

Money-Saving Repairs & Maintenance Shortcuts

"I used angle iron to make L-shaped brackets that bolt onto the side of the tractor using existing holes. The toolboxes set inside the angle irons and are bolted on.

"I also made a metal feed carrier bracket for my TN 70 DA tractor. I use it to haul three



5-gal. buckets full of corn to my heifers on pasture. I used angle iron and rebar to make the carrier's sides and bucket dividers, and expanded metal to make the floor.

"I also mounted a homemade bracket inside the cab on my TN 70 DA tractor that holds a 1-gal. plastic jug of water. The bracket has plastic sides and an expanded metal floor. It mounts under the dash and keeps the jug from bouncing around. I fill the jug 3/4 full and freeze it overnight so the water will stay cold for a long time.



"I used angle iron and steel plate to make footrests on both sides of my 3930 tractor. The footrests mount forward and above the cab platform and provide room for me to stretch out my legs.

"I have short legs and had trouble fully depressing the clutch pedal on my TN 70 DA



tractor, so I fixed metal brackets onto the existing clutch pedal that add 3 in. of height. The bracket is made from flat metal. I spot welded beads onto the bracket so that my foot won't slip off."

Kimball Midwest, Columbus, Ohio ph 800 233-1294; www.kimballmidwest.com; This company stocks more than 35,000 cutting tool maintenance and repair items, with



a special order department having access to more than 300,000 hard-to-find parts. They offer a complete line of high performance cutting tools including super primalloy drills, super fast heavy duty hole cutters, high performance drill bits, frame masters and reamers, power taps, and high speed taps.

Other cutting products available include hacksaw blades, reciprocating saw blades, jig saw blades, band saw blades, hole saws, and circular saw blades.

The company also offers high performance cutting tool fluids and chemicals designed to

enhance cutting tool safety and performance.

Marv Abels, Worthington Ag Parts, 6149 N. State Road 15, Leesburg, Ind. 46538 ph 800 426-6960 or 574 453-4713; mabels@worthingtonagparts.com): "Anyone who uses their Deere 4020 tractor for loader work will be interested in our axle replacement service. We replace the original front axles on Deere 4020 tractors with heavier duty front axles off late model Deere 30 and 40 series models. These replacement axles come with heavy duty 8-bolt hubs and rims and will stand up to heavy use. The axles we use come off 3010, 4010, 3020, 4020, and 4320 models. Cost is about \$1,500."

Lester Rosenthal, Clarence, N.Y.: "The original side-mounted pto engagement lever on my 1946 Ford 2N tractor was hard to reach from the tractor seat. The problem is that the



lever is located too far down and too far back. To solve the problem, I clamped a 12-in. length of strap iron on top of the lever and mounted a ball knob on one end of it. The knob extends much farther forward than the original lever, and brings it right up near the driver where it's easier to reach."

Bill Reeks, Cromwell, Ky.: "I started using a power chair about a year ago after arthritis made walking too painful. But I still manage to do what's needed. Here's a photo of my 'hand truck', which I use with a card-



board box to rake yard debris and pick up small tree limbs. The box mounts on a 4-wheeled metal frame that's pushed ahead of the power chair. A long 1/4-in. dia. bolt goes through a handle, which fits into a 3/8-in. dia. hole drilled into the chair's foot rest. I also added homemade cane brackets and an umbrella on back."

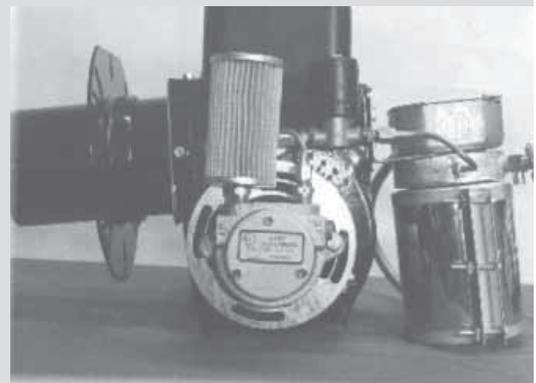
Leonard Seltzer, Manhattan, Ill.: "I made this 9-in. long drawbar pin out of an old 3/4-in. dia., solid steel compressor valve. I ground one end of the valve down to a point and then welded a washer on about 2 in. from



the top end of the pin, so I can grab hold of it. I got about a dozen valves from an old friend who worked at a refinery about 20 years ago where they had torn down some industrial compressors. I took the valves to the maintenance shop at a local pipeline company, to grind the points on the pins.

