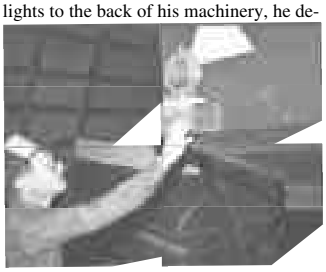
Repairs & Maintenance Shortcuts

(Continued from previous page)

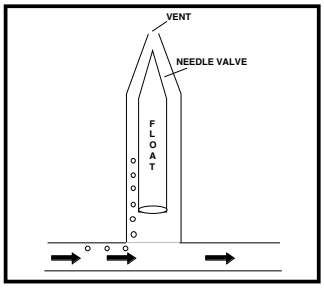
the stool because the wheels are wide and stable, even on uneven surfaces.

Roland Beckmeyer, Hoyleton, Ill.: When Roland decided to add flashing safety lights to the back of his machinery, he decided to use battery-operated units rather than running wire to operate 12-volt lights. This way he can transfer one set of lights between various pieces of equipment.



What he did was to build small wood boxes that fasten to the back of grain boxes, and other equipment. The light simply sets inside the box. A single bolt is inserted through the front of the box and through the light to hold it in place.

J.R. Kellogg, Boise, Idaho: "Here's an idea that saves me a lot of time working with socket sets. I use colored electrical tape to color-code the sockets so I can tell at a glance the size of each socket. It takes a while to learn what color represents what size, but you can use the system on other tools, too, such as open end wrenches. Here are the colors I use for each size; Orange - 3/8-in.; Yellow - 7/16-in.; Green - 1/2-in.; Red - 9/16-in.; White - 5/8-in.; Black - 11/16-in.; Blue - 3/4-in."



John C. Blundell, Papakura, Auckland, New Zealand: "Here's an automatic air bleed valve I designed to prevent air lock in long water pipes. A short length of pipe runs straight up from the main pipe. There's a vent hole in the top of the pipe which is closed by a float when the main water pipe is full of water. If an air bubble comes along, the float drops, allowing the air to escape."

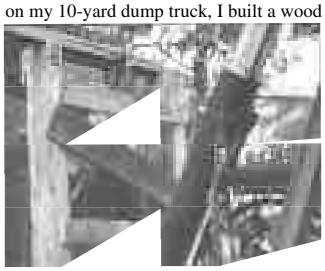
Elroy A. Johnson, Michigan, N.Dak.: "I automated the chute on my snow blower with a 6-volt header lift motor off a Massey Harris 21A combine. I mounted it on the chute and wired it up to a pair of switches so I can turn it left or right, as needed. Works good."

John Steinberger, Kenmare, N.Dak.: "I've found that wiring on tractors is almost always inadequate for the amount of equipment we're trying to run off it. I run heavy gauge wire from the battery to a homemade 'bus' in the tractor cab, and then use lighter wire to go to my monitors and other electrically-powered equipment."

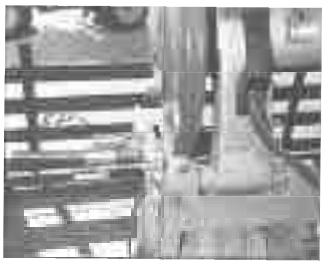
Clark Dysle, Scio, Ore.: "Our 1987 Ford 250 diesel pickup is strong and runs good but the hydraulic clutch is poorly engineered. The master and slave cylinders are made out of plastic and wear out about every 50,000 miles. The cost to replace them is around $200. I solved the problem by installing 1960 Ford master and slave clutch cylinders in the truck. It works but needs a strong left leg to operate.

"When welding thin steel I use a stainless rod with A.C. power. It seems to flow without blowing a hole in the thin metal. It's much faster than gas welding and less heat is used, presenting damage to the parts you're working on. One hint: use short bursts of power.

"To safely change the rear transmission on my 10-yard dump truck, I built a wood frame that goes just behind the cab, and I hung a chain and come-along from both the wood frame and from the hydraulic dump cylinder."



Rodger Parmelee, Valier, Mont.: "I made a 'sizer' to mount on the side of my cut-off saw that saves a lot of time when cutting several pieces the same length. It slides back and forth on a piece of pipe that sticks out from the side of the saw table. A locking collar holds the 'ear' in place. You measure the desired length with the ear up, then turn the ear down out of the way before cutting so material that's being cut does not bind. Then turn the ear up for the next piece. It will cut lengths up to 3 ft. long. When not in use, it is completely out of the way. I've been making these for sale for $30 to fit any cut-off saw with two bolts. Contact: Rodger Parmelee, Box 155, Valier, Mont. 59486 ph 406 279-3516."



Leonard J. Arenz, Streator, Ill.: "The drive chain on the rotary screen on the radiator on my 510 Massey combine kept breaking. I read an article in FARM SHOW about a farmer who had the same problem. I called the man and did what he did, putting an air-drive screen off an IH 715 combine on my Massey. It completely solved the problem. Works perfect. Massey should make this solution available.

"I repaired an exhaust leak on the combine with a muffler tail pipe bandage. For about $3.00 it worked great and saved a lot of money over replacing the pipe."

Norman Foellmi, Sparta, Wis.: "I've discovered a new use for my wood splitter. I bent the forks on my bale loader and needed a way to straighten them out. I laid a railroad tie across the splitter, put the bent fork against the tie, and applied pressure with the splitter ram. It did a beautiful "straightening" job.

