The next recommendation has to do with wiring. No matter when your bus conversion was completed, there is a good chance that you will want to change out your existing battery wiring for high quality, multi-stranded, tinned copper marine wire of a size 1AGW or larger - preferably 00AWG. You will be passing a lot of Amps between batteries wired in parallel and between the battery bank and the inverter/charger/converter so you want to make sure there is as little resistance as possible in the wires and the wire ends. If the wire is too small or there is resistance in the wire ends, it will choke off the flow of current to do useful work for you. There is no need to invest in quality batteries and then hamstring them by using old or inadequate wire.

If yours is an older bus conversion, decades of exposure to the caustic fumes released by the old lead-acid batteries during use or during recharging may well have corroded your existing wires even up under the insulation where you can’t see. In wire, more strands are better than fewer, larger is better than smaller and marine grade wire is better than automotive grade wire. DO NOT SCIMP HERE!

Since there are a number of different LiFePO4 battery names, whose should I use? There are two basic types of LiFePO4 batteries suitable for our use - those made with cylindrical cells and those made with prismatic cells. Cylindrical cells are normally about 18mm (3/4 in) in diameter by 65mm (2-1/2 in) long. The chemistry dictates that they will output a maximum of close to 3.6 Volts per cell. The amount of amperage in each cell is a function of the packaging of the LiFePO4 in the cell.

To get a nominal 12VDC battery for use in our bus conversions these cells need to be wired in parallel groups to get the needed ampacity, and then four of those groups need to be wired in series to result in a maximum voltage of right around 14.4V when first fully charged. At rest they will be about 13.6 to 13.8 Volts.

Prismatic cells are flat, can be easily molded to different shapes and are made with the total desired ampacity in each cell. Four of those are wired in series to get to the same voltage as the