

Well, we “went solar” this Spring and added a photovoltaic (PV) panel to our 23’ Airstream International (2008). We love it and have used it throughout our two week trip to Montana in early June. After researching our options all winter, here’s the highlights of what we learned and what we did. Some of you on Airforums have been requesting more information so I figured this was a good way to get it out there.



Figure 1 - The final results with the Kyocera 130 plugged in and charging. I carry this photo on my iPhone to show anyone who asks about our trailer and photovoltaic panel.

- First, we had planned all along to have a portable panel not attached to the roof but set on the ground near the trailer. I still wanted to hook into the pre-wired solar connections behind the refrigerator. Figured we would install the charge controller down under the bench seats near the battery bus bar and the gauges on the wall next to the refrigerator

or even where AS had pre-wired the phone jack for a location under the monitoring panel above the stove.

- I was nervous about Internet firms who could ship us a kit for us to install ourselves. “What if I got it wrong?” I thought. I preferred working with a local person I could talk to, discuss options, see how it’s done, and change plans if necessary. And I’m glad I did because, well, see Plan B below.
- Randy Hall at RV Solar Connection here in the Denver area (www.rvsolarconnection.com) got our business because he was eager, knowledgeable and reasonably priced. I left an email on the weekend and had a quick reply and phone follow ups the next day. He was great to work with and I recommend him for anybody in this area.
- I discussed my ideas about connecting to the solar pre-wire behind the fridge, adding an onboard charge controller and so forth with him over the phone and then brought the trailer to his place. He had not worked with an Airstream before, but it took us only a few minutes to discover there was no solar pre-wiring on our trailer. Zip. Nada. Zilch.



Figure 2 - These are the plugs we used at the battery box and the panel. Wiring is 8 ga.

- Lesson One: verify your solar pre-wiring configuration before you bring it to your installer (or, heaven forbid, you order it all online and then discover the configuration was wrong). I never did find those famous

“green and yellow” solar pre-wires anywhere in that refrigerator area.

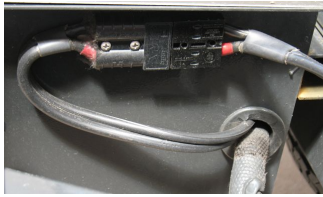


Figure 3 - Plan “B” - Randy added a very neat and clean plug and cable outside the battery box.

- So we quickly devised a “Plan B” and decided to connect the panel directly to the batteries. That plan avoided interior modifications, extra costs for the charge controller and system read-out gauges and further rooting around for solar wiring that didn’t seem to exist. But, truth be known, I was sort of looking forward to those cool gauges and amp-hour readings and so forth.



Figure 4 - This \$15 gauge is adequate.

- I got over my disappointment very quickly when I realized we could apply the savings from reduced installation and controller costs to upgrade the panel from Kyocera 85 watt to Kyocera 130 watt panel. We’d use a small Morningstar Sunkeeper-12 charge controller mounted right on the back of the panel. Then connect that to a plug wired up and mounted on the side of the battery box.

- Lesson Two: go with as much panel power as you can afford. The bump up to 130 watts will recharge our two Type 24 120v batteries in a few hours of even partial sun.
- Thoughts: that an overcast and even somewhat rainy day (as we had while in Missoula learning to help build a straw bale home) will still generate some electricity from your panel. But shade beneath the trees (as we had in Glacier NP) just doesn’t do you much good.
- When we’re ready to move, we unplug the 20’ cord and 30’ locking cable; store them under the bench seat; carefully carry the panel inside the trailer

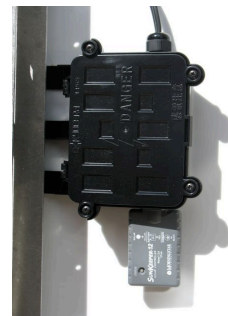


Figure 5 - The junction box and Morningstar Sunkeeper-12 charge controller (which is about 2.5 inches long).

and lay it on the bed for travel. Be sure to wipe it down to keep outside stuff outside, guys!

- The square plug aside the battery box had leads extending through the cable access hole to the battery posts.



Figure 6 - The black fuse block is to the right; both connections can be seen coming through the cable access hole top right.