

Lawn Mower Blade Tools

Here's a handy set of tools I've been using to sharpen lawn mower blades.

I spotted them in a recent J.C. Whitney catalog and have been using them for several months.

In the past I just sharpened blades on a grinding wheel. While that works, it's hard to do it evenly and I worried about blades getting unbalanced and putting undue strain on the motor and bearings.

The kit consists of two parts: a sharpener wheel that mounts in an electric drill chuck and a balancer for checking your work.

The sharpener has a beveled grinding stone and a plastic disk just behind it that you place against the back of the blade as you move along, sharpening. It can be used to sharpen other blades, too. Fits 1/4 and 3/8-in. drills.

The balancer consists of a pyramid-shaped top part that floats freely on an upright pin. You set the blade on the top part and it settles



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down to the right level, depending on the size of its center hole. If the blade is sharpened evenly, it'll stay level. If it tilts, you can sharpen a bit more material off the heavier side.

I paid \$3.99 for each tool.

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Mark Newhall, Editor



When the engine wore out on his IH crawler, Kevin Cohrs replaced it with the diesel engine out of an IH 4-WD tractor.

Repowered IH Crawler

When the diesel engine wore out on his 1956 IH crawler tractor, Kevin Cohrs, Glencoe, Minn., found a low-cost way to repower it with a diesel engine out of an IH 4386 4-WD tractor.

The original engine was equipped with a torque converter and 8-speed manual shift transmission. He removed the engine and torque converter but kept the transmission and installed the 4-WD tractor's DT466 engine. Then he made a short driveshaft and coupled the crawler's 8-speed transmission to a 5-speed Spicer manual transmission, which he got out of a truck.

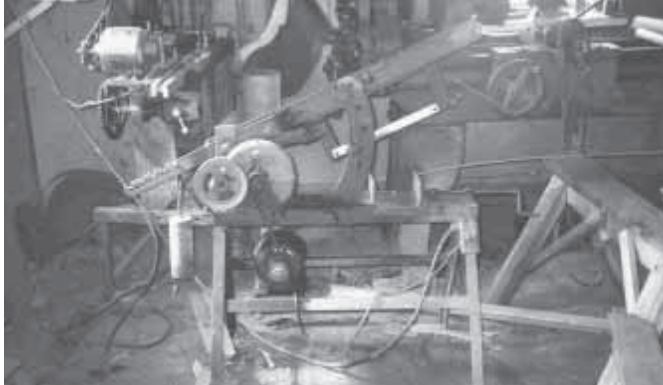
"It was a perfect swap," says Cohrs, who uses the crawler to pull his 5-ft. laser-controlled tile plow. "I got the replacement engine from a friend who does mechanical work."

"The IH crawler is a great machine but its engine was never very good and parts for it are hard to find and very expensive. On the

other hand, the IH 4-WD tractor's DT466 engine has a great reputation and is widely used in the company's tractors and trucks. I also used the tractor's muffler, air intake, fan, shroud, and tachometer.

"The crawler's original engine had 1,000 cu. in. and 230 hp. The new engine has 466 cu. in. and 225 hp, which is about the same horsepower. However, the new engine is much smaller, which made it easy to install and also makes it easy to work on. And because the crawler now has two transmissions, I can go as slow as 1/3 mph with the engine only at half throttle. At that speed the tractor goes so slow I can hardly see it move. The slow speed works great for plowing tile because the laser has more time to control the plow."

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Transmission from an old washing machine creates the reciprocating action needed for this power hacksaw.

Power Hacksaw Made From Washing Machine Parts

Alvin Wallace used a transmission from an old washing machine to create the reciprocating action needed for this power hacksaw. It was an upright washing machine with a "dasher" that sloshed water first one way, and then the other.

The main frame for the saw was fashioned out of 6-in. channel iron. The saw blade is held by a couple pieces of 2-in. flat iron, one of which pivots for mounting and dismounting the blade.

There is a connecting rod from the wash-

ing machine agitator gear to the saw. It changes rotary motion to reciprocating motion.

Just in back of the driving mechanism is an extension on the main arm that has notches for adjusting a hanging weight. The placement of the weight determines how much down pressure to apply to the metal being sawed.

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Don't Throw That Old Cordless Drill Away

You can recycle cordless drills by replacing the worn-out batteries with an old electric cord and a couple of alligator clips. Then, any 12-volt car, truck, or tractor battery can become a power source, says Gary Goldsberry, Stillwater, Okla.

"About five years ago the batteries in my Makita 7.8-volt drill would no longer hold a charge," says Goldsberry. "Replacement batteries cost more than the old cordless drill was worth. So, I thought I could finish the old cordless drill off by removing the dead batteries and replacing them with a cord and clips to use on a small 12-volt motorcycle battery that I could easily carry around. However, I discovered that the drill ran a lot faster on 12 volts than it did before and a lot longer without needing a charge. It even outlasted the motorcycle battery, so I started using the drill with any battery that was handy, in or out of a vehicle. Adding

longer cords didn't seem to affect the drill's performance."

Just about any cordless drill can be converted, says Goldsberry. "I've converted Makita, Black & Decker, and Skil models, and I don't think the drill's original voltage makes much difference. Lower voltage drills run faster; higher voltage drills run slower."

To make the conversion, Goldsberry opens the drill's body and removes the batteries, then solders the electric cord wires to the battery contacts. Next, he makes a hole for the cord in the handle, then closes the body and solders alligator clips to the other end of the cord. He's now ready to put the drill back to work.

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Vern Desotell mounted a 14-in. dia. chop saw blade onto the bar of an old chain saw to make this low-cost steel chop saw.

Chain Saw Chop Saw

You can convert an old chain saw into a low-cost steel chop saw, says Vern Desotell, Clarissa, Minn., who mounted a 14-in. dia. chop saw blade onto the bar of an old chain saw that he already had.

"It was an old saw made in the 1960's and was too heavy to haul into the woods any more," he says.

So he removed the saw's chain and drilled a couple of holes at the outer end of the bar. Then he took the arbor from a cheap table saw and bolted it to the bar. He welded a pulley to the chain saw's clutch and ran a V-belt between the pulley and the arbor. He then bolted the chop saw blade to the opposite side of the arbor. The last step was to mount a

steel guard over the blade.

"It's really handy. I use it any time I need to cut a chunk of steel," says Desotell. "Commercial chop saws with this much power cost about \$600 so I saved a lot of money. I already had the chain saw as well as the arbor. My only cost was the \$10 I paid for the chop saw blade. I use the chain saw's bar tension adjuster to tighten or loosen the belt. I think the same idea would work on newer chain saws, as long as they have enough power."

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