

Fleetwood Technical Information

Batteries by Neil Buschur, Fleetwood Owner Relations

At Fleetwood Owner Relations, we get frequent calls from customers who do not understand how the battery systems work in their motor home. Some folks do not realize that they need to maintain their batteries.

The first thing we need to talk about is the **safety requirements** when working around batteries. When working around batteries, we need to remove rings, metal watchbands, and other metal jewelry. We also need to use caution when using metal tools. If a tool comes in contact with a battery terminal or any metal connected to it, a short circuit could occur which could cause personal injury, explosion, or fire. Do not allow battery electrolyte to come into contact with skin, eyes, fabrics, or painted surfaces. This could cause serious personal injury or property damage. Always wear eye protection when working around batteries. Never expose a battery to an open flame, nor an electric spark. The hydrogen gas emitted from the battery is flammable and explosive.

There are two types of batteries in your motor home; the first is the chassis battery, which is a maintenance-free, 12-volt battery. You may have one or two of these. They are designed to give a lot of power for a short period of time. They are used mainly for the chassis functions, like starting the engine, powering the headlights, wipers, etc. They are also used for powering the leveling jacks and running the slideouts; therefore, you should always have your engine running when performing these functions to assure you have plenty of alternator and battery power available.

The second type of battery is the house battery, which is normally a six-volt deep cycle battery. There are usually two or four of these. They are designed to give steady power for a long period of time. These deep cycle batteries will require maintenance, which includes checking the fluid level in them every seven days when the coach is being used. Even though they are six-volt batteries, they are wired in "series" that will power the 12-volt systems in your motor home. Therefore, it is very important that if your dealer has to change the batteries, the new batteries need to be wired exactly like those taken out. At times we get calls from customers who are not experienced in electrical repairs. If you are not experienced in electrical repairs, please allow an experienced RV technician perform any battery maintenance or repairs.

On coaches built in 1997 or after, there are three ways the batteries get charged. The first way is when you are driving; the engine alternator will charge the chassis batteries first and if you do not have a lot of the chassis systems in use at one time, the alternator will also charge the house batteries. One good thing to remember is, if you are going to be driving for several hours, turn on a 12-volt system in the motor home. This will assure you do not overcharge the house batteries, because you will be using voltage as the alternator is charging the batteries. The second and third ways the batteries get charged are when you are running the generator or plugged into shore power. There is no need to do both of these at once because

they both use the same charging system. The one thing to remember is, the house disconnect must be turned on for the charging system to work. When plugged into shore power or the generator is running, the house batteries get charged first. When the house batteries get to approximately 13.1 volts, the batteries are tied together through a solenoid and the chassis batteries will then start to charge. If, for some reason, the voltage on the house batteries starts to drop, and they get down to about 12.5 volts, the solenoid will disconnect the chassis battery. This will assure that the chassis batteries do not get discharged. Another key thing to remember here is, if for some reason the house batteries do not get to 13.1 volts, the chassis batteries will not charge. This could be caused by having a defective battery or by not maintaining your house batteries.

Most diesel coaches and some gas coaches have an inverter, which allows the 12-volt batteries to run 120-volt appliances when dry camping. Although this is a convenient feature to have, it is also important to remember that it takes ten times as much DC power to run a 120-volt appliance as it would AC power. For example, if you are running a 120-volt appliance on your inverter and it uses five amps per hour to run on AC power, you will be taking 50 amps per hour out of your DC batteries to create the AC amperage needed. At this rate of discharge, the batteries will not last too long before they need to be recharged. Depending on how much your batteries have discharged, you may have to run your generator two hours or more to charge them back up.

Next we want to talk a little bit about storing your motor home and the maintenance required on the batteries. As we already discussed, when using the motor home, the fluid in the batteries should be checked every seven days. Before putting the coach

into storage, the batteries need to be fully charged. Then the battery fluid level should be checked every 30 days. The batteries should also be fully charged every 30 days. If the fluid level is low, always add distilled water after the battery is fully charged. Make sure the fluid level does not go below the plates, and fill to 1/8-inch below the bottom of the fill well.

Another thing to remember is, the more a battery is discharged, the more it is susceptible to freezing because the water and the acid in the batteries start to separate as the batteries discharge. Dirt on top of a battery will also cause it to discharge, as the current from the battery will actually flow through the dirt. Loose connections on a battery or anywhere in the 12-volt circuit will cause a higher-than-normal amperage flow, which can damage the appliance or fixture being powered and the wiring.

This quick update is just to get you thinking about how important battery maintenance is to your RV enjoyment. You can get more information on battery maintenance if you go to www.trojan-battery.com, go to Tech Support and click on Battery Maintenance. ❖

