

Common Reference Information

(From BAE Installation and Operation Instructions)

3.4 INTER-CELL CONNECTORS

The individual cells are connected by using either the included thermoplastic-insulated copper connectors or the lead plated copper connectors (type dependent on cell type and customer preference) and are bolted to the threaded insert post using either a stainless steel M10 Allen head bolt or a 17mm hex head bolt (bolt type depended on cell type).

Prior to connector to cell assembly the plastic post covers should be removed and the post contact surfaces should thoroughly cleaned by using a wire brush and a clean rag. (NOTE: Caution should be taken when using the wire brush as not to make contact with other exposed metal areas to prevent short circuits.) Once clean the post contact surfaces should be given a light layer of no-ox grease, these steps will insure the very best possible connection surface; once these surface preparation steps are completed connector to cell assembly can be performed.

All bolted connections should be made with use a torque wrench to insure proper tightness of the connection without causing any damage to the battery posts. The torque settings for both of BAE bolt types (both the M10 Allen and 17mm Hex) is 22 Newton-meters or 195 (194.7 actual) inch-pounds.

5.1.1 COMMISSIONING VIA FLOAT CHARGE VOLTAGE - 2.23 VPC

After a period of 24 hours of being on a float charge (2.23 VPC) the battery should be in a fully charged condition, however the individual cell voltages and specific gravities may still not be within the stipulated tolerances for continuous operation.

Note: The allowable tolerance in voltage and specific gravity for the BAE block and single cells are as follows.

Single Cell Voltage Tolerance is +0.1 or -0.05V as compared to the nominal voltage of 2.23; this gives us a range of 2.18 to 2.33 volts

Single Cell Specific Gravity Tolerance is ± 0.01 Kg/L as compared to nominal specific gravity at 25°C (77°F) which is 1.240; this gives us a range of 1.230 to 1.250

5.1.2 USE OF HIGHER CHARGING VOLTAGES - 2.35 to 2.40 VPC

If the charger is equipped with an equalizing mode (usually 2.35 to 2.40 VPC) it is possible to accelerate the charging process. Instead of a 24-hour float charge, 12 hours at the increased voltage should be sufficient to bring the battery to a fully charged condition.

6.1 FLOAT CHARGING

BAE Stationary lead-acid storage batteries are designed so that optimum life and available capacity are achieved with a float voltage of 2.23 VPC. Higher or lower charging voltages can be detrimental as overcharging or undercharging will reduce the batteries life expectancy.

6.2 EQUALIZATION CHARGING

After deep discharges or after inadequate recharging equalizing charging is necessary, this can be carried out as follows:

- a) At an increased voltage of (2.33 to 2.40 VPC) x number of cells up to a maximum of 72 hours.
- b) At currents according to the I or W characteristics (See Section 6.3 below)

8.2 INDIVIDUAL CELL VOLTAGES

Pilot cells voltages must be taken and recorded on some of the cells on a 6 month basis and all of the individual cell voltages must be checked and recorded at least once per year. If the individual cell voltages are not within the allowable tolerances, you should then take the specific gravity readings of these cells which do not meet tolerance specifications.

Single Cell Voltage Tolerance is +0.1 or -0.05V as compared to the nominal voltage of 2.23; this gives us a range of 2.18 to 2.33 volts

8.3 ELECTROLYTE DENSITY AND TEMPERATURE (Specific Gravity)

Pilot cells specific gravities and temperatures must be taken and recorded on some of the cells on a 6 month basis and all of the individual cell specific gravities and temperatures must be checked and recorded at least once per year. Note: Proper operation of BAE Stationary lead-acid batteries requires a fully charged condition and the following nominal acid densities (Specific Gravity) at the maximum electrolyte level.

Single Cell Specific Gravity Tolerance for the BAE OGi and OPzS Cells; is ± 0.01 Kg/L as compared to nominal specific gravity at 25°C (77°F) which is 1.240; this gives us a range of 1.230 to 1.250

For the correct evaluation of the measured acid density, it should be noted that specific gravity is greatly affected by deviations from normal service conditions.