

# Welding Generators Offer Best Value For Emergency Power and Welding Repair



**"If you look up the cost for a plain generator, you'll see that the price for a Bobcat welding generator isn't much different, yet it can do so much more."**

*Jim Brook, Product Manager, Miller Electric Mfg. Co.*

Average people don't worry about welding generators on a daily basis. They don't imagine living without electricity and all the necessities it provides, not to mention creature comforts like hot coffee and hair dryers. But, on the anniversary of "Ice Storm '98," many New England, New York and Quebec residents remember what they endured: five days of freezing rain, sleet and high winds, followed by a sixth day of heavy snow. Millions of trees cracked under the strain and fell onto power lines and transformers. Nearly

500,000 Maine residents — more than half the state — lost power, along with 70,000 people in New Hampshire, 65,000 in Vermont and tens of thousands in upstate New York. The massive damage cut electricity

pump the milk into the truck, the milk had to be dumped.

"When Tom had to dump the first milk," said Donna in a *New York Times* article, "he just kept saying that there was no hope, that we're all done for. He was sick at heart."

Farmers who owned a generator before the Ice Storm struck fared better. They kept their farms running, using the emergency power to operate pumps, lights and milking equipment. Among those who did not own a generator, only the first in line were fortunate enough to purchase one. Jim Widrick, manager of Widrick Implements, a farm and garden store outside Watertown, NY, says, in a *New York Times* story, that his store quickly sold out of generators, and there were about 50 machines in the store waiting for repair.

**When selecting a welding generator, be sure that it can produce sufficient wattage to power your most critical equipment.**



***"Even the Pope has a Bobcat"*** jokes one welding distributor, alluding to the value of this machine's power generation and welding capabilities.

for up to 16 days, and some had no phone service for more than a month.

For school children, the January storm became a second Christmas break. But for dairy farmers like Tom and Donna Ellis, the storm was no holiday. Unsuccessfully, Tom searched for an emergency generator. When the milk-hauling truck arrived, the Ellises were helpless. With no electricity to

## Keep the Freezer Cold

While the hurricanes striking the U.S. Gulf Coast don't always match Camille's legendary destruction, September 1998's Hurricane Georges left many parts of Alabama, Mississippi and Louisiana without electricity for two days and submerged under six feet of water.

Many hardware stores quickly ran out of generators. Luckily, people like Denny

Waite knew of another source for generators besides implement dealers and hardware stores: his local welding supply distributor. That's because the second best-selling product a welding supply distributor stocks is a gas or diesel engine-driven welding generator.

Like a "regular" generator, a welding generator provides 120 VAC and 220 VAC auxiliary power. Typical output capabilities of these products also match; a welding generator suitable for home use produces 3,500 to 8,000 watts. The comparison stops there, though, as a welding generator lets the owner weld mild and stainless steel (and sometimes aluminum) in sections up to 1/2 in. thick or more. Surprisingly, both products cost about the same.

"Our most popular welding generator, the Bobcat™ 225 NT, costs between \$2,700 and \$3,000, depending where you buy it," says Jim Brook, a product manager at Miller Electric, the world's leading manufacturer of welding power sources. The Bobcat uses a gas engine to generate 225 amps of welding power and 8,000 watts of auxiliary power. Purchasers can choose between 16 HP Onan or 18 HP Kohler engines.

"If you look up the cost for a plain generator with an engine of similar quality and power in a catalog," says Brook, "you'll see that the price for a Bobcat isn't much different, yet it can do so much more."

## What Can You Run?

Most welding generators have 120 VAC and 220 VAC receptacles. This means they

can power a wide variety of equipment, including: sump pumps, milkers, high-pressure washers, electrical chain saws, flood lights, refrigerators or freezers, wet/dry vacs, televisions, radios, VCRs and microwaves. During hurricane Georges, Waite used his Bobcat to run lights for half the house, his refrigerator and freezer, and his neighbor's freezer.

When selecting a welding generator, be sure that it can produce sufficient wattage to power your most critical equipment (Fig. 1 lists the watts required to start and run common equipment). To put these figures in perspective, consider that a toaster draws about 1,000 watts, as does an average furnace. A well pump draws about 700 watts. However, unlike small household appliances, a pump motor draws about four times the normal power when first turned on; this is known as the starting wattage. Be sure to check not only the running wattage, but also the starting wattage. Examine the motor's nameplate for details.

