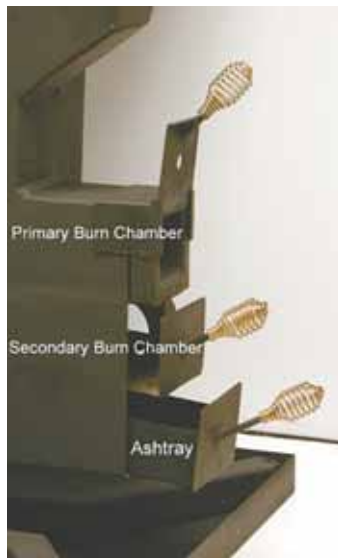




Stove runs on gravity feed. Pellets flow into a primary burn basket, then into a secondary burn chamber where they finish burning. Ashes fall into a tray below.



## No Electricity Needed For This Gravity-Flow Pellet Stove

An unusual pellet stove recently came to our attention, thanks to a reader from Maine. The WiseWay pellet stove is the only UL-tested, EPA-certified, non-electric pellet stove in the world.

"It runs on gravity feed, thermal convection and natural draft," says Gary Wisener in a video on the WiseWay website. "It's all run by Mother Nature."

The machinist came up with the design when he lived with his grandparents. He wanted to make it easier and cheaper for them to heat their home during cold weather.

The hopper holds a 40-lb. bag of wood pellets that last from 10 to 36 hours depending on whether the stove is set on low or high. The pellets flow into a primary burn basket, then into a secondary burn chamber where they finish burning, with ashes falling into a tray below.

Without any moving parts, the stoves are fairly maintenance free, says Matt Aguirre, Wisener's business partner who handles production.

"We recommend cleaning out the secondary

burn chamber and ash tray every 12 hrs.," Aguirre says.

Because the stoves only weigh 113 lbs. and come with a wheel option, customers use them for a variety of things beyond heating homes, basements and shops. They are used in greenhouses, on patios, for tailgating and for heating wall tents on elk hunts, for example.

The burning chamber is made of heavy-wall square tubing. The pellet stove has a 75 percent efficiency rating with deflectors and a heat shield to direct heat to flow from the front. The back of the stove is cool enough to be within 2 in. of a wall.

The U.S.-built stoves sell for \$1,799 retail and are sold through dealers in several locations across the U.S., including Alaska.

Check out the website for more information and videos.

Contact: FARM SHOW Followup, WiseWay Pellet Stoves, 7587 Unit 5 Highbanks Rd., Central Point, Ore. 97502 (ph 541 946-8108; www.wisewaypelletstoves.com).

## Custom Tools Re-Size Bolster And Kingpin Holes

Wyoming machinist and mechanic Terry Peterson designed and built portable boring tools that he uses to re-size out-of-round holes on farm equipment. Peterson says he initially came up with the idea to repair the bolster on a Deere front end without removing it from the tractor. "I had to get the tractor fixed between Christmas and New Years so my customer could use it to move snow," says Terry. "I looked into buying a commercial boring tool for the job, but that would've cost more than I could justify for my portable repair business."

Peterson came up with his own method of repairing the bolster on the tractor. He can now use the device on Deere 10, 20, 30, 40, 50, 55 and 60 series tractors.

After he removes the damaged pin from the bolster, Peterson uses heavy-duty clamps to secure sealed bearing pillow blocks over the holes on both sides. Then he runs a solid piece of 1 1/4 in. chrome steel through the pillow blocks to guide his boring bit. He adjusts the clamps to center the shaft in the holes, and then attaches the boring bit to the chuck on his Milwaukee magnetic drill. He uses a clamp set from a milling machine to attach the drill to the tractor, and then carefully bores the oval shape into a perfectly round and larger

hole. Peterson says, "the key to getting a nice clean cut is to feed the bit at a slow and steady rate."

Peterson has used his portable tool more than a dozen times for repairing bolsters on farm tractors and several more times for repairing oversized holes on backhoe buckets and articulating 4-WD tractor center pivots.

After a hole is bored to a larger and uniform size, Peterson installs a new bushing to hold the pin. "The bushing size I use depends on how much the owner let the old hole egg out," Peterson says. "If the front was extremely worn and the back was okay, then I'll center at 270 degrees of the old hole and bore it for a 1/8, a 1/4 or a 1/2-in. bushing."

Peterson says equipment owners could avoid the problem of worn bolster holes and worn kingpin holes if they'd pay more attention to greasing. "Some people don't grease at all, which is the worst, because metal on metal wears the pin and the bushings real fast. Others grease too much, and that's almost as bad as not greasing, because the grease pressure dislocates seals in pivots." Peterson says, "there's so much hired help nowadays without a clue about when and how to grease equipment that I have plenty of work on projects like this."

