Eclipse Lithium Battery Cheat Sheet - 09/2020

- Eclipse batteries should NOT be operated below 32F and should never go below 0 degrees F.
- When paralleling Eclipse batteries, no more than three batteries should be paralleled with battery cables. Beyond three batteries, a busbar must be used. Proper wiring practices should be followed and battery to battery cables should be 4/0 wire and need to be exactly the same length.
- Eclipse batteries are not designed to be wired in series.
- Do not use temperature sensors with Eclipse Lithium Batteries.
- Never Equalize an Eclipse Lithium Battery.
- Using a "State of Charge" meter, like a Trimetric or Midnite Whiz Bang is highly recommended.
- Do not discharge Eclipse Batteries below 20% state of charge. If you do, make sure you charge the battery back to a minimum of 40% SOC within 3 days.
- Do not operate the battery so it shuts down from low battery voltage. Leaving the battery in a low voltage state can damage the battery. Low voltage shutdown is not covered by warranty. To restart a battery that has shut down due to low voltage, a constant voltage charge must be applied to the battery. The battery will "see" this charge and will then turn on and start charging. It is best to fully charge the battery after a low voltage event.
- Eclipse Lithium Batteries receive the majority of their charging via the "Bulk" stage. Absorb time at "high" voltage should be 5 minutes or less for most charge controls. Over charging a battery may cause it to shut down due to high voltage disconnect. Damage could occur to equipment if the battery shuts down. There is no harm to the battery if it does not get completely charged. It is better to slightly undercharge than to overcharge an Eclipse Lithium battery.
- If charge control "Absorb" time cannot be limited to 5 minutes or less (C40 charge controller or other limited programmable control), then Absorb voltage should be well under the max charge voltage set point.
- **Voltage Set points for 12V 100Ah and 12V 400Ah:** Max charge voltage is 14.6V. For a fully programmable charge control set the Absorb at 14.4V for 1-5 minutes and Float at 13.8V. For the C40 or similar control, set the Absorb at 14.2V and Float at 13.8V.
- **Voltage Set points for 24V 200Ah:** Max charge voltage is 29.2V. For a fully programmable charge control set the Absorb at 29V for one minute and Float at 27.4V. For a C40 set the Absorb voltage at 28.6V and Float at 27.4V.
- **Voltage Set points for 48V 100Ah and 48V 200Ah:** Max charge voltage is 54.6V. For a fully programmable charge control set the Absorb at 54.4V for one minute and Float at 53.5V. For a C40 set the Absorb voltage at 54V and Float at 53.5V.
- During low solar, high generator run times of year, take advantage of the Eclipse Lithium's ability to be used without being fully charged. By running your generator a minimal amount (up to 40%-70% SOC) you can greatly reduce your generator usage compared to a lead battery that needs to be fully charged frequently.
- Low voltage disconnect settings can vary with different inverters and even different systems. A general LVD for 12V batteries is 11.8V. Set LVD for 24V batteries at 23.7V. Set LVD for 48V batteries at 47.4V.
- Auto Generator Start settings will greatly vary with different inverters and different size systems. A general starting voltage for a 12V system is 12.2V. A 24V system is 24.2V. And a 48V system is 48.2V.
- Upon startup, it is best to start up the solar charge control first, before putting an inverter load on the system.