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2012 Model Year Offers Outstanding New Features and Expanded Standards

by Marty Wellington

With new innovations and response to our customers' recommendations, CEO/President Phil Brokenicky has introduced several new design elements and technology into the production of New Horizons RV fifth wheels and travel trailers for 2012.

Starting now, New Horizons RV will be offering a storage basement in its travel trailers. Another new design element for the travel trailer will be a curved front end cap, similar to the Majestic fifth wheel model, to provide a more streamlined, elegant look to the coach. Both features will be standard on 2012 travel trailers.

New Horizons RV has always been a leader in the luxury towable market and the 2012 model will be no exception. With more living area and upper cabinet kitchen storage space, customers will enjoy a more residential feel. This comes from increasing slide room heights from 6'6" to 6'8". An increase in bedroom height to 6'10" will also now be an affordable option on 2012 models. The rounded front shower with sliding door is also now standard on all models, adding to the elegant feel of our coaches.

One of New Horizons RV's most popular options has been the Big Foot automatic leveling system from Quadra. This state-of-the-art technology provides 17,000 psi per each of four landing legs that support and level the heavy duty chassis. With simple one-touch capability, the coach can be raised to change a tire or leveled in a matter of seconds.

Another terrific change for the 2012 model has been the move to make a 32" LCD Samsung HDTV standard in the Summit and Motomover models. This HDTV is mounted on a swivel arm and available in the living room. A 40" LCD Samsung HDTV, with pull out swing arm, is standard in both the Majestic and the Majestic LM models.

New Horizons is also proud to now offer the Magnum MS2000 and MS2812 inverters (with ME RC50 remote readout and ME BMK battery monitors) as optional packages on our coaches.

And finally, heavy duty steel skid rollers are now standard on all our models for 2012.

With our new full-body paint process now in full swing as well, the 2012 model year promises to be an exciting one. We feel confident that these new modifications will be well received within the industry and continue to keep New Horizons a “step above the crowd.”

Living “Off-Grid” in Your RV – Is Solar A Feature You Need?

Part 3: The “Golden Rules” of Solar/ Electrical System Design

(Jack Mayer, www.jackdanmayer.com)
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In previous articles we covered the major electrical components used to upgrade your RV for off-grid living. In this article, I'll discuss some of the factors involved in putting them together optimally, and make a recommendation on specific components of a nice system. These are my opinions based on experience and education – some of the items are based on electrical “laws” and are really not debatable, while others are best practices and people may have varying opinions. If you (or a manufacturer) follow these “rules” you will have a successful system.

Solar Panels

- Use high voltage (over 28 volts) on any but the smallest systems (small: under 350-400 watts)
- Optimal input voltages for most MPPT controllers outputting to a 12-volt battery are in the 30-40 volt range. That means high voltage panels work very well.
- Use serial/parallel connections on the panels to get higher voltage, when required. Panels must be matched (e.g. the same specifications).

Solar Controller

- Consider using an MPPT controller – the additional cost is a small percentage of the entire system. This allows for high input voltage which makes the cabling from the roof easier. An output boost in the 10%+ range is realistic.
- The controller should allow for adjustable voltage and charge times.
- Position the controller close to the battery bank.
- Make SURE the wire size to the batteries from the controller is correct. It will be bigger than what comes from the roof in most cases. You need to calculate this separately.
- Temperature compensation is NOT an option – use it. If a voltage sense line is available, use that too.
- Make sure there are fuses/breakers on input/output sides of the controller. You need to be able to isolate it.

Batteries

- Balance the system; have enough batteries for the amount of watts of panels you have.
- Rule of thumb: 1 amp-hour of storage for each watt of solar panel. You don't need to be obsessive about this – it is just a guideline.

- Flooded cell batteries should charge at 14.8 volts NOT at 14.4/14.6 volts that you commonly see.
- Wire the battery bank correctly: large enough wires, +/- connections on diagonal corners, equal length wire runs.
- AGM batteries have advantages, but cost much more.
- Solar alone generally will NOT bring a bank up to “full” state of charge because the system is continually in use. But it will get very close.
- Use a battery monitor with a remote display (like a Trimetric, Link, or Magnum BMK).
- With flooded cell batteries check specific gravity at least every 6 months until you learn how your batteries charge. Equalize if required.
- A desulfator “may” be helpful. Reports vary in RV use.

