

## Money-Saving Repairs & Maintenance Shortcuts

remove broken studs so I know this method works. I've removed literally hundreds of studs this way."



**Robert Walker, Mocksville, N.C.:** "I made this drill press vise out of ¼-in. thick by 2-in. angle iron, a piece of 6-thread-per-inch, ¾-in. dia. threaded rod, and some other scrap material. I also made one for my brother-in-law and for a neighbor that opened to 12 in."

**Robert L. Stone, 1504 Dillon Rd., Seymour, Mo. 65746 (ph 417 767-4395):** "My multi-purpose Truk-R-Tool is designed



for truck drivers but it comes in handy for just about anyone. The 17-in. long, powder-coated tool has a railroad spike welded to a hollow steel pipe handle. There's a steel retractable hook inside the handle.

"The tool's hammer end is used to thump tires, repair pallets, drive nails, etc. The spike's sharpened, tempered chisel end is useful for ratcheting strap winches, chipping ice off equipment, breaking rocks out of dual tires, and so forth. The 30-in. extended hook is useful for pulling tractor kingpin and trailer slider releasing levers, pulling tarps and tarp straps, and helping to install truck tire chains.

**Jerry Lanser, Associated Electric Products, Inc., P.O. Box 6713, Longmont, Colo. 80501 (ph 800 361-6314; jlanse@assoc-elec-prod.com; www.assoc-elec-prod.com).** "Our Drill Bandit attaches to most pistol-type



drills and allows you to put as much pressure as you want on the drill bit simply by squeezing the ratchet. Works great in many difficult-to-drill applications.

"The Drill Bandit is compatible with most ½, ¾ and 1-in. pistol-type drills. A 1-in. nylon strap and ratchet mechanism allows the operator precise control of the amount of pressure he puts on the bit.

"The unit will provide more than 150 lbs. of pressure at the drill point. Competes with \$1,000 mag drills which weigh more than 50 lbs. and require a fairly flat surface for mounting.

"My friend used the unit to drill 24 ¾-in. dia. holes in ½-in. thick steel I-beams in order to mount his school's scoreboard.

"Sells for \$175 plus \$10 S&H."



**Stop & Go International, Inc., 3610 Thunderbird Lane, Crystal Lake, Ill. 60012 (ph 800 747-0238; www.stopngo.com):** This company's new tire repair kit allows for an "on the spot" and "on the wheel" repair to virtually any tubeless tire, and it seals the puncture on the inside.

The Plugger is a spring-loaded gun that "drives" the plug into the hole. The shaft of the plug expands under pressure to fill the puncture. The mushroom head of the plug seats on the inner wall, without allowing air to escape.

The tool comes in a vinyl-zippered 6 by 9-in. pouch and weighs just under 2 lbs. Included is the plug gun, nozzle, probe tool, reamer/rasp tool, retractable blade, and 25 rubber mushroom plugs that measure 5/16 in. in diameter and ¾ long, along with detailed instructions.

Sells for \$43.95 plus S&H. An extra bag of plugs sells for \$7.50 plus S&H.

The company also offers a Pocket Tire Plugger that installs mushroom-shaped rubber plugs into all tubeless tires while still on the wheel. The Plugging device "drives" the plug into the hole with the turning of a hex wrench. The plug expands under pressure to fill the punctured area. A firm pull of the stem with a pliers seats the mushroom head on the inner wall, allowing no air to escape.

Sells for \$31.95 plus S&H.



**Roger Gutschmidt, Gackle, N. Dak.:** He uses a simple trick to get bolts through openings where you can't get your fingers inside. He wraps a piece of .035 welding wire tightly around a 5/16-in. bolt.

"I wanted it to fit a 3/8-in. bolt, but you have to go one size smaller than the size you need to keep the wire tightly wrapped. Then you just thread it on the bolt and, viola, you have a fishing tool that makes it easy to pull the wire and bolt through a hole. Afterward, you can turn the wire off when you're done putting the bolt in place."

