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Power Pack Service - How to Check Specific Gravity

To get full range, the batteries must be fully and uniformly charged. Specific gravity readings of all cells should be taken if short range is reported. After a full charge (overnight), readings should be about 1.260 for all cells when temperature corrected. The temperature correction is 0.004 per 10° F difference of electrolyte from 80° F, added if above 80° F and subtracted if below 80° F. If batteries are new, several recharging cycles may be necessary to equalize cells to reach consistency in readings. Accurate specific gravity readings are important and the following precautions should be taken:

1. The hydrometer should be clean and in good condition. Old hydrometers become etched from acid and offer high resistance to the float moving up the glass. Hold vertical and jiggle the hydrometer to be sure it is floating free.
2. Draw up enough electrolyte to float the indicator freely without hitting the top. Do not maintain liquid level in the hydrometer by squeezing the bulb as this gives inaccurate readings.
3. Use a float with a numerical scale, not just color zones.
4. Wash hydrometer out with water after each use for best results.
5. Do not make specific gravity readings after adding water until thorough mixing has occurred. The charging process speeds this mixing.
6. Readings on the scale should be carefully observed and recorded. If a discharge reading of 1.140 is read as 1.160, an error of over 16% can occur in reporting the capacity of the power pack.

Product Service Bulletin No. 10 contains additional tips on battery care and maintenance.

