John Maxfield's grandsons, Jordan and Austin helped build this trucktor while staying at their grandfather's farm. "The project itself was worthwhile but the shared memories are priceless," says Maxfield.

"Trucktor" Project Builds Bond With Grandsons

When John Maxfield learned his teenage grandsons were coming to visit for a week, he decided to use the popularity of TV shows like Junkyard Wars and Monster Garage to teach them lessons about farm life. "I realized my time was short to forge a bond with two budding white collar city boys."

So Maxfield suggested working on a "shotgun marriage between the back half of a WD Allis tractor and the front half of a very rusted GM 3/4-ton pickup."

Since he'd seen many trucktors in FARM SHOW over the years, he knew the project was simply a matter of putting the two vehicles together and hooking up the transmission and drive shaft.

Keeping Jordan and Austin interested was the main challenge. To do so, he had them work on it a few hours at a time in between swimming, fishing and paint ball tag. The boys learned how to cut, drill, grind and weld steel.

Maxfield did most of the actual welding and torch work. "I let them use the cutting torch but not actually on the project. It was like, 'We've got to cut this and I'll do this but here's a piece of scrap metal you can cut after I'm done.' It was a teaching lesson of different tools and different processes," he says.

Maxfield also taught innovative ways to solve mechanical problems. For instance, instead of connecting the drive shaft to the transmission by sliding a piece of pipe over and welding it on, they put a sprocket on the transmission and on the first segment of the drive shaft and put a double chain connecting the two, he says.

Maxfield thinks he may have gotten through to both of them. "They really understood the project and the reasons behind it," he says. "I was pretty impressed."

Everyone drove the machine around after finishing it. "I think they thought it was cool."

Maxfield took pictures during and after the project.

"The project itself was worthwhile but the shared memories are priceless," he says.

Contact: FARM SHOW Followup, John Maxfield, 1407 Road 280, Admire, Kansas 66830 (ph 620 528-3476).

Drainage Device Helps Create New Wetlands

"We've been in the drainage tile business since 1887," says Skip Short of Hancor, Inc. "We're not only helping drain wetlands, but building them back up, too."

The new Water Control Structure (WCS) grew out of work Hancor does with Ducks Unlimited. It's basically a giant adjustable float that fits over the end of field tile outlets. It lets you control the water level retained in a field or wetland in 1-in. increments.

Originally designed to allow wetland managers to control water levels in nesting areas, Hancor has found other uses for the WCS. Short notes that while it is important to get water off fields early in the year, the rest of the year, water retention may be preferred.

"One avenue we are looking at is hooking it onto the end of drainage systems to pull nitrates out of field runoff," says Short. "Instead of the leachate running out through the pipes and into a drainage ditch, the unit backs it up, and the nitrates stay in the field."

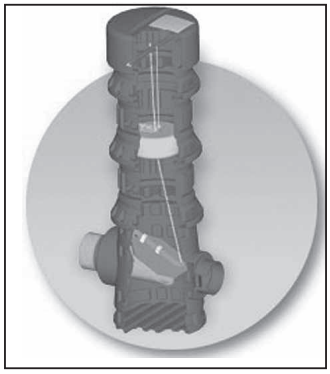
The WCS could in some instances offer new income opportunities for landowners who can rent out duck blinds on post harvest fields turned into temporary wetlands. For others, it may provide new personal hunting or wildlife viewing opportunities.

"A lot of people are into hunting waterfowl and want to create wetlands to attract ducks for hunting," says Short. "This will do it."

Units range in size from 4 to 8 ft. tall and will fit any size drainage tile. Price for an 8-ft. unit is $1,500.

Contact: FARM SHOW Followup, Customer Service, Hancor, Inc., 401 Olive St., Findlay, Ohio 45840 (888 367-7473; fax 888 329-7473; sshort@hancor.com; www.hancor.com/product/water_control.html).

Skip Short says the Water Control Structure could offer new income to landowners by making it possible to turn fields into temporary wetlands for hunting.



The big adjustable float fits over the end of field tile outlets, letting you control water level in fields or wetlands in 1-in. increments.

Bulk Tank Boiler Looks Like Train Engine

Bill Fish's bulk tank hot water system provides all the heat he needs in winter. Designed to look like a train engine, the 600-gal. insulated bulk tank heats his 2,400-sq. ft. house and 1,200-sq. ft. shop. The only problem is that it's so efficient he only needs LP for the kitchen stove and clothes dryer.

