Charles Blackburn, Evansville, Ind.: "To replace a leaking seal on the front main shaft off the transmission of my Farmall H tractor, the U-joint would not come off the shaft. I tried pullers and heat but nothing worked. I ended up cutting off the rear half of the U-joint with a side grinder and it was still very tough to drive the pieces off the shaft with a hammer and chisel. But replacing the seal and installing a new U-joint solved the problem."

Ken Burtard, Theresa, Wis.: "I use a stick welder to convert stripped or rusted-out ratchets, which can no longer be used as ratchets, into breaker bars.

"To make the conversion I put the ratchet in a locking pliers and attach a ground wire to it. Then I place the ratchet in a vise and weld the ratchet assembly solid so that it won't turn. After that I grind off the welding burrs for a nicer look.

"New cordless drills and sawzalls are

often sold in plastic tool cases mold-formed to contain a particular tool. Using a sharp utility knife, I convert such tool cases into handy, general purpose toolboxes that will never rust. The photo shows how I converted an 18-in. long, 14-in. wide, and 6-in. deep tool case to store a big hammer drill as well as drill bits and wall anchors.

"I cut out any spot welds inside the tool case and use a pliers to remove any plastic plugs. I also trim away part of the tool case's outer edge, making sure not to cut out too much so the tool case won't lose its strength. Then I use sandpaper anywhere I've made a cut to remove the sharp edges. If the tool case's hinges are broken, I make new ones by screwing on pieces of old shoe leather."

Alan Linda, New York Mills, Minn.:

"Canvas-type tool holders designed to fit over a 5-gal. pail can hold a lot of tools, but because the bottom of the pail is round they can tip over easily.

"I solved the problem by making a square sheet metal box, adding a curved piece of electrical conduit to serve as a handle. The box could also be made from plywood."

Bob Moty, Crystal Lake, Ill.: "I made a chart showing the purpose of each breaker on my fuse panel and keep it next to our house's main fuse box. Then I used a felt tip marker to write the breaker number on the inside of the cover plate on each light and receptacle. That way if I ever have to replace a switch or receptacle, I can tell quickly which breaker needs to be turned off."

Dennis Divine, Joplin, Mo.: "In recent issues of FARM SHOW some readers said their Sears Craftsman rototillers were hard to start when used with Champion spark plugs. One reader recommended using NGK plugs instead, so I tried them and they're working fine in my Briggs & Stratton engine."

Matt McNaughton, Foothills, Alberta: "I often use a string line to help align fences and walls, and I had been winding up the string around a 1 by 4 board with notches cut into one end. However, the string always seemed to get twisted and the wind-up process took too long.

"To make the job easier, I drilled a hole into one end of a 9-in. dowel and screwed a 1/4-in. threaded shaft into it. I also mounted 2 large wooden washers onto the dowel to keep the string in line. There's enough room at the opposite end of the dowel for a loose hand hold.

"To wind up the string, I just insert the threaded shaft into a cordless drill and start it up. Works like a charm."

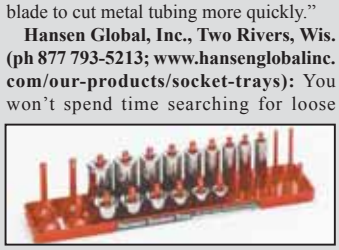
Ralph Reid, Bynum, Ala.: "I came up with a self-oiling drill bit by capping off the hole at the base of my drill press where the bit goes through, and then filling the hole with oil. I then welded a 1 1/2-in. dia. threaded metal pipe fitting into the hole and put a plug in it. As a result, the bit automatically gets oiled every time I'm drilling and stays cooler. Works great.

"If the hole fills with metal shavings I just unscrew the plug and clean out the shavings, then refill the hole with oil. I do a lot of drilling where I work and have drilled up to 2,000 holes on a single job, so this idea saves me a lot of time and hassle."

Heather Ramsay, Victoria, B.C.: "I was working against a deadline to finish making some modifications to our greenhouse, which required drilling a series of holes in metal tubing. I didn't have any cutting fluid on hand to provide cooling and lubrication, but I remembered that cutting fluid is oil-based and sometimes contains sulphur.

