

Amazing New Way To Catches Thieves

British farmers paint their farm equipment with SmartWater and know that machinery thieves will be caught "red-handed." When put under ultraviolet (UV) light, SmartWater with its coded fragments becomes visible. Not only does it stick to the equipment, but also to any thieves who touch it.

"Our CEO is a former policeman and was frustrated at knowing a suspect had stolen an item and not being able to prove it," says Dave Reynolds, SmartWater Technology, Ltd. "That was the catalyst for him and his brother to develop this product."

SmartWater can be applied safely to anything from cars and trucks to generators, tools or private possessions like jewelry. A million customers have registered more than 100 million treated items in the corporate database.

If stolen, the coded fragments, when detected under UV light, help the police identify the owner even if other marks have been covered over or removed. Suspected thieves can be checked for code fragments as well.

Simply touching the item transfers coded fragments to the skin. The fragments can't be washed off and will often last for weeks.

"We have had people arrested or stopped for other reasons and when checked for SmartWater can be tied to a theft or break-in weeks before," says Reynolds.

Another use being made of the solution is to spray it on individuals leaving a crime scene. Used as part of a security system, the spray, when automatically triggered, penetrates clothing to the skin. Nearly impossible to remove from clothing and extremely hard to get off of skin, the fluid provides long term evidence of being at the scene of the break-in.

With a 100 percent conviction rate and burglary reductions as high as 94 percent in one area, the British company is now expanding to North America and elsewhere. "Over the past few years we've proven our model works, and now we are building up the necessary infrastructure to expand overseas," says Reynolds. "The issue is that in



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order for our system to work, it has to have police support. It works as a deterrent when prospective thieves see our logo and know the risk of conviction is high."

Keeping the media aware of successes is also important, notes Reynolds.

Prices vary depending on the number of items to be protected and the type. SmartWater for use on vehicles is more robust than that used for tools or personal items. In

addition to the initial cost for fluid, warning decals and registration, customers pay a monthly fee. This fee maintains the database and permits use of the decals.

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Restored Scottish Logging Tractor

Photos of a restored 1960's Scottish-built logging tractor caught our attention in a recent issue of Classic Tractor magazine (www.classictractormagazine.co.uk). With half-tracks, twin winches and an innovative weight transfer system that allowed all the weight to be shifted to the rear axle, the Highlander 60 was a tractor designed for working in the woods.

It was manufactured by James Jones & Sons Limited in Stirlingshire, Scotland, a company that started in the late 1800's and is still strong in the forestry and sawmill industries.

The Highlander 60 started with a standard 2-wheel drive Ford 4000 with Scandinavian half-tracks on a frame bolted to the rear axle with a bogey wheel.

The tractor had tremendous grip according to Declan Harkins, whose Uncle Dan purchased a used Highlander in 1985 to thin timber for the Forestry Service on the northern tip of Ireland. It didn't spin or give when it hit a stump and something had to

give — namely a stub axle, which the Harkins broke twice in a decade of logging.

Another issue with the tractor was that it threw the track if the front wheels were up and the tractor was turned too sharply. With manual steering it was also difficult to steer and dangerous when the front wheels hit a stump.

Harkins recalls that the Highlander got stuck almost once a day in the soft peat soils, and he remembers three broken half-shafts that had to be fixed in the forest. However, the winches could pull 3 tons of logs at a time (up to 30 small trees), and the Harkins used the tractor until 1996.

In honor of his uncle, who passed away, Declan Harkins overhauled it three years ago with his father and son. The engine, gearbox, back end and brakes were in good condition. A local paint company mixed paint based on a couple of patches off the tractor, and the refurbished tractor preserves a piece of history.



Lowering the idler wheels with a hydraulic ram raises the front end off the ground, preventing the front wheels from sinking in.



Kim Bickett turned his home-built amphibious tractor end-for-end, repowering it with a bigger engine and also adding a water propeller.

"Ultimate" Amphibious Tractor

We first featured this amphibious tractor 21 years ago (Vol. 14, No. 3), soon after Kim Bickett built it on his farm near Ridgway, Ill. It's still the same tractor except that Bickett turned it end-for-end and repowered it with a bigger engine — a 190 hp Detroit diesel that drives a 5-speed Allison transmission. It has 44 forward gears and 16 reverse. Another change Bickett made was to add a water propeller. Originally the tractor was driven in the water by its big rice tires.

On land, the "ultimate" tractor does 30

mph. In the water, maximum speed is 8 mph. The tractor is 28 ft. long, 12 ft. wide, and 10 ft. high. It weighs a massive 25,000 lbs. It takes about 6 ft. of water to float it.

The 4 wheels are powered by differentials from 10-ton Mack trucks. The rice tires are 30.5 in. wide. A hydrostatic drive operates the propeller using the pump from a concrete mixer.

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He Rests In Lawn Chair While Mowing The Grass

When a doctor told Wayne Ledbetter that he couldn't ride his 1982 Snapper mower any more because of a back injury, the 70-year-old inventor didn't sit around feeling sorry for himself. He decided to modify the mower so he could still run it from the comfort of a lawn chair in the shade.

He got the idea for his remote-controlled mower while watching his grandson fly a remote-controlled airplane. A machinist friend, Mike Pointer, helped modify some of the parts needed.

Ledbetter used parts from dishwashers, a microwave and off old cars. The mower is powered by a DC electric motor driving a Sears washing machine pulley.

Ledbetter ordered a robotic, electronic steering system that has its own air compressor and tank to control the blade. He can do everything with his modified airplane remote — engage the blade, go forward and backward, push in the clutch, accelerate and of course, turn it off.

"It's complicated," Ledbetter admits. "I altered all of it. I did it one step at a time."

He's made many modifications since he started using the mower. For example, there was the time a power company truck went by when Ledbetter was mowing, and the radio in the truck was on the same frequency as Ledbetter's system.



Wayne Ledbetter modified his Snapper riding mower so he can operate it from the comfort of a lawn chair.

"The mower went crazy," he recalls. "The two-way radio caused everything to turn on."

He remedied the problem with a little used frequency, which passed the test at a Christmas parade that included fire trucks, ambulances and other radio-equipped vehicles.

Many passersby have taken photos of the riderless riding mower, and it's worked fine to mow his lawn every week. But Ledbetter isn't quite through with it.

"Someday I want to put a camera on it so I can watch and control it via the TV inside," Ledbetter says.

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