

Stock tank monitor can check water levels remotely as well as control wells and generators.



How To Check Stock Tanks Remotely

Damon Printz of Wyoming got tired of driving 15 miles one way to check livestock waterers in remote pastures. To save time, he developed a remote monitoring system called the Tank Toad.

"It's a remote stock tank monitor for checking water levels so you can manage your water much more easily," Printz says. "The device is a box that sits on the tank and texts your phone daily."

His customers typically attach the Tank Toad to the structure around the tank. The device either has a sonar module that sits above the water or a pressure sensor that goes in the water.

"We use sonar on tanks that aren't super deep with open tops," he says. "The pressure sensors are for bigger and taller enclosed tanks."

In addition to monitoring water line pressure and water levels, the Tank Toad can also remotely control wells and generators.

The water management aspect of the Tank Toad really comes into play when a user has a well and tank separated by a long distance.

"There's no real way to get any feedback on water levels, so most ranchers have an overflow at the tank itself that often runs continuously," Printz says. "That means

they're just burning through electricity and water.

"Tank Toad units can communicate with each other," he says. "You can have one turn on and shut off the well automatically."

If a producer has a solar well along with a backup generator and that well is falling behind, producers can start the generator remotely with the Tank Toad and get the water going again.

The Tank Toad signal to your phone can run on cellular service, or if it's in extremely remote areas, the text gets sent to a user's phone via satellite.

Printz says there is no need to download an app to use the Tank Toad. "Our intended audience doesn't care for a lot of fancy logins," Printz says with a laugh. "We tried to make this as simple as possible."

The Tank Toad is available on the company's website and costs \$1,800. Farmers also need to choose either satellite service, which is \$30 a month, or the cell service plan, which is \$100 per year.

Contact: FARM SHOW Followup, Damon Printz, Meadowlark Solutions, 2816 County Road 159, Albin, Wyo. 82050 (ph 801-252-6135; info@tanktoad.com; www.tanktoad.com).



Each veggie oil vehicle has two fuel tanks, one for diesel and one for vegetable oil. You use diesel to start the cars until the heat from the engine warms the oil to the point it can be used.

They've Been Driving On Veggie Oil For 15 Years

Childhood friends Nick Pisca and Glenn Wienke run their vehicles on waste vegetable oil, most of which they pick up for free from restaurants after it's been used in deep fryers.

The two have relied on vegetable oil vehicles for daily travel for over 15 years, starting in 2005 when Wienke heard about the idea on the radio. Wienke spent the next four months modifying a diesel Mercedes 300TD station wagon to run on vegetable oil. The two took it on a road trip from Wisconsin

to California and back, learning to deal with the complications of running a diesel engine on veggie oil.

Today, Wienke drives a converted 1996 Volkswagen Passat, while Pisca's daily vehicles include a Volkswagen Jetta and a 1988 Ford van. Each vehicle has two fuel tanks, one for diesel and one for vegetable oil. You need diesel to start the cars until the heat from the engine warms the oil to the point where it can be used.

Teflon Liners Extend Equipment Life

Röchling Industrial in Dallas, North Carolina, puts Teflon linings in the back of trucks and trailers as well as feed bunks, manure spreaders and other farm equipment.

Matthew McKeever, National Sales Manager says, "Our plastic is similar to Teflon in slickness, but what sets it apart is its durability."

The durable plastic liners can take a lot of abuse and make unloading much easier due to the slickness. The plastic bed liners come in different sizes depending on which vehicle or trailer farmers want to have lined.

"During installation, the liners are mechanically fastened at the front of the trailer. At the other end, they leave a 2 to 3-in. gap at the rear of the trailer to allow it to breathe.

"Plastic expands and contracts as temperatures change," he says. "In the Midwest, it could be 50 degrees in the morning and 90 in the afternoon.

"That means a 37-ft. piece of plastic is going to grow quite a bit because of the heat," McKeever says. "We have to allow it to breathe to prevent bowing upward because there isn't enough room to grow."

The plastic truck bed liners have been extremely popular in construction and trucking.

"I have six quad-axle dump trucks that have their bed liners installed," says Michael Krantz, a Wisconsin farmer. "In addition to farming, I own a landscaping company, so I have them in single-axle dump trucks and dump trailers.

"After installing them in my landscaping equipment, I put some leftover scraps into my feed bunks to help them last longer," he says. "The bunks are also easier to clean out.

"I now have a \$300 feed bunk that costs \$3,000 brand new, and it's going to last me another 7 or 8 years," Krantz says.

He also put plastic lining in his manure spreader. The liner helps the floor of the manure spreader last longer and prevents broken chains.

Krantz also has a belt trailer that he hauls with a semi.

Regarding the process of converting vehicles to run on waste oil, the pair believes it's easier than people think. "We're average people, and we did it," laughs Pisca. "In fact, neither of us is too bright, so if we can, you can."

"First, you will need an older diesel vehicle. Anything newer than 2005 is hard to convert. Second, you'll need an assortment of parts, including heat exchangers, heated filter heads, fuel pumps, selector valves, fuel tanks, and other things." Pisca estimates you'll spend between \$1,000 to \$2,000 to convert a vehicle. "Third, you'll need to install everything to ensure your biofuel will arrive at the injection pump at a temperature between 150 to 180 degrees F."

Sourcing oil can be challenging, as it's not as simple as pouring it from the fryer to the fuel tank. Says Pisca, "If you want to recycle old oil, you'll probably need a small restaurant to give or sell you the oil, and you'll need a centrifuge or gravity filtration setup to convert the contaminated oil to clean oil ready for combustion."

Make sure you think through the time commitment - not just for retrofitting the vehicles but also for operating them. "Unlike conventional fuel, you can't just drive up to a gas station and fill up in 60 seconds," says Pisca. "You're producing your own fuel for your vehicle, which will take some time if you want to filter and dewater it correctly. Failing will cause engine damage, taking even more time and money to fix."

You also need to factor in the expense



Trailer liners allow for contents to easily slide out when dumped.

"We haul both feed and manure with it," he says. "Whatever is in there slides right out. We can haul grain with it and then go straight to hauling manure."

Krantz has been farming his whole life and says he appreciates it when you can make equipment last a little longer.

McKeever says his company can line pretty much anything a farmer brings to them. "Anywhere you have grains, crops, aggregate, or dirt coming in contact with metal, it's going to mean challenges," he says. "We can line anything that needs it."

"There are a lot of variables that go into setting a price," McKeever says. "We typically charge by running linear feet. Contact us when you're ready to talk about adding a liner."

Contact: FARM SHOW Followup, Matthew McKeever, Röchling Industrial Gastonia, 903 Gastonia Technology Parkway, Dallas, N.C. 28034 (ph 704-884-3561; www.dumpliner.com).

of maintaining the vehicle. "Since biofuel only works with older diesel engines, it's getting harder to find mechanics and parts for these vehicles," Pisca says. "So, if you have an injection pump or steering rack die on your antique vehicle, it can be a bit costly or just plain impossible to find a competent mechanic or parts supplier in a time frame you need."

Contact: FARM SHOW Followup, Nick Pisca (nickpisca@gmail.com; www.nickpisca.com/wvo/contact-us/).

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