



Cal Miner, Willmar, Minn.: "Older fuel lines are a larger diameter than newer push-lock type hose. To use newer hose on an older engine, the old clamps won't work. I made my own using an eyebolt. Just cut off the screw part, slide the clamp in place, and squeeze the 'eye' together to clamp it tight. Works great and holds well."

Anton Mickelsen, Stanley, N.Dak.: "Clutch fingers on your tractor wearing out too fast? Here's the fix. Buy a new set. When the ones on the tractor wear down a bit, take them to a good welding shop – along with the new set, to use as a pattern – and have the used ones built up to original specs with tempered brass. Once you install those, your problems will be over."

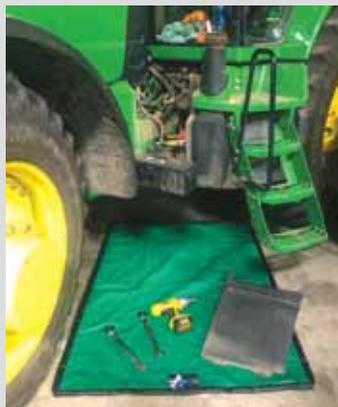


Jim & Ruth Hopkins, Nampa, Idaho: "We use our portable engine hoist to lift the front end of our garden tractor to easily remove blades for sharpening and to clean under the deck. Also makes it easier to lube. Helps us keep the mower in good running condition."



Glenn A. Halley, Andover, N.H.: Glen got tired of funnels falling over when pouring in used oil into jugs or handling other fluids. "I attached a round magnet to an angle bracket with an eyebolt. Then I attached the funnel to the leg of the bracket with a small bolt and washer. I can stick the magnet to any metal surface, holding the funnel tightly in place over the jug. Very handy."

Gary Haak, The Ultimate Mat (www.theultimatemat.com; ph 605 360-8474): Gary figured there had to be something better than using a big piece of cardboard every time he needed to work under a combine or truck. His answer? The Ultimate Mat, a 4 by 6-ft. heavy-duty fabric mat that's not only handy for repair work but can also be placed under an unloading auger, in the garage under leaky equipment, or whatever else you can think of. It rolls



up for easy storage and is tough enough to stand up to hard use. Sells for \$165. Smaller sizes and custom sizes available."

Ned Ransom, Henry, Ill.: "When working with wheel weights, I've got a trick that makes it much easier to mount them to a tractor wheel when working by myself. I've got two 3/4-in. dia. smooth steel rods about 18 in. long. I put these in the hub holes first and then put the weights on the rods and push them up against the wheel. I put in a bolt and tighten it, then remove one rod and insert another bolt, and so on. This works with 1-piece weights or 2-piece 'half' weights."

David Walker, Arlington, Texas: "The muffler screen plugged up on my Echo weed eater and I had trouble cleaning it out. So I used a small drill bit to drill some holes and let the exhaust flow freely again."



Carman Fedele, Tidioute, Penn. (ph 814 730-9377): Carman has a simple solution for cutting perfect circles in metal. His patented torch guide makes it easy. Just clamp down a shoulder plate, insert the torch, and rotate. "My prototype can cut out any size circle up to 4 in. in diameter. You can use it to cut out any size washer needed or cut a perfect hole in a piece of metal."

At 83 years of age, Fedele isn't planning to manufacture the device. He hopes to license or sell the rights as he did with an earlier patented device (Vol. 39, No. 1).

His torch guide is a ring within a ring. The outside ring is attached to a 1/8-in. thick steel plate for easy clamping in place. The inside ring has an adjustable inner arm with a cup for the torch head and 4 handle arms that extend outward.

"Adjust the cup arm to the desired diameter, insert the torch and rotate the ring with the handles," says Fedele.

While his prototype has a maximum cut of 4 in., Fedele notes it could easily be scaled up. The larger the ring diameter, the more versatility it offers.

"You could have one that cut out a 24-in. circle and yet still use it to cut out a 2-in. circle just by adjusting the cup arm," notes Fedele.



Bowling ball serves as a pivot point, allowing welding table to be easily tilted or rotated.

Welding Table Pivots On Bowling Ball

James Muhs built a tilting welding table by using a bowling ball for a pivot point. He got the idea from an adjustable mirror he saw in a jewelry store.

"Once I got the idea of an adjustable welding table, using a bowling ball for the pivot point just came to me," says Muhs. "I just let the pressure off a little, tilt or rotate the table to suit, and then lock it down again."

Steel for most of the table came from his scrap pile. Two old brake rotors used to sandwich the bowling ball came from a salvage yard, while the old ball was given to him by an area bowling center.

Muhs built the table from the ground up, starting with feet made from 36-in. long, 2 by 3-in., 5/16-in. steel tubing. A 26-in. long crossbeam of 4 by 4-in., 1/4-in. thick steel tubing is centered on the feet.

The crossbeam serves as the base for the jack that locks the table in position. It also is the base for the four, 27-in. long legs made from 3/16-in. thick, 1 1/2-in. square tubing.

The legs are spaced to allow the brake rotor ring that supports the bowling ball free movement. A piece of pipe welded to the bottom of the rotor, fits over the head of the hydraulic jack's ram.

The top rotor is bolted to pieces of angle iron that are in turn welded to the tops of the 4 legs. When the jack ram is extended, the lower rotor pushes the bowling ball against

the upper rotor, locking the table into place.

"Initially, I drilled a hole through the thumb hole and halfway into the bowling ball for a 3/4-in. shaft butt welded to the table," recalls Muhs. "It didn't work as planned. When I took pressure off the ball to turn the table, the shaft would spin in the ball."

Muhs solved the problem by drilling a 1/4-in. hole beside the original shaft hole. He then welded a 1/4-in. rod to the shaft.

"I put J-B Weld around the shaft and put it back together with the ball," says Muhs. "Now it works like I wanted."

Muhs added 2 foot pedal controls to make operating the table even easier. A 3 by 4-in. pedal is welded to the end of a length of pipe that fits into the jack's piston assembly socket. The purchased spring retains the pipe in the raised position.

He also welded 2 rectangular plates to a round steel plate. The plate is welded to the end of a 1/2-in. pipe slotted to fit over the release screw on the jack. An L-shaped steel strap supports the pipe.

"I simply step down on one of the steel plates to loosen or tighten the release screw," says Muhs. "To tighten the table in place, I step on the spring-retained foot pedal to jack the ball up."

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Cart-Mounted Propane Heater

"I bought a portable tank top propane heater equipped with a 20-lb. bottle and built a hand cart to move it around. It's nice and quiet and can be easily moved anywhere in the shop I need heat," says Dennis Hartmann, Double D Machine Shop, Yankton, S. Dak.

The double burner heater came mounted on a metal stand that bolted to the propane bottle. Hartmann used 1-in. square tubing to build the cart which has an angled handle at the top and a steel ring at the bottom to fit around the bottle. The heater's stand slips inside a U-shaped bracket and is held in place by a spring-loaded pin.

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Home-built hand cart makes portable propane heater easy to move around.