"Compressor valves are built strong and won't break. I've used my valve drawbar pin to pull two big gravity wagons filled with corn, one behind the other, to the elevator. The wagons weighed about 15,000 lbs. apiece, but I didn't have any problems with the pin. I also used it in a clevis hookup while pulling a 4-bottom moldboard plow behind my Deere 720 tractor, and it worked fine. A little chrome did get chipped off, but that was it. If you wanted, you could drill a hole in the bottom of the pin and use a cotter key to make sure the pin can't jump out."

Oregon Commercial Heating custom builds waste oil burners that fire up to 400,000 btu's. The company will also replace the "guts" of an existing heater with its own components.



Advice On Buying A Waste Oil Heater

For the past 22 years, Ray Thompson has been in the business of selling, servicing and repairing waste oil furnaces. He has seen both the good and the bad as the industry has matured.

He says that if you follow a few simple rules, you can avoid most problems and really benefit your pocket book.

"First get references from a user in your area," says Thompson. "Don't buy based on a magazine ad or flyer.

"Second, deal with a reputable company that has been in the business a while."

He sells Reznor waste oil furnaces, but performs maintenance on a wide variety of others including Black Gold, Clean Burn, Shenandoah, Lanair and Omni. "If you don't know who is producing a good furnace, go to businesses that produce a lot of waste oil and burn it themselves," he suggests. "Find out who they bought from and how it's working out."

Thirdly, he says you should always buy through a dealer to get the right furnace and to get it installed properly. "Proper installation takes care of the most serious potential problems," he notes.

Thompson learned about waste oil furnaces the hard way. As an owner of a service station and automotive repair shop in the early 1980's, he had plenty of waste oil to dispose of. The first two furnaces he bought didn't work out. As he fixed them, he became familiar with how they worked. Today, his Oregon Commercial Heating company services and repairs 1,200 to 1,400 waste oil furnaces on an annual schedule and another 1,700 on an emergency basis.

"A lot of companies sell waste oil furnaces, but don't service them," he says. "Waste oil burners need to be cleaned regularly so they will burn efficiently. There are many different waste oil furnaces, a ton of different types of equipment, and lots of them don't work very well."

Rather than simply replace poorly functioning parts, Thompson has developed his

own burner, metering pump and heat exchanger that install into existing units.

"We borrowed ideas from all the different equipment we sell and service," he says. "This way our customers don't have to buy a new furnace or spend a lot of time trying to adjust equipment that doesn't work properly."

Thompson notes that due to the sulfides in waste oil and the high temperatures involved, heat exchangers and combustion chambers tend to burn out faster than the rest of the furnace.

To keep equipment operating properly, Thompson suggests getting regular service from someone who knows codes for installing equipment, including Class A high temperature chimneys. He points out that improper installation could cancel insurance coverage if it results in a fire.

Quality of fuel is also important. He emphasizes storing waste oil by itself and avoiding the accidental addition of antifreeze or water. He suggests a minimum tank size of 500 gal. with secondary containment and a drain valve.

"Crack the drain valve periodically, and dribble out what water is there," he says. "If at all possible, filter waste oil before it goes into the tank. If contaminants get into the tank, they will create a sludge that has to be removed at some point."

Avoiding sludge is why Thompson also recommends against mixing greases and gearbox oils with acceptable waste oil. "Some companies claim they can burn grease and gear box oil, but most of it will just drain to the bottom of the tank," he says.

Thompson suggests limiting waste oils to motor oil, cooking oils, hydraulic oil, transmission fluid, combustible synthetic oils, and any other oil up to 50 S.A.E.

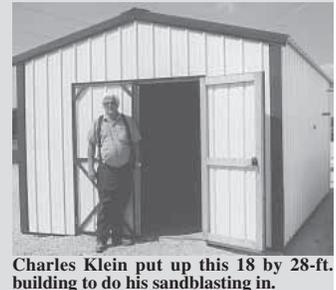
Contact: FARM SHOW Followup, Oregon Commercial Heating, 9684 S Wildcat Rd., Molalla, Ore. 97038 (ph 503 829-9670; fax 503 829-9684; sales@oregoncommercialheating.net; www.oregoncommercialheating.net).

Separate Sandblast Building

Charles Klein's wife, Alice, suggested to Charles that he needed a small building to do his sand blasting in because the silica sand dust had a way of getting into everything, and it also made the shop floors slick to walk on.

So Charles put up an 18 by 28-ft. building adjacent to his machine shop that holds his sandblaster. He's happy to have the mess separated from the rest of his shop, and so is his wife.

Contact: FARM SHOW Followup, Charles Klein, 104 Gall Street, Columbia, Ill. 62236 (ph 618 281-5064).



Charles Klein put up this 18 by 28-ft. building to do his sandblasting in.