

## Money-Saving Repairs & Maintenance Shortcuts

wrench again, I know right where it is without having to look for it. The toolbox is narrow enough to fit through a 32-in. wide door. I keep end wrenches and sockets on the front side. All the sockets and end wrenches of the same size line up vertically. So, a 5/8-in. impact socket will have a 5/8-in. standard socket immediately above it. Impact wrenches and hammers, hacksaws, etc., are on the back side of the board.”

**Murray Scea, Campbellford, Ontario:**

“I’ve found that ordinary gutter hangers work great on my shop wall for storing stuff. I use them to store extension cords, hoses, garden tools, jumper cables, oil changing pans, etc. They’re even strong enough to hold tires.”



“I use an ordinary hand cart to move my electric welder around my shop so I don’t have to carry it all the time. I mounted a

swivel wheel on front of the welder. Then I removed some screws from the bottom of the welder. I drilled corresponding holes into the carrying plate at the bottom of the cart. After placing the welder on the cart I put the screws back in through the bottom plate.”



**Warren Sawyers, Willits, Calif.:** “I needed some saw horses but didn’t want to go to a lot of work, so I simply used four pallets. They’re easy to step up on.”

**Walter J. Krohn, Angola, Ind.:** “I duct tape the ends of snow chains to tires, then drive forward to pull them up over the tire. The chains roll right up around.”

**Bob Moty, Crystal Lake, Ill.:** “I’ve found the best way to deburr small metal parts that

have been sheared or saw cut, is to run them across a medium wire wheel on a bench grinder.”

**Nancy C. Hainline, Springfield, Mo.:** “Our Deere 430 tractor and pull-type sickle mower make a good mowing combination. However, we kept having problems with the sickle mower falling off the tractor. The mower hitch is supposed to fasten onto knobs on a metal plate located at the bottom of a hydraulic tank on the tractor. The problem was that bolts on the tank weren’t strong enough to take the vibration of the mower and kept breaking off. As a result, a lot of hydraulic fluid leaked out of the tank.”

“To solve the problem my husband welded in new studs and double nutted them. Then he welded a brace bar that extends from the hitch up to the tractor to stabilize the vibration. The bar is angled at both ends and welded to the outside, which keeps the vibration down.”

**Richard “Red” Guthrie, Early, Texas:** “If you’re a hunter and reload your own shells, the vibrating brass cleaner that you use on your shell cases can also be used to clean other small parts that are corroded or dirty. If you just pitch them in and give it

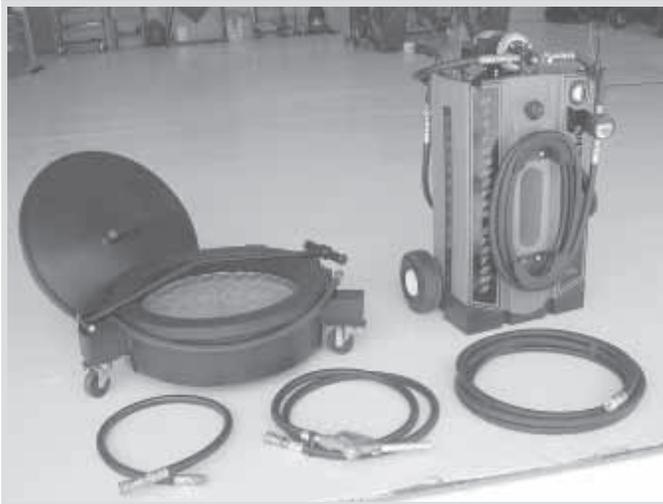
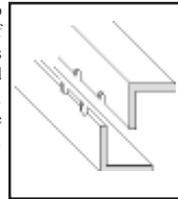
time, they’ll eventually look shiny as new.”

“I put my shop welder, grinders, chop saws, and all sorts of miscellaneous clamps on an old rubber-tired railroad baggage cart. Makes it easy to move the tools any place in my barn.”



**Ken Albrecht, Prelate, Sask.:**

“This C clamp hanger consists of two angle irons with matched notches, offset and angled up so the clamps don’t touch the wall.”



Oil Transfer system lets you filter new oil before it goes in and also “repurifies” used hydraulic oil back to original specs so it can be reused.



Bank of filters lets you switch from one type of oil to another.

## Dirty Oil “Crusader” Sells State-Of-The-Art Filter System By Bill Gergen, Senior Editor

Doug Mickelson is a crusader for cleaner engines who has a state-of-the-art oil changing and filtering system that he says is unlike anything on the market. Mickelson will also tell you things you won’t hear anywhere else, such as, “The new oil you buy is often as dirty, or even dirtier, than the old oil you’re taking out.”

His system lets you filter new oil before it goes in and also “repurifies” used hydraulic oil back to original specs so it can be reused.

“This one machine will work on any weight or type of oil without cross contamination. It makes oil changes easier so you’re likely to do it more regularly,” says Mickelson.

His Oil Transfer system has a bank of filters so that whenever you switch from one type of oil to another, you use a separate hose and a separate filter assembly. All filter assemblies have pressure gauges to indicate when to change the elements. A balance of very fine scrubber filters and water removal filters are available that he says are far superior to original equipment filters.

A 3-wheeled, 12-gal. waste oil pan is designed to roll under tractors, trucks, and heavy equipment to gather the waste oil and hydraulic fluid. As the waste oil is draining from the vehicle into the pan, it’s pumped out through a 25-ft. discharge hose to a holding

tank or drum. The pan has a removable 180-micron stainless steel cloth insert through which dirty oil is filtered before it’s pumped out.

The system also includes a transparent 27-gal. new oil dispensing cart with a light on it for night time work. The cart rides on a pair of 10-in. pneumatic wheels and has a 23-ft. dispensing hose. An electric-driven 3-gal. per minute pump mounts on top of the tank. A 97 percent accurate digital meter measures and dispenses oil from the cart.

“It eliminates the need to carry jugs of oil up ladders to fill big equipment. And it ensures that you’re not getting contaminants into engines, which are built with much tighter tolerances today than in the past,” says Mickelson.

“Most farmers don’t realize the level of contaminants in the new oil they’re putting into their vehicles. That’s why new oil has to be cleaned up. This information is a fact and can be backed up with documented proof which we’re happy to provide to anyone. A properly taken sample of your oil will verify its contaminated level.”

Why is today’s hydraulic oil dirtier than it was in the past? “One reason is that bulk dealers and oil manufacturers are handling a lot more volume than they used to and they’re

often careless in reusing containers,” says Mickelson. “Many of the 55-gal. barrels that farmers return to their dealer get reused, even though they have water and gravel and sludge in them. It’s pretty hard to clean them out completely.”

Mickelson also thinks most farmers are missing the boat by not recycling dirty hydraulic fluid. “No one promotes the idea because they want to sell you new oil. But there’s really no reason not to reuse it if you filter it properly,” he says.

He says Caterpillar is recycling all new hydraulic oil in their own in-house equipment. “They run some of their equipment for more than 10,000 hours on the same hydraulic fluid, filtering it over and over again.”

Problems with new fluid have become so

bad that Caterpillar factories now require that new oil be of a minimum cleanliness level of 16 13 ISO code in order to satisfy the warranties on its new equipment. But typically, new oil is far dirtier. “One Caterpillar laboratory manager told me that before they started scrubbing their new oil in house, he was telling his service people to leave old hydraulic oil in because it was cleaner than the new oil.”

Mickelson’s Oil Transfer System sells for about \$3,000. His website is full of detailed information.

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