

**Batteries Are the Heart of Your Electrical System**

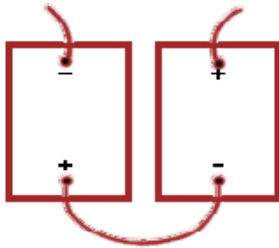
Whether it's for cruising around the harbor or around the world, traveling across the county in your RV, or the power center for your home, you should buy the best quality batteries and insure that you have enough capacity. If you are working with a battery bank of two or more batteries you should insure that they are the same type, age, and manufacturer. Your bank should be roughly four times your daily amp/hour rate. So if you use 100 amps a day, then you would need a bank of 400 amps. Looking on the other side of this paper, you can find several possibilities for a bank. Which brings us to the next question: Flooded, Gel or AGM batteries.

Which to choose? Flooded batteries are the most common and tend to be more economical. You do have a gas issue and acid. Gel and AGM are sealed and the acid can not get out. They can also be stored at any angle. Gel and AGM batteries have a very slow discharge rate in storage. AGMs will absorb amps at a faster rate than Gels and they have twice the life cycle.

We have all heard of equalizing our batteries, but what is it? Equalizing is an overcharging performed on Flooded batteries and AGM (Trojan does not recommend equalizing their AGM). Never equalize Gel batteries. Equalizing reverses the buildup of negative effects. You must insure all your electrical circuits are turned off, since you will be placing 15.5 volts on your system. Lifeline recommends a yearly equalization, where Trojan calls for once a month to once or twice a year.

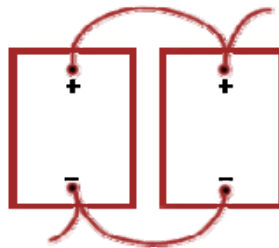
**Increasing Your Power Center**

Example 1



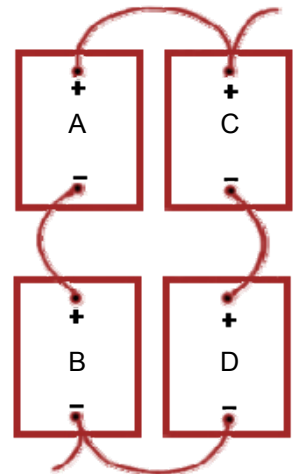
To increase voltage connect plus to minus. Voltage doubles, but amp hours remain the same. Using two 6 volt, 225 amp hour batteries connected in this fashion gives you a bank rated at 12 volts and 225 amp hour capacity. These are connected in series.

Example 2



To increase amp hours and retain the voltage connect plus to plus and then minus to minus. Using the same batteries as Example 1. We would now have a bank rated at 6 volts but with 450 amp hour capacity. These are connected in parallel.

Example 3



To increase amp hours and the voltage we can connect battery A & B and C & D in series like example 1. Then connect AB and CD in parallel like example 2. Now we have a 12 volt bank and 450 amp hour capacity.

**Open Circuit Testing**

% State Of Charge	Specific Gravity Corrected to 80° F	Open Circuit Voltage	
		6 Volt	12 Volt
100	1.277	6.37	12.73
90	1.258	6.31	12.62
80	1.238	6.25	12.50
70	1.217	6.19	12.37
60	1.195	6.12	12.24
50	1.172	6.05	12.10
40	1.148	5.98	11.96
30	1.124	5.91	11.81
20	1.098	5.83	11.66

**Charger Voltage Settings**

Type	Daily Charge	Float
Flooded	14.8 v	13.5
Gel	14.1-14.4	13-13.8
AGM	14.1-14.7	13.1-13.5

Always verify settings with manufacturer