2010 43QGP Allegro Bus

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56 – FYI – <u>BATTERY EQUALIZING.</u> To my knowledge there is ONLY ONE reason I will equalize my coach wet cell batteries. Depending on what literature you read the house batteries will require having an equalizing charge on a frequent cycle such as every few months or maybe twice per year. At the same time you can find where the battery equalizing never needs to be performed no matter the circumstances. If you read enough you will also find where equalizing the battery when equalizing is not needed will SHORTEN the battery life.
I would rather base a decision on battery equalizing or not equalizing on a scientific method.
The chart below is very standardized, it shows the percent of charge for both 6 and 12 volt batteries based on voltage and specific gravity.

PERCENT of CHARGE	6 VOLT	12 VOLT	SPECIFIC GRAVITY
100	6.35	12.70	1.265
95	6.32	12.64	1.257
90	6.29	12.58	1.249
85	6.26	12.52	1.241
80	6.23	12.46	1.233
75	6.20	12.40	1.225
70	6.18	12.36	1.218
65	6.16	12.32	1.211
60	6.14	12.28	1.204
55	6.12	12.24	1.197
50	6.10	12.20	1.190
40	6.06	12.12	1.176
30	6.02	12.04	1.162
20	5.99	11.98	1.148
10	5.97	11.94	1.134

I never allow the house battery bank to drop below 12.2 volts, most often that voltage is based on a load being present on the house battery system. If the load were removed the battery voltage would rise depending on the load most often the voltage would rise a few hundredths to a tenth of a volt. Based on the voltage rise the battery percent of charge may be 60 to 65 percent. I feel more comfortable using the 12.2 LOADED battery voltage as my time to re-charge the house batteries strictly based on voltage.
Now on to EQUALIZING as stated at the beginning I use a science based method to determine when it is time to equalize. You can purchase a battery hydrometer for a dollar or so which uses floating beads/balls to display battery specific gravity. For a few dollars more you can purchase a REFRACTOMETER. The Refractometer I use is the Robinair SPX 75240 Coolant & Battery Refractometer this tester can be used for both coolant and battery testing.

As previously stated there is information which states to equalize a battery when equalizing is not needed will shorten the life of the battery, so on to the scientific method. The battery should be fully charged then disconnected from any charging or discharging (remove cables) devices. After

disconnecting the battery cables the battery should be allowed to obtain room temperature for accurate testing. Any battery cell that tests less than or equal to 0.005 specific gravity below any other cell in the same battery should be equalized. As an example if we are testing a 6 volt battery with three cells if two cells read 1.265 and the third reads 1.260 or lower then the battery should be equalized. After equalizing the battery it should again be disconnected and allowed to cool to room temperature before testing if the retest shows less than a 0.005 difference in specific gravity between the three cells then the battery is good until next time. If however the cell does not show an increase in specific gravity then it is time to think about installing a new battery.

After testing a battery the specific gravity may not rise to 1.265, the cells may read, 1.260, 1.260, and 1.255 in this case the battery is still good however it is beginning to show its age over time you may see the specific gravity continue to drop at some point the combined cell voltage and current will not be able to perform its intended job, at that point it is time to replace the battery.

I do not suggest replacing a single battery in a bank of batteries by itself unless the bad battery is fairly new and displays some form of damage to the case and no other battery is displaying problems.

It is the opinion of most battery manufactures to replace the complete battery bank at the same time rather than one battery at a time as it begins to display problems. I tend to look at the whole battery bank before making a decision on replacing one or more batteries.

Our last coach (2007 Phaeton) when traded had eight six volt batteries which were four years old. The month prior to trading the batteries were tested and found to need no maintenance, they were all good by specific gravity. Based on scientific testing (Reflectometer) the battery cells all tested good and the batteries had NEVER needed equalizing.

Distilled water is keep in the coach and all wet cell batteries are checked on a regular basis, checked more often if in a hot environment and less often in a cool environment.