

Ask Jon Eakes

# Sump Pump Back-up

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Dear Sir, After the recent power failure and considering our changing climate conditions we are looking into putting in a back-up sump pump. Presently we have a Zoeller M-53D Mighty-Mate Submersible Sump Pump for Dewatering and Effluent. We have made a couple of inquiries. Some plumbers recommend a water pressure pump, others a battery operated one. Our house in Beaconsfield is in an area where our sump pump is regularly coming on every 5 minutes or so. How many hours can a heavy-duty battery run if it is only connected to the sump-pump? Are there models which come on automatically in case of a power failure when no one is home?

Since the power is occasionally out for a prolonged period of time, what would you recommend? Any particular models, suppliers, or installers?

Hello Peter, Back-up Sump pump comparisons: A battery back-up to a sump pump requires large lead-acid storage batteries (like boat batteries) specifically designed for the purpose of running a motor (not just starting a motor). They are bulky, expensive and must have a trickle charge mechanism to keep them always ready. You will not get more than a couple of hours pumping power -- hence they are really only to support a system during a short term black-out. Be aware that most sump pumps operate on 120V AC while the batteries will be 12v DC so you either need a power converter, or a DC pump. You can turn this system on manually or purchase an automatic control mechanism which kicks in when the power is out. You can also put this in as a second pump with its actuation floater a bit higher than the principal pump, meaning that it simply will not go on unless the first pump is either not powerful enough for the water flow, or the first one is out, i.e.. during a power failure -- giving you two types of back-up. A water pressure pump, Zoeller makes one, is a pump that is attached to your city water system. (Note they will not work with well water simply because your water pump will be dead at the same time if there is no electricity for the sump pump.) They will remove water at a slower rate than a standard sump pump and will waste a great quantity of water -- but they do in fact provide some pumping action for long periods of time. Because of this waste of treated drinking water, many municipalities have banned their use. Again they could be manually actuated, or set up above the primary pump to kick in when the primary pump is not doing the job. The real back-up is a gas powered generator. It could be a small one just designed to run the sump-pump, or could be larger to give you emergency electricity for lights, refrigerators and the furnace fan motor in addition to the sump-pump. The cheapest will be an isolated unit that you manually connect to the pump and manually turn it on. For a bit more money you can have one that will automatically kick in after a certain lapse of time of the electricity being out. Note that by law, all generators that are going to be tied into the household wiring require a Transfer Switch for the electrical connection that selects which circuits will be fed by the generator rather than Hydro, and prevent all possibility of the generator's power flowing into the hydro lines backwards avoiding backflow danger to hydro workers (and overloading of the generator). The transfer switch could be manual, or automated -- it is all a question of necessity and money. Transfer Switch Now your time limit is the size of the gas tank. For long term operation a propane generator with a large propane storage tank would be the best as it could run for a week or so without a refill -- keeping your sump pump running and the house warm at the same time.

## RUN A GENERATOR ONCE A YEAR

If you have invested in a minimum back-up generator for your house (sump-pump, refrigerator, freezer, cell phone charging and maybe a bit of TV), you must dig it out of the garage and run it for about half an hour at least once a year. Actually changing the oil would be a good idea while you are at it. You haven't used it all? All the more reason to ramp it up, clean it out and be sure it is working on a warm summer non-emergency day. You don't want to change spark plugs in the middle of a crisis.

## RUN A SUMP PUMP ONCE A YEAR

In the same preventative maintenance spirit, if your sump pump has been dry all year long, put a garden hose in the pit and let it pump for half an hour at least once a year. That tends to clean out grime and rust or perhaps lets you know that it doesn't even work and needs repair or replacement. Don't run the hose too strongly as we want the pump to cycle on and off to test all its parts. Better to discover pump problems on a dry summer day as well. As to models and contractors -- things change so fast that I would be out of date by the time I put this in the database, so I can only give you the standard recommendation of contacting certified electricians, or sump pump specialists (see PUMPS in the Yellow Pages) and checking the recommendations that they give you of installations similar to yours. Finding A Contractor

Use the keyword search for "sump-pumps" for more detailed information on the pumps and pits themselves.

Jon

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