

Can I Operate the Converter Without the Batteries Present

Question: I have a 1998 Airstream 31' Excella trailer. I store the trailer in an attached, heated garage during the winter. While the trailer is being stored I remove the batteries and put them on a "Battery Minder."

My question is: Can I connect the unit to 110 volt shore power, turn on the converter and have power in the unit, so I can use the lights with the batteries removed from the trailer?

I have received conflicting answers on this question from Airstream Tech Support and an Airstream Dealers technician.

I would appreciate it if you could resolve this for me.

Answer: Both could be correct because it depends on which converter you have in your rig. As an example: **14.6. MYTH: Test an alternator by disconnecting the battery with the engine running.**

False! A battery acts like a voltage stabilizer or filter to the pulsating DC produced by the alternator. Disconnecting a battery while the engine is running could **destroy** the sensitive electronic components connected to the electrical system such as the emission computer, radio, audio system, cell phone, alarm system, etc., or the charging system, especially with internal voltage regulators, because the peak voltage can rise to 40 volts or more. In the 1970s, removing a battery terminal was an accepted practice to test charging systems of that era. **That is not the case today.** Static electricity and spikes from connecting and disconnecting batteries or test equipment could also damage sensitive electronic components.

Some early converters were based on using a ferroresonant transformer, which required the battery load to keep the voltages at a reasonable value. In this case if you remove the batteries, you could damage other components in the rig. Some converters are designed and filtered so there are no transient AC voltages on the output and they are completely regulated to provide no more than 14 volts with or without the battery load. For these you could run the converter with no batteries present without damaging any other components. When you put voltage on the 12 volt supply line, it is going to feed into lots of electronics in the rig and that is the concern.

This is not a simple yes or no answer because the penalties can be severe. The converter manufacturer has the answer. Airstream used a number of different kinds of converters over the years. Or, if you purchased a used RV, the converter may have been replaced so check with the manufacturer of your RV to get the right answer.