UNDERSTANDING YOUR R.V. BATTERIES

BATTERIES ARE THE HEART OF THE MOTOR HOME. IF THEY ARE NOT IN GOOD WORKING ORDER, PROVIDING THE CORRECT AMOUNT OF VOLTAGE, THEY CAN CAUSE MANY PROBLEMS IN THE RV. MOST ITEMS IN THE RV OPERATE ON 12v, INCLUDING THE CONTROL BOARDS ON SOME 110v ELECTRICAL APPLIANCES *(Such as; the Refrigerator, Air Conditioner(s), Furnace, Inverter/Converters, Energy Management, and the Water Heater).*

CHASSIS BATTERY: This battery is used to start the engine on the RV. Gas motor homes usually have (1) battery & the larger Diesel coaches usually have (2) large commercial type batteries. This battery is a "Cranking Battery" with a high number of cranking amps. On a typical motor home, the chassis battery is only charged by the alternator, while the engine is running. Some RVs are equipped with a 5w-10w solar panel, known as a "*Keep it up*". This small panel is designed to maintain the charge on a chassis battery, not to recharge the battery if it is low or dead. *Note: solar panels are useless if the coach is stored under cover.*

HOUSE/COACH BATTERY: This Battery, or bank of Batteries (2-8), is used to power the "house" items on the RV (such as; interior lights, thermostats, water pump, furnace, control boards on most appliances, and many other 12v items). The house batteries are typically charged three ways;

1. From the Motor Home's engine/alternator, while driving or at idle, through the battery isolator/Relay
2. From the Generator, through the converter/charger (which may needed to be plugged-into Gen. outlet)
3. From plugging into AC/110v (*aka "Shore Power"*), through the converter/charger.

The House Batteries are Deep Cycle Batteries, and are designed to be recharged and depleted many times. Deep Cycle batteries have a lower amount of cold cranking amps (CCA), but have a higher number of Amp Hours, allowing your 12v items to run longer. Some RVs are equipped with one or more 12v Deep Cycle Batteries, or some are equipped with pairs of 6v Deep Cycle Batteries (wired in series to create 12v). Many people feel that 6v Batteries hold a charge longer and are better for Dry Camping (camping with no hookups).

FAQs: *(Frequently Asked Questions)*

How often do I need to maintain my batteries? You should check the water level in your batteries at least every 90 days if the coach is used occasionally and stored without power. If you keep your coach plugged-in to AC/Shore power most of the time, you will need to check the water level in your House batteries at least once per month. NOTE: ALWAYS USE DISTILLED WATER TO REFILL BATTERIES and use protective eye wear when maintaining your batteries. Battery acid can damage skin, clothing, and most anything it touches.

How long should my Batteries last? The life expectancy of a Chassis/engine battery is 3-4 years. If you have to jump this battery more than 7-10 times the life expectancy is much lower. A "Cranking battery" is not designed to discharge down to below 6-8v many times before it will need to be replaced.

The life expectancy of your House "Deep Cycle" Batteries is directly related to how well they are maintained. If well maintained, they should also last 3-4 years before they need to be replaced. Please Note: in most cases, if one battery goes bad in a battery bank, then it has most likely damaged the others that are tied to it. So, if you just replace 1 of 2 or 2 of 4, the others are not far behind from failing.

What are the signs that my batteries are failing? A physical look at the batteries may show a swollen look to the sides or tops near the posts, this is caused by poor maintenance/low water. The main sign is that they battery will not hold a charge, or discharges quickly.

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Why do my Batteries corrode? Corrosion is caused by acid vapors emitting from the cells of the batteries. Batteries will corrode more as they heat-up or "Boil-over". This is caused by an over charging situation. Over charging boils out the water, which emits the vapor that corrodes, and causes eventual damage to the batteries.

Are Sealed (AGM) Batteries better? Deep Cycle "Sealed" batteries or AGM (*Absorbent Glass Mat*) batteries are mostly maintenance free, don't require a 30-90 day check, and rarely have corrosion build up on the terminals. These batteries are typically 2-3 times the cost of a regular deep cycle lead acid battery. Sealed batteries usually have the same amount of Amp Hours compared to standard deep cycle batteries and have close to the same life expectancy.

BATTERY DISCONNECT USAGE:

MOST RV BRANDS (CONVERTER/CHARGER): *(Newmar, Travel Supreme, Fleetwood, Monaco, etc.)*
On most gas engine motor homes (and diesels RVs w/o Inverter/Converter combo) the House Battery Disconnect should be in the **Off/Store** position while the coach is being stored or plugged in. When plugged into AC/Shore power, the switch should be put in the **On/USE** position only when you wish the batteries to be charged. The Battery Disconnect switch should be in the **On/USE** position when you are not plugged into AC/Shore power and want to use the 12v systems of the RV.

***WINNEBAGO/ITASCA:** The battery disconnect solenoid is wired some what differently on Winnebago & Itasca brand RVs. When the coach is plugged into AC/Shore power (for use or storage) the battery disconnect switch, usually located next to the entrance door, should be in the **OFF** position. If not, the solenoid will draw power from the engine battery, causing it to slowly discharge over a 10-20 period. The Only time the battery disconnect should be **ON** is when you are using the RV and are not plugged into AC/Shore Power. NOTE: If your Winnebago/Itasca RV has a 1500w Inverter/Converter (or larger), disregard this paragraph and see below.

RVs w/INVERTER/CONVERTER/CHARGERS: Most large diesel RVs, and some higher end gas coaches, are factory equipped with Inverter/Converter/Chargers (1000w +). In this case, the Coach Battery disconnect must remain **ON** when you are plugged into AC/Shore Power, otherwise no 12v items will work in the RV. *Because this system sends a continuous Floating charge to the batteries, it requires more maintenance of the batteries. Keep a sharp eye on the battery water levels every 3-4 weeks, while the RV is plugged into AC power.

CHASSIS DISCONNECT: Many Motor Homes are equipped with a Chassis Battery disconnect. Some are located in or near the engine compartment and some are electronic solenoids and have a switch located next to the House/Coach battery disconnect switch (common on Coachmen & Fleetwood RVs). If you store your coach, without starting it for more than 10-15 days at a time, it is a good idea to have one of these installed and good practice to shut this **OFF**.

CHASSIS BATTERY BOOST SWITCH: Most Motor Homes (Class A type and some Class C) will have a Chassis Battery Boost Switch on the dash. This momentary/spring loaded switch will combine the power of your House Batteries with your Chassis battery to boost power if your chassis battery is too weak to start the engine. However, if your chassis battery is DEAD, the house "Deep Cycle" type batteries will most likely not have enough cranking amps to jump start the engine. If the boost switch does not help, you may need to plug-in a battery charger/booster for 30 min to 1 hr (at 40amp+) to jump, or 2-8 hours on a slow charge (5amp-10amp), which is recommended. A 40amp+ Plug-in Booster/Charger is highly recommended piece of equipment to keep on board your RV. This item makes a great back-up device in the event of several problems that can occur.

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