"I only used 250 gallons in two years, and the utility said they were going to charge me $100 per year for the tank," says Fish, who bought an old tank for $100 instead of paying rent.

After looking at commercial wood-fired boilers that cost as much as $8,000, he decided to build his own. A bulk milk tank seemed ideal for the water jacket. Fish's son Bill Jr. is a professional welder and built the 36-in. high by 28-in. wide by 48-in. long firebox. He used scrap stainless steel and more than 20 lbs. of stainless steel wire.

Fish cut a hole in the end of the bulk tank and slid the firebox in. Water pipes enter and exit through holes drilled in the end of the tank, opposite the firebox. The firebox door is double walled 3/8-in. stainless steel with a 4-in. collar. Flexible radiator hose at its top and bottom connect it to the tank so water circulates through it.

"Without the water jacket, the door would warp from the heat," explains Fish.

The water jacket also captures any heat that might have escaped to the open air. The chimney also runs through water before exiting through one of the original access holes on top of the tank.

A draft installed between the door and the ash pan is powered by a squirrel cage fan. When the fan kicks in, the air lifts a flap on the draft, and the fire blazes up like a forge, says Fish. When it shuts off, the flap drops back into place, and the fire shuts down.

"An upper limit switch controls the fan so when hot water is needed, it kicks in," says Fish. "A low limit switch shuts it off when the water gets down to 140 degrees so coals will remain for the next firing."

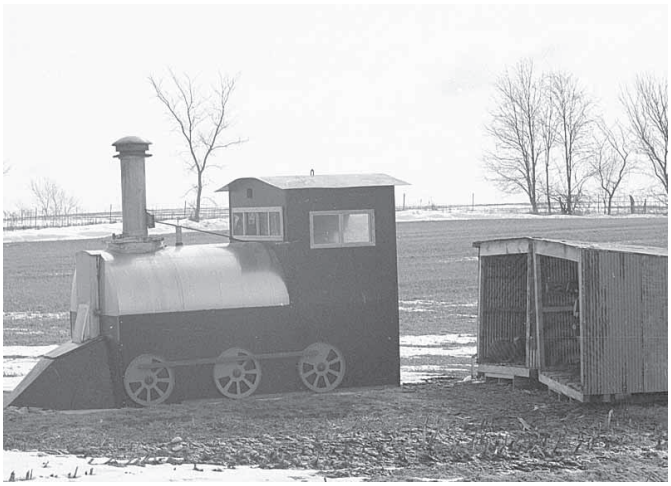
Fish fires his furnace twice a day. A circulating pump in the basement draws water through a heat exchanger in his hot air furnace and through the water heater before cycling back to the boiler. A second pump draws hot water to his shop. Here it passes through a radiator Fish salvaged from a walk-in cooler.

Thermostats control both pumps. Using pumps meant that Fish didn't have to pressurize the system.

"If the wood-fired boiler ever fails, I can always switch back to LP," notes Fish.

Once the hot water system was operating smoothly, Fish decided to dress it up. Using 10-gauge sheet metal, he built a 6 by 10-ft. cab on the firebox end to give it a locomotive look. The cab also serves to house controls and provides a sheltered spot to feed the fire. Windows out of an old truck let in light.

To finish the look, Fish cut wheels out of steel with a plasma cutter and built a cowcatcher to fit over the front end.



To make his boiler look like a train, Bill Fish built a 6 by 10-ft. "cab" out of 10-ga. sheet metal. The cab provides shelter to feed the fire. Windows from an old truck let in light. Fish cut wheels out of steel and built a cowcatcher to fit over the front end.

When smoke filled the cab as wood was being fed in, Fish put ductwork around the door with a squirrel cage fan on it to pull the smoke up and out the top of the cab.

Accessing wood is easy, too. Fish built a wood shed that he can fill at a woodpile and then pick up with a rear-mounted forklift on his tractor and move back to the furnace. "I don't have to handle wood so much," says Fish. "And when I need to feed the fire, I can do it in my church clothes."

Contact: FARM SHOW Followup, William F. Fish, 16651 State Hwy 60, Blue River, Wis. 53518 (ph 608 537-2770).