"So I mixed some pelleted sulphur fertilizer with 10W-30 motor oil. After that my drilling work went a lot quicker and smoother, even though I was using less-than-ideal bits. I used the drill at a low speed in order to help break up the sulphur pellets. I spread the same concoction on a hacksaw blade to cut metal tubing more quickly."

Hansen Global, Inc., Two Rivers, Wis. (ph 877 793-5213; www.hansenglobalinc.com/our-products/socket-trays): You won't spend time searching for loose



sockets when using this company's new socket tray. Made of tough ABS plastic, it's designed to organize sockets for quick, easy identification by size and style.

The tray comes with post holders marked in large print for the socket size. It holds both regular and deep well sockets and is available in 3 different sizes to fit 1/4-in., 3/8-in. and 1/2-in. drive standard and metric sockets. Sells for $10.95 on the website.

If you want to repower with a Cummins diesel, the Maple Springs Farm website has a lot of useful parts and advice. Parts listed include clutch discs and bell housings.

Cummins Repower Parts And Advice

Eric Rego and his father Bob have the parts and experience needed if you want to repower with a Cummins diesel. Both parts and advice are offered on their Maple Springs Farm website. Eric Rego used to work as an engineer at Cummins Engine Company.

"A lot of people are interested in doing a repower, but very few have all the information they need," says Rego. "We offer repower kits, as well as individual hard-to-find parts. I've also written up the repowering process with photos and posted it to my blog on our website."

They first repowered a White 2-135 with a 5.9L Cummins 6BTA and cut fuel use by more than 2 gal. per hr. Since then they've done a number of Olivers and are in the process of repowering a 1650 with a Cummins 4BT.

Along the way they needed parts, some of which they made and others they found and now sell. One example is an engine mounting kit that the Regos source from Buckley Zoller of Manuta, Ohio.

In his blog posting, Rego points out that getting proper engine/transmission alignment is one of the biggest challenges.

"Good alignment is critical to minimizing chain coupler wear and eliminating vibrations associated with incorrectly aligned chain coupler sprockets," writes Rego.

He then provides a step-by-step explanation of how to mount the Cummins using Zoller's kit.

Parts listed on the Maple Springs website include bell housings, clutches discs, an angle tach drive adapter kit, Cummins engine fans and more. They offer nearly 30 parts in all that the Regos found difficult to source.

"Some are genuine Cummins parts, while others are from various sources," says Rego. "Where possible, our parts are made in the U.S. More than 95 percent of everything we sell is made in the U.S."

Contact: FARM SHOW Followup, Maple Springs Farm, 1828 County Road PB, Verona, Wis. 53593 (ph 608 658-2072; rrego@tds.net; www.msfparts.com).

Eric Rego uses 3D machining to make replacement parts, such as the Oliver steering arm shown above.

3D Machining Beats Cast Parts

Eric Rego can replace a cast part with a stronger machined part using 3D machining. He can also make molds for casting custom polyurethane parts. While the 3D machined parts tend to be custom orders, the molds allow him to create parts that he and his father sell from their Maple Springs Farm parts business.

"For low volume parts or tools, 3D machining from a steel billet is often a more economical alternative to casting," explains Rego, Rego Engineering and Machine. "We can duplicate any part that comes through the door with a high degree of accuracy."

Rego uses careful measurements to create a CAD file. Special software transforms it into a 3D image with many thousands of lines of computer programming code. The computer code is then put to work on a milling machine with each line of code corresponding to a single cut.

"It takes thousands of cuts every inch to form the geometry of a part," says Rego. "Sometimes you have to extrapolate when looking at curvatures with some blending of measurements to get it just right."

He recently used the process to make a steering wheel complete with the nubs for fingers to catch on the backside. He has also produced a pair of Super 44 steering arms for an Oliver tractor. Originally the arms were made by casting, but Rego says the machined replacements are actually stronger.

He uses molds to make a variety of soft and hard plastic replacements for hard to find Oliver parts, such as dash trims and decorative pieces.

"Polyurethane is available in so many densities with varying strengths and hardness," says Rego. "The 3D manufacturing lets us make the molds to make the parts we need."

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