

Service Tips from the Pros



An RV's Heart & Soul - Automotive & Deep-Cycle Batteries

Perhaps the title of this article hasn't sunk-in yet... but if you ponder this subject for very long, you will likely agree. Without a healthy 12-volt system, many of the appliances in an RV will cease to operate. The water heater, the refrigerator, furnaces & water pumps, some awnings, & the interior lighting... all powered-by or controlled-by 12-volt power. Don't forget the radio & the TV antenna booster...& possibly the TV too. At the center of all this - the batteries!

NAPA 982575 AGM Battery



The size / capacity of the battery package selected for a specific RV model or series is an important decision for the manufacturer's electrical engineering group. The goal for the design engineer is to provide a user-friendly & capable electrical system for the average user... including considerations for a variety of options that model may have available.



When replacing batteries, it's very important to do your homework & educate yourself regarding the application the battery serves... and then consider your expectations. If your RV is normally parked at a campsite & plugged into shore power, it doesn't make sense to have 300AH of battery capacity sitting idly on the battery tray. But if you enjoy Boondocking, this subject becomes significantly more important.

In general, wet-cell / flooded 6-volt & 12-volt batteries appear to be very similar & it's reasonable to believe most batteries share similar construction characteristics. Truth be told, appearances can be very misleading. A battery's physical dimensions & weight is indicative of the size of the lead plates and one would conclude that more is better! The number of fill-caps (or fill plugs) will reflect the number of cells & this clue telegraphs the battery is a 6-volt versus a 12-volt battery. The battery posts may telegraph the intended purpose of the battery...i.e. a cranking / starting battery versus a deep-cycle trolling motor battery, but that's about it. A battery without specific information posted on the case of the battery or manufacturer's data-sheet would really make this a guessing game.

Battery Basics:

- Standard Non-Sealed w/Removable Caps - The least expensive flooded batteries require the owner monitors / adds water - i.e. a poor-man's battery! These can be the best 'bang for the buck'...but they demand timely attention / tending or they can fail quickly.
- Sealed or Maintenance-Free batteries are sometimes referred to as the lazy-man's battery... Simply, you will pay significantly more for a maintenance-free battery, but the side-benefit is they don't require the weekly attention - i.e. adding water! However, this doesn't exclude keeping battery posts clean & dry.

- AGM batteries...a.k.a. Absorbed Glass Mat batteries are at the upper-end of the price scale. AGM batteries are constructed with a heavy-duty polyethylene case and each cell's plate package is wrapped with a layer of fiberglass matting. This matting helps to isolate the cells from vibration & serves to keep the plates wetted-out at all times... even if the battery is mounted up-side down.

Battery Performance / Measurements Specifications

- **CCA** Cold Cranking Amps: it is a measurement of the number of amps a battery can deliver at "0" degrees F for 30 seconds and not drop below 7.2 volts. This value is used to evaluate cranking or starting batteries. A high CCA rating is preferred in cold ambient temperatures
- **CA** Cranking Amps: it is a measurement of the number of amps a battery can deliver at "32" degrees F. It can also be referred to as MCA - Marine Cranking Amps.
- **RC** Reserve Capacity: it is a rating which reflects the number of minutes a "fully charged" battery - at 80 degrees F, will continue to deliver "25" amps until dropping below 10.5 volts.
- **AH** Ampere-Hour: a measurement of current of one ampere flowing for one hour. It is a term used to tell the amount of energy a battery can deliver before requiring recharging. Ampere-Hours are based on a 20-hour unit of time - i.e. an 80 AH battery will deliver 4 amps for 20 hours & a 130 AH battery will deliver 6.5 amps for 20 hours, etc. (80 divided by 20 = 4 & 130 divided by 20 = 6.5)

Generally speaking, there are few mysteries or secrets that remain regarding 'wet-cell' lead-acid battery technology. The purity & matching-up of the specific lead compounds are the guarded secrets that battery manufacturer's use (or choose not to use) when engineering & producing a wet cell / flooded battery...or any battery for that matter. Simply, there can be significant differences & performance levels between similar sized batteries & a myriad of reasons that pricing of batteries can vary so much between brands.

It's rare that you hear somebody state "I've got too much battery power available"... & getting what you paid for is another statement that comes to mind!