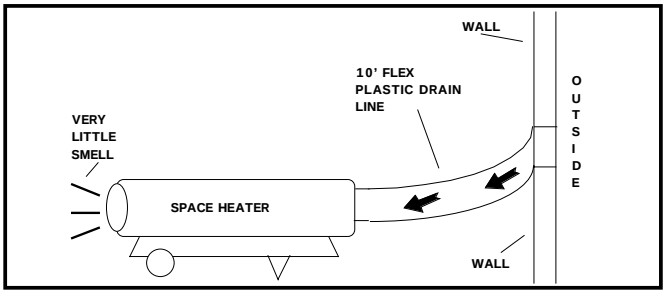
"Soon after I bent 3-in. dia. pipe axle on a farm trailer. It straightened easily. I was amazed at the power the ramp delivered."

Charles Smart, Shellbrook, Sask.: Charles built a hydraulic shop press that attaches to a punch press so he could repair the housing on his 27 1/2-ft. 4153 Will Rich air seeder.

"I've never seen a commercial hydraulic press that can be locked so precisely in place," he says. "I built a rigid frame out of 3 by 5-in. tubing and used 1/2 by 3-in. flat bar steel for uprights so there's absolutely no play in the columns. I mounted a Williams four-piston hydraulic pump off a grain truck hoist on top of the 8-ft. high upside down A-frame, which is trussed on top. I use a 1 1/2 hp electric motor to drive the pump, which connects to a hydraulic cylinder I made myself. The cylinder, which will accommodate punch sizes up to 1 1/4 in., can be adjusted from side to side with C-clamps. This way I can vary spacings of holes. I used 7-in. heavy wall channel iron to make the pressing bed. I made a 10 by 12-in. die plate out of 1-in. T #1 steel to adapt the press to punching steel.

"The unit mounts on a two-wheel cart fitted with 400 by 8 in. lawn mower tires so I can push it around my shop or even use it as far outside as an extension cord will reach.

"I haven't tested its full capacity, but I've punched 1 in. dia. holes in steel plate up to 1/4-in. thick with it. My guess is that this job required only about half of the pump's 3,500 psi capacity."



Bill Irwin, Glade Valley, N.C.: "It seemed like the longer we used our fuel-powered space heater, the worse it would smell. I think it was from burning the same air over and over. I solved the problem by venting in outside air using a 10-ft. length of flexible plastic drain line. It runs from the back of the heater out through an outside wall. Now there's no smell at all."

Repowered Skid Steer Fitted With Plymouth Car Engine

When the Wisconsin 4-cyl. air-cooled engine wore out on his Bobcat 620 hydrostatic drive skid steer loader, Lyle Wolle, Truman, Minn., replaced it with a 4-cyl. liquid-cooled engine out of a 1982 Plymouth Omni.

"It put new life into a well-built machine. It has more power than ever," says Wolle, who repowered the loader two years ago. "My total cost was less than $900 and the entire job took only about a week to complete.

"I bought the Bobcat used about 15 years ago with 1,500 hours on it. It now has over 4,000 hours. I spent about $1,500 to overhaul the original Wisconsin engine a number of years ago. When the engine died a second time, I didn't want to spend the money to rebuild it again because it wouldn't have increased the value of the machine. I measured the engine compartment and began looking for a new engine. I settled on the Chrysler 1.7-liter because it's a tough little engine that sells for a reasonable price. I paid $250 for the Omni and pulled out the engine. I can replace the new engine if it ever goes bad for a fraction of the cost to rebuild the Wisconsin engine.

"I didn't have to make any major modifications. I rerouted the gas fill tube and some of the throttle linkages, built new motor mounts, and adapted the engine wiring harness to the loader's electrical system. The loader's hydrostatic pump is direct-driven off the crankshaft just like on the original engine. However, I had to have an adapter made so that I could bolt the pump directly to the engine's timing belt sprocket which bolts onto the crankshaft. The new engine has a lot more power than the old one so I didn't have to install a governor. I used the car's accelerator when hooking up the throttle linkage.

"The Wisconsin engine had 30 hp but the Plymouth engine has 60 to 70 hp. It's just as fuel efficient but has more working capacity due to the extra power. I never run the engine over 3,600 rpm's to keep from damaging the hydraulic pumps. The loader was originally designed to lift 1,100 lbs. but can now lift about 1,300 lbs. I added about 400 lbs. to the rear end to compensate for the extra lifting capacity.

"The new engine has an electronic ignition and is liquid-cooled instead of air-cooled so I mounted the car's radiator above the engine compartment and mounted an electrically-operated fan on top of the loader frame behind the cab. I had the exhaust pipes custom fabricated at a muffler shop and rerouted them out the back end to keep exhaust fumes away from me. The new engine is a lot quieter than the old one. I lengthened the engine access cover by 4 in. to accommodate the new engine's flywheel and starter wheel.

"I think any Chrysler 1.7-liter engine would work. There are a lot of these engines around and they have a lot of life left in them."

Wolle says he's willing to repower other Bobcats on a custom basis.

Contact: FARM SHOW Followup, Lyle R. Wolle, Rt. 3, Box 135, Truman, Minn. 56088 (ph 507 776-4737).