

Inverter Grounding Warning and Testing

Low cost inverters as in modified sine DC to AC inverters can have a grounding issue that will burn it out if improperly grounded.

This is where negative or positive on the battery is grounded to the same ground as the AC electrical output. Once this hook is done and the unit is turned on – it becomes toast. Occasionally you can open it and change a fuse but most of the time it is gone.

A typical three prong AC receptacle has two terminals that are grounded internally to the inverter unit and usually the negative side of the battery bank is the one that needs to be grounded. This sometimes causes low cost inverters to burn out as soon as they are hooked up. This type of grounding is common in fixed remote inverter installation systems.

In a primitive wet environment where lots of lightning is going on as will be the case after a pole shift, the most natural thing to do is connect everything to a common ground. Typically this would be copper pipe buried in the ground or a long copper plated steel rod pounded into the ground. So typically one would ground the AC so as to not get shocked. This still needs to be done. However with cheap inverters don't ground either of the battery terminal to ground.

The thing to do is to test this first. Put a 12 volt light bulb (tail light of a car will work) in series with a jumper between the battery terminal input to the inverter being test grounded and the 120 AC inverter output ground terminals. If the light lights up then this unit cannot be grounded and the battery must be left un-grounded. The basic task is to test hooking up the two terminals that you plan to ground, or hook to each other, to something that will limit current flow and then see if there is any current. If any current exists then don't ground it.

Every pure sine inverter that I have purchased to date does not have this problem. But for any new installation no matter the type of inverter it is wise to test the flow between grounding terminals as above before hooking them together into a common ground.