



**David Gammel, 91 Johnson Road, Scott, Arkansas 72142 (ph 501 961-9374):** "This idea makes it easier to break lug bolts loose. Take a piece of 4-in. dia. PVC pipe and drill a 3/4-in. dia. hole all the way through the pipe. Insert a 1/2-in. drive socket extension through the hole and attach it to the lug bolt. Break as many lug nuts loose as you can from this position. You can turn the pipe upside down in order to change the height of the extension and reach the other nuts. Or, you can pull the vehicle or implement forward or backward just far enough to get the other lug nuts in position.

"The pipe allows the extension to apply a steady, even pressure on the bolts so they won't break off."

**Tom Williams Machine, Inc., HCR 1, Box 1-A, Aurora, Mo. 65605 (ph 417 678-3723; fax 417 678-6000):** "We made our 5-gal. wet and dry vacuum easier to carry by bolting a pair of small brackets to the sides of the tank and attaching a 5-gal. pail handle to them. Without a handle, the vac is awkward to carry, especially when it's full.

"I also mounted a pail handle on top of a 3-gal. pump-up sprayer tank and mounted a 1-in. dia. PVC pipe alongside the tank for storing the sprayer wand. I ran a No. 8 wire band around the tank and secured the pail handle to it. I also ran a wire band around the bottom of the tank and used plumber's tape to attach the pipe to the band. The tank was originally designed to be carried by a metal hand loop secured to a circular lid. However, if you accidentally twist the lid as you hold



onto the loop the lid can unlock and fall into the tank. To solve the problem I installed a smooth wire lock around the raised base of the pumper to keep the lid loop from accidentally turning. I also made and inserted a filter under and inside the pump-locking device in order to keep weed seeds and small trash, etc., from getting inside the pump tank."

**Joe Strullmyer,**

**St. Peter, Ill.:** "I use this modified free-standing jack to lift objects in my shop. It's always ready to go and saves a lot of time and effort. It's supported by a base made from square steel tubing and is held steady by a pair of steel rods that extend from the back of the base up to the top of the jack. The expanded base assures a better foundation to lift from if I want to use it outside the shop in soft areas. A long handle provides extra leverage when lifting the object. I recently



## Simple Modification Boosts Air Conditioning On Cat Challenger

Orlin Schanz boosted performance of the air conditioner in his 1975 Cat Challenger by making a simple modification using a piece of pvc pipe.

"It improves performance 100 percent," says Schanz, who came up with the idea after several years of sweltering heat inside the cab of his Challenger.

The idea is to recirculate air from inside the cab to the air conditioner, rather than continuously bringing in outside air. "It lets you cool down air that is 70° rather than air from under the hood that's 195°. And the way I did it, the recirculated air is filtered."

He used a piece of 2-in. dia. plastic pipe fitted with threaded end couplers and nuts. He fitted the pipe into holes cut into the bottom of the air conditioner unit, just below the filter, and in the firewall of the cab. Then he simply taped over the air intake louvers on the side of the air conditioner so air must be drawn in through the pipe.

Contact: FARM SHOW Followup, Orlin Schanz, 804 17<sup>th</sup> Ave., Langdon, N.Dak. 58249 (ph 701 256-2878).



**Schanz modified his Cat 75C Challenger to recirculate air from inside the cab to the air conditioner.**



**Air is pulled from cab by a 2-in. dia. plastic pipe.**

# FARM SHOW®

## Money-Saving Repairs & Maintenance Shortcuts

*Have you come up with any unusual money-saving repair methods for fixing farm equipment? What maintenance shortcuts have you found? Have you had any equipment recalled by the factory? Name a particularly tough mechanical problem you've had with a piece of equipment and how you solved it.*

*These are a few of the questions we asked randomly selected FARM SHOW readers. If you have a repair tip, maintenance shortcut, or other mechanical experience you'd like to share, send details to: FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or e-mail us at: Editor@farmshow.com.*

**Mark Newhall, Editor**

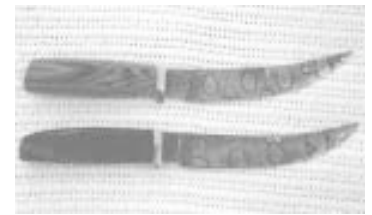
used the jack to lift a broken spray boom."

**Veryl Reiher, Gillespie, Ill.:** "I came up with a tool to help me measure the distance between front wheels on tractors, cars, and pickups, etc., so that I can make correct adjustments to tie rods. I used a 40-in. length of lightweight 1/4-in. dia. pipe and a 3-ft. long, 5/16-in. threaded Redi-bolt with a nut on it. The Redi-bolt telescopes into the pipe.



"The distance between the front wheels ahead of the axle should generally be 1/8 in. less than the distance behind the axle. I measure the distance between the front wheels by loosening the nut and placing the pipe and Redi-bolt between the wheels, then running the nut down against the pipe. When I move the pipe and Redi-bolt behind the axle, there should be a 1/8-in. gap between the end of the Redi-bolt and the tire. This slight amount of tow-in is needed in order to prevent the tractor from wandering and also to save unnecessary wear on tires. It works a lot better than using a tape measure, and it costs far less than commercial units designed to do the same job."

**Edward M. Storch, RR 4, Mannville, Alberta, Canada T0B 2W0 (ph 780 763-2214):** "My hand-made knives are satin finished and are in use world wide. I custom make them using the same "forge welding" process that was used by old time blacksmiths. The idea behind forge welding is to heat the metal, put the flux on, and hammer-weld objects together. Using this process I can take a piece of steel cable or roller chain from a farm machine, heat it, flux it, and forge weld it into a bar which I later turn into a knife. The pattern of the different types of alloys in the steels shows up in the finished



**Knives made from roller chain show original chain pattern.**

product. It looks quite artistic. I could use more common coal forges, but they're hard to get and are messy to use. Using my propane-powered forge welding equipment I can have the material hot enough to weld in only about 10 minutes.

"I use a tangential venturi propane forge equipped with a central salt pot to heat treat the steel. It consists of a 16-in. long, 8 1/2-in. dia. steel pipe mounted on rollers. I line the inside of the pipe with a high temperature, heat-resistant fiber and cut a rectangular hole in the side of the pipe for the flame



**Propane forge is used to heat treat the steel that's used to make knives.** to exit. The flame cuts in at an angle and corkscrews around inside the pipe through a smaller 2-in. dia. pipe that's welded inside.

"After I've heated the steel I use a home-made 42-ton hydraulic press to shape it. The press is equipped with a 2-stage hydraulic pump and a 6-in. dia. hydraulic cylinder. It has a capacity of 16 gal. per minute at 600