

Charging recommendations for 6-volt deep cycle batteries. GC2-XHD, GC2-HD, GC2-RD

Nominal Battery Voltage	Charging Current	Bulk Charge Voltage (2.41 VPC)	Absorption Voltage (2.55 VPC)	Absorption Time in Hours	Float Voltage (2.23 VPC)	Equalization Voltage (2.6 VPC)	Equalization Time in Hours
6 Volt (3 cells)	C / 10	7.23	7.65	2 to 4	6.7	7.8	2
8 Volt (4 cells)	C / 10	9.64	10.2	2 to 4	8.92	10.4	2
12 Volt (6 cells)	C / 10	14.46	15.3	2 to 4	13.4	15.6	2
24 Volt (12 cells)	C / 10	28.92	30.6	2 to 4	26.8	31.2	2
36 Volts (18 cells)	C / 10	43.38	45.9	2 to 4	40.2	46.8	2
48 Volts (24 cells)	C / 10	57.84	61.2	2 to 4	53.5	62.4	2

Notes: 1. All charging voltages shown above are for 80 degrees F. For every 10 degrees above 80 F reduce voltage by 0.028 VPC. For every 10 degrees below 80 F increase the voltage by 0.028 VPC.

2. VPC = Voltage Per Cell

3. Charging current; C = The amp hour (Ah) capacity rated at the 20 hour rate.

4. Float condition is for long term storage / (several weeks) inactivity. 5. Equalize every 4 to 8 weeks or when the difference in **specific gravity** readings vary by 0.020 points or more and always after a normal charge.

Other Charging Notes/Tips/ Definitions: Temperature Compensation: Increase voltage by .028 volts per cell for every 10 degrees below 80 F. Decrease voltage by .028 volts per cell for every 10 degrees above 80F. Typical phases on multi-stage chargers: Bulk: Initial phase where the voltage builds and the most current is provided to the battery. This is typically where the maximum current that the charger is capable of providing is supplied to the battery. **i.e.** A 10 amp charger will provide at or near 10 amps during this phase. Absorption: The phase where the voltage set point is held constant. Current will decrease gradually during this point as the battery internal resistance comes up. Float:

The maintenance or finishing phase of the charging cycle. Voltage is set at a minimum during this phase (usually 13.0c-13.5v) and current drops significantly. The battery should be nearly complete by the time this phase is reached. An anti **sulfation** stage may be added where voltage spikes to high levels for very brief time periods for a set amount of time determined by the charger manufacturer, to convert the battery **active material** back to it's original state. Badly sulfated batteries will not usually respond to this charging regime and will need to be replaced