@gmail.com).

He Uses A Kid Quad To Get Around

Bigger isn't always better, says John Martin, who figured out that inexpensive children's 4-wheelers are all he needs to get around on his rural McDonald, Tenn., property.

At 5 ft. 7 in. tall and 140 lbs., the 75-year-old says he has no problem fitting into the mini ATVs. They're ideal for getting him up the driveways to the five buildings set on different hills of his 8-acre property. The child-size models are big enough to haul him and the tools he needs.

The retired clergyman got the idea when he saw a cheap Chinese model at an estate sale. Though it wasn't running, he figured he could fix it up and let his 11-year-old grandson have fun with it.

"I got it running and decided to fix it for me and not him," Martin says, explaining that arthritis makes it difficult for him to climb the steep hills on his property.

He removed the motor and other parts and purchased a \$99, 3 1/2-hp. Predator motor from Harbor Freight that just fit in the 4-wheeler. He added a centrifugal clutch with a chain gear, a 10 1/2-in. sprocket with a mandrel and a 1 1/2-in. sprocket.

"I geared it way down. At top speed it's a really fast walk, so that didn't tempt my grandson at all," he says.

He used it for a year, and though it starts on the first pull, the 20 or so pulls he made a day started bothering his shoulder. So he started looking for an electric model. When he found one made by Rosso Motors, he was told it was too small for an adult.

"I put an ad on Craig's List and said I would pay someone \$25 just to look at and sit on their Rosso 4-wheeler," he says. He got a response and traveled about 40 miles to check one out. It carried him just fine so he ordered one for \$675 delivered.

Martin usually drives it at medium speed



John Martin uses a Rosso electric kids quad to get around his property. He added tool boxes to the front and rear. He does not use it on rough terrain.

because it is a little top heavy on turns, but he uses high speed to make the hills. With a tray on the front and a cargo box on the back, it easily carries him plus about 15 lbs. of tools.

He selected the model because it has reverse. He's never run down the battery.

"It takes me anywhere I need to go on my place, and I don't have to pull a rope. I ride it all day and then plug it in when I go in for the night. In the morning it is all ready to haul me and my tools all over the property," he says.

Martin notes that there are inexpensive youth models that are slightly bigger that would also work for adults, but not all models have reverse, which is very handy.

Contact: FARM SHOW Followup, John Martin, 1012 Old Alabama Rd. SW, McDonald, Tenn. 37353 (ph 303 941-3778; johnmartin0012@hotmail.com).