Inverter

- Wiring is critical. Never less than 2/0 and usually 4/0. READ the book - there is no excuse to use a lighter wire than the inverter manufacturer requires.
- Position the inverter close to the batteries.
- Catastrophe fuse is required at the batteries.
- Remote display/control is important – use a good remote display.
- Do not use too large an inverter for your needs. It is inefficient to run an inverter way below its rating.
- The inverter charge section is critical if using AGM batteries. AGM batteries can use as large a charger as you can find.
- On flooded cells properly set the charge amperage.....C/20. (“C” is the total battery bank amperage.)
- Temperature compensation is NOT an option – use it.

Wiring

- Wire size is CRITICAL. It is the single-most common issue with installations. Use voltage/distance calculators, then go heavier.
- Manufacturers almost never provide adequate wiring. New Horizons is the only RV manufacturer I have encountered that uses proper wire sizes.
- Wire for 2% loss or less. I wire for 1% from the controller to the battery bank.
- Use quality closed-end, coated lugs, and properly attach them; use dielectric grease and adhesive heat shrink. New Horizons is one of the few manufacturers I have seen that does this.
- Fuse before/after controller; a catastrophe fuse is required at the battery bank.
- Use a combiner on roof to join the solar panel wires to the wire feeding the solar controller.
- Use distribution buss bar(s) near the battery to tie loads together (if required).
- Do not attach loads between the shunt and the battery.

Sample “Mid-size” System

People frequently ask what a good system “package” is. This will vary based on your electrical consumption requirements. But for most people who would like to boondock for 10+ days at a time and have “typical” electrical requirements, the following system could be classed as “best of breed”. There are

other components available that are quite good, and can be combined to make a comparable system. I happen to like these components for various reasons (some of which I note here).

Inverter: I like the Magnum line of inverters. For most RVers a Magnum 2012 inverter is sufficient. This is a pure sine wave 2000 watt inverter with a 100 amp charge section. It will run almost any microwave and all other household appliances that would normally be run on an inverter. Use the ME-ARC remote monitor.

Battery Monitor: Magnum makes a battery monitor component for their inverters. The ME-BMK will report cumulative amp-hours and other battery information via the ME-ARC remote display used for the inverter which saves adding a separate display device for battery monitoring.

Solar Controller: Morningstar TriStar MPPT-60. Use the 60 even if it is not required for the number of panels you will initially use. Most people eventually expand their systems, so why not initially choose a system for growth potential. The MPPT-60 also allows you to network the controller to your router and view solar data on your laptop. This capability is not as easily available on the MPPT-45 model. The 60 comes with a voltage sense line, and temperature compensation sensor. If you are on a budget, consider the TriStar 45 if it fits your array size requirements. But it will not be as expandable or have the same feature set.

Battery Bank: If you can afford it, then Lifeline AGM batteries are the ultimate solution. Size the bank to your solar array size. They should be “close” in the number of watts/amp-hours. Three Lifeline GPL-8DL batteries will give you 765 amp-hours of capacity (255 times 3), of which 50% (or 382 amp-hours) is usable. If you commonly draw them down to 25-33% of their capacity, which is what I recommend, that still gives you 255 amp-hours to use overnight.

If you choose not to use AGM batteries then look at Trojan T105's. They are still expensive, but much less than AGM's. Or, if you are doing it yourself, look at Sam's Club flooded cell batteries. A bank of six would work well.

Solar Panels: I like the new GS100 panels that AM Solar sells. They fit places where other panels would be shaded and they are high-efficiency panels. Although not high-voltage panels they can be combined in series/parallel if required. If doing the job yourself, look at the high voltage panels that Sun Electronics carries. You can buy “blemished” panels from them with a full warranty at reasonable prices (well under \$2 a watt).

Miscellaneous Parts: AM Solar has an excellent roof combiner with the new 4/2 Roof C-Box. MidNite Solar offers a nice breaker box with their “Baby Box Enclosure” suitable for array disconnect (to isolate the solar controller). For higher-end systems or for those who like “neat installs” they also offer an E-Panel for Magnum inverters. This combines all the electrical requirements into one neat enclosure. New Horizons offers excellent solar packages combining most of these “best of breed” components. And, since it is a custom rig, you have the option to modify the packages if you have special requirements.

