### Money-Saving Repairs & Maintenance Shortcuts

# Sturdy Tractor-Mounted Chain Box

Roger Gutschmidt's Deere 7530 MFWD tractor is fitted with a handy storage box he built and mounted to the front end

"The box is made from 8 by 8-in. sq. tubing with 3/8-in. sidewalls, and it's 21 in. long, which is the width of my tractor. I made it heavy duty so it won't get damaged or crushed if I accidentally bump it," he says. "I made the box to hold a log chain, hitch pins, and clevis. It's sturdy and easy to get to, and there really isn't a place to put a tool box anywhere else. I don't want this stuff inside the cab on the floor where it could get stepped on or bump the cab glass and break

The box has a cover at each end for easy accessibility. The covers pivot on a bolt in one of the lower corners.

"Before mounting the box to my tractor, I painted it to match, and I think it looks real good," Gutschmidt adds.



Front-end mounted chain box is made from 8-in. sq. tubing and has a cover at each end.

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Getting at remote areas is easy with 16-in. long Extend-A-Lube Super Straws. They can be cut to any length needed.

## **How To Lubricate** Hard-To-Reach Areas

Jeremy Aaron, an aircraft mechanic from that come with standard length straws and Washington, Penn., was tired of not being able to reach some areas on machines being serviced with the plastic straws that come standard with WD-40 and aerosol products. Getting at remote areas inside engine compartments meant spraying the whole area from a distance, making a mess and wasting chemicals. So, he invented what he calls Extend-A-Lube Super Straws.

Super Straws are 16-in. nozzles that are compatible with virtually all aerosol cans can easily be cut to any length you need.

Aaron packages his Super Straws along with another product called Hold-Its. These are elastic rings that wrap around the can and hold onto the straw so it won't get lost. They're sold through tool distributors.

A pack of three Super Straws and three Hold-Its sells for \$4 plus \$1.25 S&H.

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#### **Simple Ground Heat System Cools, Heats Shop**

Wess Cornelius's made-it-myself ground heat system provides heating and cooling for his shop at minimal cost.

"I use it to help heat and cool my 15 by 32-ft. shop," says the Winlock, Wash., man.

A friend used a trencher to bury 100 ft. of 4-in. dia. plastic non-perforated drain pipe 4 ft. deep in the ground. It was buried in a loop around the shop. After installing the pipe in the trench, he attached an elbow to both ends and brought the pipe up at both ends inside the shop. A few inches extend above the floor. A small electric fan at one end of the building is used to suck air through the tube. The fan is placed inside a 5-gal. bucket with a 4-in. dia. hole cut into the bottom.

"It provides free energy and was cheap to put together. I paid \$100 for the pipe and \$75 to hire the trenching work," says Cornelius.

"The ambient air temperature 4 ft. deep in the ground is 50 to 54 degrees. It'll change the air temperature 10 to 20 degrees, so if I go to my shop on a 30 degree day, the temperature inside the shop will be 40 to 50 degrees. During the winter, I usually turn the fan on about 2 hrs. before I go to the shop. If I leave the fan on at night when it's freezing outside it'll still keep the shop at 45 degrees or higher. It also helps on hot summer days. I've used it several days when the outside temperature was over 90 degrees, yet the shop stayed at about 75 degrees. If I had left the fan on overnight the shop might have cooled even more.

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Dan Bodas stores chains, tools and pins in 4-in. dia. tubes on his Kubota tractor loader, covering the ends of the tubes with 4-in. dia. pvc expander plugs

#### Tractor Loader Tool Holders

"I just bought a new L4240 Kubota tractor cab and loader. I used to carry a toolbox in the cab of my last tractor and it was always in the way. So this time I decided to find a better way to hold a few chains, tools and pins," says Dan Bodas, Pittsburg, Mo.

"The loader has two smaller 4-in. dia. tubes where the loader attaches to the chassis, and a larger 4 1/4-in. tube in the loader frame itself.

"I bought four 4-in. dia. pvc expander plugs, which make perfect covers in the ends of the tubes. The plugs expand so no adhesive is required to hold them in and you get a watertight storage compartment. The plugs cost just \$5.99 each and come in different

"The 4-in. plugs fit perfectly into the two 4-in. pipes. They were a little loose in the bigger 4 1/4 in. loader tube so I bought a 4-in. pvc connector fitting and cut a slot in



To cover a larger 4 1/4-in. dia. tube, he cut a slot in a 4-in. pvc connector fitting and slipped it inside tube. Expander plug fits into pvc fitting.

one side to allow it to slip inside the loader tube. The expander plugs fit perfect into the pvc inserts.

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#### "Socket Board" Makes **Tools Easy To Find**

Mike Sieve is able to organize sockets by drive and size, and organize wrenches by size, thanks to the handy tool organizer he built.

The tool organizer's backboard measures 8 ft. long by 26 in. high and is made from 14ga. sheet metal set inside a frame made from lengths of 1 1/2-in. angle iron. The various size drive sockets set on rows of pegs that extend through the backboard. There's a 12in. deep shelf underneath.

"The backboard is painted black, and the silver sockets and wrenches really look nice against it," says Sieve. "I built it because I had been storing my sockets and tools on a cart, but it seemed like I could never find the size that I needed quickly. For me, finding the tools I need is all about speed."

He welded 4 pieces of angle iron together to make the shelf frame, then cut out a piece from the sheet metal to fit inside and tack welded it on. Then he cut out the backboard.

The next job was the hardest - laying out the pattern for the holes where the pegs, actually nails - go through. "I needed to figure out which socket sizes I already had, and which sizes would be available to add in the future. I decided I wanted to have at least 5 rows of sockets plus 1 deep socket for my 1/4, 3/8 and 1/2-in. drives. I keep SAE sockets on the left side of the board and metric on the right. I figured I needed to accommodate socket sizes up to 2 in. or 50

The bottom half of the board is used to store 1/4 and 3/8-in. drive sockets, which are spaced 1 1/2 in. apart both horizontally and vertically. These sockets extend 6 rows high and go all the way to both ends of the backboard. The top half of the board is used for 1/2 and 3/4-in. drive sockets. The top row is only for 3/4-in, drive sockets, which are



Various size drive sockets set on rows of pegs that extend through backboard.



A 12-in. deep shelf underneath backboard is used to organize wrenches

spaced 2 1/2 in. apart. Right below it are 6 rows of 1/2-in. sockets, which are spaced 1 3/4 in. apart both horizontally and vertically.

"To get the pegs ready, I drilled out a hole sized for the nails that I wanted to use," says Sieve. "I used nails that would be 1/2 in. longer than the socket's total length. Drilling all those holes was a tedious job. Then I placed all the nails in their holes and welded them to the board from the back side.

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