

Money-Saving Repairs & Maintenance Shortcuts

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tires, blow dust and dirt off surfaces, or complete any task that requires a blast of air.

"The kit includes an adapter with pressure gauge, a 5-ft. hose, and tire chuck. Sells for \$19.95 plus S&H."

Dennis Westphal, 538 Eaken Ave., Buffalo, Minn. 55313 (ph 763 682-5630 or 612 418-5521; E-mail: chaintamer@aol.com.) "My son Dan and I



recently came up with a handy plastic storage case that makes it easy to store chainsaw chains and keep them from getting tangled up after they've been removed from the bar. The case is built in two halves that slide together over the chain and measures 1 1/2 in. wide by 1/2 in. deep. It measures 15 in. long when fully closed and has a hole at one end so you can hang it on a wall. The case will accept chains up to 24 in. long. It sells for \$1.50 plus S&H."

Richard Sinters, 216 S. Chestnut St., Beloit, Kansas 67420 (ph 785 738-5462;) "I



recently designed an air vent that installs in the lid of a 5-gal. bucket and keeps the bucket's contents from sloshing out unevenly when pouring.

"I start with an empty bucket. The first step is to remove the core from a tire valve stem.



Then I drill a hole in the bucket lid that's the same size as the middle stem of the valve. To 'seat' the valve stem, I stick it up through the hole and then drop a string down through the valve and tie a large washer to the end under the valve. Then I pull upon the string until the valve stem is sealed in the lid.

"When not in use, I put the valve stem cap back on the valve."

Neal McCleary, 325 McCleary Rd., Elkton, Md. 21921 (ph 410 398-3556;) "A manually-controlled selector valve purchased



from Northern Tool Equipment (ph 800 556-7885) allows us to use one remote outlet on our tractors to operate two hydraulic cylinders. The valve costs less than \$100, compared to electric/hydraulic converters that that can cost up to \$500.

"The photos show the selector valve mounts on a steel plate that bolts to the tractor. A pair of hydraulic hoses run from the valve's two center-mounted plug-ins to a single remote outlet on the tractor. Hydraulic hoses run from the cylinders to a pair of plug-ins on each side of the valve. The photos show the valve with the knob on top of it in the 'up' position. I can control either cylinder by pulling up or pushing down on the knob."

Doug Phillips, Zearing, Iowa: "I used a 1/2-in. dia. wooden dowel to keep the V-belt on back of my Deere 8820 combine, from flopping around too much. The V-belt drives the combine's straw chopper and is located alongside the back part of the combine. The 8820 combine normally comes factory-equipped with two hollow metal "bumpers" that mount vertically on the side of the combine, one above the other. The bumpers are designed to keep the belt from contacting the side of the combine and ruining the paint job. However, I bought the combine used with only the bottom bumper still in place.

"The belt bounced around quite a bit on top of the bumper. I was worried it might catch on the bumper and cause the straw chopper to plug up. I made a quick fix in the field one day by sticking a broom handle into the lower bumper. Later I replaced the broom handle with a dowel."

GOWELD welder operates on two or three 12-volt deep cycle batteries and uses any available welding wire.



Battery-Powered "Go-Anywhere" Welder

Here's a truly portable welder you can use anytime, any place and you don't need a powerline connection or a noisy generator to power it.

Called GOWELD, the handy new welder operates on two or three 12-volt deep cycle batteries and uses any available welding wire, either self-shielding (flux-core, FCAW) or gas shielded (solid, MIG/MAG).

The GOWELD system, from Broco, Inc., Rancho Cucamonga, California, features state-of-the-art technology that allows permanent, quality welds. The welder has a number of settings for wire speed and amperage.

GOWELD welds material ranges in thickness from 1/8 to 1/2 in. An accessory voltage control unit (coming by the end of this year) gives GOWELD what the company calls "true variable output voltage" that allows it to weld metal as thin as 18 gauge without burning through.

The goal in developing GOWELD was to design a highly portable welding tool that will operate anywhere, in any weather so repairs can be done easily in the field or job site.

Tom Joos, GOWELD product manager, recommends the system for professional welders, heavy equipment service technicians, contractors, HVAC techs, miners, farmers, ranchers, ornamental iron workers, and do-it-yourselfers.

The company introduced GOWELD to the



Welder has a number of settings for wire speed and amperage.

market in January, 2002. Price is \$695.00, about the same as a mid-priced 220 V 3 phase MIG/MAG machine.

Contact: FARM SHOW Followup, Tom Joos, product manager, Broco Inc., 8690 Red Oak St., Rancho Cucamonga, Calif. (ph 909 483-3222 or toll-free 800 845-7259; E-mail: Broco@att.net; Website: www.brocoinc.com).

Expert Welder "Explains" Electrodes

Expert welder Stan McDonald, inventor of a variety of welding and shop tools, recently wrote the following explanation of different arc welding rods. "People are always asking me what the difference is between rods so I finally decided to write it down," says McDonald.

Electrode Identification

Electrodes are identified using the A.W.S. (American Welding Society) numbering system and are generally made in sizes from 1/16 to 5/16 in.

For example, a common electrode is a 1/8-in. E6011. The numbers and letters tell you what it is:

The rod is 1/8-in. dia. The "E" stands for arc welding electrode.

Next will be either a 4 or 5 digit number stamped on the electrode. The first two numbers of a 4-digit number and the first 3 digits of a 5-digit number indicate the minimum tensile strength of the weld that the rod will produce.

So, "E60xx" indicates a tensile strength of 60,000 psi. "E110xx" would be 110,000 psi.

The next-to-last digit indicates the position the electrode can be used in.

- Exx1x is for use in all positions
- Exx2x is for use in flat and horizontal positions
- Exx3x is for flat welding

The last two digits together indicate the type of coating on the electrode and the welding current the electrode can be used with. Such as DC straight (DC-), DC reverse (DC+), or AC. SMAW welding (shielded metal arc welding) is performed using either AC or DC current. Since DC current flows in one direction, DC current can be DC straight (electrode negative) or DC reversed (electrode positive). With DC reversed (DC+ or DCRP), the weld penetration will be deep. With DC straight (DC- or DCSP) the weld will have a faster melt off and deposit rate, and thus will have medium penetration. AC current changes its polarity 120 times a second by itself so the polarity cannot be changed like DC current.

Electrodes & Currents Used

Here are examples of the type of current each will work with:

- Exx10** - DC+ (DC reverse or DCRP)
- Exx11** - AC or DC- (DC straight or DCSP)
- Exx12** - AC or DC-
- Exx13** - AC, DC-, or DC+
- Exx14** - AC, DC-, or DC+
- Exx15** - DC+
- Exx16** - AC or DC+
- Exx18** - AC, DC-, or DC+
- Exx20** - AC, DC-, or DC+
- Exx24** - AC, DC-, or DC+
- Exx27** - AC, DC-, or DC+
- Exx28** - AC or DC+

Commonly Used Electrodes

Here are four widely used electrodes for welding of mild steel.

E6010 - This electrode is used for all position welding using DCRP. It produces a deep penetrating weld and works well on dirty, rusted

or painted metals.

E6011 - This electrode has the same characteristics of the E6010, but can be used with AC and DC currents.

E6013 - This electrode can be used with AC and DC currents. It produces a medium penetrating weld with a superior weld bead appearance.

E7018 - This electrode is known as a low hydrogen electrode and can be used with AC or DC. The coating on the electrode has a low moisture content that reduces the introduction of hydrogen into the weld. The electrode can produce welds of X-ray quality with medium penetration.

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