"I've found endless uses for rare earth magnets around the shop. I have steel walls and cabinets in my shop so I've got these little magnets stuck all over the place, holding parts, manuals, etc. They're so unbelievably strong that if two were stuck to each other, you wouldn't be able to get them apart without a pliers.

"I have them attached to my shop press for holding accessories that I use daily. I also use them to hold hitch pins on my tractors when they're not in the drawbar. I use magnets in too many places to list them all.

"My good friend, Jon 'Sparky' Anderson, who recently died in an automobile accident, originally told me about the Amazing Magnets website (Amazing Magnets.com). He had a fascination with magnets, too. You can get nearly any shape and size of these rare earth magnets."



One of the skid shoes on Gutschmidt's Deere 630 Hydra Flex combine header kept pushing up mud and dirt. To solve the problem he flattened the shoe to more of a gradual incline.

### Reworked Skid Shoe Stops Pushing Dirt

"I changed the shape of one of the skid shoes on my Deere 630 Hydra Flex combine header because it wasn't working as well as I wanted," says Roger Gutschmidt, Gackle, N. Dak.

When combining this year's soybean crop under wet conditions, the skid shoe on the left side (under the knife drive) kept pushing up mud and dirt.

He solved the problem by flattening the steel skid plate to more of a gradual incline. He had to remove the skid shoe from the combine and place it in his press.

"It's made out of some real tough material that could not be shaped without taking it off the machine. Once I had flattened it in the press, I had to weld in a pie-shaped piece of sheet metal," he says. "The project took about

3 hrs. in all, but 2 hrs. of that was removing it and reinstalling it on my header."

According to Gutschmidt, the poly skid material on the underside was not changed or altered, so the replaceable pieces can still be purchased at any Deere dealer.

"Once in place, the modification is almost impossible to see, and it works perfectly. There's no more pushing dirt," he explains. "I'm surprised the factory engineers couldn't see that there'd be problems the way it was shaped originally."

Contact: FARM SHOW Followup, Gutschmidt Manufacturing LLC, Roger Gutschmidt, 6651 Hwy. 56, Gackle, N. Dak. 58442 (ph 701 698-2310; shopdoc@drtel.net).

### Sensor Analyzes Oil On-The-Go

Before you buy that next new tractor or truck, you may want to ask if it has a Fluid Property Sensor (FPS). If it does, you'll probably save money on oil and other fluids because you'll only change them when they really need it. The new sensor can also tell you if coolant is leaking into the oil or if incomplete combustion is occurring, adding soot to the oil.

The Measurement Specialties sensor is now being sold to OEM's but should also be available soon for aftermarket use.

"The FPS offers fluid sensing on-the-go," says Mark Uhrich, Measurement Specialties. "No other sensor on the market will measure viscosity, density and dielectric constant simultaneously."

It also measures temperature, but it's the other three measurements that make this sensor so amazing. Contaminates like soot, water, ethylene glycol coolant and fuel in engine oils are easily detected. Each changes one or more of the physical properties measured by the FPS.

An onboard microprocessor provides real time data analysis using algorithms developed for the fluid being monitored. At its simplest, an OEM might use the sensor to trigger a warning light telling the operator to take the engine to the dealer. Once there, fault codes can be used to tell the dealer that the soot load is too high or water has been detected, suggesting a coolant leak.

"Oil is kind of like a diary," says Uhrich. "If you can detect a problem early, you reduce or avoid the engine wear that can create failure or require a rebuild."

While having an oil sample analyzed can provide much of the same information, it is a snapshot in time. A few seconds after the sample is taken, a problem can develop. The



Fluid Property Sensor saves money on oil and other fluids because you'll change them only when they really need it.

FPS is like a security camera with real time monitoring from an on-board oil analysis laboratory. It will dramatically expand current capabilities based on multiple, single use sensors.

"Caterpillar and others already offer remote equipment monitoring that reads information and transmits it to a central location," says Uhrich. "GE gets information from aircraft engines in the air and understands how they are operating."

It may be only a short time before engines will be able to communicate directly with a preferred service provider, whether a dealer or a local mechanic. Alternatively, the information could be fed to an onboard terminal that displays the results to the operator and recommends actions to be taken.

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