## What Can You Weld?

All welding generators provide Stick welding capabilities, which lets you repair just about anything made of mild steel and



**A welding generator's auxiliary power enables this operator to run a bank of flood lights for working in the dark.**

stainless steel. More advanced welding generators have TIG welding capabilities, and some also permit wire welding (MIG and Flux Cored welding). Both TIG and wire welding work on all common metals, including stainless steel and aluminum.

Typical welding applications on a farm, ranch or small construction site might include:

- Hardfacing buckets on skid loaders and backhoes.
- Welding on wear plates to buckets and plows.
- Patching the beds and side panels of haul trucks.
- Repairing cracked arms and booms.
- Adding new teeth to buckets.
- Welding the steel frames in place for a milking parlor.
- Patching the sheet metal on combines and other equipment.
- Repairing aluminum irrigation pipes.
- Mending machines that break down in the field.
- Repairing the flighting on augers.
- Constructing fences.

**Fig. 1**

Approximate Power Requirements for Home Equipment/Industrial Motors			
Home Equipment	Rating	Starting Watts	Running Watts
Refrigerator or Freezer		3100	800
Sump Pump	1/3 HP	2100	800
	1/2 HP	3200	1050
Electric Chain Saws	1-1/2 HP, 12 in	1100	1100
Flood Lights	Metal Halide	313	250
	Vapor	1250	1000
Air Compressor	1-1/2 HP	8200	2200
High Pressure Washer	1 HP	6100	1600
Wet & Dry Vac	2-1/2 HP	1300	1300
Industrial Motors	Rating	Starting Watts	Running Watts
Split Phase	1/4 HP	1600	600
Capacitor Start-Induction Run	2 HP	10550	2850
Capacitor Start-Capacitor Run	5 HP	23300	6000
Fan Duty	1/2 HP	3500	1100

- Reattaching an A-frame hitch on a cattle trailer.
- Repairing stainless steel sprayer tanks.
- Fixing aluminum engine manifolds.

## Distributors Provide Advice

Determining what type of welding generator to buy also requires examining the machine's welding capabilities. Unfortunately, there is no single welding process suitable for all welding situations. For this reason, it is necessary to weigh the advantages and disadvantages of each welding process. Fig. 2 provides an overview.

"The best place to buy a welding generator," notes Brook, "is your local welding supply distributor. The distributor's sales people are trained to listen to your needs, answer your questions, and make a product recommendation that will make you happy for the long term. Also, they're a good source of welding advice, and some even conduct welding classes for beginners."

## Best of Both Worlds

"I had a breakdown in the field one time and I could not get the farm equipment

**Fig. 2**

Process	MIG	Flux Cored	Stick	TIG
Type of metal it can weld	Steel, stainless, aluminum	Steel, stainless	Steel, stainless	All weldable metals
Metal thickness (beginner's skill)	20 gauge and up	1/8" and up	1/8" and up	22 gauge and up
Welding speed	Very fast	Very fast	Slow	Very slow
Skill required	Some skill	Some skill	More skill	Most skill

### *A brief comparison of the welding processes.*

back to the shop," recalls Wisconsin dairyman Bob Weise. "I had to bring my generator out there, go back to bring my electric welder out there and then I was able to weld in the field."

Weise would have saved time — time he really needed to spend working the field — had he owned a welding generator like Miller's Blue Star® 3500. This model weighs 226 lb., so Weise could have thrown it in the back of his truck. It provides 140 amps of Stick welding power, allowing Weise to weld steel of any thick-

ness if properly beveled. And it delivers 3,500 watts of auxiliary power, so Weise could have powered three dozen 100 watt bulbs if he needed light.

While you might not need a welding machine or a generator on a daily basis, investing in a machine that performs both duties makes economic sense. A welding generator costs no more than a regular generator and lets you save time and money by making your own welding repairs. While you may not need its emergency power generation capabilities to save your livelihood when the next ice storm or hurricane strikes, you'll certainly appreciate the hot coffee or cold beer.

To find the Miller distributor nearest you, call **1-800-4-A-MILLER** or visit Miller's website at [www.MillerWelds.com](http://www.MillerWelds.com)

Also, be sure to ask for Miller's free guide to "Selecting a welding generator for the farm and ranch" and Miller's "Engine Drive Buyer's Guide." ■



**For the fastest field repair possible, this farmer brought a lightweight welding generator directly to the broken implement. After a quick Stick weld on the hitch, he resumed work.**



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