

HandyBob's Blog

Making off grid RV electrical systems work

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About Our Boondocking Life

Who is this HandyBob fellow? He is the guy in this picture and he is happily living the full time RV boondocking life with his wife Norene and furry kid, Kodi, the American Eskimo wonder dog. (It is a wonder that she ever acts like a dog, since she sleeps on the bed.)



Rain in the Utah desert & no generator.

An old 31ft fifth wheel with three 75 watt and one 120 watt solar panels. I am Bob, the guy in this photo and I am happy that we never bought a noisy, heavy generator that we would have to carry, maintain and buy gas for. I am happy that I drink solar coffee every morning, rain or shine.

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Notice the number of solar panels and the lack of a generator. Proof that the solar dealers try to sell you more than you need. This photo also nicely demonstrates the proper spacing of boondocking rigs.



Home in Montana. A free patio of native sandstone, a picnic table that was a gift from friends and beautiful summer weather. We live a very good life on very limited funds. We call those white things up in the sky "solar controllers". The blue spaces between are "amp holes"! We live on solar power and rain water collected from a small storage shed roof. We are successfully doing what many have told us was impossible. More of us need to learn to think for ourselves.



Here is our camp where like minded boondocking friends are welcome. Our friends know that this is our land and we do have rules. Our place is managed by BLM (Bob's Land Management)

RULE ONE: You have to pet the dog. Now for the story:

This all started in the fall of 2000 when Bob & Norene sold the house in Montana, moved into a 26ft travel trailer with Kodi the American Eskimo wonder dog & set out to tour America. We had previously owned several RV's but had never stayed a single night in an RV park until having traveled all the way to Wisconsin. I remember standing in front of the electrical pedestal in our first RV Park and thinking "so that is what the 30 amp RV plug is for". That first year of traveling all the way around the USA we spent as much time as we could in forest campgrounds, national & state parks and anywhere else we found that was cheap or free, but at least half of the time we were plugged in and hooked up in RV parks. We found that the solar panels I had installed on

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the roof of the trailer were not capable of keeping up with our electrical needs and every time we went off grid it was only a matter of days before our batteries were dead again & we had to plug in. We quickly figured out that living in RV parks was not for us. Jammed in wall to wall and having a nice view of the neighbor's sewer hose is not the life we had in mind when we contemplated early retirement. So I didn't give up and I did eventually figure out how to make our electrical system work.

Over the next three years we evolved from campers into full time RV'ers. In the summer of 2002 we traded up to a 31ft fifth wheel suitable for full timing and committed to the nomadic lifestyle. This rig came with a solar system already installed, to which I added the two solar panels from our old trailer. When we unplugged and headed south that fall we discovered that the system installed in it worked even worse than the one we had in our first trailer. That was when I got serious about trying to make solar power work. Unbelievably, we had 345 watts of solar panels and yet we couldn't run anything more than our lights without having our batteries go dead. The system in this rig was supplied by the most respected RV solar dealer there is, the one who wrote the book, who used to conduct seminars at the Escapades and has the nickname: "grandfather" of RV solar power. It took me a while, but I figured out this guy was clueless about how to make solar power work. When I replaced the worthless controller he supplied with a decent one, moved it to near the batteries and replaced the #10 wire he had supplied with #6 that I rerouted to make it shorter was when we started to evolve from being campers who were afraid to use our lights into "power hogs" that successfully run every electrical appliance we own on battery power supplied exclusively by our solar panels. That was the last time we stayed in an RV park and we never did buy that generator. I will admit that having a generator would have been nice a few times when forced to park under trees or enduring several days of rain, but now that we spend our time only in the west we are happy that we never bought one. Thanks to having more solar panels than we need, we don't need a generator. We are planning to build a small off-grid home in the next few years and while a used propane generator out of a motor home is on my shopping list, it is way at the bottom. We won't need it until we are using electrically powered refrigeration. I can run all the power tools needed to build that home with the solar power already on our RV. This is not conjecture; it is fact. I know this is possible because I have done just that for a friend with an off-grid cabin that I finished using this solar power and I never once started his generator.

I am a fairly smart guy, but not a genius, who retired from the electrical engineering and electrical product sales businesses. I just knew that we didn't need to waste our money on a noisy generator and that those amps I saw on the solar charge controller should be enough to run our camping type of life style. As I struggled with this problem and when I finally did figure it out I tried everywhere we went to help others who were struggling with the same problem. The number of businesses selling solar panels and the number of the owners of RV's with solar panels who did not know how to make solar power work has astounded me. Anybody who has spent thousands on something that does not work is generally very defensive and will usually start arguing instead of listening. I had to give up trying to reason with people and write something that I could hand to them and then walk away. My "RV BATTERY CHARGING PUZZLE" documents my experience. I wrote this out of frustration. It started with six pages of why what you have does not work and evolved into a rant on the state of the RV manufacturing and RV Solar industries. This is all brutally honest and completely true. Anyone who tells you otherwise doesn't know what he is talking about. This is aimed at the frustrated, technologically challenged and budget minded RV owner who needs basic education about battery supplied electrical power. It was not written for peer review and I will not respond to technical nit picking criticism. It was also not written for profit.

The responses I have received from folks who have read my ranting run the gamut from over the top appreciation to arguments. A couple of the "professional" solar installers have contacted me and complained, but they can go pound sand. I have replaced #10 wires that they had both installed on three & four panel systems that did not work. When asked why I have to be so negative I respond with "What would you have me do, when the situation really is this bad and trying to be nice & polite about it failed miserably?" I tried to reason with several of those "professionals" and to work with them rather than against them, but most just don't get it. You are free to stick your head in the sand and deny the obvious, but I cannot.

I offer this blog free to the RV community as my way of trying to improve our world. Please read the following statement very carefully: I DO NOT SELL SOLAR EQUIPMENT. I have helped quite a few friends with repairs and I have done a few installations, but I am not in the business of selling or installing solar systems. I really just want to help. This might change in the future if I could get a building put up from which I could run a business, but for now I am dedicated to providing education only. Anyone is free to copy & distribute this at no charge, but it is copyright protected and publishing any portion of it for profit or personal gain is not legal. UPDATE 2012: OK, I am now selling some equipment and doing a lot of repair work as we travel because people demand it. However, my mission is unchanged.

I am not a computer wizard so this site is not as pretty as many others I have seen. The message is more important than the presentation. I will try to respond to questions, but as time has gone on it is getting more and more difficult for me to keep up. I gave up on the idea of an actual installation and design guide with pictures & diagrams. The RV world is too full of variety for simple answers that will fit all. I generally check e-mail only on weekends so it can take days for me to reply to questions. With that in mind, I can be reached at bobanene@gmail.com. However, please do not send any questions unless you have read all of this information first. I find that most questions I get have been answered in my articles and I am starting to become a bit impatient with people that refuse to read them first. I apologize for the length. I have received plenty of criticism for that. All I can say is that every time somebody came up with a new question, my writings got longer. You are free to ignore what is not important to you.

By the way; I was named HandyBob by some friends who noticed that I was the guy always helping to fix things for fellow boondockers. It was not my idea. It started out as a joke, but it stuck. If you ask enough fellow RV'ers, you will find someone who knows me and can tell you from personal experience their opinion of my writings and my work.

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