Procedure to Recover Deeply Discharged Odyssey® Batteries

For safety reasons many 6V/12V automotive/commercial type chargers will not turn on when an attempt is made to charge any style 12V battery that has a very low open circuit voltage (OCV). For example, a charger set for 12V charging connected to a 12V battery that has an OCV less than 5V, the charger senses it is connected to a 6V battery (which it is not) and therefore will not initiate a charge because it is set for 12V charging.

12V nominal voltage batteries that have been discharged < 10.5V, are considered over-discharged. This condition is not a warrantable claim as it is not the result of a factory manufacturing defect but abuse or neglect in the application. Over-discharged batteries, if recoverable, will have reduced performance and overall life.

ODYSSEY batteries have very high recharge efficiency and are robust enough to accept a charge even when its OCV is <5V. The following procedures should allow for a safe *attempt* to recover (charge) the ODYSSEY battery. ODYSSEY batteries that have been operated over a prolonged period of time without routine full recharging will have developed a heavy layer of sulfate on the plates and may not be able to be recovered.

The following recovery procedures should not be attempted if the batteries will be left unattended.

Battery temperature MUST be monitored throughout this process.

Proper personal protective equipment should be worn whenever working on or around batteries.

There are 2 ways to try recover the battery.

Connection to a charged (healthy) battery:

1. Connect the batteries in parallel (positive terminal from discharged battery to positive terminal of charged battery; negative terminal from discharged battery to negative terminal of charged battery.)
2. ***Monitor the discharged battery temperature. If at any time the battery temperature exceeds 125°F/51°C, disconnect the batteries from one another and allow the battery to cool to room temperature.***
3. Monitor the voltage of the discharged battery with a good quality voltmeter until it reads 11.5.
4. Once it reads >11.5V, the battery can attempt to be charged using an A/C powered charger.

Charging with an A/C powered charger:

NOTE: It is best to use an automatic charger with an AGM setting that has a charge voltage set point of 14.7V and minimum current output of at least 40% of the battery's C10 rating. Temperature compensation is optimum. The temperature compensation coefficient is approximately ±18 mV per °C variation from 25°C per 12-volt battery.

1. Connect the charger leads to the discharged battery and initiate charging.
2. Monitor the battery voltage and ensure it does not exceed 15.0V and continue charging for approximately 8 hours.
3. ***Monitor the battery temperature. If at any time the battery temperature exceeds 125°F/51°C, disconnect the batteries from one another and allow the battery to cool to room temperature.***
4. Disconnect the charger and allow the battery to sit open circuit with no connections for 12 hours and then read the voltage. If the voltage reads >12.9V, the battery is fully charged.