

Money-Saving Repairs & Maintenance Shortcuts

Moveable guides keep the material aligned for cutting.

"I'm now looking for a source of knives which will increase the tool's cutting capability."

Clarence R. Marshall, Warsaw, Ill. (ph 217 847-2197): "Anyone restoring an older tractor maybe interested in my sideline business. I repair magnetoes, which after must be replaced when doing a restoration. I have new and rebuilt magnetoes available for either sale or trade."

Robinson Lawn & Garden, 110 SE 2nd St., Stigler, Okla. 74462 (ph 918 967-8662): "I came up with a V-belt measuring device that lets me know what length V-belt I need whenever an existing belt breaks or wears out and I don't know how long it was. Using contact cement, I glued a cloth or plastic ruler onto the back side of a 1/2-in. wide, 100-in. long used V-belt, covering its entire length. I wrap the belt around the idler and pulleys, and wherever the end of the belt comes on to the ruler tells me the belt length that I need. The belt could be of any length. I'm in the lawn and garden business and find that a 100-in. ruler works best for my needs."

Richard B. Allen, South Brookfield, Nova Scotia: "During the past three years I've had trouble seeing the string when making hay with my New Holland 630 round



baler. I couldn't tell if the string was moving or not, which caused me considerable grief. I was dumping out bales without them being tied and also had bales with string wrapped all through them because the string didn't cut off and I didn't realize it was still going out. The problem was especially bad if the sun was shining toward the back window of the tractor.

"I solved the problem by mounting a small pulley on front of the baler for the string to travel under. When the string moves, the pulley moves, too. I painted part of the pulley black so that I can see at a glance whether the string is moving or not. The pulley - which came off a boat steering apparatus - is simply bolted in place."

Ray Jensen, Dell Rapids, S. Dak.: "I obtained a low-cost skid steer loader by repowering an early 1970's Bobcat 500 which



I bought for \$1,100. The original Kohler 22 hp, 2-cyl. gas engine was worn out, so I replaced it with another Kohler engine that I took off a riding mower I already had. The replacement engine is also a 22 hp, 2-cyl. model but it runs at 3,600 rpm's compared to only 2,100 rpm's for the original engine. As

a result it'll last a lot longer.

"The original engine was used to direct-drive a hydraulic pump on the right side of the machine, and to belt-drive a variable speed pulley on the left side. The variable speed pulley was used to mechanically adjust the machine's speed. The engine was equipped with a tapered roller bearing which took pressure from the belt pulley off the engine crankshaft. However, the new engine had a roller bearing instead of a thrust bearing which resulted in a ruined crankshaft.

"To solve the problem, I installed a jackshaft that's belt-driven off the engine and runs both the hydraulic pump and variable speed pulley. One end of the jackshaft runs the hydraulic pump and the other end runs the variable speed pulley.

"The jackshaft mounts on a bracket that bolts to another bracket that bolts onto the skid loader's frame. A threaded bolt that connects both brackets is used to adjust belt tension. The replacement engine mounts on a frame above the jackshaft.

"I would have had to spend \$2,500 for a new engine like the original one. I didn't want to spend that much money because this engine has a bad reputation. My Bobcat 500 was in almost perfect shape because the engine didn't have enough power to wear it out. A new engine like the one I used can be bought for about \$1,200."

Neal McCleary, Elkton, Md.: "I widened the pickup on my Deere 336 baler in order to make it easier to pick up wide windrows. I cut the pickup in half and welded four 6-in. spacers in to make room for another set of four teeth. Metal was also cut off the outside and inside windrow dividers. It was a great improvement.

"When the tongue on the same baler broke off, I replaced it with an extendable tongue off an old Fox chopper. I welded on a length of box beam to make the tongue the right length. The tongue is now stronger and can be extended for easier hook-ups."

Steven S. Kling, Taylor, Wis.: "My son Samuel came up with a low-cost screw and



nut holder as part of a 4-H project. He used old tuna fish cans held in a homemade wooden frame with 20 compartments. He paints the cans different colors to identify screws, nuts, etc. It cost very little to make, and the tin cans are more sturdy than the plastic drawers found on commercial parts bins."

Tom Bonner, Section, Alabama: He restores IH Cubs and Cub Cadets and has found that the tie-rod ends are usually worn out or bent so they can't be reused.

"The last time I tried to buy a set of used tie rod ends for a restoration, the dealer wanted more than \$100 for a set," he says. "I told him 'no thanks', and went home and made a set in my shop. It only took me a couple of hours."

Since then, Bonner has made close to 50 sets of tie-rod ends for his own use and for

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Plastic Bushings Replaced With Longer-Wearing Metal

When Bob and Melvin Gillespie, Pullman, Washington, needed to replace the worn out plastic bushings that attach the drill openers on their Case IH 5300 grain drills, they went looking for something a little more durable than the original plastic, but couldn't find what they needed at any of the parts stores.

So they went to Randy Douglas, owner of Paradise Ridge Machine, Inc., Moscow, Idaho. Douglas carefully measured the problem bushings and set up his CNC (computer numerical control) lathe to make metal replacement bushings for them.

Douglas used an iron-lead alloy material called Leadloy. Gillespie had the completed bushings plated with zinc, similar to galvanizing, to keep them from rusting. It also gives them a brassy appearance. "I could have made them from brass or bronze just as easily, but they would have cost more," Douglas says.

Even with the zinc plating, the custom-made bushings were just a few cents apiece more than the plastic ones the Gillespie

brothers had been buying from their Case IH dealer. "I don't think we'll ever have to replace these," he says. "It's quite inconvenient to take the drill apart to replace the bushings during planting season."

Douglas says the Leadloy bushings were the first he's made for farm equipment, but says he'd be willing to make more if farmers want them. "I can make just about any size bushing you'd want with this machine, in about any quantity," he says. He'd prefer to have the bushing he's duplicating as a pattern, but notes that if farmers can provide accurate measurements, he can use those to program the CNC machine.

"Once the machine is set up, it takes very little time to make them," he says.

Contact: FARM SHOW Followup, Randy Douglas, Paradise Ridge Machine, Inc., 2536 Blaine Road, Moscow, Id. 83843 (ph 208 882-5130; fax: 208 882-5131); or Bob Gillespie, 602 Kamerrer Road, Pullman, Wash. 99163 (ph 509 334-3757; E-mail: rlg_99163@yahoo.com).



Do-it-yourself sharpener mounts on a 6-in. bench grinder. Handles bits up to 3 in. dia.

Sharpener Works On Big Drill Bits

A couple years ago FARM SHOW reported on an inexpensive new drill bit sharpener invented by Stan McDonald, Foxboro, Ontario (Vol. 24, No. 6). It was an attachment for benchtop grinders that sharpened any bit up to 1-in. dia., regardless of length.

After the story was published, McDonald had a lot of requests for a larger bit sharpener. It prompted him to come up with a new model that will sharpen any bit up to 3 in. in diameter. It'll handle tapered or straight shank bits with two, three, or four flutes.

McDonald says bits sharpened by his sharpener often work better job than new drill bits because you can improve them with his "four facet" sharpening method (see photos at right). "The result is a high-performance bit that will last longer and cut faster," he says.

The sharpener weighs 75 lbs. and is designed to attach to a bench grinder. "It compares favorably with sharpeners that cost thousands of dollars. It's easy to use and built to last," says McDonald.

The sharpener sells for \$550 (U.S.) plus S&H.

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Sharpener attaches to Delta 6-in. grinder with no modification. On other grinders, you may have to drill holes to mount it.



McDonald says his new sharpener lets you do "four facet" sharpening. Note the four cutting surfaces on these bits.

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