



Airstream Tech Help Group

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This group, part of the WBCCI Technical Standing Committee, has been established to help the membership with any of their technical RV problems. Examples of questions that might be of interest to many members will be published in the *Blue Beret*. We will respond directly to you, in response to your email or letter describing a problem you are having. We hope you will find this new service of value in the care and feeding of your RV. You may contact us as follows: techhelp@wbcci.org or by mail: Howard Lefkowitz, 11508 Colt Terrace, Silver Spring, MD 20902

Intermittent DC Power

PROBLEM: While dry camping at the Albuquerque Balloon Fiesta, the direct current (DC) power on our 2007 Safari SE FB quit working. Or more appropriately it worked intermittently.

On the second morning we went down to the field to see the mass ascension, when we returned we discovered there was no power at all (no lights, no refrigerator, no water pump, not even the little light on the battery disconnect switch). We connected the A/S to the generator and had power. However, when we turned on additional items, (another light, the water pump to flush the toilet, etc.) I noticed that the other lights would dim, like you were using the batteries and placing additional load on them. In the past I never noticed lights dimming when we were hooked to shore or generator power.

Since we were at an Airstream rally, there were plenty of helpful folks around that immediately came over with volt meters, fuses, and even extra batteries. We (they) tested connections and fuses, and determined that I was not getting power to the convertor from the batteries. A suggestion was made that the batteries may be dead (bad cell?), so we planned to go to the local Costco for new batteries. However, as mentioned earlier, when running the generator we had power. We ran the generator until we had to leave to run the errands, but a funny thing happened when we turned off the generator, we had battery power. This lasted for a few minutes, until my wife flushed the toilet, then boom, no power.

After returning from Costco we switched the batteries out, to no avail. At this time I noticed that the trailer's tongue lift jack didn't work either. It is connected via a single wire to one of the batteries' positive post. It's not connected to anything else in the trailer and I assumed (and still do assume) that it should work as long as the battery it was connected to was good, which it was.

I consulted some more people, and a suggestion was made that my battery disconnect switch may be going bad and therefore allowing intermittent power. So we overrode the switch by basically hardwiring the batteries to the convertor. After doing this we had power again from the batteries. I did not test the tongue lift jack at that time. The power from the batteries stayed on for about an hour then, boom, just like turning off a light switch, the power stopped (we were not doing anything, just sitting). After a visit to the dark side, we

woke the next morning watched the festivities and decided to go to an RV park with shore power (the batteries were still not providing power), as we knew we were functional with that option.

When we arrived we had no battery power, another volt meter was produced with the same results, no power at the convertor, power in the batteries, the tongue jack did not work and with shore power the lights would dim with additional load being put to the system.

The next morning we packed up and home. I did not check to see if we had battery power, I just kept the A/S plugged into shore power so we could lift the trailer. When we arrived home, lo and behold, everything worked on battery power, the lights, the tongue jack, water pump, refrigerator etc. Additionally, when we hooked to shore power there was (is) no dimming with additional load.

There were a couple of suggestions regarding the cause of this problem and I thought I would see what you all think. The first is that my convertor is going bad, the second is that I have a short in the ground somewhere (as someone stated this would be the only reason the tongue jack wouldn't work). I am not saying these are the causes.

I have no clue, so I am placing myself in Tech Help's capable hands. Please and thank you, Patrick.

ANSWER: Verrrry interesting Patrick. Power going off and on in a random manner usually means a switch or connection is causing the problem. A battery which has a bad cell could do this since the short could be intermittent (metal particles floating in the fluid). However, since you replaced the batteries this rules them out, as well as the battery terminal connections. Disconnect switches do fail but usually they develop burned spots and severely reduce the current flow capability resulting in a permanent failure. Your converter must be providing some charging capability since the batteries sometimes work and then they abruptly shut off. You are correct about the tongue lift jack as well as your assumption that if it is not working it must be the battery or something in the direct connection.

My guess is that the problem is in the **battery cable ground** to the trailer chassis. Don't try to move it to see if it is tight. Take it loose from the chassis; thoroughly clean the grounding area (be sure to get any paint off); check the cable end lug to be sure it is tight and clean; reinstall using a good coating of silicon dielectric on each layer and with a star

Club News

washer against the chassis/the cable ground lug/flat washer/ lock washer and finally the nut in that order on the bolt. Use stainless steel hardware with the bolt head against the chassis and the washers and lug on the opposite side. After checking to make sure everything is OK spray the entire assembly with a battery terminal protective coating.

Another area to check is the ground wire connection from the converter. This, however, would not stop the tongue jack from working. A loose battery ground connection would reduce current flow into the batteries from the converter thus never fully charging them. When you operate from shore power you are feeding the converter, however, if the battery ground is not good you are trying to power all of the dc voltage appliances direct from the converter. It is not designed to operate this way and supply current directly to all of the trailers dc circuits. The converter charges the batteries which have the capacity to power the trailers equipment. That is why you were getting the dimming on shore power. Also with a long trip home you are getting more charging time which further indicates you have a bad connection that prevents a full charge of the batteries. Good Luck and let me know if this fixes the problem. Howard

SOLUTION: Just wanted to provide an update, I believe we have determined the cause of the problem. I think I told you earlier that I was going to just tighten every electric connection I could find. I replaced both battery clamps. I also found where the ground wire connects to the frame and found that it was loose, so I tightened it. Additionally, while taking off the panel to gain access to the other connections I re-created the problem. No power anywhere, not even the tongue jack. A 20 pack of Coors brought over my crack mechanic (when I say crack I don't mean he's good I mean he's on crack!!!!). Seriously, he came over with a very sophisticated measuring device (a souped up voltmeter?). However, when we went to take some measurements, he noticed that the battery ground wire basically fell out of the "ground bus" I mean it wasn't even tightened down. So we tightened it to the bus, along with every other connection, tightened all the busses to the panel (most were loosely attached and missing screws, several never had screws in the first place). So we tightened the bejeebers out of everything in that area. Everything now works.

Thank you for all your advice and direction. I couldn't have done it without you.

Pat

ELECTRIC TONGUE JACK WON'T RETRACT

PROBLEM: I can't get the electric tongue jack to retract, and I suspect that the limit switch may be stuck... but I'm stuck until I can figure out who the manufacturer is and possibly what a schematic looks like! Some wonderfully helpful person painted over all the data on the jack so I can't go there... can you folks help? Switch works fine to elevate

'A' frame, but refuses to retract, so my guess is either the limit switch or the toggle switch. Ralph

ANSWER: Here is a link to the Barker Jacks which have some manuals which might be close. http://www.barkermfg.com/hi_power_jacks.html. Download the Super Jack Owner's Manual.

Usually the jack is wired directly to the breakaway switch circuit which goes to the battery through a dc circuit breaker on your panel. I would check the toggle switch first since they usually tend to burn. Most of the units I have seen use 15 amp switches which are too small. This should be at least a 20 amp rated switch. If this is OK then it could be the limit switch or a broken wire. Howard

RESPONSE: BINGO!!! Looks like exactly what I need...now if I can just find the manual jack handle...I'm going to holler at them and order the parts. No big rush, now that I know what I'm working with! Thanks a bunch, Ralph.