

## A "Job Well Done" is Our Minimum Performance Standard

Edited by: Samantha Donisi

**T**he average lifespan of a motive battery is four to five years. 70 percent of those batteries need to be replaced because of the damaging effects of an internal process called sulphation. If the sulphation process were optimized, the lifespan of a typical battery could be extended anywhere from six to 10 years. That idea is the basis for Bravo Zulu International's Batt-Recon system.

The idea is this: when a battery is charged and discharged during normal use, a small amount of sulfate is left behind on the internal battery plates. As the sulfate builds up, the battery becomes less powerful and eventually becomes unserviceable. The Batt-Recon system removes that sulfate buildup and returns the battery to serviceable condition in less time and with less expense than the traditional method used by the material handling industry.

According to Bruce Zeier, President and CEO of Bravo Zulu International, the system is universal. "Batt-Recon can safely and effectively remove the sulfation from a small motorcycle battery, car batteries, golf cart, or large forklift batteries, any voltage from 2 to 96 volts."

The system is a quick and less expensive method of rejuvenating batteries, and it's also a greener alternative than conventional methods.

"The macroeconomic trends are to increase electrical efficiency and to become more accountable for carbon consumption," Zeier said. "The warehousing industry is well aware of electrical conservation with regards to lighting, heating, and air conditioning inefficiencies; however, electrical savings in the motive battery re-charging process is often overlooked or ignored. The typical distribution center using electric lift trucks spends about 30 to 40 percent of their monthly electrical consumption to charge those batteries. With the Batt-Recon process, the distribution center will save about 10 to 20 percent of their battery charging costs, substantially reducing their energy consumption."

Before starting Bravo Zulu, Zeier was involved in the helicopter maintenance, repair and overhaul business for corporate clients. He also currently owns Executive Helicopters of Los Angeles, a helicopter sales and maintenance company. It was through experiences in the helicopter business that led to the discovery of the Batt-Recon system.

"As a helicopter maintenance company, we were always prematurely replacing very expensive batteries used in our turbine helicopters," Zeier said. "When starting a helicopter turbine engine, it is critical that the battery provide maximum power for the complete 45 second starting cycle. If the battery power diminishes during the final phase of the starting cycle, the engine air compressor will lose the ability to keep the engine

cool and the engine will suffer a "Hot Start." The hot starting of the turbine engine is often viewed as a "bad day at the airport," so anything that could keep the turbine helicopter battery at its optimum performance is a welcome attribute. This is why we began a search for a methodology to maintain batteries at their optimum performance level."

The company conducted a market survey of forklift operators and repair companies and was told that any device for use in the field had to possess several necessary characteristics, according to Zeier. The system results had to be measurable, it had to be portable using 120 VAC current if possible, and the process had to be complete in 4 hours or less or the operator could not make any money using it. The system also had to be universal and work with all types of batteries. Most importantly, the system had to be low cost, easy to repair and rugged in design.

The result was the Batt-Recon system.

"After conducting approximately 4,500 tests on 12-volt automotive batteries and developing the scientific process to accurately measure the results, we discovered the process that we currently use today," Zeier said. "The system was then modified for use in the motive battery industry, designed to be universal in performance and fine-tuned to be effective in less than 1-hour. The result of this research was the Model 4800 system, a commercially viable, portable system satisfying all the operator's requirements."

As an example of the benefits of a portable Batt-Recon system, Zeier cited the cellular phone industry.

"Currently, telephone station and cell phone towers have difficulty in keeping their batteries at an optimum performance level. The Model 4815 allows a service technician to take a small, portable system to the remote cell tower battery location and quickly restore the batteries performance without having to replace the batteries," Zeier said. "This saves the phone companies thousands of dollars in transportation costs, extends the battery life significantly and reduces their electrical consumption during their normal operating process."

Bravo Zulu has 5 employees in the United States and approximately 25 in their Lahore, Pakistan facility. They began marketing the Batt-Recon system in 2008, and Zeier estimates that the system will become an industry standard in just a few years.

"Within one to three years, the notion of de-sulfating your lead-acid battery to extend battery life and conserve electricity, will become a new maintenance standard within the motive and golf car industry," Zeier said. "The resultant paradigm shift in battery maintenance will benefit the end users of batteries significantly,

both in the reduction in battery capitalization costs and the significant decrease in electricity use.”

“Bravo Zulu” is a naval accolade that means “a job well done”. That is the idea behind the company’s mission statement, and the type of service they strive to extend to each customer.

“Our mission statement simply put is to “Change the world ...

One Battery at a Time,” Zeier said. “We strive to offer products and services that increase battery operation energy efficiencies, while reducing the effect of battery recycling waste upon the environment.”

For more information contact Batt-Recon at 951/928-0595, sales@battrecon.com or visit www.battrecon.com

## **BATT-RECON: The Emerging Technology**



## **ZULU ONE The Battery Optimization Scanning System**

### **ZULU ONE Allows you to:**

- Monitor individual battery cells during charging or load testing
- Transfer the load test or charging data automatically into MS Excel\*
- Customize and print out maintenance reports for clients
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- Determine the “Carbon Cost” of the battery’s operational life
- Keep a permanent record of every battery maintenance cycle
- Determine the actual electrical efficiency of your chargers
- Automatically control the charger, load tester and Batt-Recon system

\*MS Excel is a registered trademark of the Microsoft Corporation

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**Bravo Zulu International Ltd**

28610 Watson Road, Sun City, California 92585

Phone: 951-928-0595 Email: sales@battrecon.com

**www.battrecon.com**