## PVC Tube Tree Waterer

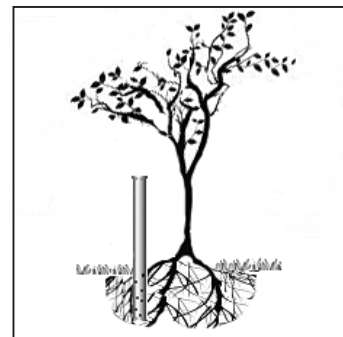
Bud Watts, Spencer, Iowa, recently sent FARM SHOW his idea for a simple pvc tube waterer that he uses to water young trees.

"I start with a 4 to 6-ft. length of 3 or 4-in. dia. pvc tubing and drill 1/8-in. dia. holes in the bottom 6 in., at angles of 10 and 2 o'clock," says Watts. "After digging the hole, I place the pvc tube in it to one side, with the drilled holes pointing toward the center of the hole. Then I plant the tree as usual and water it by filling the pvc tube as many times as necessary for proper watering."

"The pvc tube gets the water down to the roots where it's needed for quick and deep rooting. Once the tree gets established, I simply pull the tube out of the hole and fill it in with dirt. Larger trees may require more than one tube."

Watts says he recently used this method to plant 4-ft. high fruit trees in light soil, using just one tube per tree, and that the trees have done well. "No surface watering cuts down on competition from grass and weeds," notes Watts.

He doesn't put a cap over the bottom of the



A short length of 4-in. dia. pvc tubing has 1/8-in. dia. holes drilled in the bottom 6 in. to water tree's roots.

tube. "After I fill the tube two or three times the water stops draining out the bottom on its own. If you have sandy soil you could put a cap over the bottom," notes Watts.

Contact: FARM SHOW Followup, Bud Watts, 1645 310<sup>th</sup> St., Spencer, Iowa 51301 (ph 712 834-2034).

## Carpenter Loves Giant Level

"The crew just loves it. Guys practically fight to get a hold of it," says FARM SHOW reader Bob Thompson about his "best buy" – a Plumbit extendable level.

The 5-ft. 3-in. level extends up to 13 ft. 10 in. It's used to level everything from foundations to doorways to tall walls.

The Tonasket, Wash., contractor doesn't remember how he learned about Plumbit, but he bought his first one about 10 years ago. Made of aluminum, it weighs 10 1/2 lbs. and extends on both ends with a simple squeeze. The patented locking mechanism hold the extended ends in place so secure that a person could hang off the end of it, Thompson says. Plus, the solid block cast acrylic vials have a lifetime warranty.

The Tucson, Arizona, company that makes Plumbit sells them through distributors and at its online store (www.plumb-it.com). The model Thompson owns sells for \$269. Five sizes are available, with the longest extending to 21 ft., 8 in.

"Plumbit has stayed true to level and, it saves us so much time," Thompson says.



The 5-ft. 3-in. Plumbit level extends out up to 13 ft. 10 in. You can use it to level everything from foundations to doorways.

Contact: FARM SHOW Followup, Wizard Works, Bob and Jane Thompson, P.O. Box 581, Tonasket, Wash. 98855 (ph 509 486-2654).



Boring tool connects to a Milwaukee magnetic drill to re-size worn holes in tractor bolsters.

Another reason Peterson is seeing more problems is because many farmers in his area operate heavily ballasted tractors in 22-in. row crops. "Tractor front ends with wheels spaced 88 in. on center experience extreme stress in pivot areas because of the extra ballasting," Terry says. He also says that farmers who use satellite-assisted steering on their tractors should remember to grease the front-end pivot points at least with every tank of fuel.

After his success with the bolster boring tool, Peterson made a different tool to repair the kingpin bearings on International Magnum tractors. To use that device he first welds a damaged hole undersized, and then machines it out to the size he needs to replace the bearing race. "This idea has been a work in progress," Peterson says, "but repairing those kingpins is definitely less expensive than replacing them with a new or salvaged part."

After more than 30 years as a Deere mechanic, Peterson now has a mobile service business that he operates from a 2002 Sterling service truck with a 16-ft. crane. His business takes him to farms, ranches and commercial outfits within a 100-mile radius of Powell, Wyo. "I've built up a relationship with a

lot of customers over the years and I'm still working with them today," says Peterson. "I also get calls from people who try repairing their own equipment and don't realize simple things, like the fact that bushings are directional. If they're put in the right way they'll last 15 to 20 years, but if they're put in backwards they might last a year at best. Peterson says people are also quick to use JB weld and Belzona metal, which is a fresh fit repair that doesn't work on bushings because it's not designed to repair a large hole. Peterson uses 4140 steel. After he re-sizes the hole, original equipment pins and bushings are used to complete the repair.

Contact: FARM SHOW Followup, Terry Peterson, 1967 Lane 9, Powell, Wyo. 82435 (ph 307 202-0700).