I realize for those not “into” solar and electrical modifications that some of this information is just “gibberish,” but it should give you a place to start your own research. For those contemplating an installation I'm available to answer questions via email. If you are specifying a New Horizons, I can also help you with modifying one of their standard factory packages.



RECIPES OF THE MONTH (Cool Off with Fresh Salad Ideas!)

Thai Green Mango Salad

(<http://thaifood.about.com/od/thaisnacks/r/greenmangosalad.htm>)

- 2 firm unripe mangoes (mangoes may be green or red-orange in color)
- 1/4 cup dry shredded unsweetened coconut (the kind you use for baking)
- 2 cups bean sprouts
- 1/2 cup chopped fresh coriander
- 3-4 spring onions, sliced
- handful of peanuts or cashews, left whole or roughly chopped
- 1/3 cup fresh basil
- Optional: 1 cup cooked chicken or shrimp, or fried tofu if vegetarian/vegan (cut into small cubes)
- Optional: 1 fresh-cut red chili

SALAD DRESSING:

- 3 Tbsp. fish sauce, OR 4 Tbsp. soy sauce if vegetarian/vegan
- 1/4 cup freshly-squeezed lime juice
- 2 Tbsp. brown sugar, or more to taste
- 1-2 tsp. Thai chili sauce, OR substitute 1/3 to 1/2 tsp. dried crushed chili (chili flakes)

Place coconut in a frying pan or wok (no oil required). "Dry-fry" the coconut as if you were stir-frying it 2-3 minutes over medium heat, or until it turns a light golden-brown and is fragrant. Transfer to a bowl to cool.

Mix together all the salad dressing ingredients in a bowl or cup. The dressing should be a mingling of sweet, sour, spicy and salty, but more sweet than sour. Set aside.

Peel skin from mangoes. The flesh of the mango should be firm and light yellow-orange. Using a medium to large-size grater, grate the flesh of the mangoes into a mixing bowl.

Add the bean sprouts, coriander, spring onions, cooked chicken, shrimp or tofu (if using), the fresh-cut chili, plus half the toasted coconut. Toss well to combine.

Add the dressing and toss again. Do a taste-test. Add more fish sauce or soy sauce instead of salt. If you prefer it sweeter, add a little more sugar (honey works too). If you prefer more spice, add more chili sauce. If too salty or sweet, add more lime juice.

Place on a serving platter. Sprinkle the nuts over top plus the basil and remaining toasted coconut. Enjoy!

Baked Feta and Walnut Salad

(http://www.mediterrasian.com/delicious_recipes_baked_feta_walnut_salad.htm)

2 teaspoons plus 4 tablespoons extra virgin olive oil

1 teaspoon dried oregano

½ teaspoon freshly ground black pepper

6 oz (180g) feta cheese—cut into small cubes

2/3 cup raw walnuts

1 clove garlic—crushed

3 tablespoons lemon juice

Pinch of sea salt

6 cups mixed salad leaves of your choice—washed and shaken dry

2 radishes—very thinly sliced

1 zucchini—very thinly sliced

PREHEAT the oven to 180C/350F. MIX 2 teaspoons of olive oil with the dried oregano and black pepper in a bowl and toss through the cubed feta cheese to coat well. ARRANGE the feta cubes on a baking tray lined with non-stick baking paper. BAKE in the oven for 10 minutes. PLACE the walnuts on a separate baking tray and bake for the final 3 minutes of cooking, then roughly chop. PLACE the remaining 4 tablespoons of olive oil, garlic, lemon juice and salt in a jar with a lid and shake to combine. PLACE the salad leaves, radish slices and zucchini slices in a salad bowl and toss with half the dressing to coat. SCATTER over the baked feta and walnuts and drizzle with the remaining dressing to serve.

STAY IN TOUCH WITH US - Facebook (give us the “thumbs up” as you hit the “Like” button); join the New Horizons Owners Group Forum (NHOG) at <http://www.irv2.com/forums/f269>; or stop by next time you’re in Central Kansas.

As always, we hope to see you down the road.

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