

## Portable Power Unit Driven By Sun, Wind

"I like plugging into the sun and wind when I'm out on a job," says Steven Rundquist about his portable wind and solar-powered generator system. And it's a great fit for his timber frame construction business. When he pulls into a remote site without electricity, it doesn't take long to power up. He raises the 400-watt wind turbine on a telescoping pipe, unloads two 135-watt solar panels, and hooks everything up to four 220 amp-hour 6-volt AGM batteries wired in series. The batteries power an Outback 3,500-watt AC inverter.

"The generator will keep up with the needs of a two-man crew pretty much all day long, day in and day out," Rundquist says.

Based in Colorado, he works in many remote areas. He grew tired of listening to a gas generator all day and told Mel Wright, his friend and co-worker at the time, that he would like a quieter option.

Wright did some research and put the system together for Rundquist about 5 years ago. It's been working well ever since.

Correctly sizing everything together was the biggest challenge, Wright says. For Rundquist, the inverter was the main focus.

"He has a \$2,500 European chain mortiser tool, and he didn't want to damage that," Wright says. "We knew he'd pull a lot of

amps with his power tools, and he didn't want to hurt them."

The quality Outback 3,500-watt inverter ensures clean power and was worth the \$2,000 cost they paid for it.

Altogether, the setup cost about \$4,000, and Wright estimates it would cost about the same today as some parts have gone up, but solar panels have dropped substantially in price.

Rundquist notes that with more than 300 days of sunshine, Colorado is a natural place for solar power. And, when the sun doesn't shine, there's usually wind, so the batteries can retain power for the inverter to produce 30 amps of continuous AC power. He has rarely had to use hand tools or a gas generator for backup.

For information about putting a system together, Wright suggests going to [www.builditsolar.com](http://www.builditsolar.com) and also reading *Home Power Magazine*.

"I'm surprised how well it works and how simple it is," Rundquist says.

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Portable wind and solar-powered generator is a great fit for Steven Rundquist's timber frame construction business. When he pulls into a remote site without electricity, it doesn't take long to power up.

## S-Irons Prevent Sawlogs From Splitting

You can stop valuable logs from splitting after they're cut down and before they reach the sawmill with S-Irons. Just hammer the 14-gauge metal "S"s into the ends of the logs.

S-Irons have been around a long time, says Gene Young, a manager at Western Wire Products Co., which recently posted the item on its website catalog. Years ago they were used in railroad ties.

"Now they're used by people logging high value timber," Young says. They can also be used on timbers to retard cracking and splitting.

The Western Wire design has a special ribbed pattern for greater holding power. A double-beveled knife edge makes it easier to hammer in with a small sledge hammer. The S-Iron comes in 4, 5 and 6-in. sizes, ranging from 10 to 15 cents apiece and packed 250/



These 14-ga. metal S-Irons are designed to stop logs from splitting after they're cut down.

bag.

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Wrapping grapes in shrink-wrap plastic lets Tom Miller grow grapes where he otherwise couldn't. He devised a simple dispenser for the plastic rolls.

## "Shrink-Wrapping" Grapes Boosts Production

Wrapping grapes in shrink-wrap plastic lets Tom Miller grow grapes where he otherwise couldn't. The plastic envelope extends the season and adds growing degree days on Washington's cool and windy Olympic Peninsula.

"In a good year, some winemaking varieties may ripen, but others will not," says Miller. "Enveloping the vines for 6 weeks in the spring and until after fruit set, provides about a 25 percent increase in growing degree days during the season. It's like moving my vineyard 300 miles south for 6 weeks."

Miller has experimented with wrapping his grapes in plastic since 2007. However, he feels he finally perfected the process in 2011. He uses rolls of shrink-wrap plastic film that are 30 in. wide by 6,000 ft. long. The film is doubled over and attached to 32-in. long 1 by 2 stakes, which have been nailed to trellis posts. One \$120 roll covers both sides of 3,000 ft. of trellis. The two sides are then pinned together at the top with clothespins.

The plastic is installed around the first of May and removed around the first of July. When shoots reach the trellis midwire, the clothespins are removed and the top left open. He also tops shoots to encourage healthy fruit clusters.

Miller devised a simple dispenser for the plastic. He fabricated it from scrap lumber, plywood, rotating casters, iron pipe and plastic plumbing caps.



Plastic film attaches to stakes nailed to trellis posts. The 2 sides are then pinned together at the top with clothespins.

"I used a standard pallet carrier for a 3-pt. hitch and bolted a plywood platform to it," he says. "I attached four caster wheels (upside down) to the platform around a 1/2-in. pipe. A circular drum made out of scrap lumber slips over the pipe, as does the roll of plastic."

The drum rides on the casters like a Lazy Susan. It does triple duty, also serving to dispense trellis wire and drip irrigation tubing. The pipe is threaded at the end with pvc spacers and a 3/4-in. cap. Miller reports that a group of three people can wrap the one-acre vineyard in a day. Removing the plastic takes about the same time.

"The plastic isn't re-useable as the sun decays it and the wind rips it apart," says Miller. "We roll the plastic up into balls that fill two plastic garbage bags."

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Chainsaw is secured to wood frame. Saw's pull cord slips through a notch at end of wooden lever. Quickly pushing down on lever with foot pulls cord to start saw.

## "Kick Start" For Chainsaw

Despite arthritis in his elbows and shoulders, Ben Schultz, 83, can still handle a chainsaw well enough to cut firewood. His problem is starting it. He can't yank the pull cord fast enough.

Thanks to a simple device made of scraps by his son, Schultz has a new easy starter for his saw and doesn't need to ask anyone to start it for him.

"It's sort of a simple thing, mainly to give it more stroke," says his son, Dan Schultz, who works as a technician for engineers.

He used scrap wood and a 2 by 2 for the lever, which is attached to the wood frame

with a bolt. An old clamp and pieces of metal on the bottom board secure the front handlebar and rear handle of saw. The pull cord slips through a notch and hole on the end of the wooden lever.

"You just give the lever a good, quick push with your foot to pull the cord and start the saw," says Dan Schultz.

It's worked great for his father for a couple of years, giving him the independence to continue doing something he enjoys.

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